

December 2025

Ames Avenue Safe Mobility Recovery Plan

MEMO B: EVALUATION OF TRAFFIC CONDITIONS

NEEDS ASSESSMENT REPORT

Prepared for:
City of Omaha – Public Works Department

Prepared by:
WSP USA, Inc



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1.0 INTRODUCTION

This memo provides a summary of traffic conditions and operations along the Ames Avenue corridor as a component of the City of Omaha's Ames Avenue Safe Mobility Recovery Plan. This memo highlights the existing and future deficiencies of traffic conditions along the corridor. The following data and operations were reviewed in the study area as part of the analysis:

- vehicular volumes
- pedestrian and bicyclist volumes
- intersection delay
- intersection queueing
- travel time reliability
- travel speeds

The document concludes with a summary of the key findings and deficiencies within each of these areas.

1.1 CORRIDOR OVERVIEW

The 4.25-mile Ames Avenue corridor is the major east-west corridor for North Omaha. It connects the North Freeway (US-75) to N 72nd Street and provides access to important community institutions like North High School, Skinner Elementary, the NorthStar Foundation, Fontenelle Park, and many local businesses. Ames Avenue is designated as a Major Commercial Corridor (based on the City of Omaha Master Plan). The study area project limits extend from N 72nd Street to Commercial Avenue (**Figure 1**).

For a more detailed assessment, the corridor was divided into six zones based on roadway characteristics, length, and adjacent context (**Figure 2**):

- Zone 1: N 72nd Street to N 60th Street
- Zone 2: East of N 60th Street to N 46th Street
- Zone 3: East of N 46th Street to N 40th Street
- Zone 4: East of N 40th Street to N 33rd Street
- Zone 5: East of N 33rd Street to N 26th Street
- Zone 6: East of N 26th Street to Florence Boulevard

As part of the traffic operational analysis, 30 intersections along Ames Avenue were evaluated and reviewed to understand possible deficiencies and issues that they pose to drivers, pedestrians, and cyclists (**Figure 2**). Additionally, traffic operations were evaluated for segments along Ames Avenue.

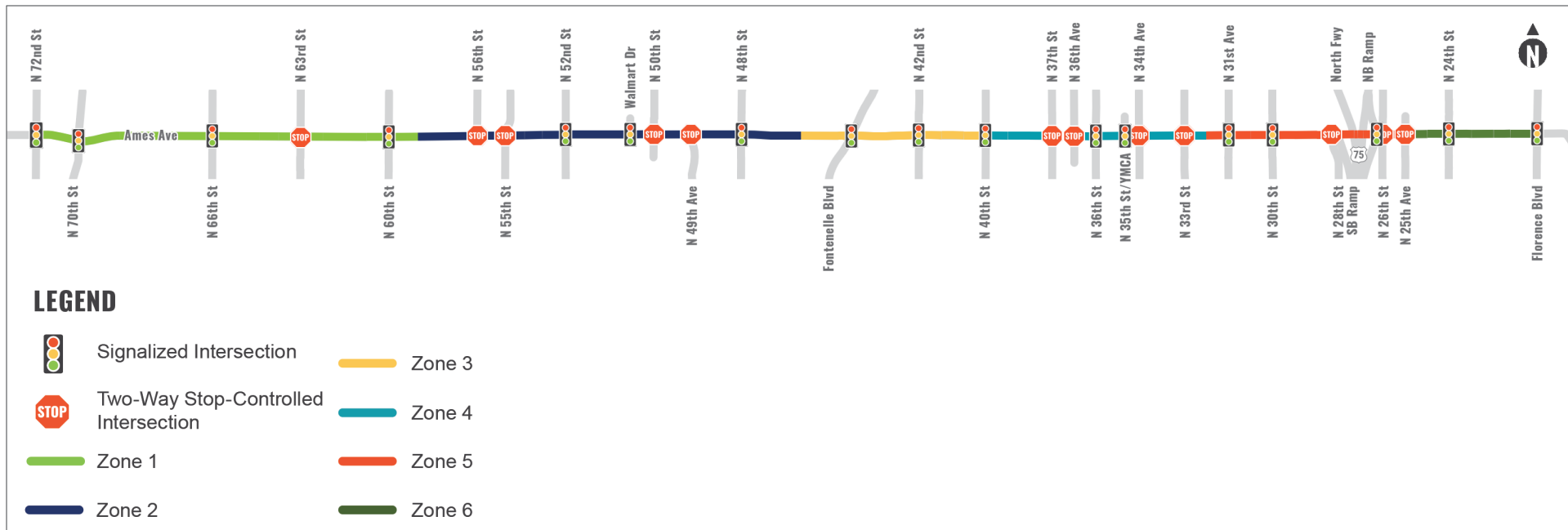


Figure 1: Ames Avenue Study Area

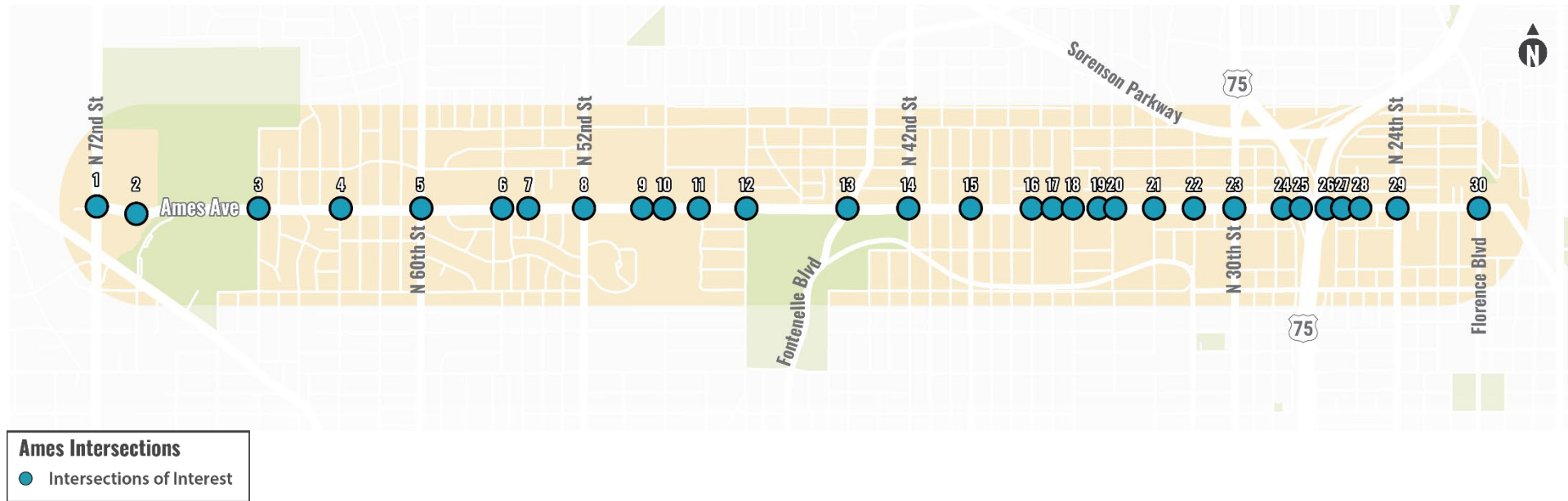


Figure 2: Ames Avenue Corridor Study Intersections of Interest

2.0 TRAFFIC VOLUMES

Turning movement counts (TMCs) conducted by the City of Omaha and JEO Consulting Group Inc. (JEO) will be utilized for the study. The City of Omaha provided historical counts at 10 of the study intersections, which were a mix of 2024 (existing year) and historical counts, conducted within the last three years. As part of this study, JEO conducted traffic counts at 20 study intersections between 10/23/2024 and 11/19/2024. Counts were completed on a typical weekday (Tuesday–Thursday) while school was in session. Pedestrians and bicycles crossing the intersection legs were also collected at each study intersection.

Table 1 summarizes the date of the count, the modes collected, and the count duration at each intersection.

Table 1: Turning Movement Count Data Collection

ID #	Intersection	Date	Mode Type				Duration
			Passenger Vehicle	Trucks	Bikes	Pedestrians	
1	N 72 nd Street	11/19/24	X	X	X	X	12-hour
2	Benson Plaza	11/19/24	X	X	X	X	12-hour
3	N 66 th Street	11/14/24	X	X	X	X	12-hour
4	N 63 rd Street	11/12/24	X	X	X	X	12-hour
5	N 60 th Street	7/23/24	X			X	8-hour
6	N 56 th Street (East)	10/23/24	X	X	X	X	12-hour
7	N 55 th Street	11/6/24	X	X	X	X	12-hour
8	N 52 nd Street	10/23/24	X	X	X	X	12-hour
9	Walmart Drive	11/6/24	X	X	X	X	12-hour
10	N 50 th Street	11/6/24	X	X	X	X	12-hour
11	N 49 th Street	10/23/24	X	X	X	X	12-hour
12	N 48 th Street	5/17/22	X			X	8-hour
13	Fontenelle Boulevard	2/6/23	X			X	8-hour
14	N 42 nd Street	10/23/24	X	X	X	X	24-hour
15	N 40 th Street	11/6/24	X	X	X	X	12-hour
16	N 37 th Street	10/23/24	X	X	X	X	12-hour
17	N 36 th Avenue	5/9/22	X			X	8-hour
18	N 36 th Street	11/12/24	X	X	X	X	12-hour
19	N 35 th Street	11/6/24	X	X	X	X	12-hour
20	N 34 th Street	10/23/24	X	X	X	X	12-hour
21	N 33 rd Avenue	11/6/24	X	X	X	X	12-hour
22	N 31 st Avenue	3/30/22	X			X	8-hour
23	N 30 th Street	9/7/23	X			X	8-hour
24	N 28 th Street	11/6/24	X	X	X	X	12-hour
25	N Freeway SB	5/22/24	X			X	8-hour
26	N Freeway NB	5/9/24	X			X	8-hour
27	N 26 th Street	11/12/24	X	X	X	X	12-hour
28	N 25 th Street	11/6/24	X	X	X	X	12-hour
29	N 24 th Street	5/14/24	X			X	8-hour
30	Florence Boulevard	5/14/24	X			X	8-hour

2.1 EXISTING TRAFFIC VOLUMES

Due to several counts being conducted during different calendar years and months, the TMCs were balanced to within 10% of volume differences between intersections to provide baseline conditions along the corridor. The counts conducted by JEO between 10/23/2024 and 11/19/2024 are the most recent counts available and were therefore used as the base condition for the corridor. The City of Omaha counts were adjusted to these volumes. These volumes were used to evaluate the baseline traffic operations and to project future traffic volumes.

The average daily traffic (ADT) and AM and PM peak hour TMCs used in the analysis are shown in **Figure 3-1** through **Figure 3-6**. To estimate the ADTs and TMCs at each intersection, standard volume adjustment factors were applied to the locations where 8-hour or 12-hour counts were conducted. Based on the 24-hour count at the N 42nd Street intersection, adjustment factors of 2.0 and 1.2 were used for 8-hour and 12-hour counts, respectively. The daily pedestrian and bicycle volumes on each intersection leg are shown in **Figure 4-1** through **Figure 4-6**. The pedestrian and bicycle volumes were factored to determine the daily volumes from the counts collected using 2024 data from a permanent pedestrian-bicycle counter along the Field Club Trail north of Vinton Street. Adjustment factors of 1.8 for 8-hour counts and 1.20 for 12-hour counts were determined based on the count station at Field Club Trail to provide an estimate of the daily pedestrian and bicycle volumes. A monthly factor was applied to the counts to normalize the expected crossing volumes as they are correlated with the yearly seasons based on guidance from the *National Bicycle and Pedestrian Documentation* project.

2.2 FUTURE TRAFFIC VOLUMES

Forecast data from the Metropolitan Area Planning Agency (MAPA) travel demand model was used to determine traffic volume growth rates along the Ames Avenue corridor. The current travel demand model uses traffic volumes from 2018 to project 2050 traffic volumes. The forecasted future volumes were compared to the existing volumes captured along the corridor to account for the growth that has occurred since 2018. In some cases, the existing traffic volumes exceeded the 2050 model projections, while others saw a decline in traffic in comparison to the 2018 baseline volumes. A detailed summary and comparison of the existing traffic counts and the model projections are provided in **Appendix A**.

The MAPA forecast data and existing count data were used to determine a proposed growth rate for each segment and intersection leg along the study corridor. The proposed growth rates were submitted to the City of Omaha for review and consideration. At intersections where future forecast data was not available, a 0.25% annual growth rate was assumed. Additionally, the turning movements associated with the estimated trips generated by the Enterprise Park development were added to the 2050 traffic volumes to account for the additional turning traffic the development will generate. The base-future ADTs and AM and PM peak hour turning movement volumes developed for the 2050 study year are shown in **Figure 5-1** through **Figure 5-6** for the study intersections.

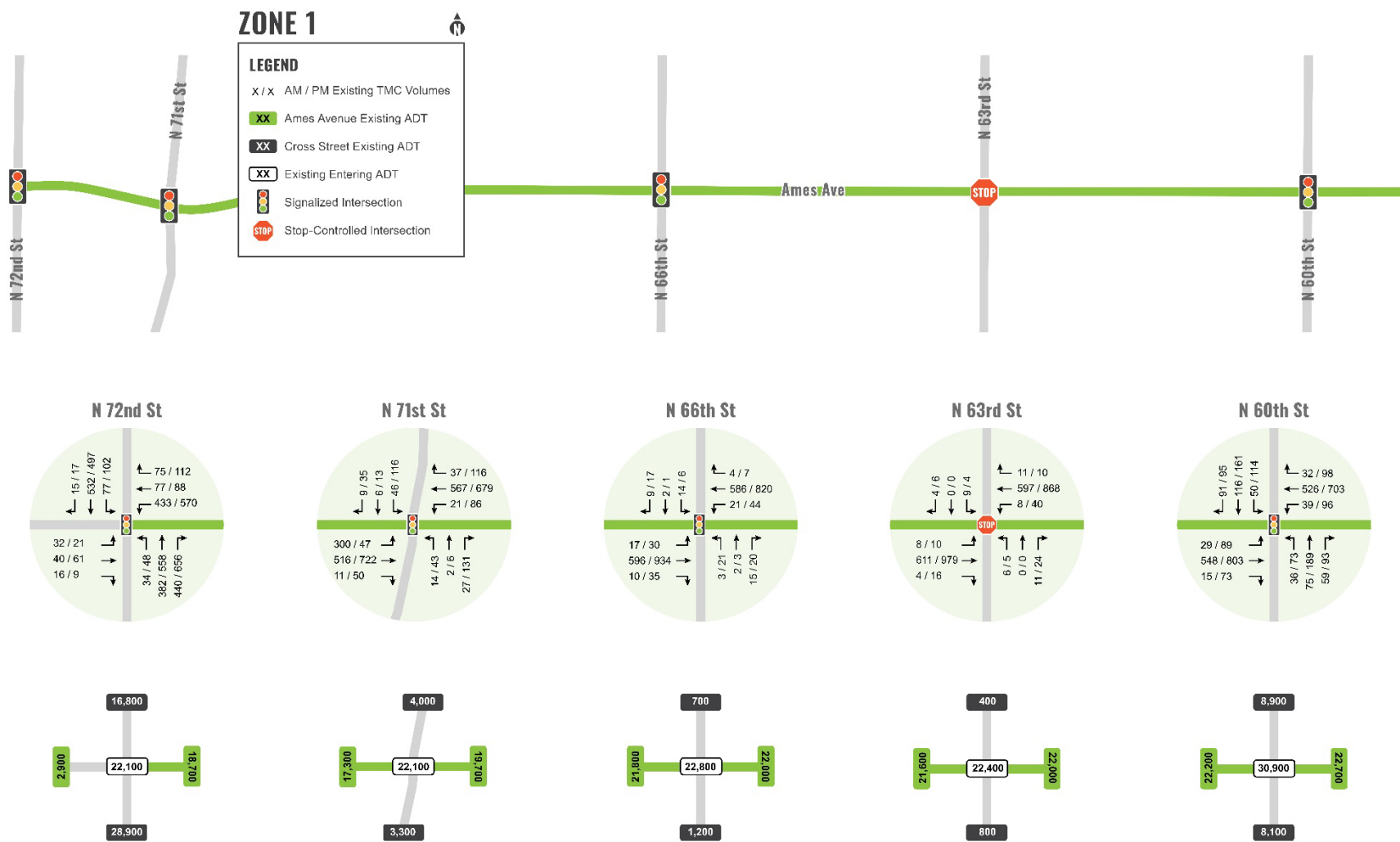


Figure 3-1: Existing (2025) Traffic Volumes – Zone 1

ZONE 2

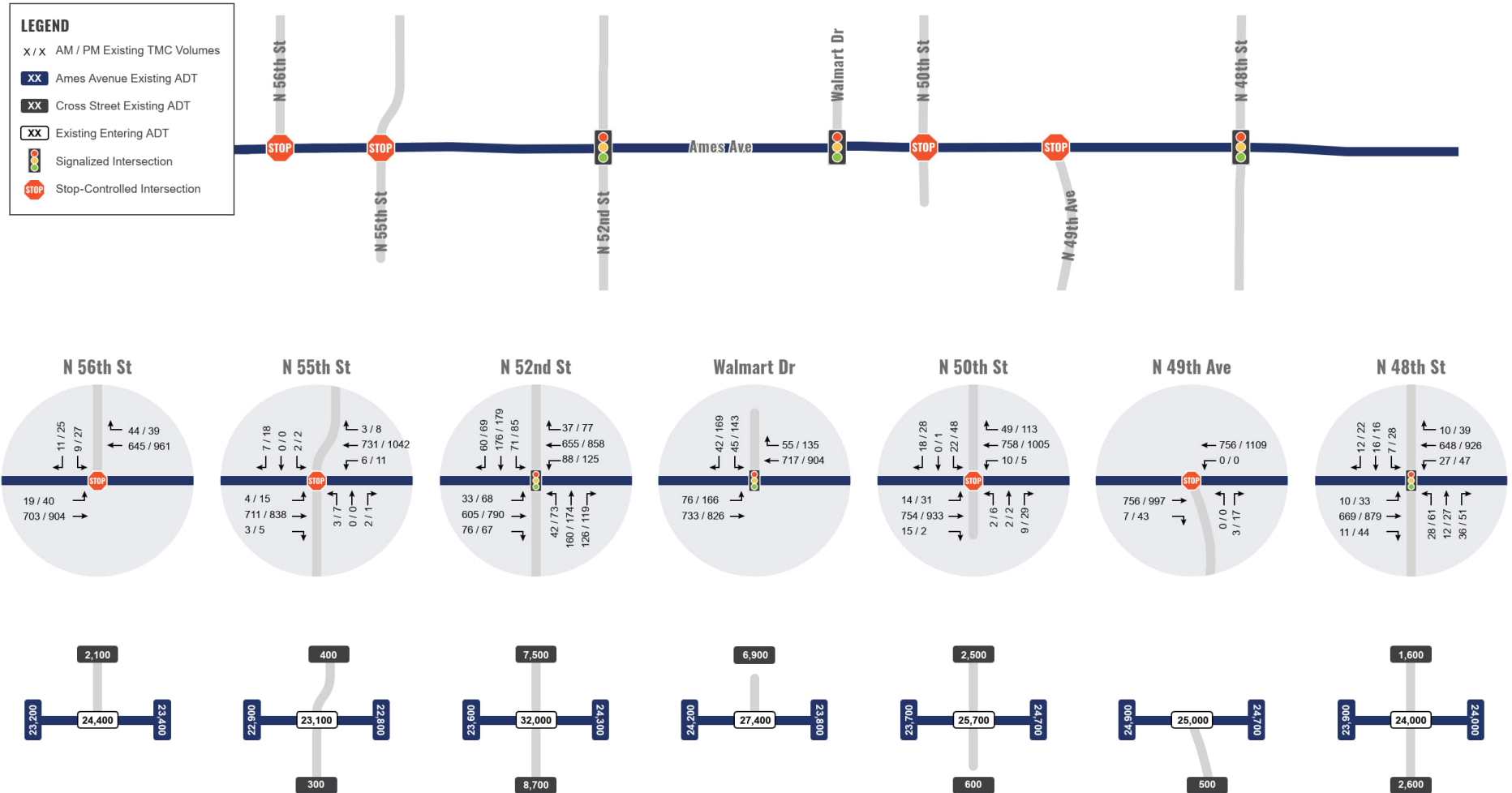


Figure 3-2: Existing (2025) Traffic Volumes – Zone 2

ZONE 3



LEGEND

x / x AM / PM Existing TMC Volumes

XX Ames Avenue Existing ADT

XX Cross Street Existing ADT

XX Existing Entering ADT

Signalized Intersection

Stop-Controlled Intersection

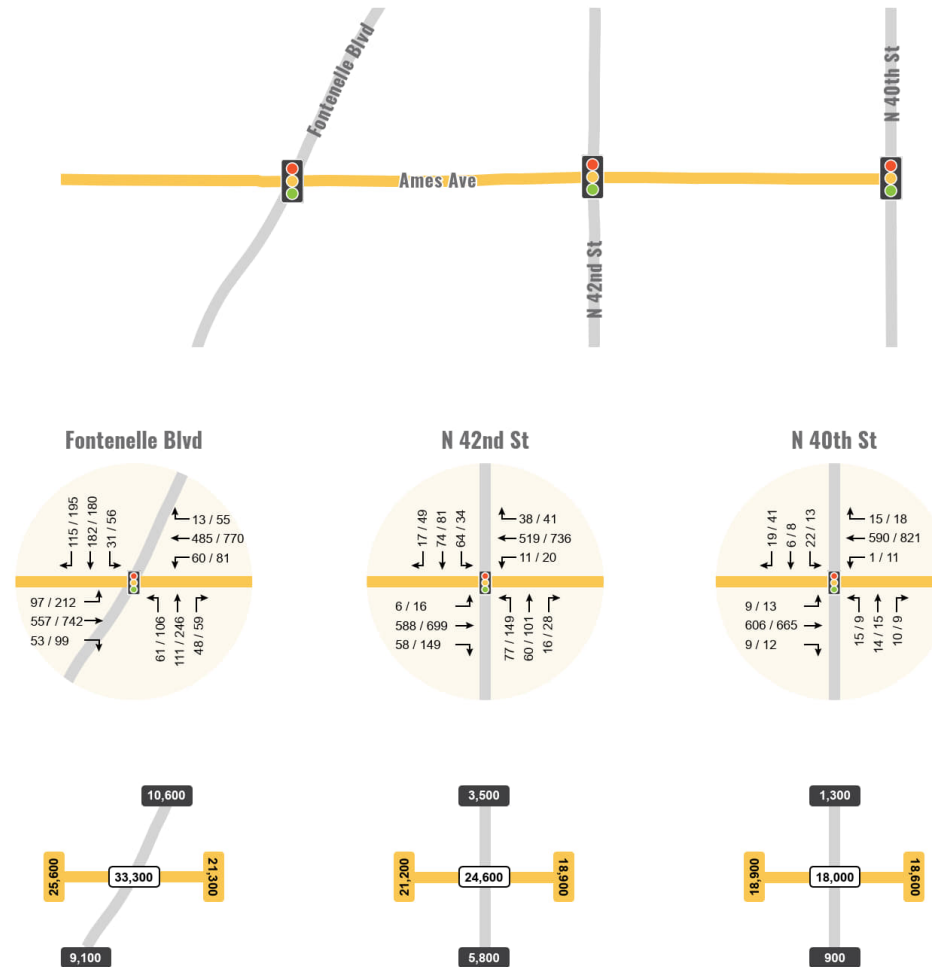


Figure 3-3: Existing (2025) Traffic Volumes – Zone 3

ZONE 4



LEGEND

x / x AM / PM Existing TMC Volumes

XX Ames Avenue Existing ADT

XX Cross Street Existing ADT

XX Existing Entering ADT

Signalized Intersection

Stop-Controlled Intersection

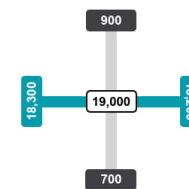
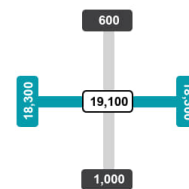
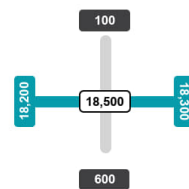
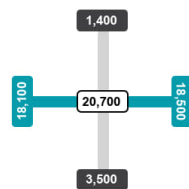
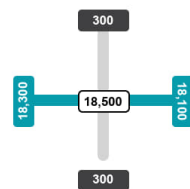
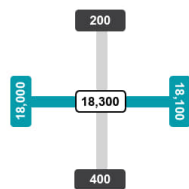
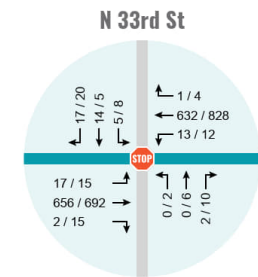
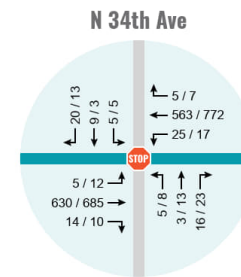
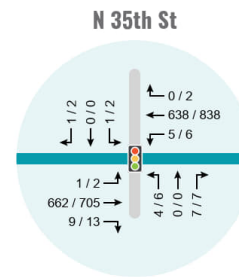
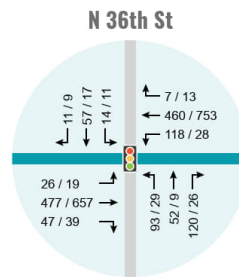
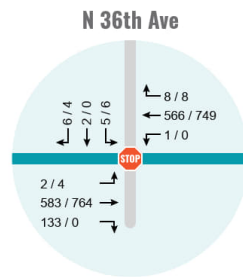
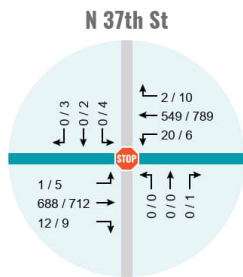
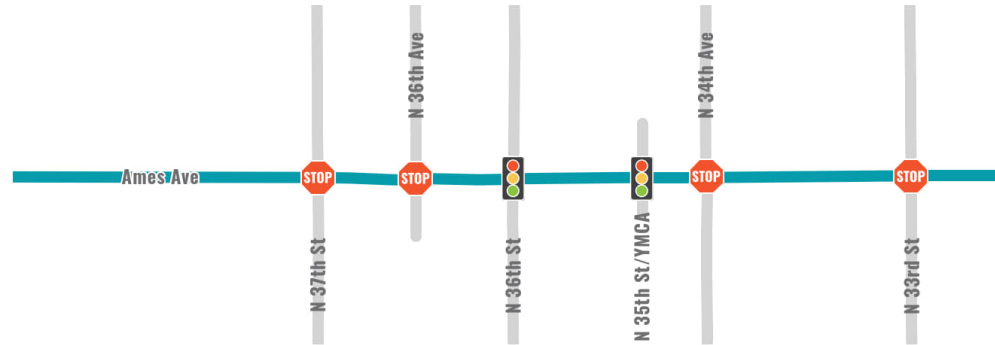


Figure 3-4: Existing (2025) Traffic Volumes – Zone 4

ZONE 5



LEGEND

x / x AM / PM Existing TMC Volumes

XX Ames Avenue Existing ADT

XX Cross Street Existing ADT

XX Existing Entering ADT

Signalized Intersection

Stop-Controlled Intersection

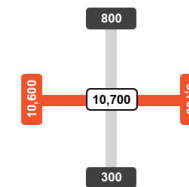
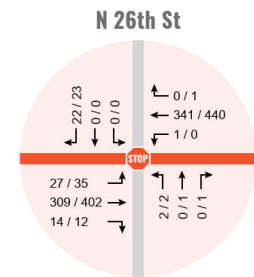
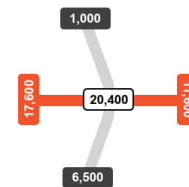
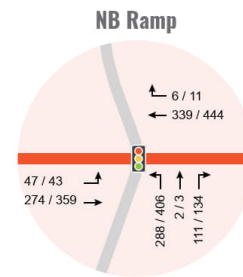
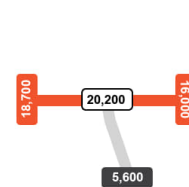
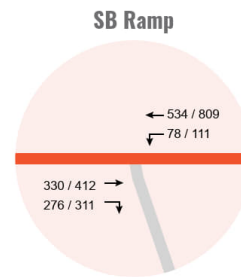
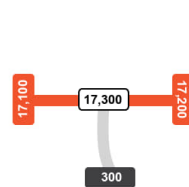
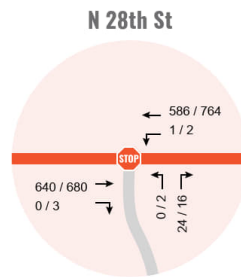
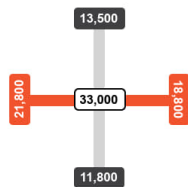
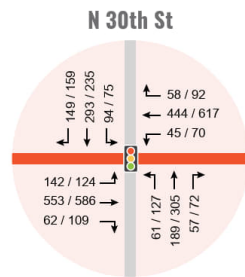
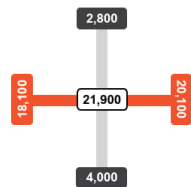
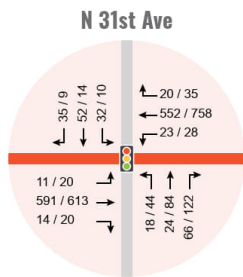
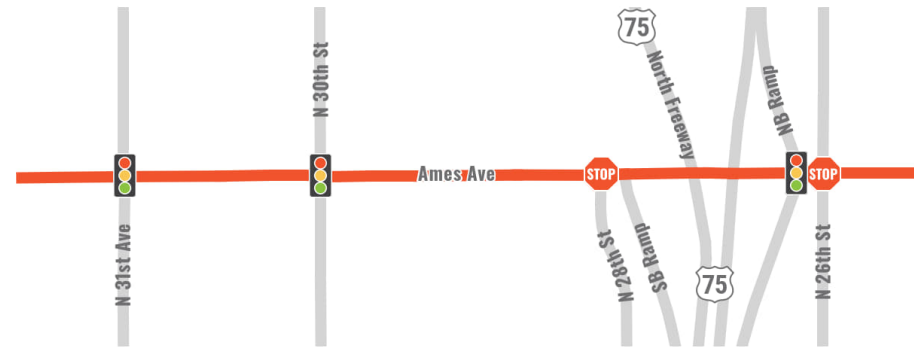


Figure 3-5: Existing (2025) Traffic Volumes – Zone 5

ZONE 6



LEGEND

X / X AM / PM Existing TMC Volumes

XX Ames Avenue Existing ADT

XX Cross Street Existing ADT

XX Existing Entering ADT

Signalized Intersection

Stop-Controlled Intersection

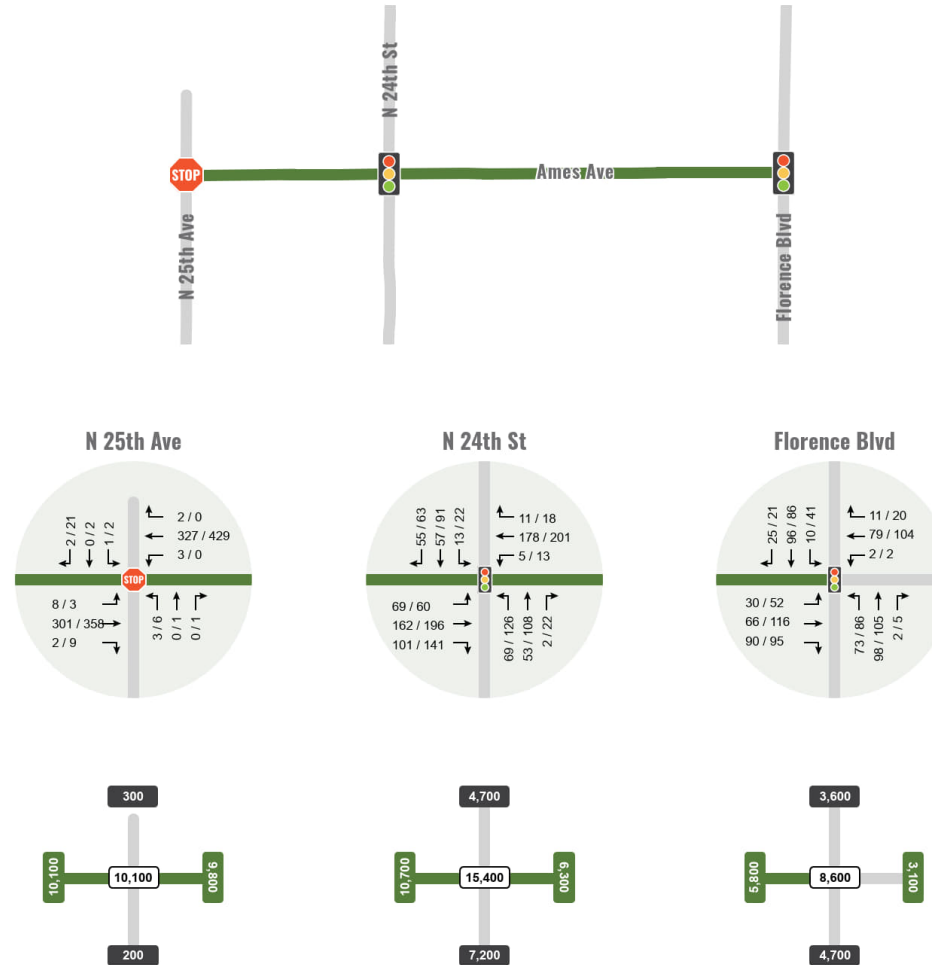


Figure 3-6: Existing (2025) Traffic Volumes – Zone 6

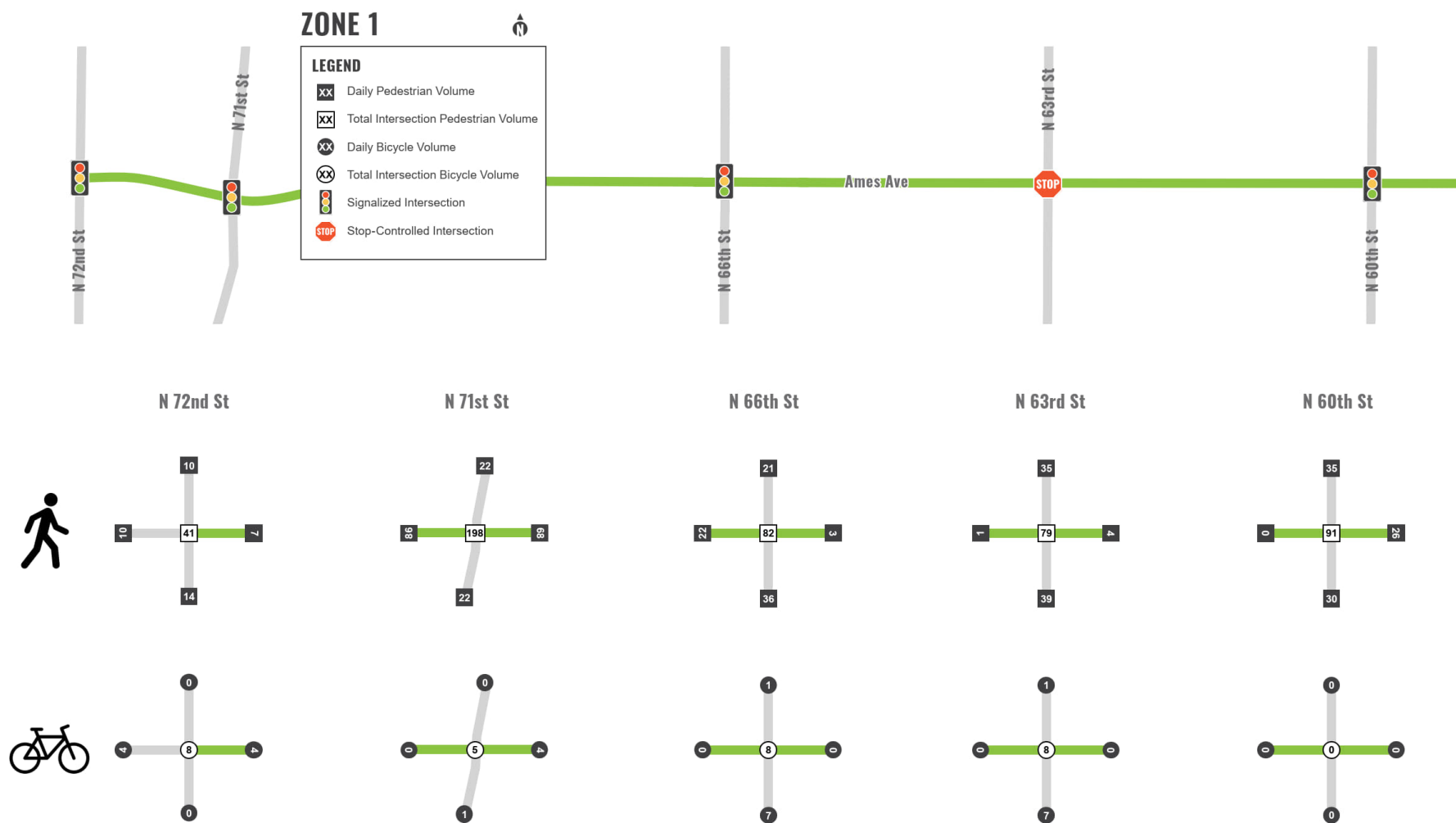


Figure 4-1: Existing (2025) Pedestrian and Bicycle Volumes – Zone 1

ZONE 2

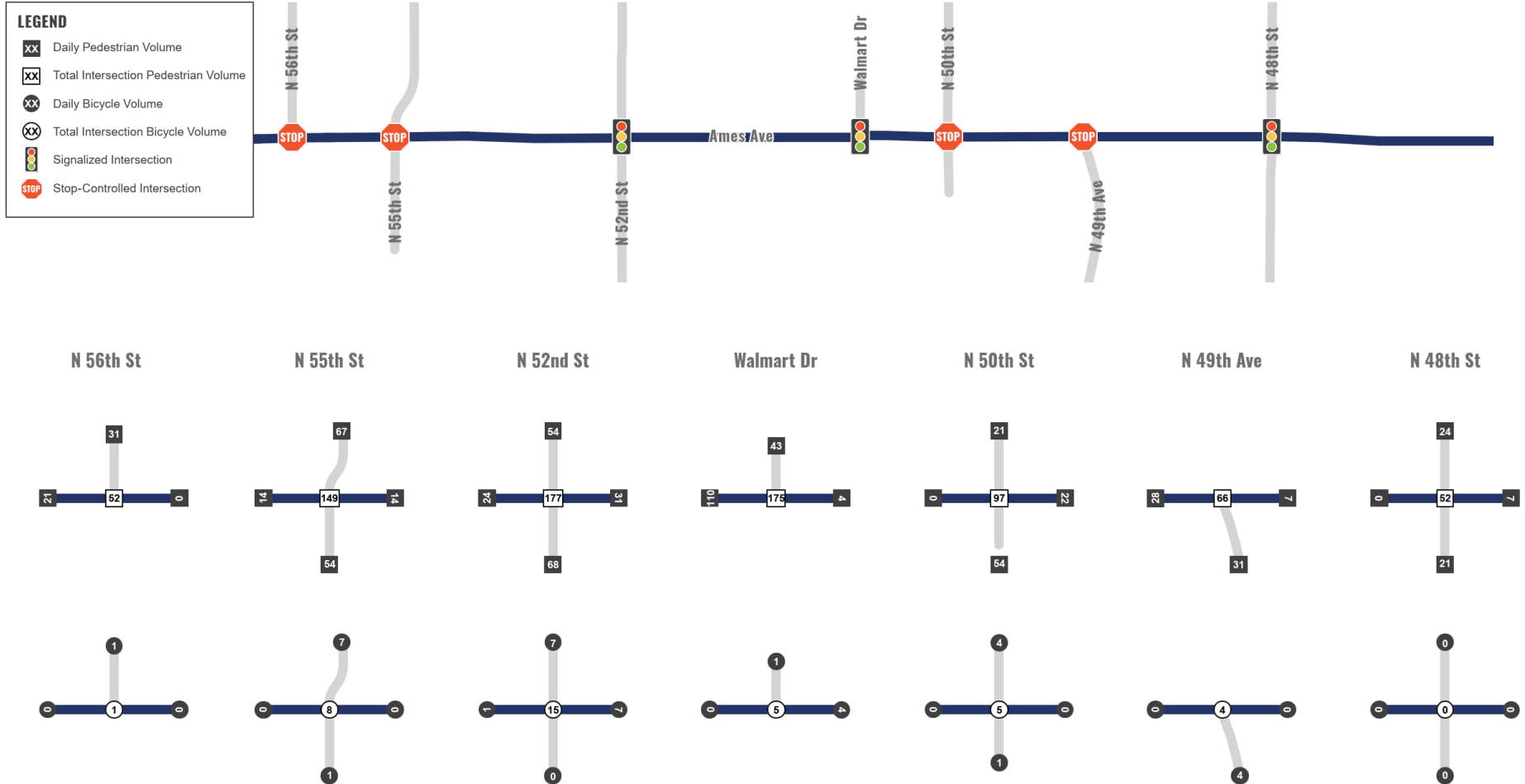
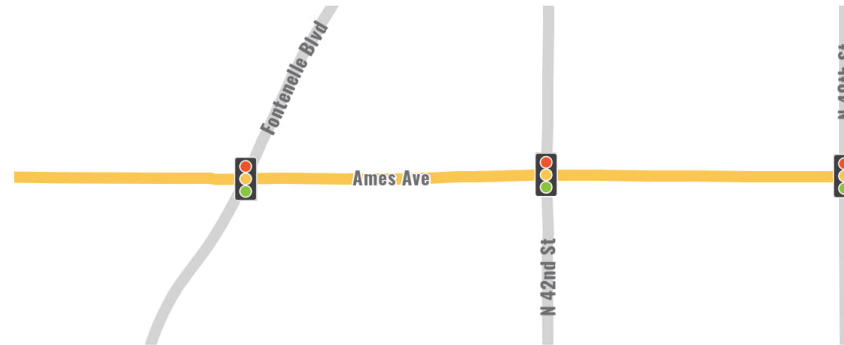
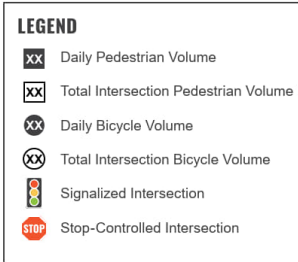


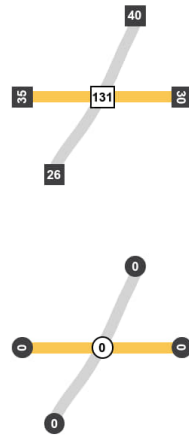
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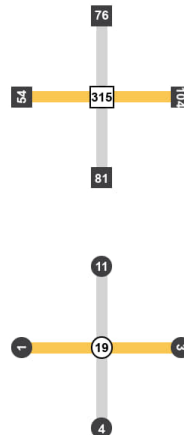
ZONE 3



Fontenelle Blvd



N 42nd St



N 40th St

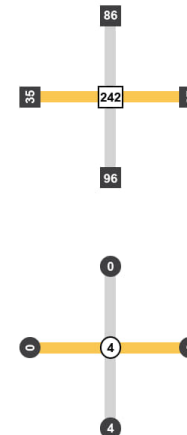


Figure 4-3: Existing (2025) Pedestrian and Bicycle Volumes – Zone 3

ZONE 4

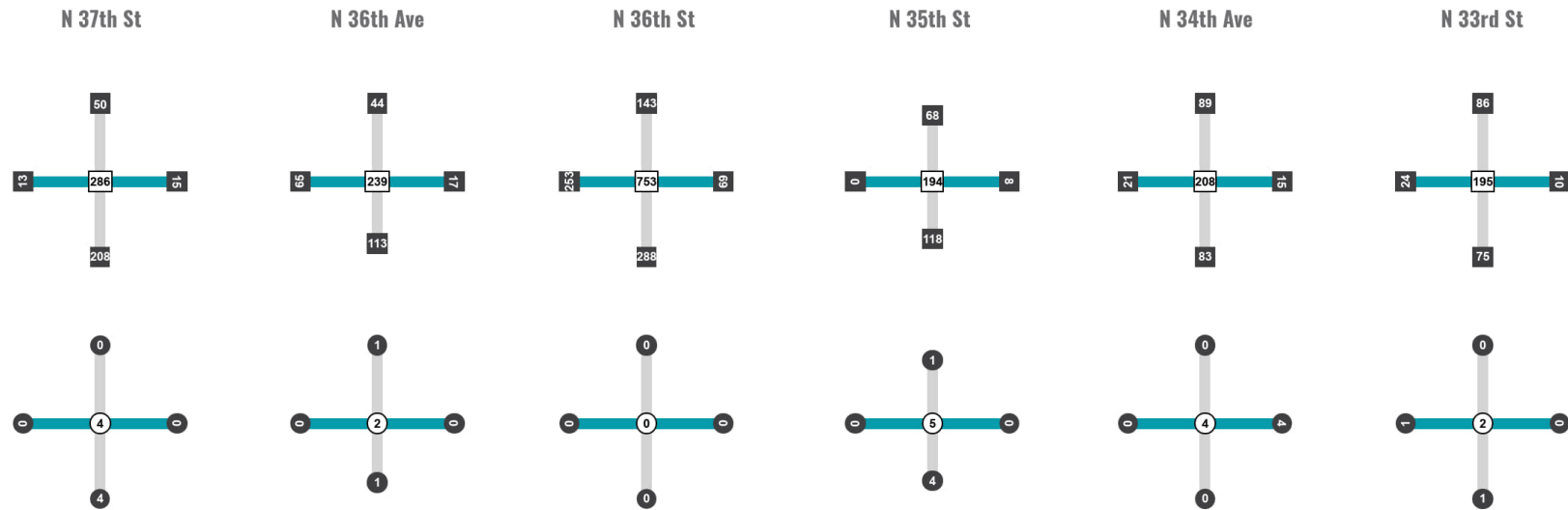
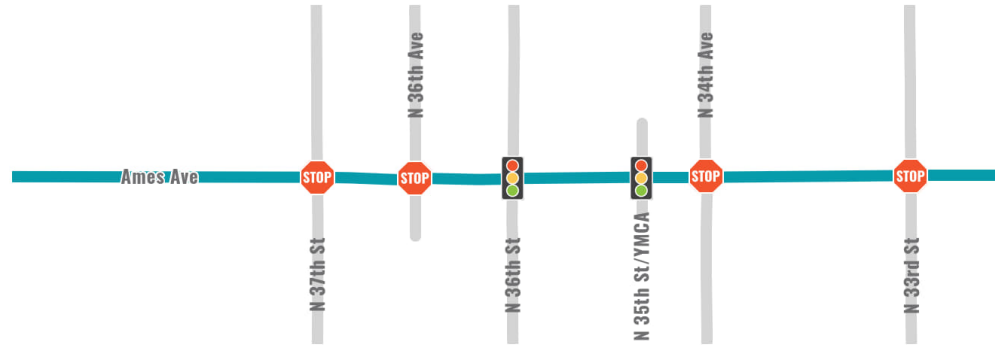
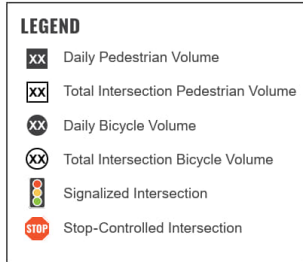


Figure 4-4: Existing (2025) Pedestrian and Bicycle Volumes – Zone 4

ZONE 5

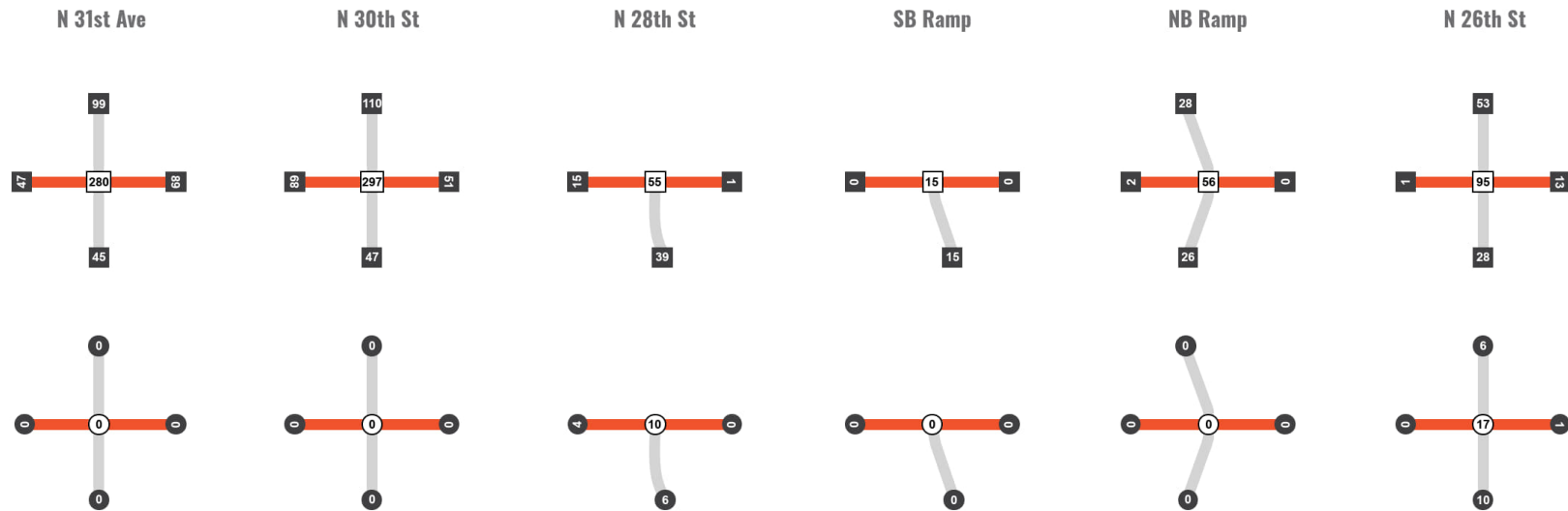
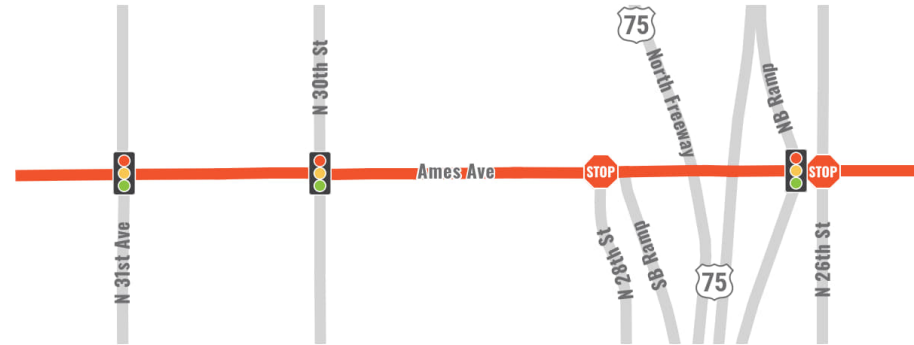
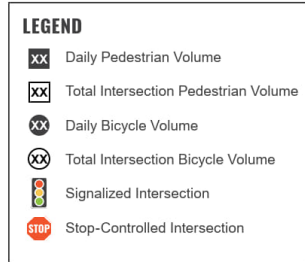
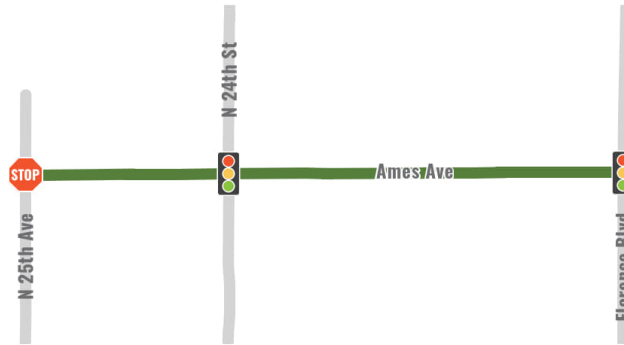
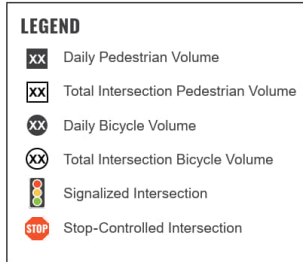
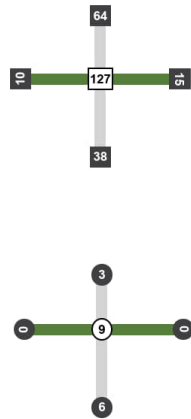


Figure 4-5: Existing (2025) Pedestrian and Bicycle Volumes – Zone 5

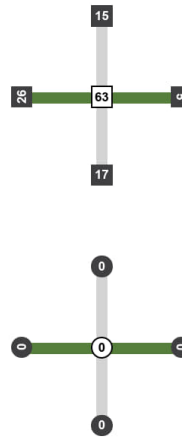
ZONE 6



N 25th Ave



N 24th St



Florence Blvd

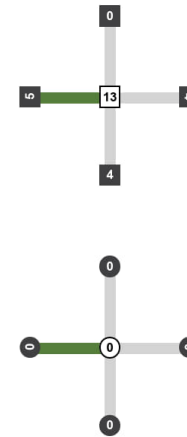


Figure 4-6: Existing (2025) Pedestrian and Bicycle Volumes – Zone 6



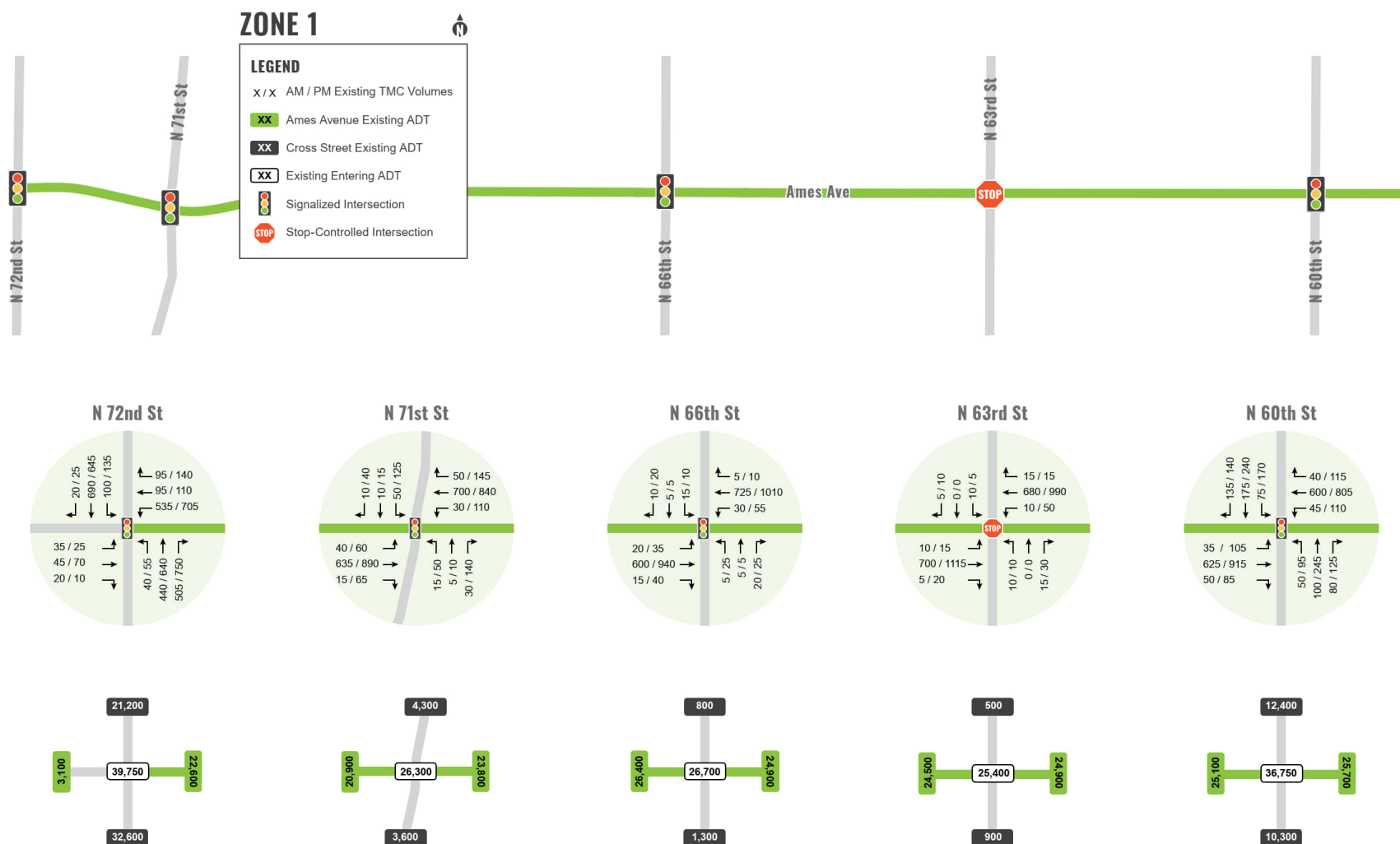


Figure 5-1: Base-Future (2050) Traffic Volumes – Zone 1

ZONE 2

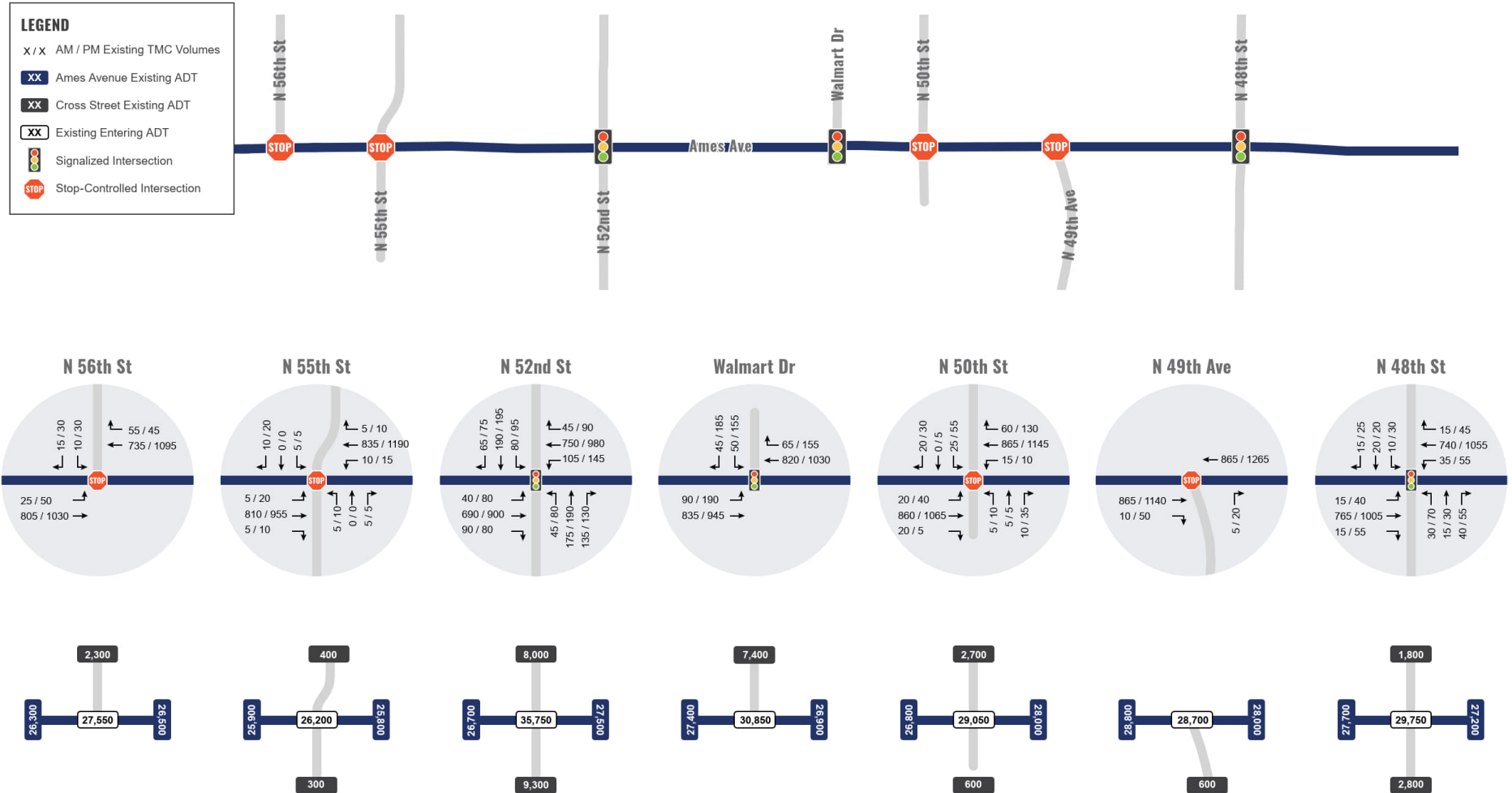


Figure 5-2: Base-Future (2050) Traffic Volumes – Zone 2

ZONE 3



LEGEND

x / x AM / PM Existing TMC Volumes

XX Ames Avenue Existing ADT

XX Cross Street Existing ADT

XX Existing Entering ADT

Signalized Intersection

Stop-Controlled Intersection

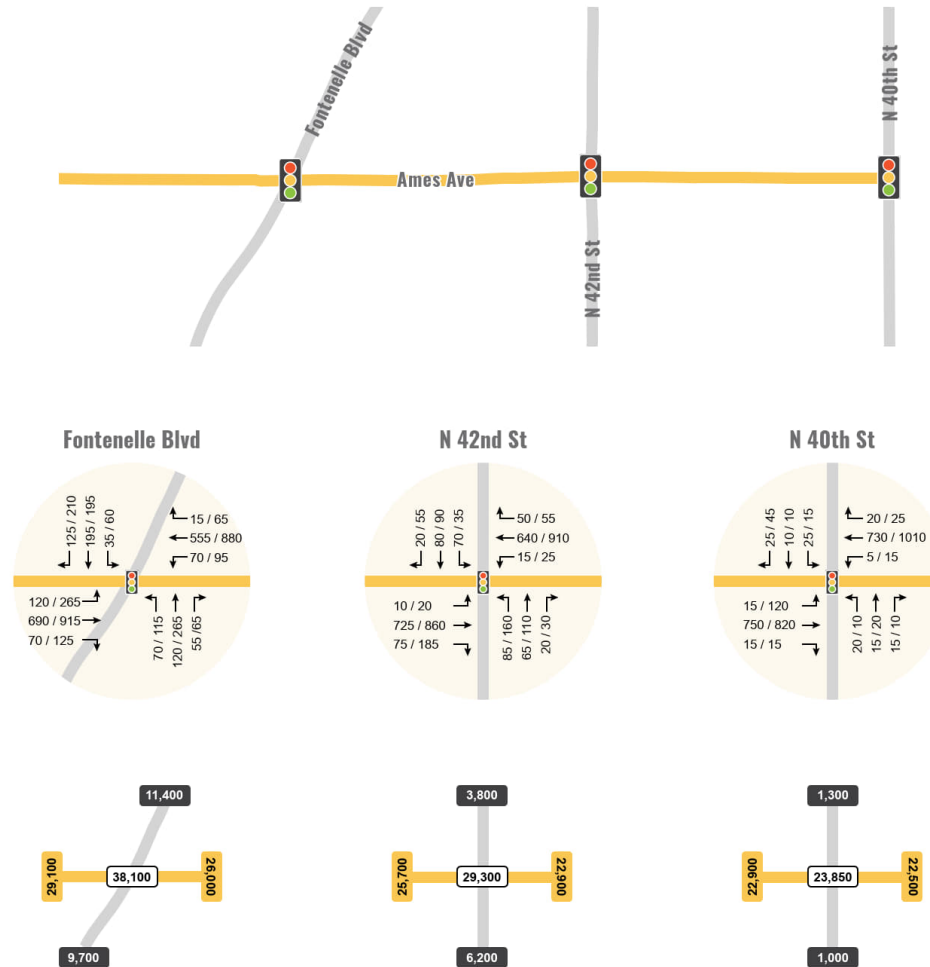


Figure 5-3: Base-Future (2050) Traffic Volumes – Zone 3

ZONE 4



LEGEND

X / X AM / PM Existing TMC Volumes

XX Ames Avenue Existing ADT

XX Cross Street Existing ADT

XX Existing Entering ADT

Signalized Intersection

Stop-Controlled Intersection

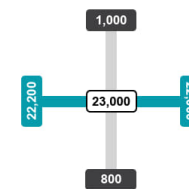
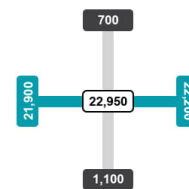
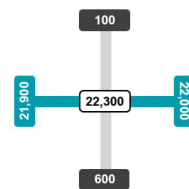
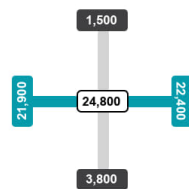
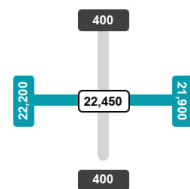
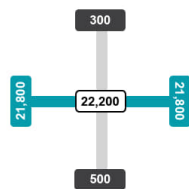
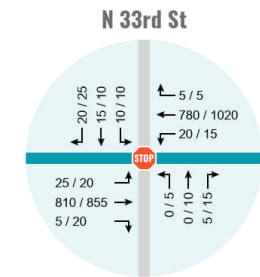
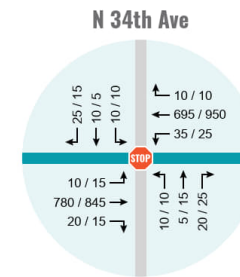
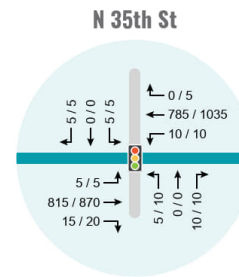
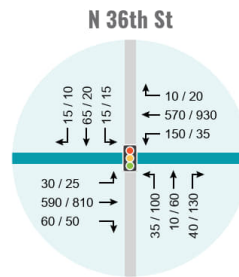
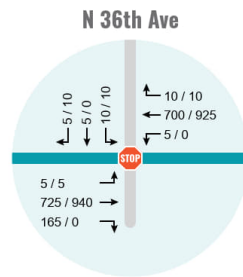
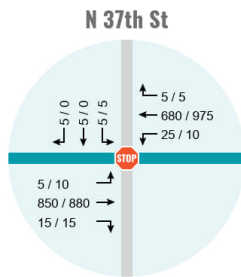
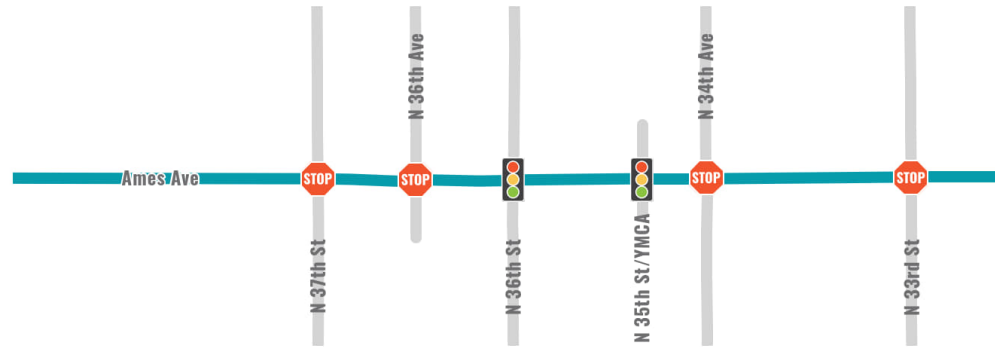


Figure 5-4: Base-Future (2050) Traffic Volumes – Zone 4

ZONE 5



LEGEND

X / X AM / PM Existing TMC Volumes

XX Ames Avenue Existing ADT

XX Cross Street Existing ADT

XX Existing Entering ADT

Signalized Intersection

Stop-Controlled Intersection

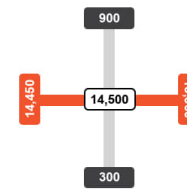
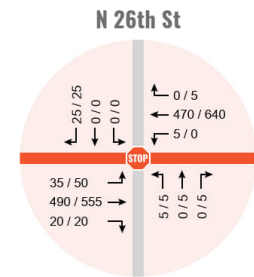
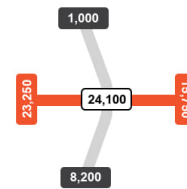
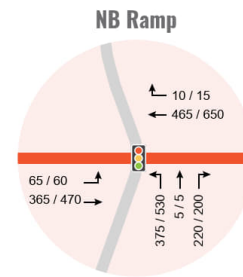
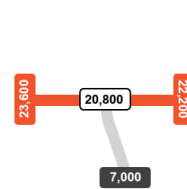
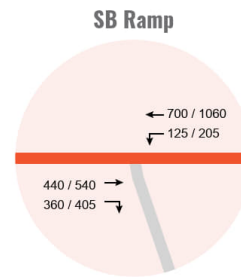
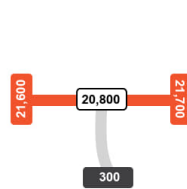
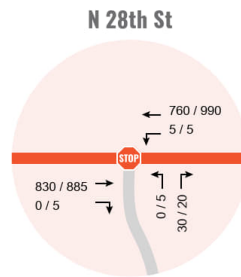
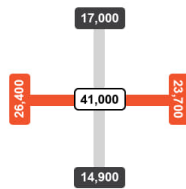
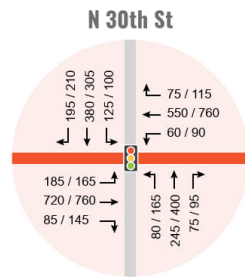
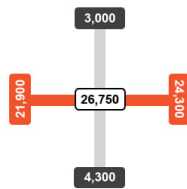
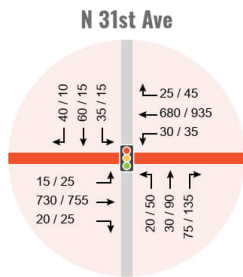
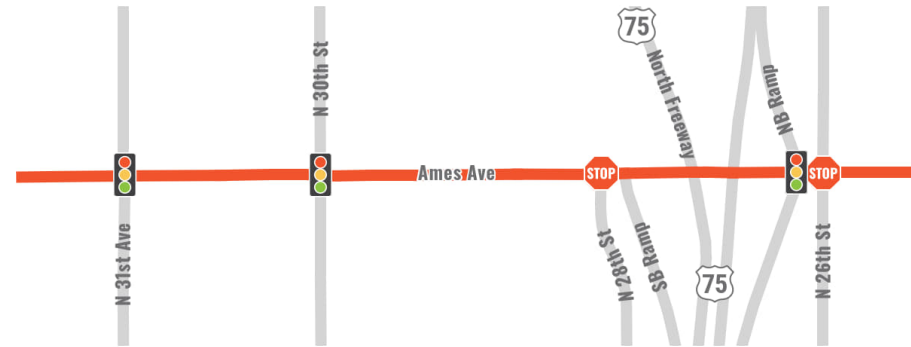


Figure 5-5: Base-Future (2050) Traffic Volumes – Zone 5



X / X AM / PM Existing TMC Volumes

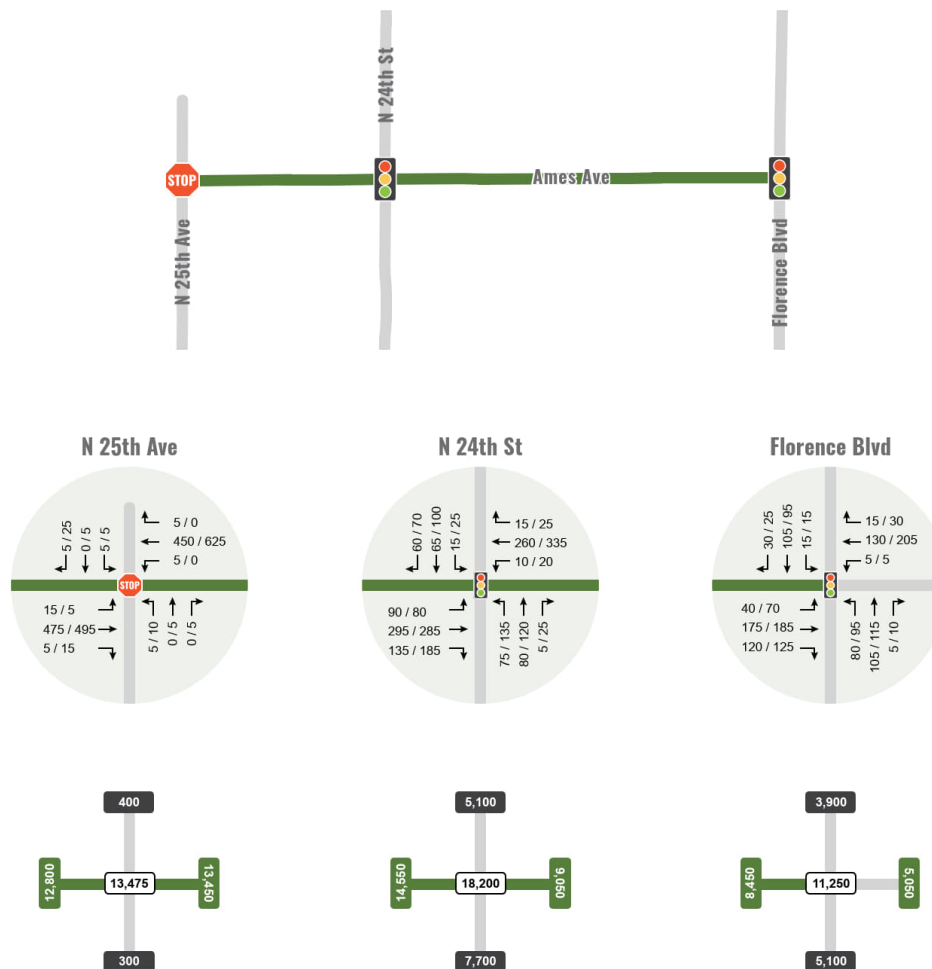
XX Ames Avenue Existing ADT

XX Cross Street Existing ADT

XX Existing Entering ADT

 Signalized Intersection

 Stop-Controlled Intersection



26

3.0 TRAFFIC OPERATIONS AND ANALYSIS

3.1 SIGNAL WARRANT ANALYSIS

Signal warrant analysis is conducted to determine the necessity of installing or maintaining traffic signals at specific intersections based on various factors. This involves assessing vehicular volume over different periods, such as eight-hour, four-hour, and peak-hour intervals, alongside pedestrian volumes and school crossings. A review was performed to determine if the Manual on Uniform Traffic Control Devices (MUTCD) for Streets and Highways, 2023 Edition, traffic signal warrants are satisfied for existing signalized and two-way stop-controlled study intersections. The following warrants were evaluated at the study intersections:

- Warrant 1 (Eight-Hour Vehicular Volume)
- Warrant 2 (Four-Hour Vehicular Volume)
- Warrant 3 (Peak-Hour Vehicular Volume)
- Warrant 4 (Pedestrian Volumes)

3.1.1 Signal Warrant Summary

Signal warrants were evaluated for the Existing (2025) and Base-Future (2050) traffic volumes. Based on the analysis conducted, the following signalized intersections do not satisfy signal warrant criteria under Existing (2025) and Base-Future (2050) traffic volumes:

- N 66th Street
- N 40th Street
- N 24th Street
- Florence Boulevard

In addition to these unwarranted signals, the signalized intersection at N 31st Avenue with Ames Avenue does not satisfy signal warrant criteria under Existing (2025) conditions. The intersection is anticipated to satisfy criteria for warrants 2 and 3 upon Base-Future (2050) traffic conditions.

Unwarranted signals can often lead to increased crash rates due to unexpected stoppage of traffic and drivers' disobeying the signals. Additionally, unwarranted traffic signals can often lead to operational deficiencies by creating unnecessary delay and increasing travel time. **Table 2** and **Table 3** provide a summary of the MUTCD signal warrant evaluation at the study intersections under the Existing (2025) and Base-Future (2050) traffic conditions, respectively. Signal warrant analysis worksheets are included in **Appendix D**.

Table 2: Existing (2025) Signal Warrants

ID#	Intersection	Existing Traffic Control	Warrant 1			Warrant 2	Warrant 3	Warrant 4	
			A	B	A&B			A	B
1	N 72 nd Street	Signal	Yes	Yes	Yes	Yes	Yes	No	No
2	Benson Plaza	Signal	No	No	No	Yes	Yes	No	No
3	N 66 th Street	Signal	No	No	No	No	No	No	No
4	N 63 rd Street	TWSC	No	No	No	No	No	No	No
5	N 60 th Street	Signal	No	No	Yes	Yes	Yes	No	No
6	N 56 th Street	TWSC	No	No	No	No	No	No	No
7	N 55 th Street	TWSC	No	No	No	No	No	No	No
8	N 52 nd Street	Signal	Yes	Yes	Yes	Yes	Yes	No	No
9	Walmart Drive	Signal	No	No	No	Yes	Yes	No	No
10	N 50 th Street	TWSC	No	No	No	No	No	No	No
11	N 49 th Street	TWSC	No	No	No	No	No	No	No
12	N 48 th Street	Signal	No	No	No	No	Yes	No	No
13	Fontenelle Boulevard	Signal	No	Yes	Yes	Yes	Yes	No	No
14	N 42 nd Street	Signal	No	Yes	Yes	Yes	Yes	No	No
15	N 40 th Street	Signal	No	No	No	No	No	No	No
16	N 37 th Street	TWSC	No	No	No	No	No	No	No
17	N 36 th Avenue	TWSC	No	No	No	No	No	No	No
18	N 36 th Street	Signal	No	No	No	No	Yes	No	No
19	N 35 th Street	Emergency Vehicle Signal	--	--	--	--	--	--	--
20	N 34 th Street	TWSC	No	No	No	No	No	No	No
21	N 33 rd Avenue	TWSC	No	No	No	No	No	No	No
22	N 31 st Avenue	Signal	No	No	No	No	No	No	No
23	N 30 th Street	Signal	Yes	Yes	Yes	Yes	Yes	No	No
24	N 28 th Street	TWSC	No	No	No	No	No	No	No
25	N Freeway SB Ramp	-	No	No	No	No	No	No	No
26	N Freeway NB Ramp	Signal	Yes	No	N/A	Yes	Yes	No	No
27	N 26 th Street	TWSC	No	No	No	No	No	No	No
28	N 25 th Street	TWSC	No	No	No	No	No	No	No
29	N 24 th Street	Signal	No	No	No	No	No	No	No
30	Florence Boulevard	Signal	No	No	No	No	No	No	No

TWSC = Two-way Stop-Control

Table 3: Base-Future (2050) Conditions Signal Warrants

ID#	Intersection	Existing Traffic Control	Warrant 1			Warrant 2	Warrant 3
			A	B	A&B		
1	N 72 nd Street	Signal	Yes	Yes	Yes	Yes	Yes
2	Benson Plaza	Signal	No	No	No	Yes	Yes
3	N 66 th Street	Signal	No	No	No	No	No
4	N 63 rd Street	TWSC	No	No	No	No	No
5	N 60 th Street	Signal	Yes	Yes	Yes	Yes	Yes
6	N 56 th Street	TWSC	No	No	No	No	No
7	N 55 th Street	TWSC	No	No	No	No	No
8	N 52 nd Street	Signal	Yes	Yes	Yes	Yes	Yes
9	Walmart Drive	Signal	No	No	No	Yes	Yes
10	N 50 th Street	TWSC	No	No	No	No	No
11	N 49 th Street	TWSC	No	No	No	No	No
12	N 48 th Street	Signal	No	No	No	Yes	Yes
13	Fontenelle Boulevard	Signal	Yes	Yes	Yes	Yes	Yes
14	N 42 nd Street	Signal	No	Yes	Yes	Yes	Yes
15	N 40 th Street	Signal	No	No	No	No	No
16	N 37 th Street	TWSC	No	No	No	No	No
17	N 36 th Avenue	TWSC	No	No	No	No	No
18	N 36 th Street	Signal	No	No	No	No	Yes
19	N 35 th Street	Emergency Vehicle Signal	--	--	--	--	--
20	N 34 th Street	TWSC	No	No	No	No	No
21	N 33 rd Avenue	TWSC	No	No	No	No	No
22	N 31 st Avenue	Signal	No	No	No	Yes	Yes
23	N 30 th Street	Signal	Yes	Yes	Yes	Yes	Yes
24	N 28 th Street	TWSC	No	No	No	No	No
25	N Freeway SB Ramp	-	No	No	No	No	No
26	N Freeway NB Ramp	Signal	Yes	No	Yes	Yes	Yes
27	N 26 th Street	TWSC	No	No	No	No	No
28	N 25 th Street	TWSC	No	No	No	No	No
29	N 24 th Street	Signal	No	No	No	No	No
30	Florence Boulevard	Signal	No	No	No	No	No

TWSC = Two-way Stop-Control

3.2 INTERSECTION AND SEGMENT DELAY ANALYSIS

Traffic operations were analyzed for the study intersections and segments using procedures documented in the *Highway Capacity Manual (HCM), Sixth Edition: A Guide for Multimodal Mobility Analysis*, Transportation Research Board, October 2016. Delay per vehicle was used to measure the performance of the traffic operations conditions. Low control delay represents essentially uninterrupted flow, with high delay representing a breakdown of traffic flow with noticeable congestion and queueing.

Synchro Version 11 and SimTraffic traffic analysis software were used to analyze traffic operations at the study intersections and segments. **Table 4** describes the levels of delay for intersections and segments.

Table 4: Intersection Control Delay (Source: HCM 6th Edition)

Description of Delay	Control Delay per Vehicle (sec)	
	Signalized / Segments	Unsignalized / Roundabout
Little or no delay.	≤ 10.0	≤ 10.0
Short traffic delays.	> 10.0 and ≤ 20.0	> 10.0 and ≤ 15.0
Average traffic delays.	> 20.0 and ≤ 35.0	> 15.0 and ≤ 25.0
Long traffic delays.	> 35.0 and ≤ 55.0	> 25.0 and ≤ 35.0
Very long traffic delays.	> 55.0 and ≤ 80.0	> 35.0 and ≤ 50.0
Demand exceeds capacity, resulting in extreme delays and queueing.	> 80.0	> 50.0

3.2.1 Existing (2025) Conditions Analysis

The Existing (2025) conditions analysis evaluated the Existing (2025) traffic volumes developed under the existing roadway and intersection conditions. An existing conditions Synchro model was created that modeled the existing roadway and intersection geometry along the study area. The Synchro analysis was performed using peak-hour factors (PHFs), which adjust for the traffic flow demand experienced during the peak periods, and the heavy vehicle percentages from the existing counts.

Based on the analysis conducted, the signalized intersections along Ames Avenue generally have acceptable operations; the intersections of N 72nd Street, N 60th Street, and N 30th Street experience the highest delay, with average delay experienced at these intersections falling between 20 and 25 seconds. However, multiple intersection movements experience high levels of delays (more than 35 seconds), which may contribute to congestion and long queues. The critical peak delay for the study intersections and segments is shown in **Figure 6**. The AM and PM delays for all intersection movements are shown in **Figure 8-1** through **Figure 8-6**. Similar to the intersections along the corridor, the majority of segments have acceptable operations. The segments that experience the highest levels of delay (more than 30 seconds) are the eastbound approach at N 72nd Street and the westbound segment between N 72nd Street and Benson Park Plaza under Existing (2025) traffic conditions. A detailed summary table of the measures of effectiveness (MOEs) is included in **Appendix B**, and Synchro analysis worksheets are included in **Appendix E**.

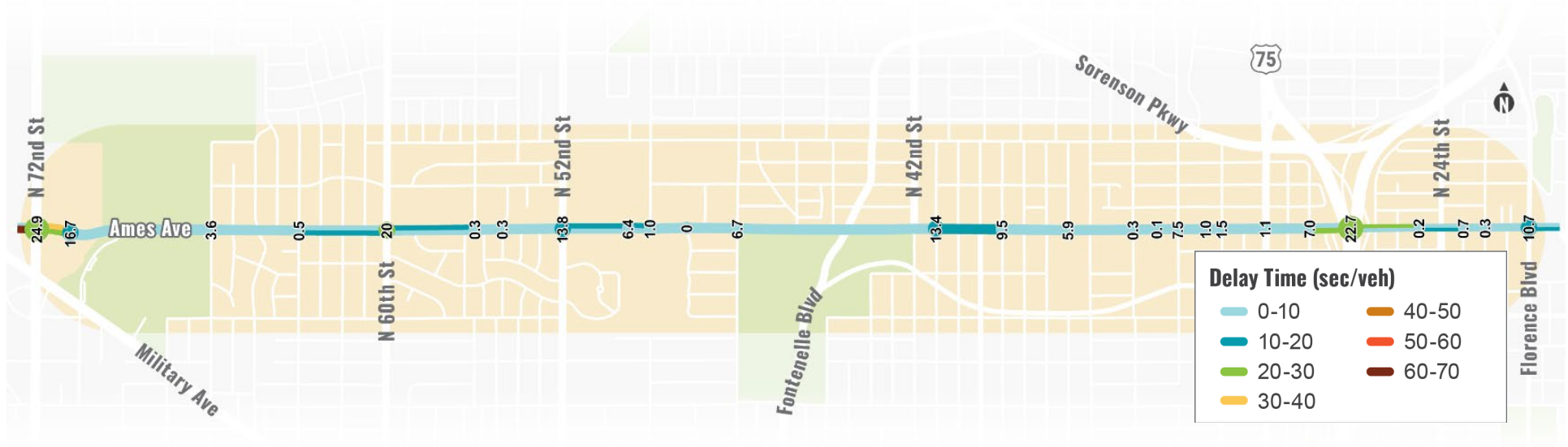


Figure 6: Existing (2025) Peak Intersection and Segment Delay

3.2.2 Base-Future (2050) Conditions Analysis

The Base-Future (2050) conditions analysis evaluated the 2050 traffic volumes developed under the existing-plus committed roadway network. Changes to the existing roadway based on known projects along the corridor include the North Stadium development, which will close the N 35th Street access, and the Enterprise Parkway development. The Base-Future Synchro model accounted for changes to the corridor as part of these two projects.

Similar to the existing conditions, the signalized intersections along Ames Avenue generally have acceptable operations under the Base-Future (2050) conditions. The intersections of N 72nd Street, N 60th Street, and N 30th Street experience the highest levels of delay, with the average delay experienced at these intersections falling between 20 and 35 seconds. All other signalized intersections are anticipated to experience an average delay of less than 20 seconds. Similar to the existing conditions, the segments that experience the highest levels of delay (more than 30 seconds) are the eastbound approach at N 72nd Street and the westbound segment between N 72nd Street and Benson Park Plaza under Base-Future (2050) traffic conditions. The critical peak delay for the study intersections and segments is shown in **Figure 7**. The AM and PM delays for intersection movements are shown on **Figure 9-1** through **Figure 9-6**. A detailed summary table of the MOEs is included in **Appendix C**, and Synchro analysis worksheets are included in **Appendix E**.

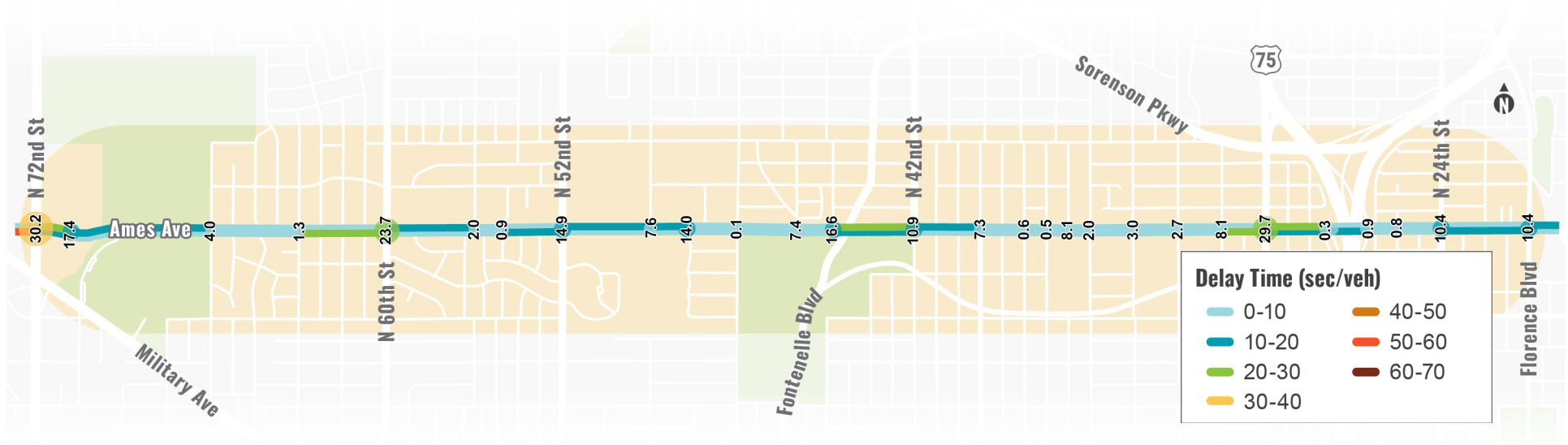


Figure 7: Base-Future (2050) Peak Intersection and Segment Delay

3.3 INTERSECTION QUEUING ANALYSIS

Queuing occurs at intersections when the lane demand exceeds capacity or when the time between arriving vehicles is less than the service time of the signal. Long queues can create several operational issues, such as queues from the through lanes blocking access to turn lanes, turn lane queues overflowing into the through lanes when insufficient storage is provided, and queues from an upstream intersection overflowing to downstream intersections or access.

Intersection queuing analysis was completed for the study intersections during the Existing (2025) and Base-Future (2050) traffic conditions. The 50th percentile and 95th percentile queue lengths were determined and reported during the peak periods at the intersections. The 50th percentile queue length means that half the time, the line of vehicles is shorter than this length; it's the typical or median queue. The 95th percentile queue length implies that 95% of the time, the queue is shorter than this length, and it's used to show the worst-case during peak conditions. The 50th and 95th percentile queue lengths were determined for the peak hours of each intersection movement.

The 50th and 95th percentile critical queue for each intersection are shown on **Figure 8-1** through **Figure 8-6** under the Existing (2025) traffic conditions. Similarly, the 50th and 95th percentile critical queues under Base-Future (2050) conditions are shown on **Figure 9-1** through **Figure 9-6**. In addition, a detailed summary of 95th percentile queue lengths for each movement is provided in **Appendix B** and **Appendix C** for Existing (2025) and Base-Future (2050) conditions, respectively. Based on the 95th percentile critical queues, approach queues were determined at each intersection. The approach queue provides a planning-level summary of which intersection legs may experience queuing in comparison to other intersections in the study area. The approach queues were weighted and determined based on the 95th percentile queue lengths for a given intersection movement and the corresponding volume for the volumes in comparison to the total volumes of the approach. The approach queues for each intersection are shown in **Figure 10** and **Figure 11** for the Existing (2025) and Base-Future (2050) traffic conditions, respectively.

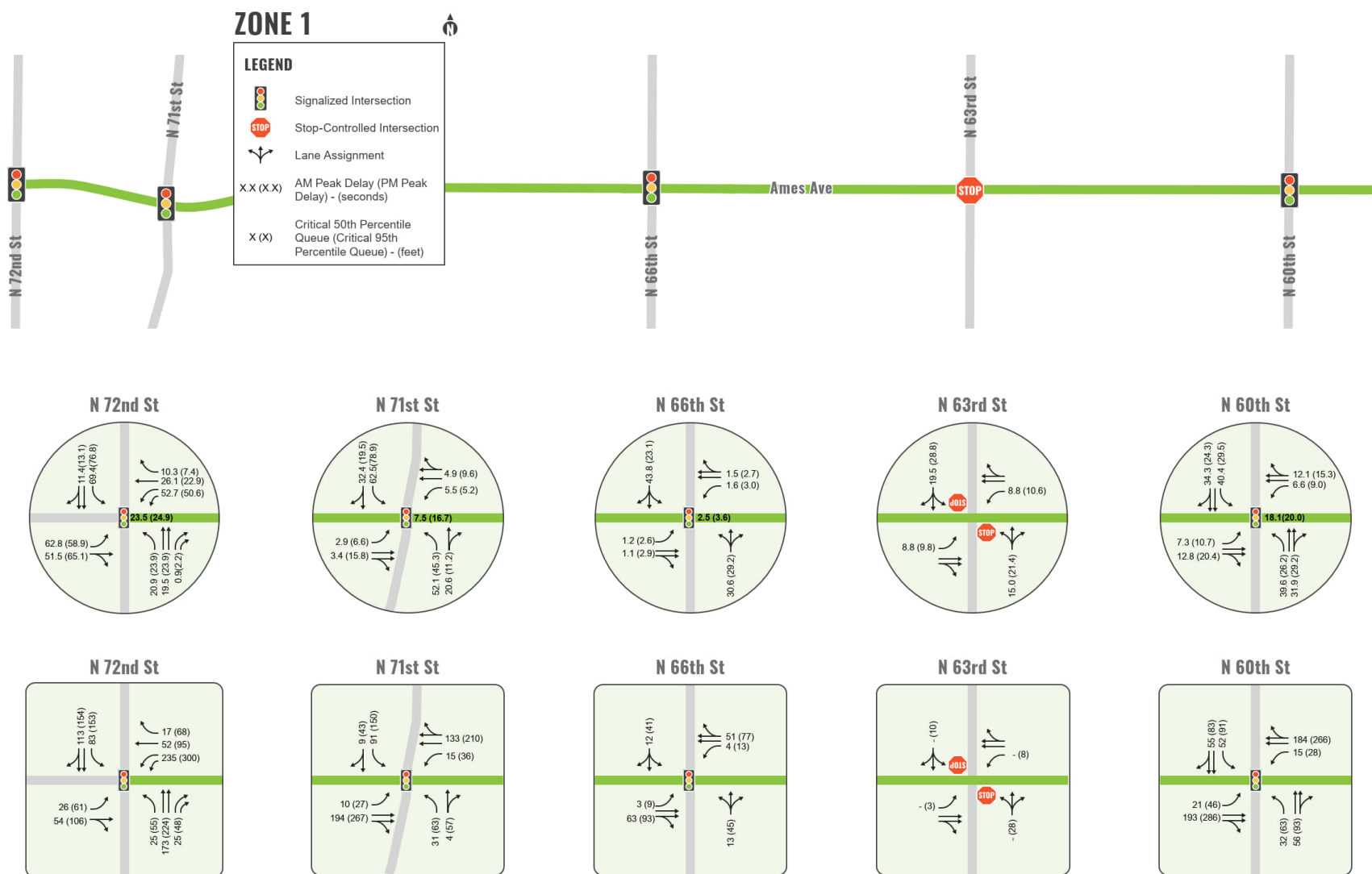


Figure 8-1: Existing Traffic Operations and Queues – Zone 1

ZONE 2

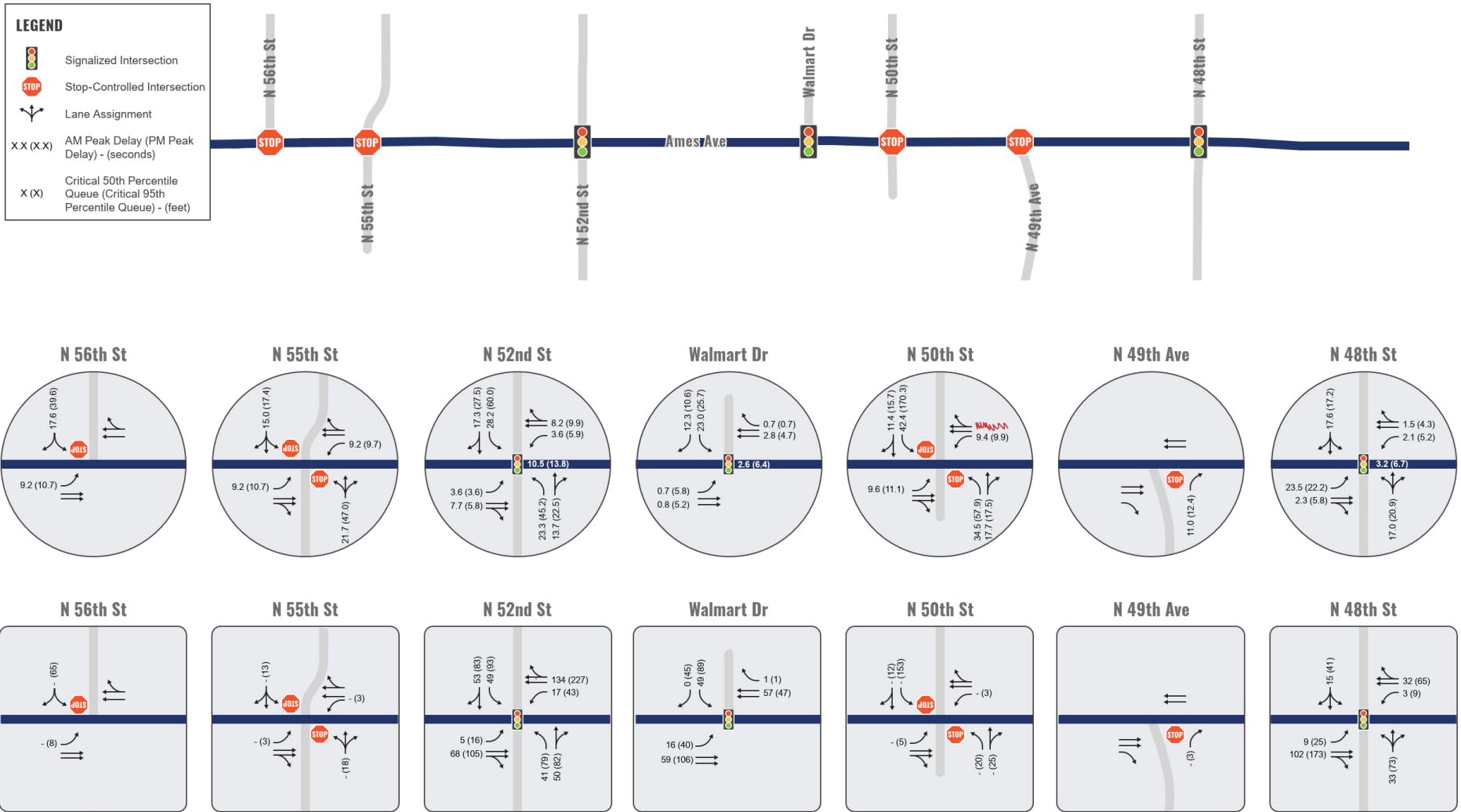


Figure 8-2: Existing Traffic Operations and Queues – Zone 2

ZONE 3



LEGEND

-  Signalized Intersection
-  Stop-Controlled Intersection
-  Lane Assignment
- XX (XX) AM Peak Delay (PM Peak Delay) - (seconds)
- X (X) Critical 50th Percentile Queue (Critical 95th Percentile Queue) - (feet)

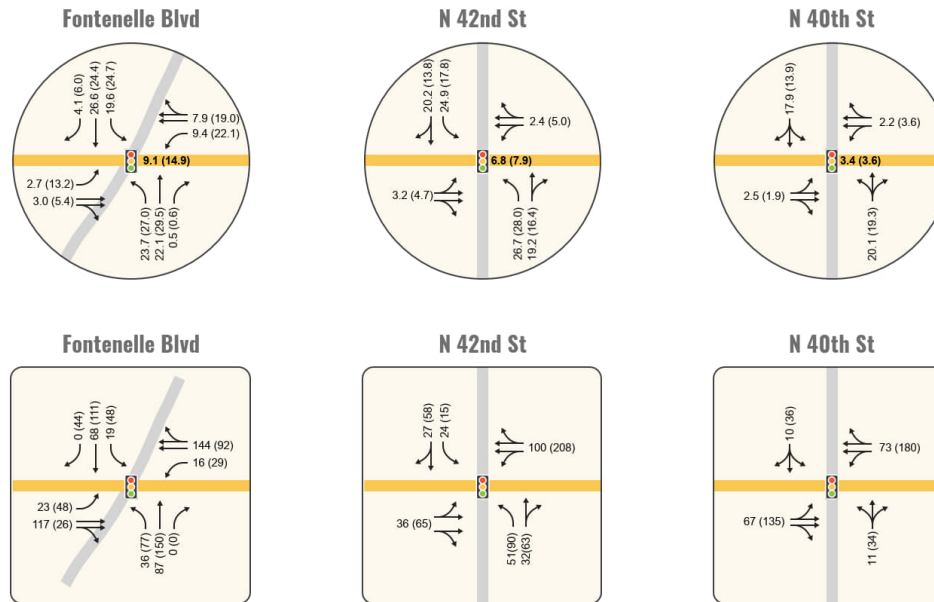
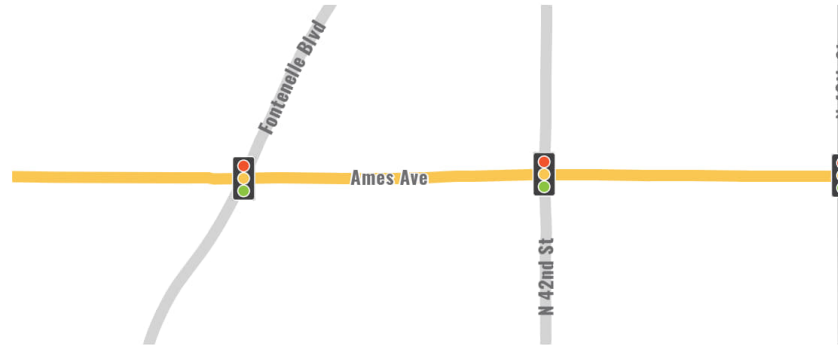


Figure 8-3: Existing Traffic Operations and Queues – Zone 3

ZONE 4



LEGEND

- Signalized Intersection
- Stop-Controlled Intersection
- Lane Assignment
- XX (XX) AM Peak Delay (PM Peak Delay) - (seconds)
- X (X) Critical 50th Percentile Queue (Critical 95th Percentile Queue) - (feet)

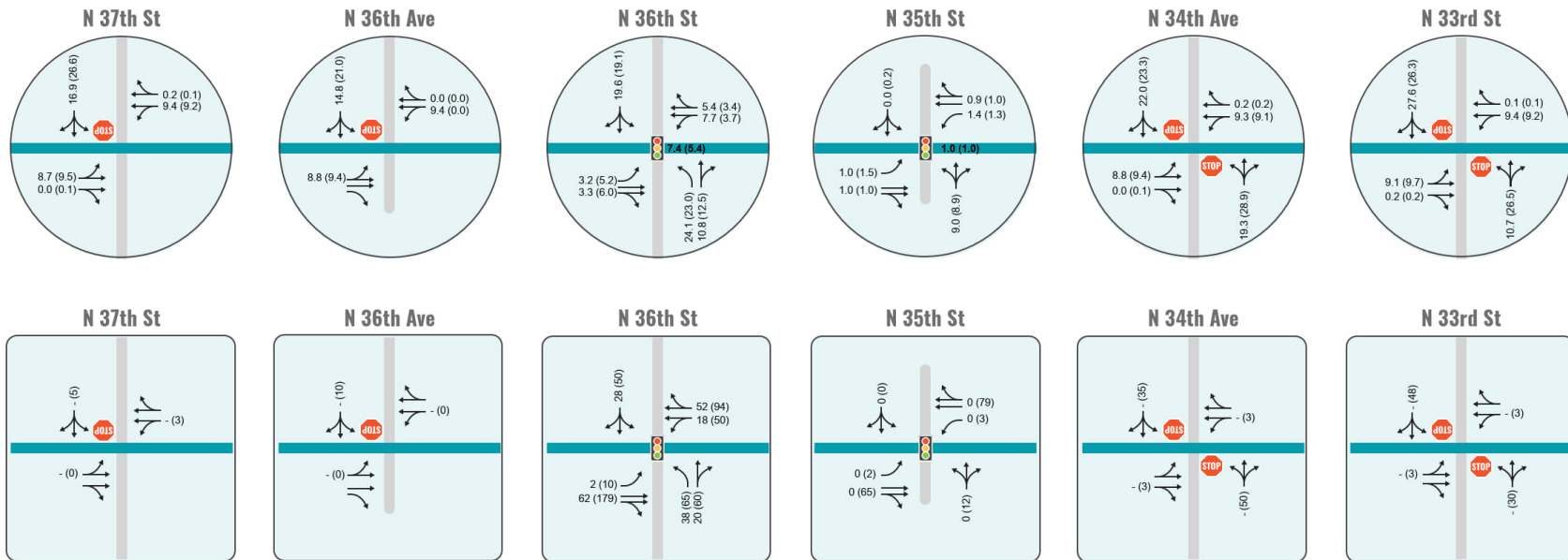
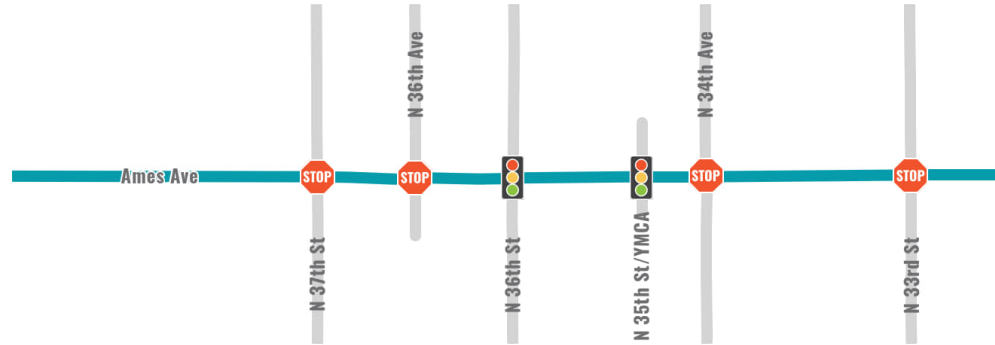


Figure 8-4: Existing Traffic Operations and Queues – Zone 4

ZONE 5

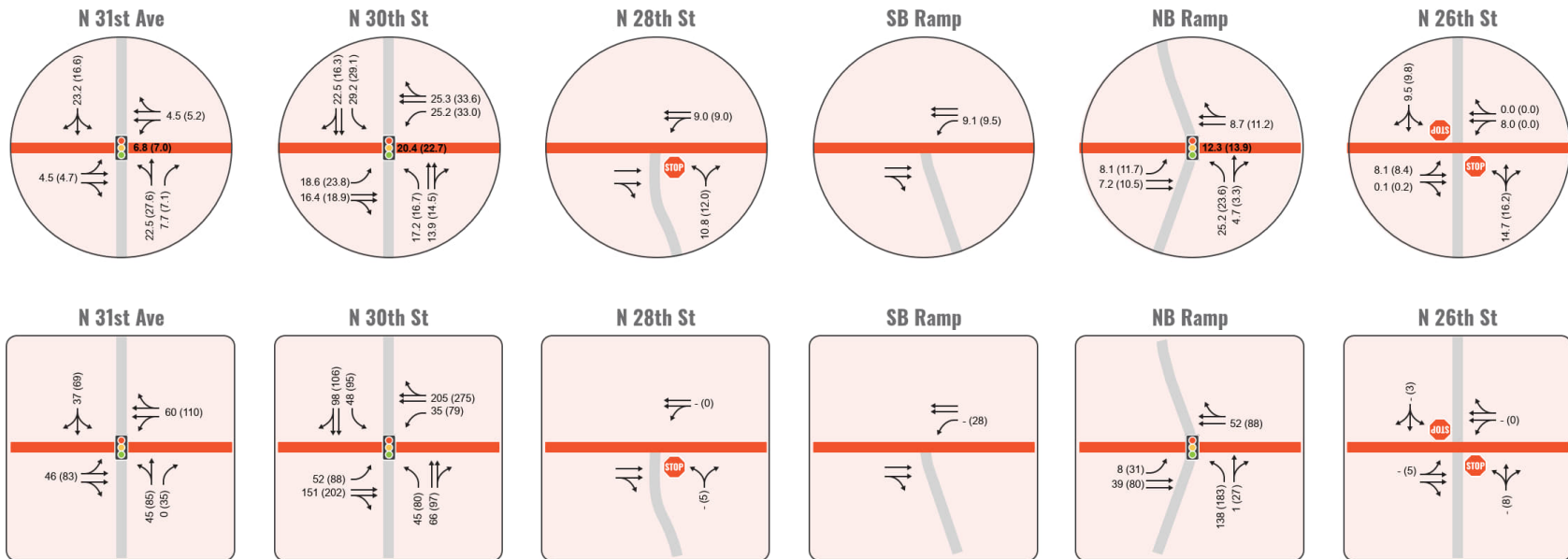
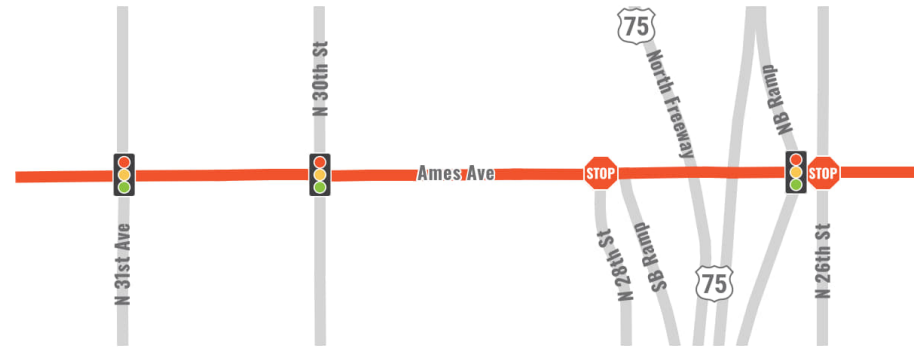
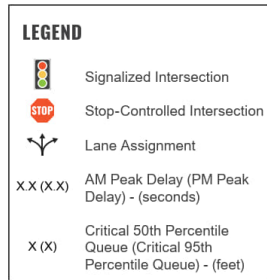


Figure 8-5: Existing Traffic Operations and Queues – Zone 5

ZONE 6



LEGEND

-  Signalized Intersection
-  Stop-Controlled Intersection
-  Lane Assignment
- XX (XX) AM Peak Delay (PM Peak Delay) - (seconds)
- X (X) Critical 50th Percentile Queue (Critical 95th Percentile Queue) - (feet)

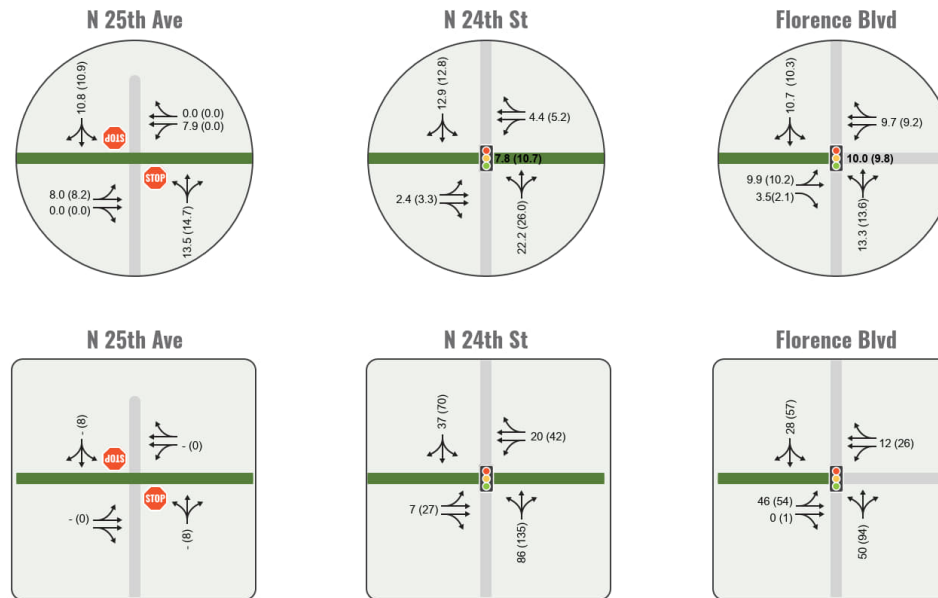


Figure 8-6: Existing Traffic Operations and Queues – Zone 6

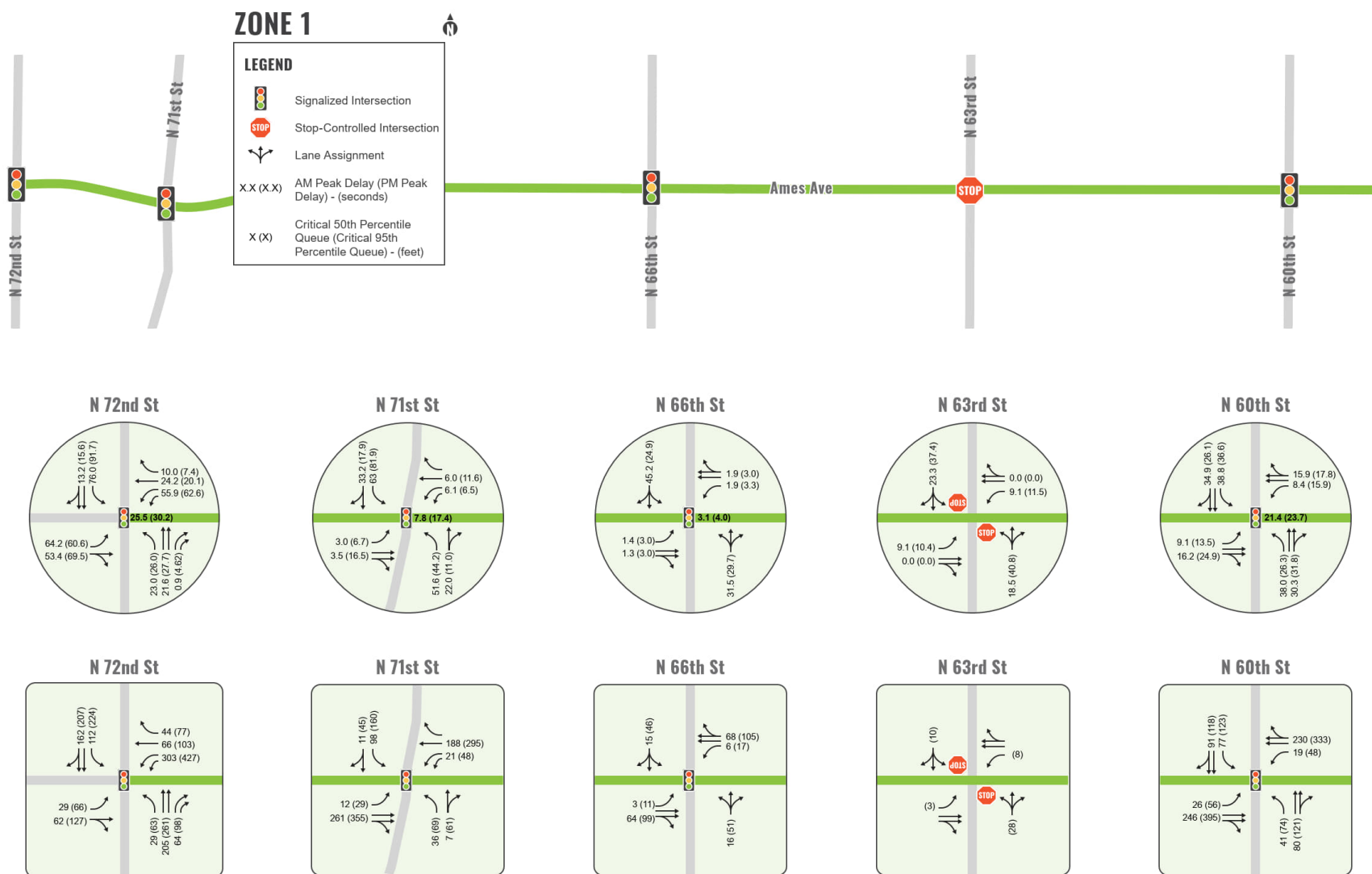


Figure 9-1: Base-Future (2050) Traffic Operations and Queues – Zone 1

ZONE 2

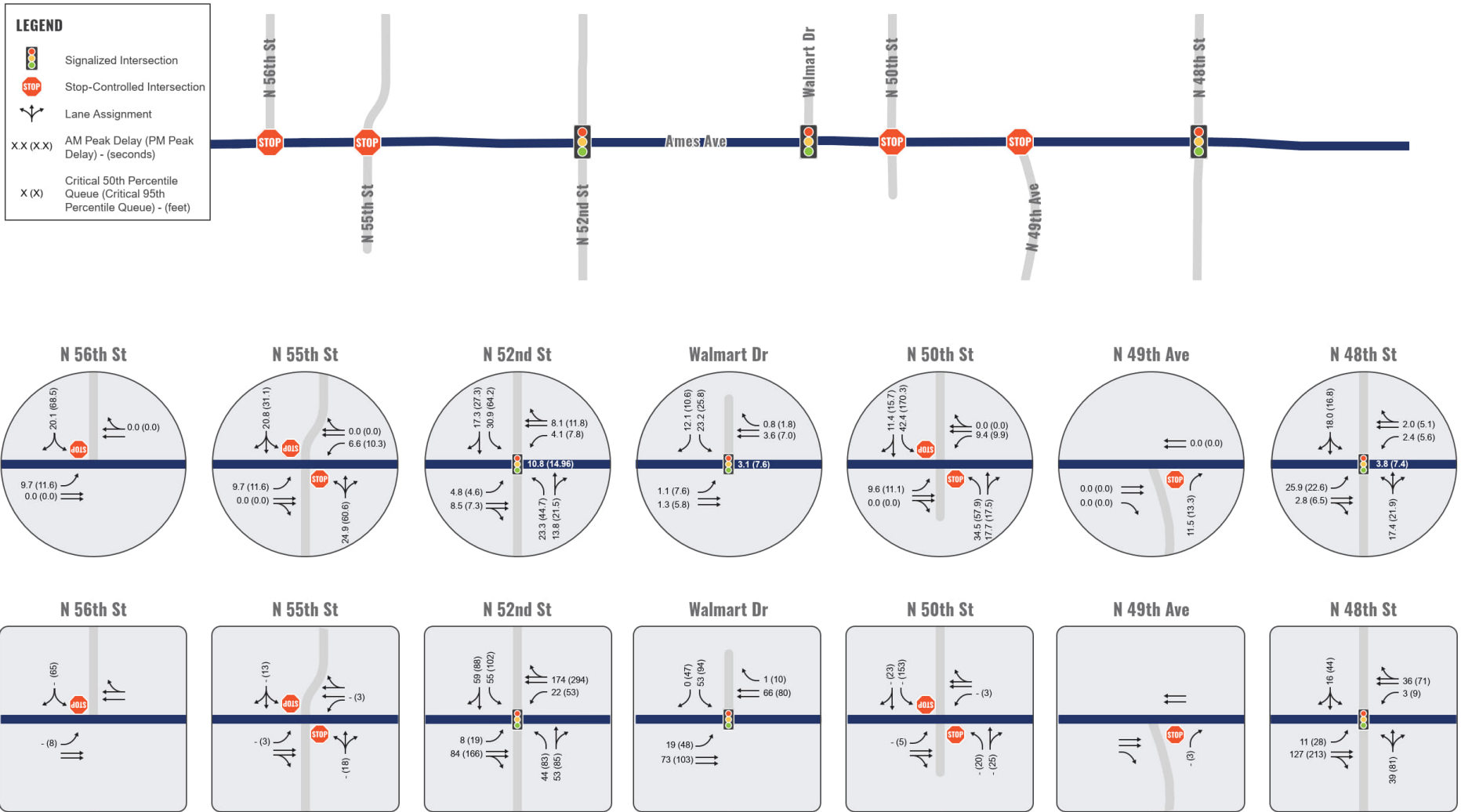


Figure 9-2: Base-Future (2050) Traffic Operations and Queues – Zone 2

ZONE 3



LEGEND

-  Signalized Intersection
-  Stop-Controlled Intersection
-  Lane Assignment
- XX (XX) AM Peak Delay (PM Peak Delay) - (seconds)
- X (X) Critical 50th Percentile Queue (Critical 95th Percentile Queue) - (feet)

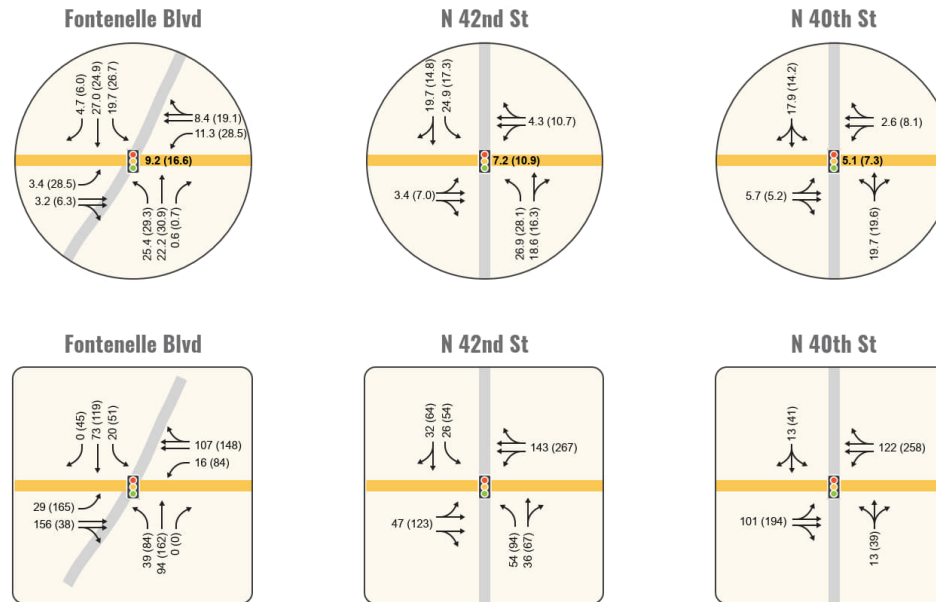
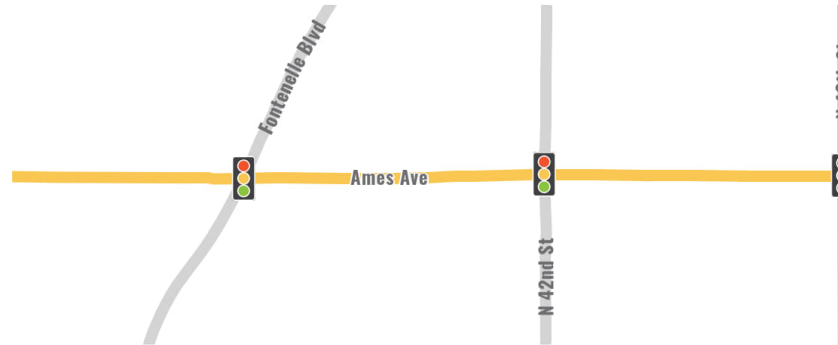


Figure 9-3: Base-Future (2050) Traffic Operations and Queues – Zone 3

ZONE 4



LEGEND

- Signalized Intersection
- Stop-Controlled Intersection
- Lane Assignment
- XX (XX) AM Peak Delay (PM Peak Delay) - (seconds)
- X (X) Critical 50th Percentile Queue (Critical 95th Percentile Queue) - (feet)

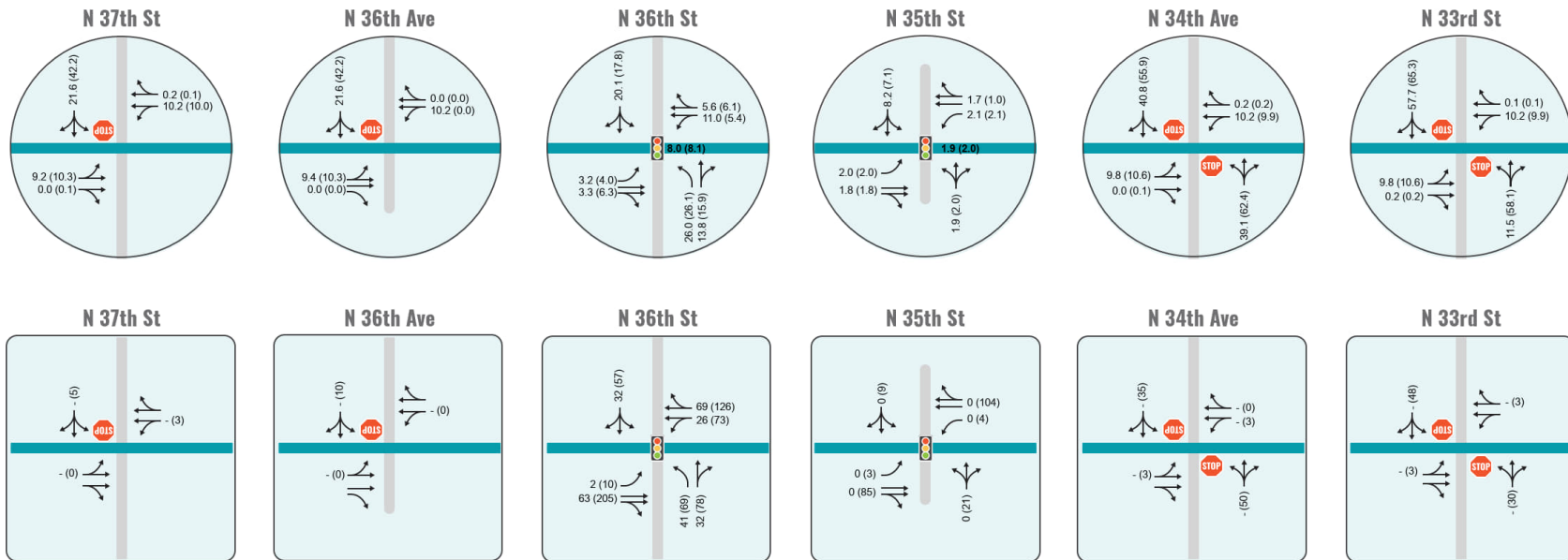
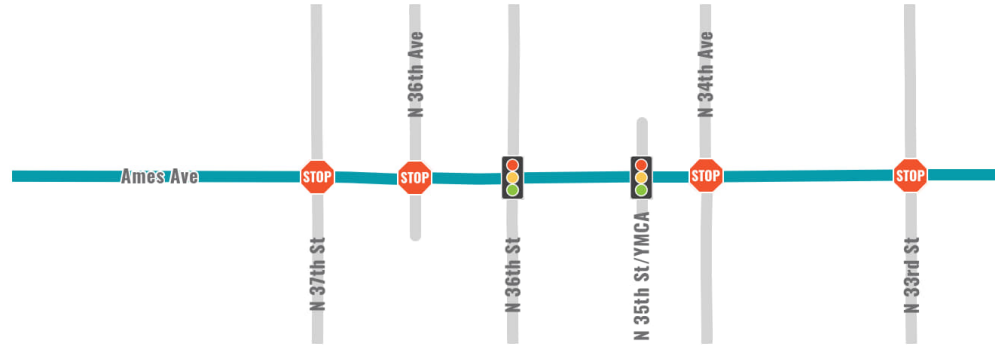


Figure 9-4: Base-Future (2050) Traffic Operations and Queues – Zone 4

ZONE 5

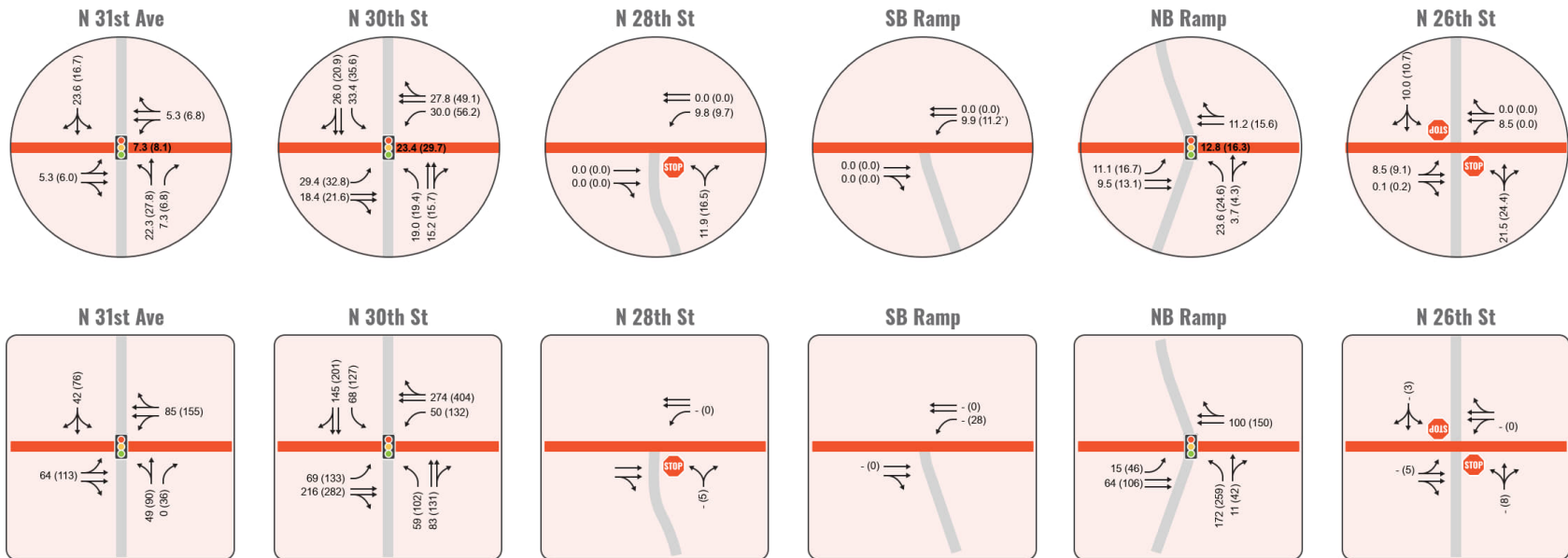
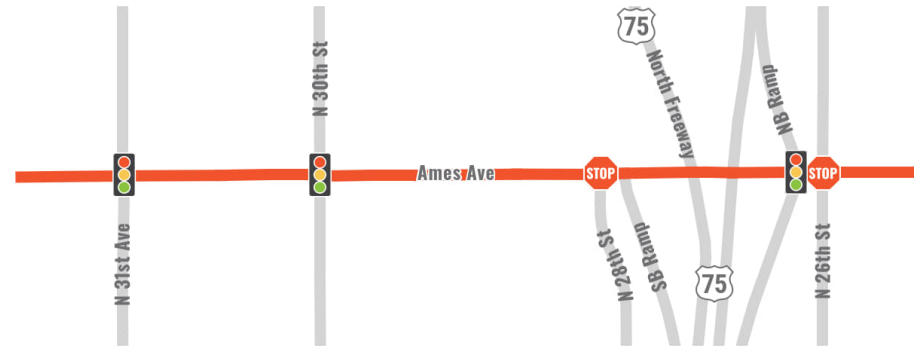
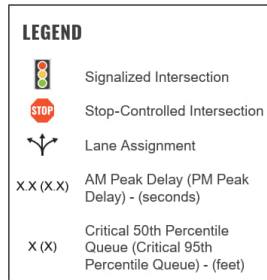


Figure 9-5: Base-Future (2050) Traffic Operations and Queues – Zone 5

ZONE 6



LEGEND

-  Signalized Intersection
-  Stop-Controlled Intersection
-  Lane Assignment
- XX (XX) AM Peak Delay (PM Peak Delay) - (seconds)
- X (X) Critical 50th Percentile Queue (Critical 95th Percentile Queue) - (feet)

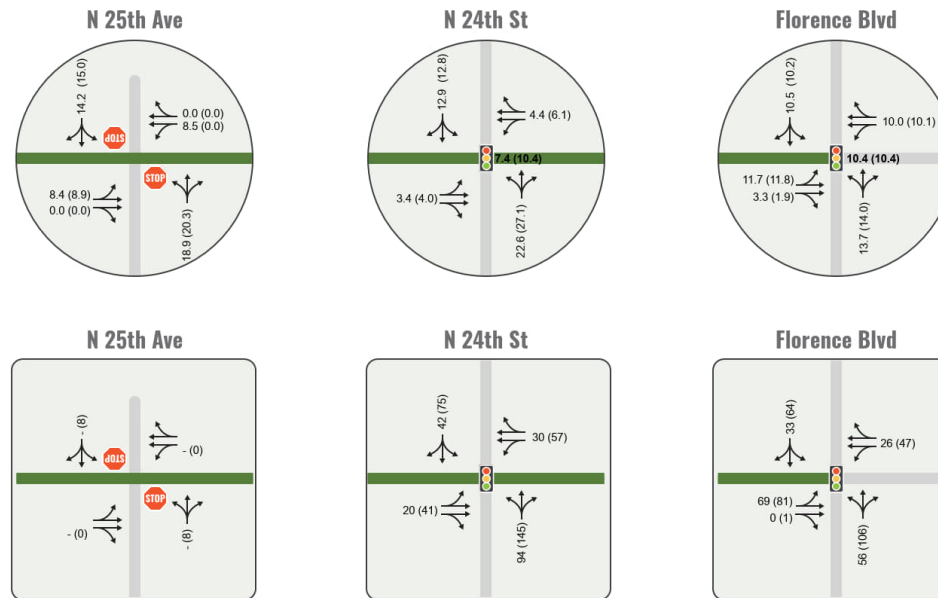


Figure 9-6: Base-Future (2050) Traffic Operations and Queues – Zone 6

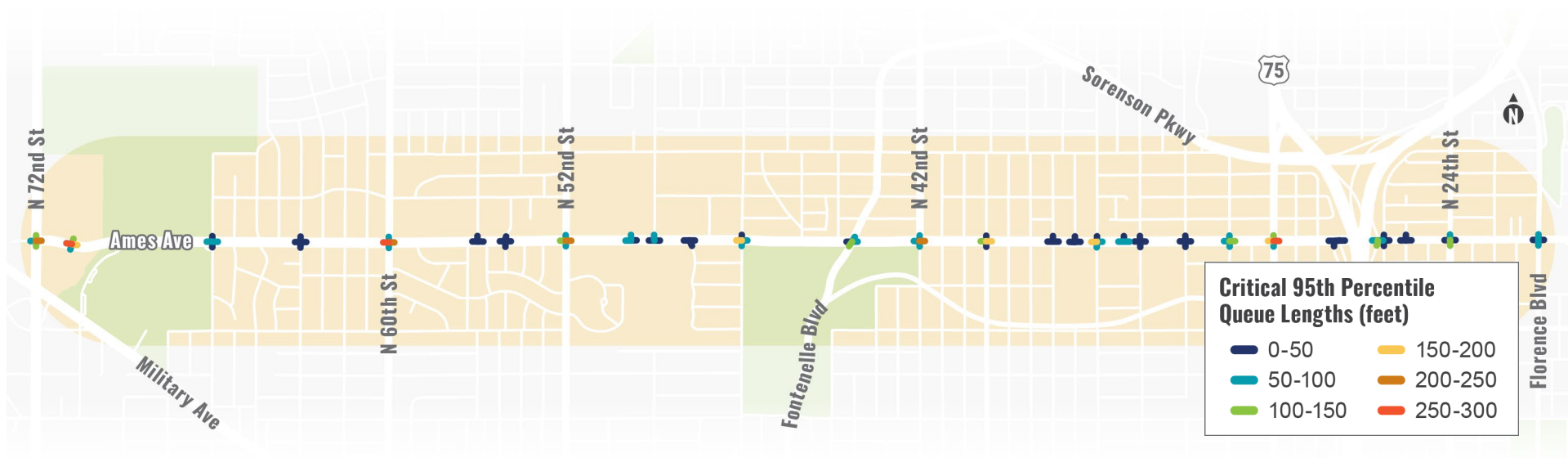


Figure 10: Existing (2025) Critical Approach Queues

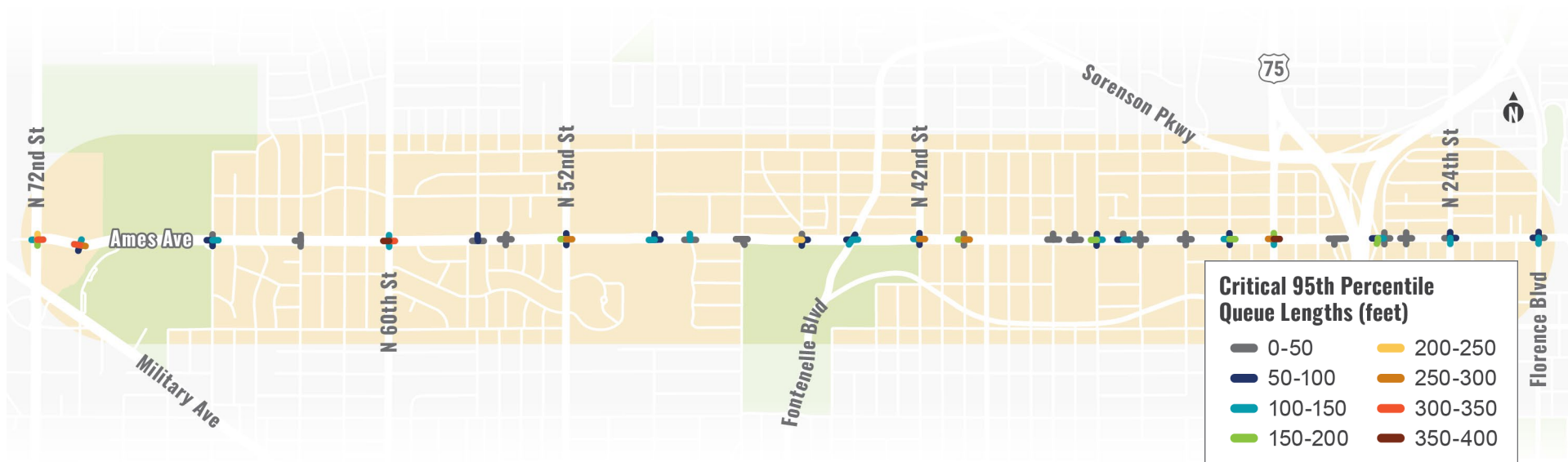


Figure 11: Base-Future (2050) Critical Approach Queues

3.3.1 Queuing Summary

Significant queueing was identified during the analysis. In particular, queues that were more than 300-feet, exceeded the existing turn lane storage length, or were close to spilling back to the adjacent intersection were identified. The following approaches and/or movements were identified as where queues may negatively impact traffic operations:

- N 72nd Street: 427-foot westbound left-turn queue
 - » The westbound left-turn queue is approximately 25 feet from the Benson Park Plaza intersection to the east. Long queues between intersections may lead to an increase in the probability of rear-end crashes and congestion between intersections.
- Benson Park Plaza: 267-foot eastbound through queue
 - » The eastbound through queue extends to approximately 75 feet shy of N 72nd Street. The limited amount of space between the queue and N 72nd Street may increase the risk of crashes and backups occurring.
- N 60th Street: 395-foot eastbound and 333-foot westbound through queue
 - » The queues on these approaches impede access to multiple driveways and to the south leg of N 60th Avenue and Ames Avenue. The queues impede block access to the left-turn lanes on the approaches, which may negatively impact the operations of those turning movements.
- N 30th Street: 404-foot westbound through queue
 - » The queue on the westbound approach impedes access to the alleyway east of N 30th Street and access to the left-turn lane.

3.4 TRAVEL TIME AND VEHICLE SPEED

3.4.1 Travel Time Reliability

Travel time reliability metrics quantify the variations of travel time that drivers may experience for a given period. These metrics can provide a measure of consistency and dependability in travel time for a given segment in terms of additional time that a driver may experience along the road.

To provide a comparison of travel time that is independent of length, an index-based reliability measure was used to compare the reliability of the segments along Ames Avenue. The travel time index (TTI) was determined for the corridor segments, which represents the average additional time required for a trip during peak periods in comparison to uncongested (off-peak) periods. The TTI is determined by dividing the average travel time on a given segment by the free-flow travel time for the segment. For example, a TTI of 1.20 indicates that a trip takes 20% longer during the peak periods than off-peak periods. **Figure 12** shows the TTI determined under the Existing (2025) conditions.

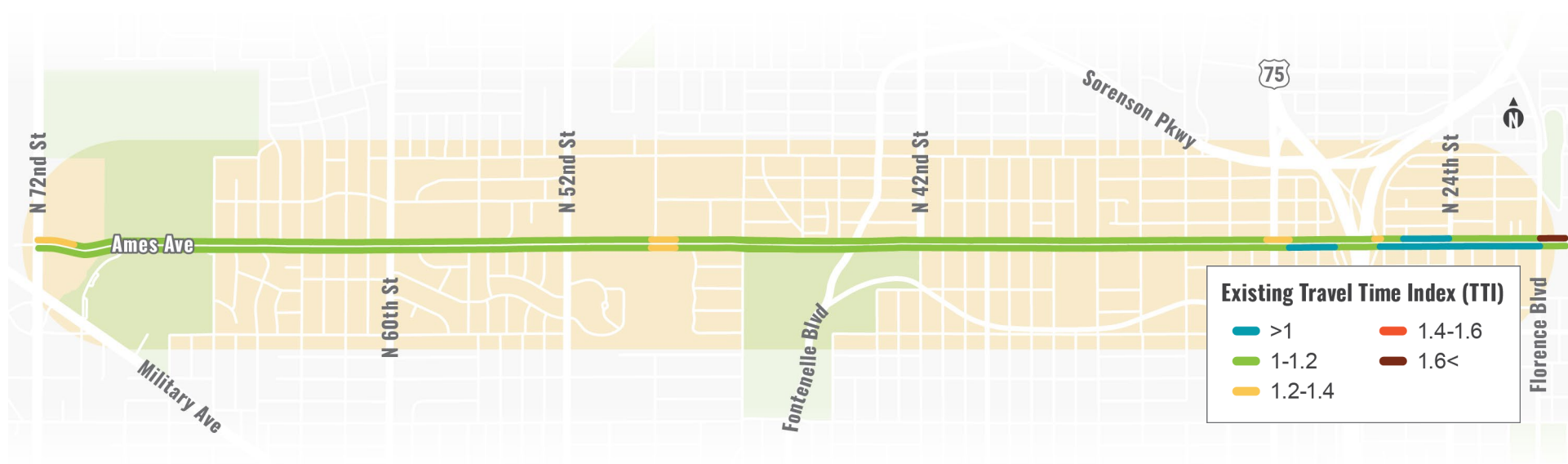


Figure 12: Existing Travel Time Index

3.4.2 Vehicle Speed

Vehicle speed data was collected at six (6) locations along the corridor. Speed data was collected in the eastbound and westbound directions on Ames Avenue between 10/23/2024 and 11/22/2024 for 24 hours on a typical weekday. **Table 5** summarizes the six locations where speed data was collected, when the data was collected, and the posted speed limit within each zone.

Table 5: Vehicle Speed Data Collection

Zone Number	Collection Location	Date	Posted Speed Limit
1	N 72 nd Street to N 66 th Street	11/21/2024	40 mph
2	N 66 th Street to N 52 nd Street	11/19/2024	40 mph
3	N 52 nd Street to Fontenelle Boulevard	10/23/2024	40 mph
4	Fontenelle Boulevard to N 30 th Street	11/06/2024	30 mph*
5	N 30 th Street to N 24 th Street	11/12/2024	30 mph
6	N 24 th Street to Commercial Boulevard	11/14/2024	30 mph

*25 mph school zone from N 37th Street to N 36th Street

Figure 13 provides an overview of the percentage of drivers who are driving over the speed limit by zone along Ames Avenue. The figure shows that the majority of drivers, over 85%, exceed the speed limit through Zone 4, Fontenelle Boulevard to N 30th Street, and Zone 5, N 30th Street to N 24th Street. As shown in **Table 5**, the posted speed limit drops from 40 mph to 30 mph between Zones 3 and 4. Without traffic calming or speed reduction measures between the two zones, the speed limit drop contributes to high rates of speeding through Zones 4 and 5.

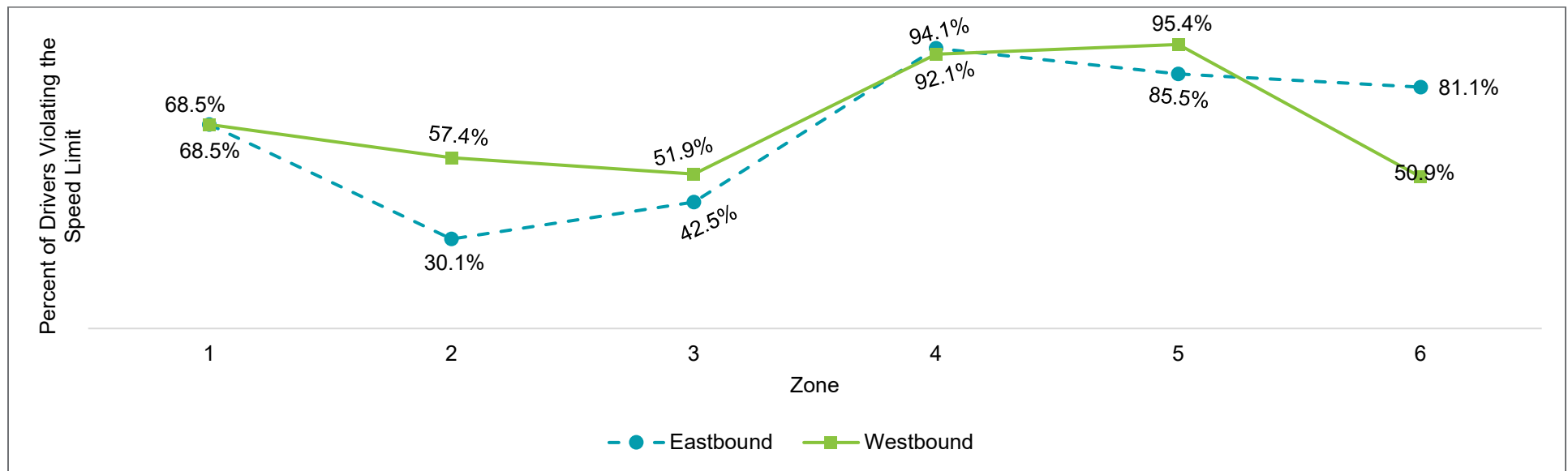


Figure 13: Percent of Drivers Violating the Speed Limit

The percentage of speed limit violators data includes all violators regardless of their traveling speed. To understand the zones of the corridor that experience the highest level of speeding, the average speed of vehicles exceeding the posted speed limit was reviewed. **Figure 14** illustrates the average speed of vehicles traveling above the posted speed limit for each zone. The data shows that on average, drivers traveling through Zone 4 were driving over 9 mph over the posted speed limit.

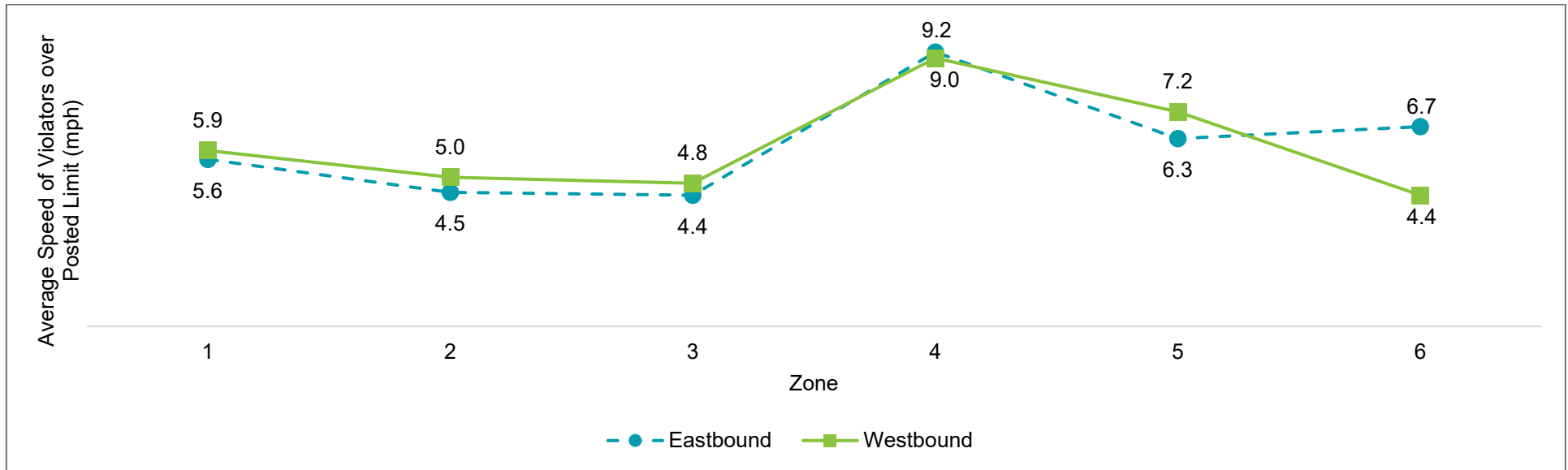


Figure 14: Average Speed of Violators over Posted Speed Limit (mph)

4.0 SUMMARY AND CONCLUSION

4.1 SUMMARY OF ANALYSIS

- As part of the traffic conditions analysis, Existing (2025) and Base-Future (2050) volumes were developed based on collected and historic traffic counts. The new counts were conducted on a typical weekday when school was in session, and included vehicle, pedestrian, and bicycle movements at each intersection. The historic counts were adjusted to reflect volume data collected.
- Future volumes were developed based on these volumes and the travel demand model results provided by MAPA.
- Traffic operations under the Existing and Future traffic volumes were evaluated to determine areas of the corridor that may experience traffic delays and congestion. The evaluation included intersection delay and queue analysis for each intersection movement.
- Travel Time Index (TTI) was determined based on the average travel time and the free-flow travel time. The TTI represents the additional travel time required during peak times in comparison to non-peak periods.
- Vehicle speeds were collected for a 24-hour period in each zone of the corridor and compared to the currently posted speed limits.

4.2 SUMMARY OF FINDINGS

- Under future traffic volumes, the average daily traffic volume along the corridor was found to be in the following ranges for each zone:
 - » Zone 1: 20,900 to 25,700 vehicles per day
 - » Zone 2: 25,800 to 28,800 vehicles per day
 - » Zone 3: 22,500 to 29,100 vehicles per day
 - » Zone 4: 21,800 to 22,400 vehicles per day
 - » Zone 5: 13,400 to 26,400 vehicles per day
 - » Zone 6: 5,050 to 14,550 vehicles per day
- MUTCD signal warrants were evaluated at all study intersections under the Existing (2025) and Base-Future (2050) traffic conditions. Based on the analysis, the following signalized intersections do not satisfy MUTCD signal warrants under Existing (2025) and Base-Future (2050) conditions:
 - » N 66th Street
 - » N 40th Street
 - » N 24th Street
 - » Florence Boulevard
- Based on the analysis conducted, the signalized intersections along Ames Avenue generally have acceptable operations; the intersections of N 72nd Street, N 60th Street, and N 30th Street experience the highest delay, with average delay experienced at these intersections falling between 20 and 35 seconds. Intersection movements that exceeded 35 seconds of delay were summarized in the memo.
 - » These intersections and/or movements may warrant an evaluation of strategies and solutions to mitigate the long delays and improve traffic operations.
- Queueing was not observed to be a major problem for the majority of the intersection movements and approaches. The following intersection approaches/movements were identified as potential concerns and may warrant an evaluation of strategies and solutions to mitigate the long delays and improve traffic operations:

- » N 72nd Street; westbound left-turn queue.
 - » Benson Park Plaza; eastbound through queue.
 - » N 60th Street; eastbound and westbound through queues.
 - » N 30th Street; westbound through queue.
- Approaches and/or movements that are expected to experience significant queuing were summarized in the memo.
 - The majority of the corridor does not exceed a TTI of 1.20, which represents 20% more time required to travel along the corridor during peak times in comparison to non-peak times. A consistent TTI also shows that the corridor provides drivers with adequate reliability, allowing drivers to plan for the amount of time they have to spend traveling on Ames Avenue.
 - Based on the speed data collected, a pattern of speeding was observed in Zones 4 and 5 of the corridor, from Fontenelle Boulevard to N 30th Street and from N 30th Street to N 24th Street. These critical areas along the corridor warrant attention and efforts to mitigate these speeding patterns and improve safety

APPENDIX A: VOLUME FORECAST DATA

ID #	Intersection	Leg	Count Data			MAPA Travel Demand Model			Ex Count to 2050 MAPA Model Growth %	Proposed Growth Rate Growth %	Proposed Growth Factor	Proposed ADTs	
			Year	ADT	EADT	2018 ADT	2050 ADT	2018-2050 Growth %				2050 ADT	2050 EADT
1	N 72 nd Street	East	2024	18,700	33,600	19,416	23,334	21,500	0.6%	0.9%	0.80%	1.21	39,750
		West	2024	2,900		-	-	-	-	-	0.25%	1.07	
		North	2024	16,800		20,421	27,587	24,250	0.9%	1.9%	1.00%	1.26	
		South	2024	28,800		24,900	32,462	28,950	0.8%	0.5%	0.50%	1.13	
2	Benson Park Plaza	East	2024	19,700	22,150	19,416	23,334	21,500	0.6%	0.7%	0.80%	1.21	26,300
		West	2024	17,300		19,416	23,334	21,500	0.6%	1.2%	0.80%	1.21	
		North	2024	4,000		-	-	-	-	-	0.25%	1.07	
		South	2024	3,300		-	-	-	-	-	0.25%	1.07	
3	N 66 th Street	East	2024	22,000	22,850	15,600	20,174	18,050	0.8%	-0.3%	0.50%	1.13	26,700
		West	2024	21,800		15,600	20,174	18,050	0.8%	-0.3%	0.80%	1.21	
		North	2024	700		-	-	-	-	-	0.25%	1.07	
		South	2024	1,200		-	-	-	-	-	0.25%	1.07	
4	N 63 rd Street	East	2024	22,000	22,400	21,400	25,957	23,850	0.6%	0.6%	0.50%	1.13	25,400
		West	2024	21,600		15,600	19,619	17,750	0.7%	-0.4%	0.50%	1.13	
		North	2024	400		-	-	-	-	-	0.25%	1.07	
		South	2024	800		-	-	-	-	-	0.25%	1.07	
5	N 60 th Street	East	2024	22,700	30,950	21,800	26,105	24,100	0.6%	0.5%	0.50%	1.13	36,750
		West	2024	22,200		21,400	25,957	23,850	0.6%	0.6%	0.50%	1.13	
		North	2024	8,900		9,600	16,230	13,150	1.7%	2.3%	1.50%	1.39	
		South	2024	8,100		8,600	12,323	10,600	1.1%	1.6%	1.00%	1.26	
6	N 56 th Street (East)	East	2024	23,400	24,350	22,000	26,209	24,250	0.5%	0.4%	0.50%	1.13	27,550
		West	2024	23,200		21,800	26,105	24,100	0.6%	0.5%	0.50%	1.13	
		North	2024	2,100		-	-	-	-	-	0.25%	1.07	
		South	2024	-		-	-	-	-	-	-	-	

ID #	Intersection	Leg	Count Data			MAPA Travel Demand Model			Ex Count to 2050 MAPA Model Growth %	Proposed Growth Rate Growth %	Proposed Growth Factor	Proposed ADTs	
			Year	ADT	EADT	2018 ADT	2050 ADT	2018-2050 Growth %				2050 ADT	2050 EADT
7	N 55 th Street	East	2024	22,800	23,200	22,000	26,174	24,250	0.5%	0.5%	0.50%	1.13	26,300
		West	2024	22,900		22,000	26,209	24,250	0.5%	0.5%	0.50%	1.13	
		North	2024	400		-	-	-	-	-	0.25%	1.07	
		South	2024	300		-	-	-	-	-	0.25%	1.07	
8	N 52 nd Street	East	2024	24,300	32,050	22,500	27,884	25,400	0.7%	0.5%	0.50%	1.13	35,750
		West	2024	23,600		22,000	26,174	24,250	0.5%	0.4%	0.50%	1.13	
		North	2024	7,500		8,000	6,988	7,500	-0.4%	-0.3%	0.25%	1.07	
		South	2024	8,700		8,400	9,135	8,800	0.3%	0.2%	0.25%	1.07	
9	Walmart Drive	East	2024	23,800	27,450	20,500	25,883	23,400	0.7%	0.3%	0.50%	1.13	30,850
		West	2024	24,200		22,500	27,884	25,400	0.7%	0.5%	0.50%	1.13	
		North	2024	6,900		-	-	-	-	-	0.25%	1.07	
		South	2024	-		-	-	-	-	-	-	-	
10	N 50 th Street	East	2024	24,700	25,700	20,500	25,883	23,400	0.7%	0.2%	0.50%	1.13	29,050
		West	2024	23,700		22,500	27,884	25,400	0.7%	0.6%	0.50%	1.13	
		North	2024	2,500		-	-	-	-	-	0.25%	1.07	
		South	2024	500		-	-	-	-	-	0.25%	1.07	
11	N 49 th Avenue	East	2024	24,700	25,050	20,500	26,128	23,500	0.8%	0.2%	0.50%	1.13	28,400
		West	2024	24,900		20,500	25,883	23,400	0.7%	0.1%	0.50%	1.13	
		North	2024	-		-	-	-	-	-	-	-	
		South	2024	500		-	-	-	-	-	0.25%	1.07	
12	N 48 th Street	East	2022	24,000	26,050	20,500	26,128	23,500	0.8%	0.3%	0.50%	1.14	29,650
		West	2022	23,900		20,500	25,883	23,400	0.7%	0.3%	0.50%	1.14	
		North	2022	1,600		-	-	-	-	-	0.25%	1.07	
		South	2022	2,600		-	-	-	-	-	0.25%	1.07	

ID #	Intersection	Leg	Count Data			MAPA Travel Demand Model			Ex Count to 2050 MAPA Model Growth %	Proposed Growth Rate Growth %	Proposed Growth Factor	Proposed ADTs	
			Year	ADT	EADT	2018 ADT	2050 ADT	2018-2050 Growth %				2050 ADT	2050 EADT
13	Fontenelle Boulevard	East	2023	21,300	33,300	16,597	21,503	19,250	0.8%	0.0%	0.80%	1.22	38,150
		West	2023	25,600		19,700	25,738	22,950	0.8%	0.0%	0.50%	1.14	
		North	2023	10,600		8,000	8,512	8,300	0.2%	-0.8%	0.25%	1.07	
		South	2023	9,100		7,700	7,781	7,750	0.0%	-0.6%	0.25%	1.07	
14	N 42 nd Street	East	2024	18,900	24,700	16,700	22,447	19,800	0.9%	0.7%	0.80%	1.21	29,300
		West	2024	21,200		16,597	21,503	19,250	0.8%	0.1%	0.80%	1.21	
		North	2024	3,500		3,300	3,357	3,350	0.1%	-0.2%	0.25%	1.07	
		South	2024	5,800		4,230	4,898	4,600	0.5%	-0.6%	0.25%	1.07	
15	N 40 th Street	East	2024	18,600	19,800	15,100	20,923	18,200	1.0%	0.5%	0.80%	1.21	23,850
		West	2024	18,900		16,700	22,580	19,850	0.9%	0.7%	0.80%	1.21	
		North	2024	1,200		-	-	-	-	-	0.25%	1.07	
		South	2024	900		700	1,035	900	1.2%	0.5%	0.25%	1.07	
16	N 37 th Street	East	2024	18,000	18,300	21,428	27,251	24,550	0.8%	1.6%	0.80%	1.21	22,200
		West	2024	18,000		15,100	20,923	18,200	1.0%	0.6%	0.80%	1.21	
		North	2024	200		-	-	-	-	-	0.25%	1.07	
		South	2024	400		-	-	-	-	-	0.25%	1.07	
17	N 36 th Avenue	East	2024	18,100	18,500	21,428	27,251	24,550	0.8%	1.6%	0.80%	1.21	22,450
		West	2024	18,300		15,100	20,923	18,200	1.0%	0.5%	0.80%	1.21	
		North	2024	300		-	-	-	-	-	0.25%	1.07	
		South	2024	300		-	-	-	-	-	0.25%	1.07	
18	N 36 th Street	East	2022	18,500	20,750	21,428	27,251	24,550	0.8%	1.4%	0.80%	1.22	25,100
		West	2022	18,100		15,100	20,923	18,200	1.0%	0.5%	0.80%	1.22	
		North	2022	1,400		-	-	-	-	-	0.25%	1.07	
		South	2022	3,500		-	-	-	-	-	0.25%	1.07	

ID #	Intersection	Leg	Count Data			MAPA Travel Demand Model			Ex Count to 2050 MAPA Model Growth %	Proposed Growth Rate Growth %	Proposed Growth Factor	Proposed ADTs	
			Year	ADT	EADT	2018 ADT	2050 ADT	2018-2050 Growth %				2050 ADT	2050 EADT
19	N 35 th Street	East	2024	18,200	18,500	21,428	27,251	24,550	0.8%	1.6%	0.80%	1.21	22,400
		West	2024	18,100		15,100	20,923	18,200	1.0%	0.6%	0.80%	1.21	
		North	2024	100		-	-	-	-	-	0.25%	1.07	
		South	2024	600		-	-	-	-	-	0.25%	1.07	
20	N 34 th Avenue	East	2024	18,300	19,100	21,428	27,251	24,550	0.8%	1.5%	0.80%	1.21	23,100
		West	2024	18,300		15,100	20,923	18,200	1.0%	0.5%	0.80%	1.21	
		North	2024	600		-	-	-	-	-	0.25%	1.07	
		South	2024	1,000		-	-	-	-	-	0.25%	1.07	
21	N 33 rd Street	East	2024	18,200	19,050	21,428	27,640	24,750	0.8%	1.6%	0.80%	1.21	23,000
		West	2024	18,300		21,428	27,251	24,550	0.8%	1.5%	0.80%	1.21	
		North	2024	900		-	-	-	-	-	0.25%	1.07	
		South	2024	700		-	-	-	-	-	0.25%	1.07	
22	N 31 st Avenue	East	2022	20,100	22,500	21,428	27,640	24,750	0.8%	1.1%	0.80%	1.22	27,100
		West	2022	18,100		21,428	27,251	24,550	0.8%	1.5%	0.80%	1.22	
		North	2022	2,800		-	-	-	-	-	0.25%	1.07	
		South	2022	4,000		-	-	-	-	-	0.25%	1.07	
23	N 30 th Street	East	2023	18,800	32,950	17,613	24,583	21,350	1.0%	1.0%	1.00%	1.27	41,350
		West	2023	21,800		21,428	27,640	24,750	0.8%	0.9%	0.80%	1.22	
		North	2023	13,500		13,077	17,935	15,700	1.0%	1.1%	1.00%	1.27	
		South	2023	11,800		11,487	16,350	14,100	1.1%	1.2%	1.00%	1.27	
24	N 28 th Street	East	2024	17,200	17,300	15,100	21,284	18,400	1.1%	0.8%	1.00%	1.26	21,850
		West	2024	17,100		17,613	24,583	21,350	1.0%	1.4%	1.00%	1.26	
		North	2024	-		-	-	-	-	-	-	-	
		South	2024	300		-	-	-	-	-	0.25%	1.07	

ID #	Intersection	Leg	Count Data			MAPA Travel Demand Model			Ex Count to 2050 MAPA Model Growth %	Proposed Growth Rate Growth %	Proposed Growth Factor	Proposed ADTs	
			Year	ADT	EADT	2018 ADT	2050 ADT	2018-2050 Growth %				2050 ADT	2050 EADT
25	North Freeway SB Ramp	East	2024	16,000	20,100	15,100	21,284	18,400	1.1%	1.1%	1.00%	1.26	25,400
		West	2024	18,700		17,613	24,583	21,350	1.0%	1.1%	1.00%	1.26	
		North	2024	-		-	-	-	-	-	-	-	
		South	2024	5,500		5,500	7,682	6,700	1.0%	1.3%	1.00%	1.26	
26	North Freeway NB Ramp	East	2024	11,600	18,350	8,800	14,141	11,650	1.5%	0.8%	1.00%	1.26	23,100
		West	2024	17,600		11,900	18,084	15,200	1.3%	0.1%	1.00%	1.26	
		North	2024	1,000		600	691	650	0.4%	-1.4%	0.25%	1.07	
		South	2024	6,500		4,900	7,944	6,550	1.5%	0.8%	1.00%	1.26	
27	N 26 th Street	East	2024	9,700	10,700	8,800	14,141	11,650	1.5%	1.5%	1.00%	1.26	13,500
		West	2024	10,600		11,900	18,084	15,200	1.3%	2.1%	1.00%	1.26	
		North	2024	800		-	-	-	-	-	0.25%	1.07	
		South	2024	300		-	-	-	-	-	0.25%	1.07	
28	N 25 th Street	East	2024	9,800	10,200	8,800	12,631	10,850	1.1%	1.0%	1.00%	1.26	12,950
		West	2024	10,100		8,800	14,141	11,650	1.5%	1.3%	1.00%	1.26	
		North	2024	300		-	-	-	-	-	0.25%	1.07	
		South	2024	200		-	-	-	-	-	0.25%	1.07	
29	N 24 th Street	East	2024	6,300	14,450	3,900	8,129	6,150	2.3%	1.0%	1.00%	1.26	17,150
		West	2024	10,700		8,800	12,631	10,850	1.1%	0.6%	1.00%	1.26	
		North	2024	4,700		2,500	3,255	2,950	0.8%	-1.4%	0.25%	1.07	
		South	2024	7,200		2,700	3,124	2,950	0.5%	-3.2%	0.25%	1.07	
30	Florence Boulevard	East	2024	3,100	8,600	1,900	3,980	3,050	2.3%	1.0%	1.00%	1.26	10,200
		West	2024	5,800		4,000	6,168	5,200	1.4%	0.2%	1.00%	1.26	
		North	2024	3,600		2,500	3,030	2,800	0.6%	-0.7%	0.25%	1.07	
		South	2024	4,700		3,500	3,880	3,750	0.3%	-0.7%	0.25%	1.07	

APPENDIX B: EXISTING (2025) CONDITIONS MOE SUMMARY TABLE

Location	Critical Movements	Existing Conditions (AM Peak / PM Peak)							
		AM Peak Volume	PM Peak Volume	AM 50 th Percentile Queue (feet)	PM 50 th Percentile Queue (feet)	AM 95 th Percentile Queue (feet)	PM 95 th Percentile Queue (feet)	AM 95 th Percentile Approach Queue	PM 95 th Percentile Approach Queue
N 72 nd Street & Ames Avenue	EB Left-turn	32	21	26	17	61	45	73.09	91.92
	EB Through ⁺	40	61	35	54	80	106		
	EB Right-turn ⁺	16	9	35	54	80	106		
	WB Left-turn**	433	570	181	235	235	300	192.05	242.83
	WB Through	77	88	49	52	85	95		
	WB Right-turn	75	112	5	17	54	68		
	NB Left-turn	34	48	16	25	41	55	77.62	126.09
	NB Through	385	558	100	173	149	224		
	NB Right-turn**	440	656	0	25	18	48		
	SB Left-turn	77	102	64	83	116	#153	149.31	147.99
	SB Through ⁺	532	497	108	113	154	147		
	SB Right-turn ⁺	15	17	108	113	154	147		
Benson Park Plaza & Ames Avenue	EB Left-turn	30	47	5	10	m11	m27	70.61	253.23
	EB Through ⁺	516	722	57	194	74	267		
	EB Right-turn ⁺	11	50	57	194	74	267		
	WB Left-turn	21	86	5	15	14	36	115.47	193.01
	WB Through ⁺	567	679	81	133	119	210		
	WB Right-turn ⁺	37	116	81	133	119	210		
	NB Left-turn	14	43	12	31	33	63	31.65	58.43
	NB Through ⁺	2	6	1	4	31	57		
	NB Right-turn ⁺	27	131	1	4	31	57		
	SB Left-turn	46	116	39	91	77	150	64.70	118.68
	SB Through ⁺	6	13	5	9	27	43		
	SB Right-turn ⁺	9	35	5	9	27	43		

Location	Critical Movements	Existing Conditions (AM Peak / PM Peak)							
		AM Peak Volume	PM Peak Volume	AM 50 th Percentile Queue (feet)	PM 50 th Percentile Queue (feet)	AM 95 th Percentile Queue (feet)	PM 95 th Percentile Queue (feet)	AM 95 th Percentile Approach Queue	PM 95 th Percentile Approach Queue
N 66 th Street & Ames Avenue	EB Left-turn	17	30	1	3	4	9	32.21	90.48
	EB Through ⁺	596	934	25	63	33	93		
	EB Right-turn ⁺	10	35	25	63	33	93		
	WB Left-turn	21	44	2	4	6	13	46.56	73.77
	WB Through ⁺	586	820	34	51	48	77		
	WB Right-turn ⁺	4	7	34	51	48	77		
	NB Left-turn ⁺	3	21	4	13	29	45	29.00	45.00
	NB Through ⁺	2	3	4	13	29	45		
	NB Right-turn ⁺	15	20	4	13	29	45		
	SB Left-turn ⁺	14	6	12	4	41	27	41.00	27.00
	SB Through ⁺	2	1	12	4	41	27		
	SB Right-turn ⁺	9	17	12	4	41	27		
N 63 rd Street & Ames Avenue	EB Left-turn	8	10	-	-	0	0	0.00	0.00
	EB Through ⁺	611	979	-	-	0	0		
	EB Right-turn ⁺	4	16	-	-	0	0		
	WB Left-turn	8	40	-	-	0	5	0.00	0.22
	WB Through ⁺	597	868	-	-	0	0		
	WB Right-turn ⁺	11	10	-	-	0	0		
	NB Left-turn ⁺	6	5	-	-	3	10	3.00	10.00
	NB Through ⁺	0	0	-	-	3	10		
	NB Right-turn ⁺	11	24	-	-	3	10		
	SB Left-turn ⁺	9	4	-	-	5	5	5.00	5.00
	SB Through ⁺	0	0	-	-	5	5		
	SB Right-turn ⁺	4	6	-	-	5	5		

Location	Critical Movements	Existing Conditions (AM Peak / PM Peak)							
		AM Peak Volume	PM Peak Volume	AM 50 th Percentile Queue (feet)	PM 50 th Percentile Queue (feet)	AM 95 th Percentile Queue (feet)	PM 95 th Percentile Queue (feet)	AM 95 th Percentile Approach Queue	PM 95 th Percentile Approach Queue
N 60 th Street & Ames Avenue	EB Left-turn	29	89	8	21	19	46	168.31	263.87
	EB Through ⁺	548	803	133	193	176	286		
	EB Right-turn ⁺	15	73	133	193	176	286		
	WB Left-turn	39	96	15	11	28	22	156.98	239.89
	WB Through ⁺	526	703	131	184	166	266		
	WB Right-turn ⁺	32	98	131	184	166	266		
	NB Left-turn	36	73	28	32	52	63	58.31	86.83
	NB Through ⁺	75	189	35	56	60	93		
	NB Right-turn ⁺	59	93	35	56	60	93		
	SB Left-turn	50	114	39	52	66	91	79.69	84.08
	SB Through ⁺	116	161	55	46	83	81		
	SB Right-turn ⁺	91	95	55	46	83	81		
N Ames Avenue & 56 th Street (East)	EB Left-turn	19	40	-	-	3	5	0.08	0.21
	EB Through	703	904	-	-	0	0		
	WB Through ⁺	645	961	-	-	0	0	0.00	0.00
	WB Right-turn ⁺	44	39	-	-	0	0		
	SB Left-turn ⁺	9	27	-	-	5	35	6.65	49.42
	SB Right-turn ⁺	11	25	-	-	8	65		

Location	Critical Movements	Existing Conditions (AM Peak / PM Peak)							
		AM Peak Volume	PM Peak Volume	AM 50 th Percentile Queue (feet)	PM 50 th Percentile Queue (feet)	AM 95 th Percentile Queue (feet)	PM 95 th Percentile Queue (feet)	AM 95 th Percentile Approach Queue	PM 95 th Percentile Approach Queue
N 55 th Street & Ames Avenue	EB Left-turn	4	15	-	-	0	3	0.00	0.05
	EB Through ⁺	711	838	-	-	0	0		
	EB Right-turn ⁺	3	5	-	-	0	0		
	WB Left-turn	6	11	-	-	0	0	0.00	0.00
	WB Through ⁺	731	1042	-	-	0	0		
	WB Right-turn ⁺	3	8	-	-	0	0		
	NB Left-turn ⁺	3	7	-	-	3	8	3.00	8.00
	NB Through ⁺	0	0	-	-	3	8		
	NB Right-turn ⁺	2	1	-	-	3	8		
	SB Left-turn ⁺	2	2	-	-	3	5	3.00	5.00
	SB Through ⁺	0	0	-	-	3	5		
	SB Right-turn ⁺	7	18	-	-	3	5		
N 52 nd Street & Ames Avenue	EB Left-turn	33	68	3	5	9	m16	100.56	78.07
	EB Through ⁺	605	790	68	62	105	83		
	EB Right-turn ⁺	76	67	68	62	105	83		
	WB Left-turn	88	125	8	17	5	43	181.55	205.30
	WB Through ⁺	655	858	42	134	204	227		
	WB Right-turn ⁺	37	77	42	134	204	227		
	NB Left-turn	42	73	15	41	37	79	53.57	81.40
	NB Through ⁺	160	174	30	50	56	82		
	NB Right-turn ⁺	126	119	30	50	56	82		
	SB Left-turn	71	85	26	49	57	93	57.00	85.55
	SB Through ⁺	176	179	33	53	57	83		
	SB Right-turn ⁺	60	69	33	53	57	83		

Location	Critical Movements	Existing Conditions (AM Peak / PM Peak)							
		AM Peak Volume	PM Peak Volume	AM 50 th Percentile Queue (feet)	PM 50 th Percentile Queue (feet)	AM 95 th Percentile Queue (feet)	PM 95 th Percentile Queue (feet)	AM 95 th Percentile Approach Queue	PM 95 th Percentile Approach Queue
N Ames Avenue & Walmart Drive	EB Left-turn	76	166	0	16	1	40	3.72	94.96
	EB Through	733	826	0	59	4	106		
	WB Through	717	904	17	57	44	47	40.87	41.02
	WB Right-turn	55	135	1	1	0	1		
	SB Left-turn	45	143	15	49	40	89	32.76	65.17
	SB Right-turn	42	169	0	0	25	45		
N 50 th Street & Ames Avenue	EB Left-turn	14	31	-	-	3	5	0.05	0.16
	EB Through ⁺	754	933	-	-	0	0		
	EB Right-turn ⁺	15	2	-	-	0	0		
	WB Left-turn	10	5	-	-	0	0	0.00	0.00
	WB Through ⁺	758	1005	-	-	0	0		
	WB Right-turn ⁺	49	113	-	-	0	0		
	NB Left-turn	2	6	-	-	3	8	3.00	8.00
	NB Through ⁺	2	2	-	-	3	8		
	NB Right-turn ⁺	9	29	-	-	3	8		
	SB Left-turn	22	48	-	-	18	90	11.25	59.12
	SB Through ⁺	0	1	-	-	3	8		
	SB Right-turn ⁺	18	28	-	-	3	8		
N 49 th Avenue & Ames Avenue	EB Through	756	997	-	-	0	0	0.00	0.00
	EB Right-turn	7	43	-	-	0	0		
	WB Through	756	1109	-	-	0	0	0.00	0.00
	NB Right-turn	3	17	-	-	0	3	0.00	3.00

Location	Critical Movements	Existing Conditions (AM Peak / PM Peak)							
		AM Peak Volume	PM Peak Volume	AM 50 th Percentile Queue (feet)	PM 50 th Percentile Queue (feet)	AM 95 th Percentile Queue (feet)	PM 95 th Percentile Queue (feet)	AM 95 th Percentile Approach Queue	PM 95 th Percentile Approach Queue
N 48 th Street & Ames Avenue	EB Left-turn	10	33	3	9	12	25	12.00	167.89
	EB Through ⁺	669	879	101	102	12	173		
	EB Right-turn ⁺	11	44	101	102	12	173		
	WB Left-turn	27	47	1	3	m4	m9	23.21	62.40
	WB Through ⁺	648	926	8	32	24	65		
	WB Right-turn ⁺	10	39	8	32	24	65		
	NB Left-turn ⁺	28	61	14	33	46	73	46.00	73.00
	NB Through ⁺	12	27	14	33	46	73		
	NB Right-turn ⁺	36	51	14	33	46	73		
	SB Left-turn ⁺	7	28	8	15	29	41	29.00	41.00
	SB Through ⁺	16	16	8	15	29	41		
	SB Right-turn ⁺	12	22	8	15	29	41		
Fontenelle Boulevard & Ames Avenue	EB Left-turn	97	212	3	23	6	#48	11.18	30.43
	EB Through ⁺	557	742	7	117	12	26		
	EB Right-turn ⁺	53	99	7	117	12	26		
	WB Left-turn	60	81	8	16	21	29	50.45	86.37
	WB Through ⁺	485	770	39	144	54	92		
	WB Right-turn ⁺	13	55	39	144	54	92		
	NB Left-turn	61	106	22	36	47	77	49.36	109.64
	NB Through	111	246	40	87	72	150		
	NB Right-turn	48	59	0	0	0	0		
	SB Left-turn	31	56	11	19	28	48	71.40	72.50
	SB Through	182	180	68	61	110	111		
	SB Right-turn	115	195	0	0	22	44		

Location	Critical Movements	Existing Conditions (AM Peak / PM Peak)							
		AM Peak Volume	PM Peak Volume	AM 50 th Percentile Queue (feet)	PM 50 th Percentile Queue (feet)	AM 95 th Percentile Queue (feet)	PM 95 th Percentile Queue (feet)	AM 95 th Percentile Approach Queue	PM 95 th Percentile Approach Queue
N 42 nd Street & Ames Avenue	EB Left-turn ⁺	6	16	28	36	47	65	47.00	65.00
	EB Through ⁺	588	699	28	36	47	65		
	EB Right-turn ⁺	58	149	28	36	47	65		
	WB Left-turn ⁺	11	20	46	100	64	208	64.00	208.00
	WB Through ⁺	519	736	46	100	64	208		
	WB Right-turn ⁺	38	41	46	100	64	208		
	NB Left-turn	77	149	29	51	60	90	55.03	77.47
	NB Through ⁺	60	101	22	32	50	63		
	NB Right-turn ⁺	16	28	22	32	50	63		
	SB Left-turn	64	31	24	9	51	25	55.11	50.84
	SB Through ⁺	74	81	27	25	58	57		
	SB Right-turn ⁺	17	49	27	25	58	57		
N 40 th Street & Ames Avenue	EB Left-turn ⁺	9	13	67	45	135	66	135.00	66.00
	EB Through ⁺	606	665	67	45	135	66		
	EB Right-turn ⁺	9	12	67	45	135	66		
	WB Left-turn ⁺	1	11	25	73	33	180	33.00	180.00
	WB Through ⁺	590	821	25	73	33	180		
	WB Right-turn ⁺	15	18	25	73	33	180		
	NB Left-turn ⁺	15	9	11	9	34	29	34.00	29.00
	NB Through ⁺	14	15	11	9	34	29		
	NB Right-turn ⁺	10	9	11	9	34	29		
	SB Left-turn ⁺	22	13	10	8	36	36	36.00	36.00
	SB Through ⁺	6	8	10	8	36	36		
	SB Right-turn ⁺	19	41	10	8	36	36		

Location	Critical Movements	Existing Conditions (AM Peak / PM Peak)							
		AM Peak Volume	PM Peak Volume	AM 50 th Percentile Queue (feet)	PM 50 th Percentile Queue (feet)	AM 95 th Percentile Queue (feet)	PM 95 th Percentile Queue (feet)	AM 95 th Percentile Approach Queue	PM 95 th Percentile Approach Queue
N 37 th Street & Ames Avenue	EB Left-turn ⁺	1	5	-	-	0	0	0.00	0.00
	EB Through ⁺	688	712	-	-	0	0		
	EB Right-turn ⁺	12	9	-	-	0	0		
	WB Left-turn ⁺	20	6	-	-	3	0	3.00	0.00
	WB Through ⁺	549	789	-	-	3	0		
	WB Right-turn ⁺	2	1	-	-	3	0		
	SB Left-turn ⁺	4	2	-	-	3	0	4.11	0.00
	SB Through ⁺	2	0	-	-	5	5		
	SB Right-turn ⁺	3	0	-	-	5	5		
N 36 th Avenue & Ames Avenue	EB Left-turn ⁺	2	4	-	-	0	0	0.00	0.00
	EB Through ⁺	586	764	-	-	0	0		
	EB Right-turn	133	0	-	-	0	0		
	WB Left-turn ⁺	1	0	-	-	0	0	0.00	0.00
	WB Through ⁺	566	749	-	-	0	0		
	WB Right-turn ⁺	8	8	-	-	0	0		
	SB Left-turn ⁺	5	6	-	-	3	3	7.31	5.80
	SB Through ⁺	2	0	-	-	10	10		
	SB Right-turn ⁺	6	4	-	-	10	10		

Location	Critical Movements	Existing Conditions (AM Peak / PM Peak)							
		AM Peak Volume	PM Peak Volume	AM 50 th Percentile Queue (feet)	PM 50 th Percentile Queue (feet)	AM 95 th Percentile Queue (feet)	PM 95 th Percentile Queue (feet)	AM 95 th Percentile Approach Queue	PM 95 th Percentile Approach Queue
N 36 th Street & Ames Avenue	EB Left-turn	23	19	2	1	5	m10	23.20	174.51
	EB Through ⁺	477	657	43	62	24	179		
	EB Right-turn ⁺	47	39	43	62	24	179		
	WB Left-turn	118	28	18	3	50	12	61.97	91.11
	WB Through ⁺	460	753	36	52	65	94		
	WB Right-turn ⁺	7	13	36	52	65	94		
	NB Left-turn	93	93	38	32	62	65	54.86	61.75
	NB Through ⁺	52	52	20	17	51	60		
	NB Right-turn ⁺	120	120	20	17	51	60		
	SB Left-turn ⁺	14	11	28	9	50	29	50.00	29.00
	SB Through ⁺	57	17	28	9	50	29		
	SB Right-turn ⁺	11	9	28	9	50	29		
N 35 th Street & Ames Avenue	EB Left-turn	1	2	0	0	1	2	62.91	64.82
	EB Through ⁺	662	705	0	0	63	65		
	WB Through ⁺	638	838	0	0	60	79	60.00	79.00
	WB Right-turn ⁺	0	2	0	0	60	79		
	SB Left-turn ⁺	1	2	0	0	0	0	0.00	0.00
	SB Right-turn ⁺	1	2	0	0	0	0		

Location	Critical Movements	Existing Conditions (AM Peak / PM Peak)							
		AM Peak Volume	PM Peak Volume	AM 50 th Percentile Queue (feet)	PM 50 th Percentile Queue (feet)	AM 95 th Percentile Queue (feet)	PM 95 th Percentile Queue (feet)	AM 95 th Percentile Approach Queue	PM 95 th Percentile Approach Queue
N 34 th Avenue & Ames Avenue	EB Left-turn ⁺	5	12	-	-	0	0	0.00	0.00
	EB Through ⁺	630	685	-	-	0	0		
	EB Right-turn ⁺	14	10	-	-	0	0		
	WB Left-turn ⁺	25	17	-	-	3	3	0.13	0.06
	WB Through ⁺	563	772	-	-	0	0		
	WB Right-turn ⁺	5	7	-	-	0	0		
	NB Left-turn ⁺	5	8	-	-	8	23	8.00	23.00
	NB Through ⁺	3	13	-	-	8	23		
	NB Right-turn ⁺	16	23	-	-	8	23		
	SB Left-turn ⁺	5	5	-	-	13	8	13.00	8.00
	SB Through ⁺	9	3	-	-	13	8		
	SB Right-turn ⁺	20	13	-	-	13	8		
N 33 rd Avenue & Ames Avenue	EB Left-turn ⁺	17	15	-	-	3	3	0.08	0.06
	EB Through ⁺	656	692	-	-	0	0		
	EB Right-turn ⁺	2	15	-	-	0	0		
	WB Left-turn ⁺	13	12	-	-	3	0	0.06	0.00
	WB Through ⁺	632	828	-	-	0	0		
	WB Right-turn ⁺	1	4	-	-	0	0		
	NB Left-turn ⁺	0	2	-	-	0	8	0.00	8.00
	NB Through ⁺	0	6	-	-	0	8		
	NB Right-turn ⁺	2	10	-	-	0	8		
	SB Left-turn ⁺	5	8	-	-	18	15	18.00	15.00
	SB Through ⁺	14	5	-	-	18	15		
	SB Right-turn ⁺	17	20	-	-	18	15		

Location	Critical Movements	Existing Conditions (AM Peak / PM Peak)							
		AM Peak Volume	PM Peak Volume	AM 50 th Percentile Queue (feet)	PM 50 th Percentile Queue (feet)	AM 95 th Percentile Queue (feet)	PM 95 th Percentile Queue (feet)	AM 95 th Percentile Approach Queue	PM 95 th Percentile Approach Queue
N 31 st Street & Ames Avenue	EB Left-turn ⁺	11	20	46	44	78	83	78.00	83.00
	EB Through ⁺	591	613	46	44	78	83		
	EB Right-turn ⁺	14	20	46	44	78	83		
	WB Left-turn ⁺	23	28	44	60	75	110	75.00	110.00
	WB Through ⁺	552	758	44	60	75	110		
	WB Right-turn ⁺	20	35	44	60	75	110		
	NB Left-turn ⁺	18	44	16	45	36	85	28.67	60.60
	NB Through ⁺	24	84	16	45	36	85		
	NB Right-turn	66	122	0	0	24	35		
	SB Left-turn ⁺	32	10	37	8	69	27	69.00	27.00
	SB Through ⁺	52	14	37	8	69	27		
	SB Right-turn ⁺	35	9	37	8	69	27		
N 30 th Street & Ames Avenue	EB Left-turn	142	124	52	46	88	82	152.99	183.83
	EB Through ⁺	553	586	129	151	168	202		
	EB Right-turn ⁺	62	109	129	151	168	202		
	WB Left-turn	45	70	21	35	49	79	166.47	257.39
	WB Through ⁺	444	617	132	205	177	275		
	WB Right-turn ⁺	58	92	132	205	177	275		
	NB Left-turn	61	127	23	45	47	80	61.42	92.72
	NB Through ⁺	189	305	41	66	65	97		
	NB Right-turn ⁺	57	72	41	66	65	97		
	SB Left-turn	94	75	48	36	95	80	137.06	100.16
	SB Through ⁺	293	235	98	57	146	104		
	SB Right-turn ⁺	149	159	98	57	146	104		

Location	Critical Movements	Existing Conditions (AM Peak / PM Peak)							
		AM Peak Volume	PM Peak Volume	AM 50 th Percentile Queue (feet)	PM 50 th Percentile Queue (feet)	AM 95 th Percentile Queue (feet)	PM 95 th Percentile Queue (feet)	AM 95 th Percentile Approach Queue	PM 95 th Percentile Approach Queue
N 28 th Street & Ames Avenue	EB Through ⁺	640	680	-	-	0	0	0.00	0.00
	EB Right-turn ⁺	0	3	-	-	0	0		
	WB Left-turn ⁺	1	2	-	-	0	0	0.00	0.00
	WB Through ⁺	586	764	-	-	0	0		
	NB Left-turn ⁺	0	2	-	-	3	3	3.00	3.00
	NB Right-turn ⁺	24	16	-	-	3	3		
North Freeway SB Ramp & Ames Avenue	EB Through ⁺	330	412	-	-	0	0	0.00	0.00
	EB Right-turn ⁺	276	311	-	-	0	0		
	WB Left-turn	78	111	-	-	8	10	1.02	1.21
	WB Through	534	809	-	-	0	0		
North Freeway NB Ramp & Ames Avenue	EB Left-turn	47	43	7	8	26	31	43.45	71.66
	EB Through	274	359	22	39	49	80		
	WB Through ⁺	339	444	31	52	66	88	66.00	88.00
	WB Right-turn ⁺	6	11	31	52	66	88		
	NB Left-turn	288	406	97	138	142	183	109.59	143.39
	NB Through ⁺	2	3	1	1	27	26		
	NB Right-turn ⁺	111	134	1	1	27	26		

Location	Critical Movements	Existing Conditions (AM Peak / PM Peak)							
		AM Peak Volume	PM Peak Volume	AM 50 th Percentile Queue (feet)	PM 50 th Percentile Queue (feet)	AM 95 th Percentile Queue (feet)	PM 95 th Percentile Queue (feet)	AM 95 th Percentile Approach Queue	PM 95 th Percentile Approach Queue
N 26 th Street & Ames Avenue	EB Left-turn ⁺	27	35	-	-	3	3	0.23	0.23
	EB Through ⁺	309	402	-	-	0	0		
	EB Right-turn ⁺	14	12	-	-	0	0		
	WB Left-turn ⁺	1	0	-	-	0	0	0.00	0.00
	WB Through ⁺	341	440	-	-	0	0		
	WB Right-turn ⁺	0	1	-	-	0	0		
	NB Left-turn ⁺	2	2	-	-	0	0	0.00	0.00
	NB Through ⁺	0	1	-	-	0	0		
	NB Right-turn ⁺	0	1	-	-	0	0		
	SB Left-turn ⁺	0	0	-	-	3	3	3.00	3.00
	SB Through ⁺	0	0	-	-	3	3		
	SB Right-turn ⁺	22	23	-	-	3	3		
N 25 th Avenue & Ames Avenue	EB Left-turn ⁺	8	3	-	-	0	0	0.00	0.00
	EB Through ⁺	301	358	-	-	0	0		
	EB Right-turn ⁺	0	0	-	-	0	0		
	WB Left-turn ⁺	0	0	-	-	0	0	0.00	0.00
	WB Through ⁺	327	428	-	-	0	0		
	WB Right-turn ⁺	2	0	-	-	0	0		
	NB Left-turn ⁺	0	0	-	-	0	0	-	-
	NB Through ⁺	0	0	-	-	0	0		
	NB Right-turn ⁺	0	0	-	-	0	0		
	SB Left-turn ⁺	1	2	-	-	0	3	0.00	3.00
	SB Through ⁺	0	0	-	-	0	3		
	SB Right-turn ⁺	2	21	-	-	0	3		

Location	Critical Movements	Existing Conditions (AM Peak / PM Peak)							
		AM Peak Volume	PM Peak Volume	AM 50 th Percentile Queue (feet)	PM 50 th Percentile Queue (feet)	AM 95 th Percentile Queue (feet)	PM 95 th Percentile Queue (feet)	AM 95 th Percentile Approach Queue	PM 95 th Percentile Approach Queue
N 24 th Street & Ames Avenue	EB Left-turn ⁺	69	60	7	6	22	27	22.00	27.00
	EB Through ⁺	162	196	7	6	22	27		
	EB Right-turn ⁺	101	141	7	6	22	27		
	WB Left-turn ⁺	5	13	20	12	30	42	30.00	42.00
	WB Through ⁺	178	201	20	12	30	42		
	WB Right-turn ⁺	11	18	20	12	30	42		
	NB Left-turn ⁺	69	126	41	86	85	135	85.00	135.00
	NB Through ⁺	53	108	41	86	85	135		
	NB Right-turn ⁺	2	22	41	86	85	135		
	SB Left-turn ⁺	13	22	22	37	61	70	61.00	70.00
	SB Through ⁺	57	91	22	37	61	70		
	SB Right-turn ⁺	55	63	22	37	61	70		
Florence Boulevard & Ames Avenue	EB Left-turn ⁺	30	52	27	46	37	54	19.58	34.49
	EB Through ⁺	66	116	27	46	37	54		
	EB Right-turn	90	95	0	0	1	0		
	WB Left-turn ⁺	2	2	10	12	21	26	21.00	26.00
	WB Through ⁺	79	104	10	12	21	26		
	WB Right-turn ⁺	11	20	10	12	21	26		
	NB Left-turn ⁺	73	86	46	50	84	94	84.00	94.00
	NB Through ⁺	98	105	46	50	84	94		
	NB Right-turn ⁺	2	5	46	50	84	94		
	SB Left-turn ⁺	10	14	28	24	57	53	57.00	53.00
	SB Through ⁺	96	86	28	24	57	53		
	SB Right-turn ⁺	25	21	28	24	57	53		

+shared lane, ** dual turn lane

APPENDIX C: BASE-FUTURE (2050) CONDITIONS MOE SUMMARY TABLE

Location	Critical Movements	Base-Future Condition (AM Peak / PM Peak)					
		AM Delay (sec)	PM Delay (sec)	AM 50 th Percentile Queue (feet)	PM 50 th Percentile Queue (feet)	AM 95 th Percentile Queue (feet)	PM 95 th Percentile Queue (feet)
N 72 nd Street & Ames Avenue	EB Left-turn	64.2	60.6	29	20	66	52
	EB Through ⁺	53.4	69.5	42	62	91	#127
	WB Left-turn**	55.9	62.6	226	303	#308	#427
	WB Through	24.2	20.1	58	66	101	103
	WB Right-turn	10	7.4	12	44	64	77
	NB Left-turn	23	26	20	29	47	63
	NB Through	21.6	27.7	126	205	171	261
	NB Right-turn**	0.9	4.6	0	64	19	98
	SB Left-turn	76	91.7	82	112	#147	#224
	SB Through ⁺	13.2	15.6	162	156	207	198
Benson Park Plaza & Ames Avenue	EB Left-turn	3	6.7	6	12	m13	m29
	EB Through ⁺	3.5	16.5	62	261	106	355
	WB Left-turn	6.1	6.5	7	21	19	48
	WB Through ⁺	6	11.6	109	188	157	295
	NB Left-turn	51.6	44.2	12	36	34	69
	NB Through ⁺	22	11	4	7	36	61
	SB Left-turn	63	81.9	43	98	82	160
	SB Through ⁺	33.2	17.9	8	11	32	45
N 66 th Street & Ames Avenue	EB Left-turn	1.4	3.0	2	3	4	11
	EB Through ⁺	1.3	3.0	26	64	35	99
	WB Left-turn	1.9	3.3	3	6	8	17
	WB Through ⁺	1.9	3	45	68	64	105
	NB Left-turn ⁺	31.5	29.7	7	16	39	51
	SB Left-turn ⁺	45.2	24.9	15	8	46	36

N 63 rd Street & Ames Avenue	EB Left-turn	9.1	10.4	-	-	0	3
	WB Left-turn	9.1	11.5	-	-	0	8
	NB Through ⁺	18.5	40.8	-	-	8	28
	SB Through ⁺	23.3	37.4	-	-	5	10
N 60 th Street & Ames Avenue	EB Left-turn	9.1	13.5	11	26	26	56
	EB Through ⁺	16.2	24.9	173	246	229	#395
	WB Left-turn	8.4	15.9	19	13	37	48
	WB Through ⁺	15.9	17.8	170	230	192	333
	NB Left-turn	38	26.3	37	41	62	74
	NB Through ⁺	30.3	31.8	46	80	70	121
	SB Left-turn	38.8	36.6	57	77	86	123
	SB Through ⁺	34.9	26.1	91	74	118	115
N 56 th Street (East) & Ames Avenue	EB Left-turn	9.7	11.6	-	-	3	8
	SB Left-turn ⁺	20.1	68.5	-	-	8	65
N 55 th Street & Ames Avenue	EB Left-turn	9.7	11.6	-	-	0	3
	WB Left-turn	6.6	10.3	-	-	0	3
	NB Left-turn ⁺	24.9	60.6	-	-	5	18
	SB Left-turn ⁺	20.8	31.1	-	-	5	13
N 52 nd Street & Ames Avenue	EB Left-turn	4.8	4.6	4	8	19	m18
	EB Through ⁺	8.6	7.3	81	84	166	111
	WB Left-turn	4.1	7.8	1	22	6	53
	WB Through ⁺	8.1	11.8	4	174	237	294
	NB Left-turn	23.3	44.7	16	44	39	83
	NB Through ⁺	13.8	21.5	32	53	61	85
	SB Left-turn	30.9	64.2	29	55	64	102
	SB Through ⁺	17.3	27.3	35	59	61	88

Walmart Drive & Ames Avenue	EB Left-turn	1.1	7.6	1	19	1	48
	EB Through	1.3	5.8	22	73	5	130
	WB Through	3.6	7	34	66	49	#80
	WB Right-turn	0.8	1.8	1	1	0	10
	SB Left-turn	23.2	25.8	17	53	43	94
	SB Right-turn	12.1	10.3	0	0	25	47
N 50 th Street & Ames Avenue	EB Left-turn	10.2	12.1	-	-	3	5
	WB Left-turn	9.9	10.6	-	-	3	0
	NB Left-turn	49	116	-	-	5	20
	NB Through*	31.8	34.9	-	-	8	25
	SB Left-turn	71.8	566.9	-	-	33	153
	SB Through*	12	36.2	-	-	3	23
N 49 th Avenue & Ames Avenue	NB Right-turn	11.5	13.3	-	-	0	3
N 48 th Street & Ames Avenue	EB Left-turn	25.9	22.6	5	11	14	m28
	EB Through*	2.8	6.5	11	127	14	213
	WB Left-turn	2.4	5.6	1	3	m5	m9
	WB Through*	2	5.1	12	36	28	71
	NB Through*	17.4	21.9	16	39	49	81
	SB Through*	18	16.8	10	16	34	44
Fontenelle Blvd & Ames Avenue	EB Left-turn	3.4	28.5	5	29	10	#165
	EB Through*	3.2	6.3	15	156	22	38
	WB Left-turn	11.3	28.5	10	16	29	m#84
	WB Through*	8.4	19.1	44	107	74	#148
	NB Left-turn	25.4	29.3	25	39	54	84
	NB Through	22.2	30.9	43	94	76	162
	NB Right-turn	0.6	0.7	0	0	0	0
	SB Left-turn	19.7	26.7	12	20	31	51
	SB Through	27	24.9	73	66	118	119
	SB Right-turn	4.7	6	0	0	27	45

N 42 nd Street & Ames Avenue	EB Through ⁺	3.4	7	34	47	55	123
	WB Through ⁺	4.3	10.7	56	143	77	267
	NB Left-turn	26.9	28.1	32	54	64	94
	NB Through ⁺	18.6	16.3	23	36	53	67
	SB Left-turn	24.9	17.3	26	10	54	26
	SB Through ⁺	19.7	14.8	29	32	61	64
N 40 th Street & Ames Avenue	EB Left-turn ⁺	5.7	5.2	101	57	194	150
	WB Left-turn ⁺	2.6	8.1	32	122	49	258
	NB Left-turn ⁺	19.7	19.6	13	11	39	34
	SB Left-turn ⁺	17.9	14.2	13	9	41	39
N 37 th Street & Ames Avenue	EB Left-turn ⁺	9.2	10.4	-	-	0	0
	EB Through ⁺	0.1	0.2	-	-	0	0
	WB Left-turn ⁺	0.3	0.2	-	-	0	0
	WB Through ⁺	10.2	10	-	-	3	0
	SB Left-turn ⁺	21.6	42.2	-	-	5	5
N 36 th Avenue & Ames Avenue	EB Left-turn ⁺	9.4	10.3	-	-	0	0
	EB Through ⁺	0.1	0.1	-	-	0	0
	WB Left-turn ⁺	10.2	0	-	-	0	0
	SB Left-turn ⁺	20.3	32.5	-	-	10	10
N 36 th Street & Ames Avenue	EB Left-turn	3.2	4	2	1	5	m10
	EB Through ⁺	3.3	6.3	44	63	28	205
	WB Left-turn	11	5.4	26	4	73	16
	WB Through ⁺	5.6	6.1	46	69	80	126
	NB Left-turn	26	26.1	41	34	67	69
	NB Through ⁺	13.8	15.9	31	32	63	78
	SB Through ⁺	20.1	17.8	32	12	57	33
N 35 th Street & Ames Avenue	EB Left-turn	2	2	0	0	3	3
	EB Through ⁺	1.8	1.8	0	0	81	85
	WB Left-turn	2.1	2.1	0	0	4	4
	WB Through ⁺	1.7	1.9	0	0	76	104
	NB Left-turn ⁺	13.3	15.7	0	0	15	21
	SB Left-turn ⁺	8.2	7.1	0	0	9	8

N 34 th Avenue & Ames Avenue	EB Left-turn ⁺	9.4	10.3	-	-	3	3
	EB Through ⁺	0.1	0.2	-	-	0	0
	WB Left-turn ⁺	10.1	9.9	-	-	3	3
	WB Through ⁺	0.4	0.4	-	-	0	0
	NB Through ⁺	39.1	62.4	-	-	28	50
	SB Through ⁺	40.8	55.9	-	-	35	30
N 33 rd Avenue & Ames Avenue	EB Left-turn ⁺	9.8	10.6	-	-	3	3
	EB Through ⁺	0.3	0.3	-	-	0	0
	WB Left-turn ⁺	10.2	9.9	-	-	3	3
	WB Through ⁺	0.3	0.2	-	-	0	0
	NB Through ⁺	11.5	58.1	-	-	0	30
	SB Through ⁺	57.7	65.3	-	-	48	48
N 31 st Street & Ames Avenue	EB Left-turn ⁺	5.3	6	64	61	107	113
	WB Left-turn ⁺	5.3	6.8	61	85	103	155
	NB Left-turn ⁺	22.3	27.8	19	49	40	90
	NB Right-turn	7.3	6.8	0	0	25	36
	SB Left-turn ⁺	23.6	16.7	42	10	76	30
N 30 th Street & Ames Avenue	EB Left-turn	29.4	32.8	69	62	#124	#133
	EB Through ⁺	18.4	21.6	184	216	234	282
	WB Left-turn	30	56.2	29	50	67	#132
	WB Through ⁺	27.8	49.1	173	274	226	#404
	NB Left-turn	19	19.4	31	59	59	102
	NB Through ⁺	15.2	15.7	58	93	86	131
	SB Left-turn	33.4	35.6	68	51	127	111
	SB Through ⁺	26	20.9	145	93	201	154
N 28 th Street & Ames Avenue	WB Left-turn ⁺	9.8	9.7	-	-	0	0
	NB Left-turn ⁺	11.9	16.5	-	-	5	5
North Freeway SB Ramp & Ames Avenue	EB Through ⁺	0	0	-	-	0	0
	WB Left-turn	9.9	11.2	-	-	13	28
	WB Through	0	0	-	-	0	0

North Freeway NB Ramp & Ames Avenue	EB Left-turn	11.1	16.7	12	15	40	46
	EB Through	9.5	13.1	36	64	74	106
	WB Through ⁺	11.2	15.5	62	100	101	150
	NB Left-turn	23.6	24.6	121	172	167	259
	NB Right-turn ⁺	3.7	4.3	1	11	34	42
N 26 th Street & Ames Avenue	EB Left-turn ⁺	8.5	9.1	-	-	3	5
	EB Through ⁺	0.2	0.3	-	-	0	0
	WB Left-turn ⁺	8.5	0	-	-	0	0
	WB Through ⁺	0	0	-	-	0	0
	NB Left-turn ⁺	21.5	24.4	-	-	3	8
	SB Left-turn ⁺	10	10.7	-	-	3	3
N 25 th Avenue & Ames Avenue	EB Left-turn ⁺	8.4	8.9	-	-	0	0
	EB Through ⁺	0.1	0	-	-	0	0
	WB Left-turn ⁺	8.5	0	-	-	0	0
	WB Through ⁺	0	0	-	-	0	0
	NB Left-turn ⁺	18.9	20.3	-	-	3	8
	SB Left-turn ⁺	14.2	15	-	-	3	8
N 24 th Street & Ames Avenue	EB Left-turn ⁺	3.4	4	20	20	41	40
	WB Left-turn ⁺	4.4	6.1	26	30	40	57
	NB Left-turn ⁺	22.6	27.1	46	94	92	145
	SB Left-turn ⁺	12.9	12.8	25	42	65	75
Florence Blvd & Ames Avenue	EB Through ⁺	11.7	11.8	69	43	71	81
	EB Right-turn	3.3	1.9	0	0	0	1
	WB Left-turn ⁺	10	10.1	17	26	32	47
	NB Left-turn ⁺	13.7	14	51	56	91	106
	SB Left-turn ⁺	10.5	10.2	33	27	64	58

APPENDIX D: SIGNAL WARRANT WORKSHEETS

MUTCD Volume-based Warrant Evaluation N 72nd St & Ames Ave Existing Conditions

Major Street: 72nd St
Approach Speed: 25 MPH
Lanes Moving Traffic: 2 or more
Option: Low speed, urban community

Minor Street: Ames Ave
Right Turn Volume Included: 75% EB, 75% WB
Lanes Moving Traffic: 2 or more
Date of Count: #####

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied Yes

	Vehicles per hour 100% (80%)	3:30 PM to 4:30 PM	5:00 PM to 6:00 PM	2:30 PM to 3:30 PM	7:15 AM to 8:15 AM	1:00 PM to 2:00 PM	8:15 AM to 9:15 AM	11:15 AM to 12:15 PM	9:30 AM to 10:30 AM
Both Aprchs. Major Street	600 (480)	1926	1845	1787	1480	1500	1386	1435	1212
Higher Vol. Aprch. Minor Street	200 (160)	692	685	605	566	543	502	476	461

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied Yes

	Vehicles per hour 100% (80%)	3:30 PM to 4:30 PM	5:00 PM to 6:00 PM	2:30 PM to 3:30 PM	7:15 AM to 8:15 AM	1:00 PM to 2:00 PM	8:15 AM to 9:15 AM	11:15 AM to 12:15 PM	9:30 AM to 10:30 AM
Both Aprchs. Major Street	900 (720)	1926	1845	1787	1480	1500	1386	1435	1212
Higher Vol. Aprch. Minor Street	100 (80)	692	685	605	566	543	502	476	461

WARRANT 1, Combination of Conditions A and B

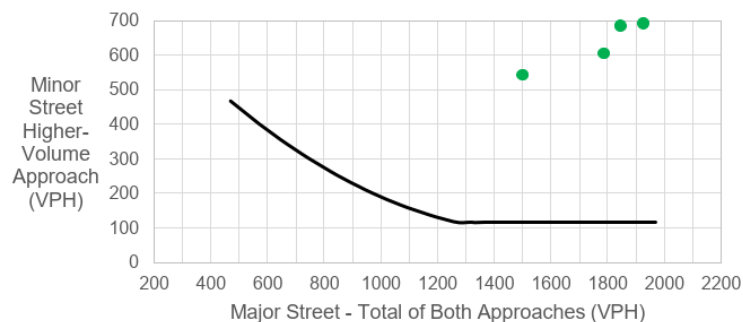
Not necessary, Conditions A and B are satisfied.

80% Satisfied N/A

WARRANT 2, Four Hour Vehicular Volume

	Both Aprchs. Major Street	Higher Vol. Aprch. Minor Street
3:30 PM - 4:30 PM	1926	692
5:00 PM - 6:00 PM	1845	685
2:30 PM - 3:30 PM	1787	605
1:00 PM - 2:00 PM	1500	543

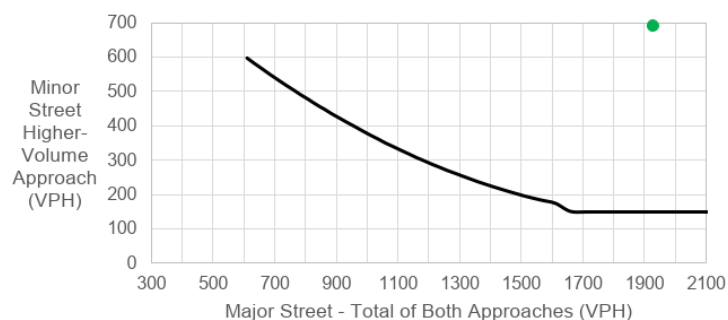
100% Satisfied Yes



WARRANT 3, Peak Hour

	Both Aprchs. Major Street	Higher Vol. Aprch. Minor Street
3:30 PM - 4:30 PM	1926	692

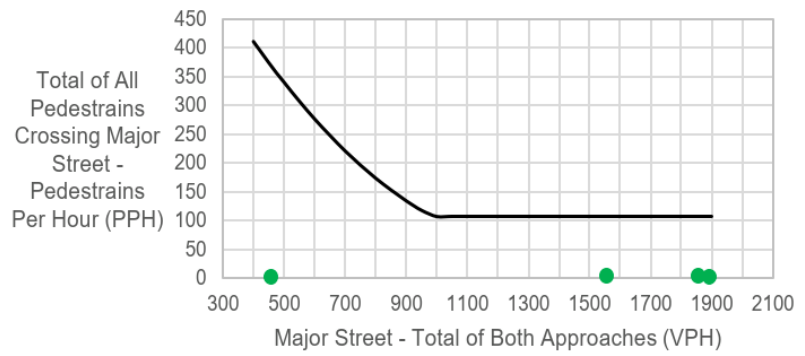
100% Satisfied Yes



WARRANT 4A, Four Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
2:45 PM - 3:45 PM	1855	4
2:00 PM - 3:00 PM	1555	4
3:15 PM - 4:15 PM	1891	3
6:00 AM - 7:00 AM	457	2

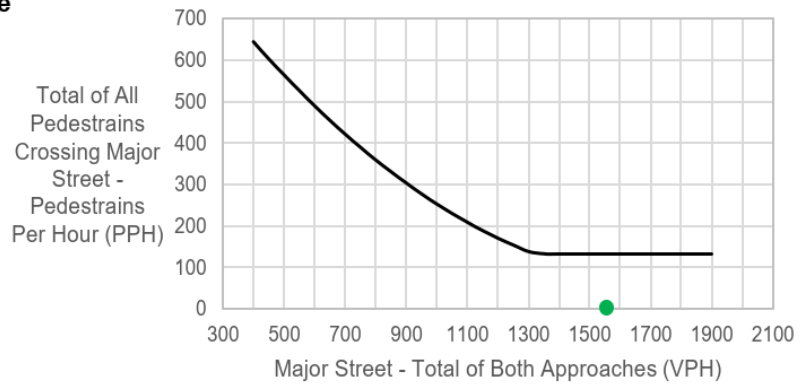
100% Satisfied No



WARRANT 4B, Peak Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
2:00 PM - 3:00 PM	1555	4

100% Satisfied No



MUTCD Volume-based Warrant Evaluation
Benson Park Plaza & Ames Ave
Existing Conditions

Major Street: Ames Ave
 Approach Speed: 40 MPH
 Lanes Moving Traffic: 2 or more
 Option: Low speed, urban community

Minor Street: Benson Park Plaza
 Right Turn Volume Included: 75% NB, 75% SB
 Lanes Moving Traffic: 2 or more
 Date of Count: #####

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	Vehicles per hour 100% (80%)	5:30 PM to 6:30 PM	2:30 PM to 3:30 PM	11:30 AM to 12:30 PM	4:30 PM to 5:30 PM	3:30 PM to 4:30 PM	1:30 PM to 2:30 PM	8:30 AM to 9:30 AM	7:00 AM to 8:00 AM
Both Apprchs. Major Street	600 (480)	1553	1413	1153	1675	1622	1312	1151	1187
Higher Vol. Apprch. Minor Street	200 (160)	177	175	167	161	154	148	98	51

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	Vehicles per hour 100% (80%)	5:30 PM to 6:30 PM	2:30 PM to 3:30 PM	11:30 AM to 12:30 PM	4:30 PM to 5:30 PM	3:30 PM to 4:30 PM	1:30 PM to 2:30 PM	8:30 AM to 9:30 AM	7:00 AM to 8:00 AM
Both Apprchs. Major Street	900 (720)	1553	1413	1153	1675	1622	1312	1151	1187
Higher Vol. Apprch. Minor Street	100 (80)	177	175	167	161	154	148	98	51

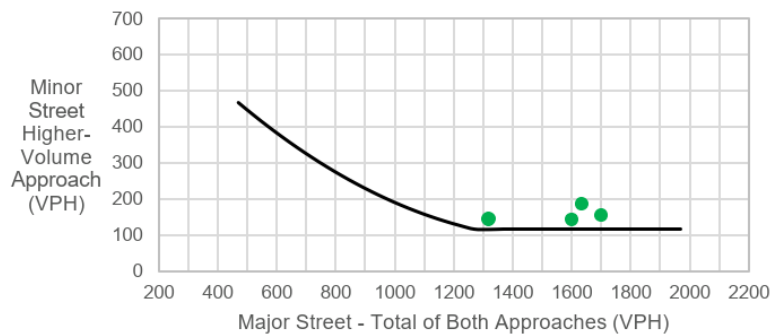
WARRANT 1, Combination of Conditions A and B

80% Satisfied No

WARRANT 2, Four Hour Vehicular Volume

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
5:15 PM - 6:15 PM	1633	186
4:15 PM - 5:15 PM	1700	155
1:45 PM - 2:45 PM	1318	145
3:15 PM - 4:15 PM	1600	144

100% Satisfied Yes



WARRANT 3, Peak Hour

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
4:15 PM - 5:15 PM	1700	155

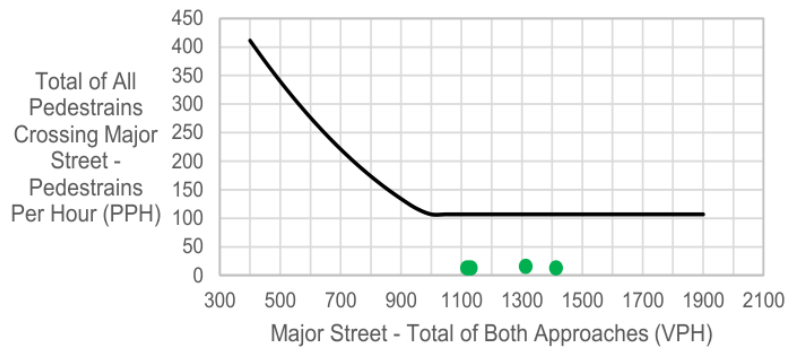
100% Satisfied Yes



WARRANT 4A, Four Hour Pedestrian Volume

	Both Aprchs. Major Street	Total of All Pedestrains Crossing Major Street
5:15 PM - 6:15 PM	1313	16
4:15 PM - 5:15 PM	1413	13
1:45 PM - 2:45 PM	1131	13
3:15 PM - 4:15 PM	1119	13

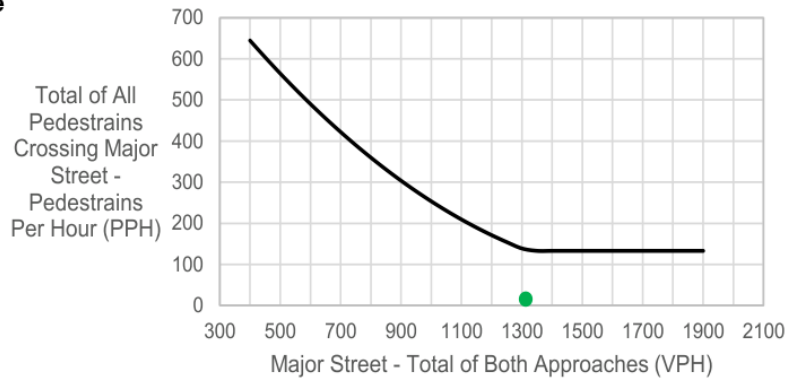
100% Satisfied No



WARRANT 4B, Peak Hour Pedestrian Volume

	Both Aprchs. Major Street	Total of All Pedestrains Crossing Major Street
2:00 PM - 3:00 PM	1313	16

100% Satisfied No



MUTCD Volume-based Warrant Evaluation
N 66th St & Ames Ave
Existing Conditions

Major Street: Ames Ave
 Approach Speed: 40 MPH
 Lanes Moving Traffic: 2 or more
 Option: Low speed, urban community

Minor Street: 66th St
 Right Turn Volume Included: 100% NB, 100% SB
 Lanes Moving Traffic: 1
 Date of Count: #####

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	Vehicles per hour 100% (80%)	5:15 PM to 6:15 PM	3:15 PM to 4:15 PM	4:15 PM to 5:15 PM	1:00 PM to 2:00 PM	8:15 AM to 9:15 AM	2:00 PM to 3:00 PM	10:45 AM to 11:45 AM	11:45 AM to 12:45 PM
Both Apprchs. Major Street	600 (480)	1810	1796	1870	1369	1276	1505	1240	1360
Higher Vol. Apprch. Minor Street	150 (120)	57	52	44	34	33	29	23	21

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	Vehicles per hour 100% (80%)	5:15 PM to 6:15 PM	3:15 PM to 4:15 PM	4:15 PM to 5:15 PM	1:00 PM to 2:00 PM	8:15 AM to 9:15 AM	2:00 PM to 3:00 PM	10:45 AM to 11:45 AM	11:45 AM to 12:45 PM
Both Apprchs. Major Street	900 (720)	1810	1796	1870	1369	1276	1505	1240	1360
Higher Vol. Apprch. Minor Street	75 (60)	57	52	44	34	33	29	23	21

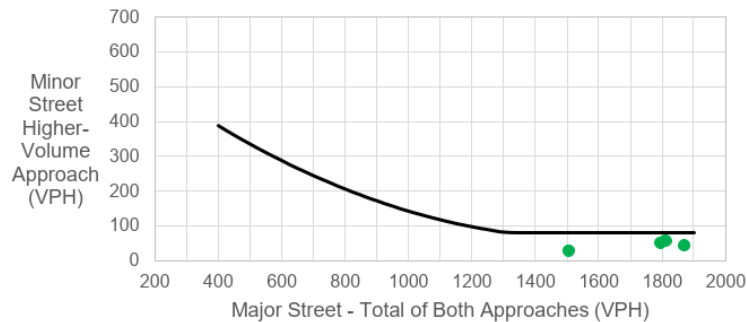
WARRANT 1, Combination of Conditions A and B

80% Satisfied No

WARRANT 2, Four Hour Vehicular Volume

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
5:15 PM - 6:15 PM	1810	57
3:15 PM - 4:15 PM	1796	52
4:15 PM - 5:15 PM	1870	44
2:00 PM - 3:00 PM	1505	29

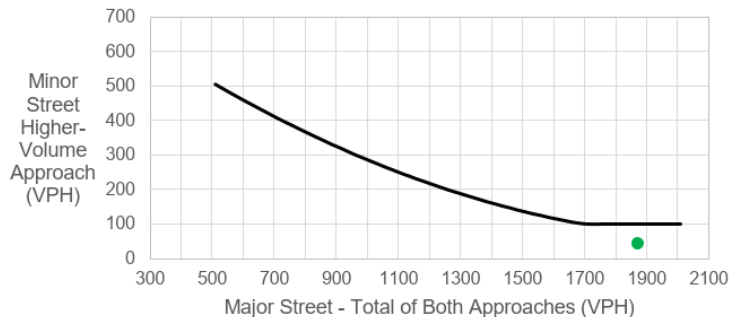
100% Satisfied No



WARRANT 3, Peak Hour

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
4:15 PM - 5:15 PM	1870	44

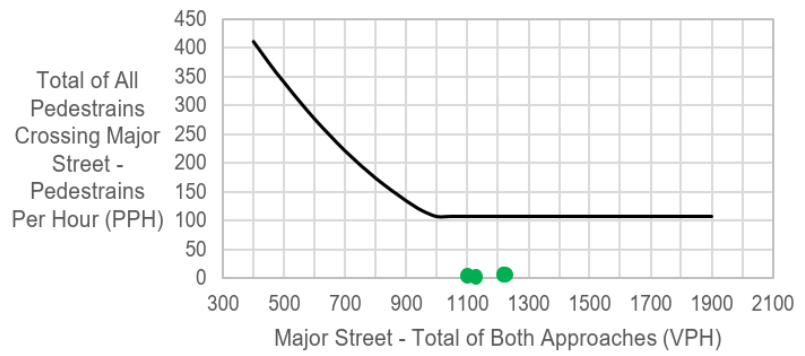
100% Satisfied No



WARRANT 4A, Four Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
7:45 AM - 8:45 AM	1225	6
7:00 AM - 8:00 AM	1217	6
9:15 AM - 10:15 AM	1101	4
9:45 AM - 10:45 AM	1128	2

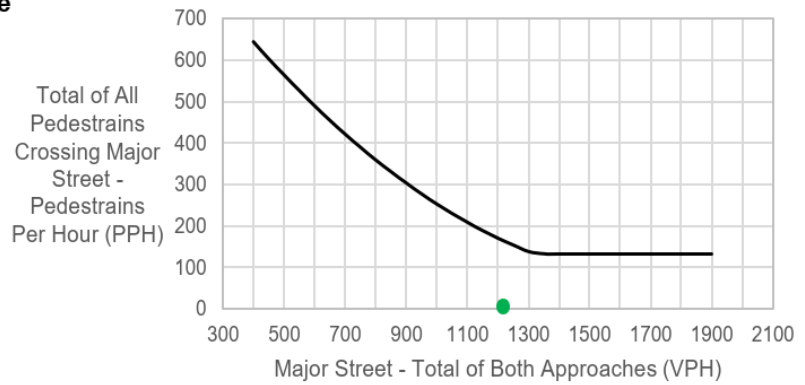
100% Satisfied No



WARRANT 4B, Peak Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
7:00 AM - 8:00 AM	1217	6

100% Satisfied No



MUTCD Volume-based Warrant Evaluation
N 63rd St & Ames Ave
Existing Conditions

Major Street: Ames Ave
 Approach Speed: 40 MPH
 Lanes Moving Traffic: 2 or more
 Option: Low speed, urban community

Minor Street: 63rd St
 Right Turn Volume Included: 100% NB, 100% SB
 Lanes Moving Traffic: 1
 Date of Count: #####

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	Vehicles per hour 100% (80%)	2:30 PM to 3:30 PM	3:30 PM to 4:30 PM	4:30 PM to 5:30 PM	5:30 PM to 6:30 PM	11:15 AM to 12:15 PM	12:30 PM to 1:30 PM	1:30 PM to 2:30 PM	7:15 AM to 8:15 AM
Both Apprchs. Major Street	600 (480)	1599	1727	1895	1728	1290	1336	1434	1239
Higher Vol. Apprch. Minor Street	150 (120)	32	31	27	27	26	21	19	17

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	Vehicles per hour 100% (80%)	2:30 PM to 3:30 PM	3:30 PM to 4:30 PM	4:30 PM to 5:30 PM	5:30 PM to 6:30 PM	11:15 AM to 12:15 PM	12:30 PM to 1:30 PM	1:30 PM to 2:30 PM	7:15 AM to 8:15 AM
Both Apprchs. Major Street	900 (720)	1599	1727	1895	1728	1290	1336	1434	1239
Higher Vol. Apprch. Minor Street	75 (60)	32	31	27	27	26	21	19	17

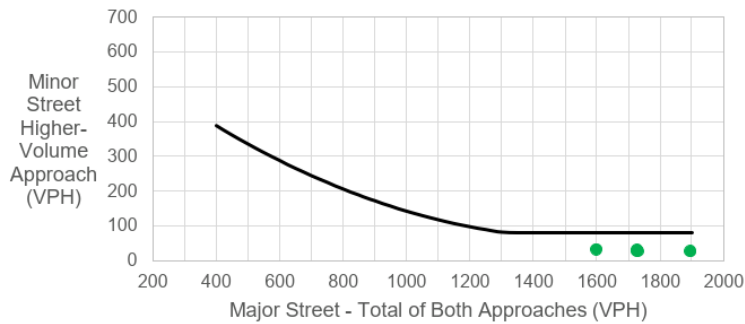
WARRANT 1, Combination of Conditions A and B

80% Satisfied No

WARRANT 2, Four Hour Vehicular Volume

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
2:30 PM - 3:30 PM	1599	32
3:30 PM - 4:30 PM	1727	31
4:30 PM - 5:30 PM	1895	27
5:30 PM - 6:30 PM	1728	27

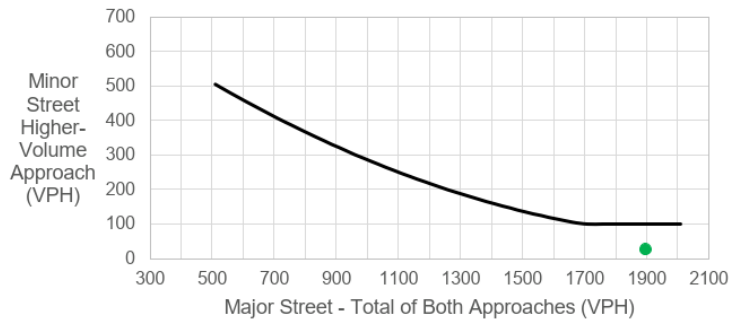
100% Satisfied No



WARRANT 3, Peak Hour

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
4:30 PM - 5:30 PM	1895	27

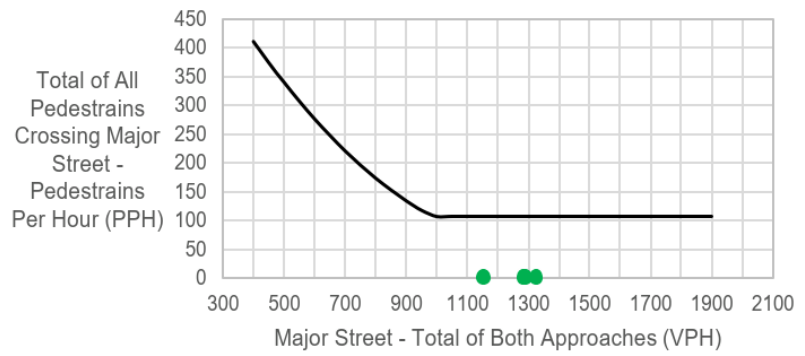
100% Satisfied No



WARRANT 4A, Four Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
12:15 PM - 1:15 PM	1325	1
11:15 AM - 12:15 PM	1290	1
11:45 AM - 12:45 PM	1283	1
10:30 AM - 11:30 AM	1153	1

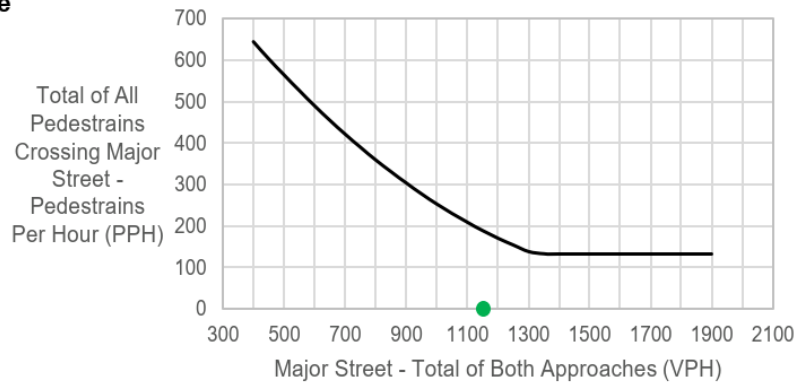
100% Satisfied No



WARRANT 4B, Peak Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
10:30 AM - 11:30 AM	1153	1

100% Satisfied No



MUTCD Volume-based Warrant Evaluation
60th St & Ames Ave
Existing Conditions

Major Street: Ames Ave
Approach Speed: 40 MPH
Lanes Moving Traffic: 2 or more
Option: Low speed, urban community

Minor Street: 60th St
Right Turn Volume Included: 75% NB, 75% SB
Lanes Moving Traffic: 2 or more
Date of Count: 7/23/2024

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	Vehicles per hour 100% (80%)	4:00 PM to 5:00 PM	5:00 PM to 6:00 PM	3:00 PM to 4:00 PM	2:00 PM to 3:00 PM	10:00 AM to 11:00 AM	8:00 AM to 9:00 AM	9:00 AM to 10:00 AM	7:00 AM to 8:00 AM
Both Apprchs. Major Street	600 (480)	1813	1848	1710	1497	1220	1061	1112	807
Higher Vol. Apprch. Minor Street	200 (160)	356	355	331	266	244	226	215	191

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	Vehicles per hour 100% (80%)	4:00 PM to 5:00 PM	5:00 PM to 6:00 PM	3:00 PM to 4:00 PM	2:00 PM to 3:00 PM	10:00 AM to 11:00 AM	8:00 AM to 9:00 AM	9:00 AM to 10:00 AM	7:00 AM to 8:00 AM
Both Apprchs. Major Street	900 (720)	1813	1848	1710	1497	1220	1061	1112	807
Higher Vol. Apprch. Minor Street	100 (80)	356	355	331	266	244	226	215	191

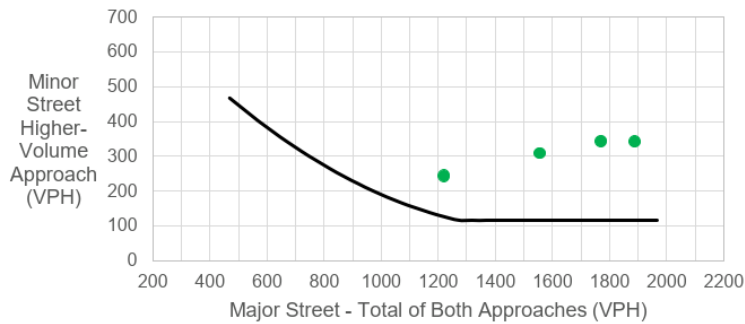
WARRANT 1, Combination of Conditions A and B

80% Satisfied Yes

WARRANT 2, Four Hour Vehicular Volume

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
3:30 PM - 4:30 PM	1770	343
4:30 PM - 5:30 PM	1889	342
2:30 PM - 3:30 PM	1556	309
10:00 AM - 11:00 AM	1220	244

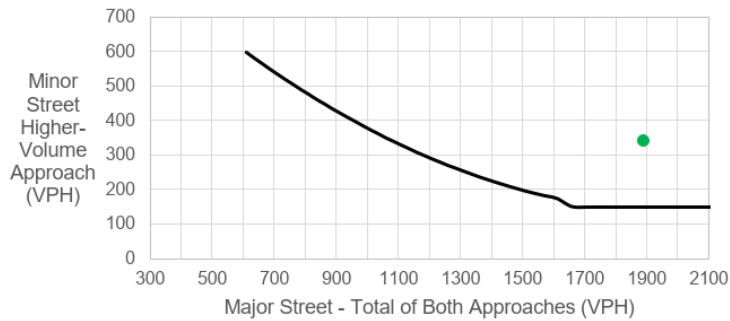
100% Satisfied Yes



WARRANT 3, Peak Hour

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
4:30 PM - 5:30 PM	1889	342

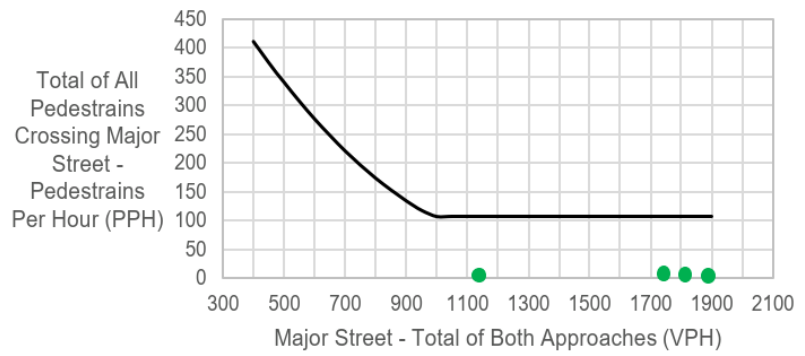
100% Satisfied Yes



WARRANT 4A, Four Hour Pedestrian Volume

	Both Aprchs. Major Street	Total of All Pedestrains Crossing Major Street
3:15 PM - 4:15 PM	1743	7
4:00 PM - 5:00 PM	1813	6
1:45 PM - 2:45 PM	1139	5
4:30 PM - 5:30 PM	1889	4

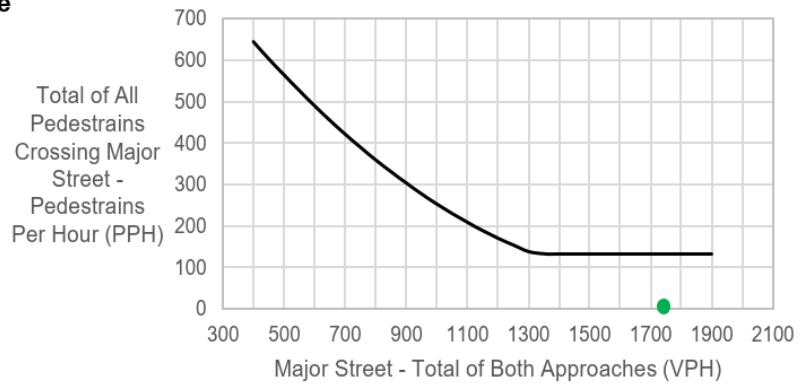
100% Satisfied No



WARRANT 4B, Peak Hour Pedestrian Volume

	Both Aprchs. Major Street	Total of All Pedestrains Crossing Major Street
3:15 PM - 4:15 PM	1743	7

100% Satisfied No



MUTCD Volume-based Warrant Evaluation
N 56th St (East) & Ames Ave
Existing Conditions

Major Street: Ames Ave
 Approach Speed: 40 MPH
 Lanes Moving Traffic: 2 or more
 Option: Low speed, urban community

Minor Street: 56th St
 Right Turn Volume Included: 100% NB, 100% SB
 Lanes Moving Traffic: 1
 Date of Count: #####

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	Vehicles per hour 100% (80%)	8:30 AM to 9:30 AM	3:30 PM to 4:30 PM	11:30 AM to 12:30 PM	1:30 PM to 2:30 PM	4:30 PM to 5:30 PM	2:30 PM to 3:30 PM	5:30 PM to 6:30 PM	12:30 PM to 1:30 PM
Both Apprchs. Major Street	600 (480)	1383	1920	1414	1517	1950	1772	1848	1437
Higher Vol. Apprch. Minor Street	150 (120)	77	61	60	59	54	54	53	50

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	Vehicles per hour 100% (80%)	8:30 AM to 9:30 AM	3:30 PM to 4:30 PM	11:30 AM to 12:30 PM	1:30 PM to 2:30 PM	4:30 PM to 5:30 PM	2:30 PM to 3:30 PM	5:30 PM to 6:30 PM	12:30 PM to 1:30 PM
Both Apprchs. Major Street	900 (720)	1383	1920	1414	1517	1950	1772	1848	1437
Higher Vol. Apprch. Minor Street	75 (60)	77	61	60	59	54	54	53	50

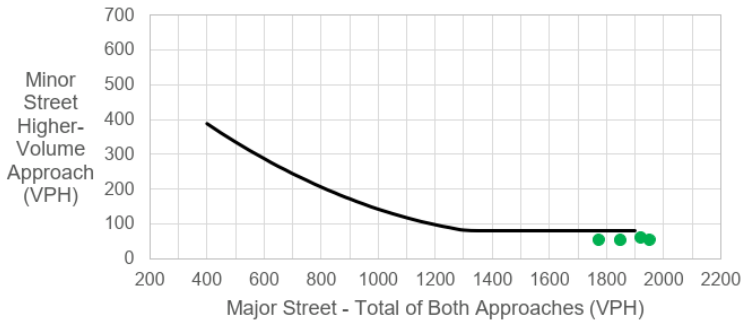
WARRANT 1, Combination of Conditions A and B

80% Satisfied No

WARRANT 2, Four Hour Vehicular Volume

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
3:30 PM - 4:30 PM	1920	61
4:30 PM - 5:30 PM	1950	54
2:30 PM - 3:30 PM	1772	54
5:30 PM - 6:30 PM	1848	53

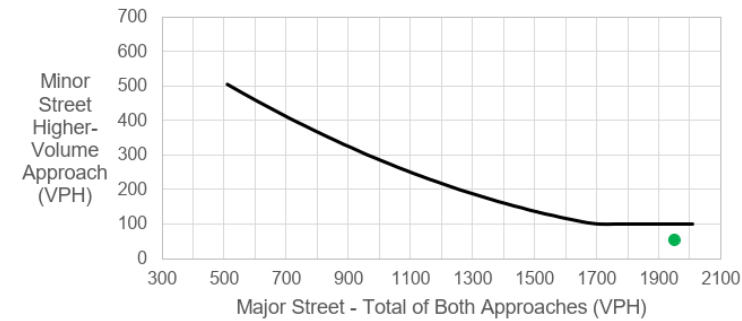
100% Satisfied No



WARRANT 3, Peak Hour

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
4:30 PM - 5:30 PM	1950	54

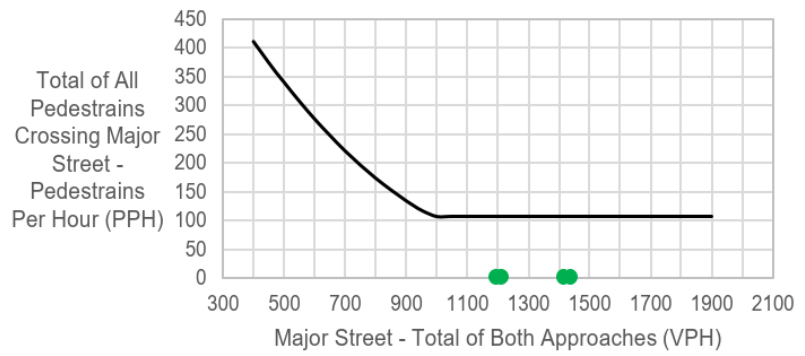
100% Satisfied No



WARRANT 4A, Four Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
9:00 AM - 10:00 AM	1210	3
12:30 PM - 1:30 PM	1437	2
11:30 AM - 12:30 PM	1414	2
10:30 AM - 11:30 AM	1193	2

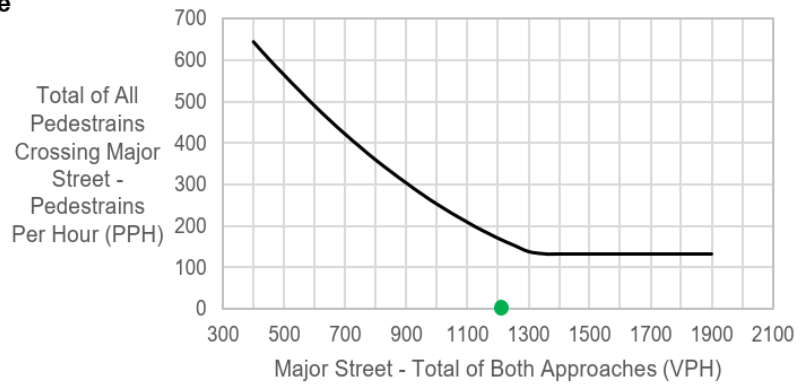
100% Satisfied No



WARRANT 4B, Peak Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
9:00 AM - 10:00 AM	1210	3

100% Satisfied No



MUTCD Volume-based Warrant Evaluation
N 55th St & Ames Ave
Existing Conditions

Major Street: Ames Ave
 Approach Speed: 40 MPH
 Lanes Moving Traffic: 2 or more
 Option: Low speed, urban community

Minor Street: 55th St
 Right Turn Volume Included: 100% NB, 100% SB
 Lanes Moving Traffic: 1
 Date of Count: 11/6/2024

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	Vehicles per hour 100% (80%)	3:30 PM to 4:30 PM	4:30 PM to 5:30 PM	5:30 PM to 6:30 PM	2:30 PM to 3:30 PM	7:15 AM to 8:15 AM	12:00 PM to 1:00 PM	8:15 AM to 9:15 AM	1:30 PM to 2:30 PM
Both Apprchs. Major Street	600 (480)	1825	1914	1721	1646	1458	1396	1360	1468
Higher Vol. Apprch. Minor Street	150 (120)	17	16	16	10	10	10	10	7

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	Vehicles per hour 100% (80%)	3:30 PM to 4:30 PM	4:30 PM to 5:30 PM	5:30 PM to 6:30 PM	2:30 PM to 3:30 PM	7:15 AM to 8:15 AM	12:00 PM to 1:00 PM	8:15 AM to 9:15 AM	1:30 PM to 2:30 PM
Both Apprchs. Major Street	900 (720)	1825	1914	1721	1646	1458	1396	1360	1468
Higher Vol. Apprch. Minor Street	75 (60)	17	16	16	10	10	10	10	7

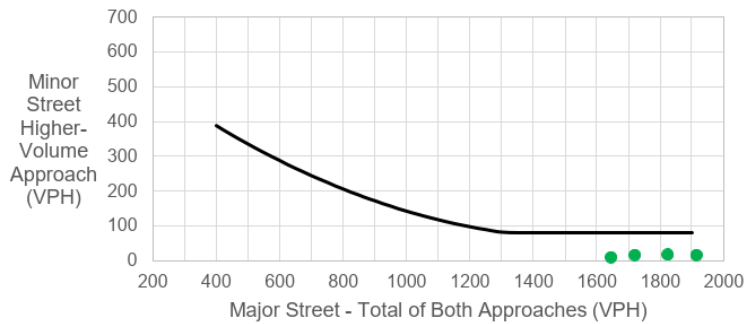
WARRANT 1, Combination of Conditions A and B

80% Satisfied No

WARRANT 2, Four Hour Vehicular Volume

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
3:30 PM - 4:30 PM	1825	17
4:30 PM - 5:30 PM	1914	16
5:30 PM - 6:30 PM	1721	16
2:30 PM - 3:30 PM	1646	10

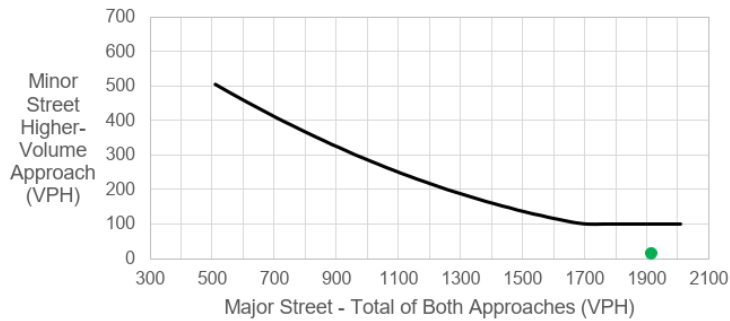
100% Satisfied No



WARRANT 3, Peak Hour

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
4:30 PM - 5:30 PM	1914	16

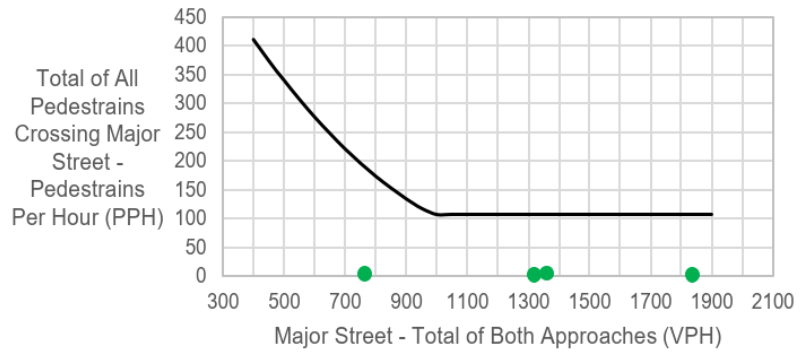
100% Satisfied No



WARRANT 4A, Four Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
8:15 AM - 9:15 AM	1360	5
6:15 AM - 7:15 AM	764	4
3:45 PM - 4:45 PM	1836	3
6:45 AM - 7:45 AM	1318	3

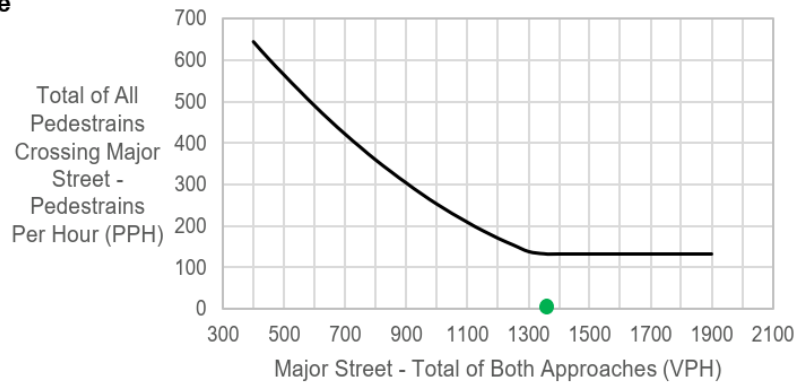
100% Satisfied No



WARRANT 4B, Peak Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
8:15 AM - 9:15 AM	1360	5

100% Satisfied No



MUTCD Volume-based Warrant Evaluation
N 52nd St & Ames Ave
Existing Conditions

Major Street: Ames Ave
 Approach Speed: 40 MPH
 Lanes Moving Traffic: 2 or more
 Option: Low speed, urban community

Minor Street: 52nd St
 Right Turn Volume Included: 75% NB, 75% SB
 Lanes Moving Traffic: 2 or more
 Date of Count: #####

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied Yes

	Vehicles per hour 100% (80%)	3:15 PM to 4:15 PM	5:15 PM to 6:15 PM	4:15 PM to 5:15 PM	7:15 AM to 8:15 AM	8:15 AM to 9:15 AM	2:15 PM to 3:15 PM	1:15 PM to 2:15 PM	12:15 PM to 1:15 PM
Both Apprchs. Major Street	600 (480)	1957	1947	1985	1494	1370	1551	1560	1446
Higher Vol. Apprch. Minor Street	200 (160)	371	361	336	297	276	265	224	215

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied Yes

	Vehicles per hour 100% (80%)	3:15 PM to 4:15 PM	4:45 PM to 5:45 PM	7:15 AM to 8:15 AM	2:15 PM to 3:15 PM	5:45 PM to 6:45 PM	8:30 AM to 9:30 AM	1:15 PM to 2:15 PM	12:00 PM to 1:00 PM
Both Apprchs. Major Street	900 (720)	1957	2017	1494	1551	1358	1372	1560	1461
Higher Vol. Apprch. Minor Street	100 (80)	371	355	297	265	257	249	224	193

WARRANT 1, Combination of Conditions A and B

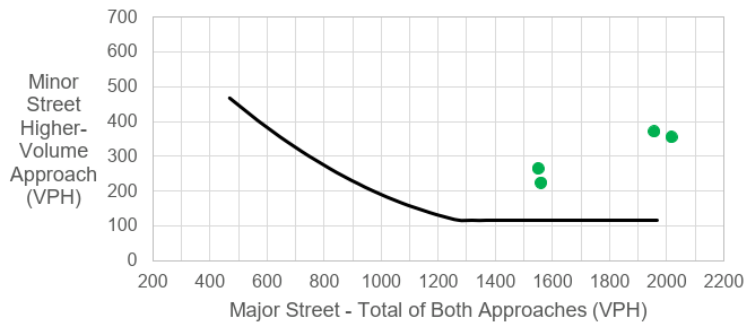
Not necessary, Conditions A and B are satisfied.

80% Satisfied N/A

WARRANT 2, Four Hour Vehicular Volume

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
3:15 PM - 4:15 PM	1957	371
4:45 PM - 5:45 PM	2017	355
2:15 PM - 3:15 PM	1551	265
1:15 PM - 2:15 PM	1560	224

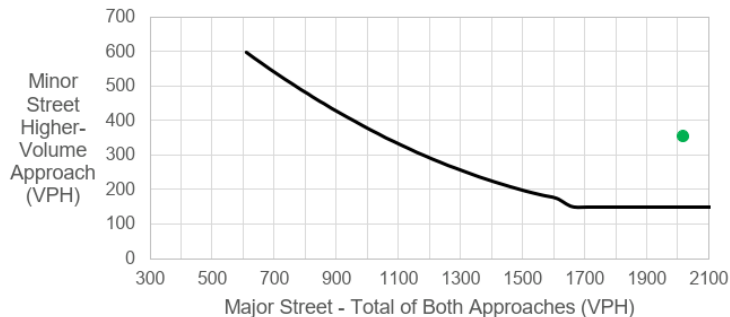
100% Satisfied Yes



WARRANT 3, Peak Hour

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
4:45 PM - 5:45 PM	2017	355

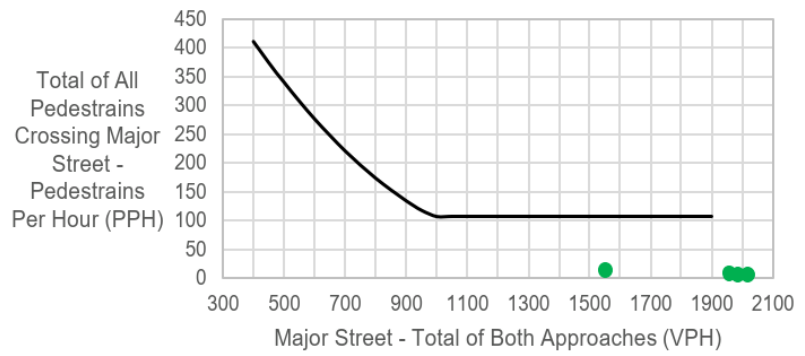
100% Satisfied Yes



WARRANT 4A, Four Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
2:15 PM - 3:15 PM	1551	14
3:15 PM - 4:15 PM	1957	9
4:45 PM - 5:45 PM	2017	6
4:15 PM - 5:15 PM	1985	6

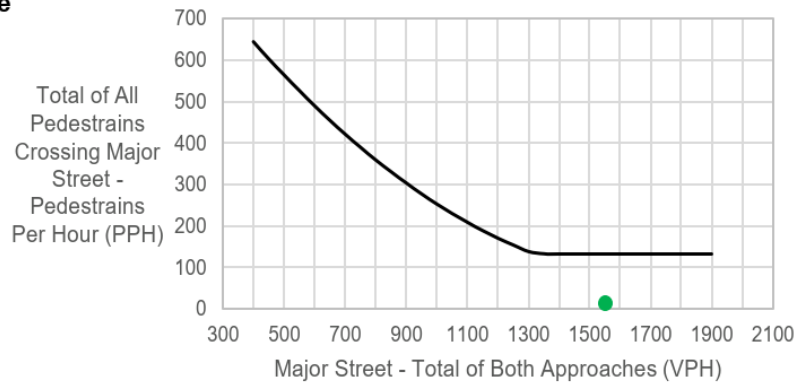
100% Satisfied No



WARRANT 4B, Peak Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
2:15 PM - 3:15 PM	1551	14

100% Satisfied No



MUTCD Volume-based Warrant Evaluation
Walmart Dr (51st St) & Ames Ave
Existing Conditions

Major Street: Ames Ave
Approach Speed: 40 MPH
Lanes Moving Traffic: 2 or more
Option: Low speed, urban community

Minor Street: 52nd St
Right Turn Volume Included: 50% NB, 100% SB
Lanes Moving Traffic: 2 or more
Date of Count: 11/6/2024

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	Vehicles per hour 100% (80%)	4:30 PM to 5:30 PM	5:30 PM to 6:30 PM	3:30 PM to 4:30 PM	1:30 PM to 2:30 PM	2:30 PM to 3:30 PM	11:30 AM to 12:30 PM	8:30 AM to 9:30 AM	7:30 AM to 8:30 AM
Both Apprchs. Major Street	600 (480)	2063	1814	1942	1492	1754	1404	1462	1493
Higher Vol. Apprch. Minor Street	200 (160)	347	341	300	242	240	237	134	97

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	Vehicles per hour 100% (80%)	4:30 PM to 5:30 PM	5:30 PM to 6:30 PM	3:30 PM to 4:30 PM	1:30 PM to 2:30 PM	2:30 PM to 3:30 PM	11:30 AM to 12:30 PM	8:30 AM to 9:30 AM	7:30 AM to 8:30 AM
Both Apprchs. Major Street	900 (720)	2063	1814	1942	1492	1754	1404	1462	1493
Higher Vol. Apprch. Minor Street	100 (80)	347	341	300	242	240	237	134	97

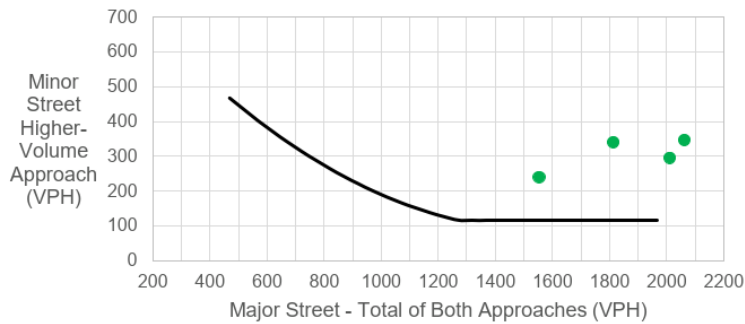
WARRANT 1, Combination of Conditions A and B

80% Satisfied No

WARRANT 2, Four Hour Vehicular Volume

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
4:30 PM - 5:30 PM	2063	347
5:30 PM - 6:30 PM	1814	341
3:15 PM - 4:15 PM	2012	296
2:15 PM - 3:15 PM	1553	240

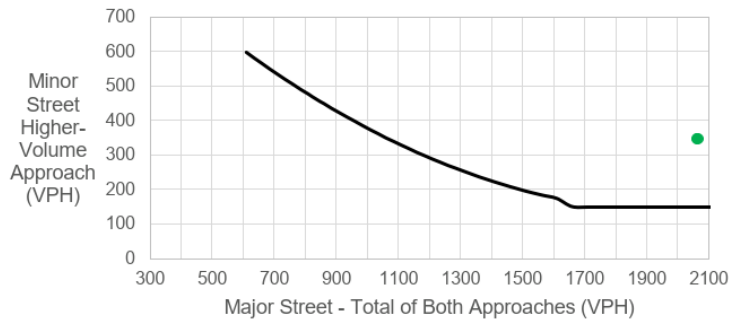
100% Satisfied Yes



WARRANT 3, Peak Hour

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
4:30 PM - 5:30 PM	2063	347

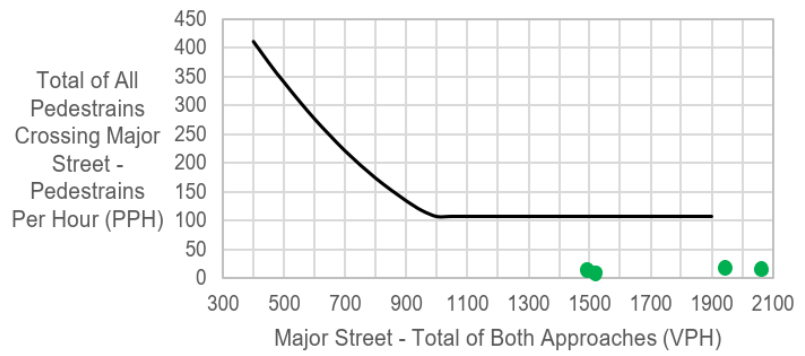
100% Satisfied Yes



WARRANT 4A, Four Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
3:45 PM - 4:45 PM	1944	17
4:30 PM - 5:30 PM	2063	15
1:30 PM - 2:30 PM	1492	14
2:00 PM - 3:00 PM	1520	9

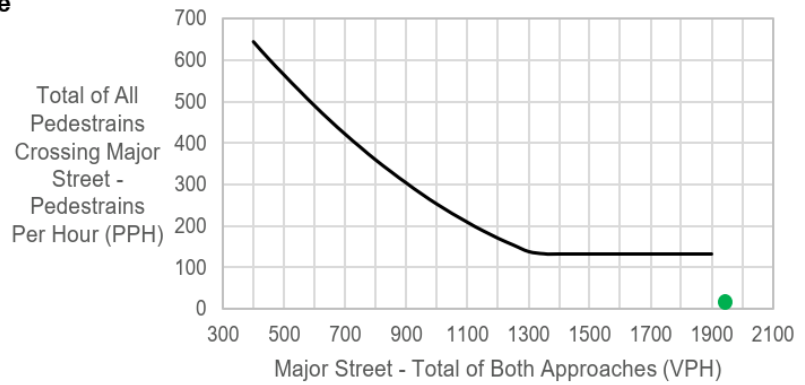
100% Satisfied No



WARRANT 4B, Peak Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
3:45 PM - 4:45 PM	1944	17

100% Satisfied No



MUTCD Volume-based Warrant Evaluation
N 50th St & Ames Ave
Existing Conditions

Major Street: Ames Ave
 Approach Speed: 40 MPH
 Lanes Moving Traffic: 2 or more
 Option: Low speed, urban community

Minor Street: 50th St
 Right Turn Volume Included: 75% NB, 75% SB
 Lanes Moving Traffic: 2 or more
 Date of Count: 11/6/2024

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	Vehicles per hour 100% (80%)	2:30 PM to 3:30 PM	3:30 PM to 4:30 PM	4:30 PM to 5:30 PM	5:30 PM to 6:30 PM	8:30 AM to 9:30 AM	11:30 AM to 12:30 PM	1:30 PM to 2:30 PM	7:30 AM to 8:30 AM
Both Apprchs. Major Street	600 (480)	1800	2007	2119	1888	1446	1442	1512	1526
Higher Vol. Apprch. Minor Street	200 (160)	78	76	71	55	55	52	49	30

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	Vehicles per hour 100% (80%)	2:30 PM to 3:30 PM	3:30 PM to 4:30 PM	4:30 PM to 5:30 PM	5:30 PM to 6:30 PM	8:30 AM to 9:30 AM	11:30 AM to 12:30 PM	1:30 PM to 2:30 PM	7:30 AM to 8:30 AM
Both Apprchs. Major Street	900 (720)	1800	2007	2119	1888	1446	1442	1512	1526
Higher Vol. Apprch. Minor Street	100 (80)	78	76	71	55	55	52	49	30

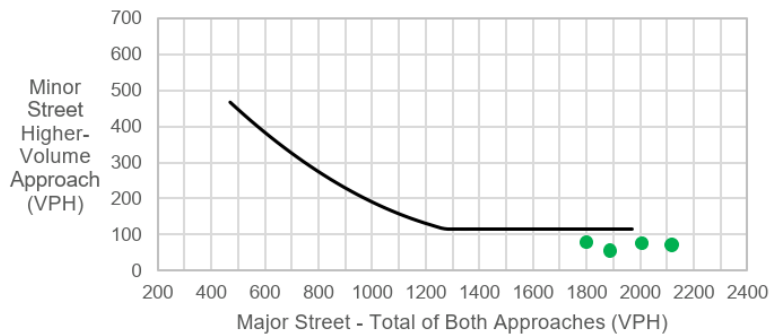
WARRANT 1, Combination of Conditions A and B

80% Satisfied No

WARRANT 2, Four Hour Vehicular Volume

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
2:30 PM - 3:30 PM	1800	78
3:30 PM - 4:30 PM	2007	76
4:30 PM - 5:30 PM	2119	71
5:30 PM - 6:30 PM	1888	55

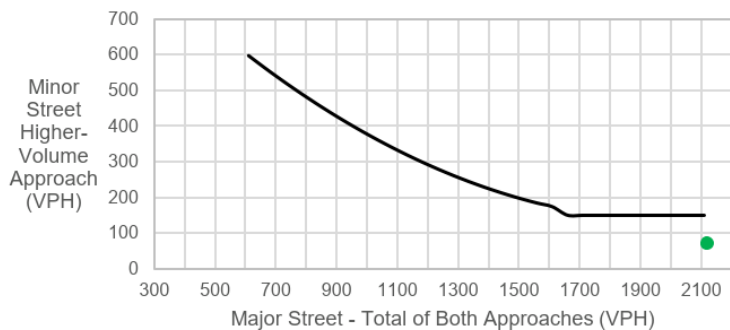
100% Satisfied No



WARRANT 3, Peak Hour

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
4:30 PM - 5:30 PM	2119	71

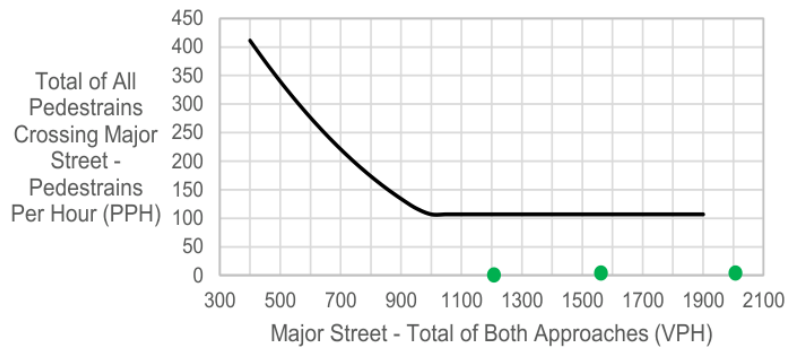
100% Satisfied No



WARRANT 4A, Four Hour Pedestrian Volume

	Both Aprchs. Major Street	Total of All Pedestrains Crossing Major Street
3:30 PM - 4:30 PM	2007	4
2:00 PM - 3:00 PM	1562	4
4:30 PM - 5:30 PM	2119	2
9:30 AM - 10:30 AM	1208	1

100% Satisfied No



WARRANT 4B, Peak Hour Pedestrian Volume

	Both Aprchs. Major Street	Total of All Pedestrains Crossing Major Street
2:00 PM - 3:00 PM	1562	4

100% Satisfied No

MUTCD Volume-based Warrant Evaluation
N 49th Ave & Ames Ave
Existing Conditions

Major Street: Ames Ave
 Approach Speed: 40 MPH
 Lanes Moving Traffic: 2 or more
 Option: Low speed, urban community

Minor Street: 49th Ave
 Right Turn Volume Included: 100% NB, 100% SB
 Lanes Moving Traffic: 1
 Date of Count: #####

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	Vehicles per hour 100% (80%)	4:30 PM to 5:30 PM	5:30 PM to 6:30 PM	3:30 PM to 4:30 PM	2:30 PM to 3:30 PM	12:30 PM to 1:30 PM	1:30 PM to 2:30 PM	7:30 AM to 8:30 AM	11:30 AM to 12:30 PM
Both Apprchs. Major Street	600 (480)	2123	1938	2087	1864	1557	1602	1454	1455
Higher Vol. Apprch. Minor Street	150 (120)	18	18	14	14	9	7	5	3

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	Vehicles per hour 100% (80%)	4:30 PM to 5:30 PM	5:30 PM to 6:30 PM	3:30 PM to 4:30 PM	2:30 PM to 3:30 PM	12:30 PM to 1:30 PM	1:30 PM to 2:30 PM	7:30 AM to 8:30 AM	11:30 AM to 12:30 PM
Both Apprchs. Major Street	900 (720)	2123	1938	2087	1864	1557	1602	1454	1455
Higher Vol. Apprch. Minor Street	75 (60)	18	18	14	14	9	7	5	3

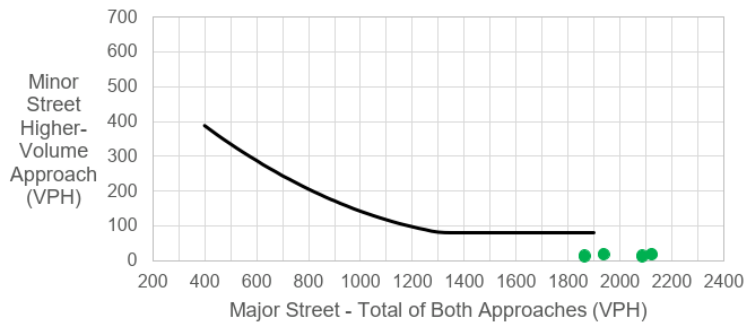
WARRANT 1, Combination of Conditions A and B

80% Satisfied No

WARRANT 2, Four Hour Vehicular Volume

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
4:30 PM - 5:30 PM	2123	18
5:30 PM - 6:30 PM	1938	18
3:30 PM - 4:30 PM	2087	14
2:30 PM - 3:30 PM	1864	14

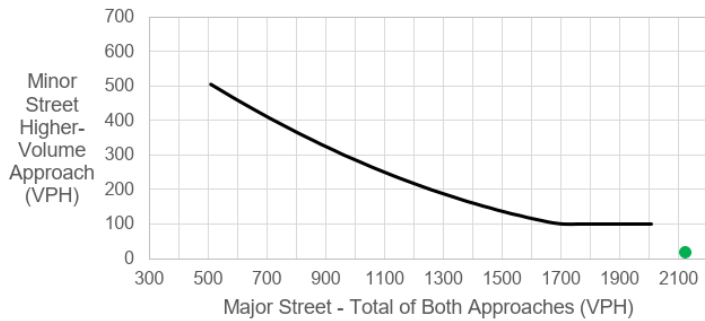
100% Satisfied No



WARRANT 3, Peak Hour

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
4:30 PM - 5:30 PM	2123	18

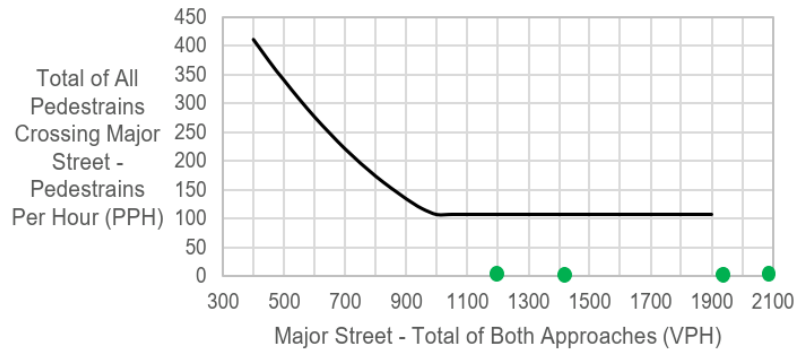
100% Satisfied No



WARRANT 4A, Four Hour Pedestrian Volume

	Both Aprchs. Major Street	Total of All Pedestrains Crossing Major Street
3:30 PM - 4:30 PM	2087	4
10:00 AM - 11:00 AM	1196	4
5:30 PM - 6:30 PM	1938	3
8:30 AM - 9:30 AM	1418	2

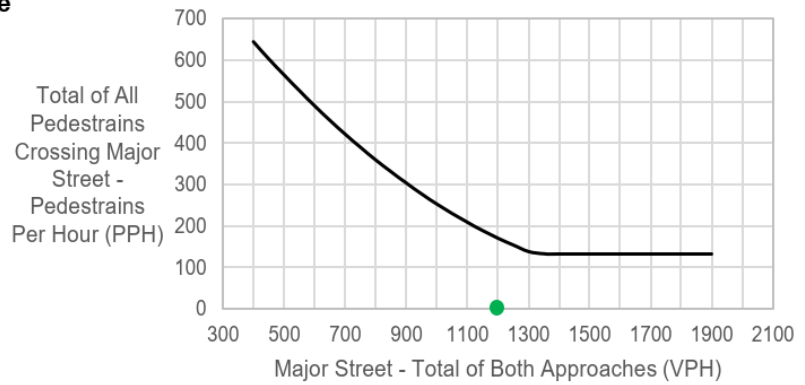
100% Satisfied No



WARRANT 4B, Peak Hour Pedestrian Volume

	Both Aprchs. Major Street	Total of All Pedestrains Crossing Major Street
10:00 AM - 11:00 AM	1196	4

100% Satisfied No



MUTCD Volume-based Warrant Evaluation
48th St & Ames Ave
Existing Conditions

Major Street: Ames Ave
 Approach Speed: 40 MPH
 Lanes Moving Traffic: 2 or more
 Option: Low speed, urban community

Minor Street: 48th St
 Right Turn Volume Included: 100% NB, 100% SB
 Lanes Moving Traffic: 1
 Date of Count: 5/17/2022

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	Vehicles per hour 100% (80%)	4:00 PM to 5:00 PM	3:00 PM to 4:00 PM	8:00 AM to 9:00 AM	5:00 PM to 6:00 PM	2:00 PM to 3:00 PM	7:00 AM to 8:00 AM	9:00 AM to 10:00 AM	10:00 AM to 11:00 AM
Both Apprchs. Major Street	600 (480)	1642	1613	1229	1621	1372	1152	1125	1188
Higher Vol. Apprch. Minor Street	150 (120)	143	123	84	82	76	76	60	57

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	Vehicles per hour 100% (80%)	4:00 PM to 5:00 PM	3:00 PM to 4:00 PM	8:00 AM to 9:00 AM	5:00 PM to 6:00 PM	2:00 PM to 3:00 PM	7:00 AM to 8:00 AM	9:00 AM to 10:00 AM	10:00 AM to 11:00 AM
Both Apprchs. Major Street	900 (720)	1642	1613	1229	1621	1372	1152	1125	1188
Higher Vol. Apprch. Minor Street	75 (60)	143	123	84	82	76	76	60	57

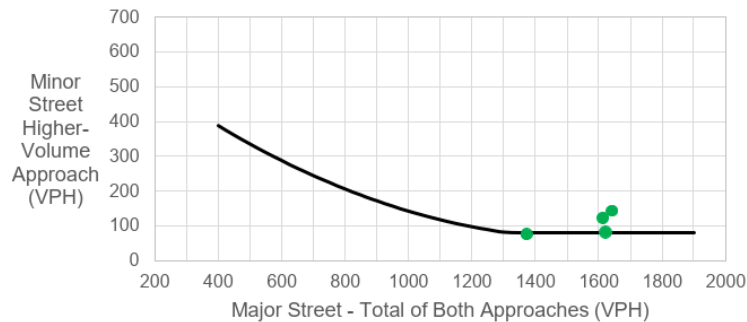
WARRANT 1, Combination of Conditions A and B

80% Satisfied No

WARRANT 2, Four Hour Vehicular Volume

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
4:00 PM - 5:00 PM	1642	143
3:00 PM - 4:00 PM	1613	123
5:00 PM - 6:00 PM	1621	82
2:00 PM - 3:00 PM	1372	76

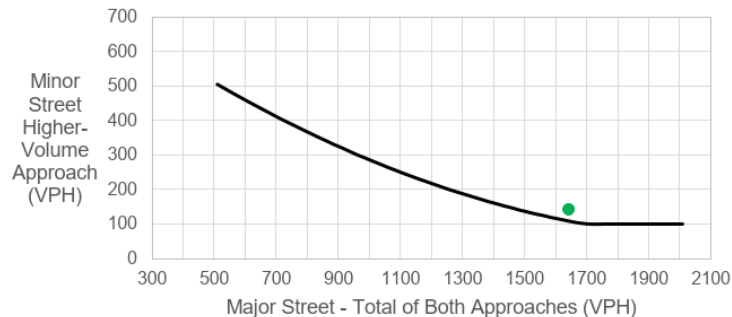
100% Satisfied No



WARRANT 3, Peak Hour

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
4:00 PM - 5:00 PM	1642	143

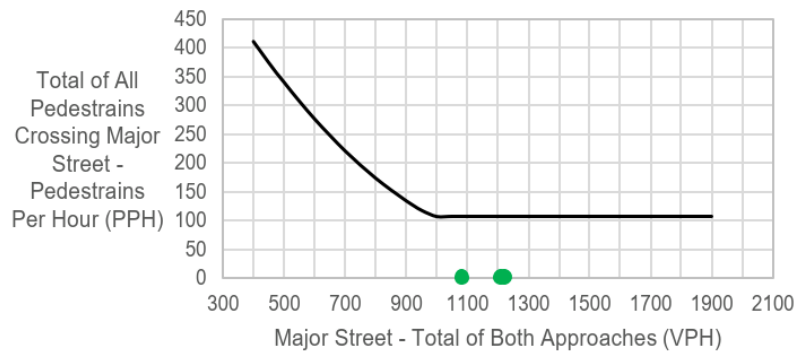
100% Satisfied Yes



WARRANT 4A, Four Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
7:30 AM - 8:30 AM	1221	2
8:45 AM - 9:45 AM	1209	1
9:30 AM - 10:30 AM	1082	1
12:30 AM - 1:30 AM	0	0

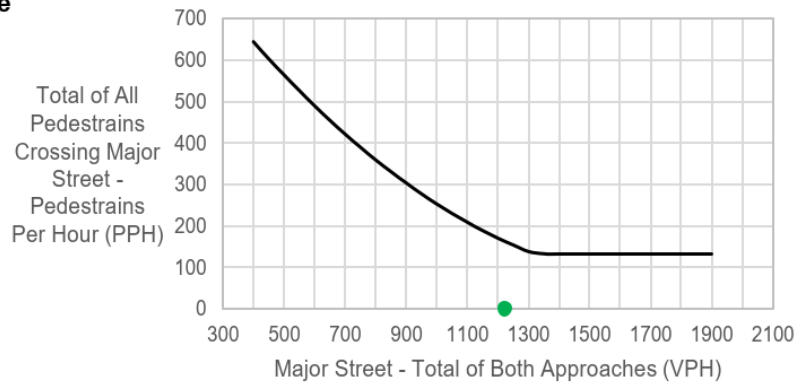
100% Satisfied No



WARRANT 4B, Peak Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
7:30 AM - 8:30 AM	1221	2

100% Satisfied No



MUTCD Volume-based Warrant Evaluation
N 42th St & Ames Ave
Existing Conditions

Major Street: Ames Ave
 Approach Speed: 30 MPH
 Lanes Moving Traffic: 2 or more
 Option: Low speed, urban community

Minor Street: 42nd St
 Right Turn Volume Included: 75% NB, 75% SB
 Lanes Moving Traffic: 2 or more
 Date of Count: 10/23/2024

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	Vehicles per hour 100% (80%)	4:15 PM to 5:15 PM	5:15 PM to 6:15 PM	3:00 PM to 4:00 PM	6:15 PM to 7:15 PM	8:15 AM to 9:15 AM	2:00 PM to 3:00 PM	12:45 PM to 1:45 PM	7:15 AM to 8:15 AM
Both Apprchs. Major Street	600 (480)	1661	1483	1591	1320	1134	1269	1185	1232
Higher Vol. Apprch. Minor Street	200 (160)	271	245	240	207	178	173	162	151

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied Yes

	Vehicles per hour 100% (80%)	4:15 PM to 5:15 PM	5:15 PM to 6:15 PM	3:00 PM to 4:00 PM	6:15 PM to 7:15 PM	8:15 AM to 9:15 AM	2:00 PM to 3:00 PM	12:45 PM to 1:45 PM	7:15 AM to 8:15 AM
Both Apprchs. Major Street	900 (720)	1661	1483	1591	1320	1134	1269	1185	1232
Higher Vol. Apprch. Minor Street	100 (80)	271	245	240	207	178	173	162	151

WARRANT 1, Combination of Conditions A and B

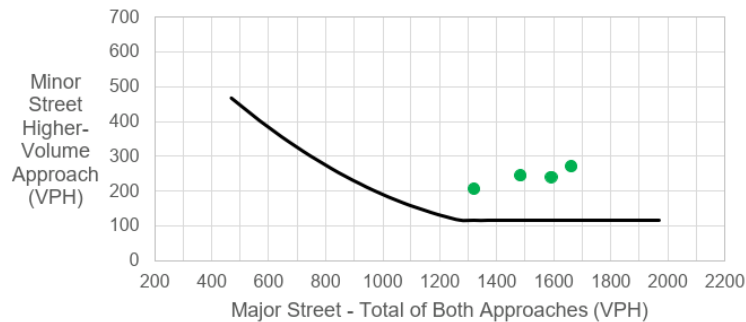
Not necessary, Condition B is satisfied.

80% Satisfied N/A

WARRANT 2, Four Hour Vehicular Volume

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
4:15 PM - 5:15 PM	1661	271
5:15 PM - 6:15 PM	1483	245
3:00 PM - 4:00 PM	1591	240
6:15 PM - 7:15 PM	1320	207

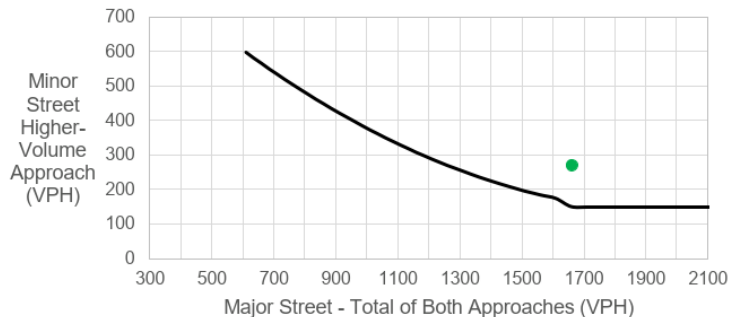
100% Satisfied Yes



WARRANT 3, Peak Hour

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
4:15 PM - 5:15 PM	1661	271

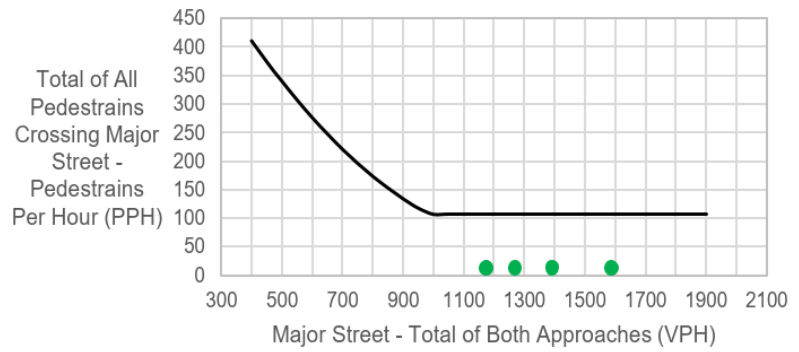
100% Satisfied Yes



WARRANT 4A, Four Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
6:00 PM - 7:00 PM	1391	14
3:15 PM - 4:15 PM	1586	13
2:00 PM - 3:00 PM	1269	13
7:30 AM - 8:30 AM	1174	12

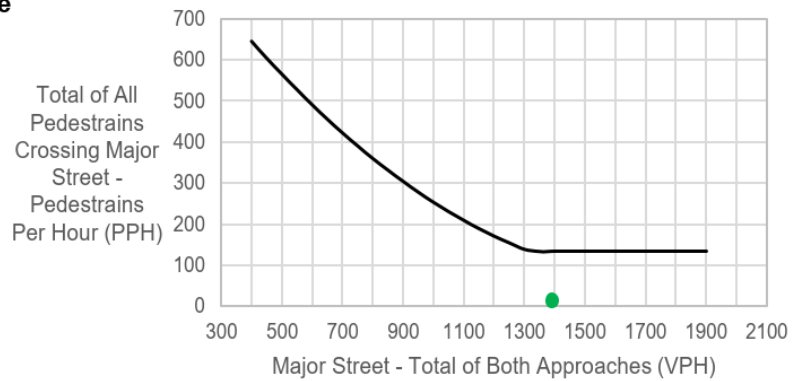
100% Satisfied	No
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WARRANT 4B, Peak Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
6:00 PM - 7:00 PM	1391	14

100% Satisfied	No
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MUTCD Volume-based Warrant Evaluation
N 40th St & Ames Ave
Existing Conditions

Major Street: Ames Ave
 Approach Speed: 30 MPH
 Lanes Moving Traffic: 2 or more
 Option: Low speed, urban community

Minor Street: 40th St
 Right Turn Volume Included: 100% NB, 100% SB
 Lanes Moving Traffic: 1
 Date of Count: 11/6/2024

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	Vehicles per hour 100% (80%)	3:00 PM to 4:00 PM	4:00 PM to 5:00 PM	7:00 AM to 8:00 AM	2:00 PM to 3:00 PM	12:00 PM to 1:00 PM	11:00 AM to 12:00 PM	8:00 AM to 9:00 AM	1:00 PM to 2:00 PM
Both Apprchs. Major Street	600 (480)	1491	1495	1142	1268	1058	1022	969	1241
Higher Vol. Apprch. Minor Street	150 (120)	69	63	58	50	48	40	31	28

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	Vehicles per hour 100% (80%)	3:00 PM to 4:00 PM	4:00 PM to 5:00 PM	7:00 AM to 8:00 AM	2:00 PM to 3:00 PM	12:00 PM to 1:00 PM	11:00 AM to 12:00 PM	8:00 AM to 9:00 AM	1:00 PM to 2:00 PM
Both Apprchs. Major Street	900 (720)	1491	1495	1142	1268	1058	1022	969	1241
Higher Vol. Apprch. Minor Street	75 (60)	69	63	58	50	48	40	31	28

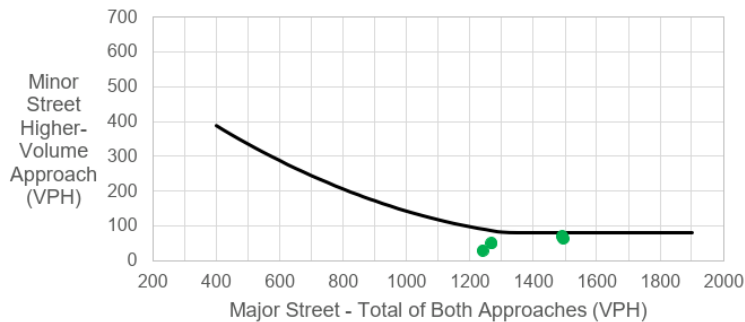
WARRANT 1, Combination of Conditions A and B

80% Satisfied No

WARRANT 2, Four Hour Vehicular Volume

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
3:00 PM - 4:00 PM	1491	69
4:00 PM - 5:00 PM	1495	63
2:00 PM - 3:00 PM	1268	50
1:00 PM - 2:00 PM	1241	28

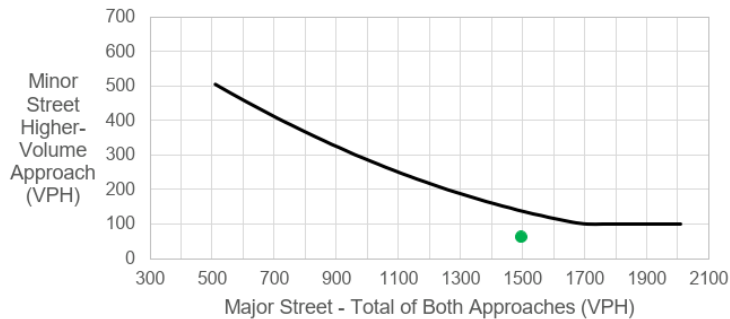
100% Satisfied No



WARRANT 3, Peak Hour

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
4:00 PM - 5:00 PM	1495	63

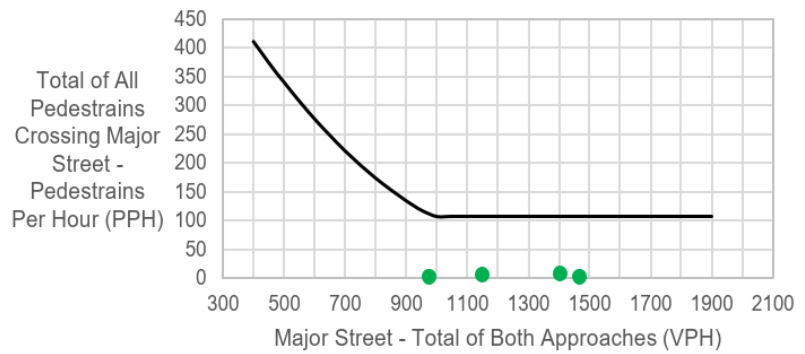
100% Satisfied No



WARRANT 4A, Four Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
2:30 PM - 3:30 PM	1403	8
12:45 PM - 1:45 PM	1149	6
3:30 PM - 4:30 PM	1467	3
10:30 AM - 11:30 AM	975	3

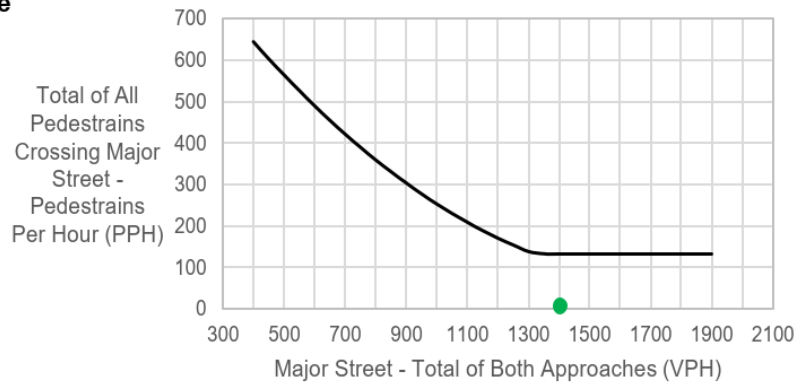
100% Satisfied No



WARRANT 4B, Peak Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
2:30 PM - 3:30 PM	1403	8

100% Satisfied No



MUTCD Volume-based Warrant Evaluation
N 37th St & Ames Ave
Existing Conditions

Major Street: Ames Ave
Approach Speed: 30 MPH
Lanes Moving Traffic: 2 or more
Option: Low speed, urban community

Minor Street: 37th St
Right Turn Volume Included: 100% NB, 100% SB
Lanes Moving Traffic: 1
Date of Count: 10/23/2024

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	Vehicles per hour 100% (80%)	7:00 AM to 8:00 AM	2:45 PM to 3:45 PM	12:15 PM to 1:15 PM	8:30 AM to 9:30 AM	3:45 PM to 4:45 PM	4:45 PM to 5:45 PM	1:45 PM to 2:45 PM	11:15 AM to 12:15 PM
Both Apprchs. Major Street	600 (480)	1305	1494	1122	1112	1423	1509	1167	987
Higher Vol. Apprch. Minor Street	150 (120)	8	6	6	6	5	4	3	3

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	Vehicles per hour 100% (80%)	7:00 AM to 8:00 AM	2:45 PM to 3:45 PM	12:15 PM to 1:15 PM	8:30 AM to 9:30 AM	3:45 PM to 4:45 PM	4:45 PM to 5:45 PM	1:45 PM to 2:45 PM	11:15 AM to 12:15 PM
Both Apprchs. Major Street	900 (720)	1305	1494	1122	1112	1423	1509	1167	987
Higher Vol. Apprch. Minor Street	75 (60)	8	6	6	6	5	4	3	3

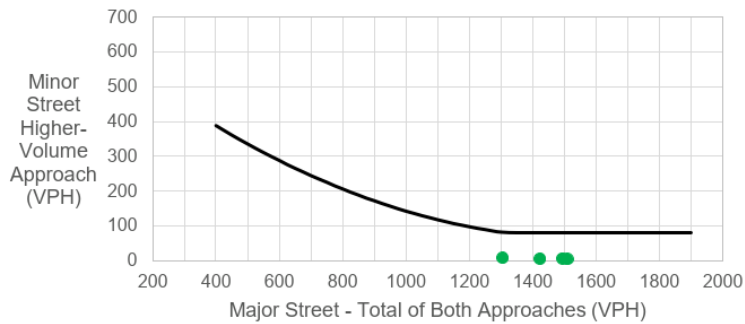
WARRANT 1, Combination of Conditions A and B

80% Satisfied No

WARRANT 2, Four Hour Vehicular Volume

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
7:00 AM - 8:00 AM	1305	8
2:45 PM - 3:45 PM	1494	6
3:45 PM - 4:45 PM	1423	5
4:45 PM - 5:45 PM	1509	4

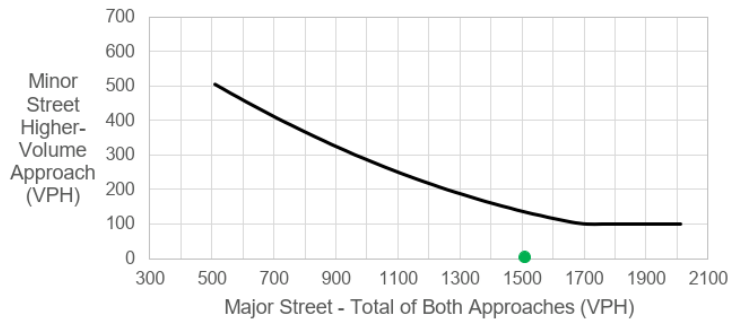
100% Satisfied No



WARRANT 3, Peak Hour

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
4:45 PM - 5:45 PM	1509	4

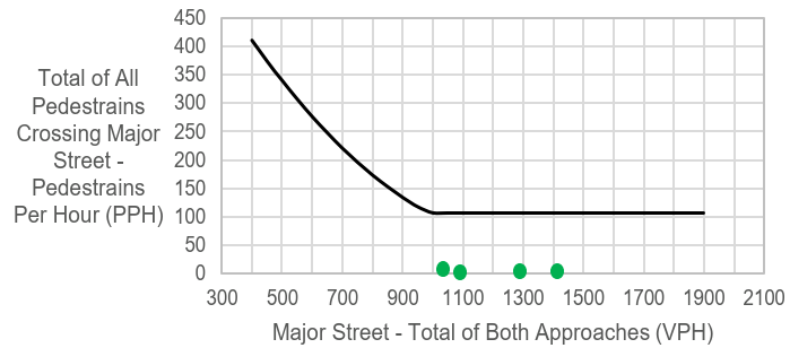
100% Satisfied No



WARRANT 4A, Four Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
6:30 AM - 7:30 AM	1034	7
2:30 PM - 3:30 PM	1413	4
7:15 AM - 8:15 AM	1289	4
7:45 AM - 8:45 AM	1091	2

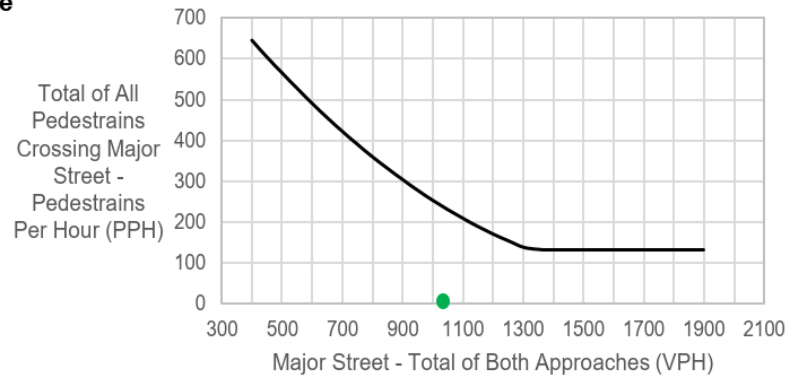
100% Satisfied No



WARRANT 4B, Peak Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
6:30 AM - 7:30 AM	1034	7

100% Satisfied No



MUTCD Volume-based Warrant Evaluation
N 36th Ave & Ames Ave
Existing Conditions

Major Street: Ames Ave
 Approach Speed: 30 MPH
 Lanes Moving Traffic: 2 or more
 Option: Low speed, urban community

Minor Street: 36th Ave
 Right Turn Volume Included: 100% NB, 100% SB
 Lanes Moving Traffic: 1
 Date of Count: 11/12/2024

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	Vehicles per hour 100% (80%)	3:00 PM to 4:00 PM	8:15 AM to 9:15 AM	7:00 AM to 8:00 AM	4:00 PM to 5:00 PM	12:00 PM to 1:00 PM	5:00 PM to 6:00 PM	2:00 PM to 3:00 PM	1:00 PM to 2:00 PM
Both Apprchs. Major Street	600 (480)	1492	1120	1283	1498	1038	1463	1204	1127
Higher Vol. Apprch. Minor Street	150 (120)	18	12	11	10	10	9	8	8

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	Vehicles per hour 100% (80%)	3:00 PM to 4:00 PM	8:15 AM to 9:15 AM	7:00 AM to 8:00 AM	4:00 PM to 5:00 PM	12:00 PM to 1:00 PM	5:00 PM to 6:00 PM	2:00 PM to 3:00 PM	1:00 PM to 2:00 PM
Both Apprchs. Major Street	900 (720)	1492	1120	1283	1498	1038	1463	1204	1127
Higher Vol. Apprch. Minor Street	75 (60)	18	12	11	10	10	9	8	8

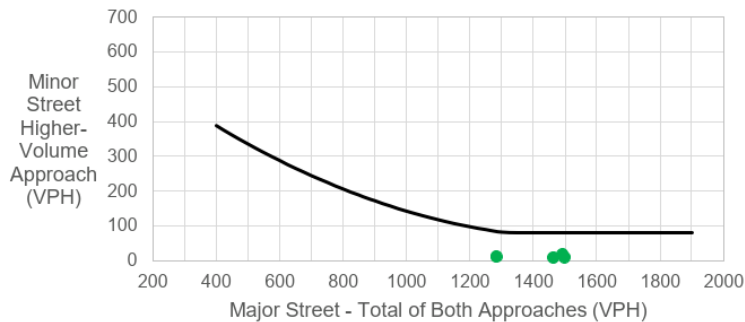
WARRANT 1, Combination of Conditions A and B

80% Satisfied No

WARRANT 2, Four Hour Vehicular Volume

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
3:00 PM - 4:00 PM	1492	18
7:00 AM - 8:00 AM	1283	11
4:00 PM - 5:00 PM	1498	10
5:00 PM - 6:00 PM	1463	9

100% Satisfied No



WARRANT 3, Peak Hour

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
4:00 PM - 5:00 PM	1498	10

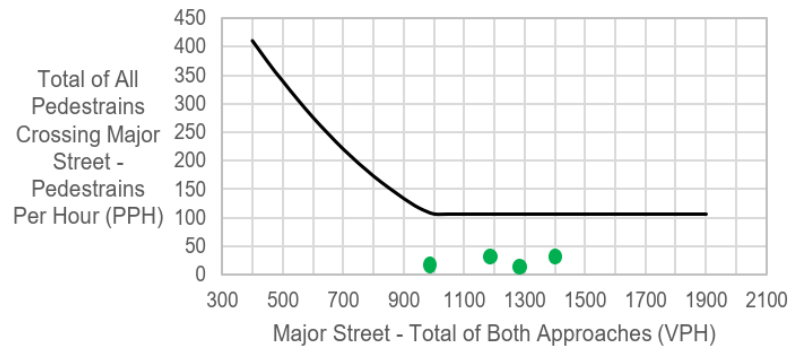
100% Satisfied No



WARRANT 4A, Four Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
2:30 PM - 3:30 PM	1401	32
1:45 PM - 2:45 PM	1186	32
6:30 AM - 7:30 AM	987	17
7:00 AM - 8:00 AM	1283	14

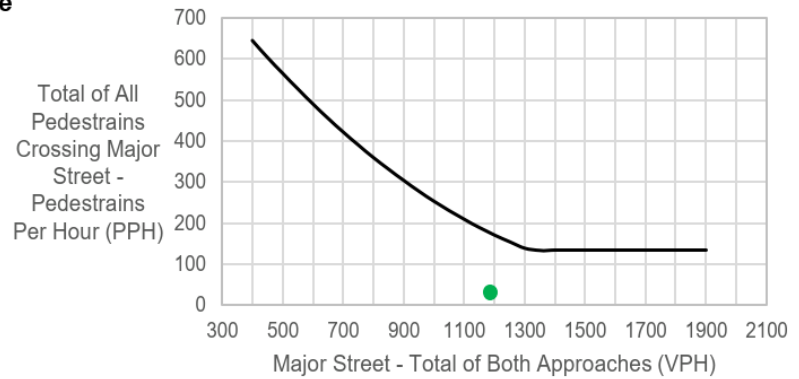
100% Satisfied No



WARRANT 4B, Peak Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
1:45 PM - 2:45 PM	1186	32

100% Satisfied No



MUTCD Volume-based Warrant Evaluation
36th St & Ames Ave
Existing Conditions

Major Street: Ames Ave
 Approach Speed: 30 MPH
 Lanes Moving Traffic: 2 or more
 Option: Low speed, urban community

Minor Street: 36th St
 Right Turn Volume Included: 75% NB, 100% SB
 Lanes Moving Traffic: 2 or more
 Date of Count: 5/9/2022

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	Vehicles per hour 100% (80%)	3:00 PM to 4:00 PM	7:00 AM to 8:00 AM	4:00 PM to 5:00 PM	5:00 PM to 6:00 PM	8:15 AM to 9:15 AM	9:15 AM to 10:15 AM	2:00 PM to 3:00 PM	10:15 AM to 11:15 AM
Both Apprchs. Major Street	600 (480)	1506	934	1551	1437	749	942	1203	595
Higher Vol. Apprch. Minor Street	200 (160)	239	232	72	62	48	46	37	19

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	Vehicles per hour 100% (80%)	3:00 PM to 4:00 PM	7:00 AM to 8:00 AM	4:00 PM to 5:00 PM	5:00 PM to 6:00 PM	8:15 AM to 9:15 AM	9:15 AM to 10:15 AM	2:00 PM to 3:00 PM	10:15 AM to 11:15 AM
Both Apprchs. Major Street	900 (720)	1506	934	1551	1437	749	942	1203	595
Higher Vol. Apprch. Minor Street	100 (80)	239	232	72	62	48	46	37	19

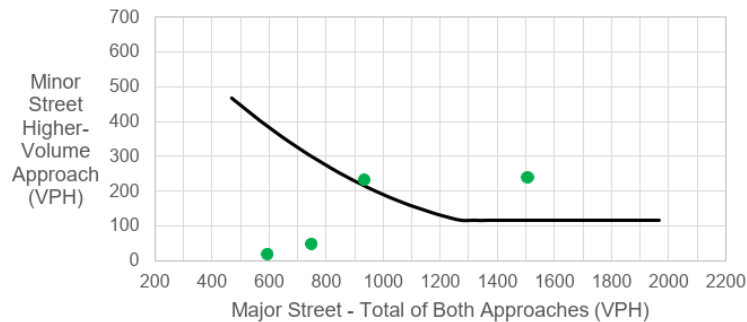
WARRANT 1, Combination of Conditions A and B

80% Satisfied No

WARRANT 2, Four Hour Vehicular Volume

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
3:00 PM - 4:00 PM	1506	239
7:00 AM - 8:00 AM	934	232
8:15 AM - 9:15 AM	749	48
10:15 AM - 11:15 AM	595	19

100% Satisfied No



WARRANT 3, Peak Hour

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
3:00 PM - 4:00 PM	1506	239

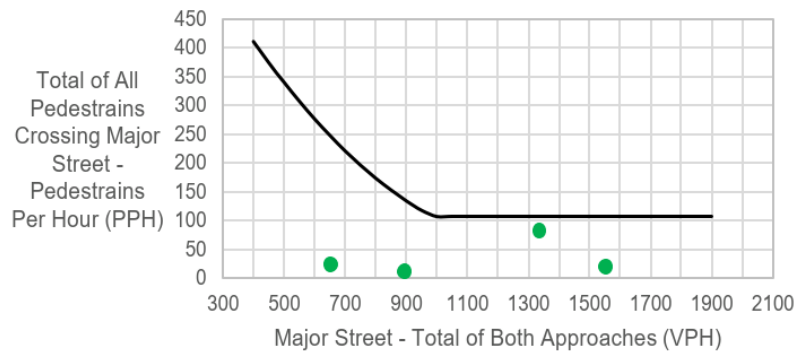
100% Satisfied Yes



WARRANT 4A, Four Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
2:30 PM - 3:30 PM	1335	82
6:45 AM - 7:45 AM	652	24
3:15 PM - 4:15 PM	1553	20
7:15 AM - 8:15 AM	895	11

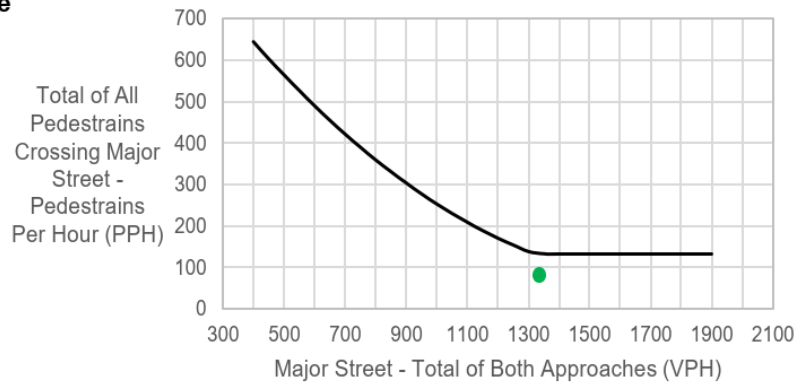
100% Satisfied No



WARRANT 4B, Peak Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
2:30 PM - 3:30 PM	1335	82

100% Satisfied No



MUTCD Volume-based Warrant Evaluation
N 34th Ave & Ames Ave
Existing Conditions

Major Street: Ames Ave
Approach Speed: 30 MPH
Lanes Moving Traffic: 2 or more
Option: Low speed, urban community

Minor Street: 34th Ave
Right Turn Volume Included: 100% NB, 100% SB
Lanes Moving Traffic: 1
Date of Count: 10/23/2024

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied
No

	Vehicles per hour 100% (80%)	3:30 PM to 4:30 PM	4:30 PM to 5:30 PM	8:30 AM to 9:30 AM	2:30 PM to 3:30 PM	5:30 PM to 6:30 PM	7:15 AM to 8:15 AM	12:15 PM to 1:15 PM	1:30 PM to 2:30 PM
Both Apprchs. Major Street	600 (480)	1477	1504	1173	1444	1320	1242	1156	1157
Higher Vol. Apprch. Minor Street	150 (120)	53	43	35	27	24	24	24	17

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied
No

	Vehicles per hour 100% (80%)	3:30 PM to 4:30 PM	4:30 PM to 5:30 PM	8:30 AM to 9:30 AM	2:30 PM to 3:30 PM	5:30 PM to 6:30 PM	7:15 AM to 8:15 AM	12:15 PM to 1:15 PM	1:30 PM to 2:30 PM
Both Apprchs. Major Street	900 (720)	1477	1504	1173	1444	1320	1242	1156	1157
Higher Vol. Apprch. Minor Street	75 (60)	53	43	35	27	24	24	24	17

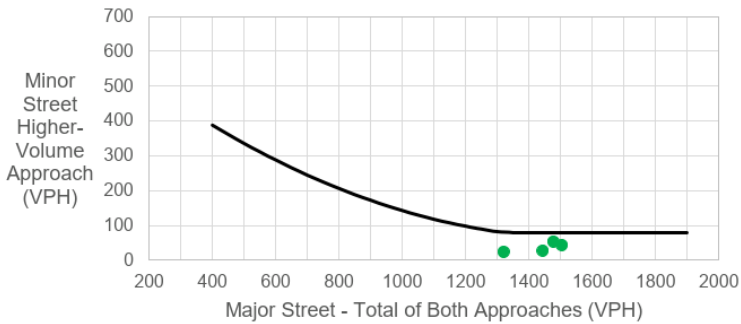
WARRANT 1, Combination of Conditions A and B

80% Satisfied
No

WARRANT 2, Four Hour Vehicular Volume

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
3:30 PM - 4:30 PM	1477	53
4:30 PM - 5:30 PM	1504	43
2:30 PM - 3:30 PM	1444	27
5:30 PM - 6:30 PM	1320	24

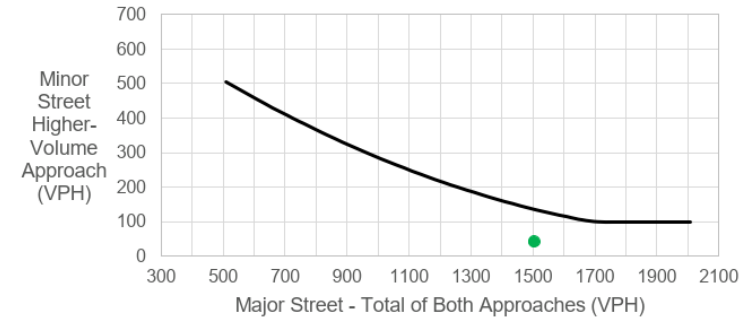
100% Satisfied
No



WARRANT 3, Peak Hour

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
4:30 PM - 5:30 PM	1504	43

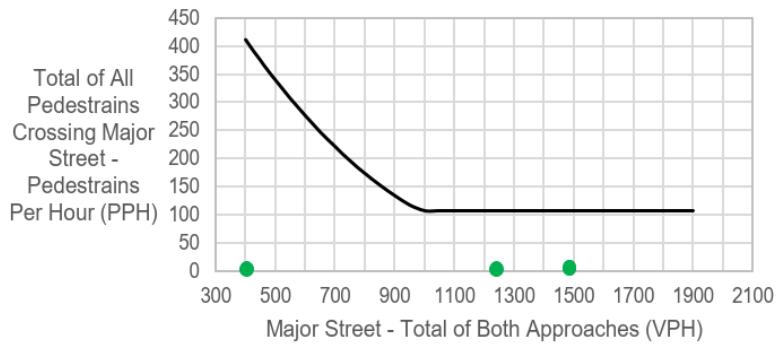
100% Satisfied
No



WARRANT 4A, Four Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
4:00 PM - 5:00 PM	1487	5
4:45 PM - 5:45 PM	1485	5
7:15 AM - 8:15 AM	1242	3
6:00 AM - 7:00 AM	404	3

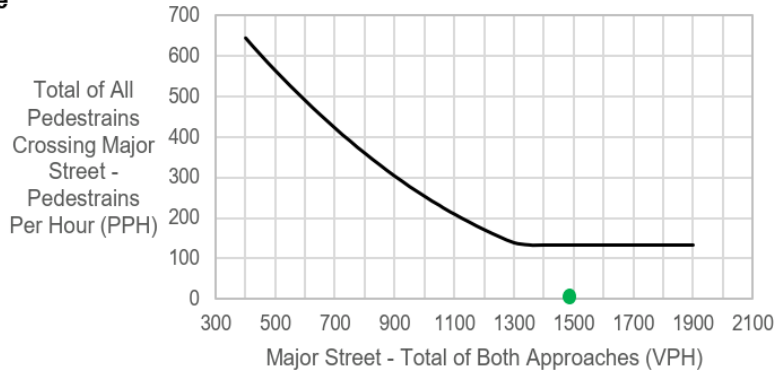
100% Satisfied	No
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WARRANT 4B, Peak Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
4:00 PM - 5:00 PM	1487	5

100% Satisfied	No
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MUTCD Volume-based Warrant Evaluation
N 33rd St & Ames Ave
Existing Conditions

Major Street: Ames Ave
 Approach Speed: 30 MPH
 Lanes Moving Traffic: 2 or more
 Option: Low speed, urban community

Minor Street: 33rd Ave
 Right Turn Volume Included: 100% NB, 100% SB
 Lanes Moving Traffic: 1
 Date of Count: 11/6/2024

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	Vehicles per hour 100% (80%)	8:00 AM to 9:00 AM	4:00 PM to 5:00 PM	3:00 PM to 4:00 PM	5:00 PM to 6:00 PM	7:00 AM to 8:00 AM	2:00 PM to 3:00 PM	12:00 PM to 1:00 PM	1:00 PM to 2:00 PM
Both Apprchs. Major Street	600 (480)	1192	1571	1573	1437	1324	1166	1018	1080
Higher Vol. Apprch. Minor Street	150 (120)	52	38	37	35	29	27	23	18

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	Vehicles per hour 100% (80%)	8:00 AM to 9:00 AM	4:00 PM to 5:00 PM	3:00 PM to 4:00 PM	5:00 PM to 6:00 PM	7:00 AM to 8:00 AM	2:00 PM to 3:00 PM	12:00 PM to 1:00 PM	1:00 PM to 2:00 PM
Both Apprchs. Major Street	900 (720)	1192	1571	1573	1437	1324	1166	1018	1080
Higher Vol. Apprch. Minor Street	75 (60)	52	38	37	35	29	27	23	18

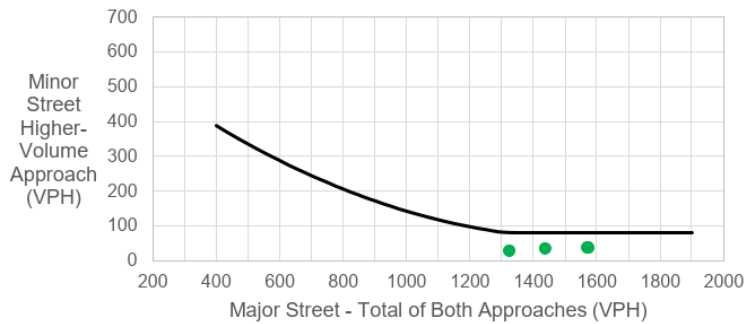
WARRANT 1, Combination of Conditions A and B

80% Satisfied No

WARRANT 2, Four Hour Vehicular Volume

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
4:00 PM - 5:00 PM	1571	38
3:00 PM - 4:00 PM	1573	37
5:00 PM - 6:00 PM	1437	35
7:00 AM - 8:00 AM	1324	29

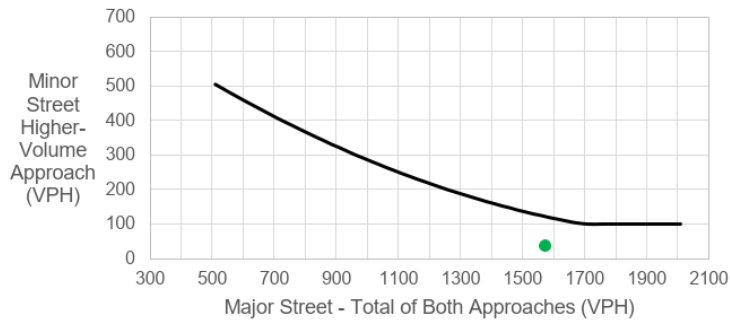
100% Satisfied No



WARRANT 3, Peak Hour

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
3:00 PM - 4:00 PM	1573	37

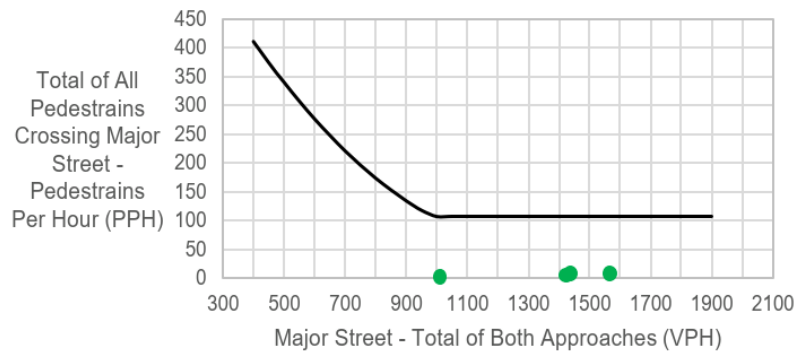
100% Satisfied No



WARRANT 4A, Four Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
4:15 PM - 5:15 PM	1566	8
5:00 PM - 6:00 PM	1437	8
2:30 PM - 3:30 PM	1424	5
11:45 AM - 12:45 PM	1011	2

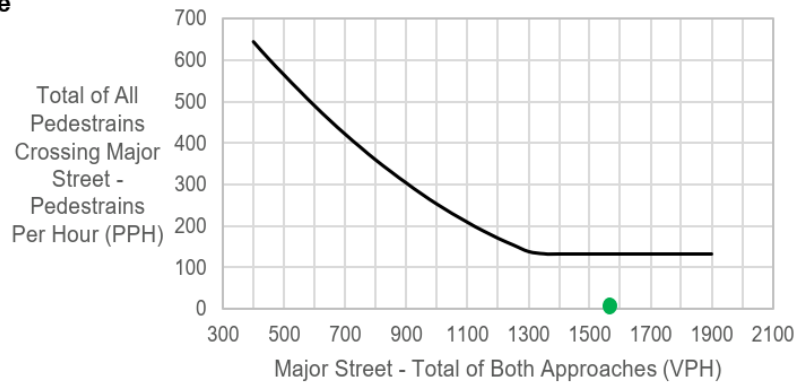
100% Satisfied No



WARRANT 4B, Peak Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
4:15 PM - 5:15 PM	1566	8

100% Satisfied No



MUTCD Volume-based Warrant Evaluation
31st Ave & Ames Ave
Existing Conditions

Major Street: Ames Ave
 Approach Speed: 30 MPH
 Lanes Moving Traffic: 2 or more
 Option: Low speed, urban community

Minor Street: 31st Ave
 Right Turn Volume Included: 50% NB, 100% SB
 Lanes Moving Traffic: 2 or more
 Date of Count: 3/30/2022

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	Vehicles per hour 100% (80%)	4:00 PM to 5:00 PM	3:00 PM to 4:00 PM	5:00 PM to 6:00 PM	8:00 AM to 9:00 AM	2:00 PM to 3:00 PM	9:00 AM to 10:00 AM	10:00 AM to 11:00 AM	7:00 AM to 8:00 AM
Both Apprchs. Major Street	600 (480)	1358	1396	1283	967	1160	910	794	1037
Higher Vol. Apprch. Minor Street	200 (160)	191	151	140	126	116	109	85	72

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	Vehicles per hour 100% (80%)	4:00 PM to 5:00 PM	3:00 PM to 4:00 PM	5:00 PM to 6:00 PM	8:00 AM to 9:00 AM	2:00 PM to 3:00 PM	9:00 AM to 10:00 AM	10:00 AM to 11:00 AM	7:00 AM to 8:00 AM
Both Apprchs. Major Street	900 (720)	1358	1396	1283	967	1160	910	794	1037
Higher Vol. Apprch. Minor Street	100 (80)	191	151	140	126	116	109	85	72

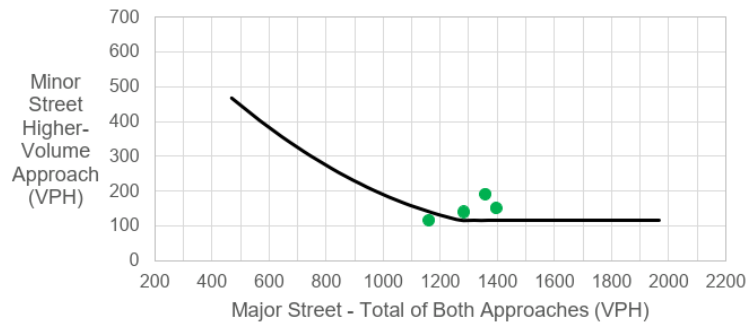
WARRANT 1, Combination of Conditions A and B

80% Satisfied No

WARRANT 2, Four Hour Vehicular Volume

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
4:00 PM - 5:00 PM	1358	191
3:00 PM - 4:00 PM	1396	151
5:00 PM - 6:00 PM	1283	140
2:00 PM - 3:00 PM	1160	116

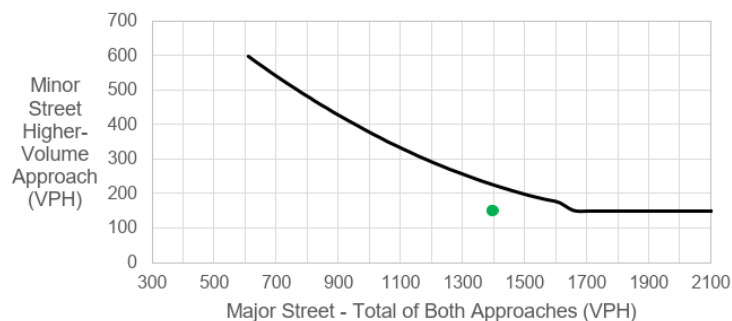
100% Satisfied No



WARRANT 3, Peak Hour

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
3:00 PM - 4:00 PM	1396	151

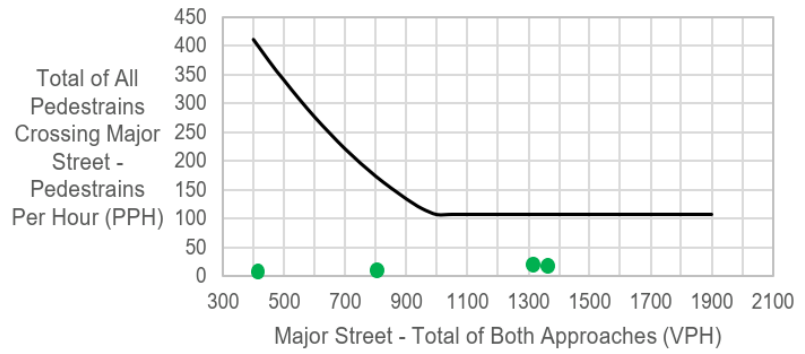
100% Satisfied No



WARRANT 4A, Four Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
4:30 PM - 5:30 PM	1316	20
2:45 PM - 3:45 PM	1364	17
9:30 AM - 10:30 AM	804	10
6:30 AM - 7:30 AM	415	7

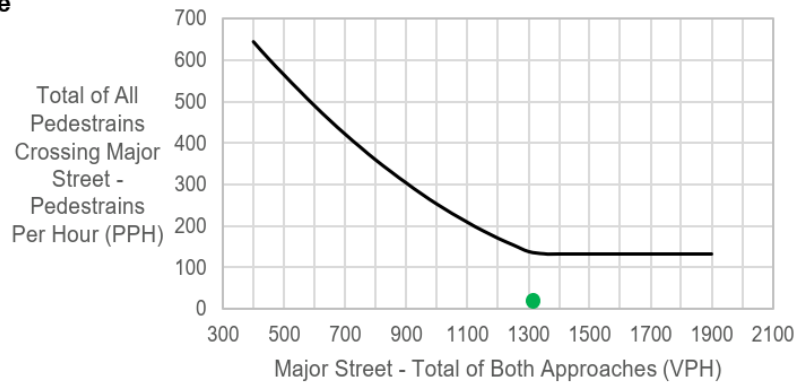
100% Satisfied No



WARRANT 4B, Peak Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
4:30 PM - 5:30 PM	1316	20

100% Satisfied No



MUTCD Volume-based Warrant Evaluation
30th St & Ames Ave
Existing Conditions

Major Street: Ames Ave
 Approach Speed: 30 MPH
 Lanes Moving Traffic: 2 or more
 Option: Low speed, urban community

Minor Street: 30th St
 Right Turn Volume Included: 75% NB, 75% SB
 Lanes Moving Traffic: 2 or more
 Date of Count: 9/7/2023

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied Yes

	Vehicles per hour 100% (80%)	4:30 PM to 5:30 PM	3:30 PM to 4:30 PM	7:15 AM to 8:15 AM	2:30 PM to 3:30 PM	8:15 AM to 9:15 AM	9:15 AM to 10:15 AM	10:15 AM to 11:15 AM	5:30 PM to 6:30 PM
Both Apprchs. Major Street	600 (480)	1622	1594	1304	1246	1150	996	639	775
Higher Vol. Apprch. Minor Street	200 (160)	521	481	429	405	380	337	227	225

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	Vehicles per hour 100% (80%)	4:30 PM to 5:30 PM	3:30 PM to 4:30 PM	7:15 AM to 8:15 AM	2:30 PM to 3:30 PM	8:15 AM to 9:15 AM	9:15 AM to 10:15 AM	10:15 AM to 11:15 AM	5:30 PM to 6:30 PM
Both Apprchs. Major Street	900 (720)	1622	1594	1304	1246	1150	996	639	775
Higher Vol. Apprch. Minor Street	100 (80)	521	481	429	405	380	337	227	225

WARRANT 1, Combination of Conditions A and B

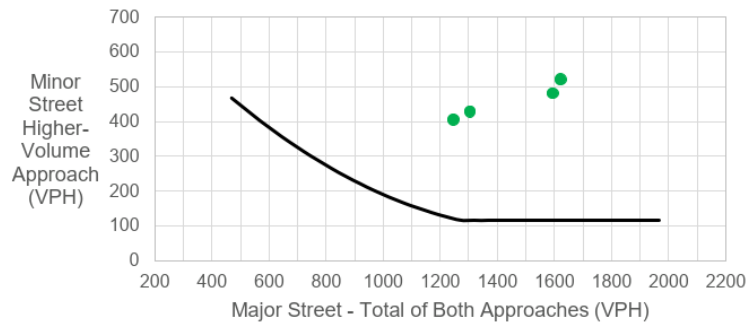
Not necessary, Condition A is satisfied.

80% Satisfied N/A

WARRANT 2, Four Hour Vehicular Volume

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
4:30 PM - 5:30 PM	1622	521
3:30 PM - 4:30 PM	1594	481
7:15 AM - 8:15 AM	1304	429
2:30 PM - 3:30 PM	1246	405

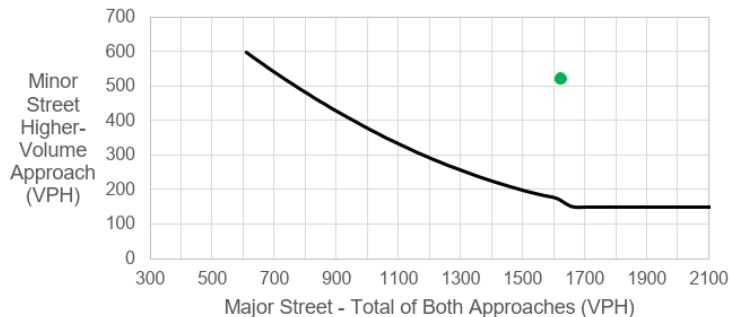
100% Satisfied Yes



WARRANT 3, Peak Hour

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
4:30 PM - 5:30 PM	1622	521

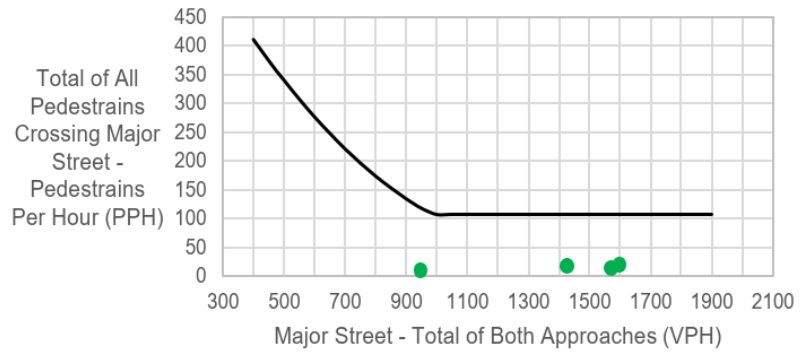
100% Satisfied Yes



WARRANT 4A, Four Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
4:15 PM - 5:15 PM	1598	20
2:45 PM - 3:45 PM	1426	17
4:45 PM - 5:45 PM	1571	14
9:30 AM - 10:30 AM	946	10

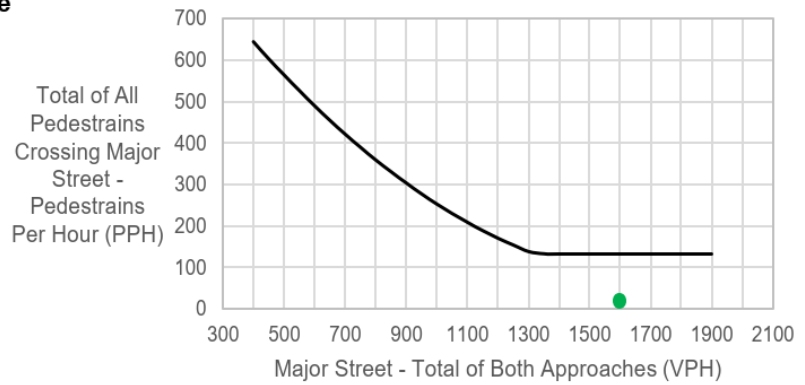
100% Satisfied No



WARRANT 4B, Peak Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
4:15 PM - 5:15 PM	1598	20

100% Satisfied No



MUTCD Volume-based Warrant Evaluation
N 28th St & Ames Ave
Existing Conditions

Major Street: Ames Ave
 Approach Speed: 30 MPH
 Lanes Moving Traffic: 2 or more
 Option: Low speed, urban community

Minor Street: 28th St
 Right Turn Volume Included: 100% NB, 100% SB
 Lanes Moving Traffic: 1
 Date of Count: 11/6/2024

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	Vehicles per hour 100% (80%)	4:00 PM to 5:00 PM	7:00 AM to 8:00 AM	8:00 AM to 9:00 AM	1:00 PM to 2:00 PM	3:00 PM to 4:00 PM	11:15 AM to 12:15 PM	5:00 PM to 6:00 PM	2:00 PM to 3:00 PM
Both Apprchs. Major Street	600 (480)	1446	1215	1070	1033	1418	946	1333	1114
Higher Vol. Apprch. Minor Street	150 (120)	20	20	14	14	13	12	10	9

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	Vehicles per hour 100% (80%)	4:00 PM to 5:00 PM	7:00 AM to 8:00 AM	8:00 AM to 9:00 AM	1:00 PM to 2:00 PM	3:00 PM to 4:00 PM	11:15 AM to 12:15 PM	5:00 PM to 6:00 PM	2:00 PM to 3:00 PM
Both Apprchs. Major Street	900 (720)	1446	1215	1070	1033	1418	946	1333	1114
Higher Vol. Apprch. Minor Street	75 (60)	20	20	14	14	13	12	10	9

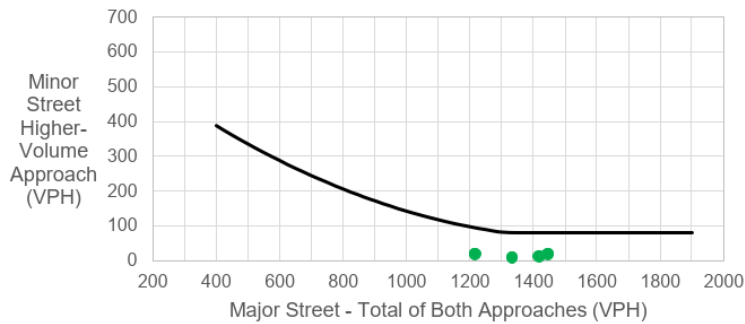
WARRANT 1, Combination of Conditions A and B

80% Satisfied No

WARRANT 2, Four Hour Vehicular Volume

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
4:00 PM - 5:00 PM	1446	20
7:00 AM - 8:00 AM	1215	20
3:00 PM - 4:00 PM	1418	13
5:00 PM - 6:00 PM	1333	10

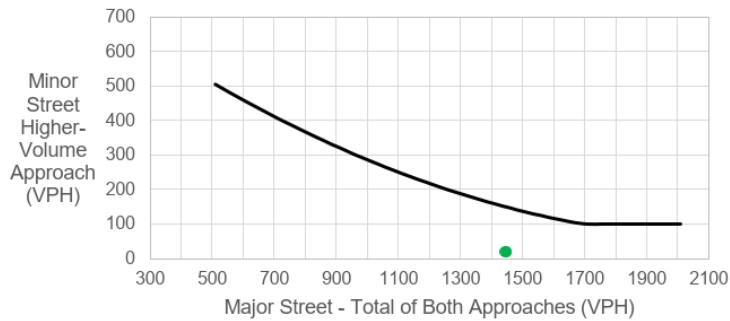
100% Satisfied No



WARRANT 3, Peak Hour

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
4:00 PM - 5:00 PM	1446	20

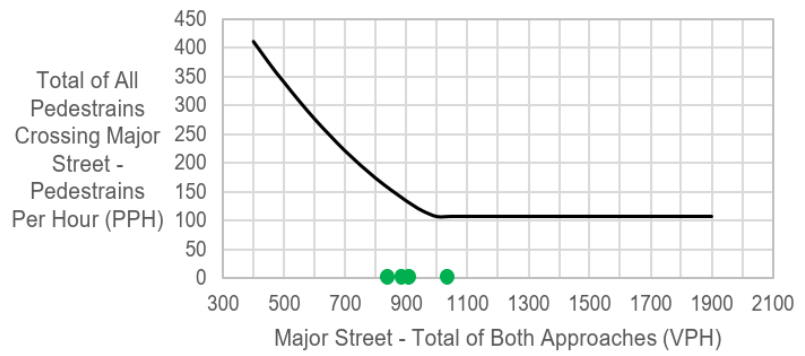
100% Satisfied No



WARRANT 4A, Four Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
1:00 PM - 2:00 PM	1033	3
12:30 PM - 1:30 PM	908	3
9:00 AM - 10:00 AM	884	3
9:45 AM - 10:45 AM	838	2

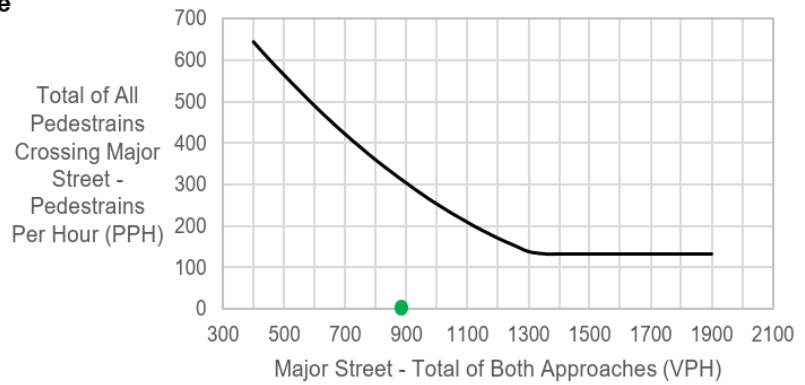
100% Satisfied No



WARRANT 4B, Peak Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
9:00 AM - 10:00 AM	884	3

100% Satisfied No



MUTCD Volume-based Warrant Evaluation
N 26th St & Ames Ave
Existing Conditions

Major Street: Ames Ave
Approach Speed: 30 MPH
Lanes Moving Traffic: 2 or more
Option: Low speed, urban community

Minor Street: 26th St
Right Turn Volume Included: 100% NB, 100% SB
Lanes Moving Traffic: 1
Date of Count: 11/12/2024

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied
No

	Vehicles per hour 100% (80%)	2:45 PM to 3:45 PM	4:45 PM to 5:45 PM	1:45 PM to 2:45 PM	3:45 PM to 4:45 PM	7:15 AM to 8:15 AM	8:15 AM to 9:15 AM	12:15 PM to 1:15 PM	11:00 AM to 12:00 PM
Both Apprchs. Major Street	600 (480)	826	804	664	887	692	593	628	605
Higher Vol. Apprch. Minor Street	150 (120)	38	29	28	27	22	22	19	15

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied
No

	Vehicles per hour 100% (80%)	2:45 PM to 3:45 PM	4:45 PM to 5:45 PM	1:45 PM to 2:45 PM	3:45 PM to 4:45 PM	7:15 AM to 8:15 AM	8:15 AM to 9:15 AM	12:15 PM to 1:15 PM	11:00 AM to 12:00 PM
Both Apprchs. Major Street	900 (720)	826	804	664	887	692	593	628	605
Higher Vol. Apprch. Minor Street	75 (60)	38	29	28	27	22	22	19	15

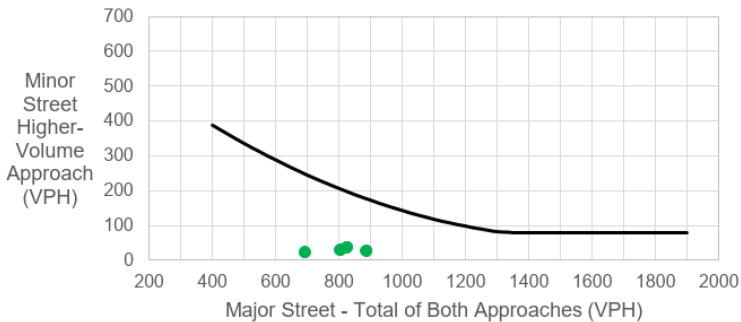
WARRANT 1, Combination of Conditions A and B

80% Satisfied
No

WARRANT 2, Four Hour Vehicular Volume

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
2:45 PM - 3:45 PM	826	38
4:45 PM - 5:45 PM	804	29
3:45 PM - 4:45 PM	887	27
7:15 AM - 8:15 AM	692	22

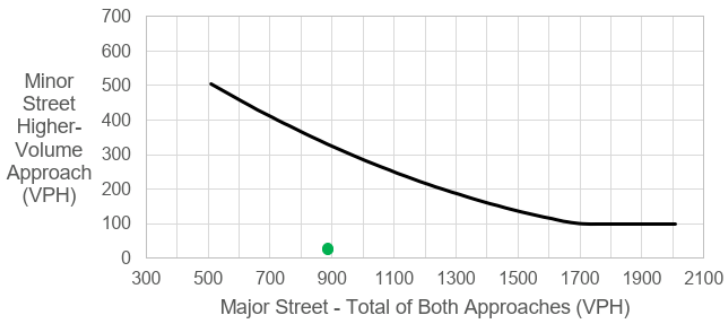
100% Satisfied
No



WARRANT 3, Peak Hour

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
3:45 PM - 4:45 PM	887	27

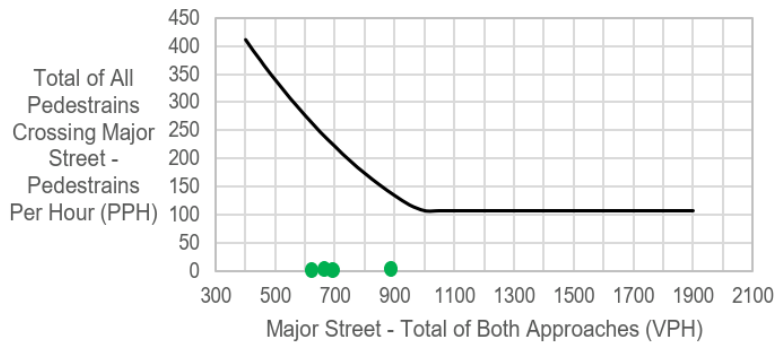
100% Satisfied
No



WARRANT 4A, Four Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
3:45 PM - 4:45 PM	887	4
1:45 PM - 2:45 PM	664	3
7:15 AM - 8:15 AM	692	1
7:45 AM - 8:45 AM	622	1

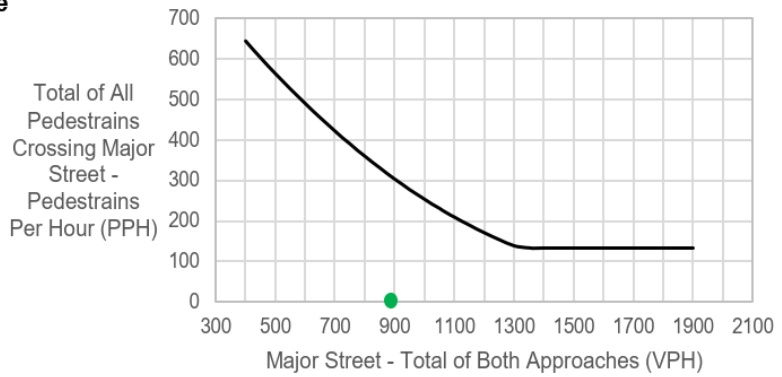
100% Satisfied	No
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WARRANT 4B, Peak Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
3:45 PM - 4:45 PM	887	4

100% Satisfied	No
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MUTCD Volume-based Warrant Evaluation
N 25th Ave & Ames Ave
Existing Conditions

Major Street: Ames Ave
 Approach Speed: 30 MPH
 Lanes Moving Traffic: 2 or more
 Option: Low speed, urban community

Minor Street: 25th St
 Right Turn Volume Included: 100% NB, 100% SB
 Lanes Moving Traffic: 1
 Date of Count: 11/6/2024

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	Vehicles per hour 100% (80%)	1:30 PM to 2:30 PM	8:30 AM to 9:30 AM	3:45 PM to 4:45 PM	2:45 PM to 3:45 PM	7:00 AM to 8:00 AM	11:15 AM to 12:15 PM	4:45 PM to 5:45 PM	12:30 PM to 1:30 PM
Both Apprchs. Major Street	600 (480)	728	564	853	807	654	539	771	579
Higher Vol. Apprch. Minor Street	150 (120)	31	15	12	12	11	8	6	6

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	Vehicles per hour 100% (80%)	1:30 PM to 2:30 PM	8:30 AM to 9:30 AM	3:45 PM to 4:45 PM	2:45 PM to 3:45 PM	7:00 AM to 8:00 AM	11:15 AM to 12:15 PM	4:45 PM to 5:45 PM	12:30 PM to 1:30 PM
Both Apprchs. Major Street	900 (720)	728	564	853	807	654	539	771	579
Higher Vol. Apprch. Minor Street	75 (60)	31	15	12	12	11	8	6	6

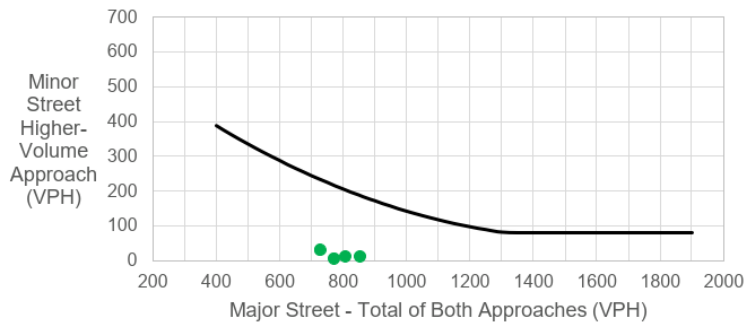
WARRANT 1, Combination of Conditions A and B

80% Satisfied No

WARRANT 2, Four Hour Vehicular Volume

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
1:30 PM - 2:30 PM	728	31
3:45 PM - 4:45 PM	853	12
2:45 PM - 3:45 PM	807	12
4:45 PM - 5:45 PM	771	6

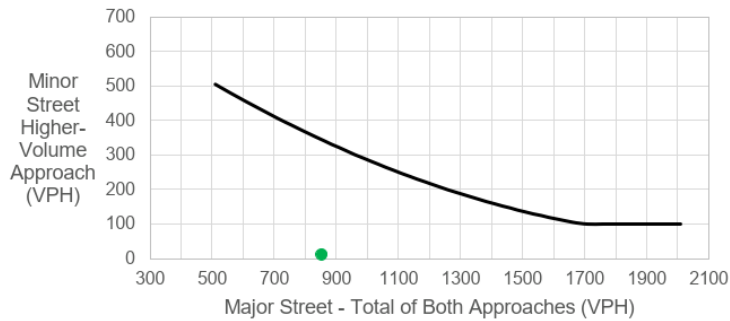
100% Satisfied No



WARRANT 3, Peak Hour

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
3:45 PM - 4:45 PM	853	12

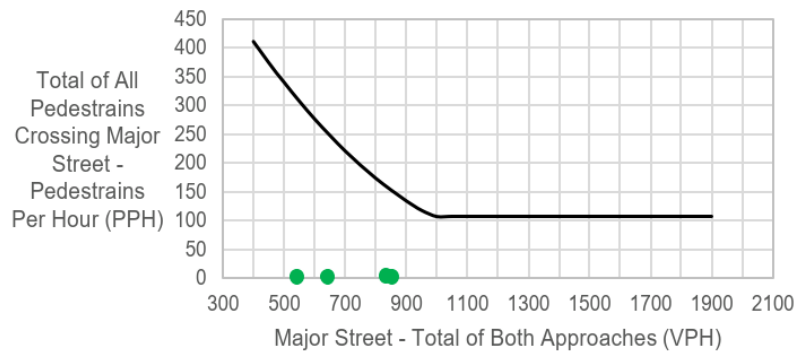
100% Satisfied No



WARRANT 4A, Four Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
3:15 PM - 4:15 PM	833	4
3:45 PM - 4:45 PM	853	3
7:15 AM - 8:15 AM	643	3
8:45 AM - 9:45 AM	542	3

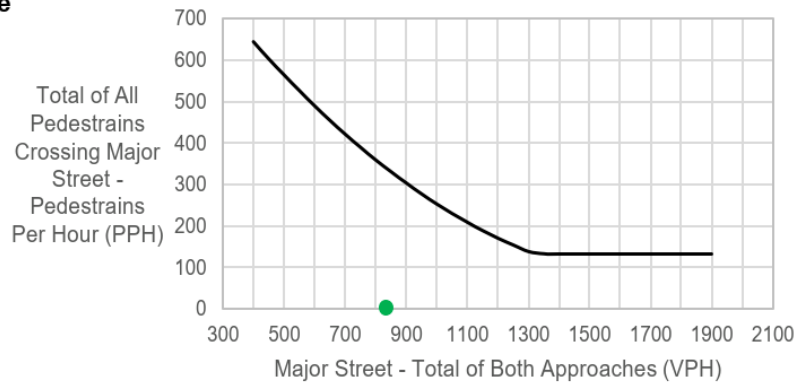
100% Satisfied No



WARRANT 4B, Peak Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
3:15 PM - 4:15 PM	833	4

100% Satisfied No



MUTCD Volume-based Warrant Evaluation
24th St & Ames Ave
Existing Conditions

Major Street: Ames Ave
 Approach Speed: 30 MPH
 Lanes Moving Traffic: 2 or more
 Option: Low speed, urban community

Minor Street: 24th St
 Right Turn Volume Included: 100% NB, 100% SB
 Lanes Moving Traffic: 1
 Date of Count: 5/14/2024

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	Vehicles per hour 100% (80%)	4:00 PM to 5:00 PM	3:00 PM to 4:00 PM	5:00 PM to 6:00 PM	2:00 PM to 3:00 PM	8:00 AM to 9:00 AM	9:00 AM to 10:00 AM	10:00 AM to 11:00 AM	7:00 AM to 8:00 AM
Both Apprchs. Major Street	600 (480)	749	788	739	652	578	456	466	576
Higher Vol. Apprch. Minor Street	150 (120)	287	265	226	195	176	149	139	121

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	Vehicles per hour 100% (80%)	4:00 PM to 5:00 PM	3:00 PM to 4:00 PM	5:00 PM to 6:00 PM	2:00 PM to 3:00 PM	8:00 AM to 9:00 AM	9:00 AM to 10:00 AM	10:00 AM to 11:00 AM	7:00 AM to 8:00 AM
Both Apprchs. Major Street	900 (720)	749	788	739	652	578	456	466	576
Higher Vol. Apprch. Minor Street	75 (60)	287	265	226	195	176	149	139	121

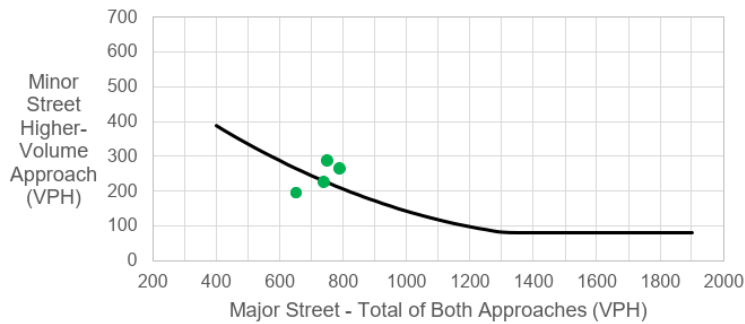
WARRANT 1, Combination of Conditions A and B

80% Satisfied No

WARRANT 2, Four Hour Vehicular Volume

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
4:00 PM - 5:00 PM	749	287
3:00 PM - 4:00 PM	788	265
5:00 PM - 6:00 PM	739	226
2:00 PM - 3:00 PM	652	195

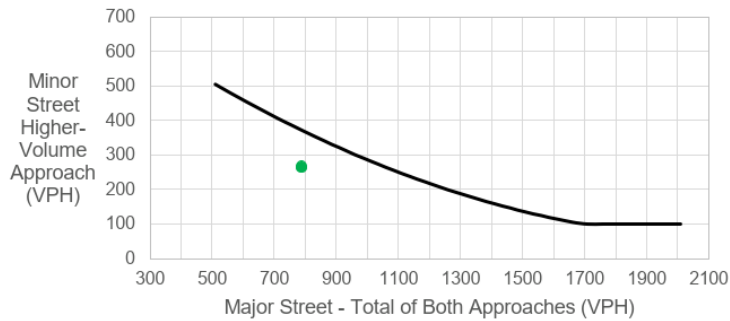
100% Satisfied No



WARRANT 3, Peak Hour

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
3:00 PM - 4:00 PM	788	265

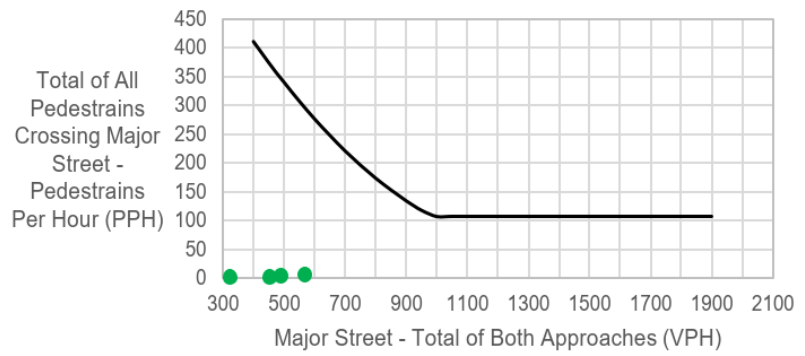
100% Satisfied No



WARRANT 4A, Four Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
7:30 AM - 8:30 AM	568	6
8:45 AM - 9:45 AM	490	4
9:30 AM - 10:30 AM	453	1
1:30 PM - 2:30 PM	323	1

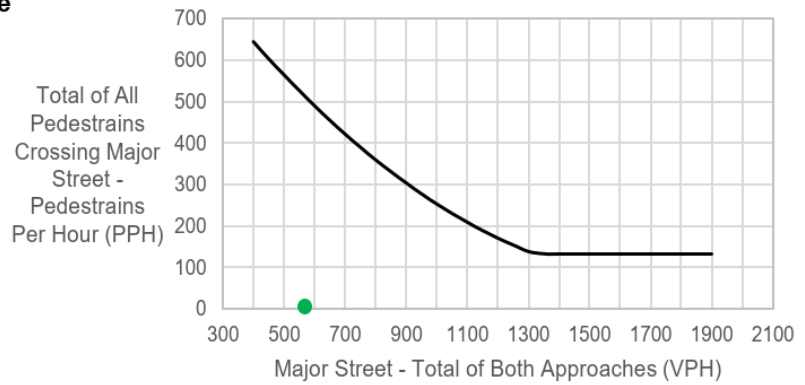
100% Satisfied	No
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WARRANT 4B, Peak Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
7:30 AM - 8:30 AM	568	6

100% Satisfied	No
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MUTCD Volume-based Warrant Evaluation
Florence Blvd & Ames Ave
Existing Conditions

Major Street: Ames Ave
Approach Speed: 30 MPH
Lanes Moving Traffic: 2 or more
Option: Low speed, urban community

Minor Street: Florence Blvd
Right Turn Volume Included: 100% NB, 100% SB
Lanes Moving Traffic: 1
Date of Count: 5/14/2024

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied
No

	Vehicles per hour 100% (80%)	3:00 PM to 4:00 PM	4:00 PM to 5:00 PM	5:00 PM to 6:00 PM	7:00 AM to 8:00 AM	8:00 AM to 9:00 AM	2:00 PM to 3:00 PM	10:00 AM to 11:00 AM	9:00 AM to 10:00 AM
Both Apprchs. Major Street	600 (480)	390	363	345	263	219	325	212	193
Higher Vol. Apprch. Minor Street	150 (120)	205	201	173	169	119	115	79	79

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied
No

	Vehicles per hour 100% (80%)	3:00 PM to 4:00 PM	4:00 PM to 5:00 PM	5:00 PM to 6:00 PM	7:00 AM to 8:00 AM	8:00 AM to 9:00 AM	2:00 PM to 3:00 PM	10:00 AM to 11:00 AM	9:00 AM to 10:00 AM
Both Apprchs. Major Street	900 (720)	390	363	345	263	219	325	212	193
Higher Vol. Apprch. Minor Street	75 (60)	205	201	173	169	119	115	79	79

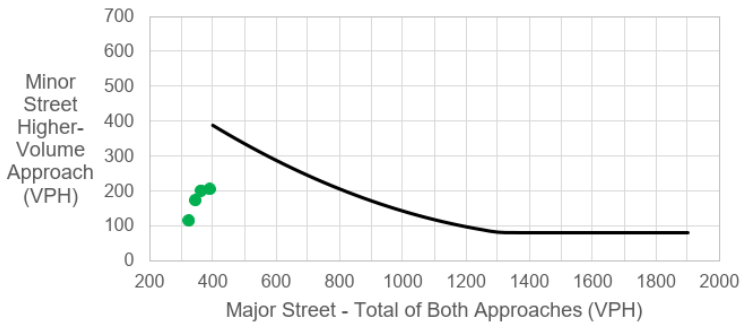
WARRANT 1, Combination of Conditions A and B

80% Satisfied
No

WARRANT 2, Four Hour Vehicular Volume

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
3:00 PM - 4:00 PM	390	205
4:00 PM - 5:00 PM	363	201
5:00 PM - 6:00 PM	345	173
2:00 PM - 3:00 PM	325	115

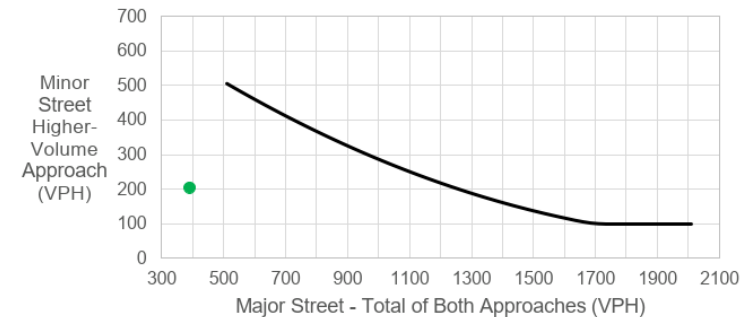
100% Satisfied
No



WARRANT 3, Peak Hour

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
3:00 PM - 4:00 PM	390	205

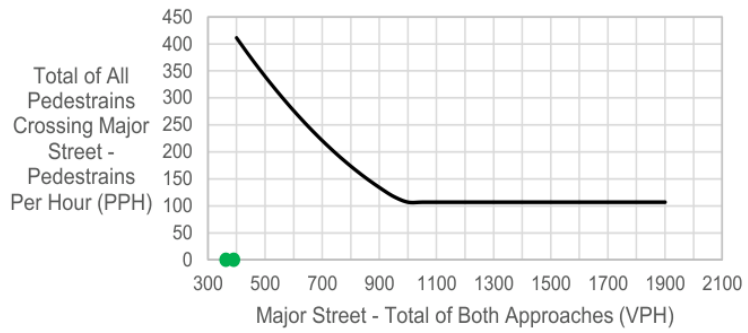
100% Satisfied
No



WARRANT 4A, Four Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
7:30 AM - 8:30 AM	230	2
9:45 AM - 10:45 AM	211	2
3:00 PM - 4:00 PM	390	0
4:00 PM - 5:00 PM	363	0

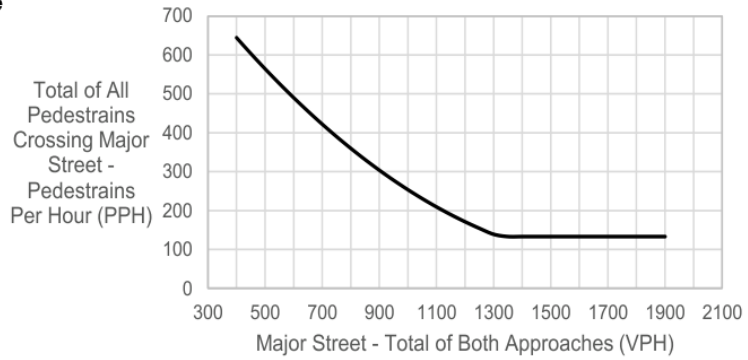
100% Satisfied No



WARRANT 4B, Peak Hour Pedestrian Volume

	Both Apprchs. Major Street	Total of All Pedestrains Crossing Major Street
7:30 AM - 8:30 AM	230	2

100% Satisfied No



MUTCD Volume-based Warrant Evaluation
72nd St & Ames Ave
Base-Future (2050)



Major Street: 72nd St
 Lanes Moving Traffic: 2 or more
 Approach Speed: 35 MPH

Minor Street: Ames Ave
 Lanes Moving Traffic: 2 or more
 Right Turn Volume Reduction: 25% EB, 50% WB

Option: Low speed, urban community

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied Yes

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Aprchs. Major Street	600 (480)	2250	2155	2088	1729	1752	1619	1676	1416
Highest Aprch. Minor Street	200 (160)	885	876	774	724	694	642	609	590

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied Yes

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Aprchs. Major Street	900 (720)	2250	2155	2088	1729	1752	1619	1676	1416
Highest Aprch. Minor Street	100 (80)	885	876	774	724	694	642	609	590

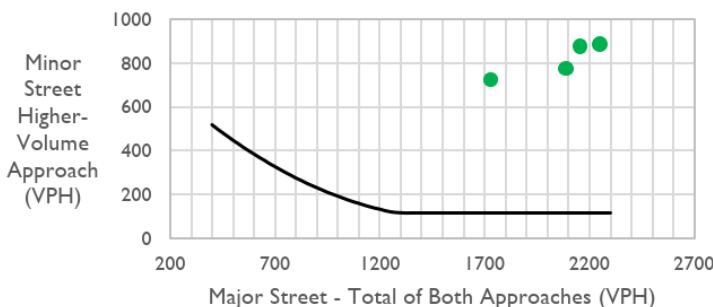
WARRANT 1, Condition A and Condition B

80% Satisfied Yes

WARRANT 2, Four Hour Volume

100% Satisfied Yes

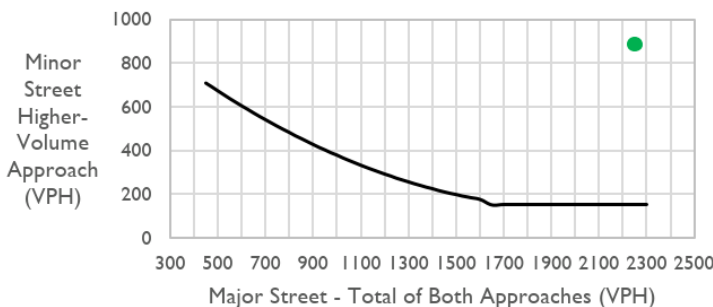
	Both Aprchs. Major Street	Higher Vol. Aprch. Minor Street
Peak Hour	2250	885
2nd Highest	2155	876
3rd Highest	2088	774
4th Highest	1729	724



WARRANT 3, Peak Hour Volume

100% Satisfied Yes

	Both Aprchs. Major Street	Higher Vol. Aprch. Minor Street
Peak Hour	2250	885



MUTCD Volume-based Warrant Evaluation
Benson Park Plz & Ames Ave
Base-Future (2050)



Major Street: Ames Ave

Lanes Moving Traffic: 2 or more

Approach Speed: 40 MPH

Option: Low speed, urban community

Minor Street: Benson Park Plz

Lanes Moving Traffic: 2 or more

Right Turn Volume Reduction: 25% SB, 25% NB

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Aprchs. Major Street	600 (480)	2110	1920	1567	2276	2204	1783	1564	1613
Highest Aprch. Minor Street	200 (160)	170	168	160	155	148	142	94	49

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Aprchs. Major Street	900 (720)	2110	1920	1567	2276	2204	1783	1564	1613
Highest Aprch. Minor Street	100 (80)	170	168	160	155	148	142	94	49

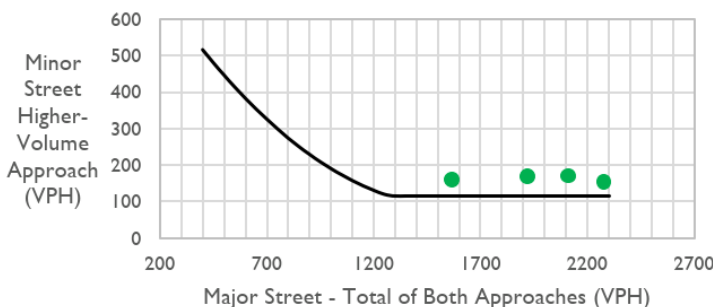
WARRANT 1, Condition A and Condition B

80% Satisfied No

WARRANT 2, Four Hour Volume

100% Satisfied Yes

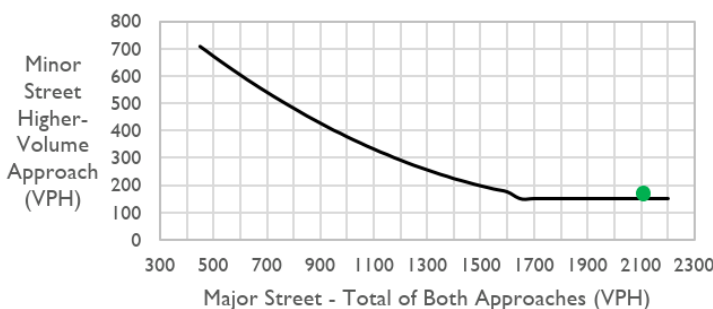
	Both Aprchs. Major Street	Higher Vol. Aprch. Minor Street
Peak Hour	2110	170
2nd Highest	1920	168
3rd Highest	1567	160
4th Highest	2276	155



WARRANT 3, Peak Hour Volume

100% Satisfied Yes

	Both Aprchs. Major Street	Higher Vol. Aprch. Minor Street
Peak Hour	2110	170



MUTCD Volume-based Warrant Evaluation
66th St & Ames Ave
Base-Future (2050)



Major Street: Ames Ave

Lanes Moving Traffic: 2 or more

Approach Speed: 40 MPH

Option: Low speed, urban community

Minor Street: 66th St

Lanes Moving Traffic: 1

Right Turn Volume Reduction: 0% SB, 0% NB

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	600 (480)	2090	2074	2159	1581	1473	1738	1432	1570
Highest Apprch. Minor Street	150 (120)	55	50	42	33	32	28	22	20

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	900 (720)	2090	2074	2159	1581	1473	1738	1432	1570
Highest Apprch. Minor Street	75 (60)	55	50	42	33	32	28	22	20

WARRANT 1, Condition A and Condition B

80% Satisfied No

WARRANT 2, Four Hour Volume

100% Satisfied No

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	2090	55
2nd Highest	2074	50
3rd Highest	2159	42
4th Highest	1581	33



WARRANT 3, Peak Hour Volume

100% Satisfied No

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	2090	55



MUTCD Volume-based Warrant Evaluation
63rd Street & Ames Ave
Base-Future (2050)



Major Street: Ames Ave
 Lanes Moving Traffic: 2 or more
 Approach Speed: 40 MPH
 Option: Low speed, urban community

Minor Street: 63rd Street
 Lanes Moving Traffic: 1
 Right Turn Volume Reduction: 0% SB, 0% NB

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Aprchs. Major Street	600 (480)	2205	2382	2613	2383	1779	1842	1977	1709
Highest Aprch. Minor Street	150 (120)	40	39	34	34	33	26	24	21

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Aprchs. Major Street	900 (720)	2205	2382	2613	2383	1779	1842	1977	1709
Highest Aprch. Minor Street	75 (60)	40	39	34	34	33	26	24	21

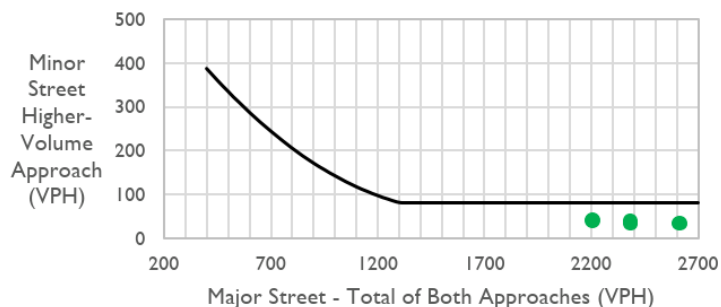
WARRANT 1, Condition A and Condition B

80% Satisfied No

WARRANT 2, Four Hour Volume

100% Satisfied No

	Both Aprchs. Major Street	Higher Vol. Aprch. Minor Street
Peak Hour	2205	40
2nd Highest	2382	39
3rd Highest	2613	34
4th Highest	2383	34



WARRANT 3, Peak Hour Volume

100% Satisfied No

	Both Aprchs. Major Street	Higher Vol. Aprch. Minor Street
Peak Hour	2205	40



MUTCD Volume-based Warrant Evaluation
60th St & Ames Ave
Base-Future (2050)



Major Street: Ames Ave

Lanes Moving Traffic: 2 or more

Approach Speed: 40 MPH

Option: Low speed, urban community

Minor Street: 60th St

Lanes Moving Traffic: 2 or more

Right Turn Volume Reduction: 25% SB, 25% NB

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied Yes

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Aprchs. Major Street	600 (480)	2135	2176	2014	1763	1437	1249	1309	950
Highest Aprch. Minor Street	200 (160)	515	514	479	385	353	327	311	276

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied Yes

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Aprchs. Major Street	900 (720)	2135	2176	2014	1763	1437	1249	1309	950
Highest Aprch. Minor Street	100 (80)	515	514	479	385	353	327	311	276

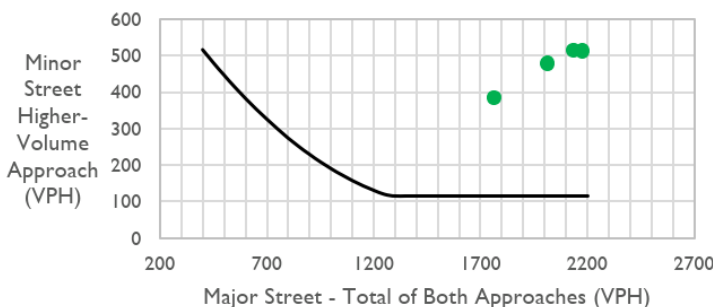
WARRANT 1, Condition A and Condition B

80% Satisfied Yes

WARRANT 2, Four Hour Volume

100% Satisfied Yes

	Both Aprchs. Major Street	Higher Vol. Aprch. Minor Street
Peak Hour	2135	515
2nd Highest	2176	514
3rd Highest	2014	479
4th Highest	1763	385



WARRANT 3, Peak Hour Volume

100% Satisfied Yes

	Both Aprchs. Major Street	Higher Vol. Aprch. Minor Street
Peak Hour	2135	515



MUTCD Volume-based Warrant Evaluation
56th Street (East) & Ames Ave
Base-Future (2050)



Major Street: Ames Ave

Minor Street: 56th Street (East)

Lanes Moving Traffic: 2 or more

Lanes Moving Traffic: 1

Approach Speed: 40 MPH

Right Turn Volume Reduction: 0% SB

Option: Low speed, urban community

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Aprchs. Major Street	600 (480)	1620	2249	1656	1777	2284	2076	2165	1683
Highest Aprch. Minor Street	150 (120)	25	20	19	19	18	18	17	16

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Aprchs. Major Street	900 (720)	1620	2249	1656	1777	2284	2076	2165	1683
Highest Aprch. Minor Street	75 (60)	25	20	19	19	18	18	17	16

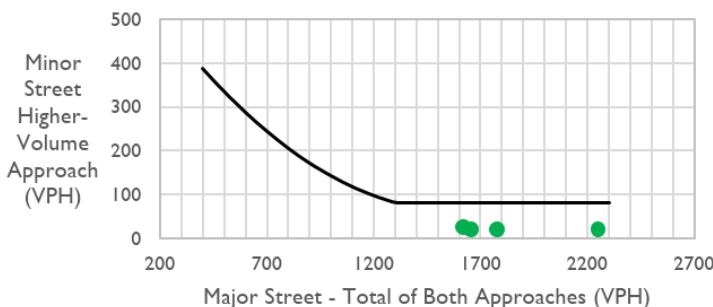
WARRANT 1, Condition A and Condition B

80% Satisfied No

WARRANT 2, Four Hour Volume

100% Satisfied No

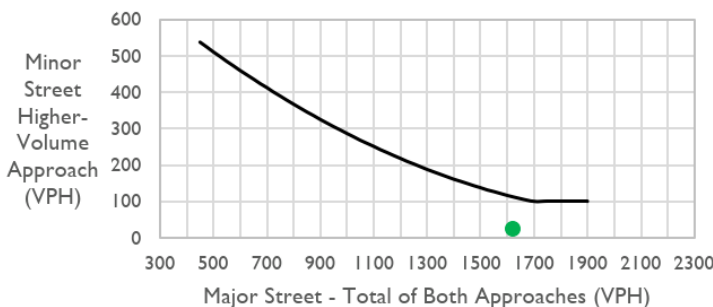
	Both Aprchs. Major Street	Higher Vol. Aprch. Minor Street
Peak Hour	1620	25
2nd Highest	2249	20
3rd Highest	1656	19
4th Highest	1777	19



WARRANT 3, Peak Hour Volume

100% Satisfied No

	Both Aprchs. Major Street	Higher Vol. Aprch. Minor Street
Peak Hour	1620	25



MUTCD Volume-based Warrant Evaluation
55th Street & Ames Ave
Base-Future (2050)



Major Street: Ames Ave

Lanes Moving Traffic: 2 or more

Approach Speed: 40 MPH

Option: Low speed, urban community

Minor Street: 55th Street

Lanes Moving Traffic: 1

Right Turn Volume Reduction: 0% SB, 0% NB

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Aprchs. Major Street	600 (480)	2200	2307	2075	1984	1758	1683	1639	1770
Highest Aprch. Minor Street	150 (120)	25	24	24	15	15	15	15	10

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Aprchs. Major Street	900 (720)	2200	2307	2075	1984	1758	1683	1639	1770
Highest Aprch. Minor Street	75 (60)	25	24	24	15	15	15	15	10

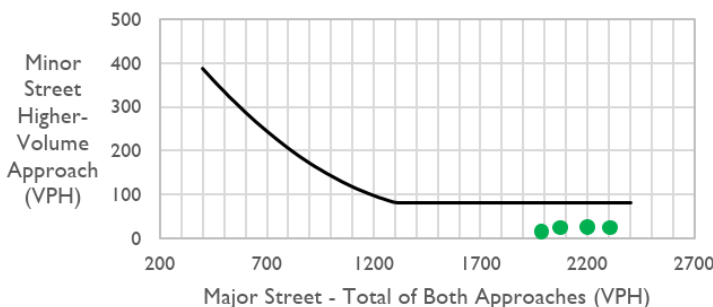
WARRANT 1, Condition A and Condition B

80% Satisfied No

WARRANT 2, Four Hour Volume

100% Satisfied No

	Both Aprchs. Major Street	Higher Vol. Aprch. Minor Street
Peak Hour	2200	25
2nd Highest	2307	24
3rd Highest	2075	24
4th Highest	1984	15



WARRANT 3, Peak Hour Volume

100% Satisfied No

	Both Aprchs. Major Street	Higher Vol. Aprch. Minor Street
Peak Hour	2200	25



MUTCD Volume-based Warrant Evaluation
52nd St & Ames Ave
Base-Future (2050)



Major Street: Ames Ave

Lanes Moving Traffic: 2 or more

Approach Speed: 40 MPH

Option: Low speed, urban community

Minor Street: 52nd St

Lanes Moving Traffic: 2 or more

Right Turn Volume Reduction: 25% SB, 25% NB

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied Yes

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Aprchs. Major Street	600 (480)	2275	2263	2308	1737	1593	1803	1813	1681
Highest Aprch. Minor Street	200 (160)	368	358	333	295	274	263	222	213

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied Yes

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Aprchs. Major Street	900 (720)	2275	2263	2308	1737	1593	1803	1813	1681
Highest Aprch. Minor Street	100 (80)	368	358	333	295	274	263	222	213

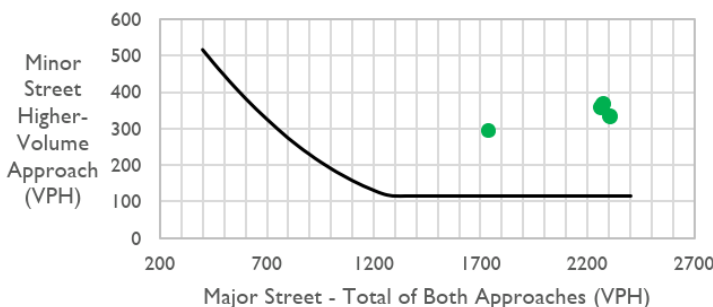
WARRANT 1, Condition A and Condition B

80% Satisfied Yes

WARRANT 2, Four Hour Volume

100% Satisfied Yes

	Both Aprchs. Major Street	Higher Vol. Aprch. Minor Street
Peak Hour	2275	368
2nd Highest	2263	358
3rd Highest	2308	333
4th Highest	1737	295



WARRANT 3, Peak Hour Volume

100% Satisfied Yes

	Both Aprchs. Major Street	Higher Vol. Aprch. Minor Street
Peak Hour	2275	368



MUTCD Volume-based Warrant Evaluation
Wal Mart & Ames Ave
Base-Future (2050)



Major Street: Ames Ave
 Lanes Moving Traffic: 2 or more
 Approach Speed: 40 MPH
 Option: Low speed, urban community

Minor Street: Wal Mart
 Lanes Moving Traffic: 2 or more
 Right Turn Volume Reduction: 50% SB

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	600 (480)	2320	2040	2184	1678	1973	1579	1644	1679
Highest Apprch. Minor Street	200 (160)	248	244	214	173	172	169	96	69

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	900 (720)	2320	2040	2184	1678	1973	1579	1644	1679
Highest Apprch. Minor Street	100 (80)	248	244	214	173	172	169	96	69

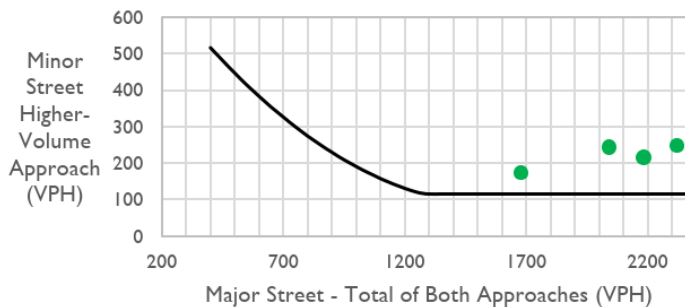
WARRANT 1, Condition A and Condition B

80% Satisfied No

WARRANT 2, Four Hour Volume

100% Satisfied Yes

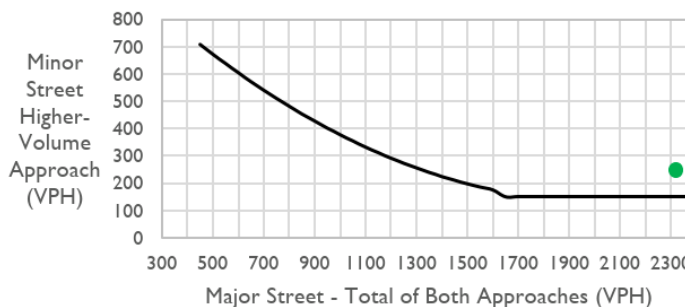
	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	2320	248
2nd Highest	2040	244
3rd Highest	2184	214
4th Highest	1678	173



WARRANT 3, Peak Hour Volume

100% Satisfied Yes

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	2320	248



MUTCD Volume-based Warrant Evaluation
50th Street & Ames Ave
Base-Future (2050)



Major Street: Ames Ave
 Lanes Moving Traffic: 2 or more
 Approach Speed: 40 MPH
 Option: Low speed, urban community

Minor Street: 50th Street
 Lanes Moving Traffic: 2 or more
 Right Turn Volume Reduction: 25% SB, 25% NB

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	600 (480)	2395	2670	2819	2512	1924	1919	2012	2030
Highest Apprch. Minor Street	200 (160)	83	81	76	59	59	55	52	32

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	900 (720)	2395	2670	2819	2512	1924	1919	2012	2030
Highest Apprch. Minor Street	100 (80)	83	81	76	59	59	55	52	32

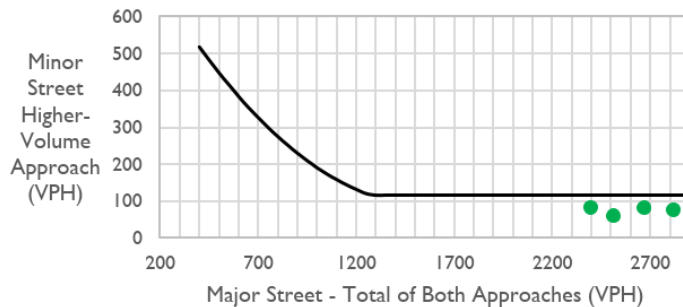
WARRANT 1, Condition A and Condition B

80% Satisfied No

WARRANT 2, Four Hour Volume

100% Satisfied No

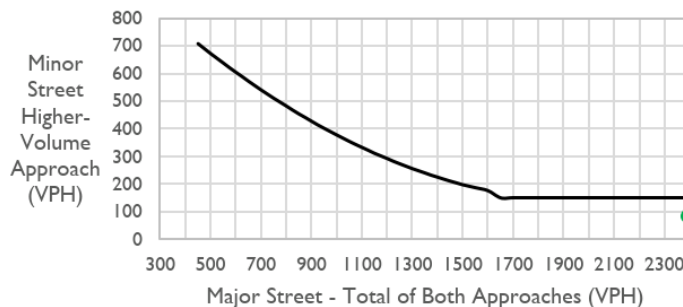
	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	2395	83
2nd Highest	2670	81
3rd Highest	2819	76
4th Highest	2512	59



WARRANT 3, Peak Hour Volume

100% Satisfied No

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	2395	83



MUTCD Volume-based Warrant Evaluation
48th Street & Ames Ave
Base-Future (2050)



Major Street: Ames Ave
 Lanes Moving Traffic: 2 or more
 Approach Speed: 40 MPH
 Option: Low speed, urban community

Minor Street: 48th Street
 Lanes Moving Traffic: 1
 Right Turn Volume Reduction: 0% SB, 0% NB

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	600 (480)	2255	2215	1688	2226	1884	1582	1545	1632
Highest Apprch. Minor Street	150 (120)	155	133	91	89	82	82	65	62

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	900 (720)	2255	2215	1688	2226	1884	1582	1545	1632
Highest Apprch. Minor Street	75 (60)	155	133	91	89	82	82	65	62

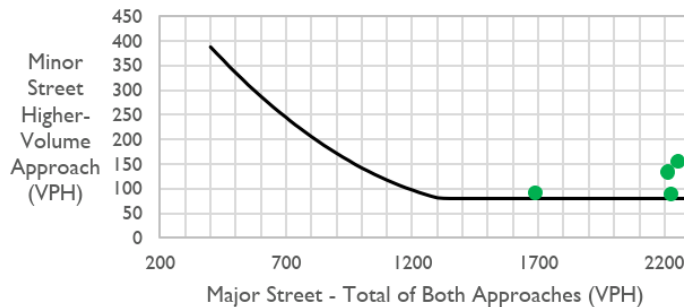
WARRANT 1, Condition A and Condition B

80% Satisfied No

WARRANT 2, Four Hour Volume

100% Satisfied Yes

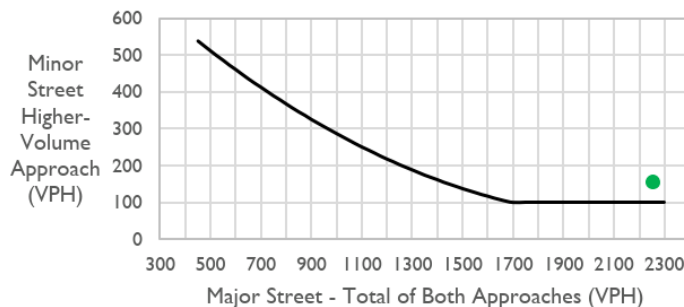
	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	2255	155
2nd Highest	2215	133
3rd Highest	1688	91
4th Highest	2226	89



WARRANT 3, Peak Hour Volume

100% Satisfied Yes

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	2255	155



MUTCD Volume-based Warrant Evaluation
Fontenelle Blvd & Ames Ave
Base-Future (2050)



Major Street: Ames Ave
 Lanes Moving Traffic: 2 or more
 Approach Speed: 40 MPH
 Option: Low speed, urban community

Minor Street: Fontenelle Blvd
 Lanes Moving Traffic: 2 or more
 Right Turn Volume Reduction: 50% SB, 50% NB

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied Yes

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	600 (480)	2345	2142	2172	1318	1737	1525	1443	1373
Highest Apprch. Minor Street	200 (160)	413	404	379	286	278	277	255	221

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied Yes

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	900 (720)	2345	2142	2172	1318	1737	1525	1443	1373
Highest Apprch. Minor Street	100 (80)	413	404	379	286	278	277	255	221

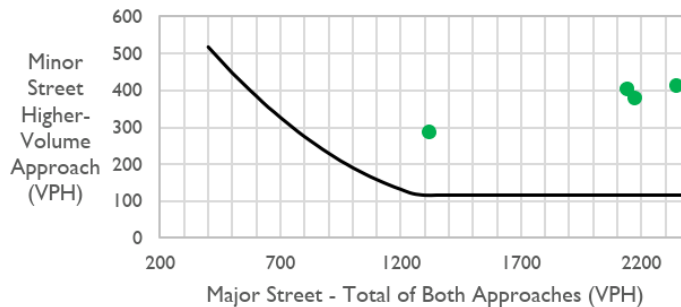
WARRANT 1, Condition A and Condition B

80% Satisfied Yes

WARRANT 2, Four Hour Volume

100% Satisfied Yes

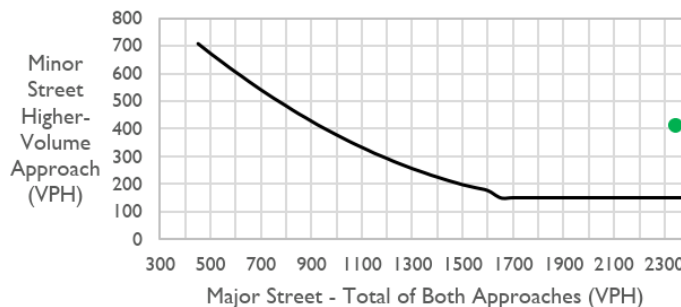
	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	2345	413
2nd Highest	2142	404
3rd Highest	2172	379
4th Highest	1318	286



WARRANT 3, Peak Hour Volume

100% Satisfied Yes

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	2345	413



MUTCD Volume-based Warrant Evaluation
42nd St & Ames Ave
Base-Future (2050)



Major Street: Ames Ave
 Lanes Moving Traffic: 2 or more
 Approach Speed: 40 MPH
 Option: Low speed, urban community

Minor Street: 42nd St
 Lanes Moving Traffic: 2 or more
 Right Turn Volume Reduction: 25% SB, 25% NB

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	600 (480)	2055	1968	1835	1633	1570	1524	1466	1403
Highest Apprch. Minor Street	200 (160)	293	259	265	224	187	163	175	192

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied Yes

	vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	900 (720)	2055	1968	1835	1633	1570	1524	1466	1403
Highest Apprch. Minor Street	100 (80)	293	259	265	224	187	163	175	192

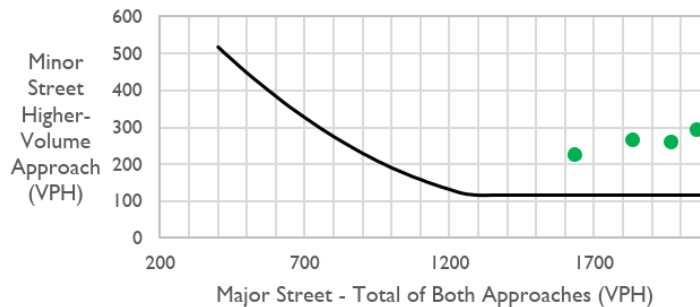
WARRANT 1, Condition A and Condition B

80% Satisfied Yes

WARRANT 2, Four Hour Volume

100% Satisfied Yes

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	2055	293
2nd Highest	1968	259
3rd Highest	1835	265
4th Highest	1633	224



WARRANT 3, Peak Hour Volume

100% Satisfied Yes

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	2055	293



MUTCD Volume-based Warrant Evaluation
40th St & Ames Ave
Base-Future (2050)



Major Street: Ames Ave
 Lanes Moving Traffic: 2 or more
 Approach Speed: 30 MPH
 Option: Low speed, urban community

Minor Street: 40th St
 Lanes Moving Traffic: 1
 Right Turn Volume Reduction: 0% SB, 0% NB

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	600 (480)	1905	1910	1459	1620	1352	1306	1238	1586
Highest Apprch. Minor Street	150 (120)	70	64	59	51	49	41	31	28

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	900 (720)	1905	1910	1459	1620	1352	1306	1238	1586
Highest Apprch. Minor Street	75 (60)	70	64	59	51	49	41	31	28

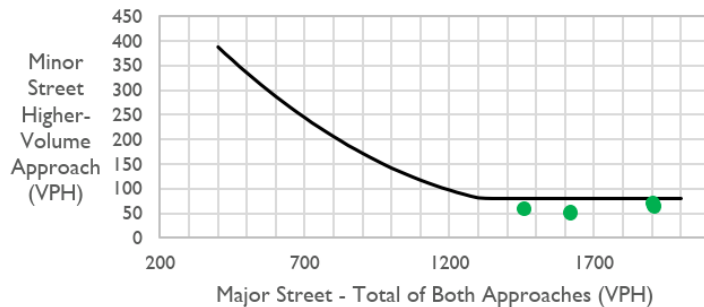
WARRANT 1, Condition A and Condition B

80% Satisfied No

WARRANT 2, Four Hour Volume

100% Satisfied No

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	1905	70
2nd Highest	1910	64
3rd Highest	1459	59
4th Highest	1620	51



WARRANT 3, Peak Hour Volume

100% Satisfied No

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	1905	70



MUTCD Volume-based Warrant Evaluation
37th Street & Ames Ave
Base-Future (2050)



Major Street: Ames Ave
 Lanes Moving Traffic: 2 or more
 Approach Speed: 30 MPH
 Option: Low speed, urban community

Minor Street: 37th Street
 Lanes Moving Traffic: 1
 Right Turn Volume Reduction: 0% SB

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	600 (480)	1580	1809	1358	1346	1723	1827	1413	1195
Highest Apprch. Minor Street	150 (120)	15	11	11	11	9	8	6	6

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	900 (720)	1580	1809	1358	1346	1723	1827	1413	1195
Highest Apprch. Minor Street	75 (60)	15	11	11	11	9	8	6	6

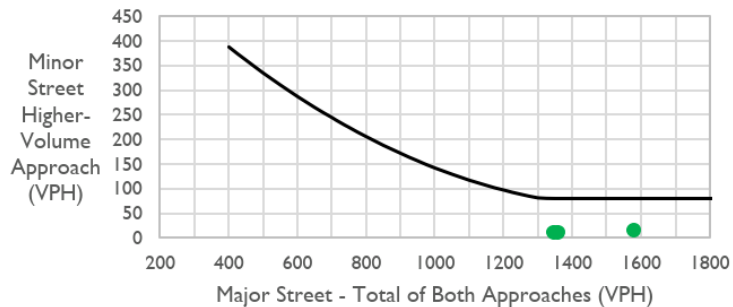
WARRANT 1, Condition A and Condition B

80% Satisfied No

WARRANT 2, Four Hour Volume

100% Satisfied No

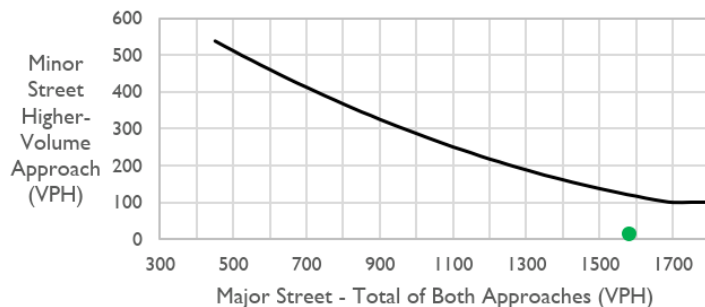
	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	1580	15
2nd Highest	1809	11
3rd Highest	1358	11
4th Highest	1346	11



WARRANT 3, Peak Hour Volume

100% Satisfied No

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	1580	15



MUTCD Volume-based Warrant Evaluation
36th Ave & Ames Ave
Base-Future (2050)



Major Street: Ames Ave
 Lanes Moving Traffic: 2 or more
 Approach Speed: 35 MPH
 Option: Low speed, urban community

Minor Street: 36th Ave
 Lanes Moving Traffic: 1
 Right Turn Volume Reduction: 0% SB

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	600 (480)	1880	1411	1617	1888	1308	1843	1517	1420
Highest Apprch. Minor Street	150 (120)	15	10	9	8	8	8	7	7

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	900 (720)	1880	1411	1617	1888	1308	1843	1517	1420
Highest Apprch. Minor Street	75 (60)	15	10	9	8	8	8	7	7

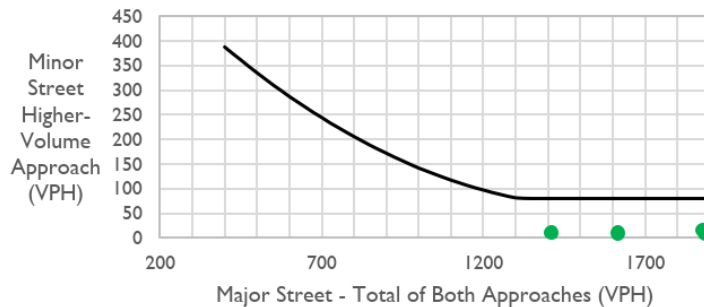
WARRANT 1, Condition A and Condition B

80% Satisfied No

WARRANT 2, Four Hour Volume

100% Satisfied No

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	1880	15
2nd Highest	1411	10
3rd Highest	1617	9
4th Highest	1888	8



WARRANT 3, Peak Hour Volume

100% Satisfied No

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	1880	15



MUTCD Volume-based Warrant Evaluation
36th St & Ames Ave
Base-Future (2050)



Major Street: Ames Ave
 Lanes Moving Traffic: 2 or more
 Approach Speed: 35 MPH
 Option: Low speed, urban community

Minor Street: 36th St
 Lanes Moving Traffic: 2 or more
 Right Turn Volume Reduction: 25% SB, 25% NB

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	600 (480)	1870	1160	1926	1784	930	1170	1494	739
Highest Apprch. Minor Street	200 (160)	258	250	78	67	52	50	40	21

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	900 (720)	1870	1160	1926	1784	930	1170	1494	739
Highest Apprch. Minor Street	100 (80)	258	250	78	67	52	50	40	21

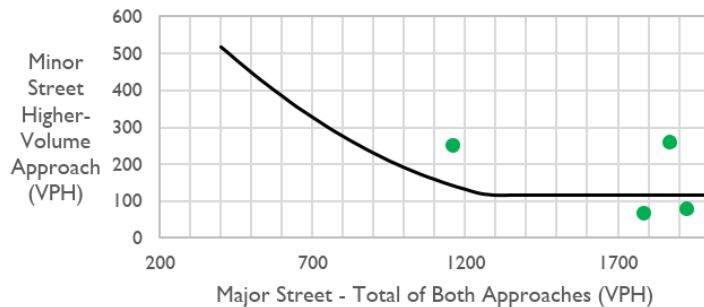
WARRANT 1, Condition A and Condition B

80% Satisfied No

WARRANT 2, Four Hour Volume

100% Satisfied No

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	1870	258
2nd Highest	1160	250
3rd Highest	1926	78
4th Highest	1784	67



WARRANT 3, Peak Hour Volume

100% Satisfied Yes

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	1870	258



MUTCD Volume-based Warrant Evaluation
34th Ave & Ames Ave
Base-Future (2050)



Major Street: Ames Ave
 Lanes Moving Traffic: 2 or more
 Approach Speed: 30 MPH
 Option: Low speed, urban community

Minor Street: 34th Ave
 Lanes Moving Traffic: 1
 Right Turn Volume Reduction: 0% SB, 0% NB

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	600 (480)	1860	1894	1477	1818	1662	1564	1456	1457
Highest Apprch. Minor Street	150 (120)	50	41	33	25	23	23	23	16

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	900 (720)	1860	1894	1477	1818	1662	1564	1456	1457
Highest Apprch. Minor Street	75 (60)	50	41	33	25	23	23	23	16

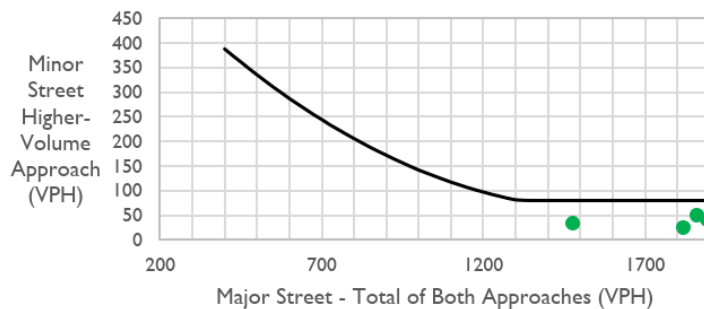
WARRANT 1, Condition A and Condition B

80% Satisfied No

WARRANT 2, Four Hour Volume

100% Satisfied No

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	1860	50
2nd Highest	1894	41
3rd Highest	1477	33
4th Highest	1818	25



WARRANT 3, Peak Hour Volume

100% Satisfied No

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	1860	50



MUTCD Volume-based Warrant Evaluation
33rd Ave & Ames Ave
Base-Future (2050)



Major Street: Ames Ave
 Lanes Moving Traffic: 2 or more
 Approach Speed: 30 MPH
 Option: Low speed, urban community

Minor Street: 33rd Ave
 Lanes Moving Traffic: 1
 Right Turn Volume Reduction: 0% SB, 0% NB

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	600 (480)	1645	2168	2171	1983	1827	1609	1405	1490
Highest Apprch. Minor Street	150 (120)	45	33	32	30	25	23	20	16

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	900 (720)	1645	2168	2171	1983	1827	1609	1405	1490
Highest Apprch. Minor Street	75 (60)	45	33	32	30	25	23	20	16

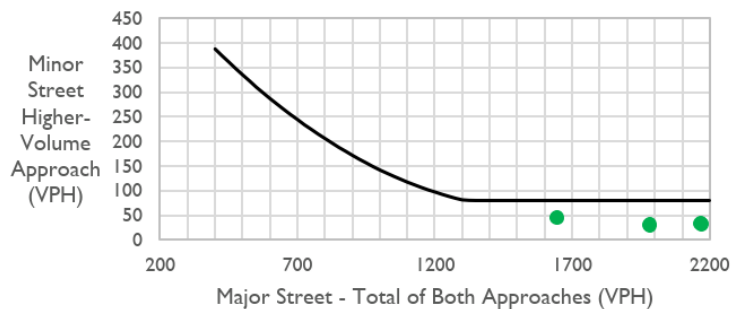
WARRANT 1, Condition A and Condition B

80% Satisfied No

WARRANT 2, Four Hour Volume

100% Satisfied No

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	1645	45
2nd Highest	2168	33
3rd Highest	2171	32
4th Highest	1983	30



WARRANT 3, Peak Hour Volume

100% Satisfied No

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	1645	45



MUTCD Volume-based Warrant Evaluation
31st Street & Ames Ave
Base-Future (2050)



Major Street: Ames Ave
 Lanes Moving Traffic: 2 or more
 Approach Speed: 30 MPH
 Option: Low speed, urban community

Minor Street: 31st Street
 Lanes Moving Traffic: 2 or more
 Right Turn Volume Reduction: 0% SB, 50% NB

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	600 (480)	1820	1871	1719	1296	1555	1220	1064	1390
Highest Apprch. Minor Street	200 (160)	208	164	152	137	126	119	93	78

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	900 (720)	1820	1871	1719	1296	1555	1220	1064	1390
Highest Apprch. Minor Street	100 (80)	208	164	152	137	126	119	93	78

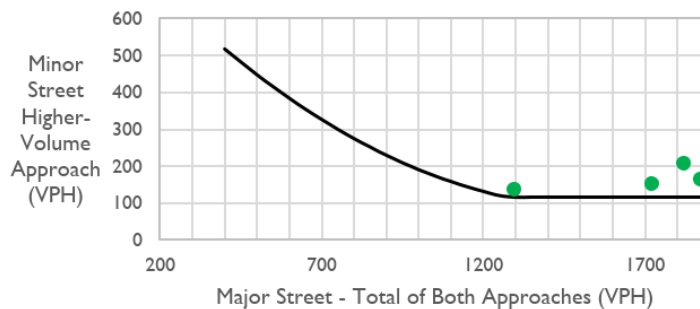
WARRANT 1, Condition A and Condition B

80% Satisfied No

WARRANT 2, Four Hour Volume

100% Satisfied Yes

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	1820	208
2nd Highest	1871	164
3rd Highest	1719	152
4th Highest	1296	137



WARRANT 3, Peak Hour Volume

100% Satisfied Yes

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	1820	208



MUTCD Volume-based Warrant Evaluation
30th Street & Ames Ave
Base-Future (2050)



Major Street: Ames Ave
 Lanes Moving Traffic: 2 or more
 Approach Speed: 30 MPH
 Option: Low speed, urban community

Minor Street: 30th Street
 Lanes Moving Traffic: 2 or more
 Right Turn Volume Reduction: 25% SB, 25% NB

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied Yes

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	600 (480)	2035	2000	1636	1563	1443	1250	802	972
Highest Apprch. Minor Street	200 (160)	636	587	524	494	464	411	277	275

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied Yes

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	900 (720)	2035	2000	1636	1563	1443	1250	802	972
Highest Apprch. Minor Street	100 (80)	636	587	524	494	464	411	277	275

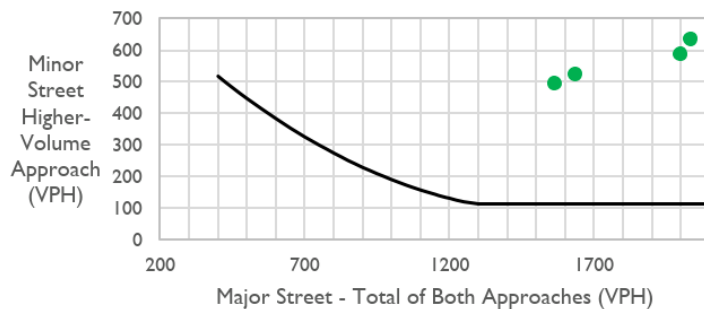
WARRANT 1, Condition A and Condition B

80% Satisfied Yes

WARRANT 2, Four Hour Volume

100% Satisfied Yes

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	2035	636
2nd Highest	2000	587
3rd Highest	1636	524
4th Highest	1563	494



WARRANT 3, Peak Hour Volume

100% Satisfied Yes

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	2035	636



MUTCD Volume-based Warrant Evaluation
28th Street & Ames Ave
Base-Future (2050)



Major Street: Ames Ave
 Lanes Moving Traffic: 2 or more
 Approach Speed: 30 MPH
 Option: Low speed, urban community

Minor Street: 28th Street
 Lanes Moving Traffic: 1
 Right Turn Volume Reduction: 0% NB

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	600 (480)	1885	1584	1395	1347	1848	1233	1738	1452
Highest Apprch. Minor Street	150 (120)	25	25	18	18	16	15	13	11

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	900 (720)	1885	1584	1395	1347	1848	1233	1738	1452
Highest Apprch. Minor Street	75 (60)	25	25	18	18	16	15	13	11

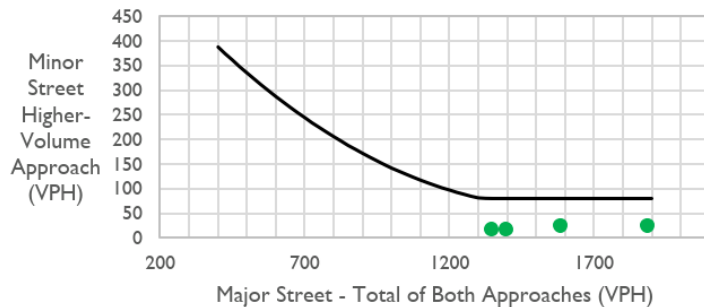
WARRANT 1, Condition A and Condition B

80% Satisfied No

WARRANT 2, Four Hour Volume

100% Satisfied No

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	1885	25
2nd Highest	1584	25
3rd Highest	1395	18
4th Highest	1347	18



WARRANT 3, Peak Hour Volume

100% Satisfied No

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	1885	25



MUTCD Volume-based Warrant Evaluation
O & Ames Ave
Base-Future (2050)



Major Street: Ames Ave
 Lanes Moving Traffic: 2 or more
 Approach Speed: 30 MPH
 Option: Low speed, urban community

Minor Street: 0
 Lanes Moving Traffic: 1
 Right Turn Volume Reduction: #VALUE!

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied #DIV/0!

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	600 (480)	2210	2124	2093	1685	1572	1396	1383	1303
Highest Apprch. Minor Street	150 (120)	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied #DIV/0!

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	900 (720)	2210	2124	2093	1685	1572	1396	1383	1303
Highest Apprch. Minor Street	75 (60)	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

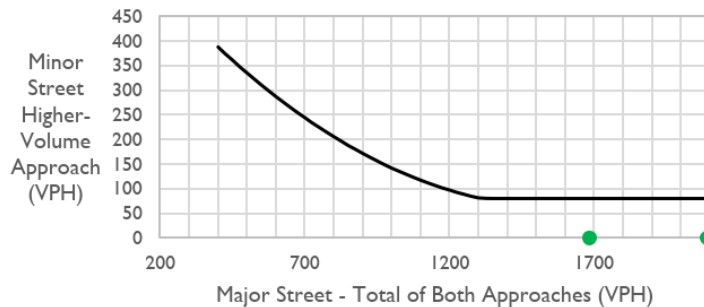
WARRANT 1, Condition A and Condition B

80% Satisfied #DIV/0!

WARRANT 2, Four Hour Volume

100% Satisfied No

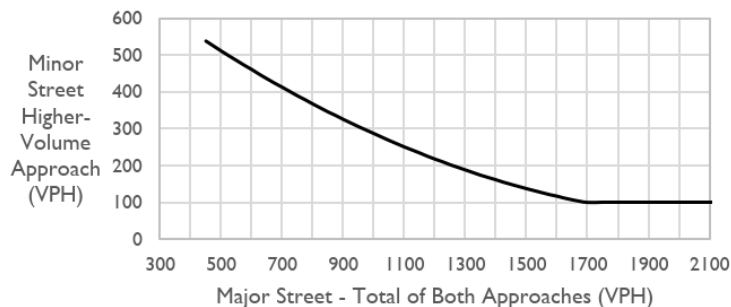
	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	2210	0
2nd Highest	2124	#DIV/0!
3rd Highest	2093	#DIV/0!
4th Highest	1685	#DIV/0!



WARRANT 3, Peak Hour Volume

100% Satisfied No

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	2210	0



MUTCD Volume-based Warrant Evaluation
North Freeway NB Ramp & Ames Ave
Base-Future (2050)



Major Street: Ames Ave
 Lanes Moving Traffic: 2 or more
 Approach Speed: 30 MPH
 Option: Low speed, urban community

Minor Street: North Freeway NB Ramp
 Lanes Moving Traffic: 2 or more
 Right Turn Volume Reduction: 50% NB

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied Yes

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	600 (480)	1195	1181	1127	1037	882	925	816	802
Highest Apprch. Minor Street	200 (160)	635	605	565	426	426	423	326	294

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	900 (720)	1195	1181	1127	1037	882	925	816	802
Highest Apprch. Minor Street	100 (80)	635	605	565	426	426	423	326	294

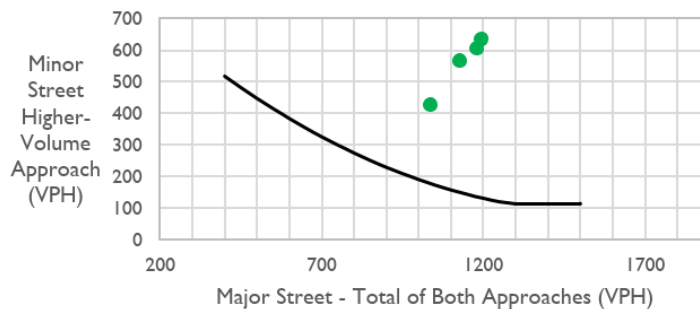
WARRANT 1, Condition A and Condition B

80% Satisfied Yes

WARRANT 2, Four Hour Volume

100% Satisfied Yes

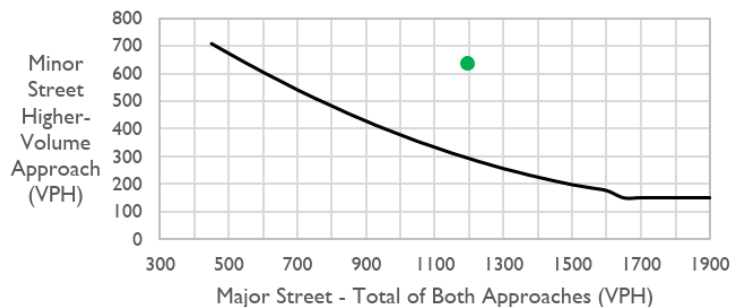
	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	1195	635
2nd Highest	1181	605
3rd Highest	1127	565
4th Highest	1037	426



WARRANT 3, Peak Hour Volume

100% Satisfied Yes

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	1195	635



MUTCD Volume-based Warrant Evaluation
26th Street & Ames Ave
Base-Future (2050)



Major Street: Ames Ave
 Lanes Moving Traffic: 2 or more
 Approach Speed: 30 MPH
 Option: Low speed, urban community

Minor Street: 26th Street
 Lanes Moving Traffic: 1
 Right Turn Volume Reduction: 0% SB, 0% NB

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	600 (480)	1270	1236	1021	1364	1064	912	966	930
Highest Apprch. Minor Street	150 (120)	25	19	18	18	14	14	13	10

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	Vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	900 (720)	1270	1236	1021	1364	1064	912	966	930
Highest Apprch. Minor Street	75 (60)	25	19	18	18	14	14	13	10

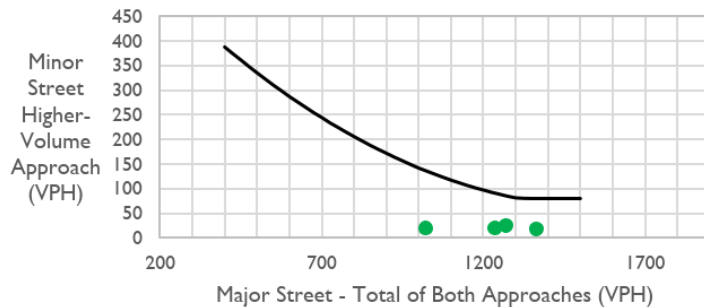
WARRANT 1, Condition A and Condition B

80% Satisfied No

WARRANT 2, Four Hour Volume

100% Satisfied No

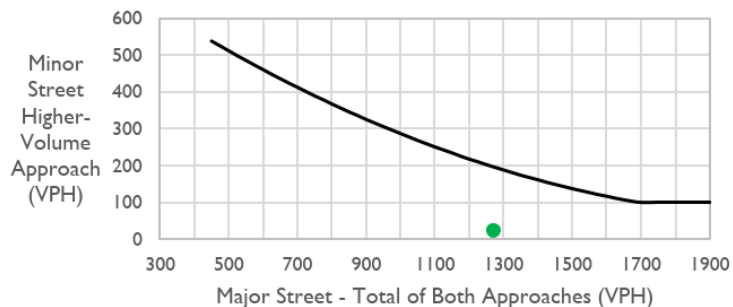
	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	1270	25
2nd Highest	1236	19
3rd Highest	1021	18
4th Highest	1364	18



WARRANT 3, Peak Hour Volume

100% Satisfied No

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	1270	25



MUTCD Volume-based Warrant Evaluation
25th Ave & Ames Ave
Base-Future (2050)



Major Street: Ames Ave
 Lanes Moving Traffic: 2 or more
 Approach Speed: 30 MPH
 Option: Low speed, urban community

Minor Street: 25th Ave
 Lanes Moving Traffic: 1
 Right Turn Volume Reduction: 0% SB, 0% NB

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	600 (480)	1140	883	1336	1264	1024	844	1207	907
Highest Apprch. Minor Street	150 (120)	35	17	14	14	12	9	7	7

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	900 (720)	1140	883	1336	1264	1024	844	1207	907
Highest Apprch. Minor Street	75 (60)	35	17	14	14	12	9	7	7

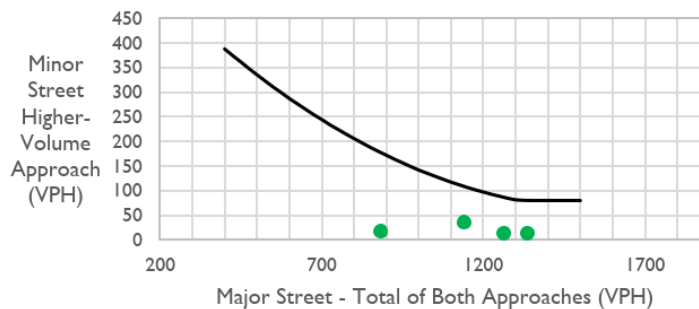
WARRANT 1, Condition A and Condition B

80% Satisfied No

WARRANT 2, Four Hour Volume

100% Satisfied No

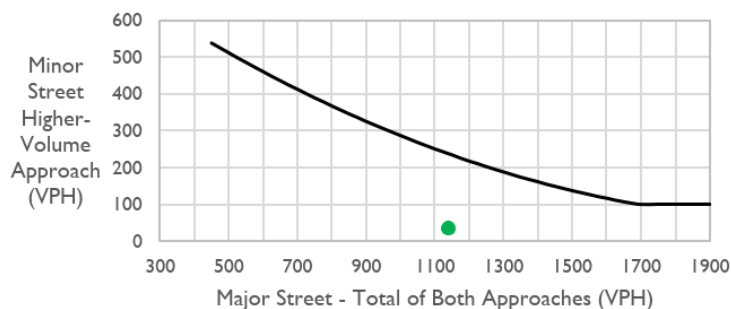
	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	1140	35
2nd Highest	883	17
3rd Highest	1336	14
4th Highest	1264	14



WARRANT 3, Peak Hour Volume

100% Satisfied No

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	1140	35



MUTCD Volume-based Warrant Evaluation
24th Street & Ames Ave
Base-Future (2050)



Major Street: Ames Ave
 Lanes Moving Traffic: 2 or more
 Approach Speed: 30 MPH
 Option: Low speed, urban community

Minor Street: 24th Street
 Lanes Moving Traffic: 1
 Right Turn Volume Reduction: 0% SB, 0% NB

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	600 (480)	930	978	918	810	718	566	579	715
Highest Apprch. Minor Street	150 (120)	280	259	220	190	172	145	136	118

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	900 (720)	930	978	918	810	718	566	579	715
Highest Apprch. Minor Street	75 (60)	280	259	220	190	172	145	136	118

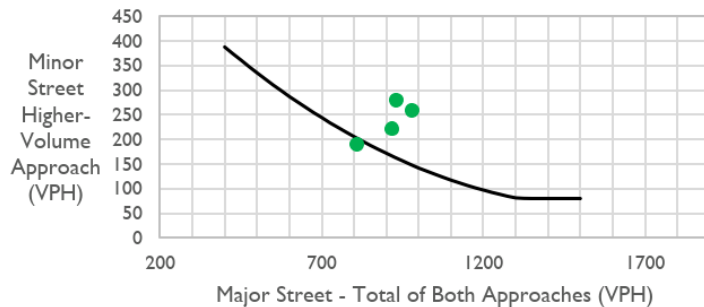
WARRANT 1, Condition A and Condition B

80% Satisfied No

WARRANT 2, Four Hour Volume

100% Satisfied No

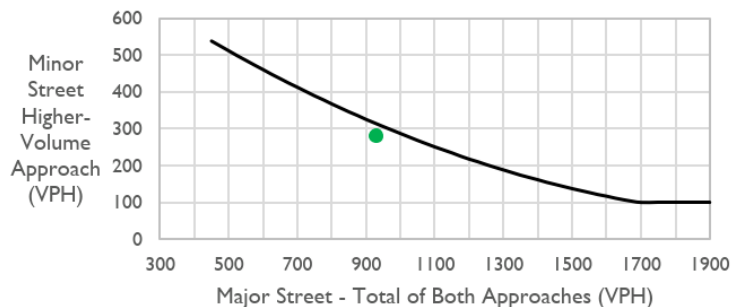
	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	930	280
2nd Highest	978	259
3rd Highest	918	220
4th Highest	810	190



WARRANT 3, Peak Hour Volume

100% Satisfied No

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	930	280



MUTCD Volume-based Warrant Evaluation
Florence Blvd & Ames Ave
Base-Future (2050)



Major Street: Ames Ave
 Lanes Moving Traffic: 2 or more
 Approach Speed: 30 MPH
 Option: Low speed, urban community

Minor Street: Florence Blvd
 Lanes Moving Traffic: 1
 Right Turn Volume Reduction: 0% SB, 0% NB

WARRANT 1, Condition A - Minimum Vehicular Volume

100% Satisfied No

	vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	600 (480)	620	577	548	418	348	517	337	307
Highest Apprch. Minor Street	150 (120)	220	216	186	181	128	123	85	85

WARRANT 1, Condition B - Interruption of Continuous Traffic

100% Satisfied No

	vehicles per hour 100% (80%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	900 (720)	620	577	548	418	348	517	337	307
Highest Apprch. Minor Street	75 (60)	220	216	186	181	128	123	85	85

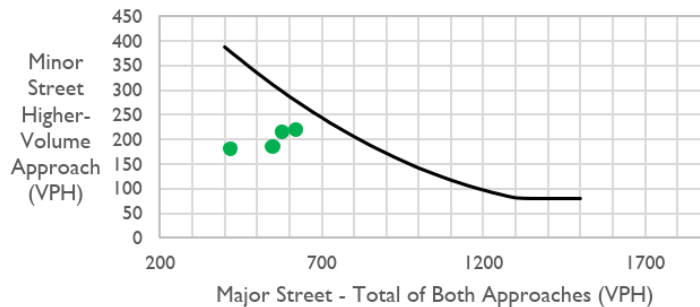
WARRANT 1, Condition A and Condition B

80% Satisfied No

WARRANT 2, Four Hour Volume

100% Satisfied No

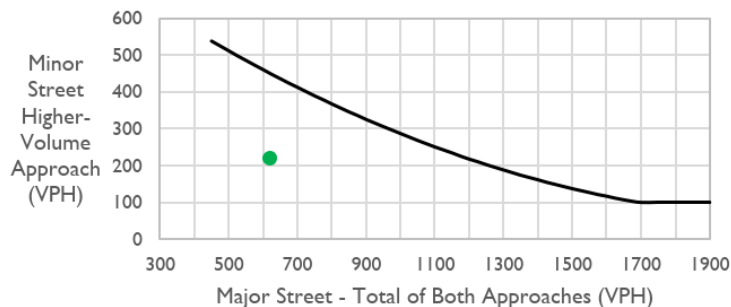
	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	620	220
2nd Highest	577	216
3rd Highest	548	186
4th Highest	418	181



WARRANT 3, Peak Hour Volume

100% Satisfied No

	Both Apprchs. Major Street	Higher Vol. Apprch. Minor Street
Peak Hour	620	220



APPENDIX E: SYNCHRO ANALYSIS REPORTS

Lanes, Volumes, Timings

1: 72nd St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	40	16	433	77	75	34	385	440	77	532	15
Future Volume (vph)	32	40	16	433	77	75	34	385	440	77	532	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	65		0	150		325	150		0	250		0
Storage Lanes	1		0	1		1	1		2	1		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	0.88	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.957				0.850			0.850		0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1780	0	3502	1900	1615	1805	3610	2842	1805	3561	0
Flt Permitted	0.702			0.950			0.428			0.950		
Satd. Flow (perm)	1334	1780	0	3502	1900	1615	813	3610	2842	1805	3561	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				82			478		4	
Link Speed (mph)		25			40			35			35	
Link Distance (ft)		470			531			636			764	
Travel Time (s)		12.8			9.1			12.4			14.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	35	43	17	471	84	82	37	418	478	84	578	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	60	0	471	84	82	37	418	478	84	594	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			28			18			18	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	0	0	0	1	0	
Detector Template												
Leading Detector (ft)	50	50		50	50	50	0	0	0	50	0	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Turn Type	Perm	NA		Prot	NA	pm+ov	Perm	NA	pm+ov	Prot	NA	
Protected Phases		2		1	6	7		8	1	7	4	
Permitted Phases	2					6	8		8			
Detector Phase	2	2		1	6	7	8	8	1	7	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0		7.0	8.0	5.0	20.0	20.0	7.0	5.0	20.0	
Minimum Split (s)	14.0	14.0		13.0	14.0	13.0	26.0	26.0	13.0	13.0	26.0	
Total Split (s)	16.0	16.0		30.0	46.0	18.0	56.0	56.0	30.0	18.0	74.0	
Total Split (%)	13.3%	13.3%		25.0%	38.3%	15.0%	46.7%	46.7%	25.0%	15.0%	61.7%	

Lanes, Volumes, Timings

1: 72nd St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	10.0	10.0		24.0	40.0	12.0	50.0	50.0	24.0	12.0	68.0	
Yellow Time (s)	4.0	4.0		3.2	4.0	3.9	4.9	4.9	3.2	3.9	4.9	
All-Red Time (s)	2.0	2.0		2.8	2.0	2.1	1.1	1.1	2.8	2.1	1.1	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lag	Lag		Lead		Lead	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		2.0	3.0	2.0	0.2	0.2	2.0	2.0	0.2	
Minimum Gap (s)	3.0	3.0		2.0	3.0	2.0	0.2	0.2	2.0	2.0	0.2	
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	None		None	None	None	C-Max	C-Max	None	None	C-Max	
Walk Time (s)	12.0	12.0		12.0			17.0	17.0			17.0	
Flash Dont Walk (s)	28.0	28.0		28.0			22.0	22.0			22.0	
Pedestrian Calls (#/hr)	0	0		0			0	0			0	
Act Effct Green (s)	8.9	8.9		20.4	32.6	48.1	59.9	59.9	86.4	9.5	75.4	
Actuated g/C Ratio	0.07	0.07		0.17	0.27	0.40	0.50	0.50	0.72	0.08	0.63	
v/c Ratio	0.35	0.42		0.79	0.16	0.12	0.09	0.23	0.22	0.59	0.27	
Control Delay	62.8	51.5		52.7	26.1	10.3	20.9	19.5	0.9	69.4	11.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	62.8	51.5		52.7	26.1	10.3	20.9	19.5	0.9	69.4	11.4	
LOS	E	D		D	C	B	C	B	A	E	B	
Approach Delay		55.6			43.7			10.0			18.6	
Approach LOS		E			D			A			B	
Queue Length 50th (ft)	26	35		181	49	5	16	100	0	64	108	
Queue Length 95th (ft)	61	80		235	85	54	41	149	18	116	154	
Internal Link Dist (ft)		390			451			556			684	
Turn Bay Length (ft)	65			150		325	150			250		
Base Capacity (vph)	111	160		700	633	727	406	1802	2249	180	2240	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.32	0.38		0.67	0.13	0.11	0.09	0.23	0.21	0.47	0.27	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 79 (66%), Referenced to phase 4:SBT and 8:NBT, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 23.5

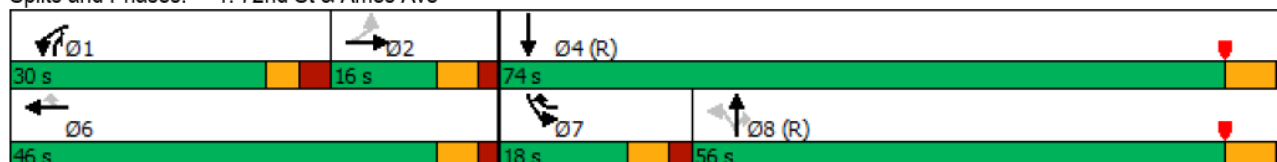
Intersection LOS: C

Intersection Capacity Utilization 67.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: 72nd St & Ames Ave



Queues

1: 72nd St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	35	60	471	84	82	37	418	478	84	594
v/c Ratio	0.35	0.42	0.79	0.16	0.12	0.09	0.23	0.22	0.59	0.27
Control Delay	62.8	51.5	52.7	26.1	10.3	20.9	19.5	0.9	69.4	11.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.8	51.5	52.7	26.1	10.3	20.9	19.5	0.9	69.4	11.4
Queue Length 50th (ft)	26	35	181	49	5	16	100	0	64	108
Queue Length 95th (ft)	61	80	235	85	54	41	149	18	116	154
Internal Link Dist (ft)		390		451			556			684
Turn Bay Length (ft)	65		150		325	150			250	
Base Capacity (vph)	111	160	700	633	727	406	1802	2249	180	2240
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.38	0.67	0.13	0.11	0.09	0.23	0.21	0.47	0.27

Intersection Summary

HCM 6th Signalized Intersection Summary

1: 72nd St & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	40	16	433	77	75	34	385	440	77	532	15
Future Volume (veh/h)	32	40	16	433	77	75	34	385	440	77	532	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1900	1900	1900	1900	1900	1900	1900	1900	1885	1900
Adj Flow Rate, veh/h	35	43	17	471	84	82	37	418	478	84	578	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	3	0	0	0	0	0	0	0	0	1	0
Cap, veh/h	143	84	33	547	518	534	494	1871	1911	107	2234	62
Arrive On Green	0.07	0.07	0.07	0.05	0.09	0.09	0.52	0.52	0.52	0.06	0.63	0.63
Sat Flow, veh/h	1239	1265	500	3510	1900	1610	836	3610	2834	1810	3560	98
Grp Volume(v), veh/h	35	0	60	471	84	82	37	418	478	84	291	303
Grp Sat Flow(s),veh/h/ln	1239	0	1765	1755	1900	1610	836	1805	1417	1810	1791	1867
Q Serve(g_s), s	3.3	0.0	3.9	16.0	4.9	5.2	2.7	7.6	7.9	5.5	8.7	8.7
Cycle Q Clear(g_c), s	3.3	0.0	3.9	16.0	4.9	5.2	2.7	7.6	7.9	5.5	8.7	8.7
Prop In Lane	1.00		0.28	1.00		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	143	0	118	547	518	534	494	1871	1911	107	1124	1172
V/C Ratio(X)	0.25	0.00	0.51	0.86	0.16	0.15	0.07	0.22	0.25	0.79	0.26	0.26
Avail Cap(c_a), veh/h	163	0	147	702	633	632	494	1871	1911	181	1124	1172
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.98	0.98	0.98	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.8	0.0	54.1	55.6	41.9	35.7	14.6	15.7	7.7	55.7	9.9	9.9
Incr Delay (d2), s/veh	0.9	0.0	3.4	7.0	0.1	0.1	0.3	0.3	0.3	4.7	0.6	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	1.9	8.1	2.3	2.1	0.5	3.1	0.1	2.6	3.4	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.7	0.0	57.5	62.7	42.1	35.8	14.9	16.0	8.0	60.5	10.5	10.5
LnGrp LOS	D	A	E	E	D	D	B	B	A	E	B	B
Approach Vol, veh/h		95			637			933			678	
Approach Delay, s/veh		56.5			56.5			11.8			16.7	
Approach LOS		E			E			B			B	
Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	24.7	14.0		81.3		38.7	13.1	68.2				
Change Period (Y+Rc), s	6.0	6.0		* 6		6.0	6.0	* 6				
Max Green Setting (Gmax), s	24.0	10.0		* 68		40.0	12.0	* 50				
Max Q Clear Time (g_c+I1), s	18.0	5.9		0.0		7.2	7.5	0.0				
Green Ext Time (p_c), s	0.7	0.1		0.0		0.6	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay 27.2
 HCM 6th LOS C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings

2: Benson Park Plz & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	516	11	21	567	37	14	2	27	46	6	9
Future Volume (vph)	30	516	11	21	567	37	14	2	27	46	6	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%				0%				0%			
Storage Length (ft)	150			0	200			0	0	150	75	0
Storage Lanes	1			0	1			0	1	1	1	0
Taper Length (ft)	50			50				50		50		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.997				0.991				0.859		0.912	
Flt Protected	0.950			0.950				0.950		0.950		
Satd. Flow (prot)	1805	3564	0	1805	3578	0	1687	1573	0	1805	1733	0
Flt Permitted	0.360			0.426				0.746		0.736		
Satd. Flow (perm)	684	3564	0	809	3578	0	1325	1573	0	1398	1733	0
Right Turn on Red	Yes						Yes					
Satd. Flow (RTOR)	4						9			31		
Link Speed (mph)	40						40			25		
Link Distance (ft)	531						2105			252		
Travel Time (s)	9.1						35.9			6.9		
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	7%	0%	4%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%						0%			0%		
Adj. Flow (vph)	34	586	13	24	644	42	16	2	31	52	7	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	599	0	24	686	0	16	33	0	52	17	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	16						16			16		
Link Offset(ft)	0						0			0		
Crosswalk Width(ft)	16						16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	0		1	0		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	0		50	0		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	20.0		20.0	20.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	13.0	31.0		31.0	31.0		34.0	34.0		34.0	34.0	
Total Split (s)	13.0	86.0		73.0	73.0		34.0	34.0		34.0	34.0	
Total Split (%)	10.8%	71.7%		60.8%	60.8%		28.3%	28.3%		28.3%	28.3%	

Lanes, Volumes, Timings

2: Benson Park Plz & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	7.0	80.0		67.0	67.0		28.0	28.0		28.0	28.0	
Yellow Time (s)	4.1	5.2		5.2	5.2		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.9	0.8		0.8	0.8		2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead			Lag								
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	0.2		0.2	0.2		3.0	3.0		3.0	3.0	
Minimum Gap (s)	2.0	0.2		0.2	0.2		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)		7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)		17.0		17.0	17.0		18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
Act Effct Green (s)	100.5	101.7		94.9	94.9		10.3	10.3		10.3	10.3	
Actuated g/C Ratio	0.84	0.85		0.79	0.79		0.09	0.09		0.09	0.09	
v/c Ratio	0.05	0.20		0.04	0.24		0.14	0.20		0.43	0.11	
Control Delay	2.9	3.4		5.5	4.9		52.1	20.6		62.5	32.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	2.9	3.4		5.5	4.9		52.1	20.6		62.5	32.4	
LOS	A	A		A	A		D	C		E	C	
Approach Delay		3.4			5.0			30.8			55.1	
Approach LOS		A			A			C			E	
Queue Length 50th (ft)	5	57		5	81		12	1		39	5	
Queue Length 95th (ft)	m11	74		14	119		33	31		77	27	
Internal Link Dist (ft)		451			2025			172			208	
Turn Bay Length (ft)	150			200						75		
Base Capacity (vph)	638	3020		640	2832		309	390		326	412	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.05	0.20		0.04	0.24		0.05	0.08		0.16	0.04	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 100 (83%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.43

Intersection Signal Delay: 7.5

Intersection LOS: A

Intersection Capacity Utilization 44.1%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

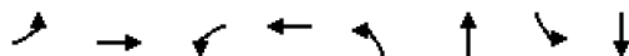
Splits and Phases: 2: Benson Park Plz & Ames Ave



Queues

2: Benson Park Plz & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	34	599	24	686	16	33	52	17
v/c Ratio	0.05	0.20	0.04	0.24	0.14	0.20	0.43	0.11
Control Delay	2.9	3.4	5.5	4.9	52.1	20.6	62.5	32.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.9	3.4	5.5	4.9	52.1	20.6	62.5	32.4
Queue Length 50th (ft)	5	57	5	81	12	1	39	5
Queue Length 95th (ft)	m11	74	14	119	33	31	77	27
Internal Link Dist (ft)		451		2025		172		208
Turn Bay Length (ft)	150		200				75	
Base Capacity (vph)	638	3020	640	2832	309	390	326	412
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.20	0.04	0.24	0.05	0.08	0.16	0.04

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary

2: Benson Park Plz & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	516	11	21	567	37	14	2	27	46	6	9
Future Volume (veh/h)	30	516	11	21	567	37	14	2	27	46	6	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1885	1900	1900	1900	1900	1796	1900	1841	1900	1900	1900
Adj Flow Rate, veh/h	34	586	12	24	644	42	16	2	31	52	7	10
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	1	0	0	0	0	7	0	4	0	0	0
Cap, veh/h	686	2970	61	684	2578	168	145	7	111	135	51	73
Arrive On Green	0.06	1.00	1.00	1.00	1.00	1.00	0.07	0.07	0.07	0.07	0.07	0.07
Sat Flow, veh/h	1810	3589	73	833	3440	224	1341	98	1527	1398	707	1011
Grp Volume(v), veh/h	34	292	306	24	338	348	16	0	33	52	0	17
Grp Sat Flow(s),veh/h/ln	1810	1791	1872	833	1805	1860	1341	0	1625	1398	0	1718
Q Serve(g_s), s	0.5	0.0	0.0	0.0	0.0	0.0	1.4	0.0	2.3	4.4	0.0	1.1
Cycle Q Clear(g_c), s	0.5	0.0	0.0	0.0	0.0	0.0	2.5	0.0	2.3	6.7	0.0	1.1
Prop In Lane	1.00		0.04	1.00		0.12	1.00		0.94	1.00		0.59
Lane Grp Cap(c), veh/h	686	1482	1549	684	1352	1393	145	0	118	135	0	125
V/C Ratio(X)	0.05	0.20	0.20	0.04	0.25	0.25	0.11	0.00	0.28	0.39	0.00	0.14
Avail Cap(c_a), veh/h	741	1482	1549	684	1352	1393	360	0	379	359	0	401
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.97	0.99	0.99	0.99	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	2.5	0.0	0.0	0.0	0.0	0.0	53.3	0.0	52.7	55.9	0.0	52.1
Incr Delay (d2), s/veh	0.0	0.3	0.3	0.1	0.4	0.4	0.3	0.0	1.3	1.8	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.1	0.0	0.2	0.2	0.5	0.0	1.0	1.6	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	2.5	0.3	0.3	0.1	0.4	0.4	53.6	0.0	54.0	57.7	0.0	52.6
LnGrp LOS	A	A	A	A	A	A	D	A	D	E	A	D
Approach Vol, veh/h	632			710			49			69		
Approach Delay, s/veh	0.4			0.4			53.8			56.4		
Approach LOS	A			A			D			E		
Timer - Assigned Phs	2			4		5	6	8				
Phs Duration (G+Y+Rc), s	105.3			14.7		9.4	95.9	14.7				
Change Period (Y+Rc), s	* 6			6.0		* 6	* 6	6.0				
Max Green Setting (Gmax), s	* 80			28.0		* 7	* 67	28.0				
Max Q Clear Time (g_c+I1), s	0.0			8.7		2.5	2.0	4.5				
Green Ext Time (p_c), s	0.0			0.2		0.0	0.2	0.1				
Intersection Summary												
HCM 6th Ctrl Delay				4.9								
HCM 6th LOS				A								
Notes												

Lanes, Volumes, Timings

3: 66th St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	596	10	21	586	4	3	2	15	14	2	9
Future Volume (vph)	17	596	10	21	586	4	3	2	15	14	2	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%				0%				0%			
Storage Length (ft)	150			0	125			0	0	0		
Storage Lanes	1			0	1			0	0	0		
Taper Length (ft)	50			50				50				50
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.998				0.999				0.899		0.951	
Flt Protected	0.950			0.950				0.993				0.973
Satd. Flow (prot)	1805	3603	0	1805	3571	0	0	1696	0	0	1758	0
Flt Permitted	0.422			0.415				0.942				0.815
Satd. Flow (perm)	802	3603	0	788	3571	0	0	1609	0	0	1473	0
Right Turn on Red	Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)	3			1			15			9		
Link Speed (mph)	40			40			25			25		
Link Distance (ft)	2105			1330			821			664		
Travel Time (s)	35.9			22.7			22.4			18.1		
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%			0%			0%		
Adj. Flow (vph)	18	614	10	22	604	4	3	2	15	14	2	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	624	0	22	608	0	0	20	0	0	25	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	16			16			0			0		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		15	9		15	9		15	9	
Number of Detectors	1	1	1		1	1		1	1		1	
Detector Template												
Leading Detector (ft)	50	50	50		50	50		50	50		50	
Trailing Detector (ft)	0	0	0		0	0		0	0		0	
Turn Type	Perm	NA	Perm		NA	Perm		NA	Perm		NA	
Protected Phases	2				2				4		4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2	2		2	4		4	4		4	
Switch Phase												
Minimum Initial (s)	20.0	20.0	20.0		20.0	8.0		8.0	8.0		8.0	
Minimum Split (s)	26.0	26.0	26.0		26.0	30.0		30.0	30.0		30.0	
Total Split (s)	90.0	90.0	90.0		90.0	30.0		30.0	30.0		30.0	
Total Split (%)	75.0%	75.0%	75.0%		75.0%	25.0%		25.0%	25.0%		25.0%	

Lanes, Volumes, Timings

3: 66th St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	84.0	84.0		84.0	84.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	4.6	4.6		4.6	4.6		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.4	1.4		1.4	1.4		1.4	1.4		1.4	1.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		17.0	17.0		17.0	17.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	108.4	108.4		108.4	108.4			8.2			8.2	
Actuated g/C Ratio	0.90	0.90		0.90	0.90			0.07			0.07	
v/c Ratio	0.02	0.19		0.03	0.19			0.16			0.23	
Control Delay	1.2	1.1		1.6	1.5			30.6			43.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	1.2	1.1		1.6	1.5			30.6			43.8	
LOS	A	A		A	A			C			D	
Approach Delay		1.1			1.5			30.6			43.8	
Approach LOS		A			A			C			D	
Queue Length 50th (ft)	1	25		2	34			4			12	
Queue Length 95th (ft)	4	33		6	48			29			41	
Internal Link Dist (ft)		2025			1250			741			584	
Turn Bay Length (ft)	150			125								
Base Capacity (vph)	724	3254		711	3224			347			314	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.02	0.19		0.03	0.19			0.06			0.08	
Intersection Summary												
Area Type:	Other											
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 116 (97%), Referenced to phase 2:EBWB, Start of FDW or yellow												
Natural Cycle: 60												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.23												
Intersection Signal Delay: 2.5					Intersection LOS: A							
Intersection Capacity Utilization 33.3%					ICU Level of Service A							
Analysis Period (min) 15												

Splits and Phases: 3: 66th St & Ames Ave



Queues

3: 66th St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	18	624	22	608	20	25
v/c Ratio	0.02	0.19	0.03	0.19	0.16	0.23
Control Delay	1.2	1.1	1.6	1.5	30.6	43.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1.2	1.1	1.6	1.5	30.6	43.8
Queue Length 50th (ft)	1	25	2	34	4	12
Queue Length 95th (ft)	4	33	6	48	29	41
Internal Link Dist (ft)		2025		1250	741	584
Turn Bay Length (ft)	150		125			
Base Capacity (vph)	724	3254	711	3224	347	314
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.19	0.03	0.19	0.06	0.08

Intersection Summary

HCM 6th Edition methodology does not support Non-NEMA phasing.

Lanes, Volumes, Timings

4: 63rd Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	611	4	8	597	11	6	0	11	9	0	4
Future Volume (vph)	8	611	4	8	597	11	6	0	11	9	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%				0%		0%				0%	
Storage Length (ft)	120			0	110			0	0	0		
Storage Lanes	1			0	1			0	0	0		
Taper Length (ft)	80			85		50				50		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.999				0.997		0.913				0.958	
Flt Protected	0.950			0.950				0.983				0.967
Satd. Flow (prot)	1805	3606	0	1805	3599	0	0	1705	0	0	1760	0
Flt Permitted	0.950			0.950				0.983				0.967
Satd. Flow (perm)	1805	3606	0	1805	3599	0	0	1705	0	0	1760	0
Link Speed (mph)	40				40		25				25	
Link Distance (ft)	1330				660		282				261	
Travel Time (s)	22.7				11.3		7.7				7.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%				0%		0%				0%	
Adj. Flow (vph)	8	630	4	8	615	11	6	0	11	9	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	8	634	0	8	626	0	0	17	0	0	13	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12				12		0				0	
Link Offset(ft)	0				0		0				0	
Crosswalk Width(ft)	16				16		16				16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		15	9		15	9		15	9	
Sign Control	Free			Free			Stop			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 27.0%				ICU Level of Service A								
Analysis Period (min) 15												

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱		↰	↰↱			↱			↱	
Traffic Vol, veh/h	8	611	4	8	597	11	6	0	11	9	0	4
Future Vol, veh/h	8	611	4	8	597	11	6	0	11	9	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	120	-	-	110	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	8	630	4	8	615	11	6	0	11	9	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	626	0	0	634	0	0	972	1290	317	968	1287	313
Stage 1	-	-	-	-	-	-	648	648	-	637	637	-
Stage 2	-	-	-	-	-	-	324	642	-	331	650	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	965	-	-	959	-	-	210	165	685	211	166	689
Stage 1	-	-	-	-	-	-	430	469	-	437	475	-
Stage 2	-	-	-	-	-	-	668	472	-	662	468	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	965	-	-	959	-	-	206	162	685	205	163	689
Mov Cap-2 Maneuver	-	-	-	-	-	-	206	162	-	205	163	-
Stage 1	-	-	-	-	-	-	427	465	-	434	471	-
Stage 2	-	-	-	-	-	-	658	468	-	646	464	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	15	19.5
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	376	965	-	-	959	-	-	262
HCM Lane V/C Ratio	0.047	0.009	-	-	0.009	-	-	0.051
HCM Control Delay (s)	15	8.8	-	-	8.8	-	-	19.5
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Lanes, Volumes, Timings

5: 60th St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	548	15	39	526	32	36	75	59	50	116	91
Future Volume (vph)	29	548	15	39	526	32	36	75	59	50	116	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%				0%		0%				0%	
Storage Length (ft)	225			0	200			0	175			0
Storage Lanes	1			0	1			0	1			0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt	0.996				0.991				0.934		0.934	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3596	0	1805	3578	0	1805	3372	0	1805	3372	0
Flt Permitted	0.371			0.351			0.492			0.610		
Satd. Flow (perm)	705	3596	0	667	3578	0	935	3372	0	1159	3372	0
Right Turn on Red	Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)	3			6			72			111		
Link Speed (mph)	40			40			35			35		
Link Distance (ft)	644			1336			1970			3961		
Travel Time (s)	11.0			22.8			38.4			77.2		
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	0											
Mid-Block Traffic (%)	0%			0%			0%			0%		
Adj. Flow (vph)	35	668	18	48	641	39	44	91	72	61	141	111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	686	0	48	680	0	44	163	0	61	252	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	16			16			16			16		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		15	9		15	9		15	9	
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	20.0		5.0	20.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	13.0	29.0		13.0	29.0		13.0	16.0		13.0	16.0	
Total Split (s)	19.0	54.0		19.0	54.0		17.0	30.0		17.0	30.0	
Total Split (%)	15.8%	45.0%		15.8%	45.0%		14.2%	25.0%		14.2%	25.0%	

Lanes, Volumes, Timings

5: 60th St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	13.0	48.0		13.0	48.0		11.0	24.0		11.0	24.0	
Yellow Time (s)	3.5	4.9		3.9	4.9		3.0	4.6		3.6	4.6	
All-Red Time (s)	2.5	1.1		2.1	1.1		3.0	1.4		2.4	1.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0			8.0			8.0	
Flash Dont Walk (s)		16.0			16.0			16.0			16.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	79.6	74.4		81.4	77.1		17.8	11.0		19.2	11.7	
Actuated g/C Ratio	0.66	0.62		0.68	0.64		0.15	0.09		0.16	0.10	
v/c Ratio	0.07	0.31		0.09	0.30		0.23	0.43		0.26	0.59	
Control Delay	7.3	12.8		6.6	12.1		39.6	31.9		40.4	34.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	7.3	12.8		6.6	12.1		39.6	31.9		40.4	34.3	
LOS	A	B		A	B		D	C		D	C	
Approach Delay		12.6			11.8			33.6			35.5	
Approach LOS		B			B			C			D	
Queue Length 50th (ft)	8	133		15	131		28	35		39	55	
Queue Length 95th (ft)	19	176		28	166		52	60		66	83	
Internal Link Dist (ft)		564			1256			1890			3881	
Turn Bay Length (ft)	225			200			175			175		
Base Capacity (vph)	615	2231		593	2300		235	732		259	763	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.06	0.31		0.08	0.30		0.19	0.22		0.24	0.33	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 40 (33%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.59

Intersection Signal Delay: 18.1

Intersection LOS: B

Intersection Capacity Utilization 53.3%

ICU Level of Service A

Analysis Period (min) 15

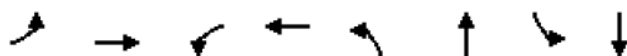
Splits and Phases: 5: 60th St & Ames Ave

 Ø1	 Ø2 (R)	 Ø3	 Ø4
19 s	54 s	17 s	30 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
19 s	54 s	17 s	30 s

Queues

5: 60th St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	35	686	48	680	44	163	61	252
v/c Ratio	0.07	0.31	0.09	0.30	0.23	0.43	0.26	0.59
Control Delay	7.3	12.8	6.6	12.1	39.6	31.9	40.4	34.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.3	12.8	6.6	12.1	39.6	31.9	40.4	34.3
Queue Length 50th (ft)	8	133	15	131	28	35	39	55
Queue Length 95th (ft)	19	176	28	166	52	60	66	83
Internal Link Dist (ft)		564		1256		1890		3881
Turn Bay Length (ft)	225		200		175		175	
Base Capacity (vph)	615	2231	593	2300	235	732	259	763
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.31	0.08	0.30	0.19	0.22	0.24	0.33

Intersection Summary

HCM 6th Signalized Intersection Summary

5: 60th St & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	548	15	39	526	32	36	75	59	50	116	91
Future Volume (veh/h)	29	548	15	39	526	32	36	75	59	50	116	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	35	668	18	48	641	39	44	91	72	61	141	111
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	604	2171	58	542	2219	135	144	176	128	185	194	142
Arrive On Green	0.03	0.64	0.64	0.07	1.00	1.00	0.03	0.09	0.09	0.04	0.10	0.10
Sat Flow, veh/h	1810	3407	92	1810	3457	210	1810	1999	1446	1810	1987	1456
Grp Volume(v), veh/h	35	354	332	48	334	346	44	81	82	61	127	125
Grp Sat Flow(s),veh/h/ln	1810	1805	1693	1810	1805	1862	1810	1805	1640	1810	1805	1638
Q Serve(g_s), s	0.8	10.6	10.6	1.1	0.0	0.0	2.6	5.2	5.7	3.6	8.2	8.9
Cycle Q Clear(g_c), s	0.8	10.6	10.6	1.1	0.0	0.0	2.6	5.2	5.7	3.6	8.2	8.9
Prop In Lane	1.00		0.05	1.00		0.11	1.00		0.88	1.00		0.89
Lane Grp Cap(c), veh/h	604	1150	1079	542	1158	1195	144	159	145	185	176	160
V/C Ratio(X)	0.06	0.31	0.31	0.09	0.29	0.29	0.30	0.51	0.56	0.33	0.72	0.78
Avail Cap(c_a), veh/h	748	1150	1079	677	1158	1195	252	361	328	276	361	328
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.8	9.8	9.8	6.9	0.0	0.0	47.9	52.2	52.5	47.2	52.6	52.9
Incr Delay (d2), s/veh	0.0	0.7	0.7	0.1	0.6	0.6	1.2	2.5	3.4	1.0	5.5	8.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	4.1	3.8	0.4	0.2	0.2	1.2	2.4	2.5	1.7	4.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.9	10.5	10.6	7.0	0.6	0.6	49.0	54.8	55.9	48.2	58.1	61.0
LnGrp LOS	A	B	B	A	A	A	D	D	E	D	E	E
Approach Vol, veh/h		721			728			207			313	
Approach Delay, s/veh		10.4			1.0			54.0			57.3	
Approach LOS		B			A			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	82.5	9.8	17.7	9.4	83.0	11.0	16.6				
Change Period (Y+Rc), s	6.0	* 6	6.0	* 6	6.0	* 6	6.0	* 6				
Max Green Setting (Gmax), s	13.0	* 48	11.0	* 24	13.0	* 48	11.0	* 24				
Max Q Clear Time (g_c+I1), s	3.1	12.6	4.6	10.9	2.8	2.0	5.6	7.7				
Green Ext Time (p_c), s	0.1	2.8	0.0	0.8	0.0	2.8	0.1	0.5				
Intersection Summary												
HCM 6th Ctrl Delay			19.0									
HCM 6th LOS			B									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Lanes, Volumes, Timings

6: Ames Ave & 56th Street (East)

09/08/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	19	703	645	44	9	11
Future Volume (vph)	19	703	645	44	9	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	160			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	80				50	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.990		0.926	
Flt Protected	0.950				0.978	
Satd. Flow (prot)	1805	3610	3574	0	1721	0
Flt Permitted	0.950				0.978	
Satd. Flow (perm)	1805	3610	3574	0	1721	0
Link Speed (mph)		40	40		25	
Link Distance (ft)		1336	420		277	
Travel Time (s)		22.8	7.2		7.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	21	764	701	48	10	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	21	764	749	0	22	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		14	14		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 29.4% ICU Level of Service A

Analysis Period (min) 15

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	703	645	44	9	11
Future Vol, veh/h	19	703	645	44	9	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	160	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	21	764	701	48	10	12

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	749	0	-	0	1149 375
Stage 1	-	-	-	-	725 -
Stage 2	-	-	-	-	424 -
Critical Hdwy	4.1	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	869	-	-	-	195 628
Stage 1	-	-	-	-	446 -
Stage 2	-	-	-	-	634 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	869	-	-	-	190 628
Mov Cap-2 Maneuver	-	-	-	-	190 -
Stage 1	-	-	-	-	435 -
Stage 2	-	-	-	-	634 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	17.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	869	-	-	-	308
HCM Lane V/C Ratio	0.024	-	-	-	0.071
HCM Control Delay (s)	9.2	-	-	-	17.6
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Lanes, Volumes, Timings

7: 55th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	711	3	6	731	3	3	0	2	2	0	7
Future Volume (vph)	4	711	3	6	731	3	3	0	2	2	0	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	105		0	90		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	80			80			50			50		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.999			0.999			0.946			0.895		
Flt Protected	0.950			0.950				0.971			0.989	
Satd. Flow (prot)	1805	3571	0	1805	3606	0	0	1745	0	0	1682	0
Flt Permitted	0.950			0.950				0.971			0.989	
Satd. Flow (perm)	1805	3571	0	1805	3606	0	0	1745	0	0	1682	0
Link Speed (mph)	40			40			25			25		
Link Distance (ft)	420			893			359			461		
Travel Time (s)	7.2			15.2			9.8			12.6		
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%			0%			0%		
Adj. Flow (vph)	4	741	3	6	761	3	3	0	2	2	0	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	744	0	6	764	0	0	5	0	0	9	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	14			14			0			0		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control	Free			Free			Stop			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	30.3%						ICU Level of Service A					
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱		↰	↰↱			↱			↱	
Traffic Vol, veh/h	4	711	3	6	731	3	3	0	2	2	0	7
Future Vol, veh/h	4	711	3	6	731	3	3	0	2	2	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	105	-	-	90	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	1	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	741	3	6	761	3	3	0	2	2	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	764	0	0	744	0	0	1144	1527	372	1154	1527	382
Stage 1	-	-	-	-	-	-	751	751	-	775	775	-
Stage 2	-	-	-	-	-	-	393	776	-	379	752	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	858	-	-	873	-	-	157	119	631	155	119	622
Stage 1	-	-	-	-	-	-	373	421	-	361	411	-
Stage 2	-	-	-	-	-	-	609	410	-	620	421	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	858	-	-	873	-	-	154	118	631	153	118	622
Mov Cap-2 Maneuver	-	-	-	-	-	-	154	118	-	153	118	-
Stage 1	-	-	-	-	-	-	371	419	-	359	408	-
Stage 2	-	-	-	-	-	-	598	407	-	615	419	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	21.7	15
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	221	858	-	-	873	-	-	370
HCM Lane V/C Ratio	0.024	0.005	-	-	0.007	-	-	0.025
HCM Control Delay (s)	21.7	9.2	-	-	9.2	-	-	15
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Lanes, Volumes, Timings

8: 52nd St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	605	76	88	655	37	42	160	126	71	176	60
Future Volume (vph)	33	605	76	88	655	37	42	160	126	71	176	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%				0%		0%				0%	
Storage Length (ft)	170			0	160			0	180			200
Storage Lanes	1			0	1			0	1			0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt	0.983				0.992				0.934		0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3549	0	1805	3581	0	1805	3372	0	1805	3473	0
Flt Permitted	0.358			0.297			0.592			0.561		
Satd. Flow (perm)	680	3549	0	564	3581	0	1125	3372	0	1066	3473	0
Right Turn on Red	Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)	27			11			138			66		
Link Speed (mph)	40			40			30			30		
Link Distance (ft)	893			960			2267			3058		
Travel Time (s)	15.2			16.4			51.5			69.5		
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%			0%			0%		
Adj. Flow (vph)	36	665	84	97	720	41	46	176	138	78	193	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	36	749	0	97	761	0	46	314	0	78	259	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	14			14			14			14		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		15	9		15	9		15	9	
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	20.0		5.0	20.0		9.0	9.0		9.0	9.0	
Minimum Split (s)	12.0	29.0		12.0	29.0		14.0	14.0		14.0	14.0	
Total Split (s)	12.0	29.0		12.0	29.0		19.0	19.0		19.0	19.0	
Total Split (%)	20.0%	48.3%		20.0%	48.3%		31.7%	31.7%		31.7%	31.7%	

Lanes, Volumes, Timings

8: 52nd St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	7.0	24.0		7.0	24.0		14.0	14.0		14.0	14.0	
Yellow Time (s)	3.1	4.5		3.6	4.5		4.1	4.1		4.1	4.1	
All-Red Time (s)	1.9	0.5		1.4	0.5		0.9	0.9		0.9	0.9	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	3.0		2.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	2.0	3.0		2.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)		17.0			17.0		17.0	17.0		17.0	17.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	34.8	30.6		37.8	35.1		10.7	10.7		10.7	10.7	
Actuated g/C Ratio	0.58	0.51		0.63	0.58		0.18	0.18		0.18	0.18	
v/c Ratio	0.07	0.41		0.20	0.36		0.23	0.44		0.41	0.39	
Control Delay	3.6	7.7		3.6	8.2		23.3	13.7		28.2	17.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	3.6	7.7		3.6	8.2		23.3	13.7		28.2	17.3	
LOS	A	A		A	A		C	B		C	B	
Approach Delay		7.6			7.7			14.9			19.9	
Approach LOS		A			A			B			B	
Queue Length 50th (ft)	3	68		8	42		15	30		26	33	
Queue Length 95th (ft)	9	105		5	204		37	56		57	57	
Internal Link Dist (ft)		813			880			2187			2978	
Turn Bay Length (ft)	170			160			180			200		
Base Capacity (vph)	540	1820		501	2101		262	892		248	860	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.07	0.41		0.19	0.36		0.18	0.35		0.31	0.30	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 44 (73%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.44

Intersection Signal Delay: 10.5

Intersection LOS: B

Intersection Capacity Utilization 56.7%

ICU Level of Service B

Analysis Period (min) 15

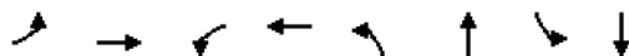
Splits and Phases: 8: 52nd St & Ames Ave

 Ø1  12 s	 Ø2 (R)   29 s	 Ø4  19 s
 Ø5  12 s	 Ø6 (R)   29 s	 Ø8  19 s

Queues

8: 52nd St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	36	749	97	761	46	314	78	259
v/c Ratio	0.07	0.41	0.20	0.36	0.23	0.44	0.41	0.39
Control Delay	3.6	7.7	3.6	8.2	23.3	13.7	28.2	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.6	7.7	3.6	8.2	23.3	13.7	28.2	17.3
Queue Length 50th (ft)	3	68	8	42	15	30	26	33
Queue Length 95th (ft)	9	105	5	204	37	56	57	57
Internal Link Dist (ft)		813		880		2187		2978
Turn Bay Length (ft)	170		160		180		200	
Base Capacity (vph)	540	1820	501	2101	262	892	248	860
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.41	0.19	0.36	0.18	0.35	0.31	0.30

Intersection Summary

HCM 6th Signalized Intersection Summary

8: 52nd St & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	605	76	88	655	37	42	160	126	71	176	60
Future Volume (veh/h)	33	605	76	88	655	37	42	160	126	71	176	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	36	665	84	97	720	41	46	176	138	78	193	66
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	428	1580	199	591	1802	103	266	383	283	238	515	171
Arrive On Green	0.08	0.98	0.98	0.02	0.17	0.17	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1810	3225	407	1810	3472	198	1138	1980	1462	1082	2663	883
Grp Volume(v), veh/h	36	372	377	97	374	387	46	160	154	78	129	130
Grp Sat Flow(s),veh/h/ln	1810	1805	1827	1810	1805	1864	1138	1805	1637	1082	1805	1741
Q Serve(g_s), s	0.6	0.4	0.4	1.5	11.1	11.1	2.2	4.7	5.0	4.2	3.7	3.9
Cycle Q Clear(g_c), s	0.6	0.4	0.4	1.5	11.1	11.1	6.1	4.7	5.0	9.2	3.7	3.9
Prop In Lane	1.00		0.22	1.00		0.11	1.00		0.89	1.00		0.51
Lane Grp Cap(c), veh/h	428	884	895	591	937	968	266	349	316	238	349	336
V/C Ratio(X)	0.08	0.42	0.42	0.16	0.40	0.40	0.17	0.46	0.49	0.33	0.37	0.39
Avail Cap(c_a), veh/h	571	884	895	681	937	968	311	421	382	282	421	406
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.97	0.97	0.97	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.3	0.3	0.3	6.5	16.5	16.5	23.8	21.4	21.6	25.7	21.0	21.1
Incr Delay (d2), s/veh	0.0	1.5	1.5	0.0	1.2	1.2	0.3	0.9	1.2	0.8	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.4	0.4	0.4	5.0	5.2	0.6	1.9	1.9	1.1	1.5	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.3	1.8	1.8	6.6	17.8	17.7	24.1	22.4	22.7	26.4	21.7	21.8
LnGrp LOS	A	A	A	A	B	B	C	C	C	C	C	C
Approach Vol, veh/h		785			858			360			337	
Approach Delay, s/veh		2.0			16.5			22.7			22.8	
Approach LOS		A			B			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.0	34.4		16.6	7.3	36.2		16.6				
Change Period (Y+Rc), s	* 5	5.0		* 5	* 5	5.0		* 5				
Max Green Setting (Gmax), s	* 7	24.0		* 14	* 7	24.0		* 14				
Max Q Clear Time (g_c+I1), s	3.5	2.4		11.2	2.6	13.1		8.1				
Green Ext Time (p_c), s	0.0	2.9		0.4	0.0	2.4		0.8				

Intersection Summary

HCM 6th Ctrl Delay 13.5
 HCM 6th LOS B

Notes

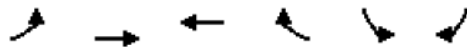
User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings

9: Ames Ave & Wal Mart

09/08/2025

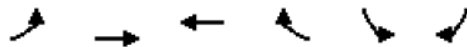


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	76	733	717	55	45	42
Future Volume (vph)	76	733	717	55	45	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	185			70	0	140
Storage Lanes	1			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor						
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1805	3610	3610	1615	1805	1615
Flt Permitted	0.329				0.950	
Satd. Flow (perm)	625	3610	3610	1615	1805	1615
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				51		45
Link Speed (mph)		40	40		25	
Link Distance (ft)		960	347		950	
Travel Time (s)		16.4	5.9		25.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	81	780	763	59	48	45
Shared Lane Traffic (%)						
Lane Group Flow (vph)	81	780	763	59	48	45
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		14	14		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Turn Type	pm+pt	NA	NA	Perm	Perm	Over
Protected Phases	5	2	6			5
Permitted Phases	2			6	4	
Detector Phase	5	2	6	6	4	5
Switch Phase						
Minimum Initial (s)	5.0	15.0	15.0	15.0	10.0	5.0
Minimum Split (s)	8.0	20.5	20.5	20.5	15.0	8.0
Total Split (s)	13.0	39.5	26.5	26.5	20.5	13.0
Total Split (%)	21.7%	65.8%	44.2%	44.2%	34.2%	21.7%

Lanes, Volumes, Timings

9: Ames Ave & Wal Mart

09/08/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Maximum Green (s)	10.0	34.0	21.0	21.0	15.5	10.0
Yellow Time (s)	3.0	4.5	4.5	4.5	4.0	3.0
All-Red Time (s)	0.0	1.0	1.0	1.0	1.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	5.5	5.5	5.5	5.0	3.0
Lead/Lag	Lead		Lag	Lag		Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	3.0	3.0	3.0	3.0	2.0
Minimum Gap (s)	2.0	3.0	3.0	3.0	3.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Walk Time (s)						
Flash Dont Walk (s)						
Pedestrian Calls (#/hr)						
Act Effct Green (s)	51.0	51.8	42.7	42.7	10.0	5.5
Actuated g/C Ratio	0.85	0.86	0.71	0.71	0.17	0.09
v/c Ratio	0.13	0.25	0.30	0.05	0.16	0.24
Control Delay	0.7	0.8	2.8	0.7	23.0	12.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	0.7	0.8	2.8	0.7	23.0	12.3
LOS	A	A	A	A	C	B
Approach Delay		0.8	2.7		17.8	
Approach LOS		A	A		B	
Queue Length 50th (ft)	0	0	17	1	15	0
Queue Length 95th (ft)	1	4	44	0	40	25
Internal Link Dist (ft)		880	267		870	
Turn Bay Length (ft)	185			70		140
Base Capacity (vph)	728	3116	2567	1163	466	306
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.25	0.30	0.05	0.10	0.15

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 34 (57%), Referenced to phase 2:EBTL and 6:WBT, Start of FDW or yellow

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.30

Intersection Signal Delay: 2.6

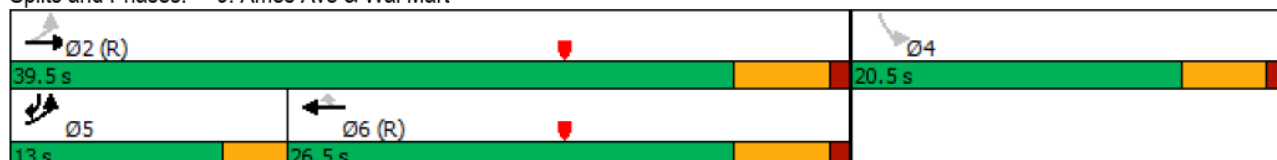
Intersection LOS: A

Intersection Capacity Utilization 44.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 9: Ames Ave & Wal Mart



Queues

9: Ames Ave & Wal Mart

09/08/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	81	780	763	59	48	45
v/c Ratio	0.13	0.25	0.30	0.05	0.16	0.24
Control Delay	0.7	0.8	2.8	0.7	23.0	12.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	0.7	0.8	2.8	0.7	23.0	12.3
Queue Length 50th (ft)	0	0	17	1	15	0
Queue Length 95th (ft)	1	4	44	0	40	25
Internal Link Dist (ft)		880	267		870	
Turn Bay Length (ft)	185			70		140
Base Capacity (vph)	728	3116	2567	1163	466	306
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.25	0.30	0.05	0.10	0.15

Intersection Summary

HCM 6th Edition methodology does not support Non-NEMA phasing.

Lanes, Volumes, Timings
10: 50th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	754	15	10	758	49	2	2	9	22	0	18
Future Volume (vph)	14	754	15	10	758	49	2	2	9	22	0	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	120		0	85		0	110		0	50		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	75			65			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.997			0.991			0.877			0.850		
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3599	0	1805	3544	0	1805	1666	0	1805	1615	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1805	3599	0	1805	3544	0	1805	1666	0	1805	1615	0
Link Speed (mph)	40			40			25			25		
Link Distance (ft)	347			510			165			250		
Travel Time (s)	5.9			8.7			4.5			6.8		
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%			0%			0%		
Adj. Flow (vph)	15	794	16	11	798	52	2	2	9	23	0	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	15	810	0	11	850	0	2	11	0	23	19	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	14			14			12			12		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control	Free			Free			Stop			Stop		

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 37.1% ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	754	15	10	758	49	2	2	9	22	0	18
Future Vol, veh/h	14	754	15	10	758	49	2	2	9	22	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	120	-	-	85	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	15	794	16	11	798	52	2	2	9	23	0	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	850	0	0	810	0	0	1253	1704	405	1274	1686	425
Stage 1	-	-	-	-	-	-	832	832	-	846	846	-
Stage 2	-	-	-	-	-	-	421	872	-	428	840	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	797	-	-	825	-	-	131	93	601	126	95	583
Stage 1	-	-	-	-	-	-	334	387	-	328	381	-
Stage 2	-	-	-	-	-	-	586	371	-	581	384	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	797	-	-	825	-	-	124	90	601	119	92	583
Mov Cap-2 Maneuver	-	-	-	-	-	-	124	90	-	119	92	-
Stage 1	-	-	-	-	-	-	328	380	-	322	376	-
Stage 2	-	-	-	-	-	-	559	366	-	558	377	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	20.3	28.5
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	124	296	797	-	-	825	-	-	119	583
HCM Lane V/C Ratio	0.017	0.039	0.018	-	-	0.013	-	-	0.195	0.032
HCM Control Delay (s)	34.5	17.7	9.6	-	-	9.4	-	-	42.4	11.4
HCM Lane LOS	D	C	A	-	-	A	-	-	E	B
HCM 95th %tile Q(veh)	0.1	0.1	0.1	-	-	0	-	-	0.7	0.1

Lanes, Volumes, Timings

11: 49th Ave & Ames Ave

09/08/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑		↗
Traffic Volume (vph)	756	7	0	756	0	3
Future Volume (vph)	756	7	0	756	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		130	0		0	0
Storage Lanes		1	0		0	1
Taper Length (ft)			50		50	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Ped Bike Factor						
Frt		0.850				0.865
Flt Protected						
Satd. Flow (prot)	3610	1615	0	3610	0	1644
Flt Permitted						
Satd. Flow (perm)	3610	1615	0	3610	0	1644
Link Speed (mph)	30			30	30	
Link Distance (ft)	510			810	369	
Travel Time (s)	11.6			18.4	8.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	796	7	0	796	0	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	796	7	0	796	0	3
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		60	60		60	60
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	30.9%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Traffic Vol, veh/h	756	7	0	756	0	3
Future Vol, veh/h	756	7	0	756	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	130	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	796	7	0	796	0	3

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	- - - 398
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - - 6.9
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - - 3.3
Pot Cap-1 Maneuver	-	-	0 - 0 607
Stage 1	-	-	0 - 0 -
Stage 2	-	-	0 - 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - - 607
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	607	-	-	-
HCM Lane V/C Ratio	0.005	-	-	-
HCM Control Delay (s)	11	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-

Lanes, Volumes, Timings

12: 48th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	669	11	27	648	10	28	12	36	7	16	12
Future Volume (vph)	10	669	11	27	648	10	28	12	36	7	16	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%				0%		0%				0%	
Storage Length (ft)	120			0	130			0	0	0		
Storage Lanes	1			0	1			0	0	0		
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.997				0.998		0.936				0.953	
Flt Protected	0.950			0.950			0.982				0.991	
Satd. Flow (prot)	1805	3599	0	1805	3603	0	0	1746	0	0	1794	0
Flt Permitted	0.950			0.379			0.865				0.936	
Satd. Flow (perm)	1805	3599	0	720	3603	0	0	1538	0	0	1695	0
Right Turn on Red	Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)	5			3			38			13		
Link Speed (mph)	40			40			25			25		
Link Distance (ft)	810			1636			950			661		
Travel Time (s)	13.8			27.9			25.9			18.0		
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%			0%			0%		
Adj. Flow (vph)	11	704	12	28	682	11	29	13	38	7	17	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	716	0	28	693	0	0	80	0	0	37	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	14			14			0			0		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		15	9		15	9		15	9	
Number of Detectors	1	1	1		1	1		1	1		1	
Detector Template												
Leading Detector (ft)	50	50	50		50	50		50	50		50	
Trailing Detector (ft)	0	0	0		0	0		0	0		0	
Turn Type	Prot	NA	Perm		NA	Perm		NA	Perm		NA	
Protected Phases	5	2			6			8			4	
Permitted Phases				6			8			4		
Detector Phase	5	2	6		6	8		8	4		4	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0		10.0	9.0		9.0	9.0		9.0	
Minimum Split (s)	8.0	24.5	24.5		24.5	29.0		29.0	29.0		29.0	
Total Split (s)	10.0	39.5	29.5		29.5	20.5		20.5	20.5		20.5	
Total Split (%)	16.7%	65.8%	49.2%		49.2%	34.2%		34.2%	34.2%		34.2%	

Lanes, Volumes, Timings

12: 48th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	7.0	34.0		24.0	24.0		15.5	15.5		15.5	15.5	
Yellow Time (s)	3.0	4.5		4.5	4.5		4.0	4.0		4.0	4.0	
All-Red Time (s)	0.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	3.0	5.5		5.5	5.5			5.0			5.0	
Lead/Lag	Lead			Lag								
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	2.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		12.0		12.0	12.0		17.0	17.0		17.0	17.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
Act Effct Green (s)	5.2	48.0		46.3	46.3			9.3			9.3	
Actuated g/C Ratio	0.09	0.80		0.77	0.77			0.16			0.16	
v/c Ratio	0.07	0.25		0.05	0.25			0.30			0.14	
Control Delay	23.5	2.3		2.1	1.5			17.0			17.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	23.5	2.3		2.1	1.5			17.0			17.6	
LOS	C	A		A	A			B			B	
Approach Delay		2.7			1.5			17.0			17.6	
Approach LOS		A			A			B			B	
Queue Length 50th (ft)	3	101		1	8			14			8	
Queue Length 95th (ft)	12	12		m4	24			46			29	
Internal Link Dist (ft)		730			1556			870			581	
Turn Bay Length (ft)	120			130								
Base Capacity (vph)	210	2882		555	2779			425			447	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.05	0.25		0.05	0.25			0.19			0.08	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 56 (93%), Referenced to phase 2:EBT and 6:WBTL, Start of FDW or yellow

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.30

Intersection Signal Delay: 3.2

Intersection LOS: A

Intersection Capacity Utilization 38.9%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 12: 48th Street & Ames Ave

	
→ Ø2 (R) 39.5 s	↓ Ø4 20.5 s
↖ Ø5 10 s	↗ Ø6 (R) 29.5 s
	↖ Ø8 20.5 s

Queues

12: 48th Street & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	11	716	28	693	80	37
v/c Ratio	0.07	0.25	0.05	0.25	0.30	0.14
Control Delay	23.5	2.3	2.1	1.5	17.0	17.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.5	2.3	2.1	1.5	17.0	17.6
Queue Length 50th (ft)	3	101	1	8	14	8
Queue Length 95th (ft)	12	12	m4	24	46	29
Internal Link Dist (ft)		730		1556	870	581
Turn Bay Length (ft)	120		130			
Base Capacity (vph)	210	2882	555	2779	425	447
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.25	0.05	0.25	0.19	0.08

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary

12: 48th Street & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	669	11	27	648	10	28	12	36	7	16	12
Future Volume (veh/h)	10	669	11	27	648	10	28	12	36	7	16	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	11	704	12	28	682	11	29	13	38	7	17	13
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	25	2529	43	592	2299	37	131	60	99	90	126	78
Arrive On Green	0.03	1.00	1.00	1.00	1.00	1.00	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1810	3632	62	747	3636	59	385	468	771	145	980	610
Grp Volume(v), veh/h	11	350	366	28	339	354	80	0	0	37	0	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1889	747	1805	1889	1624	0	0	1735	0	0
Q Serve(g_s), s	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.4	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	1.1	0.0	0.0
Prop In Lane	1.00		0.03	1.00		0.03	0.36		0.47	0.19		0.35
Lane Grp Cap(c), veh/h	25	1257	1315	592	1141	1195	291	0	0	295	0	0
V/C Ratio(X)	0.44	0.28	0.28	0.05	0.30	0.30	0.28	0.00	0.00	0.13	0.00	0.00
Avail Cap(c_a), veh/h	211	1257	1315	592	1141	1195	494	0	0	512	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	28.9	0.0	0.0	0.0	0.0	0.0	23.9	0.0	0.0	23.3	0.0	0.0
Incr Delay (d2), s/veh	4.3	0.6	0.5	0.1	0.6	0.6	0.5	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.2	0.2	0.0	0.2	0.2	1.0	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.3	0.6	0.5	0.1	0.6	0.6	24.4	0.0	0.0	23.4	0.0	0.0
LnGrp LOS	C	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		727			721			80			37	
Approach Delay, s/veh		1.0			0.6			24.4			23.4	
Approach LOS		A			A			C			C	
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		47.3		12.7	3.8	43.4		12.7				
Change Period (Y+Rc), s		5.5		5.0	3.0	5.5		5.0				
Max Green Setting (Gmax), s		34.0		15.5	7.0	24.0		15.5				
Max Q Clear Time (g_c+I1), s		2.0		3.1	2.4	2.0		4.5				
Green Ext Time (p_c), s		2.9		0.1	0.0	2.9		0.2				

Intersection Summary

HCM 6th Ctrl Delay	2.6
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

Lanes, Volumes, Timings

13: Fontenelle Blvd & Ames Ave

09/08/2025

																
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations																
Traffic Volume (vph)	97	557	53	60	485	13	61	111	48	31	182	115				
Future Volume (vph)	97	557	53	60	485	13	61	111	48	31	182	115				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900				
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12				
Grade (%)	0%				0%				0%		0%					
Storage Length (ft)	170			0	165			0	135			240	130		170	
Storage Lanes	1			0	1			0	1			0	1	1		
Taper Length (ft)	25			25				25				25				
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor																
Frt	0.987				0.996				0.850				0.850			
Flt Protected	0.950			0.950				0.950				0.950				
Satd. Flow (prot)	1805	3563	0	1805	3596	0	1805	1900	1615	1805	1900	1615	1805	1900	1615	
Flt Permitted	0.347			0.388				0.563				0.676				
Satd. Flow (perm)	659	3563	0	737	3596	0	1070	1900	1615	1284	1900	1615	1284	1900	1615	
Right Turn on Red				Yes						Yes						Yes
Satd. Flow (RTOR)	26				5				164				164			
Link Speed (mph)	40				40				30				30			
Link Distance (ft)	1636				991				694				1423			
Travel Time (s)	27.9				16.9				15.8				32.3			
Confl. Peds. (#/hr)																
Confl. Bikes (#/hr)																
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Parking (#/hr)																
Mid-Block Traffic (%)	0%				0%				0%				0%			
Adj. Flow (vph)	110	633	60	68	551	15	69	126	55	35	207	131	207	131	131	
Shared Lane Traffic (%)																
Lane Group Flow (vph)	110	693	0	68	566	0	69	126	55	35	207	131	207	131	131	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right	
Median Width(ft)	14				14				41				41			
Link Offset(ft)	0				0				0				0			
Crosswalk Width(ft)	16				16				16				16			
Two way Left Turn Lane																
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15	9		15	9		15	9		15	9		15	9		
Number of Detectors	1	1	1		1	1		1	1	1	1	1	1	1	1	
Detector Template																
Leading Detector (ft)	50	50	50		50	50		50	50	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0		0	0		0	0	0	0	0	0	0	0	
Turn Type	pm+pt	NA	Perm		NA	Perm		NA	Perm	Perm	Perm	NA	Perm	NA	Perm	
Protected Phases	5	2			6			8			4					
Permitted Phases	2			6			8			8	4			4		
Detector Phase	5	2	6		6	8		8	8	8	4	4	4	4	4	
Switch Phase																
Minimum Initial (s)	5.0	15.0	15.0		15.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	
Minimum Split (s)	11.0	21.0	21.0		21.0	14.5		14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	
Total Split (s)	13.0	39.0	26.0		26.0	21.0		21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	
Total Split (%)	21.7%	65.0%	43.3%		43.3%	35.0%		35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	

Lanes, Volumes, Timings

13: Fontenelle Blvd & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	7.0	33.0		20.0	20.0		16.0	16.0	16.0	16.0	16.0	16.0
Yellow Time (s)	3.8	4.8		4.8	4.8		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.2	1.2		1.2	1.2		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead			Lag		Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	2.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None	None	None	None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	37.0	37.0		27.2	27.2		12.0	12.0	12.0	12.0	12.0	12.0
Actuated g/C Ratio	0.62	0.62		0.45	0.45		0.20	0.20	0.20	0.20	0.20	0.20
v/c Ratio	0.21	0.31		0.20	0.35		0.32	0.33	0.12	0.14	0.54	0.29
Control Delay	2.7	3.0		9.4	7.9		23.7	22.1	0.5	19.6	26.6	4.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.7	3.0		9.4	7.9		23.7	22.1	0.5	19.6	26.6	4.1
LOS	A	A		A	A		C	C	A	B	C	A
Approach Delay	3.0				8.0			17.8			18.0	
Approach LOS	A				A			B			B	
Queue Length 50th (ft)	3	7		10	45		22	40	0	11	68	0
Queue Length 95th (ft)	6	12		24	62		47	72	0	28	110	22
Internal Link Dist (ft)	1556					911	614			1343		
Turn Bay Length (ft)	170			165			135			240	130	170
Base Capacity (vph)	540	2205		334	1633		285	506	550	342	506	550
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.31		0.20	0.35		0.24	0.25	0.10	0.10	0.41	0.24

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 31 (52%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 9.1

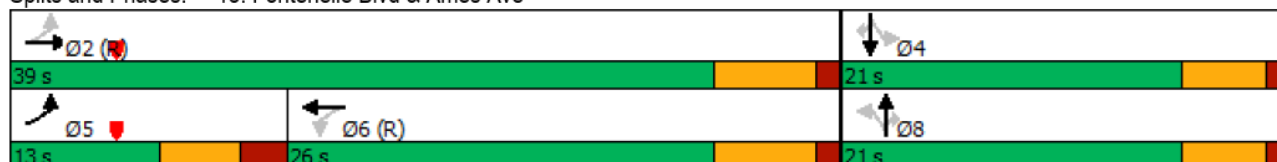
Intersection Capacity Utilization 65.0%

Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service C

Splits and Phases: 13: Fontenelle Blvd & Ames Ave



Queues

13: Fontenelle Blvd & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	110	693	68	566	69	126	55	35	207	131
v/c Ratio	0.21	0.31	0.20	0.35	0.32	0.33	0.12	0.14	0.54	0.29
Control Delay	2.7	3.0	9.4	7.9	23.7	22.1	0.5	19.6	26.6	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.7	3.0	9.4	7.9	23.7	22.1	0.5	19.6	26.6	4.1
Queue Length 50th (ft)	3	7	10	45	22	40	0	11	68	0
Queue Length 95th (ft)	6	12	24	62	47	72	0	28	110	22
Internal Link Dist (ft)	1556		911		614		1343			
Turn Bay Length (ft)	170		165		135		240	130		170
Base Capacity (vph)	540	2205	334	1633	285	506	550	342	506	550
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.31	0.20	0.35	0.24	0.25	0.10	0.10	0.41	0.24

Intersection Summary

HCM 6th Signalized Intersection Summary

13: Fontenelle Blvd & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	557	53	60	485	13	61	111	48	31	182	115
Future Volume (veh/h)	97	557	53	60	485	13	61	111	48	31	182	115
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	110	633	60	68	551	15	69	126	55	35	207	131
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	609	2054	194	461	1602	44	229	381	323	295	381	323
Arrive On Green	0.14	1.00	1.00	0.89	0.89	0.89	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1810	3333	315	763	3590	98	1059	1900	1610	1222	1900	1610
Grp Volume(v), veh/h	110	342	351	68	277	289	69	126	55	35	207	131
Grp Sat Flow(s),veh/h/ln	1810	1805	1843	763	1805	1882	1059	1900	1610	1222	1900	1610
Q Serve(g_s), s	1.7	0.0	0.0	0.7	1.4	1.4	3.8	3.4	1.7	1.5	5.9	4.2
Cycle Q Clear(g_c), s	1.7	0.0	0.0	0.7	1.4	1.4	9.6	3.4	1.7	4.9	5.9	4.2
Prop In Lane	1.00		0.17	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	609	1113	1136	461	806	840	229	381	323	295	381	323
V/C Ratio(X)	0.18	0.31	0.31	0.15	0.34	0.34	0.30	0.33	0.17	0.12	0.54	0.41
Avail Cap(c_a), veh/h	694	1113	1136	461	806	840	299	507	429	376	507	429
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	0.97	0.97	0.97	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.1	0.0	0.0	1.8	1.9	1.9	25.8	20.5	19.9	22.7	21.5	20.9
Incr Delay (d2), s/veh	0.1	0.7	0.7	0.7	1.1	1.1	0.7	0.5	0.2	0.2	1.2	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.2	0.2	0.2	0.6	0.6	0.9	1.5	0.6	0.4	2.5	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.1	0.7	0.7	2.5	3.0	2.9	26.6	21.1	20.1	22.8	22.7	21.7
LnGrp LOS	A	A	A	A	A	A	C	C	C	C	C	C
Approach Vol, veh/h		803			634			250			373	
Approach Delay, s/veh		1.4			2.9			22.4			22.4	
Approach LOS		A			A			C			C	
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		43.0		17.0	10.2	32.8		17.0				
Change Period (Y+Rc), s		* 6		5.0	6.0	* 6		5.0				
Max Green Setting (Gmax), s		* 33		16.0	7.0	* 20		16.0				
Max Q Clear Time (g_c+I1), s		2.0		7.9	3.7	3.4		11.6				
Green Ext Time (p_c), s		2.8		1.0	0.0	2.5		0.4				

Intersection Summary

HCM 6th Ctrl Delay	8.2
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings

14: 42nd St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	588	58	11	519	38	77	60	16	64	74	17
Future Volume (vph)	6	588	58	11	519	38	77	60	16	64	74	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	70		0	40		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.987			0.990			0.968			0.972	
Flt Protected					0.999		0.950			0.950		
Satd. Flow (prot)	0	3563	0	0	3570	0	1805	1839	0	1805	1847	0
Flt Permitted		0.950			0.941		0.691			0.702		
Satd. Flow (perm)	0	3385	0	0	3363	0	1313	1839	0	1334	1847	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			15			18			19	
Link Speed (mph)		40			35			25			25	
Link Distance (ft)		991			1010			617			2834	
Travel Time (s)		16.9			19.7			16.8			77.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	7	661	65	12	583	43	87	67	18	72	83	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	733	0	0	638	0	87	85	0	72	102	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		9.0	9.0		9.0	9.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		29.0	29.0		29.0	29.0	
Total Split (s)	29.5	29.5		29.5	29.5		30.5	30.5		30.5	30.5	
Total Split (%)	49.2%	49.2%		49.2%	49.2%		50.8%	50.8%		50.8%	50.8%	

Lanes, Volumes, Timings

14: 42nd St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	24.0	24.0		24.0	24.0		25.5	25.5		25.5	25.5	
Yellow Time (s)	4.5	4.5		4.5	4.5		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.5			5.5		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		17.0	17.0		17.0	17.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		43.0			43.0		10.4	10.4		10.4	10.4	
Actuated g/C Ratio		0.72			0.72		0.17	0.17		0.17	0.17	
v/c Ratio		0.30			0.26		0.38	0.26		0.31	0.31	
Control Delay		3.2			2.4		26.7	19.2		24.9	20.2	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		3.2			2.4		26.7	19.2		24.9	20.2	
LOS		A			A		C	B		C	C	
Approach Delay		3.2			2.4			23.0			22.1	
Approach LOS		A			A			C			C	
Queue Length 50th (ft)		28			5		29	22		24	27	
Queue Length 95th (ft)		47			52		60	50		51	58	
Internal Link Dist (ft)		911			930			537			2754	
Turn Bay Length (ft)							70			40		
Base Capacity (vph)		2434			2416		558	791		566	795	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.30			0.26		0.16	0.11		0.13	0.13	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 24 (40%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.38

Intersection Signal Delay: 6.8

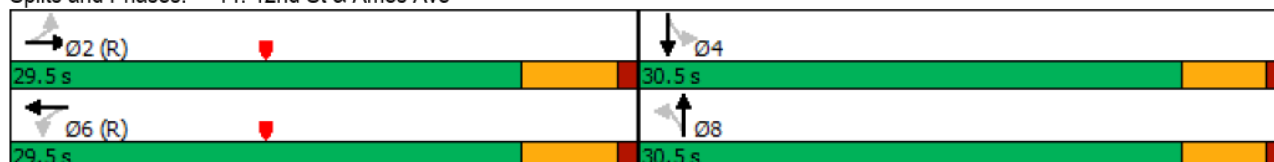
Intersection Capacity Utilization 43.2%

Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service A

Splits and Phases: 14: 42nd St & Ames Ave



Queues

14: 42nd St & Ames Ave

09/08/2025



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	733	638	87	85	72	102
v/c Ratio	0.30	0.26	0.38	0.26	0.31	0.31
Control Delay	3.2	2.4	26.7	19.2	24.9	20.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.2	2.4	26.7	19.2	24.9	20.2
Queue Length 50th (ft)	28	5	29	22	24	27
Queue Length 95th (ft)	47	52	60	50	51	58
Internal Link Dist (ft)	911	930		537		2754
Turn Bay Length (ft)			70		40	
Base Capacity (vph)	2434	2416	558	791	566	795
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.26	0.16	0.11	0.13	0.13

Intersection Summary

HCM 6th Signalized Intersection Summary

14: 42nd St & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	588	58	11	519	38	77	60	16	64	74	17
Future Volume (veh/h)	6	588	58	11	519	38	77	60	16	64	74	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	7	661	65	12	583	43	87	67	18	72	83	19
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	66	2169	211	75	2207	161	259	224	60	272	232	53
Arrive On Green	1.00	1.00	1.00	0.22	0.22	0.22	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	7	3239	316	20	3296	240	1313	1443	388	1333	1496	342
Grp Volume(v), veh/h	389	0	344	336	0	302	87	0	85	72	0	102
Grp Sat Flow(s),veh/h/ln	1890	0	1672	1869	0	1686	1313	0	1830	1333	0	1838
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	8.9	3.8	0.0	2.5	3.0	0.0	3.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	8.8	0.0	8.9	6.8	0.0	2.5	5.5	0.0	3.0
Prop In Lane	0.02		0.19	0.04		0.14	1.00		0.21	1.00		0.19
Lane Grp Cap(c), veh/h	1327	0	1120	1314	0	1129	259	0	284	272	0	286
V/C Ratio(X)	0.29	0.00	0.31	0.26	0.00	0.27	0.34	0.00	0.30	0.26	0.00	0.36
Avail Cap(c_a), veh/h	1327	0	1120	1314	0	1129	613	0	778	632	0	781
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.00	0.97	0.98	0.00	0.98	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	11.1	0.0	11.2	25.7	0.0	22.4	24.9	0.0	22.7
Incr Delay (d2), s/veh	0.5	0.0	0.7	0.5	0.0	0.6	0.8	0.0	0.6	0.5	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.2	3.4	0.0	3.1	1.2	0.0	1.1	1.0	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.5	0.0	0.7	11.6	0.0	11.8	26.5	0.0	23.0	25.4	0.0	23.4
LnGrp LOS	A	A	A	B	A	B	C	A	C	C	A	C
Approach Vol, veh/h	733			638			172			174		
Approach Delay, s/veh	0.6			11.7			24.8			24.2		
Approach LOS	A			B			C			C		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	45.7			14.3			45.7			14.3		
Change Period (Y+Rc), s	5.5			5.0			5.5			5.0		
Max Green Setting (Gmax), s	24.0			25.5			24.0			25.5		
Max Q Clear Time (g_c+l1), s	2.0			7.5			10.9			8.8		
Green Ext Time (p_c), s	2.9			0.6			2.2			0.6		
Intersection Summary												
HCM 6th Ctrl Delay	9.5											
HCM 6th LOS	A											

Lanes, Volumes, Timings

15: 40th St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔↔			↔↔	
Traffic Volume (vph)	9	606	9	1	590	15	15	14	10	22	6	19
Future Volume (vph)	9	606	9	1	590	15	15	14	10	22	6	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.998			0.996			0.966			0.945	
Flt Protected		0.999						0.981			0.977	
Satd. Flow (prot)	0	3599	0	0	3561	0	0	1801	0	0	1754	0
Flt Permitted		0.946			0.955			0.850			0.830	
Satd. Flow (perm)	0	3408	0	0	3401	0	0	1560	0	0	1490	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			6			11			22	
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		1010			993			387			413	
Travel Time (s)		23.0			22.6			10.6			11.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	10	689	10	1	670	17	17	16	11	25	7	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	709	0	0	688	0	0	44	0	0	54	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		9.0	9.0		9.0	9.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	36.5	36.5		36.5	36.5		23.5	23.5		23.5	23.5	
Total Split (%)	60.8%	60.8%		60.8%	60.8%		39.2%	39.2%		39.2%	39.2%	

Lanes, Volumes, Timings

15: 40th St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	31.0	31.0		31.0	31.0		18.5	18.5		18.5	18.5	
Yellow Time (s)	4.5	4.5		4.5	4.5		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.5			5.5			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		48.2			48.2			9.1			9.1	
Actuated g/C Ratio		0.80			0.80			0.15			0.15	
v/c Ratio		0.26			0.25			0.18			0.22	
Control Delay		2.5			2.2			20.1			17.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		2.5			2.2			20.1			17.9	
LOS		A			A			C			B	
Approach Delay		2.5			2.2			20.1			17.9	
Approach LOS		A			A			C			B	
Queue Length 50th (ft)		35			34			11			10	
Queue Length 95th (ft)		47			42			34			36	
Internal Link Dist (ft)		930			913			307			333	
Turn Bay Length (ft)												
Base Capacity (vph)		2740			2735			488			474	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.26			0.25			0.09			0.11	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 5 (8%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.26

Intersection Signal Delay: 3.4

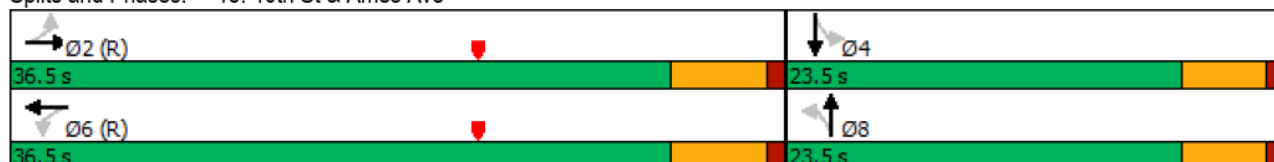
Intersection LOS: A

Intersection Capacity Utilization 39.7%

ICU Level of Service A

Analysis Period (min) 15

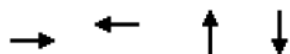
Splits and Phases: 15: 40th St & Ames Ave



Queues

15: 40th St & Ames Ave

09/08/2025



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	709	688	44	54
v/c Ratio	0.26	0.25	0.18	0.22
Control Delay	2.5	2.2	20.1	17.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	2.5	2.2	20.1	17.9
Queue Length 50th (ft)	35	34	11	10
Queue Length 95th (ft)	47	42	34	36
Internal Link Dist (ft)	930	913	307	333
Turn Bay Length (ft)				
Base Capacity (vph)	2740	2735	488	474
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.26	0.25	0.09	0.11
Intersection Summary				

HCM 6th Signalized Intersection Summary

15: 40th St & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	9	606	9	1	590	15	15	14	10	22	6	19
Future Volume (veh/h)	9	606	9	1	590	15	15	14	10	22	6	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1885	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	10	689	10	1	670	17	17	16	11	25	7	22
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	71	2491	36	61	2462	62	131	105	51	149	53	79
Arrive On Green	0.94	0.94	0.94	0.70	0.70	0.70	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	13	3537	51	0	3495	89	395	868	421	508	443	653
Grp Volume(v), veh/h	371	0	338	362	0	326	44	0	0	54	0	0
Grp Sat Flow(s),veh/h/ln	1881	0	1720	1884	0	1700	1684	0	0	1604	0	0
Q Serve(g_s), s	0.0	0.0	1.0	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.0	0.0	1.0	4.2	0.0	4.2	1.3	0.0	0.0	1.7	0.0	0.0
Prop In Lane	0.03		0.03	0.00		0.05	0.39		0.25	0.46		0.41
Lane Grp Cap(c), veh/h	1386	0	1211	1387	0	1197	286	0	0	281	0	0
V/C Ratio(X)	0.27	0.00	0.28	0.26	0.00	0.27	0.15	0.00	0.00	0.19	0.00	0.00
Avail Cap(c_a), veh/h	1386	0	1211	1387	0	1197	588	0	0	570	0	0
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.00	0.96	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.6	0.0	0.6	3.2	0.0	3.2	23.8	0.0	0.0	23.9	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.6	0.5	0.0	0.6	0.2	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.3	1.1	0.0	1.0	0.6	0.0	0.0	0.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1.0	0.0	1.1	3.7	0.0	3.8	24.0	0.0	0.0	24.3	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		709			688			44			54	
Approach Delay, s/veh		1.1			3.8			24.0			24.3	
Approach LOS		A			A			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		47.8		12.2		47.8		12.2				
Change Period (Y+Rc), s		5.5		5.0		5.5		5.0				
Max Green Setting (Gmax), s		31.0		18.5		31.0		18.5				
Max Q Clear Time (g_c+I1), s		3.0		3.7		6.2		3.3				
Green Ext Time (p_c), s		3.1		0.1		2.9		0.1				
Intersection Summary												
HCM 6th Ctrl Delay				3.8								
HCM 6th LOS				A								

Lanes, Volumes, Timings
16: 37th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	688	12	20	549	2	0	0	0	4	2	3
Future Volume (vph)	1	688	12	20	549	2	0	0	0	4	2	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.997									0.955	
Flt Protected					0.998						0.978	
Satd. Flow (prot)	0	3599	0	0	3603	0	0	0	0	0	1775	0
Flt Permitted					0.998						0.978	
Satd. Flow (perm)	0	3599	0	0	3603	0	0	0	0	0	1775	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		993			331			266			377	
Travel Time (s)		22.6			7.5			7.3			10.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	1	764	13	22	610	2	0	0	0	4	2	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	778	0	0	634	0	0	0	0	0	9	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 39.8%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕			↕↕						↕		
Traffic Vol, veh/h	1	688	12	20	549	2	0	0	0	4	2	3
Future Vol, veh/h	1	688	12	20	549	2	0	0	0	4	2	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	1083	1155	20	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	764	13	22	610	2	0	0	0	4	2	3

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	612	0	0	777	0	0	1039	1434	306
Stage 1	-	-	-	-	-	-	655	655	-
Stage 2	-	-	-	-	-	-	384	779	-
Critical Hdwy	4.1	-	-	4.1	-	-	6.8	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	977	-	-	848	-	-	230	135	696
Stage 1	-	-	-	-	-	-	484	466	-
Stage 2	-	-	-	-	-	-	664	409	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	977	-	-	848	-	-	221	0	696
Mov Cap-2 Maneuver	-	-	-	-	-	-	221	0	-
Stage 1	-	-	-	-	-	-	483	0	-
Stage 2	-	-	-	-	-	-	638	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.5	16.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	977	-	-	848	-	-	312
HCM Lane V/C Ratio	0.001	-	-	0.026	-	-	0.032
HCM Control Delay (s)	8.7	0	-	9.4	0.2	-	16.9
HCM Lane LOS	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0	-	-	0.1	-	-	0.1

Lanes, Volumes, Timings

17: 36th Ave & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	586	133	1	566	8	0	0	0	5	2	6
Future Volume (vph)	2	586	133	1	566	8	0	0	0	5	2	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		95	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850		0.998						0.937	
Flt Protected											0.980	
Satd. Flow (prot)	0	3610	1615	0	3603	0	0	0	0	0	1745	0
Flt Permitted											0.980	
Satd. Flow (perm)	0	3610	1615	0	3603	0	0	0	0	0	1745	0
Link Speed (mph)		30			35			25			25	
Link Distance (ft)		331			321			85			202	
Travel Time (s)		7.5			6.3			2.3			5.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	2	658	149	1	636	9	0	0	0	6	2	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	660	149	0	646	0	0	0	0	0	15	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			2			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Free			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	37.5%											
Analysis Period (min)	15											
ICU Level of Service A												

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕	↗		↕↕						↕	
Traffic Vol, veh/h	2	586	133	1	566	8	0	0	0	5	2	6
Future Vol, veh/h	2	586	133	1	566	8	0	0	0	5	2	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	95	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	1083568128	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	2	658	149	1	636	9	0	0	0	6	2	7

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	645	0	0	807	0	0	976	1454	323
Stage 1	-	-	-	-	-	-	643	643	-
Stage 2	-	-	-	-	-	-	333	811	-
Critical Hdwy	4.1	-	-	4.1	-	-	6.8	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	950	-	-	827	-	-	252	131	679
Stage 1	-	-	-	-	-	-	491	472	-
Stage 2	-	-	-	-	-	-	704	396	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	950	-	-	827	-	-	250	0	679
Mov Cap-2 Maneuver	-	-	-	-	-	-	250	0	-
Stage 1	-	-	-	-	-	-	489	0	-
Stage 2	-	-	-	-	-	-	703	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	950	-	-	827	-	-	381
HCM Lane V/C Ratio	0.002	-	-	0.001	-	-	0.038
HCM Control Delay (s)	8.8	0	-	9.4	0	-	14.8
HCM Lane LOS	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	-	-	0	-	-	0.1

Lanes, Volumes, Timings

18: 36th St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	477	47	118	460	7	93	52	120	14	57	11
Future Volume (vph)	23	477	47	118	460	7	93	52	120	14	57	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%				0%		0%				0%	
Storage Length (ft)	100		0	225		0	90		0	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.987				0.998		0.895				0.981	
Flt Protected	0.950			0.950			0.950				0.992	
Satd. Flow (prot)	1805	3563	0	1805	3603	0	1805	1700	0	0	1849	0
Flt Permitted	0.435			0.405			0.804				0.919	
Satd. Flow (perm)	826	3563	0	770	3603	0	1528	1700	0	0	1713	0
Right Turn on Red	Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)	23			3			148			14		
Link Speed (mph)	35			30			25			25		
Link Distance (ft)	321			398			616			554		
Travel Time (s)	6.3			9.0			16.8			15.1		
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%			0%			0%		
Adj. Flow (vph)	28	589	58	146	568	9	115	64	148	17	70	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	28	647	0	146	577	0	115	212	0	0	101	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12			12			12			0		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane	Yes											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9		15		9		15		9	
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	2			6			8			4		
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		26.0	26.0		26.0	26.0	
Total Split (s)	33.0	33.0		33.0	33.0		27.0	27.0		27.0	27.0	
Total Split (%)	55.0%	55.0%		55.0%	55.0%		45.0%	45.0%		45.0%	45.0%	

Lanes, Volumes, Timings

18: 36th St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	28.0	28.0		28.0	28.0		22.0	22.0		22.0	22.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	38.2	38.2		38.2	38.2		11.8	11.8			11.8	
Actuated g/C Ratio	0.64	0.64		0.64	0.64		0.20	0.20			0.20	
v/c Ratio	0.05	0.28		0.30	0.25		0.38	0.47			0.29	
Control Delay	3.3	3.3		7.7	5.4		24.1	10.8			19.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	3.3	3.3		7.7	5.4		24.1	10.8			19.6	
LOS	A	A		A	A		C	B			B	
Approach Delay		3.3			5.9			15.5			19.6	
Approach LOS		A			A			B			B	
Queue Length 50th (ft)	2	21		18	36		38	20			28	
Queue Length 95th (ft)	6	29		50	65		62	51			50	
Internal Link Dist (ft)		241			318			536			474	
Turn Bay Length (ft)	100			225			90					
Base Capacity (vph)	525	2275		490	2294		560	717			636	
Starvation Cap Reductn	0	0		0	0		0	0			0	
Spillback Cap Reductn	0	0		0	0		0	0			0	
Storage Cap Reductn	0	0		0	0		0	0			0	
Reduced v/c Ratio	0.05	0.28		0.30	0.25		0.21	0.30			0.16	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 33 (55%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay: 7.4

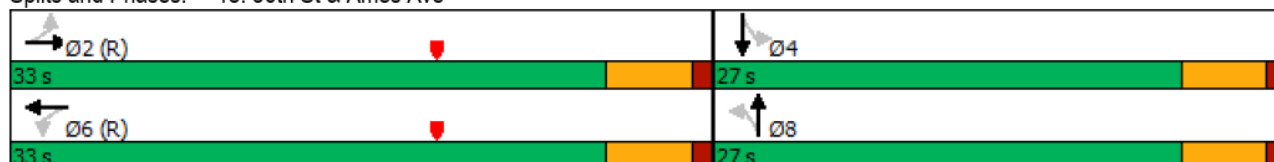
Intersection LOS: A

Intersection Capacity Utilization 61.7%

ICU Level of Service B

Analysis Period (min) 15

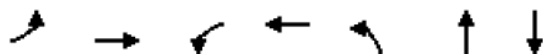
Splits and Phases: 18: 36th St & Ames Ave



Queues

18: 36th St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	28	647	146	577	115	212	101
v/c Ratio	0.05	0.28	0.30	0.25	0.38	0.47	0.29
Control Delay	3.3	3.3	7.7	5.4	24.1	10.8	19.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.3	3.3	7.7	5.4	24.1	10.8	19.6
Queue Length 50th (ft)	2	21	18	36	38	20	28
Queue Length 95th (ft)	6	29	50	65	62	51	50
Internal Link Dist (ft)		241		318		536	474
Turn Bay Length (ft)	100		225		90		
Base Capacity (vph)	525	2275	490	2294	560	717	636
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.28	0.30	0.25	0.21	0.30	0.16

Intersection Summary

HCM 6th Signalized Intersection Summary

18: 36th St & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	477	47	118	460	7	93	52	120	14	57	11
Future Volume (veh/h)	23	477	47	118	460	7	93	52	120	14	57	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	28	589	58	146	568	9	115	64	148	17	70	14
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	629	2198	216	589	2408	38	311	87	202	85	193	33
Arrive On Green	0.66	0.66	0.66	0.66	0.66	0.66	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	850	3320	326	796	3637	58	1335	510	1178	87	1128	195
Grp Volume(v), veh/h	28	320	327	146	282	295	115	0	212	101	0	0
Grp Sat Flow(s),veh/h/ln	850	1805	1841	796	1805	1890	1335	0	1688	1410	0	0
Q Serve(g_s), s	0.8	4.4	4.4	5.5	3.8	3.8	0.0	0.0	7.1	0.1	0.0	0.0
Cycle Q Clear(g_c), s	4.6	4.4	4.4	9.9	3.8	3.8	6.3	0.0	7.1	7.3	0.0	0.0
Prop In Lane	1.00		0.18	1.00		0.03	1.00		0.70	0.17		0.14
Lane Grp Cap(c), veh/h	629	1195	1219	589	1195	1251	311	0	289	312	0	0
V/C Ratio(X)	0.04	0.27	0.27	0.25	0.24	0.24	0.37	0.00	0.73	0.32	0.00	0.00
Avail Cap(c_a), veh/h	629	1195	1219	589	1195	1251	572	0	619	641	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.98	0.98	0.98	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.0	4.2	4.2	6.2	4.1	4.1	23.2	0.0	23.6	21.8	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.5	0.5	1.0	0.5	0.4	0.7	0.0	3.6	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.2	1.2	0.9	1.1	1.1	1.5	0.0	3.0	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.1	4.7	4.7	7.2	4.5	4.5	23.9	0.0	27.2	22.4	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	C	C	A	A
Approach Vol, veh/h		675			723			327			101	
Approach Delay, s/veh		4.7			5.0			26.0			22.4	
Approach LOS		A			A			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		44.7		15.3		44.7		15.3				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		28.0		22.0		28.0		22.0				
Max Q Clear Time (g_c+l1), s		6.6		9.3		11.9		9.1				
Green Ext Time (p_c), s		2.7		0.2		3.2		1.1				
Intersection Summary												
HCM 6th Ctrl Delay				9.6								
HCM 6th LOS				A								

Lanes, Volumes, Timings

19: 35th St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	662	9	5	638	0	4	0	7	1	0	1
Future Volume (vph)	1	662	9	5	638	0	4	0	7	1	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%				0%		0%				0%	
Storage Length (ft)	90			0	20			0	0	0		
Storage Lanes	1			0	1			0	0	0		
Taper Length (ft)	50			50				50				50
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.998						0.917				0.932	
Flt Protected	0.950			0.950				0.981				0.976
Satd. Flow (prot)	1805	3603	0	1805	3574	0	0	1709	0	0	1728	0
Flt Permitted	0.370			0.356								
Satd. Flow (perm)	703	3603	0	676	3574	0	0	1742	0	0	1771	0
Right Turn on Red			Yes				Yes				Yes	
Satd. Flow (RTOR)	2						24				24	
Link Speed (mph)	30				30				25			
Link Distance (ft)	398				240				135			
Travel Time (s)	9.0				5.5				3.7			
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%				0%				0%			
Adj. Flow (vph)	1	770	10	6	742	0	5	0	8	1	0	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	780	0	6	742	0	0	13	0	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12				12				0			
Link Offset(ft)	0				0				0			
Crosswalk Width(ft)	16				16				16			
Two way Left Turn Lane	Yes				Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	60		60			9	60	60		15	9
Number of Detectors	1	2	1		2	1		2	1		2	
Detector Template	Left	Thru	Left		Thru	Left		Thru	Left		Thru	
Leading Detector (ft)	20	100	20		100	20		100	20		100	
Trailing Detector (ft)	0	0	0		0	0		0	0		0	
Turn Type	Perm	NA	Perm		NA	Perm		NA	Perm		NA	
Protected Phases	2				6		8				4	
Permitted Phases	2			6		8				4		
Detector Phase	2	2	6		6	8		8	4		4	
Switch Phase												
Minimum Initial (s)	20.0	20.0	20.0		20.0	10.0		10.0	10.0		10.0	
Minimum Split (s)	25.0	25.0	25.0		25.0	23.0		23.0	23.0		23.0	
Total Split (s)	50.0	50.0	50.0		50.0	40.0		40.0	40.0		40.0	
Total Split (%)	55.6%	55.6%	55.6%		55.6%	44.4%		44.4%	44.4%		44.4%	

Lanes, Volumes, Timings

19: 35th St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	45.0	45.0		45.0	45.0		35.0	35.0		35.0	35.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	86.0	86.0		86.0	86.0			10.0			10.0	
Actuated g/C Ratio	0.96	0.96		0.96	0.96			0.11			0.11	
v/c Ratio	0.00	0.23		0.01	0.22			0.06			0.01	
Control Delay	1.0	0.9		1.4	0.9			9.0			0.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	1.0	1.0		1.4	0.9			9.0			0.0	
LOS	A	A		A	A			A			A	
Approach Delay		1.0			0.9			9.0				
Approach LOS		A			A			A				
Queue Length 50th (ft)	0	0		0	0			0			0	
Queue Length 95th (ft)	1	63		3	60			10			0	
Internal Link Dist (ft)		318			160			55			43	
Turn Bay Length (ft)	90			20								
Base Capacity (vph)	672	3443		646	3415			692			703	
Starvation Cap Reductn	0	442		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.00	0.26		0.01	0.22			0.02			0.00	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 21 (23%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.23

Intersection Signal Delay: 1.0

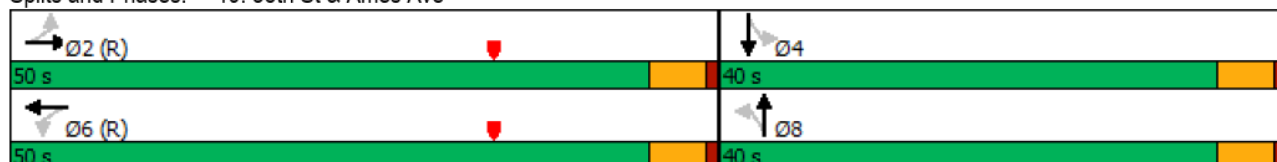
Intersection Capacity Utilization 35.3%

Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service A

Splits and Phases: 19: 35th St & Ames Ave



Queues

19: 35th St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	1	780	6	742	13	2
v/c Ratio	0.00	0.23	0.01	0.22	0.06	0.01
Control Delay	1.0	0.9	1.4	0.9	9.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1.0	1.0	1.4	0.9	9.0	0.0
Queue Length 50th (ft)	0	0	0	0	0	0
Queue Length 95th (ft)	1	63	3	60	10	0
Internal Link Dist (ft)		318		160	55	43
Turn Bay Length (ft)	90		20			
Base Capacity (vph)	672	3443	646	3415	692	703
Starvation Cap Reductn	0	442	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.26	0.01	0.22	0.02	0.00

Intersection Summary

HCM 6th Signalized Intersection Summary

19: 35th St & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	662	9	5	638	0	4	0	7	1	0	1
Future Volume (veh/h)	1	662	9	5	638	0	4	0	7	1	0	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1885	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1	770	10	6	742	0	5	0	8	1	0	1
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	675	3117	40	653	3059	0	73	3	33	79	8	27
Arrive On Green	0.85	0.85	0.85	0.85	0.85	0.00	0.03	0.00	0.03	0.03	0.00	0.03
Sat Flow, veh/h	729	3649	47	703	3676	0	502	101	964	546	244	789
Grp Volume(v), veh/h	1	381	399	6	742	0	13	0	0	2	0	0
Grp Sat Flow(s),veh/h/ln	729	1805	1891	703	1791	0	1566	0	0	1578	0	0
Q Serve(g_s), s	0.0	3.5	3.5	0.1	3.4	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.5	3.5	3.5	3.7	3.4	0.0	0.7	0.0	0.0	0.1	0.0	0.0
Prop In Lane	1.00		0.03	1.00		0.00	0.38		0.62	0.50		0.50
Lane Grp Cap(c), veh/h	675	1542	1616	653	3059	0	110	0	0	115	0	0
V/C Ratio(X)	0.00	0.25	0.25	0.01	0.24	0.00	0.12	0.00	0.00	0.02	0.00	0.00
Avail Cap(c_a), veh/h	675	1542	1616	653	3059	0	655	0	0	651	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.97	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	1.5	1.2	1.2	1.6	1.2	0.0	42.3	0.0	0.0	42.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.4	0.0	0.2	0.0	0.5	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.5	0.5	0.0	0.4	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1.5	1.6	1.6	1.6	1.4	0.0	42.7	0.0	0.0	42.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	A
Approach Vol, veh/h	781			748			13			2		
Approach Delay, s/veh	1.6			1.4			42.7			42.0		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	81.9			8.1			81.9			8.1		
Change Period (Y+Rc), s	5.0			5.0			5.0			5.0		
Max Green Setting (Gmax), s	45.0			35.0			45.0			35.0		
Max Q Clear Time (g_c+l1), s	5.5			2.1			5.7			2.7		
Green Ext Time (p_c), s	5.7			0.0			6.1			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	1.9											
HCM 6th LOS	A											

Lanes, Volumes, Timings

20: 34th Ave & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Volume (vph)	5	630	14	25	563	5	5	3	16	5	9	20
Future Volume (vph)	5	630	14	25	563	5	5	3	16	5	9	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.997			0.999			0.910			0.920	
Flt Protected					0.998			0.989			0.992	
Satd. Flow (prot)	0	3599	0	0	3599	0	0	1710	0	0	1734	0
Flt Permitted					0.998			0.989			0.992	
Satd. Flow (perm)	0	3599	0	0	3599	0	0	1710	0	0	1734	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		240			680			178			167	
Travel Time (s)		5.5			15.5			4.9			4.6	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	6	724	16	29	647	6	6	3	18	6	10	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	746	0	0	682	0	0	27	0	0	39	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		4			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 44.1%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕			↕↕			↕↕			↕↕		
Traffic Vol, veh/h	5	630	14	25	563	5	5	3	16	5	9	20
Future Vol, veh/h	5	630	14	25	563	5	5	3	16	5	9	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	724	16	29	647	6	6	3	18	6	10	23

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	653	0	0	740	0	0	1131	1455	370	1084	1460	327
Stage 1	-	-	-	-	-	-	744	744	-	708	708	-
Stage 2	-	-	-	-	-	-	387	711	-	376	752	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	943	-	-	876	-	-	161	131	633	174	130	675
Stage 1	-	-	-	-	-	-	377	424	-	396	441	-
Stage 2	-	-	-	-	-	-	614	439	-	623	421	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	943	-	-	876	-	-	139	123	633	157	122	675
Mov Cap-2 Maneuver	-	-	-	-	-	-	139	123	-	157	122	-
Stage 1	-	-	-	-	-	-	373	419	-	392	418	-
Stage 2	-	-	-	-	-	-	548	416	-	593	416	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.6	19.3	22
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	280	943	-	-	876	-	-	251
HCM Lane V/C Ratio	0.099	0.006	-	-	0.033	-	-	0.156
HCM Control Delay (s)	19.3	8.8	0	-	9.2	0.2	-	22
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0.5

Lanes, Volumes, Timings

21: 33rd Ave & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	656	2	13	632	1	0	0	2	5	14	17
Future Volume (vph)	17	656	2	13	632	1	0	0	2	5	14	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt								0.865			0.937	
Flt Protected		0.999			0.999						0.993	
Satd. Flow (prot)	0	3606	0	0	3566	0	0	1644	0	0	1768	0
Flt Permitted		0.999			0.999						0.993	
Satd. Flow (perm)	0	3606	0	0	3566	0	0	1644	0	0	1768	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		680			646			233			228	
Travel Time (s)		15.5			14.7			6.4			6.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	8%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	19	729	2	14	702	1	0	0	2	6	16	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	750	0	0	717	0	0	2	0	0	41	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	43.4%											
Analysis Period (min)	15											
ICU Level of Service A												

Intersection

Int Delay, s/veh 1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕			↕↕			↕			↕		
Traffic Vol, veh/h	17	656	2	13	632	1	0	0	2	5	14	17
Future Vol, veh/h	17	656	2	13	632	1	0	0	2	5	14	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	8	1	0	0	0	0	0	0	0
Mvmt Flow	19	729	2	14	702	1	0	0	2	6	16	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	703	0	0	731	0	0	1155	1499	366	1134	1500	352
Stage 1	-	-	-	-	-	-	768	768	-	731	731	-
Stage 2	-	-	-	-	-	-	387	731	-	403	769	-
Critical Hdwy	4.1	-	-	4.26	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.28	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	904	-	-	831	-	-	154	123	637	160	123	650
Stage 1	-	-	-	-	-	-	365	414	-	384	430	-
Stage 2	-	-	-	-	-	-	614	430	-	601	413	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	904	-	-	831	-	-	128	115	637	152	115	650
Mov Cap-2 Maneuver	-	-	-	-	-	-	128	115	-	152	115	-
Stage 1	-	-	-	-	-	-	352	400	-	371	418	-
Stage 2	-	-	-	-	-	-	558	418	-	578	399	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.3	10.7	27.6
HCM LOS			B	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	637	904	-	-	831	-	-	199
HCM Lane V/C Ratio	0.003	0.021	-	-	0.017	-	-	0.201
HCM Control Delay (s)	10.7	9.1	0.2	-	9.4	0.1	-	27.6
HCM Lane LOS	B	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0	0.1	-	-	0.1	-	-	0.7

Lanes, Volumes, Timings

22: 31st Ave & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	591	14	23	552	20	18	24	66	32	52	35
Future Volume (vph)	11	591	14	23	552	20	18	24	66	32	52	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		65	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.997			0.995				0.850		0.961	
Flt Protected		0.999			0.998			0.979			0.987	
Satd. Flow (prot)	0	3596	0	0	3585	0	0	1860	1615	0	1802	0
Flt Permitted		0.942			0.915			0.823			0.891	
Satd. Flow (perm)	0	3390	0	0	3287	0	0	1564	1615	0	1627	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			10				80		33	
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		646			671			679			671	
Travel Time (s)		14.7			15.3			18.5			18.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	13	712	17	28	665	24	22	29	80	39	63	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	742	0	0	717	0	0	51	80	0	144	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8				4
Permitted Phases	2			6			8		8	4		
Detector Phase	2	2		6	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		23.0	23.0	23.0	23.0	23.0	
Total Split (s)	40.0	40.0		40.0	40.0		20.0	20.0	20.0	20.0	20.0	
Total Split (%)	66.7%	66.7%		66.7%	66.7%		33.3%	33.3%	33.3%	33.3%	33.3%	

Lanes, Volumes, Timings

22: 31st Ave & Ames Ave

09/08/2025

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	35.0	35.0		35.0	35.0		15.0	15.0	15.0	15.0	15.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0	0.0		0.0	
Total Lost Time (s)		5.0			5.0			5.0	5.0		5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None	None	None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		9.0	9.0	9.0	9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		43.7			43.7			9.7	9.7		9.7	
Actuated g/C Ratio		0.73			0.73			0.16	0.16		0.16	
v/c Ratio		0.30			0.30			0.20	0.24		0.50	
Control Delay		4.5			4.5			22.5	7.7		23.2	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		4.5			4.5			22.5	7.7		23.2	
LOS		A			A			C	A		C	
Approach Delay		4.5			4.5			13.5			23.2	
Approach LOS		A			A			B			C	
Queue Length 50th (ft)		46			44			16	0		37	
Queue Length 95th (ft)		78			75			36	24		69	
Internal Link Dist (ft)		566			591			599			591	
Turn Bay Length (ft)									65			
Base Capacity (vph)		2469			2395			391	463		431	
Starvation Cap Reductn		0			0			0	0		0	
Spillback Cap Reductn		0			0			0	0		0	
Storage Cap Reductn		0			0			0	0		0	
Reduced v/c Ratio		0.30			0.30			0.13	0.17		0.33	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 2 (3%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.50

Intersection Signal Delay: 6.8

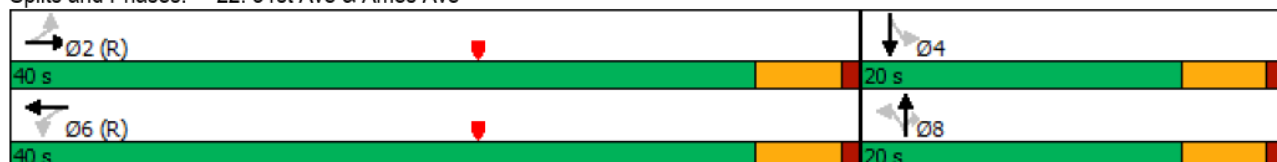
Intersection LOS: A

Intersection Capacity Utilization 54.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 22: 31st Ave & Ames Ave



Queues

22: 31st Ave & Ames Ave

09/08/2025



Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	742	717	51	80	144
v/c Ratio	0.30	0.30	0.20	0.24	0.50
Control Delay	4.5	4.5	22.5	7.7	23.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	4.5	4.5	22.5	7.7	23.2
Queue Length 50th (ft)	46	44	16	0	37
Queue Length 95th (ft)	78	75	36	24	69
Internal Link Dist (ft)	566	591	599		591
Turn Bay Length (ft)				65	
Base Capacity (vph)	2469	2395	391	463	431
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.30	0.30	0.13	0.17	0.33

Intersection Summary

HCM 6th Signalized Intersection Summary

22: 31st Ave & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↑	↗		↔	
Traffic Volume (veh/h)	11	591	14	23	552	20	18	24	66	32	52	35
Future Volume (veh/h)	11	591	14	23	552	20	18	24	66	32	52	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	13	712	17	28	665	24	22	29	80	39	63	42
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	75	2489	59	114	2364	84	147	153	192	116	101	58
Arrive On Green	0.71	0.71	0.71	0.71	0.71	0.71	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	18	3486	82	69	3312	118	510	1279	1610	333	844	484
Grp Volume(v), veh/h	388	0	354	368	0	349	51	0	80	144	0	0
Grp Sat Flow(s),veh/h/ln	1873	0	1714	1791	0	1708	1789	0	1610	1661	0	0
Q Serve(g_s), s	0.0	0.0	4.5	0.0	0.0	4.4	0.0	0.0	2.8	3.2	0.0	0.0
Cycle Q Clear(g_c), s	4.4	0.0	4.5	4.1	0.0	4.4	1.5	0.0	2.8	4.9	0.0	0.0
Prop In Lane	0.03		0.05	0.08		0.07	0.43		1.00	0.27		0.29
Lane Grp Cap(c), veh/h	1399	0	1224	1343	0	1219	300	0	192	275	0	0
V/C Ratio(X)	0.28	0.00	0.29	0.27	0.00	0.29	0.17	0.00	0.42	0.52	0.00	0.00
Avail Cap(c_a), veh/h	1399	0	1224	1343	0	1219	507	0	403	486	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.89	0.00	0.89	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	3.1	0.0	3.1	3.0	0.0	3.1	23.9	0.0	24.5	25.4	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.6	0.5	0.0	0.5	0.3	0.0	1.4	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	1.0	1.0	0.0	1.0	0.7	0.0	1.1	2.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.6	0.0	3.7	3.5	0.0	3.6	24.2	0.0	25.9	26.9	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	C	C	A	A
Approach Vol, veh/h	742			717			131			144		
Approach Delay, s/veh	3.6			3.6			25.2			26.9		
Approach LOS	A			A			C			C		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	47.8			12.2			47.8			12.2		
Change Period (Y+Rc), s	5.0			5.0			5.0			5.0		
Max Green Setting (Gmax), s	35.0			15.0			35.0			15.0		
Max Q Clear Time (g_c+I1), s	6.5			6.9			6.4			4.8		
Green Ext Time (p_c), s	3.3			0.3			3.2			0.3		

Intersection Summary

HCM 6th Ctrl Delay	7.2
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

Lanes, Volumes, Timings

23: 30th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	142	553	62	45	444	58	61	189	57	94	293	149
Future Volume (vph)	142	553	62	45	444	58	61	189	57	94	293	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%				0%				0%			
Storage Length (ft)	200			0	200			0	300			0
Storage Lanes	1			0	1			0	1			0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt	0.985				0.983				0.965			
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3556	0	1805	3549	0	1805	3484	0	1805	3430	0
Flt Permitted	0.276			0.386			0.327			0.580		
Satd. Flow (perm)	524	3556	0	733	3549	0	621	3484	0	1102	3430	0
Right Turn on Red	Yes						Yes					
Satd. Flow (RTOR)	18						17			54		
Link Speed (mph)	30						30			35		
Link Distance (ft)	671						893			1314		
Travel Time (s)	15.3						20.3			25.6		
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%				0%				0%			
Adj. Flow (vph)	161	628	70	51	505	66	69	215	65	107	333	169
Shared Lane Traffic (%)												
Lane Group Flow (vph)	161	698	0	51	571	0	69	280	0	107	502	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12						12			12		
Link Offset(ft)	0						0			0		
Crosswalk Width(ft)	16						16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		15			9	15	9		15	9
Number of Detectors	1	1			1	1			1	1		
Detector Template												
Leading Detector (ft)	50	50			50	50			50	50		
Trailing Detector (ft)	0	0			0	0			0	0		
Turn Type	pm+pt	NA	Perm		NA	pm+pt		NA	Perm		NA	
Protected Phases	5	2			6	3		8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2	6		6	3		8	4		4	
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0		15.0	5.0		10.0	10.0		10.0	
Minimum Split (s)	12.0	20.0	20.0		20.0	12.0		16.0	16.0		16.0	
Total Split (s)	13.0	47.0	34.0		34.0	13.0		43.0	30.0		30.0	
Total Split (%)	14.4%	52.2%	37.8%		37.8%	14.4%		47.8%	33.3%		33.3%	

Lanes, Volumes, Timings

23: 30th Street & Ames Ave

09/08/2025

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Maximum Green (s)	8.0	42.0		29.0	29.0		8.0	37.0		24.0	24.0		
Yellow Time (s)	3.0	3.8		3.8	3.8		3.2	4.3		4.3	4.3		
All-Red Time (s)	2.0	1.2		1.2	1.2		1.8	1.7		1.7	1.7		
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	6.0		6.0	6.0		
Lead/Lag	Lead			Lag		Lag		Lead			Lag		Lag
Lead-Lag Optimize?													
Vehicle Extension (s)	2.0	3.0		3.0	3.0		2.0	3.0		3.0	3.0		
Minimum Gap (s)	2.0	3.0		3.0	3.0		2.0	3.0		3.0	3.0		
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Recall Mode	None	C-Max		C-Max	C-Max		None	Max		Max	Max		
Walk Time (s)		10.0		10.0	10.0			9.0		9.0	9.0		
Flash Dont Walk (s)		12.0		12.0	12.0			12.0		12.0	12.0		
Pedestrian Calls (#/hr)		0		0	0			0		0	0		
Act Effct Green (s)	42.0	42.0		29.4	29.4		38.0	37.0		27.5	27.5		
Actuated g/C Ratio	0.47	0.47		0.33	0.33		0.42	0.41		0.31	0.31		
v/c Ratio	0.46	0.42		0.21	0.49		0.20	0.19		0.32	0.45		
Control Delay	18.6	16.4		25.2	25.3		17.2	13.9		29.2	22.5		
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Total Delay	18.6	16.4		25.2	25.3		17.2	13.9		29.2	22.5		
LOS	B	B		C	C		B	B		C	C		
Approach Delay		16.8			25.3			14.6			23.7		
Approach LOS		B			C			B			C		
Queue Length 50th (ft)	52	129		21	132		23	41		48	98		
Queue Length 95th (ft)	88	168		49	177		47	65		95	146		
Internal Link Dist (ft)		591			813			1234			578		
Turn Bay Length (ft)	200			200			300			110			
Base Capacity (vph)	358	1669		239	1172		367	1464		336	1114		
Starvation Cap Reductn	0	0		0	0		0	0		0	0		
Spillback Cap Reductn	0	0		0	0		0	0		0	0		
Storage Cap Reductn	0	0		0	0		0	0		0	0		
Reduced v/c Ratio	0.45	0.42		0.21	0.49		0.19	0.19		0.32	0.45		

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 11 (12%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.49

Intersection Signal Delay: 20.4

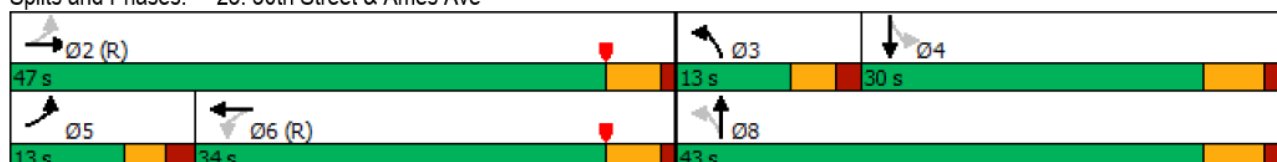
Intersection LOS: C

Intersection Capacity Utilization 64.8%

ICU Level of Service C

Analysis Period (min) 15

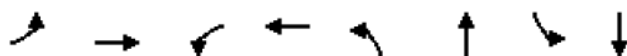
Splits and Phases: 23: 30th Street & Ames Ave



Queues

23: 30th Street & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	161	698	51	571	69	280	107	502
v/c Ratio	0.46	0.42	0.21	0.49	0.20	0.19	0.32	0.45
Control Delay	18.6	16.4	25.2	25.3	17.2	13.9	29.2	22.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.6	16.4	25.2	25.3	17.2	13.9	29.2	22.5
Queue Length 50th (ft)	52	129	21	132	23	41	48	98
Queue Length 95th (ft)	88	168	49	177	47	65	95	146
Internal Link Dist (ft)		591		813		1234		578
Turn Bay Length (ft)	200		200		300		110	
Base Capacity (vph)	358	1669	239	1172	367	1464	336	1114
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.42	0.21	0.49	0.19	0.19	0.32	0.45

Intersection Summary

HCM 6th Signalized Intersection Summary

23: 30th Street & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	553	62	45	444	58	61	189	57	94	293	149
Future Volume (veh/h)	142	553	62	45	444	58	61	189	57	94	293	149
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	161	628	70	51	505	66	69	215	65	107	333	169
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	398	1528	170	334	1075	140	338	1130	333	426	724	360
Arrive On Green	0.08	0.47	0.47	0.33	0.33	0.33	0.05	0.41	0.41	0.31	0.31	0.31
Sat Flow, veh/h	1810	3275	364	759	3212	418	1810	2749	810	1117	2335	1161
Grp Volume(v), veh/h	161	346	352	51	283	288	69	139	141	107	256	246
Grp Sat Flow(s),veh/h/ln	1810	1805	1834	759	1805	1825	1810	1805	1754	1117	1805	1691
Q Serve(g_s), s	5.0	11.4	11.4	4.3	11.1	11.2	2.2	4.4	4.6	6.6	10.3	10.6
Cycle Q Clear(g_c), s	5.0	11.4	11.4	4.3	11.1	11.2	2.2	4.4	4.6	6.6	10.3	10.6
Prop In Lane	1.00		0.20	1.00		0.23	1.00		0.46	1.00		0.69
Lane Grp Cap(c), veh/h	398	842	856	334	604	611	338	742	721	426	559	524
V/C Ratio(X)	0.40	0.41	0.41	0.15	0.47	0.47	0.20	0.19	0.20	0.25	0.46	0.47
Avail Cap(c_a), veh/h	420	842	856	334	604	611	416	742	721	426	559	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.1	15.8	15.8	21.4	23.6	23.7	19.1	16.9	17.0	23.7	25.0	25.1
Incr Delay (d2), s/veh	0.2	1.4	1.4	1.0	2.6	2.6	0.1	0.6	0.6	1.4	2.7	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	4.8	4.9	0.8	5.1	5.1	0.9	1.9	1.9	1.8	4.6	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.3	17.3	17.3	22.3	26.2	26.3	19.2	17.5	17.6	25.1	27.7	28.1
LnGrp LOS	B	B	B	C	C	C	B	B	B	C	C	C
Approach Vol, veh/h		859			622			349			609	
Approach Delay, s/veh		17.3			25.9			17.8			27.4	
Approach LOS		B			C			B			C	
Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		47.0	9.1	33.9	11.9	35.1		43.0				
Change Period (Y+Rc), s		5.0	5.0	* 6	5.0	5.0		* 6				
Max Green Setting (Gmax), s		42.0	8.0	* 24	8.0	29.0		* 37				
Max Q Clear Time (g_c+I1), s		13.4	4.2	12.6	7.0	13.2		6.6				
Green Ext Time (p_c), s		3.0	0.0	2.1	0.0	2.5		1.1				

Intersection Summary

HCM 6th Ctrl Delay	22.1
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings

24: 28th Street & Ames Ave

09/08/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	
Traffic Volume (vph)	640	0	1	586	0	24
Future Volume (vph)	640	0	1	586	0	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			50		50	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt					0.865	
Flt Protected						
Satd. Flow (prot)	3574	0	0	3574	1644	0
Flt Permitted						
Satd. Flow (perm)	3574	0	0	3574	1644	0
Link Speed (mph)	30			30	25	
Link Distance (ft)	893			90	310	
Travel Time (s)	20.3			2.0	8.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	703	0	1	644	0	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	703	0	0	645	26	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	27.7%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	
Traffic Vol, veh/h	640	0	1	586	0	24
Future Vol, veh/h	640	0	1	586	0	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	1	0	0	1	0	0
Mvmt Flow	703	0	1	644	0	26

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	703	0	1027	352
Stage 1	-	-	-	-	703	-
Stage 2	-	-	-	-	324	-
Critical Hdwy	-	-	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	904	-	234	650
Stage 1	-	-	-	-	457	-
Stage 2	-	-	-	-	711	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	904	-	234	650
Mov Cap-2 Maneuver	-	-	-	-	234	-
Stage 1	-	-	-	-	457	-
Stage 2	-	-	-	-	710	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	650	-	-	904	-
HCM Lane V/C Ratio	0.041	-	-	0.001	-
HCM Control Delay (s)	10.8	-	-	9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Lanes, Volumes, Timings

25: North Freeway SB Ramp & Ames Ave

09/08/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑		
Traffic Volume (vph)	330	276	78	534	0	0
Future Volume (vph)	330	276	78	534	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	165		0	0
Storage Lanes		0	1		0	0
Taper Length (ft)			50		50	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.932					
Flt Protected			0.950			
Satd. Flow (prot)	3346	0	1805	3471	0	0
Flt Permitted			0.950			
Satd. Flow (perm)	3346	0	1805	3471	0	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	90			571	390	
Travel Time (s)	2.0			13.0	8.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	0%	0%	4%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	359	300	85	580	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	659	0	85	580	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	61.8%			ICU Level of Service B		
Analysis Period (min)	15					

Lanes, Volumes, Timings

26: North Freeway NB Ramp & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	274	0	0	339	6	288	2	111	0	0	0
Future Volume (vph)	47	274	0	0	339	6	288	2	111	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%				0%		0%				0%	
Storage Length (ft)	245			0	0			0	0			0
Storage Lanes	1			0	0			0	1			0
Taper Length (ft)	25			25				25				25
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.998				0.853			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1805	3610	0	0	3558	0	1805	1605	0	0	0	0
Flt Permitted	0.535						0.950					
Satd. Flow (perm)	1016	3610	0	0	3558	0	1805	1605	0	0	0	0
Right Turn on Red			Yes				Yes				Yes	
Satd. Flow (RTOR)					3				117			
Link Speed (mph)	30				30				30		30	
Link Distance (ft)	571				87				482		406	
Travel Time (s)	13.0				2.0				11.0		9.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	1%	17%	0%	0%	1%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%				0%				0%		0%	
Adj. Flow (vph)	49	288	0	0	357	6	303	2	117	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	288	0	0	363	0	303	119	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12				12				12		12	
Link Offset(ft)	0				0				0		0	
Crosswalk Width(ft)	16				16				16		16	
Two way Left Turn Lane	Yes											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	0			0			1	0			
Detector Template	Left	Thru			Thru			Left	Thru			
Leading Detector (ft)	50	0			0			50	0			
Trailing Detector (ft)	0	0			0			0	0			
Turn Type	Perm	NA			NA			Perm	NA			
Protected Phases	2				6				8			
Permitted Phases	2						8					
Detector Phase	2	2			6		8		8			
Switch Phase												
Minimum Initial (s)	20.0	20.0			20.0		10.0		10.0			
Minimum Split (s)	25.0	25.0			25.0		32.0		32.0			
Total Split (s)	27.0	27.0			27.0		33.0		33.0			
Total Split (%)	45.0%	45.0%			45.0%		55.0%		55.0%			

Lanes, Volumes, Timings

26: North Freeway NB Ramp & Ames Ave

09/08/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	22.0	22.0			22.0		28.0	28.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0				
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				
Minimum Gap (s)	3.0	3.0			3.0		3.0	3.0				
Time Before Reduce (s)	0.0	0.0			0.0		0.0	0.0				
Time To Reduce (s)	0.0	0.0			0.0		0.0	0.0				
Recall Mode	C-Max	C-Max			C-Max		None	None				
Walk Time (s)	7.0	7.0			7.0		11.0	11.0				
Flash Dont Walk (s)	9.0	9.0			9.0		16.0	16.0				
Pedestrian Calls (#/hr)	0	0			0		0	0				
Act Effct Green (s)	34.2	34.2			34.2		15.8	15.8				
Actuated g/C Ratio	0.57	0.57			0.57		0.26	0.26				
v/c Ratio	0.08	0.14			0.18		0.64	0.23				
Control Delay	8.1	7.2			8.7		25.2	4.7				
Queue Delay	0.0	0.0			0.0		0.0	0.0				
Total Delay	8.1	7.2			8.7		25.2	4.7				
LOS	A	A			A		C	A				
Approach Delay		7.4			8.7			19.5				
Approach LOS		A			A			B				
Queue Length 50th (ft)	7	22			31		97	1				
Queue Length 95th (ft)	26	49			65		142	27				
Internal Link Dist (ft)		491			7			402			326	
Turn Bay Length (ft)	245											
Base Capacity (vph)	579	2060			2032		842	811				
Starvation Cap Reductn	0	0			0		0	0				
Spillback Cap Reductn	0	0			0		0	0				
Storage Cap Reductn	0	0			0		0	0				
Reduced v/c Ratio	0.08	0.14			0.18		0.36	0.15				

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 36 (60%), Referenced to phase 2:EBTL and 6:WBT, Start of FDW or yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 12.3

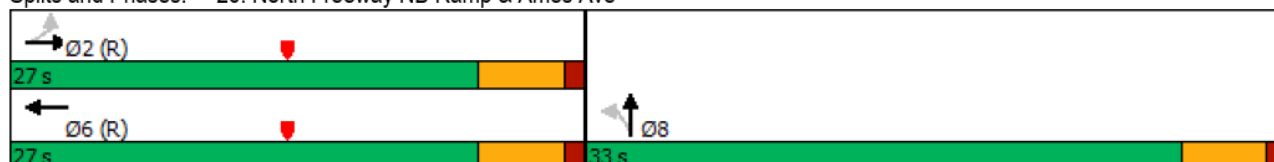
Intersection LOS: B

Intersection Capacity Utilization 61.8%

ICU Level of Service B

Analysis Period (min) 15

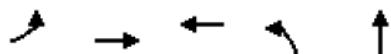
Splits and Phases: 26: North Freeway NB Ramp & Ames Ave



Queues

26: North Freeway NB Ramp & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBT	NBL	NBT
Lane Group Flow (vph)	49	288	363	303	119
v/c Ratio	0.08	0.14	0.18	0.64	0.23
Control Delay	8.1	7.2	8.7	25.2	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	8.1	7.2	8.7	25.2	4.7
Queue Length 50th (ft)	7	22	31	97	1
Queue Length 95th (ft)	26	49	65	142	27
Internal Link Dist (ft)		491	7		402
Turn Bay Length (ft)	245				
Base Capacity (vph)	579	2060	2032	842	811
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.08	0.14	0.18	0.36	0.15
Intersection Summary					

HCM 6th Signalized Intersection Summary

26: North Freeway NB Ramp & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	274	0	0	339	6	288	2	111	0	0	0
Future Volume (veh/h)	47	274	0	0	339	6	288	2	111	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1885	1648	1900	1900	1885			
Adj Flow Rate, veh/h	49	288	0	0	357	6	303	2	117			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	0	0	0	0	1	17	0	0	1			
Cap, veh/h	685	2266	0	0	2262	38	372	6	326			
Arrive On Green	0.63	0.63	0.00	0.00	0.21	0.21	0.21	0.21	0.21			
Sat Flow, veh/h	1035	3705	0	0	3699	61	1810	27	1587			
Grp Volume(v), veh/h	49	288	0	0	177	186	303	0	119			
Grp Sat Flow(s),veh/h/ln	1035	1805	0	0	1791	1874	1810	0	1614			
Q Serve(g_s), s	1.4	1.9	0.0	0.0	4.9	4.9	9.6	0.0	3.8			
Cycle Q Clear(g_c), s	6.2	1.9	0.0	0.0	4.9	4.9	9.6	0.0	3.8			
Prop In Lane	1.00		0.00	0.00		0.03	1.00		0.98			
Lane Grp Cap(c), veh/h	685	2266	0	0	1124	1176	372	0	332			
V/C Ratio(X)	0.07	0.13	0.00	0.00	0.16	0.16	0.81	0.00	0.36			
Avail Cap(c_a), veh/h	685	2266	0	0	1124	1176	844	0	753			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	6.5	4.5	0.0	0.0	10.8	10.8	22.7	0.0	20.4			
Incr Delay (d2), s/veh	0.2	0.1	0.0	0.0	0.3	0.3	4.3	0.0	0.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.3	0.6	0.0	0.0	1.7	1.8	4.2	0.0	1.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.7	4.6	0.0	0.0	11.1	11.1	27.1	0.0	21.1			
LnGrp LOS	A	A	A	A	B	B	C	A	C			
Approach Vol, veh/h		337			363			422				
Approach Delay, s/veh		4.9			11.1			25.4				
Approach LOS		A			B			C				
Timer - Assigned Phs		2			6			8				
Phs Duration (G+Y+Rc), s		42.7			42.7			17.3				
Change Period (Y+Rc), s		5.0			5.0			5.0				
Max Green Setting (Gmax), s		22.0			22.0			28.0				
Max Q Clear Time (g_c+I1), s		8.2			0.0			11.6				
Green Ext Time (p_c), s		0.0			0.0			0.8				
Intersection Summary												
HCM 6th Ctrl Delay					14.6							
HCM 6th LOS					B							

Lanes, Volumes, Timings
27: 26th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	309	14	1	341	0	2	0	0	0	0	22
Future Volume (vph)	27	309	14	1	341	0	2	0	0	0	0	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.994									0.865	
Flt Protected		0.996						0.950				
Satd. Flow (prot)	0	3574	0	0	3539	0	0	1805	0	0	1644	0
Flt Permitted		0.996						0.950				
Satd. Flow (perm)	0	3574	0	0	3539	0	0	1805	0	0	1644	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		87			334			236			238	
Travel Time (s)		2.0			7.6			6.4			6.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	29	336	15	1	371	0	2	0	0	0	0	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	380	0	0	372	0	0	2	0	0	24	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	32.6%						ICU Level of Service A					
Analysis Period (min)	15											

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕			↕↕			↕			↕		
Traffic Vol, veh/h	27	309	14	1	341	0	2	0	0	0	0	22
Future Vol, veh/h	27	309	14	1	341	0	2	0	0	0	0	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	2	0	0	0	0	0	0	0
Mvmt Flow	29	336	15	1	371	0	2	0	0	0	0	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	371	0	0	351	0	0	590	775	176	599	782	186
Stage 1	-	-	-	-	-	-	402	402	-	373	373	-
Stage 2	-	-	-	-	-	-	188	373	-	226	409	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1199	-	-	1219	-	-	395	331	843	390	328	831
Stage 1	-	-	-	-	-	-	601	604	-	625	622	-
Stage 2	-	-	-	-	-	-	801	622	-	762	600	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1199	-	-	1219	-	-	374	321	843	381	318	831
Mov Cap-2 Maneuver	-	-	-	-	-	-	374	321	-	381	318	-
Stage 1	-	-	-	-	-	-	583	586	-	606	621	-
Stage 2	-	-	-	-	-	-	777	621	-	739	582	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	14.7	9.5
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	374	1199	-	-	1219	-	-	831
HCM Lane V/C Ratio	0.006	0.024	-	-	0.001	-	-	0.029
HCM Control Delay (s)	14.7	8.1	0.1	-	8	0	-	9.5
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.1

Lanes, Volumes, Timings

28: 25th Ave & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	301	2	3	327	2	3	0	0	1	0	2
Future Volume (vph)	8	301	2	3	327	2	3	0	0	1	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			50			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.999			0.999						0.910	
Flt Protected		0.999						0.950			0.984	
Satd. Flow (prot)	0	3603	0	0	3537	0	0	1805	0	0	1701	0
Flt Permitted		0.999						0.950			0.984	
Satd. Flow (perm)	0	3603	0	0	3537	0	0	1805	0	0	1701	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		334			657			219			244	
Travel Time (s)		7.6			14.9			6.0			6.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	9	331	2	3	359	2	3	0	0	1	0	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	342	0	0	364	0	0	3	0	0	3	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		60	60		9	60		60	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	24.1%											
Analysis Period (min)	15											
ICU Level of Service A												

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕			↕↕			↕			↕		
Traffic Vol, veh/h	8	301	2	3	327	2	3	0	0	1	0	2
Future Vol, veh/h	8	301	2	3	327	2	3	0	0	1	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	2	0	0	0	0	0	0	0
Mvmt Flow	9	331	2	3	359	2	3	0	0	1	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	361	0	0	333	0	0	536	717	167	550	717	181
Stage 1	-	-	-	-	-	-	350	350	-	366	366	-
Stage 2	-	-	-	-	-	-	186	367	-	184	351	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1209	-	-	1238	-	-	432	358	854	422	358	837
Stage 1	-	-	-	-	-	-	645	636	-	631	626	-
Stage 2	-	-	-	-	-	-	804	626	-	806	636	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1209	-	-	1238	-	-	427	354	854	418	354	837
Mov Cap-2 Maneuver	-	-	-	-	-	-	427	354	-	418	354	-
Stage 1	-	-	-	-	-	-	639	630	-	625	624	-
Stage 2	-	-	-	-	-	-	799	624	-	799	630	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	13.5	10.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	427	1209	-	-	1238	-	-	627
HCM Lane V/C Ratio	0.008	0.007	-	-	0.003	-	-	0.005
HCM Control Delay (s)	13.5	8	0	-	7.9	0	-	10.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Lanes, Volumes, Timings
29: 24th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	162	101	5	178	11	69	53	2	13	57	55
Future Volume (vph)	69	162	101	5	178	11	69	53	2	13	57	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.954			0.992			0.998			0.940	
Flt Protected		0.990			0.999			0.973			0.995	
Satd. Flow (prot)	0	3377	0	0	3545	0	0	1845	0	0	1777	0
Flt Permitted		0.855			0.947			0.764			0.963	
Satd. Flow (perm)	0	2916	0	0	3361	0	0	1449	0	0	1720	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		112			12			1			61	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		657			1321			1296			576	
Travel Time (s)		14.9			30.0			29.5			13.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	77	180	112	6	198	12	77	59	2	14	63	61
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	369	0	0	216	0	0	138	0	0	138	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	0		1	0		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	0		50	0		50	20		50	20	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		15.0	15.0		15.0	15.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		28.4	28.4		28.4	28.4	
Total Split (s)	31.0	31.0		31.0	31.0		29.0	29.0		29.0	29.0	
Total Split (%)	51.7%	51.7%		51.7%	51.7%		48.3%	48.3%		48.3%	48.3%	

Lanes, Volumes, Timings

29: 24th Street & Ames Ave

09/08/2025

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	26.6	26.6		26.6	26.6		24.6	24.6		24.6	24.6	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.8	3.8		3.8	3.8	
All-Red Time (s)	0.7	0.7		0.7	0.7		0.6	0.6		0.6	0.6	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.4			4.4			4.4			4.4	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		41.0			41.0			15.0			15.0	
Actuated g/C Ratio		0.68			0.68			0.25			0.25	
v/c Ratio		0.18			0.09			0.38			0.29	
Control Delay		2.4			4.4			22.2			12.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		2.4			4.4			22.2			12.9	
LOS		A			A			C			B	
Approach Delay		2.4			4.4			22.2			12.9	
Approach LOS		A			A			C			B	
Queue Length 50th (ft)		8			20			41			22	
Queue Length 95th (ft)		22			30			85			61	
Internal Link Dist (ft)		577			1241			1216			496	
Turn Bay Length (ft)												
Base Capacity (vph)		2026			2298			594			741	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.18			0.09			0.23			0.19	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 2 (3%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.38

Intersection Signal Delay: 7.8

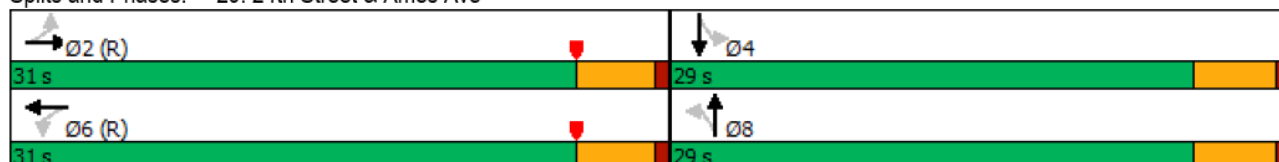
Intersection LOS: A

Intersection Capacity Utilization 42.4%

ICU Level of Service A

Analysis Period (min) 15

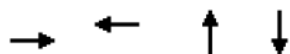
Splits and Phases: 29: 24th Street & Ames Ave



Queues

29: 24th Street & Ames Ave

09/08/2025



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	369	216	138	138
v/c Ratio	0.18	0.09	0.38	0.29
Control Delay	2.4	4.4	22.2	12.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	2.4	4.4	22.2	12.9
Queue Length 50th (ft)	8	20	41	22
Queue Length 95th (ft)	22	30	85	61
Internal Link Dist (ft)	577	1241	1216	496
Turn Bay Length (ft)				
Base Capacity (vph)	2026	2298	594	741
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.18	0.09	0.23	0.19
Intersection Summary				

HCM 6th Signalized Intersection Summary

29: 24th Street & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔↔			↔↔	
Traffic Volume (veh/h)	69	162	101	5	178	11	69	53	2	13	57	55
Future Volume (veh/h)	69	162	101	5	178	11	69	53	2	13	57	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1870	1900	1900	1885	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	77	180	112	6	198	12	77	59	2	14	63	61
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	2	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	423	937	582	85	2003	119	286	196	6	84	221	190
Arrive On Green	0.61	0.61	0.61	0.61	0.61	0.61	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	559	1546	961	37	3306	196	777	794	23	73	894	766
Grp Volume(v), veh/h	191	0	178	113	0	103	138	0	0	138	0	0
Grp Sat Flow(s),veh/h/ln	1537	0	1529	1859	0	1680	1594	0	0	1733	0	0
Q Serve(g_s), s	0.0	0.0	3.1	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.7	0.0	3.1	1.5	0.0	1.5	3.6	0.0	0.0	3.8	0.0	0.0
Prop In Lane	0.40		0.63	0.05		0.12	0.56		0.01	0.10		0.44
Lane Grp Cap(c), veh/h	1016	0	926	1189	0	1018	488	0	0	495	0	0
V/C Ratio(X)	0.19	0.00	0.19	0.10	0.00	0.10	0.28	0.00	0.00	0.28	0.00	0.00
Avail Cap(c_a), veh/h	1016	0	926	1189	0	1018	731	0	0	771	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.2	0.0	5.3	5.0	0.0	5.0	18.3	0.0	0.0	18.4	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.5	0.2	0.0	0.2	0.3	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.9	0.5	0.0	0.5	1.5	0.0	0.0	1.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.6	0.0	5.7	5.1	0.0	5.2	18.6	0.0	0.0	18.7	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	A	B	A	A
Approach Vol, veh/h		369			216			138			138	
Approach Delay, s/veh		5.7			5.1			18.6			18.7	
Approach LOS		A			A			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		40.8		19.2		40.8		19.2				
Change Period (Y+Rc), s		* 4.4		* 4.4		* 4.4		* 4.4				
Max Green Setting (Gmax), s		* 27		* 25		* 27		* 25				
Max Q Clear Time (g_c+I1), s		0.0		5.8		0.0		5.6				
Green Ext Time (p_c), s		0.0		0.3		0.0		0.3				

Intersection Summary

HCM 6th Ctrl Delay	9.7
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings

30: Florence Blvd & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	66	90	2	79	11	73	98	2	10	96	25
Future Volume (vph)	30	66	90	2	79	11	73	98	2	10	96	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		200	0		0	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850		0.982			0.999			0.974	
Flt Protected		0.985			0.999			0.979			0.996	
Satd. Flow (prot)	0	1774	1599	0	3482	0	0	1858	0	0	1843	0
Flt Permitted		0.903			0.952			0.823			0.976	
Satd. Flow (perm)	0	1626	1599	0	3318	0	0	1562	0	0	1806	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105		13			1			24	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1321			384			1315			473	
Travel Time (s)		30.0			8.7			29.9			10.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	8%	1%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	35	77	105	2	92	13	85	114	2	12	112	29
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	112	105	0	107	0	0	201	0	0	153	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	0	1	1	0		1	0		1	0	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	0	40	50	0		50	0		50	0	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8			4		
Detector Phase	2	2	2	6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	23.0	23.0	23.0	23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	30.0	30.0	30.0	30.0	30.0		30.0	30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	

Lanes, Volumes, Timings

30: Florence Blvd & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	25.0	25.0	25.0	25.0	25.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0			0.0			0.0	
Total Lost Time (s)		5.0	5.0		5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	Max	Max	Max	Max	Max		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	8.0	8.0	8.0	8.0	8.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)		25.0	25.0		25.0			25.0			25.0	
Actuated g/C Ratio		0.42	0.42		0.42			0.42			0.42	
v/c Ratio		0.17	0.14		0.08			0.31			0.20	
Control Delay		9.9	3.5		9.7			13.3			10.2	
Queue Delay		0.0	0.0		0.0			0.0			0.0	
Total Delay		9.9	3.5		9.7			13.3			10.2	
LOS		A	A		A			B			B	
Approach Delay		6.8			9.7			13.3			10.2	
Approach LOS		A			A			B			B	
Queue Length 50th (ft)		27	0		10			46			28	
Queue Length 95th (ft)		37	1		21			84			57	
Internal Link Dist (ft)		1241			304			1235			393	
Turn Bay Length (ft)												
Base Capacity (vph)		677	727		1390			651			766	
Starvation Cap Reductn		0	0		0			0			0	
Spillback Cap Reductn		0	0		0			0			0	
Storage Cap Reductn		0	0		0			0			0	
Reduced v/c Ratio		0.17	0.14		0.08			0.31			0.20	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 32 (53%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 50

Control Type: Pretimed

Maximum v/c Ratio: 0.31

Intersection Signal Delay: 10.0

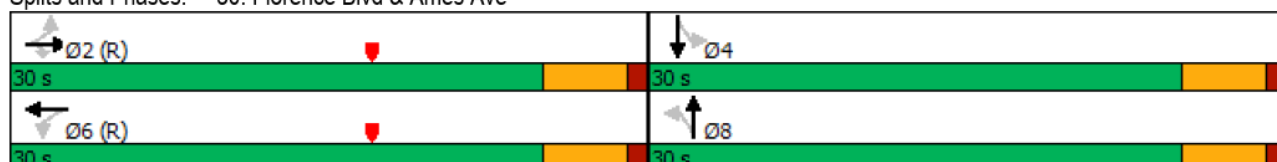
Intersection Capacity Utilization 42.0%

Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service A

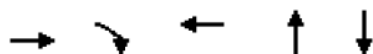
Splits and Phases: 30: Florence Blvd & Ames Ave



Queues

30: Florence Blvd & Ames Ave

09/08/2025



Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	112	105	107	201	153
v/c Ratio	0.17	0.14	0.08	0.31	0.20
Control Delay	9.9	3.5	9.7	13.3	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	9.9	3.5	9.7	13.3	10.2
Queue Length 50th (ft)	27	0	10	46	28
Queue Length 95th (ft)	37	1	21	84	57
Internal Link Dist (ft)	1241		304	1235	393
Turn Bay Length (ft)					
Base Capacity (vph)	677	727	1390	651	766
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.17	0.14	0.08	0.31	0.20
Intersection Summary					

HCM 6th Signalized Intersection Summary

30: Florence Blvd & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	66	90	2	79	11	73	98	2	10	96	25
Future Volume (veh/h)	30	66	90	2	79	11	73	98	2	10	96	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1781	1885	1900	1870	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	35	77	105	2	92	13	85	114	2	12	112	29
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	8	1	0	2	0	0	0	0	0	0	0
Cap, veh/h	247	499	666	68	1274	174	332	416	7	88	589	143
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	403	1197	1598	14	3059	417	592	999	16	55	1413	344
Grp Volume(v), veh/h	112	0	105	56	0	51	201	0	0	153	0	0
Grp Sat Flow(s),veh/h/ln	1600	0	1598	1863	0	1627	1608	0	0	1812	0	0
Q Serve(g_s), s	0.0	0.0	2.5	0.0	0.0	1.1	1.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.3	0.0	2.5	1.1	0.0	1.1	4.4	0.0	0.0	3.2	0.0	0.0
Prop In Lane	0.31		1.00	0.04		0.26	0.42		0.01	0.08		0.19
Lane Grp Cap(c), veh/h	745	0	666	838	0	678	755	0	0	820	0	0
V/C Ratio(X)	0.15	0.00	0.16	0.07	0.00	0.07	0.27	0.00	0.00	0.19	0.00	0.00
Avail Cap(c_a), veh/h	745	0	666	838	0	678	755	0	0	820	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.9	0.0	10.9	10.5	0.0	10.5	11.4	0.0	0.0	11.1	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.5	0.2	0.0	0.2	0.9	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.9	0.4	0.0	0.4	1.7	0.0	0.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.3	0.0	11.4	10.7	0.0	10.8	12.3	0.0	0.0	11.6	0.0	0.0
LnGrp LOS	B	A	B	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h	217				107		201		153			
Approach Delay, s/veh	11.4				10.7		12.3		11.6			
Approach LOS	B				B		B		B			
Timer - Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	30.0		30.0		30.0		30.0					
Change Period (Y+Rc), s	5.0		5.0		5.0		5.0					
Max Green Setting (Gmax), s	25.0		25.0		25.0		25.0					
Max Q Clear Time (g_c+I1), s	4.5		0.0		0.0		0.0					
Green Ext Time (p_c), s	0.1		0.0		0.0		0.0					
Intersection Summary												
HCM 6th Ctrl Delay			11.6									
HCM 6th LOS			B									

Lanes, Volumes, Timings
161: 61st St EVHB & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔							
Traffic Volume (vph)	0	631	0	0	653	0	0	0	0	0	0	0
Future Volume (vph)	0	631	0	0	653	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt												
Flt Protected												
Satd. Flow (prot)	0	3539	0	0	3539	0	0	0	0	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	3539	0	0	3539	0	0	0	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		660			644			163			152	
Travel Time (s)		11.3			11.0			4.4			4.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	686	0	0	710	0	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	686	0	0	710	0	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2							
Detector Template	Left	Thru		Left	Thru							
Leading Detector (ft)	20	100		20	100							
Trailing Detector (ft)	0	0		0	0							
Turn Type		NA			NA							
Protected Phases		2			6							
Permitted Phases	2			6								
Detector Phase	2	2		6	6							
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0							
Minimum Split (s)	25.0	25.0		25.0	25.0							
Total Split (s)	50.0	50.0		50.0	50.0							
Total Split (%)	100.0%	100.0%		100.0%	100.0%							

Lanes, Volumes, Timings

161: 61st St EVHB & Ames Ave

09/08/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	45.0	45.0		45.0	45.0							
Yellow Time (s)	4.0	4.0		4.0	4.0							
All-Red Time (s)	1.0	1.0		1.0	1.0							
Lost Time Adjust (s)		0.0			0.0							
Total Lost Time (s)		5.0			5.0							
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0							
Minimum Gap (s)	3.0	3.0		3.0	3.0							
Time Before Reduce (s)	0.0	0.0		0.0	0.0							
Time To Reduce (s)	0.0	0.0		0.0	0.0							
Recall Mode	Max	Max		Max	Max							
Walk Time (s)	7.0	7.0		7.0	7.0							
Flash Dont Walk (s)	11.0	11.0		11.0	11.0							
Pedestrian Calls (#/hr)	0	0		0	0							
Act Effct Green (s)		65.0			65.0							
Actuated g/C Ratio		1.00			1.00							
v/c Ratio		0.19			0.20							
Control Delay		0.1			0.1							
Queue Delay		0.0			0.0							
Total Delay		0.1			0.1							
LOS		A			A							
Approach Delay		0.1			0.1							
Approach LOS		A			A							
Queue Length 50th (ft)		0			0							
Queue Length 95th (ft)		0			0							
Internal Link Dist (ft)		580			564			83			72	
Turn Bay Length (ft)												
Base Capacity (vph)		3539			3539							
Starvation Cap Reductn		0			0							
Spillback Cap Reductn		0			0							
Storage Cap Reductn		0			0							
Reduced v/c Ratio		0.19			0.20							

Intersection Summary

Area Type: Other

Cycle Length: 50

Actuated Cycle Length: 65

Natural Cycle: 40

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.20

Intersection Signal Delay: 0.1

Intersection LOS: A

Intersection Capacity Utilization 22.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 161: 61st St EVHB & Ames Ave



Queues

161: 61st St EVHB & Ames Ave

09/08/2025



Lane Group	EBT	WBT
Lane Group Flow (vph)	686	710
v/c Ratio	0.19	0.20
Control Delay	0.1	0.1
Queue Delay	0.0	0.0
Total Delay	0.1	0.1
Queue Length 50th (ft)	0	0
Queue Length 95th (ft)	0	0
Internal Link Dist (ft)	580	564
Turn Bay Length (ft)		
Base Capacity (vph)	3539	3539
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.19	0.20
Intersection Summary		

HCM 6th Signalized Intersection Summary

161: 61st St EVHB & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	631	0	0	653	0	0	0	0	0	0	0
Future Volume (veh/h)	0	631	0	0	653	0	0	0	0	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0						
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00						
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00						
Work Zone On Approach		No			No							
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870						
Adj Flow Rate, veh/h	0	686	0	0	710	0						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92						
Percent Heavy Veh, %	2	2	2	2	2	2						
Cap, veh/h	0	3198	0	0	3198	0						
Arrive On Green	0.00	0.90	0.00	0.00	0.90	0.00						
Sat Flow, veh/h	0	3741	0	0	3741	0						
Grp Volume(v), veh/h	0	686	0	0	710	0						
Grp Sat Flow(s),veh/h/ln	0	1777	0	0	1777	0						
Q Serve(g_s), s	0.0	1.2	0.0	0.0	1.2	0.0						
Cycle Q Clear(g_c), s	0.0	1.2	0.0	0.0	1.2	0.0						
Prop In Lane	0.00		0.00	0.00		0.00						
Lane Grp Cap(c), veh/h	0	3198	0	0	3198	0						
V/C Ratio(X)	0.00	0.21	0.00	0.00	0.22	0.00						
Avail Cap(c_a), veh/h	0	3198	0	0	3198	0						
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00						
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00						
Uniform Delay (d), s/veh	0.0	0.3	0.0	0.0	0.3	0.0						
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.2	0.0						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	0.0	0.1	0.0	0.0	0.1	0.0						
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.5	0.0	0.0	0.5	0.0						
LnGrp LOS	A	A	A	A	A	A						
Approach Vol, veh/h		686			710							
Approach Delay, s/veh		0.5			0.5							
Approach LOS		A			A							
Timer - Assigned Phs		2			6							
Phs Duration (G+Y+Rc), s		50.0			50.0							
Change Period (Y+Rc), s		5.0			5.0							
Max Green Setting (Gmax), s		45.0			45.0							
Max Q Clear Time (g_c+l1), s		3.2			3.2							
Green Ext Time (p_c), s		5.0			5.2							
Intersection Summary												
HCM 6th Ctrl Delay			0.5									
HCM 6th LOS			A									



Lanes, Volumes, Timings

1: 72nd St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	61	9	570	88	112	48	558	656	102	497	17
Future Volume (vph)	21	61	9	570	88	112	48	558	656	102	497	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%				0%		0%				0%	
Storage Length (ft)	65	0		150			325	150	0		250	0
Storage Lanes	1	0		1			1	1	2		1	0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	0.88	1.00	0.95	0.95
Ped Bike Factor												
Frt	0.980				0.850				0.850		0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1862	0	3502	1900	1615	1805	3610	2842	1787	3592	0
Flt Permitted	0.695			0.950			0.446			0.950		
Satd. Flow (perm)	1320	1862	0	3502	1900	1615	847	3610	2842	1787	3592	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)	5				120				523		4	
Link Speed (mph)	25				40				35		35	
Link Distance (ft)	470				531				636		764	
Travel Time (s)	12.8				9.1				12.4		14.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	1.00
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%				0%				0%		0%	
Adj. Flow (vph)	23	66	10	613	95	120	52	600	705	110	534	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	23	76	0	613	95	120	52	600	705	110	551	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	16				28				18		18	
Link Offset(ft)	0				0				0		0	
Crosswalk Width(ft)	16				16				16		16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		15	9		15	9		15	9	
Number of Detectors	1	1	1		1	1	0	0	0	1	0	
Detector Template												
Leading Detector (ft)	50	50	50		50	50	0	0	0	50	0	
Trailing Detector (ft)	0	0	0		0	0	0	0	0	0	0	
Turn Type	Perm	NA	Prot		NA	pm+ov	Perm	NA	pm+ov	Prot	NA	
Protected Phases	2		1		6	7	8		1	7	4	
Permitted Phases	2					6	8	8				
Detector Phase	2	2	1		6	7	8	8	1	7	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0	7.0		8.0	5.0	20.0	20.0	7.0	5.0	20.0	
Minimum Split (s)	14.0	14.0	13.0		14.0	13.0	26.0	26.0	13.0	13.0	26.0	
Total Split (s)	15.0	15.0	33.0		48.0	18.0	54.0	54.0	33.0	18.0	72.0	
Total Split (%)	12.5%	12.5%	27.5%		40.0%	15.0%	45.0%	45.0%	27.5%	15.0%	60.0%	

Lanes, Volumes, Timings

1: 72nd St & Ames Ave

09/08/2025

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	9.0	9.0		27.0	42.0	12.0	48.0	48.0	27.0	12.0	66.0	
Yellow Time (s)	4.0	4.0		3.2	4.0	3.9	4.9	4.9	3.2	3.9	4.9	
All-Red Time (s)	2.0	2.0		2.8	2.0	2.1	1.1	1.1	2.8	2.1	1.1	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lag	Lag		Lead		Lead	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		2.0	3.0	2.0	0.2	0.2	2.0	2.0	0.2	
Minimum Gap (s)	3.0	3.0		2.0	3.0	2.0	0.2	0.2	2.0	2.0	0.2	
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	None		None	None	None	C-Max	C-Max	None	None	C-Max	
Walk Time (s)	12.0	12.0		12.0			17.0	17.0			17.0	
Flash Dont Walk (s)	28.0	28.0		28.0			22.0	22.0			22.0	
Pedestrian Calls (#/hr)	0	0		0			0	0			0	
Act Effct Green (s)	8.7	8.7		25.0	36.9	53.4	54.6	54.6	85.6	10.5	71.1	
Actuated g/C Ratio	0.07	0.07		0.21	0.31	0.44	0.46	0.46	0.71	0.09	0.59	
v/c Ratio	0.24	0.55		0.84	0.16	0.15	0.14	0.37	0.32	0.71	0.26	
Control Delay	58.9	65.1		50.6	22.9	7.4	23.9	23.9	2.2	76.8	13.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	58.9	65.1		50.6	22.9	7.4	23.9	23.9	2.2	76.8	13.1	
LOS	E	E		D	C	A	C	C	A	E	B	
Approach Delay	63.6			41.2			12.6			23.7		
Approach LOS	E			D			B			C		
Queue Length 50th (ft)	17	54		235	52	17	25	173	25	83	113	
Queue Length 95th (ft)	45	106		300	95	68	55	224	48	#153	147	
Internal Link Dist (ft)	390			451			556			684		
Turn Bay Length (ft)	65			150			150			250		
Base Capacity (vph)	99	145		787	665	803	385	1643	2216	178	2130	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.23	0.52		0.78	0.14	0.15	0.14	0.37	0.32	0.62	0.26	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 33 (28%), Referenced to phase 4:SBT and 8:NBTL, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 24.9

Intersection LOS: C

Intersection Capacity Utilization 71.3%

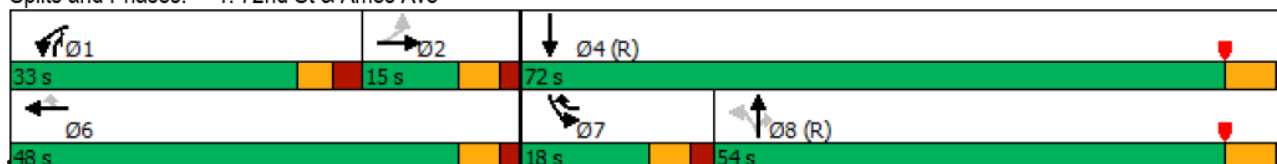
ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: 72nd St & Ames Ave



Queues

1: 72nd St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	23	76	613	95	120	52	600	705	110	551
v/c Ratio	0.24	0.55	0.84	0.16	0.15	0.14	0.37	0.32	0.71	0.26
Control Delay	58.9	65.1	50.6	22.9	7.4	23.9	23.9	2.2	76.8	13.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.9	65.1	50.6	22.9	7.4	23.9	23.9	2.2	76.8	13.1
Queue Length 50th (ft)	17	54	235	52	17	25	173	25	83	113
Queue Length 95th (ft)	45	106	300	95	68	55	224	48	#153	147
Internal Link Dist (ft)		390		451			556			684
Turn Bay Length (ft)	65		150		325	150			250	
Base Capacity (vph)	99	145	787	665	803	385	1643	2216	178	2130
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.52	0.78	0.14	0.15	0.14	0.37	0.32	0.62	0.26

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary

1: 72nd St & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	61	9	570	88	112	48	558	656	102	497	17
Future Volume (veh/h)	21	61	9	570	88	112	48	558	656	102	497	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1885	1900	1900
Adj Flow Rate, veh/h	23	66	10	613	95	120	52	600	705	110	534	17
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	1.00
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	1	0	0
Cap, veh/h	139	107	16	690	595	626	462	1665	1865	135	2095	67
Arrive On Green	0.07	0.07	0.07	0.06	0.10	0.10	0.46	0.46	0.46	0.08	0.59	0.59
Sat Flow, veh/h	1185	1612	244	3510	1900	1610	870	3610	2834	1795	3571	114
Grp Volume(v), veh/h	23	0	76	613	95	120	52	600	705	110	270	281
Grp Sat Flow(s),veh/h/ln	1185	0	1856	1755	1900	1610	870	1805	1417	1795	1805	1880
Q Serve(g_s), s	2.2	0.0	4.8	20.8	5.5	7.3	4.1	12.9	13.6	7.2	8.7	8.7
Cycle Q Clear(g_c), s	2.2	0.0	4.8	20.8	5.5	7.3	4.1	12.9	13.6	7.2	8.7	8.7
Prop In Lane	1.00		0.13	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	139	0	124	690	595	626	462	1665	1865	135	1059	1103
V/C Ratio(X)	0.17	0.00	0.61	0.89	0.16	0.19	0.11	0.36	0.38	0.81	0.25	0.26
Avail Cap(c_a), veh/h	149	0	139	790	665	685	462	1665	1865	180	1059	1103
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.3	0.0	54.5	54.8	39.4	32.2	18.5	20.9	9.3	54.6	12.0	12.1
Incr Delay (d2), s/veh	0.6	0.0	6.4	9.7	0.1	0.1	0.5	0.6	0.6	14.2	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	2.5	10.7	2.6	3.0	0.9	5.5	4.0	3.8	3.5	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.9	0.0	60.9	64.5	39.5	32.3	19.0	21.5	9.9	68.8	12.6	12.6
LnGrp LOS	D	A	E	E	D	C	B	C	A	E	B	B
Approach Vol, veh/h	99			828			1357			661		
Approach Delay, s/veh	59.3			57.0			15.4			22.0		
Approach LOS	E			E			B			C		
Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	29.6	14.0		76.4		43.6	15.0	61.4				
Change Period (Y+Rc), s	6.0	6.0		* 6		6.0	6.0	* 6				
Max Green Setting (Gmax), s	27.0	9.0		* 66		42.0	12.0	* 48				
Max Q Clear Time (g_c+I1), s	22.8	6.8		0.0		9.3	9.2	0.0				
Green Ext Time (p_c), s	0.8	0.1		0.0		0.8	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay 30.0
 HCM 6th LOS C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings

2: Benson Park Plz & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	722	50	86	679	116	43	6	131	116	13	35
Future Volume (vph)	47	722	50	86	679	116	43	6	131	116	13	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%				0%				0%			
Storage Length (ft)	150			0	200			0	0	150	75	0
Storage Lanes	1			0	1			0	1	1	1	0
Taper Length (ft)	50			50				50		50		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.990				0.978				0.856		0.892	
Flt Protected	0.950			0.950				0.950		0.950		
Satd. Flow (prot)	1805	3574	0	1805	3531	0	1805	1626	0	1805	1695	0
Flt Permitted	0.329			0.295				0.724		0.562		
Satd. Flow (perm)	625	3574	0	560	3531	0	1376	1626	0	1068	1695	0
Right Turn on Red	Yes						Yes			Yes		
Satd. Flow (RTOR)	9						26			136		
Link Speed (mph)	40						40			25		
Link Distance (ft)	531						2105			252		
Travel Time (s)	9.1						35.9			6.9		
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%						0%			0%		
Adj. Flow (vph)	49	752	52	90	707	121	45	6	136	121	14	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	804	0	90	828	0	45	142	0	121	50	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	16						16			16		
Link Offset(ft)	0						0			0		
Crosswalk Width(ft)	16						16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	0		1	0		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	0		50	0		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	20.0		10.0	20.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	13.0	31.0		15.0	31.0		34.0	34.0		34.0	34.0	
Total Split (s)	13.0	71.0		15.0	73.0		34.0	34.0		34.0	34.0	
Total Split (%)	10.8%	59.2%		12.5%	60.8%		28.3%	28.3%		28.3%	28.3%	

Lanes, Volumes, Timings

2: Benson Park Plz & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	7.0	65.0		10.0	67.0		28.0	28.0		28.0	28.0	
Yellow Time (s)	4.1	5.2		4.0	5.2		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.9	0.8		1.0	0.8		2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		5.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	0.2		3.0	0.2		3.0	3.0		3.0	3.0	
Minimum Gap (s)	2.0	0.2		3.0	0.2		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)		17.0			17.0		18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	81.0	75.4		90.1	81.1		17.6	17.6		17.6	17.6	
Actuated g/C Ratio	0.68	0.63		0.75	0.68		0.15	0.15		0.15	0.15	
v/c Ratio	0.10	0.36		0.17	0.35		0.22	0.40		0.78	0.18	
Control Delay	6.6	15.8		5.2	9.6		45.3	11.2		78.9	19.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	6.6	15.8		5.2	9.6		45.3	11.2		78.9	19.5	
LOS	A	B		A	A		D	B		E	B	
Approach Delay		15.3			9.2			19.4			61.5	
Approach LOS		B			A			B			E	
Queue Length 50th (ft)	10	194		15	133		31	4		91	9	
Queue Length 95th (ft)	m27	267		36	210		63	57		150	43	
Internal Link Dist (ft)		451			2025			172			208	
Turn Bay Length (ft)	150			200						75		
Base Capacity (vph)	498	2250		524	2394		321	483		249	423	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.10	0.36		0.17	0.35		0.14	0.29		0.49	0.12	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 58 (48%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 16.7

Intersection LOS: B

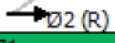
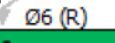
Intersection Capacity Utilization 64.1%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

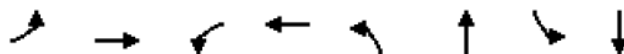
Splits and Phases: 2: Benson Park Plz & Ames Ave

 Ø1	 Ø2 (R)	 Ø4
15 s	71 s	34 s
 Ø5	 Ø6 (R)	 Ø8
13 s	73 s	34 s

Queues

2: Benson Park Plz & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	49	804	90	828	45	142	121	50
v/c Ratio	0.10	0.36	0.17	0.35	0.22	0.40	0.78	0.18
Control Delay	6.6	15.8	5.2	9.6	45.3	11.2	78.9	19.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.6	15.8	5.2	9.6	45.3	11.2	78.9	19.5
Queue Length 50th (ft)	10	194	15	133	31	4	91	9
Queue Length 95th (ft)	m27	267	36	210	63	57	150	43
Internal Link Dist (ft)		451		2025		172		208
Turn Bay Length (ft)	150		200				75	
Base Capacity (vph)	498	2250	524	2394	321	483	249	423
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.36	0.17	0.35	0.14	0.29	0.49	0.12

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary

2: Benson Park Plz & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	722	50	86	679	116	43	6	131	116	13	35
Future Volume (veh/h)	47	722	50	86	679	116	43	6	131	116	13	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	49	752	52	90	707	121	45	6	136	121	14	36
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	467	2016	139	608	1930	330	288	13	296	203	90	231
Arrive On Green	0.07	1.00	1.00	0.08	0.63	0.63	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1810	3426	237	1810	3083	527	1376	68	1552	1266	471	1211
Grp Volume(v), veh/h	49	396	408	90	414	414	45	0	142	121	0	50
Grp Sat Flow(s),veh/h/ln	1810	1805	1857	1810	1805	1805	1376	0	1621	1266	0	1682
Q Serve(g_s), s	1.3	0.0	0.0	2.0	13.4	13.4	3.4	0.0	9.3	11.2	0.0	3.0
Cycle Q Clear(g_c), s	1.3	0.0	0.0	2.0	13.4	13.4	6.4	0.0	9.3	20.6	0.0	3.0
Prop In Lane	1.00		0.13	1.00		0.29	1.00		0.96	1.00		0.72
Lane Grp Cap(c), veh/h	467	1062	1093	608	1130	1130	288	0	309	203	0	321
V/C Ratio(X)	0.10	0.37	0.37	0.15	0.37	0.37	0.16	0.00	0.46	0.60	0.00	0.16
Avail Cap(c_a), veh/h	512	1062	1093	616	1130	1130	347	0	378	257	0	392
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	0.93	0.97	0.97	0.97	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.8	0.0	0.0	6.5	10.9	10.9	43.2	0.0	43.1	52.2	0.0	40.5
Incr Delay (d2), s/veh	0.0	0.9	0.9	0.1	0.9	0.9	0.2	0.0	1.1	2.8	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.3	0.3	0.7	5.2	5.2	1.2	0.0	3.9	3.8	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.9	0.9	0.9	6.6	11.8	11.8	43.4	0.0	44.2	55.0	0.0	40.7
LnGrp LOS	A	A	A	A	B	B	D	A	D	E	A	D
Approach Vol, veh/h		853			918			187			171	
Approach Delay, s/veh		1.4			11.3			44.0			50.8	
Approach LOS		A			B			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.5	76.6		28.9	10.0	81.1		28.9				
Change Period (Y+Rc), s	5.0	* 6		6.0	* 6	* 6		6.0				
Max Green Setting (Gmax), s	10.0	* 65		28.0	* 7	* 67		28.0				
Max Q Clear Time (g_c+I1), s	4.0	0.0		22.6	3.3	0.0		11.3				
Green Ext Time (p_c), s	0.1	0.0		0.3	0.0	0.0		0.7				

Intersection Summary

HCM 6th Ctrl Delay	13.4
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings

3: 66th St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	934	35	44	820	7	21	3	20	6	1	17
Future Volume (vph)	30	934	35	44	820	7	21	3	20	6	1	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	150		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.995			0.999			0.939			0.904		
Flt Protected	0.950			0.950				0.977			0.988	
Satd. Flow (prot)	1805	3592	0	1805	3606	0	0	1743	0	0	1697	0
Flt Permitted	0.338			0.288				0.836			0.904	
Satd. Flow (perm)	642	3592	0	547	3606	0	0	1492	0	0	1553	0
Right Turn on Red	Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)	7			2			20			17		
Link Speed (mph)	40			40			25			25		
Link Distance (ft)	2105			1330			821			664		
Travel Time (s)	35.9			22.7			22.4			18.1		
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%			0%			0%		
Adj. Flow (vph)	30	943	35	44	828	7	21	3	20	6	1	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	978	0	44	835	0	0	44	0	0	24	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	16			16			0			0		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	2			2			4			4		
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	26.0	26.0		26.0	26.0		30.0	30.0		30.0	30.0	
Total Split (s)	60.0	60.0		60.0	60.0		30.0	30.0		30.0	30.0	
Total Split (%)	66.7%	66.7%		66.7%	66.7%		33.3%	33.3%		33.3%	33.3%	

Lanes, Volumes, Timings

3: 66th St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	54.0	54.0		54.0	54.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	4.6	4.6		4.6	4.6		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.4	1.4		1.4	1.4		1.4	1.4		1.4	1.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		17.0	17.0		17.0	17.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	74.4	74.4		74.4	74.4			8.4			8.4	
Actuated g/C Ratio	0.83	0.83		0.83	0.83			0.09			0.09	
v/c Ratio	0.06	0.33		0.10	0.28			0.28			0.15	
Control Delay	2.6	2.9		3.0	2.7			29.2			23.1	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	2.6	2.9		3.0	2.7			29.2			23.1	
LOS	A	A		A	A			C			C	
Approach Delay		2.8			2.7			29.3			23.1	
Approach LOS		A			A			C			C	
Queue Length 50th (ft)	3	63		4	51			13			4	
Queue Length 95th (ft)	9	93		13	77			45			27	
Internal Link Dist (ft)		2025			1250			741			584	
Turn Bay Length (ft)	150			125								
Base Capacity (vph)	531	2972		452	2983			428			443	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.06	0.33		0.10	0.28			0.10			0.05	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 46 (51%), Referenced to phase 2:EBWB, Start of FDW or yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.33

Intersection Signal Delay: 3.6

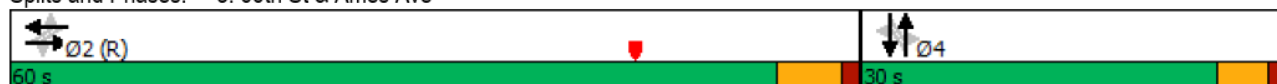
Intersection LOS: A

Intersection Capacity Utilization 52.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: 66th St & Ames Ave



Queues

3: 66th St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	30	978	44	835	44	24
v/c Ratio	0.06	0.33	0.10	0.28	0.28	0.15
Control Delay	2.6	2.9	3.0	2.7	29.2	23.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.6	2.9	3.0	2.7	29.2	23.1
Queue Length 50th (ft)	3	63	4	51	13	4
Queue Length 95th (ft)	9	93	13	77	45	27
Internal Link Dist (ft)		2025		1250	741	584
Turn Bay Length (ft)	150		125			
Base Capacity (vph)	531	2972	452	2983	428	443
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.33	0.10	0.28	0.10	0.05

Intersection Summary

Lanes, Volumes, Timings

4: 63rd Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	979	16	40	868	10	5	0	24	4	0	6
Future Volume (vph)	10	979	16	40	868	10	5	0	24	4	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%				0%		0%				0%	
Storage Length (ft)	120			0	110			0	0	0		
Storage Lanes	1			0	1			0	0	0		
Taper Length (ft)	80			85		50				50		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.998				0.998		0.887				0.914	
Flt Protected	0.950			0.950				0.992				0.982
Satd. Flow (prot)	1805	3603	0	1805	3603	0	0	1672	0	0	1705	0
Flt Permitted	0.950			0.950				0.992				0.982
Satd. Flow (perm)	1805	3603	0	1805	3603	0	0	1672	0	0	1705	0
Link Speed (mph)	40				40		25				25	
Link Distance (ft)	1330				660		282				261	
Travel Time (s)	22.7				11.3		7.7				7.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%				0%		0%				0%	
Adj. Flow (vph)	10	1009	16	41	895	10	5	0	25	4	0	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	1025	0	41	905	0	0	30	0	0	11	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12				12		0				0	
Link Offset(ft)	0				0		0				0	
Crosswalk Width(ft)	16				16		16				16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		15	9		15	9		15	9	
Sign Control	Free			Free			Stop			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	43.2%					ICU Level of Service A						
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱		↰	↰↱			↱			↱	
Traffic Vol, veh/h	10	979	16	40	868	10	5	0	24	4	0	6
Future Vol, veh/h	10	979	16	40	868	10	5	0	24	4	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	120	-	-	110	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	10	1009	16	41	895	10	5	0	25	4	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	905	0	0	1025	0	0	1567	2024	513	1507	2027	453
Stage 1	-	-	-	-	-	-	1037	1037	-	982	982	-
Stage 2	-	-	-	-	-	-	530	987	-	525	1045	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	760	-	-	685	-	-	77	59	512	85	58	559
Stage 1	-	-	-	-	-	-	251	311	-	271	330	-
Stage 2	-	-	-	-	-	-	506	328	-	509	308	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	760	-	-	685	-	-	72	55	512	76	54	559
Mov Cap-2 Maneuver	-	-	-	-	-	-	72	55	-	76	54	-
Stage 1	-	-	-	-	-	-	248	307	-	267	310	-
Stage 2	-	-	-	-	-	-	470	308	-	478	304	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.5	21.4	28.9
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	249	760	-	-	685	-	-	161
HCM Lane V/C Ratio	0.12	0.014	-	-	0.06	-	-	0.066
HCM Control Delay (s)	21.4	9.8	-	-	10.6	-	-	28.9
HCM Lane LOS	C	A	-	-	B	-	-	D
HCM 95th %tile Q(veh)	0.4	0	-	-	0.2	-	-	0.2

Lanes, Volumes, Timings

5: 60th St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	803	73	96	703	98	73	189	93	114	161	95
Future Volume (vph)	89	803	73	96	703	98	73	189	93	114	161	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	225		0	200		0	175		0	175		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt	0.988			0.982			0.951			0.944		
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3567	0	1805	3545	0	1805	3433	0	1805	3408	0
Flt Permitted	0.253			0.215			0.589			0.461		
Satd. Flow (perm)	481	3567	0	408	3545	0	1119	3433	0	876	3408	0
Right Turn on Red	Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)	11			17			92			98		
Link Speed (mph)	40			40			35			35		
Link Distance (ft)	644			1336			1970			3961		
Travel Time (s)	11.0			22.8			38.4			77.2		
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%			0%			0%		
Adj. Flow (vph)	92	828	75	99	725	101	75	195	96	118	166	98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	903	0	99	826	0	75	291	0	118	264	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	16			16			16			16		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	20.0		5.0	20.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	13.0	29.0		13.0	29.0		13.0	16.0		13.0	16.0	
Total Split (s)	13.0	33.0		13.0	33.0		14.0	30.0		14.0	30.0	
Total Split (%)	14.4%	36.7%		14.4%	36.7%		15.6%	33.3%		15.6%	33.3%	

Lanes, Volumes, Timings

5: 60th St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	7.0	27.0		7.0	27.0		8.0	24.0		8.0	24.0	
Yellow Time (s)	3.5	4.9		3.9	4.9		3.0	4.6		3.6	4.6	
All-Red Time (s)	2.5	1.1		2.1	1.1		3.0	1.4		2.4	1.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0			8.0			8.0	
Flash Dont Walk (s)		16.0			16.0			16.0			16.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	47.8	41.4		48.1	41.6		18.8	11.5		20.6	14.2	
Actuated g/C Ratio	0.53	0.46		0.53	0.46		0.21	0.13		0.23	0.16	
v/c Ratio	0.25	0.55		0.29	0.50		0.26	0.56		0.42	0.43	
Control Delay	10.7	20.4		9.0	15.3		26.2	29.2		29.5	24.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	10.7	20.4		9.0	15.3		26.2	29.2		29.5	24.3	
LOS	B	C		A	B		C	C		C	C	
Approach Delay		19.5			14.7			28.6			25.9	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)	21	193		11	184		32	56		52	46	
Queue Length 95th (ft)	46	286		22	266		63	93		91	81	
Internal Link Dist (ft)		564			1256			1890			3881	
Turn Bay Length (ft)	225			200			175			175		
Base Capacity (vph)	371	1647		342	1646		302	982		282	980	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.25	0.55		0.29	0.50		0.25	0.30		0.42	0.27	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 72 (80%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 20.0

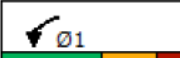
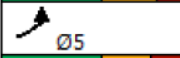
Intersection Capacity Utilization 64.5%

Analysis Period (min) 15

Intersection LOS: B

ICU Level of Service C

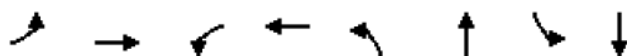
Splits and Phases: 5: 60th St & Ames Ave

Queues

5: 60th St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	92	903	99	826	75	291	118	264
v/c Ratio	0.25	0.55	0.29	0.50	0.26	0.56	0.42	0.43
Control Delay	10.7	20.4	9.0	15.3	26.2	29.2	29.5	24.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.7	20.4	9.0	15.3	26.2	29.2	29.5	24.3
Queue Length 50th (ft)	21	193	11	184	32	56	52	46
Queue Length 95th (ft)	46	286	22	266	63	93	91	81
Internal Link Dist (ft)		564		1256		1890		3881
Turn Bay Length (ft)	225		200		175		175	
Base Capacity (vph)	371	1647	342	1646	302	982	282	980
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.55	0.29	0.50	0.25	0.30	0.42	0.27

Intersection Summary

HCM 6th Signalized Intersection Summary

5: 60th St & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	803	73	96	703	98	73	189	93	114	161	95
Future Volume (veh/h)	89	803	73	96	703	98	73	189	93	114	161	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	92	828	75	99	725	101	75	195	96	118	166	98
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	499	1648	149	376	1570	219	246	274	129	252	313	175
Arrive On Green	0.05	0.49	0.49	0.10	0.99	0.99	0.05	0.12	0.12	0.07	0.14	0.14
Sat Flow, veh/h	1810	3347	303	1810	3182	443	1810	2378	1124	1810	2230	1250
Grp Volume(v), veh/h	92	446	457	99	411	415	75	146	145	118	133	131
Grp Sat Flow(s),veh/h/ln	1810	1805	1845	1810	1805	1820	1810	1805	1698	1810	1805	1675
Q Serve(g_s), s	2.2	15.0	15.0	2.4	0.5	0.5	3.2	7.0	7.4	5.1	6.1	6.6
Cycle Q Clear(g_c), s	2.2	15.0	15.0	2.4	0.5	0.5	3.2	7.0	7.4	5.1	6.1	6.6
Prop In Lane	1.00		0.16	1.00		0.24	1.00		0.66	1.00		0.75
Lane Grp Cap(c), veh/h	499	889	909	376	890	898	246	208	195	252	253	235
V/C Ratio(X)	0.18	0.50	0.50	0.26	0.46	0.46	0.30	0.70	0.74	0.47	0.52	0.56
Avail Cap(c_a), veh/h	549	889	909	425	890	898	317	481	453	277	481	447
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.9	15.4	15.4	10.8	0.3	0.3	32.9	38.3	38.5	31.9	35.9	36.1
Incr Delay (d2), s/veh	0.2	1.9	1.9	0.4	1.7	1.7	0.7	4.3	5.5	1.4	1.7	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	6.0	6.1	0.8	0.5	0.5	1.4	3.3	3.3	2.3	2.7	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.1	17.4	17.3	11.2	2.0	2.0	33.5	42.6	44.0	33.3	37.6	38.2
LnGrp LOS	B	B	B	B	A	A	C	D	D	C	D	D
Approach Vol, veh/h		995			925			366			382	
Approach Delay, s/veh		16.7			3.0			41.3			36.5	
Approach LOS		B			A			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.6	50.3	10.5	18.6	10.5	50.4	12.7	16.4				
Change Period (Y+Rc), s	6.0	* 6	6.0	* 6	6.0	* 6	6.0	* 6				
Max Green Setting (Gmax), s	7.0	* 27	8.0	* 24	7.0	* 27	8.0	* 24				
Max Q Clear Time (g_c+I1), s	4.4	17.0	5.2	8.6	4.2	2.5	7.1	9.4				
Green Ext Time (p_c), s	0.1	2.8	0.0	0.9	0.1	3.4	0.0	0.9				
Intersection Summary												
HCM 6th Ctrl Delay			18.1									
HCM 6th LOS			B									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Lanes, Volumes, Timings

6: Ames Ave & 56th Street (East)

09/08/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	40	904	961	39	27	25
Future Volume (vph)	40	904	961	39	27	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	160			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	80				50	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.994		0.935	
Flt Protected	0.950				0.975	
Satd. Flow (prot)	1805	3610	3588	0	1732	0
Flt Permitted	0.950				0.975	
Satd. Flow (perm)	1805	3610	3588	0	1732	0
Link Speed (mph)		40	40		25	
Link Distance (ft)		1336	420		277	
Travel Time (s)		22.8	7.2		7.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	42	942	1001	41	28	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	42	942	1042	0	54	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		14	14		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 43.2% ICU Level of Service A

Analysis Period (min) 15

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	40	904	961	39	27	25
Future Vol, veh/h	40	904	961	39	27	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	160	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	42	942	1001	41	28	26

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1042	0	0 1577 521
Stage 1	-	-	- 1022 -
Stage 2	-	-	- 555 -
Critical Hdwy	4.1	-	- 6.8 6.9
Critical Hdwy Stg 1	-	-	- 5.8 -
Critical Hdwy Stg 2	-	-	- 5.8 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	675	-	- 102 505
Stage 1	-	-	- 313 -
Stage 2	-	-	- 544 -
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	675	-	- 96 505
Mov Cap-2 Maneuver	-	-	- 96 -
Stage 1	-	-	- 294 -
Stage 2	-	-	- 544 -

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	39.6
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	675	-	-	-	157
HCM Lane V/C Ratio	0.062	-	-	-	0.345
HCM Control Delay (s)	10.7	-	-	-	39.6
HCM Lane LOS	B	-	-	-	E
HCM 95th %tile Q(veh)	0.2	-	-	-	1.4

Lanes, Volumes, Timings

7: 55th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	838	5	11	1042	8	7	0	1	2	0	18
Future Volume (vph)	15	838	5	11	1042	8	7	0	1	2	0	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	105		0	90		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	80			80			50			50		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.999			0.999			0.983			0.878		
Flt Protected	0.950			0.950				0.958			0.995	
Satd. Flow (prot)	1805	3606	0	1805	3606	0	0	1789	0	0	1660	0
Flt Permitted	0.950			0.950				0.958			0.995	
Satd. Flow (perm)	1805	3606	0	1805	3606	0	0	1789	0	0	1660	0
Link Speed (mph)	40			40			25			25		
Link Distance (ft)	420			893			359			461		
Travel Time (s)	7.2			15.2			9.8			12.6		
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%			0%			0%		
Adj. Flow (vph)	16	873	5	11	1085	8	7	0	1	2	0	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	878	0	11	1093	0	0	8	0	0	21	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	14			14			0			0		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control	Free			Free			Stop			Stop		

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 39.1%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱		↰	↰↱			↱			↱	
Traffic Vol, veh/h	15	838	5	11	1042	8	7	0	1	2	0	18
Future Vol, veh/h	15	838	5	11	1042	8	7	0	1	2	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	105	-	-	90	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	16	873	5	11	1085	8	7	0	1	2	0	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1093	0	0	878	0	0	1473	2023	439	1580	2021	547
Stage 1	-	-	-	-	-	-	908	908	-	1111	1111	-
Stage 2	-	-	-	-	-	-	565	1115	-	469	910	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	646	-	-	778	-	-	90	59	571	75	59	486
Stage 1	-	-	-	-	-	-	301	357	-	226	287	-
Stage 2	-	-	-	-	-	-	482	286	-	549	356	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	646	-	-	778	-	-	84	57	571	73	57	486
Mov Cap-2 Maneuver	-	-	-	-	-	-	84	57	-	73	57	-
Stage 1	-	-	-	-	-	-	293	348	-	220	283	-
Stage 2	-	-	-	-	-	-	457	282	-	534	347	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	47	17.4
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	94	646	-	-	778	-	-	310
HCM Lane V/C Ratio	0.089	0.024	-	-	0.015	-	-	0.067
HCM Control Delay (s)	47	10.7	-	-	9.7	-	-	17.4
HCM Lane LOS	E	B	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	0.2

Lanes, Volumes, Timings

8: 52nd St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	790	67	125	858	77	73	174	119	85	179	69
Future Volume (vph)	68	790	67	125	858	77	73	174	119	85	179	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%				0%		0%				0%	
Storage Length (ft)	170			0	160			0	180			200
Storage Lanes	1			0	1			0	1			0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt	0.988				0.988				0.939		0.958	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3567	0	1805	3567	0	1805	3390	0	1805	3458	0
Flt Permitted	0.256			0.263			0.534			0.458		
Satd. Flow (perm)	486	3567	0	500	3567	0	1015	3390	0	870	3458	0
Right Turn on Red	Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)	13			13			125			65		
Link Speed (mph)	40			40			30			30		
Link Distance (ft)	893			960			2267			3058		
Travel Time (s)	15.2			16.4			51.5			69.5		
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%			0%			0%		
Adj. Flow (vph)	72	832	71	132	903	81	77	183	125	89	188	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	903	0	132	984	0	77	308	0	89	261	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	14			14			14			14		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		15	9		15	9		15	9	
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	20.0		5.0	20.0		9.0	9.0		9.0	9.0	
Minimum Split (s)	12.0	29.0		12.0	29.0		14.0	14.0		14.0	14.0	
Total Split (s)	13.0	45.0		13.0	45.0		32.0	32.0		32.0	32.0	
Total Split (%)	14.4%	50.0%		14.4%	50.0%		35.6%	35.6%		35.6%	35.6%	

Lanes, Volumes, Timings

8: 52nd St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	8.0	40.0		8.0	40.0		27.0	27.0		27.0	27.0	
Yellow Time (s)	3.1	4.5		3.6	4.5		4.1	4.1		4.1	4.1	
All-Red Time (s)	1.9	0.5		1.4	0.5		0.9	0.9		0.9	0.9	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	3.0		2.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	2.0	3.0		2.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)		17.0			17.0		17.0	17.0		17.0	17.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	60.5	54.8		63.2	57.7		13.6	13.6		13.6	13.6	
Actuated g/C Ratio	0.67	0.61		0.70	0.64		0.15	0.15		0.15	0.15	
v/c Ratio	0.18	0.41		0.30	0.43		0.50	0.50		0.68	0.45	
Control Delay	3.6	5.8		5.9	9.9		45.2	22.5		60.0	27.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	3.6	5.8		5.9	9.9		45.2	22.5		60.0	27.5	
LOS	A	A		A	A		D	C		E	C	
Approach Delay		5.6			9.4			27.0			35.7	
Approach LOS		A			A			C			D	
Queue Length 50th (ft)	5	62		17	134		41	50		49	53	
Queue Length 95th (ft)	m16	83		43	227		79	82		93	83	
Internal Link Dist (ft)		813			880			2187			2978	
Turn Bay Length (ft)	170			160			180			200		
Base Capacity (vph)	456	2177		474	2290		304	1104		261	1082	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.16	0.41		0.28	0.43		0.25	0.28		0.34	0.24	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 29 (32%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 13.8

Intersection LOS: B

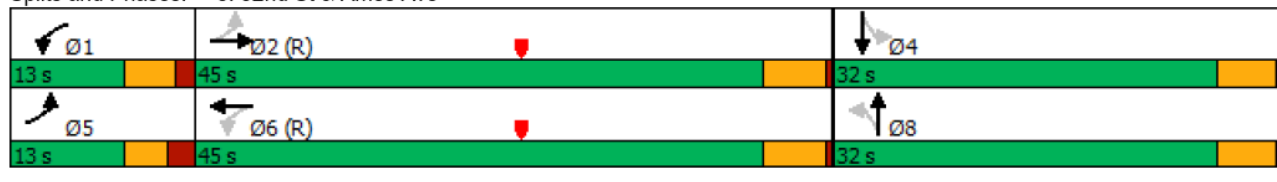
Intersection Capacity Utilization 63.7%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

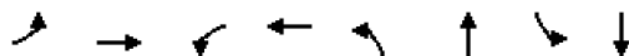
Splits and Phases: 8: 52nd St & Ames Ave



Queues

8: 52nd St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	72	903	132	984	77	308	89	261
v/c Ratio	0.18	0.41	0.30	0.43	0.50	0.50	0.68	0.45
Control Delay	3.6	5.8	5.9	9.9	45.2	22.5	60.0	27.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.6	5.8	5.9	9.9	45.2	22.5	60.0	27.5
Queue Length 50th (ft)	5	62	17	134	41	50	49	53
Queue Length 95th (ft)	m16	83	43	227	79	82	93	83
Internal Link Dist (ft)		813		880		2187		2978
Turn Bay Length (ft)	170		160		180		200	
Base Capacity (vph)	456	2177	474	2290	304	1104	261	1082
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.41	0.28	0.43	0.25	0.28	0.34	0.24

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary

8: 52nd St & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	790	67	125	858	77	73	174	119	85	179	69
Future Volume (veh/h)	68	790	67	125	858	77	73	174	119	85	179	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	72	832	71	132	903	81	77	183	125	89	188	73
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	421	1969	168	544	1984	178	226	409	265	203	500	188
Arrive On Green	0.09	1.00	1.00	0.05	0.59	0.59	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1810	3366	287	1810	3350	301	1136	2100	1360	1088	2569	963
Grp Volume(v), veh/h	72	446	457	132	486	498	77	156	152	89	130	131
Grp Sat Flow(s),veh/h/ln	1810	1805	1848	1810	1805	1846	1136	1805	1655	1088	1805	1727
Q Serve(g_s), s	1.4	0.0	0.0	2.6	13.5	13.5	5.7	6.9	7.3	7.1	5.6	5.9
Cycle Q Clear(g_c), s	1.4	0.0	0.0	2.6	13.5	13.5	11.6	6.9	7.3	14.4	5.6	5.9
Prop In Lane	1.00		0.16	1.00		0.16	1.00		0.82	1.00		0.56
Lane Grp Cap(c), veh/h	421	1056	1081	544	1069	1093	226	352	322	203	352	336
V/C Ratio(X)	0.17	0.42	0.42	0.24	0.46	0.46	0.34	0.44	0.47	0.44	0.37	0.39
Avail Cap(c_a), veh/h	497	1056	1081	608	1069	1093	346	542	497	318	542	518
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.86	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.1	0.0	0.0	6.3	10.2	10.2	36.6	31.9	32.1	38.5	31.4	31.6
Incr Delay (d2), s/veh	0.1	1.2	1.2	0.1	1.2	1.2	0.9	0.9	1.1	1.5	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.4	0.4	0.8	4.9	5.0	1.6	3.0	3.0	2.0	2.5	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.1	1.2	1.2	6.4	11.5	11.4	37.5	32.8	33.2	40.0	32.1	32.3
LnGrp LOS	A	A	A	A	B	B	D	C	C	D	C	C
Approach Vol, veh/h		975			1116			385			350	
Approach Delay, s/veh		1.7			10.8			33.9			34.2	
Approach LOS		A			B			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.8	57.7		22.5	9.2	58.3		22.5				
Change Period (Y+Rc), s	* 5	5.0		* 5	* 5	5.0		* 5				
Max Green Setting (Gmax), s	* 8	40.0		* 27	* 8	40.0		* 27				
Max Q Clear Time (g_c+I1), s	4.6	2.0		16.4	3.4	15.5		13.6				
Green Ext Time (p_c), s	0.1	3.9		1.1	0.0	4.2		1.4				

Intersection Summary

HCM 6th Ctrl Delay	13.7
HCM 6th LOS	B

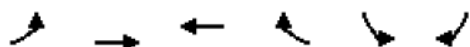
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings

9: Ames Ave & Wal Mart

09/08/2025

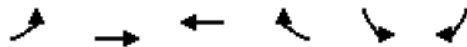


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	166	826	904	135	143	169
Future Volume (vph)	166	826	904	135	143	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	185			70	0	140
Storage Lanes	1			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor						
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1805	3610	3610	1615	1805	1615
Flt Permitted	0.229				0.950	
Satd. Flow (perm)	435	3610	3610	1615	1805	1615
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				99		174
Link Speed (mph)		40	40		25	
Link Distance (ft)		960	347		950	
Travel Time (s)		16.4	5.9		25.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	171	852	932	139	147	174
Shared Lane Traffic (%)						
Lane Group Flow (vph)	171	852	932	139	147	174
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		14	14		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Turn Type	pm+pt	NA	NA	Perm	Perm	Over
Protected Phases	5	2	6			5
Permitted Phases	2			6	4	
Detector Phase	5	2	6	6	4	5
Switch Phase						
Minimum Initial (s)	5.0	15.0	15.0	15.0	10.0	5.0
Minimum Split (s)	8.0	20.5	20.5	20.5	15.0	8.0
Total Split (s)	13.0	39.5	26.5	26.5	20.5	13.0
Total Split (%)	21.7%	65.8%	44.2%	44.2%	34.2%	21.7%

Lanes, Volumes, Timings

9: Ames Ave & Wal Mart

09/08/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Maximum Green (s)	10.0	34.0	21.0	21.0	15.5	10.0
Yellow Time (s)	3.0	4.5	4.5	4.5	4.0	3.0
All-Red Time (s)	0.0	1.0	1.0	1.0	1.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	5.5	5.5	5.5	5.0	3.0
Lead/Lag	Lead		Lag	Lag		Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	3.0	3.0	3.0	3.0	2.0
Minimum Gap (s)	2.0	3.0	3.0	3.0	3.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Walk Time (s)						
Flash Dont Walk (s)						
Pedestrian Calls (#/hr)						
Act Effct Green (s)	43.9	42.5	31.6	31.6	11.1	6.8
Actuated g/C Ratio	0.73	0.71	0.53	0.53	0.18	0.11
v/c Ratio	0.36	0.33	0.49	0.16	0.44	0.52
Control Delay	5.8	5.2	4.7	0.7	25.7	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.8	5.2	4.7	0.7	25.7	10.6
LOS	A	A	A	A	C	B
Approach Delay		5.3	4.1		17.5	
Approach LOS		A	A		B	
Queue Length 50th (ft)	16	59	57	1	49	0
Queue Length 95th (ft)	40	106	46	1	89	45
Internal Link Dist (ft)		880	267		870	
Turn Bay Length (ft)	185			70		140
Base Capacity (vph)	546	2554	1900	896	466	414
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.33	0.49	0.16	0.32	0.42

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 54 (90%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 6.4

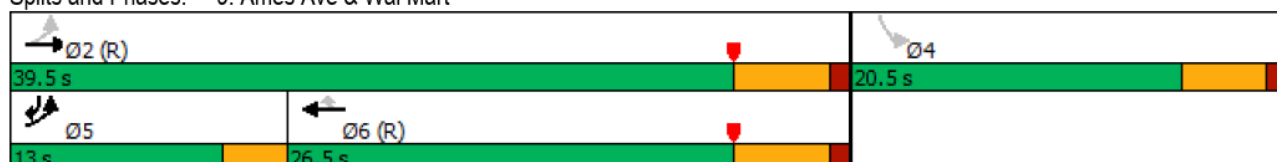
Intersection LOS: A

Intersection Capacity Utilization 54.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 9: Ames Ave & Wal Mart



Queues

9: Ames Ave & Wal Mart

09/08/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	171	852	932	139	147	174
v/c Ratio	0.36	0.33	0.49	0.16	0.44	0.52
Control Delay	5.8	5.2	4.7	0.7	25.7	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.8	5.2	4.7	0.7	25.7	10.6
Queue Length 50th (ft)	16	59	57	1	49	0
Queue Length 95th (ft)	40	106	46	1	89	45
Internal Link Dist (ft)		880	267		870	
Turn Bay Length (ft)	185			70		140
Base Capacity (vph)	546	2554	1900	896	466	414
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.33	0.49	0.16	0.32	0.42

Intersection Summary

Lanes, Volumes, Timings
10: 50th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	933	2	5	1005	113	6	2	29	48	1	28
Future Volume (vph)	31	933	2	5	1005	113	6	2	29	48	1	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	120		0	85		0	110		0	50		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	75			65			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt				0.985			0.860			0.855		
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3610	0	1805	3556	0	1805	1634	0	1805	1624	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1805	3610	0	1805	3556	0	1805	1634	0	1805	1624	0
Link Speed (mph)	40			40			25			25		
Link Distance (ft)	347			510			165			250		
Travel Time (s)	5.9			8.7			4.5			6.8		
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%			0%			0%		
Adj. Flow (vph)	31	942	2	5	1015	114	6	2	29	48	1	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	31	944	0	5	1129	0	6	31	0	48	29	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	14			14			12			12		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control	Free			Free			Stop			Stop		

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 47.4% ICU Level of Service A

Analysis Period (min) 15

Intersection												
Int Delay, s/veh	4.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱		↰	↰↱		↰	↰		↰	↰	
Traffic Vol, veh/h	31	933	2	5	1005	113	6	2	29	48	1	28
Future Vol, veh/h	31	933	2	5	1005	113	6	2	29	48	1	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	120	-	-	85	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	99	99	99	99	99	99	99	99	99	99	99	99
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	31	942	2	5	1015	114	6	2	29	48	1	28

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1129	0	0	944	0	0	1523	2144	472	1616	2088	565
Stage 1	-	-	-	-	-	-	1005	1005	-	1082	1082	-
Stage 2	-	-	-	-	-	-	518	1139	-	534	1006	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	626	-	-	735	-	-	83	49	544	70	53	473
Stage 1	-	-	-	-	-	-	263	322	-	236	296	-
Stage 2	-	-	-	-	-	-	514	278	-	503	321	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	626	-	-	735	-	-	74	46	544	61	50	473
Mov Cap-2 Maneuver	-	-	-	-	-	-	74	46	-	61	50	-
Stage 1	-	-	-	-	-	-	250	306	-	224	294	-
Stage 2	-	-	-	-	-	-	478	276	-	449	305	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	24.1	112.1
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	74	320	626	-	-	735	-	-	61	366
HCM Lane V/C Ratio	0.082	0.098	0.05	-	-	0.007	-	-	0.795	0.08
HCM Control Delay (s)	57.9	17.5	11.1	-	-	9.9	-	-	170.3	15.7
HCM Lane LOS	F	C	B	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	0.3	0.3	0.2	-	-	0	-	-	3.6	0.3

Lanes, Volumes, Timings

11: 49th Ave & Ames Ave

09/08/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑		↗
Traffic Volume (vph)	997	43	0	1109	0	17
Future Volume (vph)	997	43	0	1109	0	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		130	0		0	0
Storage Lanes		1	0		0	1
Taper Length (ft)			50		50	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Ped Bike Factor						
Frt		0.850				0.865
Flt Protected						
Satd. Flow (prot)	3610	1615	0	3610	0	1644
Flt Permitted						
Satd. Flow (perm)	3610	1615	0	3610	0	1644
Link Speed (mph)	40			40	30	
Link Distance (ft)	510			810	369	
Travel Time (s)	8.7			13.8	8.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	1039	45	0	1155	0	18
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1039	45	0	1155	0	18
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	37.6%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Traffic Vol, veh/h	997	43	0	1109	0	17
Future Vol, veh/h	997	43	0	1109	0	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	130	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1039	45	0	1155	0	18

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	- - - 520
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - - 6.9
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - - 3.3
Pot Cap-1 Maneuver	-	-	0 - 0 506
Stage 1	-	-	0 - 0 -
Stage 2	-	-	0 - 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - - 506
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	506	-	-	-
HCM Lane V/C Ratio	0.035	-	-	-
HCM Control Delay (s)	12.4	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Lanes, Volumes, Timings
12: 48th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	879	44	47	926	39	61	27	51	28	16	22
Future Volume (vph)	33	879	44	47	926	39	61	27	51	28	16	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	120		0	130		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.993				0.994				0.951		0.955	
Flt Protected	0.950			0.950					0.978			0.979
Satd. Flow (prot)	1805	3585	0	1805	3588	0	0	1767	0	0	1776	0
Flt Permitted	0.950			0.298					0.825			0.824
Satd. Flow (perm)	1805	3585	0	566	3588	0	0	1491	0	0	1495	0
Right Turn on Red	Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)	14			8			47			23		
Link Speed (mph)	40			40			25			25		
Link Distance (ft)	810			1636			950			661		
Travel Time (s)	13.8			27.9			25.9			18.0		
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%			0%			0%		
Adj. Flow (vph)	34	916	46	49	965	41	64	28	53	29	17	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	962	0	49	1006	0	0	145	0	0	69	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	14			14			0			0		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8				4
Permitted Phases				6			8			4		
Detector Phase	5	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0		9.0	9.0		9.0	9.0	
Minimum Split (s)	8.0	24.5		24.5	24.5		29.0	29.0		29.0	29.0	
Total Split (s)	10.0	39.5		29.5	29.5		20.5	20.5		20.5	20.5	
Total Split (%)	16.7%	65.8%		49.2%	49.2%		34.2%	34.2%		34.2%	34.2%	

Lanes, Volumes, Timings

12: 48th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	7.0	34.0		24.0	24.0		15.5	15.5		15.5	15.5	
Yellow Time (s)	3.0	4.5		4.5	4.5		4.0	4.0		4.0	4.0	
All-Red Time (s)	0.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	3.0	5.5		5.5	5.5			5.0			5.0	
Lead/Lag	Lead			Lag								
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	2.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		12.0		12.0	12.0		17.0	17.0		17.0	17.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
Act Effct Green (s)	5.8	42.9		39.0	39.0			10.5			10.5	
Actuated g/C Ratio	0.10	0.72		0.65	0.65			0.18			0.18	
v/c Ratio	0.19	0.37		0.13	0.43			0.48			0.25	
Control Delay	22.2	5.8		5.2	4.3			20.9			17.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	22.2	5.8		5.2	4.3			20.9			17.2	
LOS	C	A		A	A			C			B	
Approach Delay		6.4			4.3			20.9			17.2	
Approach LOS		A			A			C			B	
Queue Length 50th (ft)	9	102		3	32			33			15	
Queue Length 95th (ft)	25	173		m9	65			73			41	
Internal Link Dist (ft)		730			1556			870			581	
Turn Bay Length (ft)	120			130								
Base Capacity (vph)	212	2567		367	2332			420			403	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.16	0.37		0.13	0.43			0.35			0.17	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 17 (28%), Referenced to phase 2:EBT and 6:WBTL, Start of FDW or yellow

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 6.7

Intersection LOS: A

Intersection Capacity Utilization 57.6%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 12: 48th Street & Ames Ave

	
→ Ø2 (R) 39.5 s	↓ Ø4 20.5 s
↖ Ø5 10 s	↗ Ø6 (R) 29.5 s
	↖ Ø8 20.5 s

Queues

12: 48th Street & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	34	962	49	1006	145	69
v/c Ratio	0.19	0.37	0.13	0.43	0.48	0.25
Control Delay	22.2	5.8	5.2	4.3	20.9	17.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.2	5.8	5.2	4.3	20.9	17.2
Queue Length 50th (ft)	9	102	3	32	33	15
Queue Length 95th (ft)	25	173	m9	65	73	41
Internal Link Dist (ft)		730		1556	870	581
Turn Bay Length (ft)	120		130			
Base Capacity (vph)	212	2567	367	2332	420	403
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.37	0.13	0.43	0.35	0.17

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary

12: 48th Street & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	879	44	47	926	39	61	27	51	28	16	22
Future Volume (veh/h)	33	879	44	47	926	39	61	27	51	28	16	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	34	916	46	49	965	41	64	28	53	29	17	23
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	65	2376	119	472	2093	89	169	66	86	158	92	83
Arrive On Green	0.07	1.00	1.00	0.20	0.20	0.20	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1810	3498	176	593	3528	150	568	452	587	499	635	567
Grp Volume(v), veh/h	34	473	489	49	494	512	145	0	0	69	0	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1868	593	1805	1873	1606	0	0	1700	0	0
Q Serve(g_s), s	1.1	0.0	0.0	4.1	14.5	14.5	2.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.1	0.0	0.0	4.1	14.5	14.5	4.9	0.0	0.0	2.1	0.0	0.0
Prop In Lane	1.00		0.09	1.00		0.08	0.44		0.37	0.42		0.33
Lane Grp Cap(c), veh/h	65	1226	1269	472	1071	1111	321	0	0	333	0	0
V/C Ratio(X)	0.52	0.39	0.39	0.10	0.46	0.46	0.45	0.00	0.00	0.21	0.00	0.00
Avail Cap(c_a), veh/h	211	1226	1269	472	1071	1111	495	0	0	506	0	0
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.78	0.78	0.78	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	27.3	0.0	0.0	11.5	15.6	15.6	23.9	0.0	0.0	22.8	0.0	0.0
Incr Delay (d2), s/veh	2.4	0.9	0.9	0.3	1.1	1.1	1.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.3	0.3	0.4	7.0	7.3	1.9	0.0	0.0	0.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.7	0.9	0.9	11.8	16.8	16.7	24.9	0.0	0.0	23.1	0.0	0.0
LnGrp LOS	C	A	A	B	B	B	C	A	A	C	A	A
Approach Vol, veh/h		996			1055			145			69	
Approach Delay, s/veh		1.9			16.5			24.9			23.1	
Approach LOS		A			B			C			C	
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		46.3		13.7	5.2	41.1		13.7				
Change Period (Y+Rc), s		5.5		5.0	3.0	5.5		5.0				
Max Green Setting (Gmax), s		34.0		15.5	7.0	24.0		15.5				
Max Q Clear Time (g_c+I1), s		2.0		4.1	3.1	16.5		6.9				
Green Ext Time (p_c), s		4.2		0.1	0.0	2.9		0.3				

Intersection Summary

HCM 6th Ctrl Delay 10.8
 HCM 6th LOS B

Notes

User approved pedestrian interval to be less than phase max green.

Lanes, Volumes, Timings

13: Fontenelle Blvd & Ames Ave

09/08/2025

														
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Volume (vph)	212	742	99	81	770	55	106	246	59	56	180	195		
Future Volume (vph)	212	742	99	81	770	55	106	246	59	56	180	195		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12		
Grade (%)	0%				0%				0%		0%			
Storage Length (ft)	170			0	165			0	135			240	130	170
Storage Lanes	1			0	1			0	1			0	1	1
Taper Length (ft)	25			25			25			25			25	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor														
Frt	0.982				0.990				0.850				0.850	
Flt Protected	0.950			0.950				0.950				0.950		
Satd. Flow (prot)	1805	3545	0	1805	3574	0	1805	1900	1615	1805	1900	1615	1615	
Flt Permitted	0.175			0.312				0.596				0.445		
Satd. Flow (perm)	332	3545	0	593	3574	0	1132	1900	1615	846	1900	1615	1615	
Right Turn on Red				Yes				Yes				Yes		Yes
Satd. Flow (RTOR)	40				13				164				212	
Link Speed (mph)	40				40				30				30	
Link Distance (ft)	1636				991				694				1423	
Travel Time (s)	27.9				16.9				15.8				32.3	
Confl. Peds. (#/hr)														
Confl. Bikes (#/hr)														
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0	0	
Parking (#/hr)														
Mid-Block Traffic (%)	0%				0%				0%				0%	
Adj. Flow (vph)	230	807	108	88	837	60	115	267	64	61	196	212	212	
Shared Lane Traffic (%)														
Lane Group Flow (vph)	230	915	0	88	897	0	115	267	64	61	196	212	212	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No	No	
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right	Right	
Median Width(ft)	14				14				41				41	
Link Offset(ft)	0				0				0				0	
Crosswalk Width(ft)	16				16				16				16	
Two way Left Turn Lane														
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15	9		15			9	15	9		15			9
Number of Detectors	1	1			1	1			1	1	1	1	1	
Detector Template														
Leading Detector (ft)	50	50			50	50			50	50	50	50	50	
Trailing Detector (ft)	0	0			0	0			0	0	0	0	0	
Turn Type	pm+pt	NA		Perm		NA		Perm		NA	Perm	Perm	NA	Perm
Protected Phases	5	2			6				8				4	
Permitted Phases	2			6				8		8		4	4	
Detector Phase	5	2			6	6			8	8	8	4	4	4
Switch Phase														
Minimum Initial (s)	5.0	15.0			15.0	15.0			9.0	9.0	9.0	9.0	9.0	9.0
Minimum Split (s)	11.0	21.0			21.0	21.0			14.5	14.5	14.5	14.5	14.5	14.5
Total Split (s)	13.0	40.0			27.0	27.0			20.0	20.0	20.0	20.0	20.0	20.0
Total Split (%)	21.7%	66.7%			45.0%	45.0%			33.3%	33.3%	33.3%	33.3%	33.3%	33.3%

Lanes, Volumes, Timings

13: Fontenelle Blvd & Ames Ave

09/08/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	7.0	34.0		21.0	21.0		15.0	15.0	15.0	15.0	15.0	15.0
Yellow Time (s)	3.8	4.8		4.8	4.8		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.2	1.2		1.2	1.2		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	2.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None	None	None	None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	36.2	36.2		23.2	23.2		12.8	12.8	12.8	12.8	12.8	12.8
Actuated g/C Ratio	0.60	0.60		0.39	0.39		0.21	0.21	0.21	0.21	0.21	0.21
v/c Ratio	0.62	0.42		0.39	0.65		0.48	0.66	0.14	0.34	0.48	0.41
Control Delay	13.2	5.4		22.1	19.0		27.0	29.5	0.6	24.7	24.4	6.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.2	5.4		22.1	19.0		27.0	29.5	0.6	24.7	24.4	6.0
LOS	B	A		C	B		C	C	A	C	C	A
Approach Delay		7.0			19.2			24.7			16.1	
Approach LOS		A			B			C			B	
Queue Length 50th (ft)	23	117		21	185		36	87	0	19	61	0
Queue Length 95th (ft)	#48	26		44	140		77	150	0	48	111	44
Internal Link Dist (ft)		1556			911			614			1343	
Turn Bay Length (ft)	170			165			135		240	130		170
Base Capacity (vph)	379	2154		228	1387		283	475	526	211	475	562
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.42		0.39	0.65		0.41	0.56	0.12	0.29	0.41	0.38

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 59 (98%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 14.9

Intersection LOS: B

Intersection Capacity Utilization 74.9%

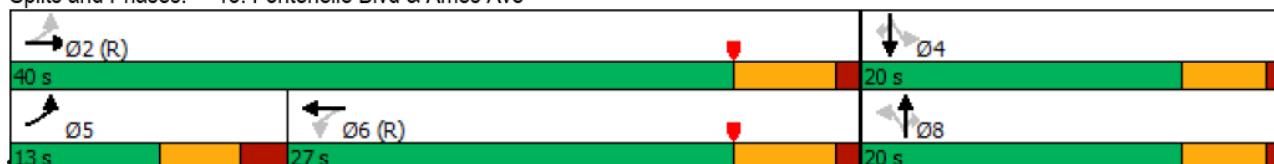
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 13: Fontenelle Blvd & Ames Ave



Queues

13: Fontenelle Blvd & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	230	915	88	897	115	267	64	61	196	212
v/c Ratio	0.62	0.42	0.39	0.65	0.48	0.66	0.14	0.34	0.48	0.41
Control Delay	13.2	5.4	22.1	19.0	27.0	29.5	0.6	24.7	24.4	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.2	5.4	22.1	19.0	27.0	29.5	0.6	24.7	24.4	6.0
Queue Length 50th (ft)	23	117	21	185	36	87	0	19	61	0
Queue Length 95th (ft)	#48	26	44	140	77	150	0	48	111	44
Internal Link Dist (ft)	1556		911		614		1343			
Turn Bay Length (ft)	170	165		135		240		130	170	
Base Capacity (vph)	379	2154	228	1387	283	475	526	211	475	562
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.42	0.39	0.65	0.41	0.56	0.12	0.29	0.41	0.38

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary

13: Fontenelle Blvd & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	742	99	81	770	55	106	246	59	56	180	195
Future Volume (veh/h)	212	742	99	81	770	55	106	246	59	56	180	195
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	230	807	108	88	837	60	115	267	64	61	196	212
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	471	1856	248	353	1282	92	268	450	381	239	450	381
Arrive On Green	0.21	1.00	1.00	0.75	0.75	0.75	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1810	3200	428	620	3416	245	993	1900	1610	1066	1900	1610
Grp Volume(v), veh/h	230	455	460	88	442	455	115	267	64	61	196	212
Grp Sat Flow(s),veh/h/ln	1810	1805	1823	620	1805	1856	993	1900	1610	1066	1900	1610
Q Serve(g_s), s	4.4	0.0	0.0	3.0	7.2	7.2	6.7	7.5	1.9	3.2	5.3	6.9
Cycle Q Clear(g_c), s	4.4	0.0	0.0	3.0	7.2	7.2	12.0	7.5	1.9	10.7	5.3	6.9
Prop In Lane	1.00		0.23	1.00		0.13	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	471	1047	1057	353	677	696	268	450	381	239	450	381
V/C Ratio(X)	0.49	0.43	0.43	0.25	0.65	0.65	0.43	0.59	0.17	0.26	0.44	0.56
Avail Cap(c_a), veh/h	492	1047	1057	353	677	696	281	475	403	253	475	403
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	0.93	0.90	0.90	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.1	0.0	0.0	5.0	5.6	5.6	24.6	20.3	18.2	25.1	19.5	20.1
Incr Delay (d2), s/veh	0.3	1.2	1.2	1.5	4.4	4.3	1.1	1.8	0.2	0.6	0.7	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.4	0.4	0.4	2.2	2.2	1.6	3.3	0.7	0.8	2.2	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.4	1.2	1.2	6.6	10.0	9.8	25.7	22.2	18.4	25.7	20.2	21.6
LnGrp LOS	A	A	A	A	A	A	C	C	B	C	C	C
Approach Vol, veh/h	1145			985			446			469		
Approach Delay, s/veh	2.7			9.6			22.5			21.5		
Approach LOS	A			A			C			C		
Timer - Assigned Phs	2			4		5	6		8			
Phs Duration (G+Y+Rc), s	40.8			19.2		12.3	28.5		19.2			
Change Period (Y+Rc), s	* 6			5.0		6.0	* 6		5.0			
Max Green Setting (Gmax), s	* 34			15.0		7.0	* 21		15.0			
Max Q Clear Time (g_c+I1), s	2.0			12.7		6.4	9.2		14.0			
Green Ext Time (p_c), s	4.0			0.5		0.0	3.7		0.2			

Intersection Summary

HCM 6th Ctrl Delay	10.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings

14: 42nd St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	699	149	20	736	41	149	101	28	31	81	49
Future Volume (vph)	16	699	149	20	736	41	149	101	28	31	81	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	70		0	40		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.974			0.992			0.968			0.943	
Flt Protected		0.999			0.999		0.950			0.950		
Satd. Flow (prot)	0	3513	0	0	3578	0	1805	1839	0	1805	1792	0
Flt Permitted		0.935			0.923		0.671			0.671		
Satd. Flow (perm)	0	3288	0	0	3305	0	1275	1839	0	1275	1792	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		49			11			29			51	
Link Speed (mph)		40			35			25			25	
Link Distance (ft)		991			1010			617			2834	
Travel Time (s)		16.9			19.7			16.8			77.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	17	728	155	21	767	43	155	105	29	32	84	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	900	0	0	831	0	155	134	0	32	135	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		9.0	9.0		9.0	9.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		29.0	29.0		29.0	29.0	
Total Split (s)	29.5	29.5		29.5	29.5		30.5	30.5		30.5	30.5	
Total Split (%)	49.2%	49.2%		49.2%	49.2%		50.8%	50.8%		50.8%	50.8%	

Lanes, Volumes, Timings

14: 42nd St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	24.0	24.0		24.0	24.0		25.5	25.5		25.5	25.5	
Yellow Time (s)	4.5	4.5		4.5	4.5		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.5			5.5		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		17.0	17.0		17.0	17.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		36.4			36.4		13.1	13.1		13.1	13.1	
Actuated g/C Ratio		0.61			0.61		0.22	0.22		0.22	0.22	
v/c Ratio		0.45			0.41		0.56	0.32		0.12	0.31	
Control Delay		4.7			5.0		28.0	16.4		17.8	13.8	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		4.7			5.0		28.0	16.4		17.8	13.8	
LOS		A			A		C	B		B	B	
Approach Delay		4.7			5.0			22.6			14.6	
Approach LOS		A			A			C			B	
Queue Length 50th (ft)		36			24		51	32		9	25	
Queue Length 95th (ft)		65			118		90	63		25	57	
Internal Link Dist (ft)		911			930			537			2754	
Turn Bay Length (ft)							70			40		
Base Capacity (vph)		2015			2010		541	798		541	790	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.45			0.41		0.29	0.17		0.06	0.17	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 45 (75%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 7.9

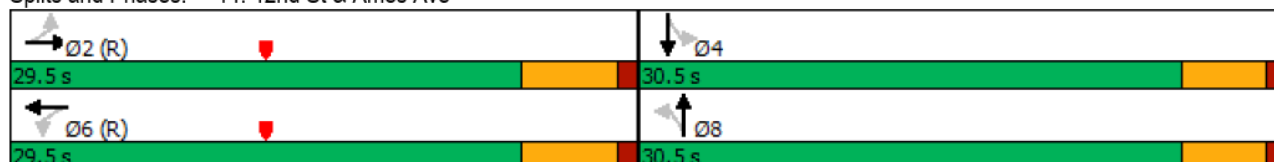
Intersection Capacity Utilization 64.8%

Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service C

Splits and Phases: 14: 42nd St & Ames Ave



Queues

14: 42nd St & Ames Ave

09/08/2025



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	900	831	155	134	32	135
v/c Ratio	0.45	0.41	0.56	0.32	0.12	0.31
Control Delay	4.7	5.0	28.0	16.4	17.8	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.7	5.0	28.0	16.4	17.8	13.8
Queue Length 50th (ft)	36	24	51	32	9	25
Queue Length 95th (ft)	65	118	90	63	25	57
Internal Link Dist (ft)	911	930		537		2754
Turn Bay Length (ft)			70		40	
Base Capacity (vph)	2015	2010	541	798	541	790
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.41	0.29	0.17	0.06	0.17

Intersection Summary

HCM 6th Signalized Intersection Summary

14: 42nd St & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔		↔	↔		↔	↔	
Traffic Volume (veh/h)	16	699	149	20	736	41	149	101	28	31	81	49
Future Volume (veh/h)	16	699	149	20	736	41	149	101	28	31	81	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	17	728	155	21	767	43	155	105	29	32	84	51
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	76	1705	358	83	1977	109	330	327	90	333	253	153
Arrive On Green	1.00	1.00	1.00	0.79	0.79	0.79	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	22	2858	600	33	3314	183	1274	1433	396	1275	1107	672
Grp Volume(v), veh/h	481	0	419	432	0	399	155	0	134	32	0	135
Grp Sat Flow(s),veh/h/ln	1860	0	1621	1834	0	1696	1274	0	1829	1275	0	1779
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	4.2	6.9	0.0	3.7	1.3	0.0	3.8
Cycle Q Clear(g_c), s	0.0	0.0	0.0	4.0	0.0	4.2	10.7	0.0	3.7	4.9	0.0	3.8
Prop In Lane	0.04		0.37	0.05		0.11	1.00		0.22	1.00		0.38
Lane Grp Cap(c), veh/h	1172	0	967	1157	0	1012	330	0	418	333	0	406
V/C Ratio(X)	0.41	0.00	0.43	0.37	0.00	0.39	0.47	0.00	0.32	0.10	0.00	0.33
Avail Cap(c_a), veh/h	1172	0	967	1157	0	1012	581	0	777	584	0	756
HCM Platoon Ratio	2.00	2.00	2.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.00	0.92	0.94	0.00	0.94	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	2.9	0.0	2.9	23.8	0.0	19.3	21.3	0.0	19.3
Incr Delay (d2), s/veh	1.0	0.0	1.3	0.9	0.0	1.1	1.0	0.0	0.4	0.1	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.3	1.2	0.0	1.1	2.1	0.0	1.5	0.4	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1.0	0.0	1.3	3.8	0.0	4.0	24.8	0.0	19.7	21.5	0.0	19.8
LnGrp LOS	A	A	A	A	A	A	C	A	B	C	A	B
Approach Vol, veh/h		900			831			289			167	
Approach Delay, s/veh		1.1			3.9			22.5			20.1	
Approach LOS		A			A			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		41.3		18.7		41.3		18.7				
Change Period (Y+Rc), s		5.5		5.0		5.5		5.0				
Max Green Setting (Gmax), s		24.0		25.5		24.0		25.5				
Max Q Clear Time (g_c+I1), s		2.0		6.9		6.2		12.7				
Green Ext Time (p_c), s		3.9		0.6		3.4		1.0				
Intersection Summary												
HCM 6th Ctrl Delay				6.5								
HCM 6th LOS				A								

Lanes, Volumes, Timings

15: 40th St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	665	12	11	821	18	9	15	9	13	8	41
Future Volume (vph)	13	665	12	11	821	18	9	15	9	13	8	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.997			0.997			0.964			0.910	
Flt Protected		0.999			0.999			0.987			0.990	
Satd. Flow (prot)	0	3596	0	0	3596	0	0	1808	0	0	1712	0
Flt Permitted		0.933			0.944			0.895			0.918	
Satd. Flow (perm)	0	3358	0	0	3398	0	0	1639	0	0	1587	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			5			10			48	
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		1010			993			387			413	
Travel Time (s)		23.0			22.6			10.6			11.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	15	773	14	13	955	21	10	17	10	15	9	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	802	0	0	989	0	0	37	0	0	72	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		9.0	9.0		9.0	9.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	36.5	36.5		36.5	36.5		23.5	23.5		23.5	23.5	
Total Split (%)	60.8%	60.8%		60.8%	60.8%		39.2%	39.2%		39.2%	39.2%	

Lanes, Volumes, Timings

15: 40th St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	31.0	31.0		31.0	31.0		18.5	18.5		18.5	18.5	
Yellow Time (s)	4.5	4.5		4.5	4.5		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.5			5.5			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		48.2			48.2			9.1			9.1	
Actuated g/C Ratio		0.80			0.80			0.15			0.15	
v/c Ratio		0.30			0.36			0.14			0.26	
Control Delay		1.9			3.6			19.3			13.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		1.9			3.6			19.3			13.9	
LOS		A			A			B			B	
Approach Delay		1.9			3.6			19.3			13.9	
Approach LOS		A			A			B			B	
Queue Length 50th (ft)		44			66			9			8	
Queue Length 95th (ft)		14			88			29			36	
Internal Link Dist (ft)		930			913			307			333	
Turn Bay Length (ft)												
Base Capacity (vph)		2700			2733			512			522	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.30			0.36			0.07			0.14	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 26 (43%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.36

Intersection Signal Delay: 3.6

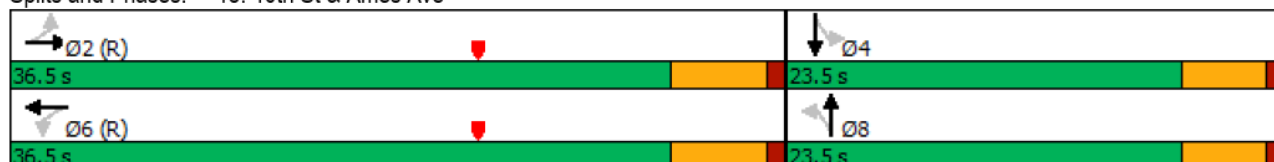
Intersection LOS: A

Intersection Capacity Utilization 47.3%

ICU Level of Service A

Analysis Period (min) 15

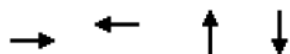
Splits and Phases: 15: 40th St & Ames Ave



Queues

15: 40th St & Ames Ave

09/08/2025



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	802	989	37	72
v/c Ratio	0.30	0.36	0.14	0.26
Control Delay	1.9	3.6	19.3	13.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	1.9	3.6	19.3	13.9
Queue Length 50th (ft)	44	66	9	8
Queue Length 95th (ft)	14	88	29	36
Internal Link Dist (ft)	930	913	307	333
Turn Bay Length (ft)				
Base Capacity (vph)	2700	2733	512	522
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.30	0.36	0.07	0.14
Intersection Summary				

HCM 6th Signalized Intersection Summary

15: 40th St & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	665	12	11	821	18	9	15	9	13	8	41
Future Volume (veh/h)	13	665	12	11	821	18	9	15	9	13	8	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	15	773	14	13	955	21	10	17	10	15	9	48
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	77	2440	44	71	2449	53	105	130	59	96	45	137
Arrive On Green	0.23	0.23	0.23	0.70	0.70	0.70	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	21	3488	62	14	3501	76	226	1035	467	188	358	1092
Grp Volume(v), veh/h	417	0	385	517	0	472	37	0	0	72	0	0
Grp Sat Flow(s),veh/h/ln	1854	0	1718	1876	0	1715	1728	0	0	1637	0	0
Q Serve(g_s), s	0.0	0.0	11.2	0.0	0.0	6.8	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	10.9	0.0	11.2	6.7	0.0	6.8	1.1	0.0	0.0	2.3	0.0	0.0
Prop In Lane	0.04		0.04	0.03		0.04	0.27		0.27	0.21		0.67
Lane Grp Cap(c), veh/h	1359	0	1201	1374	0	1200	293	0	0	278	0	0
V/C Ratio(X)	0.31	0.00	0.32	0.38	0.00	0.39	0.13	0.00	0.00	0.26	0.00	0.00
Avail Cap(c_a), veh/h	1359	0	1201	1374	0	1200	594	0	0	569	0	0
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.00	0.90	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.1	0.0	11.2	3.7	0.0	3.7	23.4	0.0	0.0	24.0	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.6	0.8	0.0	1.0	0.2	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	0.0	5.1	1.8	0.0	1.7	0.5	0.0	0.0	0.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.7	0.0	11.9	4.5	0.0	4.7	23.6	0.0	0.0	24.4	0.0	0.0
LnGrp LOS	B	A	B	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h	802				989		37				72	
Approach Delay, s/veh	11.8				4.6		23.6				24.4	
Approach LOS	B				A		C				C	
Timer - Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	47.5		12.5		47.5		12.5					
Change Period (Y+Rc), s	5.5		5.0		5.5		5.0					
Max Green Setting (Gmax), s	31.0		18.5		31.0		18.5					
Max Q Clear Time (g_c+I1), s	13.2		4.3		8.8		3.1					
Green Ext Time (p_c), s	3.3		0.2		4.5		0.1					
Intersection Summary												
HCM 6th Ctrl Delay			8.7									
HCM 6th LOS			A									

Lanes, Volumes, Timings
16: 37th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	712	9	6	789	1	0	0	0	2	0	0
Future Volume (vph)	5	712	9	6	789	1	0	0	0	2	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.998										
Flt Protected											0.950	
Satd. Flow (prot)	0	3603	0	0	3610	0	0	0	0	0	1805	0
Flt Permitted											0.950	
Satd. Flow (perm)	0	3603	0	0	3610	0	0	0	0	0	1805	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		993			331			266			377	
Travel Time (s)		22.6			7.5			7.3			10.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	5	749	9	6	831	1	0	0	0	2	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	763	0	0	838	0	0	0	0	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	36.0%											
Analysis Period (min)	15											
ICU Level of Service A												

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕			↕↕						↕		
Traffic Vol, veh/h	5	712	9	6	789	1	0	0	0	2	0	0
Future Vol, veh/h	5	712	9	6	789	1	0	0	0	2	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	1083	1155	20	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	749	9	6	831	1	0	0	0	2	0	0

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	832	0	0	758	0	0	1229	1612	416
Stage 1	-	-	-	-	-	-	844	844	-
Stage 2	-	-	-	-	-	-	385	768	-
Critical Hdwy	4.1	-	-	4.1	-	-	6.8	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	809	-	-	862	-	-	173	105	591
Stage 1	-	-	-	-	-	-	387	382	-
Stage 2	-	-	-	-	-	-	663	414	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	809	-	-	862	-	-	169	0	591
Mov Cap-2 Maneuver	-	-	-	-	-	-	169	0	-
Stage 1	-	-	-	-	-	-	383	0	-
Stage 2	-	-	-	-	-	-	654	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0.2	26.6
HCM LOS	D		

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	809	-	-	862	-	-	169
HCM Lane V/C Ratio	0.007	-	-	0.007	-	-	0.012
HCM Control Delay (s)	9.5	0.1	-	9.2	0.1	-	26.6
HCM Lane LOS	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0	-	-	0	-	-	0

Lanes, Volumes, Timings

17: 36th Ave & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	764	0	0	749	8	0	0	0	6	0	4
Future Volume (vph)	4	764	0	0	749	8	0	0	0	6	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		95	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.998						0.951	
Flt Protected											0.969	
Satd. Flow (prot)	0	3610	1900	0	3603	0	0	0	0	0	1751	0
Flt Permitted											0.969	
Satd. Flow (perm)	0	3610	1900	0	3603	0	0	0	0	0	1751	0
Link Speed (mph)		30			35			25			25	
Link Distance (ft)		331			321			85			202	
Travel Time (s)		7.5			6.3			2.3			5.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	4	830	0	0	814	9	0	0	0	7	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	834	0	0	823	0	0	0	0	0	11	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			2			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Free			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	33.9%											
Analysis Period (min)	15											
ICU Level of Service A												

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕	↗		↕↕						↕	
Traffic Vol, veh/h	4	764	0	0	749	8	0	0	0	6	0	4
Future Vol, veh/h	4	764	0	0	749	8	0	0	0	6	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	95	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	1083568128	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	830	0	0	814	9	0	0	0	7	0	4

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	823	0	0	830	0	0	1242	1657	412
Stage 1	-	-	-	-	-	-	819	819	-
Stage 2	-	-	-	-	-	-	423	838	-
Critical Hdwy	4.1	-	-	4.1	-	-	6.8	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	816	-	-	811	-	-	170	99	595
Stage 1	-	-	-	-	-	-	399	392	-
Stage 2	-	-	-	-	-	-	635	384	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	816	-	-	811	-	-	168	0	595
Mov Cap-2 Maneuver	-	-	-	-	-	-	168	0	-
Stage 1	-	-	-	-	-	-	395	0	-
Stage 2	-	-	-	-	-	-	635	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	21
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	816	-	-	811	-	-	236
HCM Lane V/C Ratio	0.005	-	-	-	-	-	0.046
HCM Control Delay (s)	9.4	0	-	0	-	-	21
HCM Lane LOS	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	0	-	-	0.1

Lanes, Volumes, Timings

18: 36th St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	657	39	28	753	13	29	9	26	11	17	9
Future Volume (vph)	19	657	39	28	753	13	29	9	26	11	17	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	100		0	225		0	90		0	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.992			0.997			0.887			0.968		
Flt Protected	0.950			0.950			0.950				0.986	
Satd. Flow (prot)	1805	3581	0	1805	3599	0	1805	1685	0	0	1813	0
Flt Permitted	0.350			0.376			0.732				0.889	
Satd. Flow (perm)	665	3581	0	714	3599	0	1391	1685	0	0	1635	0
Right Turn on Red	Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)	14			4			27			9		
Link Speed (mph)	35			30			25			25		
Link Distance (ft)	321			398			616			554		
Travel Time (s)	6.3			9.0			16.8			15.1		
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%			0%			0%		
Adj. Flow (vph)	20	684	41	29	784	14	30	9	27	11	18	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	20	725	0	29	798	0	30	36	0	0	38	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12			12			12			0		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane	Yes											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9			15			9		
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	2			6			8			4		
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		26.0	26.0		26.0	26.0	
Total Split (s)	33.0	33.0		33.0	33.0		27.0	27.0		27.0	27.0	
Total Split (%)	55.0%	55.0%		55.0%	55.0%		45.0%	45.0%		45.0%	45.0%	

Lanes, Volumes, Timings

18: 36th St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	28.0	28.0		28.0	28.0		22.0	22.0		22.0	22.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	48.0	48.0		48.0	48.0		10.0	10.0			10.0	
Actuated g/C Ratio	0.80	0.80		0.80	0.80		0.17	0.17			0.17	
v/c Ratio	0.04	0.25		0.05	0.28		0.13	0.12			0.14	
Control Delay	5.2	6.0		3.7	3.4		23.0	12.5			19.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	5.2	6.0		3.7	3.4		23.0	12.5			19.1	
LOS	A	A		A	A		C	B			B	
Approach Delay		5.9			3.4			17.3			19.1	
Approach LOS		A			A			B			B	
Queue Length 50th (ft)	3	117		3	52		9	3			9	
Queue Length 95th (ft)	m10	137		10	74		29	24			31	
Internal Link Dist (ft)		241			318			536			474	
Turn Bay Length (ft)	100			225			90					
Base Capacity (vph)	532	2868		571	2880		510	634			605	
Starvation Cap Reductn	0	0		0	0		0	0			0	
Spillback Cap Reductn	0	0		0	0		0	0			0	
Storage Cap Reductn	0	0		0	0		0	0			0	
Reduced v/c Ratio	0.04	0.25		0.05	0.28		0.06	0.06			0.06	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 58 (97%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.28

Intersection Signal Delay: 5.4

Intersection LOS: A

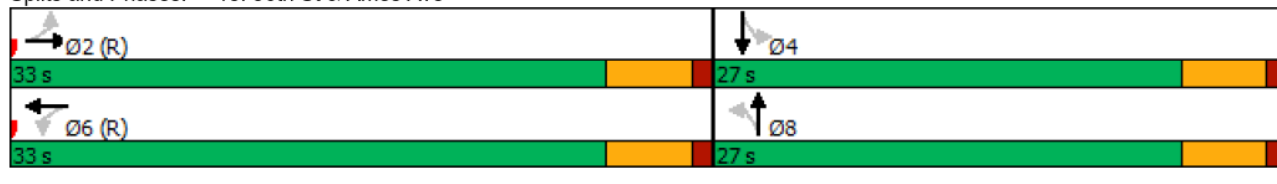
Intersection Capacity Utilization 40.3%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

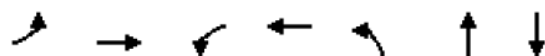
Splits and Phases: 18: 36th St & Ames Ave



Queues

18: 36th St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	20	725	29	798	30	36	38
v/c Ratio	0.04	0.25	0.05	0.28	0.13	0.12	0.14
Control Delay	5.2	6.0	3.7	3.4	23.0	12.5	19.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.2	6.0	3.7	3.4	23.0	12.5	19.1
Queue Length 50th (ft)	3	117	3	52	9	3	9
Queue Length 95th (ft)	m10	137	10	74	29	24	31
Internal Link Dist (ft)		241		318		536	474
Turn Bay Length (ft)	100		225		90		
Base Capacity (vph)	532	2868	571	2880	510	634	605
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.25	0.05	0.28	0.06	0.06	0.06

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary

18: 36th St & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	657	39	28	753	13	29	9	26	11	17	9
Future Volume (veh/h)	19	657	39	28	753	13	29	9	26	11	17	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	20	684	41	29	784	14	30	9	27	11	18	9
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	544	2409	144	580	2526	45	320	57	172	114	145	56
Arrive On Green	0.70	0.70	0.70	0.70	0.70	0.70	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	692	3460	207	741	3629	65	1405	419	1256	263	1057	410
Grp Volume(v), veh/h	20	357	368	29	390	408	30	0	36	38	0	0
Grp Sat Flow(s),veh/h/ln	692	1805	1863	741	1805	1888	1405	0	1674	1731	0	0
Q Serve(g_s), s	0.7	4.5	4.5	0.9	5.0	5.0	0.0	0.0	1.1	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.7	4.5	4.5	5.4	5.0	5.0	0.9	0.0	1.1	1.1	0.0	0.0
Prop In Lane	1.00		0.11	1.00		0.03	1.00		0.75	0.29		0.24
Lane Grp Cap(c), veh/h	544	1256	1297	580	1256	1315	320	0	230	315	0	0
V/C Ratio(X)	0.04	0.28	0.28	0.05	0.31	0.31	0.09	0.00	0.16	0.12	0.00	0.00
Avail Cap(c_a), veh/h	544	1256	1297	580	1256	1315	643	0	614	695	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.98	0.98	0.98	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.6	3.5	3.5	4.5	3.5	3.5	22.7	0.0	22.8	22.8	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.6	0.6	0.2	0.6	0.6	0.1	0.0	0.3	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.1	1.1	0.1	1.3	1.4	0.4	0.0	0.5	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.8	4.0	4.0	4.6	4.2	4.1	22.8	0.0	23.1	23.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	C	C	A	A
Approach Vol, veh/h		745			827			66			38	
Approach Delay, s/veh		4.0			4.2			23.0			23.0	
Approach LOS		A			A			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		46.8		13.2		46.8		13.2				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		28.0		22.0		28.0		22.0				
Max Q Clear Time (g_c+I1), s		7.7		3.1		7.4		3.1				
Green Ext Time (p_c), s		3.0		0.1		3.6		0.2				
Intersection Summary												
HCM 6th Ctrl Delay				5.3								
HCM 6th LOS				A								

Lanes, Volumes, Timings

19: 35th St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	705	13	6	838	2	6	0	7	2	0	2
Future Volume (vph)	2	705	13	6	838	2	6	0	7	2	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	90		0	20		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.997						0.927			0.932		
Flt Protected	0.950			0.950				0.977			0.976	
Satd. Flow (prot)	1805	3599	0	1805	3610	0	0	1721	0	0	1728	0
Flt Permitted	0.319			0.362								
Satd. Flow (perm)	606	3599	0	688	3610	0	0	1761	0	0	1771	0
Right Turn on Red	Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)	3						24			24		
Link Speed (mph)	30			30			25			25		
Link Distance (ft)	398			240			135			123		
Travel Time (s)	9.0			5.5			3.7			3.4		
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%			0%			0%		
Adj. Flow (vph)	2	750	14	6	891	2	6	0	7	2	0	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	764	0	6	893	0	0	13	0	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12			12			0			0		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane	Yes			Yes								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	2			6			8			4		
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		23.0	23.0		23.0	23.0	
Total Split (s)	50.0	50.0		50.0	50.0		40.0	40.0		40.0	40.0	
Total Split (%)	55.6%	55.6%		55.6%	55.6%		44.4%	44.4%		44.4%	44.4%	

Lanes, Volumes, Timings

19: 35th St & Ames Ave

09/08/2025

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	45.0	45.0		45.0	45.0		35.0	35.0		35.0	35.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	86.0	86.0		86.0	86.0			10.0			10.0	
Actuated g/C Ratio	0.96	0.96		0.96	0.96			0.11			0.11	
v/c Ratio	0.00	0.22		0.01	0.26			0.06			0.02	
Control Delay	1.5	0.9		1.3	1.0			8.9			0.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	1.5	1.0		1.3	1.0			8.9			0.2	
LOS	A	A		A	A			A			A	
Approach Delay		1.0			1.0			8.9			0.3	
Approach LOS		A			A			A			A	
Queue Length 50th (ft)	0	0		0	0			0			0	
Queue Length 95th (ft)	2	65		3	79			12			0	
Internal Link Dist (ft)		318			160			55			43	
Turn Bay Length (ft)	90			20								
Base Capacity (vph)	579	3439		657	3449			699			703	
Starvation Cap Reductn	0	445		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.00	0.26		0.01	0.26			0.02			0.01	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 21 (23%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.26

Intersection Signal Delay: 1.0

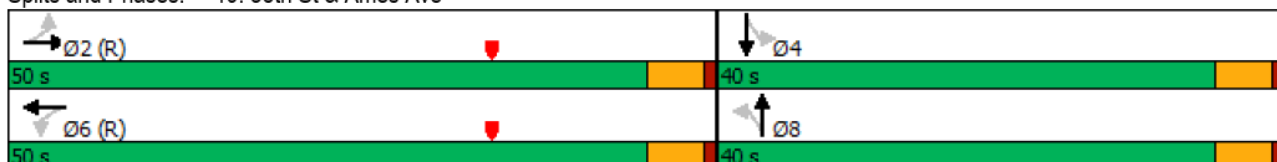
Intersection Capacity Utilization 39.9%

Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service A

Splits and Phases: 19: 35th St & Ames Ave



Queues

19: 35th St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	2	764	6	893	13	4
v/c Ratio	0.00	0.22	0.01	0.26	0.06	0.02
Control Delay	1.5	0.9	1.3	1.0	8.9	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1.5	1.0	1.3	1.0	8.9	0.2
Queue Length 50th (ft)	0	0	0	0	0	0
Queue Length 95th (ft)	2	65	3	79	12	0
Internal Link Dist (ft)		318		160	55	43
Turn Bay Length (ft)	90		20			
Base Capacity (vph)	579	3439	657	3449	699	703
Starvation Cap Reductn	0	445	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.26	0.01	0.26	0.02	0.01

Intersection Summary

HCM 6th Signalized Intersection Summary

19: 35th St & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	705	13	6	838	2	6	0	7	2	0	2
Future Volume (veh/h)	2	705	13	6	838	2	6	0	7	2	0	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	2	750	14	6	891	2	6	0	7	2	0	2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	588	3083	58	659	3142	7	80	6	32	80	10	30
Arrive On Green	0.85	0.85	0.85	0.85	0.85	0.85	0.04	0.00	0.04	0.04	0.00	0.04
Sat Flow, veh/h	633	3625	68	714	3695	8	568	154	843	530	261	792
Grp Volume(v), veh/h	2	373	391	6	435	458	13	0	0	4	0	0
Grp Sat Flow(s),veh/h/ln	633	1805	1888	714	1805	1899	1565	0	0	1584	0	0
Q Serve(g_s), s	0.1	3.5	3.5	0.1	4.3	4.3	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.3	3.5	3.5	3.7	4.3	4.3	0.7	0.0	0.0	0.2	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.00	0.46		0.54	0.50		0.50
Lane Grp Cap(c), veh/h	588	1535	1605	659	1535	1615	119	0	0	121	0	0
V/C Ratio(X)	0.00	0.24	0.24	0.01	0.28	0.28	0.11	0.00	0.00	0.03	0.00	0.00
Avail Cap(c_a), veh/h	588	1535	1605	659	1535	1615	653	0	0	652	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	1.8	1.3	1.3	1.6	1.3	1.3	41.9	0.0	0.0	41.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.4	0.0	0.5	0.4	0.4	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.6	0.6	0.0	0.7	0.7	0.3	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1.8	1.6	1.6	1.6	1.8	1.8	42.3	0.0	0.0	41.8	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	A
Approach Vol, veh/h	766			899			13			4		
Approach Delay, s/veh	1.6			1.8			42.3			41.8		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	81.5			8.5			81.5			8.5		
Change Period (Y+Rc), s	5.0			5.0			5.0			5.0		
Max Green Setting (Gmax), s	45.0			35.0			45.0			35.0		
Max Q Clear Time (g_c+I1), s	6.3			2.2			6.3			2.7		
Green Ext Time (p_c), s	5.5			0.0			6.8			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	2.1											
HCM 6th LOS	A											

Lanes, Volumes, Timings

20: 34th Ave & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔↔			↔↔	
Traffic Volume (vph)	12	685	10	17	772	7	8	13	23	5	3	13
Future Volume (vph)	12	685	10	17	772	7	8	13	23	5	3	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.998			0.999			0.930			0.914	
Flt Protected		0.999			0.999			0.991			0.989	
Satd. Flow (prot)	0	3599	0	0	3603	0	0	1751	0	0	1717	0
Flt Permitted		0.999			0.999			0.991			0.989	
Satd. Flow (perm)	0	3599	0	0	3603	0	0	1751	0	0	1717	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		240			680			178			167	
Travel Time (s)		5.5			15.5			4.9			4.6	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	13	714	10	18	804	7	8	14	24	5	3	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	737	0	0	829	0	0	46	0	0	22	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		4			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 43.7% ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕			↕↕			↕			↕		
Traffic Vol, veh/h	12	685	10	17	772	7	8	13	23	5	3	13
Future Vol, veh/h	12	685	10	17	772	7	8	13	23	5	3	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	13	714	10	18	804	7	8	14	24	5	3	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	811	0	0	724	0	0	1185	1592	362	1234	1594	406
Stage 1	-	-	-	-	-	-	745	745	-	844	844	-
Stage 2	-	-	-	-	-	-	440	847	-	390	750	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	824	-	-	888	-	-	147	108	641	135	108	600
Stage 1	-	-	-	-	-	-	377	424	-	328	382	-
Stage 2	-	-	-	-	-	-	571	381	-	611	422	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	824	-	-	888	-	-	134	101	641	111	101	600
Mov Cap-2 Maneuver	-	-	-	-	-	-	134	101	-	111	101	-
Stage 1	-	-	-	-	-	-	367	413	-	319	368	-
Stage 2	-	-	-	-	-	-	533	367	-	554	411	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.4	28.9	23.3
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	196	824	-	-	888	-	-	218
HCM Lane V/C Ratio	0.234	0.015	-	-	0.02	-	-	0.1
HCM Control Delay (s)	28.9	9.4	0.1	-	9.1	0.2	-	23.3
HCM Lane LOS	D	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.9	0	-	-	0.1	-	-	0.3

Lanes, Volumes, Timings

21: 33rd Ave & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	692	15	12	828	4	2	6	10	8	5	20
Future Volume (vph)	15	692	15	12	828	4	2	6	10	8	5	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.997			0.999			0.925			0.917	
Flt Protected		0.999			0.999			0.994			0.988	
Satd. Flow (prot)	0	3596	0	0	3603	0	0	1747	0	0	1721	0
Flt Permitted		0.999			0.999			0.994			0.988	
Satd. Flow (perm)	0	3596	0	0	3603	0	0	1747	0	0	1721	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		680			646			233			228	
Travel Time (s)		15.5			14.7			6.4			6.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	16	721	16	13	863	4	2	6	10	8	5	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	753	0	0	880	0	0	18	0	0	34	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	41.7%											
Analysis Period (min)	15											
ICU Level of Service A												

Intersection

Int Delay, s/veh 1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕			↕↕			↕			↕		
Traffic Vol, veh/h	15	692	15	12	828	4	2	6	10	8	5	20
Future Vol, veh/h	15	692	15	12	828	4	2	6	10	8	5	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	16	721	16	13	863	4	2	6	10	8	5	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	867	0	0	737	0	0	1221	1654	369	1287	1660	434
Stage 1	-	-	-	-	-	-	761	761	-	891	891	-
Stage 2	-	-	-	-	-	-	460	893	-	396	769	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	785	-	-	878	-	-	138	99	634	123	98	576
Stage 1	-	-	-	-	-	-	368	417	-	308	363	-
Stage 2	-	-	-	-	-	-	556	363	-	606	413	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	785	-	-	878	-	-	121	93	634	109	92	576
Mov Cap-2 Maneuver	-	-	-	-	-	-	121	93	-	109	92	-
Stage 1	-	-	-	-	-	-	355	402	-	297	352	-
Stage 2	-	-	-	-	-	-	513	352	-	566	399	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.2	26.5	26.3
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	186	785	-	-	878	-	-	203
HCM Lane V/C Ratio	0.101	0.02	-	-	0.014	-	-	0.169
HCM Control Delay (s)	26.5	9.7	0.2	-	9.2	0.1	-	26.3
HCM Lane LOS	D	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	0.6

Lanes, Volumes, Timings

22: 31st Ave & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	613	20	28	758	35	44	84	122	10	14	9
Future Volume (vph)	20	613	20	28	758	35	44	84	122	10	14	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		65	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.995			0.994				0.850		0.962	
Flt Protected		0.998			0.998			0.983			0.985	
Satd. Flow (prot)	0	3585	0	0	3581	0	0	1868	1615	0	1800	0
Flt Permitted		0.921			0.920			0.871			0.875	
Satd. Flow (perm)	0	3308	0	0	3301	0	0	1655	1615	0	1599	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			13				130		10	
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		646			671			679			671	
Travel Time (s)		14.7			15.3			18.5			18.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	21	652	21	30	806	37	47	89	130	11	15	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	694	0	0	873	0	0	136	130	0	36	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8				4
Permitted Phases	2			6			8		8	4		
Detector Phase	2	2		6	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		23.0	23.0	23.0	23.0	23.0	
Total Split (s)	40.0	40.0		40.0	40.0		20.0	20.0	20.0	20.0	20.0	
Total Split (%)	66.7%	66.7%		66.7%	66.7%		33.3%	33.3%	33.3%	33.3%	33.3%	

Lanes, Volumes, Timings

22: 31st Ave & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	35.0	35.0		35.0	35.0		15.0	15.0	15.0	15.0	15.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0	0.0		0.0	
Total Lost Time (s)		5.0			5.0			5.0	5.0		5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None	None	None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		9.0	9.0	9.0	9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		43.1			43.1			10.3	10.3		10.3	
Actuated g/C Ratio		0.72			0.72			0.17	0.17		0.17	
v/c Ratio		0.29			0.37			0.48	0.34		0.13	
Control Delay		4.7			5.2			27.6	7.1		16.6	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		4.7			5.2			27.6	7.1		16.6	
LOS		A			A			C	A		B	
Approach Delay		4.7			5.2			17.6			16.6	
Approach LOS		A			A			B			B	
Queue Length 50th (ft)		44			60			45	0		8	
Queue Length 95th (ft)		83			110			85	35		27	
Internal Link Dist (ft)		566			591			599			591	
Turn Bay Length (ft)									65			
Base Capacity (vph)		2380			2377			413	501		407	
Starvation Cap Reductn		0			0			0	0		0	
Spillback Cap Reductn		0			0			0	0		0	
Storage Cap Reductn		0			0			0	0		0	
Reduced v/c Ratio		0.29			0.37			0.33	0.26		0.09	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 26 (43%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 7.0

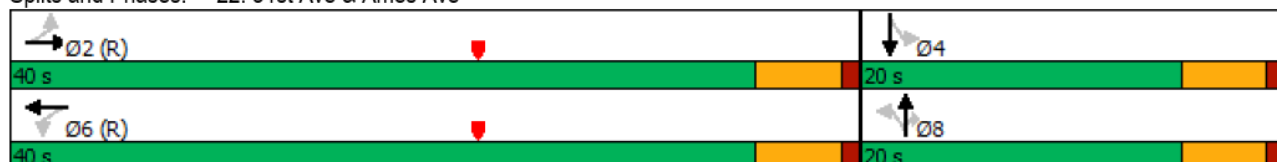
Intersection Capacity Utilization 60.4%

Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service B

Splits and Phases: 22: 31st Ave & Ames Ave



Queues

22: 31st Ave & Ames Ave

09/08/2025



Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	694	873	136	130	36
v/c Ratio	0.29	0.37	0.48	0.34	0.13
Control Delay	4.7	5.2	27.6	7.1	16.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	4.7	5.2	27.6	7.1	16.6
Queue Length 50th (ft)	44	60	45	0	8
Queue Length 95th (ft)	83	110	85	35	27
Internal Link Dist (ft)	566	591	599		591
Turn Bay Length (ft)				65	
Base Capacity (vph)	2380	2377	413	501	407
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.29	0.37	0.33	0.26	0.09

Intersection Summary

HCM 6th Signalized Intersection Summary

22: 31st Ave & Ames Ave

09/08/2025

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↑	↗		↔	
Traffic Volume (veh/h)	20	613	20	28	758	35	44	84	122	10	14	9
Future Volume (veh/h)	20	613	20	28	758	35	44	84	122	10	14	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	21	652	21	30	806	37	47	89	130	11	15	10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	96	2402	76	104	2360	106	140	159	195	103	106	50
Arrive On Green	0.71	0.71	0.71	0.71	0.71	0.71	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	46	3372	107	57	3314	149	490	1310	1610	204	878	416
Grp Volume(v), veh/h	358	0	336	452	0	421	136	0	130	36	0	0
Grp Sat Flow(s),veh/h/ln	1815	0	1710	1818	0	1702	1800	0	1610	1498	0	0
Q Serve(g_s), s	0.0	0.0	4.2	0.0	0.0	5.7	0.0	0.0	4.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.0	0.0	4.2	5.4	0.0	5.7	4.1	0.0	4.6	4.1	0.0	0.0
Prop In Lane	0.06		0.06	0.07		0.09	0.35		1.00	0.31		0.28
Lane Grp Cap(c), veh/h	1356	0	1218	1359	0	1212	299	0	195	260	0	0
V/C Ratio(X)	0.26	0.00	0.28	0.33	0.00	0.35	0.46	0.00	0.67	0.14	0.00	0.00
Avail Cap(c_a), veh/h	1356	0	1218	1359	0	1212	517	0	403	458	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.68	0.00	0.68	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	3.1	0.0	3.1	3.3	0.0	3.3	25.0	0.0	25.2	23.7	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.6	0.4	0.0	0.5	1.1	0.0	3.9	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	1.0	1.3	0.0	1.2	1.8	0.0	1.9	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.5	0.0	3.7	3.7	0.0	3.8	26.1	0.0	29.1	23.9	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	C	C	A	A
Approach Vol, veh/h		694			873			266			36	
Approach Delay, s/veh		3.6			3.8			27.5			23.9	
Approach LOS		A			A			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		47.7		12.3		47.7		12.3				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		35.0		15.0		35.0		15.0				
Max Q Clear Time (g_c+I1), s		6.2		6.1		7.7		6.6				
Green Ext Time (p_c), s		3.1		0.0		4.1		0.7				

Intersection Summary

HCM 6th Ctrl Delay	7.5
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

Lanes, Volumes, Timings

23: 30th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	124	586	109	70	617	92	127	305	72	75	235	159
Future Volume (vph)	124	586	109	70	617	92	127	305	72	75	235	159
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	200		0	200		0	300		0	110		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt	0.977			0.981			0.971			0.939		
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3527	0	1805	3541	0	1805	3505	0	1805	3390	0
Flt Permitted	0.145			0.365			0.373			0.511		
Satd. Flow (perm)	276	3527	0	694	3541	0	709	3505	0	971	3390	0
Right Turn on Red	Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)	30			18			41			173		
Link Speed (mph)	30			30			35			35		
Link Distance (ft)	671			893			1314			658		
Travel Time (s)	15.3			20.3			25.6			12.8		
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%			0%			0%		
Adj. Flow (vph)	135	637	118	76	671	100	138	332	78	82	255	173
Shared Lane Traffic (%)												
Lane Group Flow (vph)	135	755	0	76	771	0	138	410	0	82	428	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12			12			12			12		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases	5	2			6		3	8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		3	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	15.0		15.0	15.0		5.0	10.0		10.0	10.0	
Minimum Split (s)	12.0	20.0		20.0	20.0		12.0	16.0		16.0	16.0	
Total Split (s)	14.0	44.0		30.0	30.0		19.0	46.0		27.0	27.0	
Total Split (%)	15.6%	48.9%		33.3%	33.3%		21.1%	51.1%		30.0%	30.0%	

Lanes, Volumes, Timings

23: 30th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	9.0	39.0		25.0	25.0		14.0	40.0		21.0	21.0	
Yellow Time (s)	3.0	3.8		3.8	3.8		3.2	4.3		4.3	4.3	
All-Red Time (s)	2.0	1.2		1.2	1.2		1.8	1.7		1.7	1.7	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	6.0		6.0	6.0	
Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	3.0		3.0	3.0		2.0	3.0		3.0	3.0	
Minimum Gap (s)	2.0	3.0		3.0	3.0		2.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		C-Max	C-Max		None	Max		Max	Max	
Walk Time (s)		10.0		10.0	10.0			9.0		9.0	9.0	
Flash Dont Walk (s)		12.0		12.0	12.0			12.0		12.0	12.0	
Pedestrian Calls (#/hr)		0		0	0			0		0	0	
Act Effct Green (s)	39.0	39.0		26.1	26.1		41.0	40.0		26.4	26.4	
Actuated g/C Ratio	0.43	0.43		0.29	0.29		0.46	0.44		0.29	0.29	
v/c Ratio	0.53	0.49		0.38	0.74		0.32	0.26		0.29	0.38	
Control Delay	23.8	18.9		33.0	33.6		16.7	14.5		29.1	16.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	23.8	18.9		33.0	33.6		16.7	14.5		29.1	16.3	
LOS	C	B		C	C		B	B		C	B	
Approach Delay		19.6			33.6			15.1			18.3	
Approach LOS		B			C			B			B	
Queue Length 50th (ft)	46	151		35	205		45	66		36	57	
Queue Length 95th (ft)	82	202		79	275		80	97		80	104	
Internal Link Dist (ft)		591			813			1234			578	
Turn Bay Length (ft)	200			200			300			110		
Base Capacity (vph)	272	1545		200	1039		493	1580		284	1117	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.50	0.49		0.38	0.74		0.28	0.26		0.29	0.38	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 77 (86%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 22.7

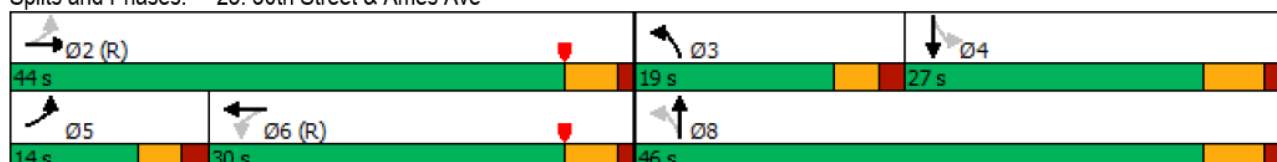
Intersection LOS: C

Intersection Capacity Utilization 69.6%

ICU Level of Service C

Analysis Period (min) 15

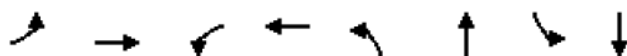
Splits and Phases: 23: 30th Street & Ames Ave



Queues

23: 30th Street & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	135	755	76	771	138	410	82	428
v/c Ratio	0.53	0.49	0.38	0.74	0.32	0.26	0.29	0.38
Control Delay	23.8	18.9	33.0	33.6	16.7	14.5	29.1	16.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.8	18.9	33.0	33.6	16.7	14.5	29.1	16.3
Queue Length 50th (ft)	46	151	35	205	45	66	36	57
Queue Length 95th (ft)	82	202	79	275	80	97	80	104
Internal Link Dist (ft)		591		813		1234		578
Turn Bay Length (ft)	200		200		300		110	
Base Capacity (vph)	272	1545	200	1039	493	1580	284	1117
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.49	0.38	0.74	0.28	0.26	0.29	0.38

Intersection Summary

HCM 6th Signalized Intersection Summary

23: 30th Street & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	586	109	70	617	92	127	305	72	75	235	159
Future Volume (veh/h)	124	586	109	70	617	92	127	305	72	75	235	159
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	135	637	118	76	671	100	138	332	78	82	255	173
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	291	1318	244	284	974	145	422	1293	300	396	666	436
Arrive On Green	0.07	0.43	0.43	0.31	0.31	0.31	0.07	0.44	0.44	0.32	0.32	0.32
Sat Flow, veh/h	1810	3041	562	720	3151	469	1810	2909	674	991	2090	1368
Grp Volume(v), veh/h	135	378	377	76	384	387	138	204	206	82	219	209
Grp Sat Flow(s),veh/h/ln	1810	1805	1799	720	1805	1816	1810	1805	1779	991	1805	1654
Q Serve(g_s), s	4.4	13.5	13.5	7.6	16.8	16.8	4.4	6.4	6.5	5.5	8.5	8.9
Cycle Q Clear(g_c), s	4.4	13.5	13.5	10.0	16.8	16.8	4.4	6.4	6.5	5.5	8.5	8.9
Prop In Lane	1.00		0.31	1.00		0.26	1.00		0.38	1.00		0.83
Lane Grp Cap(c), veh/h	291	782	779	284	558	561	422	802	790	396	575	527
V/C Ratio(X)	0.46	0.48	0.48	0.27	0.69	0.69	0.33	0.25	0.26	0.21	0.38	0.40
Avail Cap(c_a), veh/h	347	782	779	284	558	561	576	802	790	396	575	527
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.9	18.3	18.3	25.9	27.3	27.3	17.7	15.7	15.7	22.8	23.8	23.9
Incr Delay (d2), s/veh	0.4	2.0	2.1	2.3	6.8	6.8	0.2	0.8	0.8	1.2	1.9	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	5.8	5.8	1.5	8.1	8.1	1.7	2.7	2.7	1.4	3.8	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.4	20.3	20.3	28.2	34.1	34.1	17.8	16.4	16.5	24.0	25.7	26.1
LnGrp LOS	C	C	C	C	C	C	B	B	B	C	C	C
Approach Vol, veh/h		890			847			548			510	
Approach Delay, s/veh		20.3			33.6			16.8			25.6	
Approach LOS		C			C			B			C	
Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		44.0	11.3	34.7	11.2	32.8		46.0				
Change Period (Y+Rc), s		5.0	5.0	* 6	5.0	5.0		* 6				
Max Green Setting (Gmax), s		39.0	14.0	* 21	9.0	25.0		* 40				
Max Q Clear Time (g_c+I1), s		15.5	6.4	10.9	6.4	18.8		8.5				
Green Ext Time (p_c), s		3.3	0.1	1.6	0.1	2.2		1.6				
Intersection Summary												
HCM 6th Ctrl Delay				24.6								
HCM 6th LOS				C								

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings

24: 28th Street & Ames Ave

09/08/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	
Traffic Volume (vph)	680	3	2	764	2	16
Future Volume (vph)	680	3	2	764	2	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			50		50	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.999				0.880	
Flt Protected					0.994	
Satd. Flow (prot)	3606	0	0	3610	1662	0
Flt Permitted					0.994	
Satd. Flow (perm)	3606	0	0	3610	1662	0
Link Speed (mph)	30			30	25	
Link Distance (ft)	893			90	310	
Travel Time (s)	20.3			2.0	8.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	687	3	2	772	2	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	690	0	0	774	18	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type: Other						
Control Type: Unsignalized						
Intersection Capacity Utilization 32.5% ICU Level of Service A						
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	
Traffic Vol, veh/h	680	3	2	764	2	16
Future Vol, veh/h	680	3	2	764	2	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	99	99	99	99	99	99
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	687	3	2	772	2	16
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	690	0	1079	345
Stage 1	-	-	-	-	689	-
Stage 2	-	-	-	-	390	-
Critical Hdwy	-	-	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	914	-	216	657
Stage 1	-	-	-	-	465	-
Stage 2	-	-	-	-	659	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	914	-	215	657
Mov Cap-2 Maneuver	-	-	-	-	215	-
Stage 1	-	-	-	-	465	-
Stage 2	-	-	-	-	656	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		12	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1		EBT	EBR	WBL	WBT
Capacity (veh/h)	535		-	-	914	-
HCM Lane V/C Ratio	0.034		-	-	0.002	-
HCM Control Delay (s)	12		-	-	8.9	0
HCM Lane LOS	B		-	-	A	A
HCM 95th %tile Q(veh)	0.1		-	-	0	-

Lanes, Volumes, Timings

25: North Freeway SB Ramp & Ames Ave

09/08/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑		
Traffic Volume (vph)	412	311	111	809	0	0
Future Volume (vph)	412	311	111	809	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	165		0	0
Storage Lanes		0	1		0	0
Taper Length (ft)			50		50	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.936					
Flt Protected			0.950			
Satd. Flow (prot)	3379	0	1805	3539	0	0
Flt Permitted			0.950			
Satd. Flow (perm)	3379	0	1805	3539	0	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	90			571	390	
Travel Time (s)	2.0			13.0	8.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	434	327	117	852	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	761	0	117	852	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	68.3%			ICU Level of Service C		
Analysis Period (min)	15					

Lanes, Volumes, Timings

26: North Freeway NB Ramp & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	359	0	0	444	11	406	3	134	0	0	0
Future Volume (vph)	43	359	0	0	444	11	406	3	134	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	245		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.996			0.853				
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1770	3610	0	0	3588	0	1805	1574	0	0	0	0
Flt Permitted	0.465						0.950					
Satd. Flow (perm)	866	3610	0	0	3588	0	1805	1574	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					5			147				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		571			87			482			406	
Travel Time (s)		13.0			2.0			11.0			9.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	0%	0%	0%	0%	9%	0%	0%	3%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	47	395	0	0	488	12	446	3	147	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	47	395	0	0	500	0	446	150	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	0			0		1	0				
Detector Template	Left	Thru			Thru		Left	Thru				
Leading Detector (ft)	50	0			0		50	0				
Trailing Detector (ft)	0	0			0		0	0				
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		2			6			8				
Permitted Phases	2						8					
Detector Phase	2	2			6		8	8				
Switch Phase												
Minimum Initial (s)	20.0	20.0			20.0		10.0	10.0				
Minimum Split (s)	25.0	25.0			25.0		32.0	32.0				
Total Split (s)	27.0	27.0			27.0		33.0	33.0				
Total Split (%)	45.0%	45.0%			45.0%		55.0%	55.0%				

Lanes, Volumes, Timings

26: North Freeway NB Ramp & Ames Ave

09/08/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	22.0	22.0			22.0		28.0	28.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0				
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				
Minimum Gap (s)	3.0	3.0			3.0		3.0	3.0				
Time Before Reduce (s)	0.0	0.0			0.0		0.0	0.0				
Time To Reduce (s)	0.0	0.0			0.0		0.0	0.0				
Recall Mode	C-Max	C-Max			C-Max		None	None				
Walk Time (s)	7.0	7.0			7.0		11.0	11.0				
Flash Dont Walk (s)	9.0	9.0			9.0		16.0	16.0				
Pedestrian Calls (#/hr)	0	0			0		0	0				
Act Effct Green (s)	29.5	29.5			29.5		20.5	20.5				
Actuated g/C Ratio	0.49	0.49			0.49		0.34	0.34				
v/c Ratio	0.11	0.22			0.28		0.72	0.24				
Control Delay	11.7	10.5			11.2		23.6	3.3				
Queue Delay	0.0	0.0			0.0		0.0	0.0				
Total Delay	11.7	10.5			11.2		23.6	3.3				
LOS	B	B			B		C	A				
Approach Delay		10.6			11.2			18.5				
Approach LOS		B			B			B				
Queue Length 50th (ft)	8	39			52		138	1				
Queue Length 95th (ft)	31	80			88		183	26				
Internal Link Dist (ft)		491			7			402			326	
Turn Bay Length (ft)	245											
Base Capacity (vph)	425	1772			1764		842	812				
Starvation Cap Reductn	0	0			0		0	0				
Spillback Cap Reductn	0	0			0		0	0				
Storage Cap Reductn	0	0			0		0	0				
Reduced v/c Ratio	0.11	0.22			0.28		0.53	0.18				

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 35 (58%), Referenced to phase 2:EBTL and 6:WBT, Start of FDW or yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 13.9

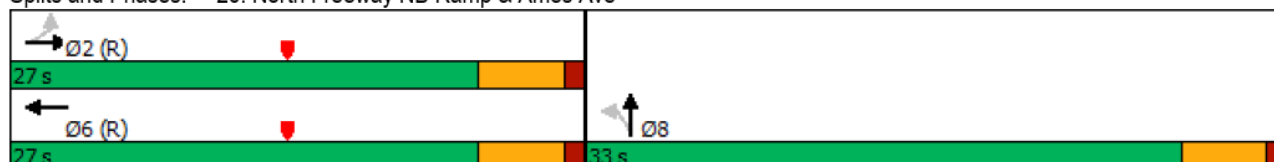
Intersection LOS: B

Intersection Capacity Utilization 68.3%

ICU Level of Service C

Analysis Period (min) 15

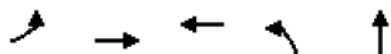
Splits and Phases: 26: North Freeway NB Ramp & Ames Ave



Queues

26: North Freeway NB Ramp & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBT	NBL	NBT
Lane Group Flow (vph)	47	395	500	446	150
v/c Ratio	0.11	0.22	0.28	0.72	0.24
Control Delay	11.7	10.5	11.2	23.6	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	11.7	10.5	11.2	23.6	3.3
Queue Length 50th (ft)	8	39	52	138	1
Queue Length 95th (ft)	31	80	88	183	26
Internal Link Dist (ft)		491	7		402
Turn Bay Length (ft)	245				
Base Capacity (vph)	425	1772	1764	842	812
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.11	0.22	0.28	0.53	0.18

Intersection Summary

HCM 6th Signalized Intersection Summary

26: North Freeway NB Ramp & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Traffic Volume (veh/h)	43	359	0	0	444	11	406	3	134	0	0	0
Future Volume (veh/h)	43	359	0	0	444	11	406	3	134	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1900	0	0	1900	1767	1900	1900	1856			
Adj Flow Rate, veh/h	47	395	0	0	488	12	446	3	147			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91			
Percent Heavy Veh, %	2	0	0	0	0	9	0	0	3			
Cap, veh/h	507	1974	0	0	1969	48	519	9	454			
Arrive On Green	0.55	0.55	0.00	0.00	0.18	0.18	0.29	0.29	0.29			
Sat Flow, veh/h	898	3705	0	0	3696	88	1810	32	1583			
Grp Volume(v), veh/h	47	395	0	0	244	256	446	0	150			
Grp Sat Flow(s),veh/h/ln	898	1805	0	0	1805	1884	1810	0	1615			
Q Serve(g_s), s	1.9	3.3	0.0	0.0	7.0	7.0	14.0	0.0	4.4			
Cycle Q Clear(g_c), s	8.9	3.3	0.0	0.0	7.0	7.0	14.0	0.0	4.4			
Prop In Lane	1.00		0.00	0.00		0.05	1.00		0.98			
Lane Grp Cap(c), veh/h	507	1974	0	0	987	1030	519	0	463			
V/C Ratio(X)	0.09	0.20	0.00	0.00	0.25	0.25	0.86	0.00	0.32			
Avail Cap(c_a), veh/h	507	1974	0	0	987	1030	844	0	754			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	10.3	6.9	0.0	0.0	14.0	14.0	20.3	0.0	16.8			
Incr Delay (d2), s/veh	0.4	0.2	0.0	0.0	0.6	0.6	5.1	0.0	0.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.4	1.1	0.0	0.0	2.9	3.0	6.1	0.0	1.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.6	7.1	0.0	0.0	14.6	14.6	25.4	0.0	17.2			
LnGrp LOS	B	A	A	A	B	B	C	A	B			
Approach Vol, veh/h		442			500			596				
Approach Delay, s/veh		7.5			14.6			23.3				
Approach LOS		A			B			C				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		37.8				37.8		22.2				
Change Period (Y+Rc), s		5.0				5.0		5.0				
Max Green Setting (Gmax), s		22.0				22.0		28.0				
Max Q Clear Time (g_c+I1), s		10.9				0.0		16.0				
Green Ext Time (p_c), s		0.0				0.0		1.2				
Intersection Summary												
HCM 6th Ctrl Delay					16.0							
HCM 6th LOS					B							

Lanes, Volumes, Timings

27: 26th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Volume (vph)	35	402	12	0	440	1	2	1	1	0	0	23
Future Volume (vph)	35	402	12	0	440	1	2	1	1	0	0	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.996						0.966			0.865	
Flt Protected		0.996						0.976				
Satd. Flow (prot)	0	3549	0	0	3574	0	0	1791	0	0	1644	0
Flt Permitted		0.996						0.976				
Satd. Flow (perm)	0	3549	0	0	3574	0	0	1791	0	0	1644	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		87			334			236			238	
Travel Time (s)		2.0			7.6			6.4			6.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	37	423	13	0	463	1	2	1	1	0	0	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	473	0	0	464	0	0	4	0	0	24	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 38.0%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕			↕↕			↕			↕		
Traffic Vol, veh/h	35	402	12	0	440	1	2	1	1	0	0	23
Future Vol, veh/h	35	402	12	0	440	1	2	1	1	0	0	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	1	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	37	423	13	0	463	1	2	1	1	0	0	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	464	0	0	436	0	0	736	968	218	750	974	232
Stage 1	-	-	-	-	-	-	504	504	-	464	464	-
Stage 2	-	-	-	-	-	-	232	464	-	286	510	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1108	-	-	1134	-	-	311	256	792	304	254	776
Stage 1	-	-	-	-	-	-	524	544	-	553	567	-
Stage 2	-	-	-	-	-	-	756	567	-	703	541	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1108	-	-	1134	-	-	291	245	792	292	243	776
Mov Cap-2 Maneuver	-	-	-	-	-	-	291	245	-	292	243	-
Stage 1	-	-	-	-	-	-	501	520	-	529	567	-
Stage 2	-	-	-	-	-	-	732	567	-	670	517	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0	16.2	9.8
HCM LOS			C	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	327	1108	-	-	1134	-	-	776
HCM Lane V/C Ratio	0.013	0.033	-	-	-	-	-	0.031
HCM Control Delay (s)	16.2	8.4	0.2	-	0	-	-	9.8
HCM Lane LOS	C	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.1

Lanes, Volumes, Timings
28: 25th Ave & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Volume (vph)	3	358	9	0	429	0	6	1	1	2	2	21
Future Volume (vph)	3	358	9	0	429	0	6	1	1	2	2	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			50			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.996						0.983			0.886	
Flt Protected								0.964			0.996	
Satd. Flow (prot)	0	3561	0	0	3610	0	0	1800	0	0	1677	0
Flt Permitted								0.964			0.996	
Satd. Flow (perm)	0	3561	0	0	3610	0	0	1800	0	0	1677	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		334			657			219			244	
Travel Time (s)		7.6			14.9			6.0			6.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	3	381	10	0	456	0	6	1	1	2	2	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	394	0	0	456	0	0	8	0	0	26	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 22.3% ICU Level of Service A

Analysis Period (min) 15

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕			↕↕			↕			↕		
Traffic Vol, veh/h	3	358	9	0	429	0	6	1	1	2	2	21
Future Vol, veh/h	3	358	9	0	429	0	6	1	1	2	2	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	1	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	381	10	0	456	0	6	1	1	2	2	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	456	0	0	391	0	0	621	848	196	653	853	228
Stage 1	-	-	-	-	-	-	392	392	-	456	456	-
Stage 2	-	-	-	-	-	-	229	456	-	197	397	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1115	-	-	1179	-	-	376	301	819	356	299	781
Stage 1	-	-	-	-	-	-	610	610	-	559	572	-
Stage 2	-	-	-	-	-	-	759	572	-	792	607	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1115	-	-	1179	-	-	362	300	819	354	298	781
Mov Cap-2 Maneuver	-	-	-	-	-	-	362	300	-	354	298	-
Stage 1	-	-	-	-	-	-	608	608	-	557	572	-
Stage 2	-	-	-	-	-	-	735	572	-	787	605	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	14.7	10.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	379	1115	-	-	1179	-	-	637
HCM Lane V/C Ratio	0.022	0.003	-	-	-	-	-	0.042
HCM Control Delay (s)	14.7	8.2	0	-	0	-	-	10.9
HCM Lane LOS	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Lanes, Volumes, Timings

29: 24th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	196	141	13	201	18	126	108	22	22	91	63
Future Volume (vph)	60	196	141	13	201	18	126	108	22	22	91	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.947			0.988			0.989			0.952	
Flt Protected		0.992			0.997			0.976			0.994	
Satd. Flow (prot)	0	3358	0	0	3325	0	0	1834	0	0	1798	0
Flt Permitted		0.876			0.931			0.744			0.942	
Satd. Flow (perm)	0	2965	0	0	3105	0	0	1398	0	0	1704	0
Right Turn on Red		Yes				Yes			Yes			Yes
Satd. Flow (RTOR)		150			18			9			57	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		657			1321			1296			576	
Travel Time (s)		14.9			30.0			29.5			13.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	0%	8%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	64	209	150	14	214	19	134	115	23	23	97	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	423	0	0	247	0	0	272	0	0	187	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	0		1	0		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	0		50	0		50	20		50	20	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		15.0	15.0		15.0	15.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		28.4	28.4		28.4	28.4	
Total Split (s)	31.0	31.0		31.0	31.0		29.0	29.0		29.0	29.0	
Total Split (%)	51.7%	51.7%		51.7%	51.7%		48.3%	48.3%		48.3%	48.3%	

Lanes, Volumes, Timings

29: 24th Street & Ames Ave

09/08/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	26.6	26.6		26.6	26.6		24.6	24.6		24.6	24.6	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.8	3.8		3.8	3.8	
All-Red Time (s)	0.7	0.7		0.7	0.7		0.6	0.6		0.6	0.6	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.4			4.4			4.4			4.4	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		33.8			33.8			17.4			17.4	
Actuated g/C Ratio		0.56			0.56			0.29			0.29	
v/c Ratio		0.24			0.14			0.66			0.35	
Control Delay		3.3			5.2			26.0			12.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		3.3			5.2			26.0			12.8	
LOS		A			A			C			B	
Approach Delay		3.3			5.2			26.0			12.8	
Approach LOS		A			A			C			B	
Queue Length 50th (ft)		6			12			86			37	
Queue Length 95th (ft)		27			42			135			70	
Internal Link Dist (ft)		577			1241			1216			496	
Turn Bay Length (ft)												
Base Capacity (vph)		1735			1756			578			732	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.24			0.14			0.47			0.26	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 57 (95%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 10.7

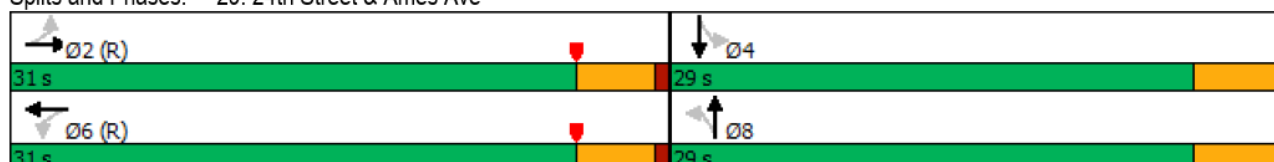
Intersection LOS: B

Intersection Capacity Utilization 61.2%

ICU Level of Service B

Analysis Period (min) 15

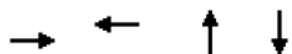
Splits and Phases: 29: 24th Street & Ames Ave



Queues

29: 24th Street & Ames Ave

09/08/2025



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	423	247	272	187
v/c Ratio	0.24	0.14	0.66	0.35
Control Delay	3.3	5.2	26.0	12.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	3.3	5.2	26.0	12.8
Queue Length 50th (ft)	6	12	86	37
Queue Length 95th (ft)	27	42	135	70
Internal Link Dist (ft)	577	1241	1216	496
Turn Bay Length (ft)				
Base Capacity (vph)	1735	1756	578	732
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.24	0.14	0.47	0.26
Intersection Summary				

HCM 6th Signalized Intersection Summary

29: 24th Street & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Volume (veh/h)	60	196	141	13	201	18	126	108	22	22	91	63
Future Volume (veh/h)	60	196	141	13	201	18	126	108	22	22	91	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1870	1900	1900	1781	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	64	209	150	14	214	19	134	115	23	23	97	67
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0	0	8	0	0	0	0	0	0	0
Cap, veh/h	315	970	677	131	1755	153	264	196	34	94	254	157
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	393	1607	1122	107	2908	254	699	783	137	107	1016	627
Grp Volume(v), veh/h	222	0	201	129	0	118	272	0	0	187	0	0
Grp Sat Flow(s),veh/h/ln	1623	0	1500	1693	0	1575	1619	0	0	1750	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	8.5	0.0	0.0	5.3	0.0	0.0
Prop In Lane	0.29		0.75	0.11		0.16	0.49		0.08	0.12		0.36
Lane Grp Cap(c), veh/h	1056	0	905	1088	0	951	494	0	0	505	0	0
V/C Ratio(X)	0.21	0.00	0.22	0.12	0.00	0.12	0.55	0.00	0.00	0.37	0.00	0.00
Avail Cap(c_a), veh/h	1056	0	905	1088	0	951	732	0	0	775	0	0
HCM Platoon Ratio	1.67	1.67	1.67	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	19.9	0.0	0.0	18.9	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.6	0.2	0.0	0.3	1.0	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.1	0.1	0.0	0.1	3.2	0.0	0.0	2.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.5	0.0	0.6	0.2	0.0	0.3	20.8	0.0	0.0	19.3	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	B	A	A
Approach Vol, veh/h		423			247			272			187	
Approach Delay, s/veh		0.5			0.2			20.8			19.3	
Approach LOS		A			A			C			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		40.6		19.4		40.6		19.4				
Change Period (Y+Rc), s		* 4.4		* 4.4		* 4.4		* 4.4				
Max Green Setting (Gmax), s		* 27		* 25		* 27		* 25				
Max Q Clear Time (g_c+I1), s		0.0		7.3		0.0		10.5				
Green Ext Time (p_c), s		0.0		0.5		0.0		0.7				

Intersection Summary

HCM 6th Ctrl Delay	8.5
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings

30: Florence Blvd & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	116	95	2	104	20	86	105	5	14	86	21
Future Volume (vph)	52	116	95	2	104	20	86	105	5	14	86	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	0		0	0		200	0		0	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850		0.976			0.997			0.977	
Flt Protected		0.985			0.999			0.978			0.994	
Satd. Flow (prot)	0	1872	1615	0	3463	0	0	1853	0	0	1845	0
Flt Permitted		0.879			0.952			0.819			0.962	
Satd. Flow (perm)	0	1670	1615	0	3300	0	0	1551	0	0	1786	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			104		22			2			22	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1321			384			1315			473	
Travel Time (s)		30.0			8.7			29.9			10.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	57	127	104	2	114	22	95	115	5	15	95	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	184	104	0	138	0	0	215	0	0	133	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	0	1	1	0		1	0		1	0	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	0	40	50	0		50	0		50	0	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8			4		
Detector Phase	2	2	2	6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	23.0	23.0	23.0	23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	30.0	30.0	30.0	30.0	30.0		30.0	30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	

Lanes, Volumes, Timings

30: Florence Blvd & Ames Ave

09/08/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	25.0	25.0	25.0	25.0	25.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0			0.0			0.0	
Total Lost Time (s)		5.0	5.0		5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	Max	Max	Max	Max	Max		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	8.0	8.0	8.0	8.0	8.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)		25.0	25.0		25.0			25.0			25.0	
Actuated g/C Ratio		0.42	0.42		0.42			0.42			0.42	
v/c Ratio		0.26	0.14		0.10			0.33			0.18	
Control Delay		10.2	2.1		9.2			13.6			10.0	
Queue Delay		0.0	0.0		0.0			0.0			0.0	
Total Delay		10.2	2.1		9.2			13.6			10.0	
LOS		B	A		A			B			A	
Approach Delay		7.3			9.2			13.6			10.0	
Approach LOS		A			A			B			A	
Queue Length 50th (ft)		46	0		12			50			24	
Queue Length 95th (ft)		54	0		26			94			53	
Internal Link Dist (ft)		1241			304			1235			393	
Turn Bay Length (ft)												
Base Capacity (vph)		695	733		1387			647			757	
Starvation Cap Reductn		0	0		0			0			0	
Spillback Cap Reductn		0	0		0			0			0	
Storage Cap Reductn		0	0		0			0			0	
Reduced v/c Ratio		0.26	0.14		0.10			0.33			0.18	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 32 (53%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 50

Control Type: Pretimed

Maximum v/c Ratio: 0.33

Intersection Signal Delay: 9.8

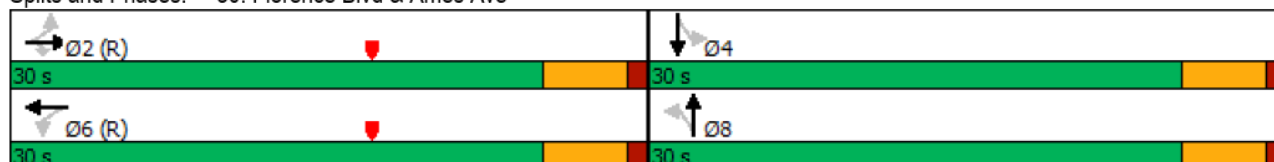
Intersection Capacity Utilization 47.1%

Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service A

Splits and Phases: 30: Florence Blvd & Ames Ave



Queues

30: Florence Blvd & Ames Ave

09/08/2025

	→	↘	←	↑	↓
Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	184	104	138	215	133
v/c Ratio	0.26	0.14	0.10	0.33	0.18
Control Delay	10.2	2.1	9.2	13.6	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	10.2	2.1	9.2	13.6	10.0
Queue Length 50th (ft)	46	0	12	50	24
Queue Length 95th (ft)	54	0	26	94	53
Internal Link Dist (ft)	1241		304	1235	393
Turn Bay Length (ft)					
Base Capacity (vph)	695	733	1387	647	757
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.26	0.14	0.10	0.33	0.18
Intersection Summary					

HCM 6th Signalized Intersection Summary

30: Florence Blvd & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	116	95	2	104	20	86	105	5	14	86	21
Future Volume (veh/h)	52	116	95	2	104	20	86	105	5	14	86	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1870	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	57	127	104	2	114	22	95	115	5	15	95	23
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	2	0	0	0	0	0	0	0
Cap, veh/h	254	530	671	65	1216	226	347	393	16	109	577	129
Arrive On Green	0.14	0.14	0.14	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	421	1272	1610	8	2919	542	624	942	37	101	1385	311
Grp Volume(v), veh/h	184	0	104	73	0	65	215	0	0	133	0	0
Grp Sat Flow(s),veh/h/ln	1693	0	1610	1865	0	1605	1604	0	0	1796	0	0
Q Serve(g_s), s	0.9	0.0	3.4	0.0	0.0	1.5	2.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.3	0.0	3.4	1.4	0.0	1.5	4.9	0.0	0.0	2.7	0.0	0.0
Prop In Lane	0.31		1.00	0.03		0.34	0.44		0.02	0.11		0.17
Lane Grp Cap(c), veh/h	784	0	671	839	0	669	755	0	0	815	0	0
V/C Ratio(X)	0.23	0.00	0.16	0.09	0.00	0.10	0.28	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	784	0	671	839	0	669	755	0	0	815	0	0
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.3	0.0	16.6	10.6	0.0	10.6	11.6	0.0	0.0	11.0	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.5	0.2	0.0	0.3	0.9	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	1.2	0.6	0.0	0.5	1.9	0.0	0.0	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.0	0.0	17.1	10.8	0.0	10.9	12.5	0.0	0.0	11.4	0.0	0.0
LnGrp LOS	B	A	B	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h	288			138			215			133		
Approach Delay, s/veh	17.7			10.9			12.5			11.4		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	30.0			30.0			30.0			30.0		
Change Period (Y+Rc), s	5.0			5.0			5.0			5.0		
Max Green Setting (Gmax), s	25.0			25.0			25.0			25.0		
Max Q Clear Time (g_c+I1), s	5.4			0.0			0.0			0.0		
Green Ext Time (p_c), s	0.1			0.0			0.0			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	14.0											
HCM 6th LOS	B											

Lanes, Volumes, Timings
161: 61st St EVHB & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔							
Traffic Volume (vph)	0	1007	0	0	871	0	0	0	0	0	0	0
Future Volume (vph)	0	1007	0	0	871	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt												
Flt Protected												
Satd. Flow (prot)	0	3539	0	0	3539	0	0	0	0	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	3539	0	0	3539	0	0	0	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		660			644			163			152	
Travel Time (s)		15.0			14.6			3.7			3.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	1095	0	0	947	0	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1095	0	0	947	0	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60		60	60		60	60		60	60		60
Number of Detectors	1	2		1	2							
Detector Template	Left	Thru		Left	Thru							
Leading Detector (ft)	20	100		20	100							
Trailing Detector (ft)	0	0		0	0							
Turn Type		NA			NA							
Protected Phases		2			6							
Permitted Phases	2			6								
Detector Phase	2	2		6	6							
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0							
Minimum Split (s)	23.0	23.0		23.0	23.0							
Total Split (s)	23.0	23.0		23.0	23.0							
Total Split (%)	100.0%	100.0%		100.0%	100.0%							

Lanes, Volumes, Timings

161: 61st St EVHB & Ames Ave

09/08/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	18.0	18.0		18.0	18.0							
Yellow Time (s)	4.0	4.0		4.0	4.0							
All-Red Time (s)	1.0	1.0		1.0	1.0							
Lost Time Adjust (s)		0.0			0.0							
Total Lost Time (s)		5.0			5.0							
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0							
Minimum Gap (s)	3.0	3.0		3.0	3.0							
Time Before Reduce (s)	0.0	0.0		0.0	0.0							
Time To Reduce (s)	0.0	0.0		0.0	0.0							
Recall Mode	C-Max	C-Max		C-Max	C-Max							
Walk Time (s)	7.0	7.0		7.0	7.0							
Flash Dont Walk (s)	11.0	11.0		11.0	11.0							
Pedestrian Calls (#/hr)	0	0		0	0							
Act Effct Green (s)		23.0			23.0							
Actuated g/C Ratio		1.00			1.00							
v/c Ratio		0.31			0.27							
Control Delay		0.2			0.2							
Queue Delay		0.0			0.0							
Total Delay		0.2			0.2							
LOS		A			A							
Approach Delay		0.2			0.2							
Approach LOS		A			A							
Queue Length 50th (ft)		0			0							
Queue Length 95th (ft)		0			0							
Internal Link Dist (ft)		580			564			83			72	
Turn Bay Length (ft)												
Base Capacity (vph)		3539			3539							
Starvation Cap Reductn		0			0							
Spillback Cap Reductn		0			0							
Storage Cap Reductn		0			0							
Reduced v/c Ratio		0.31			0.27							

Intersection Summary

Area Type: Other

Cycle Length: 23

Actuated Cycle Length: 23

Offset: 21 (91%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.31

Intersection Signal Delay: 0.2

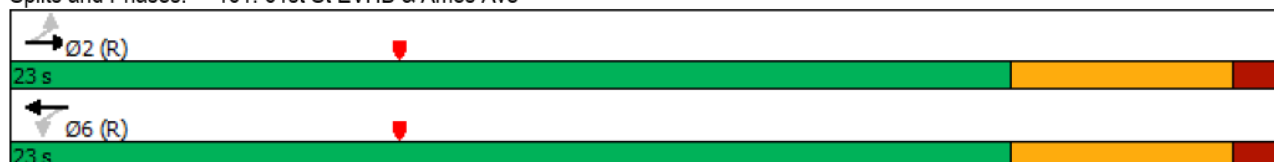
Intersection Capacity Utilization 32.0%

Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service A

Splits and Phases: 161: 61st St EVHB & Ames Ave



Queues

161: 61st St EVHB & Ames Ave

09/08/2025



Lane Group	EBT	WBT
Lane Group Flow (vph)	1095	947
v/c Ratio	0.31	0.27
Control Delay	0.2	0.2
Queue Delay	0.0	0.0
Total Delay	0.2	0.2
Queue Length 50th (ft)	0	0
Queue Length 95th (ft)	0	0
Internal Link Dist (ft)	580	564
Turn Bay Length (ft)		
Base Capacity (vph)	3539	3539
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.31	0.27
Intersection Summary		

HCM 6th Signalized Intersection Summary

161: 61st St EVHB & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔							
Traffic Volume (veh/h)	0	1007	0	0	871	0	0	0	0	0	0	0
Future Volume (veh/h)	0	1007	0	0	871	0	0	0	0	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0						
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00						
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00						
Work Zone On Approach		No			No							
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870						
Adj Flow Rate, veh/h	0	1095	0	0	947	0						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92						
Percent Heavy Veh, %	2	2	2	2	2	2						
Cap, veh/h	0	2781	0	0	2781	0						
Arrive On Green	0.00	0.78	0.00	0.00	0.78	0.00						
Sat Flow, veh/h	0	3741	0	0	3741	0						
Grp Volume(v), veh/h	0	1095	0	0	947	0						
Grp Sat Flow(s),veh/h/ln	0	1777	0	0	1777	0						
Q Serve(g_s), s	0.0	2.2	0.0	0.0	1.8	0.0						
Cycle Q Clear(g_c), s	0.0	2.2	0.0	0.0	1.8	0.0						
Prop In Lane	0.00		0.00	0.00		0.00						
Lane Grp Cap(c), veh/h	0	2781	0	0	2781	0						
V/C Ratio(X)	0.00	0.39	0.00	0.00	0.34	0.00						
Avail Cap(c_a), veh/h	0	2781	0	0	2781	0						
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00						
Upstream Filter(I)	0.00	1.00	0.00	0.00	0.87	0.00						
Uniform Delay (d), s/veh	0.0	0.8	0.0	0.0	0.7	0.0						
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.3	0.0						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.0	0.0	0.1	0.0						
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	1.2	0.0	0.0	1.0	0.0						
LnGrp LOS	A	A	A	A	A	A						
Approach Vol, veh/h		1095			947							
Approach Delay, s/veh		1.2			1.0							
Approach LOS		A			A							
Timer - Assigned Phs		2			6							
Phs Duration (G+Y+Rc), s		23.0			23.0							
Change Period (Y+Rc), s		5.0			5.0							
Max Green Setting (Gmax), s		18.0			18.0							
Max Q Clear Time (g_c+I1), s		4.2			3.8							
Green Ext Time (p_c), s		6.6			5.8							
Intersection Summary												
HCM 6th Ctrl Delay			1.1									
HCM 6th LOS			A									

Lanes, Volumes, Timings

1: 72nd St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	45	20	535	95	95	40	440	505	100	690	20
Future Volume (vph)	35	45	20	535	95	95	40	440	505	100	690	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	65		0	150		325	150		0	250		0
Storage Lanes	1		0	1		1	1		2	1		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	0.88	1.00	0.95	0.95
Frt		0.954				0.850			0.850		0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1776	0	3502	1900	1615	1805	3610	2842	1805	3561	0
Flt Permitted	0.690			0.950			0.359			0.950		
Satd. Flow (perm)	1311	1776	0	3502	1900	1615	682	3610	2842	1805	3561	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15				103			549		4	
Link Speed (mph)		25			40			35			35	
Link Distance (ft)		470			531			636			764	
Travel Time (s)		12.8			9.1			12.4			14.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Adj. Flow (vph)	38	49	22	582	103	103	43	478	549	109	750	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	38	71	0	582	103	103	43	478	549	109	772	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			28			18			18	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	0	0	0	1	0	
Detector Template												
Leading Detector (ft)	50	50		50	50	50	0	0	0	50	0	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA		Prot	NA	pm+ov	Perm	NA	pm+ov	Prot	NA	
Protected Phases		2		1	6	7		8	1	7	4	
Permitted Phases	2					6	8		8			
Detector Phase	2	2		1	6	7	8	8	1	7	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0		7.0	8.0	5.0	20.0	20.0	7.0	5.0	20.0	
Minimum Split (s)	14.0	14.0		13.0	14.0	13.0	26.0	26.0	13.0	13.0	26.0	
Total Split (s)	16.0	16.0		30.0	46.0	18.0	56.0	56.0	30.0	18.0	74.0	
Total Split (%)	13.3%	13.3%		25.0%	38.3%	15.0%	46.7%	46.7%	25.0%	15.0%	61.7%	
Maximum Green (s)	10.0	10.0		24.0	40.0	12.0	50.0	50.0	24.0	12.0	68.0	
Yellow Time (s)	4.0	4.0		3.2	4.0	3.9	4.9	4.9	3.2	3.9	4.9	

Lanes, Volumes, Timings

1: 72nd St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	2.0	2.0		2.8	2.0	2.1	1.1	1.1	2.8	2.1	1.1	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lag	Lag		Lead		Lead	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		2.0	3.0	2.0	0.2	0.2	2.0	2.0	0.2	
Recall Mode	None	None		None	None	None	C-Max	C-Max	None	None	C-Max	
Walk Time (s)	12.0	12.0			12.0		17.0	17.0			17.0	
Flash Dont Walk (s)	28.0	28.0			28.0		22.0	22.0			22.0	
Pedestrian Calls (#/hr)	0	0			0		0	0			0	
Act Effct Green (s)	9.0	9.0		22.8	35.0	51.5	56.5	56.5	85.3	10.4	73.0	
Actuated g/C Ratio	0.08	0.08		0.19	0.29	0.43	0.47	0.47	0.71	0.09	0.61	
v/c Ratio	0.39	0.48		0.88	0.19	0.14	0.13	0.28	0.25	0.70	0.36	
Control Delay	64.2	53.4		55.9	24.2	10.0	23.0	21.6	0.9	76.0	13.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	64.2	53.4		55.9	24.2	10.0	23.0	21.6	0.9	76.0	13.2	
LOS	E	D		E	C	A	C	C	A	E	B	
Approach Delay		57.1			45.7			11.0			21.0	
Approach LOS		E			D			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 79 (66%), Referenced to phase 4:SBT and 8:NBTL, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 25.5

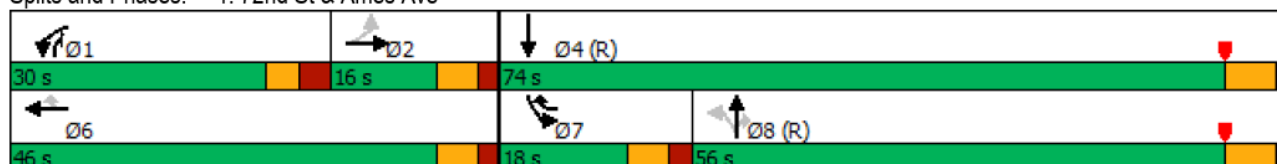
Intersection LOS: C

Intersection Capacity Utilization 73.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: 72nd St & Ames Ave



Queues

1: 72nd St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	38	71	582	103	103	43	478	549	109	772
v/c Ratio	0.39	0.48	0.88	0.19	0.14	0.13	0.28	0.25	0.70	0.36
Control Delay	64.2	53.4	55.9	24.2	10.0	23.0	21.6	0.9	76.0	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.2	53.4	55.9	24.2	10.0	23.0	21.6	0.9	76.0	13.2
Queue Length 50th (ft)	29	42	226	58	12	20	126	0	82	162
Queue Length 95th (ft)	66	91	#308	101	64	47	171	19	#147	207
Internal Link Dist (ft)		390		451			556			684
Turn Bay Length (ft)	65		150		325	150			250	
Base Capacity (vph)	109	161	700	633	771	321	1701	2202	180	2166
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.44	0.83	0.16	0.13	0.13	0.28	0.25	0.61	0.36

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary

1: 72nd St & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	45	20	535	95	95	40	440	505	100	690	20
Future Volume (veh/h)	35	45	20	535	95	95	40	440	505	100	690	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1900	1900	1900	1900	1900	1900	1900	1900	1885	1900
Adj Flow Rate, veh/h	38	49	22	582	103	103	43	478	549	109	750	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	3	0	0	0	0	0	0	0	0	1	0
Cap, veh/h	140	81	36	650	573	606	396	1711	1867	135	2125	62
Arrive On Green	0.07	0.07	0.07	0.06	0.10	0.10	0.47	0.47	0.47	0.07	0.60	0.60
Sat Flow, veh/h	1195	1213	545	3510	1900	1610	709	3610	2834	1810	3553	104
Grp Volume(v), veh/h	38	0	71	582	103	103	43	478	549	109	378	394
Grp Sat Flow(s),veh/h/ln	1195	0	1758	1755	1900	1610	709	1805	1417	1810	1791	1866
Q Serve(g_s), s	3.7	0.0	4.7	19.8	6.0	6.3	4.1	9.6	9.8	7.1	12.9	12.9
Cycle Q Clear(g_c), s	3.7	0.0	4.7	19.8	6.0	6.3	4.1	9.6	9.8	7.1	12.9	12.9
Prop In Lane	1.00		0.31	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	140	0	117	650	573	606	396	1711	1867	135	1071	1116
V/C Ratio(X)	0.27	0.00	0.61	0.90	0.18	0.17	0.11	0.28	0.29	0.81	0.35	0.35
Avail Cap(c_a), veh/h	160	0	146	702	633	656	396	1711	1867	181	1071	1116
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.96	0.96	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	0.0	54.5	55.2	40.4	32.7	17.7	19.1	8.7	54.7	12.3	12.3
Incr Delay (d2), s/veh	1.0	0.0	5.0	12.4	0.1	0.1	0.6	0.4	0.4	13.3	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	2.3	10.4	2.9	2.6	0.7	4.1	2.9	3.7	5.2	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.0	0.0	59.4	67.5	40.5	32.8	18.2	19.6	9.1	68.0	13.2	13.2
LnGrp LOS	E	A	E	E	D	C	B	B	A	E	B	B
Approach Vol, veh/h		109			788			1070			881	
Approach Delay, s/veh		57.9			59.5			14.1			20.0	
Approach LOS		E			E			B			B	
Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	28.2	14.0		77.8		42.2	14.9	62.9				
Change Period (Y+Rc), s	6.0	6.0		* 6		6.0	6.0	* 6				
Max Green Setting (Gmax), s	24.0	10.0		* 68		40.0	12.0	* 50				
Max Q Clear Time (g_c+I1), s	21.8	6.7		0.0		8.3	9.1	0.0				
Green Ext Time (p_c), s	0.5	0.1		0.0		0.8	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay 30.1
 HCM 6th LOS C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings

2: Benson Park Plz & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	635	15	30	700	50	15	5	30	50	10	10
Future Volume (vph)	40	635	15	30	700	50	15	5	30	50	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	200		0	0		150	75		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.990			0.872			0.925	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3564	0	1805	3574	0	1687	1602	0	1805	1758	0
Flt Permitted	0.295			0.371			0.743			0.731		
Satd. Flow (perm)	560	3564	0	705	3574	0	1319	1602	0	1389	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			10			34			11	
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		531			2105			252			288	
Travel Time (s)		9.1			35.9			6.9			7.9	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	7%	0%	4%	0%	0%	0%
Adj. Flow (vph)	45	722	17	34	795	57	17	6	34	57	11	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	739	0	34	852	0	17	40	0	57	22	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			16			16	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	0		1	0		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	0		50	0		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8				4
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	20.0		20.0	20.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	13.0	31.0		31.0	31.0		34.0	34.0		34.0	34.0	
Total Split (s)	13.0	86.0		73.0	73.0		34.0	34.0		34.0	34.0	
Total Split (%)	10.8%	71.7%		60.8%	60.8%		28.3%	28.3%		28.3%	28.3%	
Maximum Green (s)	7.0	80.0		67.0	67.0		28.0	28.0		28.0	28.0	
Yellow Time (s)	4.1	5.2		5.2	5.2		3.7	3.7		3.7	3.7	

Lanes, Volumes, Timings

2: Benson Park Plz & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	1.9	0.8		0.8	0.8		2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead			Lag								
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	0.2		0.2	0.2		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)		7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)		17.0		17.0	17.0		18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
Act Effct Green (s)	100.1	101.3		92.2	92.2		10.7	10.7		10.7	10.7	
Actuated g/C Ratio	0.83	0.84		0.77	0.77		0.09	0.09		0.09	0.09	
v/c Ratio	0.09	0.25		0.06	0.31		0.14	0.23		0.46	0.13	
Control Delay	3.0	3.5		6.1	6.0		51.6	22.0		63.0	33.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	3.0	3.5		6.1	6.0		51.6	22.0		63.0	33.2	
LOS	A	A		A	A		D	C		E	C	
Approach Delay		3.5			6.0			30.8			54.7	
Approach LOS		A			A			C			D	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 100 (83%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.46

Intersection Signal Delay: 7.8

Intersection LOS: A

Intersection Capacity Utilization 52.7%

ICU Level of Service A

Analysis Period (min) 15

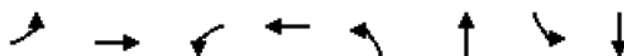
Splits and Phases: 2: Benson Park Plz & Ames Ave

								
Ø2 (R)						Ø4		
86 s						34 s		
								
Ø5			Ø6 (R)			Ø8		
13 s			73 s			34 s		

Queues

2: Benson Park Plz & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	45	739	34	852	17	40	57	22
v/c Ratio	0.09	0.25	0.06	0.31	0.14	0.23	0.46	0.13
Control Delay	3.0	3.5	6.1	6.0	51.6	22.0	63.0	33.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.0	3.5	6.1	6.0	51.6	22.0	63.0	33.2
Queue Length 50th (ft)	6	62	7	109	12	4	43	8
Queue Length 95th (ft)	m13	106	19	157	34	36	82	32
Internal Link Dist (ft)		451		2025		172		208
Turn Bay Length (ft)	150		200				75	
Base Capacity (vph)	539	3008	541	2748	307	399	324	418
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.25	0.06	0.31	0.06	0.10	0.18	0.05

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary

2: Benson Park Plz & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	635	15	30	700	50	15	5	30	50	10	10
Future Volume (veh/h)	40	635	15	30	700	50	15	5	30	50	10	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1900	1900	1900	1900	1796	1900	1841	1900	1900	1900
Adj Flow Rate, veh/h	45	722	17	34	795	57	17	6	34	57	11	11
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	1	0	0	0	0	7	0	4	0	0	0
Cap, veh/h	603	2930	69	599	2517	180	152	20	113	140	70	70
Arrive On Green	0.06	1.00	1.00	1.00	1.00	1.00	0.08	0.08	0.08	0.08	0.08	0.08
Sat Flow, veh/h	1810	3577	84	731	3416	245	1335	247	1401	1389	872	872
Grp Volume(v), veh/h	45	361	378	34	420	432	17	0	40	57	0	22
Grp Sat Flow(s),veh/h/ln	1810	1791	1870	731	1805	1856	1335	0	1648	1389	0	1743
Q Serve(g_s), s	0.6	0.0	0.0	0.0	0.0	0.0	1.4	0.0	2.7	4.8	0.0	1.4
Cycle Q Clear(g_c), s	0.6	0.0	0.0	0.0	0.0	0.0	2.9	0.0	2.7	7.6	0.0	1.4
Prop In Lane	1.00		0.05	1.00		0.13	1.00		0.85	1.00		0.50
Lane Grp Cap(c), veh/h	603	1467	1532	599	1330	1368	152	0	133	140	0	141
V/C Ratio(X)	0.07	0.25	0.25	0.06	0.32	0.32	0.11	0.00	0.30	0.41	0.00	0.16
Avail Cap(c_a), veh/h	650	1467	1532	599	1330	1368	356	0	385	352	0	407
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	0.98	0.98	0.98	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	2.7	0.0	0.0	0.0	0.0	0.0	52.7	0.0	52.0	55.5	0.0	51.4
Incr Delay (d2), s/veh	0.0	0.4	0.4	0.2	0.6	0.6	0.3	0.0	1.3	1.9	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.2	0.2	0.0	0.2	0.2	0.5	0.0	1.2	1.8	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	2.8	0.4	0.4	0.2	0.6	0.6	53.0	0.0	53.2	57.4	0.0	51.9
LnGrp LOS	A	A	A	A	A	A	D	A	D	E	A	D
Approach Vol, veh/h		784			886			57			79	
Approach Delay, s/veh		0.5			0.6			53.2			55.9	
Approach LOS		A			A			D			E	
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		104.3		15.7	9.9	94.4		15.7				
Change Period (Y+Rc), s		* 6		6.0	* 6	* 6		6.0				
Max Green Setting (Gmax), s		* 80		28.0	* 7	* 67		28.0				
Max Q Clear Time (g_c+I1), s		0.0		9.6	2.6	2.0		4.9				
Green Ext Time (p_c), s		0.0		0.2	0.0	0.2		0.2				

Intersection Summary

HCM 6th Ctrl Delay	4.6
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings

3: 66th St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	600	15	30	725	5	5	5	20	15	5	10
Future Volume (vph)	20	600	15	30	725	5	5	5	20	15	5	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.999			0.909			0.955	
Flt Protected	0.950			0.950				0.992			0.976	
Satd. Flow (prot)	1805	3596	0	1805	3571	0	0	1713	0	0	1771	0
Flt Permitted	0.366			0.411				0.938			0.826	
Satd. Flow (perm)	695	3596	0	781	3571	0	0	1620	0	0	1499	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			1			21			10	
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		2105			1330			821			664	
Travel Time (s)		35.9			22.7			22.4			18.1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	21	619	15	31	747	5	5	5	21	15	5	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	634	0	31	752	0	0	31	0	0	30	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	26.0	26.0		26.0	26.0		30.0	30.0		30.0	30.0	
Total Split (s)	90.0	90.0		90.0	90.0		30.0	30.0		30.0	30.0	
Total Split (%)	75.0%	75.0%		75.0%	75.0%		25.0%	25.0%		25.0%	25.0%	
Maximum Green (s)	84.0	84.0		84.0	84.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	4.6	4.6		4.6	4.6		3.6	3.6		3.6	3.6	

Lanes, Volumes, Timings

3: 66th St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	1.4	1.4		1.4	1.4		1.4	1.4		1.4	1.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		17.0	17.0		17.0	17.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	104.4	104.4		104.4	104.4			8.4			8.4	
Actuated g/C Ratio	0.87	0.87		0.87	0.87			0.07			0.07	
v/c Ratio	0.03	0.20		0.05	0.24			0.23			0.27	
Control Delay	1.4	1.3		1.9	1.9			31.5			45.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	1.4	1.3		1.9	1.9			31.5			45.2	
LOS	A	A		A	A			C			D	
Approach Delay		1.3			1.9			31.5			45.2	
Approach LOS		A			A			C			D	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 116 (97%), Referenced to phase 2:EBWB, Start of FDW or yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.27

Intersection Signal Delay: 3.1

Intersection LOS: A

Intersection Capacity Utilization 40.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: 66th St & Ames Ave



Queues

3: 66th St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	21	634	31	752	31	30
v/c Ratio	0.03	0.20	0.05	0.24	0.23	0.27
Control Delay	1.4	1.3	1.9	1.9	31.5	45.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1.4	1.3	1.9	1.9	31.5	45.2
Queue Length 50th (ft)	2	26	3	45	7	15
Queue Length 95th (ft)	4	35	8	64	39	46
Internal Link Dist (ft)		2025		1250	741	584
Turn Bay Length (ft)	150		125			
Base Capacity (vph)	604	3130	679	3108	354	320
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.20	0.05	0.24	0.09	0.09

Intersection Summary

HCM 6th Edition methodology does not support Non-NEMA phasing.

Lanes, Volumes, Timings

4: 63rd Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	700	5	10	680	15	10	0	15	10	0	5
Future Volume (vph)	10	700	5	10	680	15	10	0	15	10	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	110		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	80			85			50			50		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.997			0.919			0.955	
Flt Protected	0.950			0.950				0.980			0.968	
Satd. Flow (prot)	1805	3606	0	1805	3599	0	0	1711	0	0	1756	0
Flt Permitted	0.950			0.950				0.980			0.968	
Satd. Flow (perm)	1805	3606	0	1805	3599	0	0	1711	0	0	1756	0
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		1330			660			282			261	
Travel Time (s)		22.7			11.3			7.7			7.1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	10	722	5	10	701	15	10	0	15	10	0	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	727	0	10	716	0	0	25	0	0	15	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	29.5%						ICU Level of Service A					
Analysis Period (min)	15											

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	700	5	10	680	15	10	0	15	10	0	5
Future Vol, veh/h	10	700	5	10	680	15	10	0	15	10	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	120	-	-	110	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	10	722	5	10	701	15	10	0	15	10	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	716	0	0	727	0	0	1116	1481	364	1110	1476	358
Stage 1	-	-	-	-	-	-	745	745	-	729	729	-
Stage 2	-	-	-	-	-	-	371	736	-	381	747	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	894	-	-	886	-	-	165	127	639	166	127	644
Stage 1	-	-	-	-	-	-	377	424	-	385	431	-
Stage 2	-	-	-	-	-	-	627	428	-	619	423	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	894	-	-	886	-	-	161	124	639	159	124	644
Mov Cap-2 Maneuver	-	-	-	-	-	-	161	124	-	159	124	-
Stage 1	-	-	-	-	-	-	373	419	-	381	426	-
Stage 2	-	-	-	-	-	-	615	423	-	597	418	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	18.5	23.3
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	292	894	-	-	886	-	-	212
HCM Lane V/C Ratio	0.088	0.012	-	-	0.012	-	-	0.073
HCM Control Delay (s)	18.5	9.1	-	-	9.1	-	-	23.3
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.2

Lanes, Volumes, Timings

5: 60th St & Ames Ave

09/08/2025

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	625	20	45	600	40	50	100	80	75	175	135
Future Volume (vph)	35	625	20	45	600	40	50	100	80	75	175	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	200		0	175		0	175		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.995			0.991			0.933			0.935	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3592	0	1805	3578	0	1805	3368	0	1805	3375	0
Flt Permitted	0.304			0.299			0.359			0.487		
Satd. Flow (perm)	578	3592	0	568	3578	0	682	3368	0	925	3375	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			7			98			147	
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		644			1336			1335			1258	
Travel Time (s)		11.0			22.8			26.0			24.5	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)			0									
Adj. Flow (vph)	43	762	24	55	732	49	61	122	98	91	213	165
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	786	0	55	781	0	61	220	0	91	378	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			16			16	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	20.0		5.0	20.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	13.0	29.0		13.0	29.0		13.0	16.0		13.0	16.0	
Total Split (s)	19.0	54.0		19.0	54.0		17.0	30.0		17.0	30.0	
Total Split (%)	15.8%	45.0%		15.8%	45.0%		14.2%	25.0%		14.2%	25.0%	
Maximum Green (s)	13.0	48.0		13.0	48.0		11.0	24.0		11.0	24.0	

Lanes, Volumes, Timings

5: 60th St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	3.5	4.9		3.9	4.9		3.0	4.6		3.6	4.6	
All-Red Time (s)	2.5	1.1		2.1	1.1		3.0	1.4		2.4	1.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0			8.0			8.0	
Flash Dont Walk (s)		16.0			16.0			16.0			16.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	74.0	68.5		74.6	68.8		21.9	13.3		24.9	16.7	
Actuated g/C Ratio	0.62	0.57		0.62	0.57		0.18	0.11		0.21	0.14	
v/c Ratio	0.10	0.38		0.13	0.38		0.30	0.48		0.35	0.64	
Control Delay	9.1	16.2		8.4	15.9		38.0	30.3		38.8	34.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	9.1	16.2		8.4	15.9		38.0	30.3		38.8	34.9	
LOS	A	B		A	B		D	C		D	C	
Approach Delay		15.9			15.5			32.0			35.7	
Approach LOS		B			B			C			D	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 40 (33%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 21.4

Intersection LOS: C

Intersection Capacity Utilization 55.4%

ICU Level of Service B

Analysis Period (min) 15

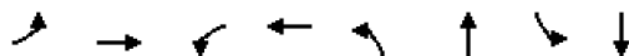
Splits and Phases: 5: 60th St & Ames Ave

 Ø1	 Ø2 (R)	 Ø3	 Ø4
19 s	54 s	17 s	30 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
19 s	54 s	17 s	30 s

Queues

5: 60th St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	43	786	55	781	61	220	91	378
v/c Ratio	0.10	0.38	0.13	0.38	0.30	0.48	0.35	0.64
Control Delay	9.1	16.2	8.4	15.9	38.0	30.3	38.8	34.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.1	16.2	8.4	15.9	38.0	30.3	38.8	34.9
Queue Length 50th (ft)	11	173	19	170	37	46	57	91
Queue Length 95th (ft)	26	229	37	192	62	70	86	118
Internal Link Dist (ft)		564		1256		1255		1178
Turn Bay Length (ft)	225		200		175		175	
Base Capacity (vph)	511	2052	507	2055	241	752	277	792
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.38	0.11	0.38	0.25	0.29	0.33	0.48

Intersection Summary

HCM 6th Signalized Intersection Summary

5: 60th St & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	625	20	45	600	40	50	100	80	75	175	135
Future Volume (veh/h)	35	625	20	45	600	40	50	100	80	75	175	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	43	762	24	55	732	49	61	122	98	91	213	165
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	532	1998	63	452	2035	136	159	232	172	229	268	198
Arrive On Green	0.03	0.59	0.59	0.07	1.00	1.00	0.04	0.12	0.12	0.06	0.14	0.14
Sat Flow, veh/h	1810	3389	107	1810	3434	230	1810	1975	1466	1810	1980	1462
Grp Volume(v), veh/h	43	406	380	55	385	396	61	111	109	91	193	185
Grp Sat Flow(s),veh/h/ln	1810	1805	1691	1810	1805	1859	1810	1805	1636	1810	1805	1637
Q Serve(g_s), s	1.1	14.3	14.3	1.4	0.0	0.0	3.5	6.9	7.6	5.2	12.4	13.2
Cycle Q Clear(g_c), s	1.1	14.3	14.3	1.4	0.0	0.0	3.5	6.9	7.6	5.2	12.4	13.2
Prop In Lane	1.00		0.06	1.00		0.12	1.00		0.90	1.00		0.89
Lane Grp Cap(c), veh/h	532	1064	997	452	1070	1102	159	212	192	229	244	221
V/C Ratio(X)	0.08	0.38	0.38	0.12	0.36	0.36	0.38	0.52	0.57	0.40	0.79	0.84
Avail Cap(c_a), veh/h	670	1064	997	585	1070	1102	251	361	327	290	361	327
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.8	13.0	13.0	9.3	0.0	0.0	44.6	49.8	50.1	43.2	50.3	50.6
Incr Delay (d2), s/veh	0.1	1.0	1.1	0.1	0.9	0.9	1.5	2.0	2.6	1.1	7.1	11.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	5.7	5.4	0.5	0.3	0.3	1.6	3.2	3.2	2.4	6.0	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.9	14.1	14.1	9.4	0.9	0.9	46.1	51.8	52.7	44.3	57.3	61.9
LnGrp LOS	A	B	B	A	A	A	D	D	D	D	E	E
Approach Vol, veh/h		829			836			281			469	
Approach Delay, s/veh		13.8			1.5			50.9			56.6	
Approach LOS		B			A			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.2	76.7	10.8	22.2	9.8	77.1	13.0	20.1				
Change Period (Y+Rc), s	6.0	* 6	6.0	* 6	6.0	* 6	6.0	* 6				
Max Green Setting (Gmax), s	13.0	* 48	11.0	* 24	13.0	* 48	11.0	* 24				
Max Q Clear Time (g_c+I1), s	3.4	16.3	5.5	15.2	3.1	2.0	7.2	9.6				
Green Ext Time (p_c), s	0.1	3.2	0.1	1.0	0.0	3.3	0.1	0.7				
Intersection Summary												
HCM 6th Ctrl Delay			22.2									
HCM 6th LOS			C									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings

6: Ames Ave & 56th Street (East)

09/08/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	805	735	55	10	15
Future Volume (vph)	25	805	735	55	10	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	80				50	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.990		0.920	
Flt Protected	0.950				0.980	
Satd. Flow (prot)	1805	3610	3574	0	1713	0
Flt Permitted	0.950				0.980	
Satd. Flow (perm)	1805	3610	3574	0	1713	0
Link Speed (mph)		40	40		25	
Link Distance (ft)		1336	420		331	
Travel Time (s)		22.8	7.2		9.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	27	875	799	60	11	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	875	859	0	27	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		14	14		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	32.3%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	25	805	735	55	10	15
Future Vol, veh/h	25	805	735	55	10	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	160	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	27	875	799	60	11	16

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	859	0	0 1321 430
Stage 1	-	-	- 829 -
Stage 2	-	-	- 492 -
Critical Hdwy	4.1	-	- 6.8 6.9
Critical Hdwy Stg 1	-	-	- 5.8 -
Critical Hdwy Stg 2	-	-	- 5.8 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	791	-	- 151 579
Stage 1	-	-	- 394 -
Stage 2	-	-	- 586 -
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	791	-	- 146 579
Mov Cap-2 Maneuver	-	-	- 146 -
Stage 1	-	-	- 381 -
Stage 2	-	-	- 586 -

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	20.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	791	-	-	-	265
HCM Lane V/C Ratio	0.034	-	-	-	0.103
HCM Control Delay (s)	9.7	-	-	-	20.1
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Lanes, Volumes, Timings
7: 55th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	810	5	10	835	5	5	0	5	5	0	10
Future Volume (vph)	5	810	5	10	835	5	5	0	5	5	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	105		0	90		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	80			80			50			50		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.999			0.932			0.910	
Flt Protected	0.950			0.950				0.976			0.984	
Satd. Flow (prot)	1805	3571	0	1805	3606	0	0	1728	0	0	1701	0
Flt Permitted	0.950			0.950				0.976			0.984	
Satd. Flow (perm)	1805	3571	0	1805	3606	0	0	1728	0	0	1701	0
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		420			893			359			461	
Travel Time (s)		7.2			15.2			9.8			12.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	5	844	5	10	870	5	5	0	5	5	0	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	849	0	10	875	0	0	10	0	0	15	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		14			14			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	33.2%											
Analysis Period (min)	15											
	ICU Level of Service A											

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱		↰	↰↱			↱			↱	
Traffic Vol, veh/h	5	810	5	10	835	5	5	0	5	5	0	10
Future Vol, veh/h	5	810	5	10	835	5	5	0	5	5	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	105	-	-	90	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	1	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	844	5	10	870	5	5	0	5	5	0	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	875	0	0	849	0	0	1312	1752	425	1325	1752	438
Stage 1	-	-	-	-	-	-	857	857	-	893	893	-
Stage 2	-	-	-	-	-	-	455	895	-	432	859	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	780	-	-	798	-	-	118	86	583	116	86	572
Stage 1	-	-	-	-	-	-	323	377	-	307	363	-
Stage 2	-	-	-	-	-	-	560	362	-	577	376	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	780	-	-	798	-	-	114	84	583	113	84	572
Mov Cap-2 Maneuver	-	-	-	-	-	-	114	84	-	113	84	-
Stage 1	-	-	-	-	-	-	321	375	-	305	358	-
Stage 2	-	-	-	-	-	-	543	357	-	568	374	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	24.9	20.8
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	191	780	-	-	798	-	-	243
HCM Lane V/C Ratio	0.055	0.007	-	-	0.013	-	-	0.064
HCM Control Delay (s)	24.9	9.6	-	-	9.6	-	-	20.8
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

Lanes, Volumes, Timings

8: 52nd St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	690	90	105	750	45	45	175	135	80	190	65
Future Volume (vph)	40	690	90	105	750	45	45	175	135	80	190	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	160		0	180		200	200		300
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.983			0.992			0.935			0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3549	0	1805	3581	0	1805	3375	0	1805	3473	0
Flt Permitted	0.302			0.248			0.580			0.526		
Satd. Flow (perm)	574	3549	0	471	3581	0	1102	3375	0	999	3473	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28			12			148			71	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		893			960			1336			1286	
Travel Time (s)		15.2			16.4			30.4			29.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	44	758	99	115	824	49	49	192	148	88	209	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	44	857	0	115	873	0	49	340	0	88	280	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		14			14			14			14	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	20.0		5.0	20.0		9.0	9.0		9.0	9.0	
Minimum Split (s)	12.0	29.0		12.0	29.0		14.0	14.0		14.0	14.0	
Total Split (s)	12.0	29.0		12.0	29.0		19.0	19.0		19.0	19.0	
Total Split (%)	20.0%	48.3%		20.0%	48.3%		31.7%	31.7%		31.7%	31.7%	
Maximum Green (s)	7.0	24.0		7.0	24.0		14.0	14.0		14.0	14.0	
Yellow Time (s)	3.1	4.5		3.6	4.5		4.1	4.1		4.1	4.1	

Lanes, Volumes, Timings

8: 52nd St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	1.9	0.5		1.4	0.5		0.9	0.9		0.9	0.9	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	3.0		2.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)		17.0			17.0		17.0	17.0		17.0	17.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	34.4	30.1		37.5	34.8		10.9	10.9		10.9	10.9	
Actuated g/C Ratio	0.57	0.50		0.62	0.58		0.18	0.18		0.18	0.18	
v/c Ratio	0.10	0.48		0.27	0.42		0.24	0.46		0.48	0.41	
Control Delay	4.8	8.6		4.1	8.1		23.3	13.8		30.9	17.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	4.8	8.6		4.1	8.1		23.3	13.8		30.9	17.3	
LOS	A	A		A	A		C	B		C	B	
Approach Delay		8.4			7.6			15.0			20.6	
Approach LOS		A			A			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 44 (73%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 10.8

Intersection LOS: B

Intersection Capacity Utilization 61.1%

ICU Level of Service B

Analysis Period (min) 15

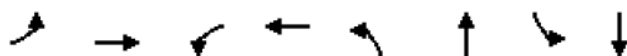
Splits and Phases: 8: 52nd St & Ames Ave

 Ø1	 Ø2 (R) 	 Ø4
12 s	29 s	19 s
 Ø5	 Ø6 (R) 	 Ø8
12 s	29 s	19 s

Queues

8: 52nd St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	44	857	115	873	49	340	88	280
v/c Ratio	0.10	0.48	0.27	0.42	0.24	0.46	0.48	0.41
Control Delay	4.8	8.6	4.1	8.1	23.3	13.8	30.9	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.8	8.6	4.1	8.1	23.3	13.8	30.9	17.3
Queue Length 50th (ft)	4	81	1	4	16	32	29	35
Queue Length 95th (ft)	19	166	6	237	39	61	64	61
Internal Link Dist (ft)		813		880		1256		1206
Turn Bay Length (ft)	170		160		180		200	
Base Capacity (vph)	485	1796	450	2080	257	900	233	864
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.48	0.26	0.42	0.19	0.38	0.38	0.32

Intersection Summary

HCM 6th Signalized Intersection Summary

8: 52nd St & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	690	90	105	750	45	45	175	135	80	190	65
Future Volume (veh/h)	40	690	90	105	750	45	45	175	135	80	190	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	44	758	99	115	824	49	49	192	148	88	209	71
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	381	1511	197	472	1726	103	275	415	303	245	555	183
Arrive On Green	0.06	0.63	0.63	0.02	0.16	0.16	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1810	3210	419	1810	3462	206	1117	1990	1453	1057	2667	880
Grp Volume(v), veh/h	44	426	431	115	430	443	49	173	167	88	139	141
Grp Sat Flow(s),veh/h/ln	1810	1805	1825	1810	1805	1863	1117	1805	1638	1057	1805	1742
Q Serve(g_s), s	0.7	7.7	7.7	1.9	12.9	13.0	2.4	5.0	5.4	4.8	4.0	4.2
Cycle Q Clear(g_c), s	0.7	7.7	7.7	1.9	12.9	13.0	6.5	5.0	5.4	10.2	4.0	4.2
Prop In Lane	1.00		0.23	1.00		0.11	1.00		0.89	1.00		0.51
Lane Grp Cap(c), veh/h	381	850	859	472	900	929	275	376	341	245	376	363
V/C Ratio(X)	0.12	0.50	0.50	0.24	0.48	0.48	0.18	0.46	0.49	0.36	0.37	0.39
Avail Cap(c_a), veh/h	513	850	859	555	900	929	303	421	382	272	421	406
HCM Platoon Ratio	1.33	1.33	1.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.3	7.4	7.4	7.7	18.0	18.0	23.3	20.8	20.9	25.4	20.4	20.5
Incr Delay (d2), s/veh	0.0	2.1	2.1	0.1	1.7	1.7	0.3	0.9	1.1	0.9	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.5	2.5	0.6	6.4	6.6	0.6	2.1	2.0	1.2	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.3	9.5	9.5	7.8	19.7	19.6	23.6	21.7	22.0	26.3	21.0	21.1
LnGrp LOS	A	A	A	A	B	B	C	C	C	C	C	C
Approach Vol, veh/h		901			988			389			368	
Approach Delay, s/veh		9.4			18.3			22.1			22.3	
Approach LOS		A			B			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.3	33.2		17.5	7.6	34.9		17.5				
Change Period (Y+Rc), s	* 5	5.0		* 5	* 5	5.0		* 5				
Max Green Setting (Gmax), s	* 7	24.0		* 14	* 7	24.0		* 14				
Max Q Clear Time (g_c+I1), s	3.9	9.7		12.2	2.7	15.0		8.5				
Green Ext Time (p_c), s	0.1	3.1		0.3	0.0	2.5		0.8				

Intersection Summary

HCM 6th Ctrl Delay 16.4

HCM 6th LOS B

Notes

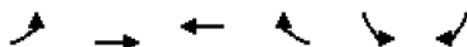
User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings

9: Ames Ave & Wal Mart

09/08/2025

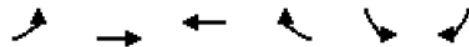


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	90	835	820	65	50	45
Future Volume (vph)	90	835	820	65	50	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	185			70	0	140
Storage Lanes	1			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1805	3610	3610	1615	1805	1615
Flt Permitted	0.277				0.950	
Satd. Flow (perm)	526	3610	3610	1615	1805	1615
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				53		48
Link Speed (mph)		40	40		25	
Link Distance (ft)		960	347		950	
Travel Time (s)		16.4	5.9		25.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	96	888	872	69	53	48
Shared Lane Traffic (%)						
Lane Group Flow (vph)	96	888	872	69	53	48
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		14	14		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	NA	Perm	Perm	Over
Protected Phases	5	2	6			5
Permitted Phases	2			6	4	
Detector Phase	5	2	6	6	4	5
Switch Phase						
Minimum Initial (s)	5.0	15.0	15.0	15.0	10.0	5.0
Minimum Split (s)	8.0	20.5	20.5	20.5	15.0	8.0
Total Split (s)	13.0	39.5	26.5	26.5	20.5	13.0
Total Split (%)	21.7%	65.8%	44.2%	44.2%	34.2%	21.7%
Maximum Green (s)	10.0	34.0	21.0	21.0	15.5	10.0
Yellow Time (s)	3.0	4.5	4.5	4.5	4.0	3.0

Lanes, Volumes, Timings

9: Ames Ave & Wal Mart

09/08/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
All-Red Time (s)	0.0	1.0	1.0	1.0	1.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	5.5	5.5	5.5	5.0	3.0
Lead/Lag	Lead		Lag	Lag		Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	3.0	3.0	3.0	3.0	2.0
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	48.0	47.7	39.5	39.5	10.0	5.7
Actuated g/C Ratio	0.80	0.80	0.66	0.66	0.17	0.10
v/c Ratio	0.18	0.31	0.37	0.06	0.18	0.24
Control Delay	1.1	1.3	3.6	0.8	23.2	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1.1	1.3	3.6	0.8	23.2	12.1
LOS	A	A	A	A	C	B
Approach Delay		1.3	3.4		17.9	
Approach LOS		A	A		B	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 34 (57%), Referenced to phase 2:EBTL and 6:WBT, Start of FDW or yellow

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.37

Intersection Signal Delay: 3.1

Intersection LOS: A

Intersection Capacity Utilization 48.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 9: Ames Ave & Wal Mart



Queues

9: Ames Ave & Wal Mart

09/08/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	96	888	872	69	53	48
v/c Ratio	0.18	0.31	0.37	0.06	0.18	0.24
Control Delay	1.1	1.3	3.6	0.8	23.2	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1.1	1.3	3.6	0.8	23.2	12.1
Queue Length 50th (ft)	1	22	34	1	17	0
Queue Length 95th (ft)	1	5	49	0	43	25
Internal Link Dist (ft)		880	267		870	
Turn Bay Length (ft)	185			70		140
Base Capacity (vph)	633	2870	2377	1081	466	309
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.31	0.37	0.06	0.11	0.16

Intersection Summary

Lanes, Volumes, Timings
10: 50th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	860	20	15	865	60	5	5	10	25	0	20
Future Volume (vph)	20	860	20	15	865	60	5	5	10	25	0	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	85		0	110		0	50		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	75			65			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.990			0.897			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3599	0	1805	3541	0	1805	1704	0	1805	1615	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1805	3599	0	1805	3541	0	1805	1704	0	1805	1615	0
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		347			510			165			250	
Travel Time (s)		5.9			8.7			4.5			6.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	21	905	21	16	911	63	5	5	11	26	0	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	926	0	16	974	0	5	16	0	26	21	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		14			14			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	40.5%						ICU Level of Service A					
Analysis Period (min)	15											

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	860	20	15	865	60	5	5	10	25	0	20
Future Vol, veh/h	20	860	20	15	865	60	5	5	10	25	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	120	-	-	85	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	21	905	21	16	911	63	5	5	11	26	0	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	974	0	0	926	0	0	1446	1964	463	1472	1943	487
Stage 1	-	-	-	-	-	-	958	958	-	975	975	-
Stage 2	-	-	-	-	-	-	488	1006	-	497	968	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	716	-	-	746	-	-	94	64	551	90	66	532
Stage 1	-	-	-	-	-	-	280	338	-	274	332	-
Stage 2	-	-	-	-	-	-	535	321	-	529	335	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	716	-	-	746	-	-	87	61	551	79	63	532
Mov Cap-2 Maneuver	-	-	-	-	-	-	87	61	-	79	63	-
Stage 1	-	-	-	-	-	-	272	328	-	266	325	-
Stage 2	-	-	-	-	-	-	503	314	-	496	325	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.2	36.1	45.2
HCM LOS			E	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	87	150	716	-	-	746	-	-	79	532
HCM Lane V/C Ratio	0.06	0.105	0.029	-	-	0.021	-	-	0.333	0.04
HCM Control Delay (s)	49	31.8	10.2	-	-	9.9	-	-	71.8	12
HCM Lane LOS	E	D	B	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.2	0.3	0.1	-	-	0.1	-	-	1.3	0.1

Lanes, Volumes, Timings

11: 49th Ave & Ames Ave

09/08/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑		↗
Traffic Volume (vph)	865	10	0	865	0	5
Future Volume (vph)	865	10	0	865	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		130	0		0	0
Storage Lanes		1	0		0	1
Taper Length (ft)			50		50	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.865
Flt Protected						
Satd. Flow (prot)	3610	1615	0	3610	0	1644
Flt Permitted						
Satd. Flow (perm)	3610	1615	0	3610	0	1644
Link Speed (mph)	30			30	30	
Link Distance (ft)	510			810	369	
Travel Time (s)	11.6			18.4	8.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	911	11	0	911	0	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	911	11	0	911	0	5
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		60	60		60	60
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	33.9%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Traffic Vol, veh/h	865	10	0	865	0	5
Future Vol, veh/h	865	10	0	865	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	130	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	911	11	0	911	0	5

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	- - - 456
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - - 6.9
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - - 3.3
Pot Cap-1 Maneuver	-	-	0 - 0 557
Stage 1	-	-	0 - 0 -
Stage 2	-	-	0 - 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - - 557
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	557	-	-	-
HCM Lane V/C Ratio	0.009	-	-	-
HCM Control Delay (s)	11.5	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-

Lanes, Volumes, Timings

12: 48th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	765	15	35	740	15	30	15	40	10	20	15
Future Volume (vph)	15	765	15	35	740	15	30	15	40	10	20	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	130		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.997			0.937			0.955	
Flt Protected	0.950			0.950				0.983			0.989	
Satd. Flow (prot)	1805	3599	0	1805	3599	0	0	1750	0	0	1795	0
Flt Permitted	0.950			0.342				0.863			0.915	
Satd. Flow (perm)	1805	3599	0	650	3599	0	0	1536	0	0	1660	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			4			42			16	
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		810			1636			950			661	
Travel Time (s)		13.8			27.9			25.9			18.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	16	805	16	37	779	16	32	16	42	11	21	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	821	0	37	795	0	0	90	0	0	48	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		14			14			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8				4
Permitted Phases				6			8			4		
Detector Phase	5	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0		9.0	9.0		9.0	9.0	
Minimum Split (s)	8.0	24.5		24.5	24.5		29.0	29.0		29.0	29.0	
Total Split (s)	10.0	39.5		29.5	29.5		20.5	20.5		20.5	20.5	
Total Split (%)	16.7%	65.8%		49.2%	49.2%		34.2%	34.2%		34.2%	34.2%	
Maximum Green (s)	7.0	34.0		24.0	24.0		15.5	15.5		15.5	15.5	
Yellow Time (s)	3.0	4.5		4.5	4.5		4.0	4.0		4.0	4.0	

Lanes, Volumes, Timings

12: 48th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	0.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	3.0	5.5		5.5	5.5			5.0			5.0	
Lead/Lag	Lead			Lag								
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		12.0		12.0	12.0		17.0	17.0		17.0	17.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
Act Effct Green (s)	5.4	44.1		42.2	42.2			9.3			9.3	
Actuated g/C Ratio	0.09	0.74		0.70	0.70			0.16			0.16	
v/c Ratio	0.10	0.31		0.08	0.31			0.33			0.18	
Control Delay	25.9	2.8		2.4	2.0			17.4			18.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	25.9	2.8		2.4	2.0			17.4			18.0	
LOS	C	A		A	A			B			B	
Approach Delay		3.3			2.0			17.4			18.0	
Approach LOS		A			A			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 56 (93%), Referenced to phase 2:EBT and 6:WBTL, Start of FDW or yellow

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.33

Intersection Signal Delay: 3.8

Intersection LOS: A

Intersection Capacity Utilization 45.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 12: 48th Street & Ames Ave

 Ø2 (R)		 Ø4	
39.5 s		20.5 s	
 Ø5	 Ø6 (R)	 Ø8	
10 s	29.5 s	20.5 s	

Queues

12: 48th Street & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	16	821	37	795	90	48
v/c Ratio	0.10	0.31	0.08	0.31	0.33	0.18
Control Delay	25.9	2.8	2.4	2.0	17.4	18.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.9	2.8	2.4	2.0	17.4	18.0
Queue Length 50th (ft)	5	11	1	12	16	10
Queue Length 95th (ft)	14	14	m5	28	49	34
Internal Link Dist (ft)		730		1556	870	581
Turn Bay Length (ft)	120		130			
Base Capacity (vph)	210	2644	457	2532	427	440
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.31	0.08	0.31	0.21	0.11

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary

12: 48th Street & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	765	15	35	740	15	30	15	40	10	20	15
Future Volume (veh/h)	15	765	15	35	740	15	30	15	40	10	20	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	16	805	16	37	779	16	32	16	42	11	21	16
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	35	2498	50	540	2245	46	133	65	102	99	129	77
Arrive On Green	0.04	1.00	1.00	0.62	0.62	0.62	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1810	3620	72	677	3617	74	382	484	758	191	958	574
Grp Volume(v), veh/h	16	401	420	37	389	406	90	0	0	48	0	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1887	677	1805	1887	1624	0	0	1722	0	0
Q Serve(g_s), s	0.5	0.0	0.0	1.3	6.2	6.2	0.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.5	0.0	0.0	1.3	6.2	6.2	2.8	0.0	0.0	1.4	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.04	0.36		0.47	0.23		0.33
Lane Grp Cap(c), veh/h	35	1246	1302	540	1120	1171	301	0	0	306	0	0
V/C Ratio(X)	0.45	0.32	0.32	0.07	0.35	0.35	0.30	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	211	1246	1302	540	1120	1171	494	0	0	510	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.93	0.93	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	28.5	0.0	0.0	4.6	5.5	5.5	23.7	0.0	0.0	23.1	0.0	0.0
Incr Delay (d2), s/veh	3.3	0.7	0.7	0.2	0.8	0.8	0.6	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.2	0.2	0.2	1.7	1.8	1.2	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.9	0.7	0.7	4.8	6.3	6.3	24.2	0.0	0.0	23.3	0.0	0.0
LnGrp LOS	C	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		837			832			90			48	
Approach Delay, s/veh		1.3			6.2			24.2			23.3	
Approach LOS		A			A			C			C	
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		46.9		13.1	4.2	42.7		13.1				
Change Period (Y+Rc), s		5.5		5.0	3.0	5.5		5.0				
Max Green Setting (Gmax), s		34.0		15.5	7.0	24.0		15.5				
Max Q Clear Time (g_c+I1), s		2.0		3.4	2.5	8.2		4.8				
Green Ext Time (p_c), s		3.4		0.1	0.0	3.2		0.2				
Intersection Summary												
HCM 6th Ctrl Delay				5.3								
HCM 6th LOS				A								
Notes												
User approved pedestrian interval to be less than phase max green.												

Lanes, Volumes, Timings

13: Fontenelle Blvd & Ames Ave

09/08/2025

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	690	70	70	555	15	70	120	55	35	195	125
Future Volume (vph)	120	690	70	70	555	15	70	120	55	35	195	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	165		0	135		240	130		170
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.986			0.996				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3559	0	1805	3596	0	1805	1900	1615	1805	1900	1615
Flt Permitted	0.302			0.328			0.533			0.670		
Satd. Flow (perm)	574	3559	0	623	3596	0	1013	1900	1615	1273	1900	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28			5				164			164
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		1636			991			694			366	
Travel Time (s)		27.9			16.9			15.8			8.3	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	136	784	80	80	631	17	80	136	63	40	222	142
Shared Lane Traffic (%)												
Lane Group Flow (vph)	136	864	0	80	648	0	80	136	63	40	222	142
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		14			14			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	5	2		6	6		8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0		15.0	15.0		9.0	9.0	9.0	9.0	9.0	9.0
Minimum Split (s)	11.0	21.0		21.0	21.0		14.5	14.5	14.5	14.5	14.5	14.5
Total Split (s)	13.0	39.0		26.0	26.0		21.0	21.0	21.0	21.0	21.0	21.0
Total Split (%)	21.7%	65.0%		43.3%	43.3%		35.0%	35.0%	35.0%	35.0%	35.0%	35.0%
Maximum Green (s)	7.0	33.0		20.0	20.0		16.0	16.0	16.0	16.0	16.0	16.0
Yellow Time (s)	3.8	4.8		4.8	4.8		4.0	4.0	4.0	4.0	4.0	4.0

Lanes, Volumes, Timings

13: Fontenelle Blvd & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	2.2	1.2		1.2	1.2		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead			Lag			Lag			Lag		
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None	None	None	None	None
Act Effct Green (s)	36.7	36.7		26.7	26.7		12.3	12.3	12.3	12.3	12.3	12.3
Actuated g/C Ratio	0.61	0.61		0.44	0.44		0.20	0.20	0.20	0.20	0.20	0.20
v/c Ratio	0.28	0.40		0.29	0.41		0.39	0.35	0.14	0.15	0.57	0.31
Control Delay	3.4	3.2		11.3	8.4		25.4	22.2	0.6	19.7	27.0	4.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.4	3.2		11.3	8.4		25.4	22.2	0.6	19.7	27.0	4.7
LOS	A	A		B	A		C	C	A	B	C	A
Approach Delay	3.2			8.7			18.2			18.4		
Approach LOS	A			A			B			B		

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 31 (52%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 9.2

Intersection LOS: A

Intersection Capacity Utilization 69.9%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 13: Fontenelle Blvd & Ames Ave

 Ø2 (R)	 Ø4
39 s	21 s
 Ø5	 Ø6 (R)
13 s	26 s
	 Ø8
	21 s

Queues

13: Fontenelle Blvd & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	136	864	80	648	80	136	63	40	222	142
v/c Ratio	0.28	0.40	0.29	0.41	0.39	0.35	0.14	0.15	0.57	0.31
Control Delay	3.4	3.2	11.3	8.4	25.4	22.2	0.6	19.7	27.0	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.4	3.2	11.3	8.4	25.4	22.2	0.6	19.7	27.0	4.7
Queue Length 50th (ft)	5	15	10	44	25	43	0	12	73	0
Queue Length 95th (ft)	10	22	29	74	54	76	0	31	118	27
Internal Link Dist (ft)		1556		911		614			286	
Turn Bay Length (ft)	170		165		135		240	130		170
Base Capacity (vph)	495	2187	276	1600	270	506	550	339	506	550
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.40	0.29	0.41	0.30	0.27	0.11	0.12	0.44	0.26

Intersection Summary

HCM 6th Signalized Intersection Summary

13: Fontenelle Blvd & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	690	70	70	555	15	70	120	55	35	195	125
Future Volume (veh/h)	120	690	70	70	555	15	70	120	55	35	195	125
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	136	784	80	80	631	17	80	136	62	40	222	142
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	560	1982	202	396	1525	41	238	413	350	309	413	350
Arrive On Green	0.15	1.00	1.00	0.85	0.85	0.85	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1810	3307	337	650	3591	97	1034	1900	1610	1203	1900	1610
Grp Volume(v), veh/h	136	428	436	80	317	331	80	136	62	40	222	142
Grp Sat Flow(s),veh/h/ln	1810	1805	1839	650	1805	1883	1034	1900	1610	1203	1900	1610
Q Serve(g_s), s	2.3	0.0	0.0	1.5	2.5	2.5	4.5	3.6	1.9	1.7	6.2	4.5
Cycle Q Clear(g_c), s	2.3	0.0	0.0	1.5	2.5	2.5	10.7	3.6	1.9	5.4	6.2	4.5
Prop In Lane	1.00		0.18	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	560	1082	1102	396	766	799	238	413	350	309	413	350
V/C Ratio(X)	0.24	0.40	0.40	0.20	0.41	0.41	0.34	0.33	0.18	0.13	0.54	0.41
Avail Cap(c_a), veh/h	636	1082	1102	396	766	799	289	507	429	368	507	429
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.7	0.0	0.0	2.7	2.8	2.8	25.5	19.8	19.1	22.0	20.8	20.2
Incr Delay (d2), s/veh	0.1	1.0	1.0	1.1	1.6	1.5	0.8	0.5	0.2	0.2	1.1	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.3	0.3	0.3	0.9	0.9	1.1	1.5	0.7	0.5	2.7	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.8	1.0	1.0	3.8	4.4	4.3	26.4	20.3	19.3	22.2	21.9	20.9
LnGrp LOS	A	A	A	A	A	A	C	C	B	C	C	C
Approach Vol, veh/h	1000				728			278			404	
Approach Delay, s/veh	1.8				4.3			21.8			21.6	
Approach LOS	A				A			C			C	
Timer - Assigned Phs	2			4		5	6	8				
Phs Duration (G+Y+Rc), s	42.0			18.0		10.5	31.5	18.0				
Change Period (Y+Rc), s	* 6			5.0		6.0	* 6	5.0				
Max Green Setting (Gmax), s	* 33			16.0		7.0	* 20	16.0				
Max Q Clear Time (g_c+I1), s	2.0			8.2		4.3	4.5	12.7				
Green Ext Time (p_c), s	3.7			1.1		0.1	2.9	0.4				

Intersection Summary

HCM 6th Ctrl Delay	8.2
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings
14: 42nd St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	725	75	15	640	50	85	65	20	70	80	20
Future Volume (vph)	10	725	75	15	640	50	85	65	20	70	80	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	70		0	40		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.986			0.989			0.965			0.971	
Flt Protected		0.999			0.999		0.950			0.950		
Satd. Flow (prot)	0	3556	0	0	3567	0	1805	1834	0	1805	1845	0
Flt Permitted		0.945			0.931		0.685			0.695		
Satd. Flow (perm)	0	3364	0	0	3324	0	1302	1834	0	1320	1845	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			16			22			22	
Link Speed (mph)		40			35			25			25	
Link Distance (ft)		991			655			617			942	
Travel Time (s)		16.9			12.8			16.8			25.7	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	11	815	84	17	719	56	96	73	22	79	90	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	910	0	0	792	0	96	95	0	79	112	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		9.0	9.0		9.0	9.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		29.0	29.0		29.0	29.0	
Total Split (s)	29.5	29.5		29.5	29.5		30.5	30.5		30.5	30.5	
Total Split (%)	49.2%	49.2%		49.2%	49.2%		50.8%	50.8%		50.8%	50.8%	
Maximum Green (s)	24.0	24.0		24.0	24.0		25.5	25.5		25.5	25.5	
Yellow Time (s)	4.5	4.5		4.5	4.5		4.0	4.0		4.0	4.0	

Lanes, Volumes, Timings

14: 42nd St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.5			5.5		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		17.0	17.0		17.0	17.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		42.7			42.7		10.7	10.7		10.7	10.7	
Actuated g/C Ratio		0.71			0.71		0.18	0.18		0.18	0.18	
v/c Ratio		0.38			0.33		0.41	0.28		0.33	0.32	
Control Delay		3.4			4.3		26.9	18.6		24.9	19.7	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		3.4			4.3		26.9	18.6		24.9	19.7	
LOS		A			A		C	B		C	B	
Approach Delay		3.4			4.3			22.8			21.8	
Approach LOS		A			A			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 24 (40%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.41

Intersection Signal Delay: 7.2

Intersection LOS: A

Intersection Capacity Utilization 50.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 14: 42nd St & Ames Ave

Ø2 (R) Ø4 29.5 s	Ø6 (R) Ø8 29.5 s
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Queues

14: 42nd St & Ames Ave

09/08/2025



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	910	792	96	95	79	112
v/c Ratio	0.38	0.33	0.41	0.28	0.33	0.32
Control Delay	3.4	4.3	26.9	18.6	24.9	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.4	4.3	26.9	18.6	24.9	19.7
Queue Length 50th (ft)	34	56	32	23	26	29
Queue Length 95th (ft)	55	77	64	53	54	61
Internal Link Dist (ft)	911	575		537		862
Turn Bay Length (ft)			70		40	
Base Capacity (vph)	2399	2369	553	792	561	796
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.33	0.17	0.12	0.14	0.14

Intersection Summary

HCM 6th Signalized Intersection Summary

14: 42nd St & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔		↗	↗		↗	↗	
Traffic Volume (veh/h)	10	725	75	15	640	50	85	65	20	70	80	20
Future Volume (veh/h)	10	725	75	15	640	50	85	65	20	70	80	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	11	815	84	17	719	56	96	73	22	79	90	22
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	69	2108	215	79	2139	164	269	236	71	282	248	61
Arrive On Green	1.00	1.00	1.00	0.66	0.66	0.66	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	12	3211	328	25	3258	250	1301	1402	422	1321	1475	360
Grp Volume(v), veh/h	482	0	428	415	0	377	96	0	95	79	0	112
Grp Sat Flow(s),veh/h/ln	1880	0	1670	1849	0	1684	1301	0	1824	1321	0	1835
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	5.9	4.2	0.0	2.7	3.3	0.0	3.2
Cycle Q Clear(g_c), s	0.0	0.0	0.0	5.8	0.0	5.9	7.5	0.0	2.7	6.1	0.0	3.2
Prop In Lane	0.02		0.20	0.04		0.15	1.00		0.23	1.00		0.20
Lane Grp Cap(c), veh/h	1296	0	1097	1277	0	1106	269	0	307	282	0	309
V/C Ratio(X)	0.37	0.00	0.39	0.32	0.00	0.34	0.36	0.00	0.31	0.28	0.00	0.36
Avail Cap(c_a), veh/h	1296	0	1097	1277	0	1106	603	0	775	621	0	780
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.00	0.94	0.96	0.00	0.96	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	4.5	0.0	4.6	25.4	0.0	21.9	24.6	0.0	22.1
Incr Delay (d2), s/veh	0.8	0.0	1.0	0.7	0.0	0.8	0.8	0.0	0.6	0.5	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.3	1.6	0.0	1.5	1.3	0.0	1.2	1.0	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.8	0.0	1.0	5.2	0.0	5.4	26.2	0.0	22.5	25.1	0.0	22.8
LnGrp LOS	A	A	A	A	A	A	C	A	C	C	A	C
Approach Vol, veh/h		910			792			191			191	
Approach Delay, s/veh		0.9			5.3			24.3			23.8	
Approach LOS		A			A			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		44.9		15.1		44.9		15.1				
Change Period (Y+Rc), s		5.5		5.0		5.5		5.0				
Max Green Setting (Gmax), s		24.0		25.5		24.0		25.5				
Max Q Clear Time (g_c+I1), s		2.0		8.1		7.9		9.5				
Green Ext Time (p_c), s		3.8		0.7		3.1		0.6				
Intersection Summary												
HCM 6th Ctrl Delay				6.8								
HCM 6th LOS				A								

Lanes, Volumes, Timings

15: 40th St & Ames Ave

09/08/2025

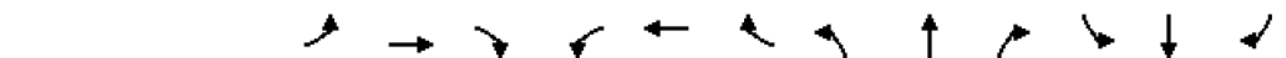


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔↔			↔↔	
Traffic Volume (vph)	15	750	15	5	730	20	20	15	15	25	10	25
Future Volume (vph)	15	750	15	5	730	20	20	15	15	25	10	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Fr t		0.997			0.996			0.960			0.944	
Flt Protected		0.999						0.980			0.980	
Satd. Flow (prot)	0	3596	0	0	3561	0	0	1788	0	0	1758	0
Flt Permitted		0.935			0.950			0.839			0.838	
Satd. Flow (perm)	0	3365	0	0	3383	0	0	1530	0	0	1503	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			7			17			28	
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		655			1348			387			413	
Travel Time (s)		14.9			30.6			10.6			11.3	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	17	852	17	6	830	23	23	17	17	28	11	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	886	0	0	859	0	0	57	0	0	67	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		9.0	9.0		9.0	9.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	36.5	36.5		36.5	36.5		23.5	23.5		23.5	23.5	
Total Split (%)	60.8%	60.8%		60.8%	60.8%		39.2%	39.2%		39.2%	39.2%	
Maximum Green (s)	31.0	31.0		31.0	31.0		18.5	18.5		18.5	18.5	
Yellow Time (s)	4.5	4.5		4.5	4.5		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.5			5.5			5.0			5.0	

Lanes, Volumes, Timings

15: 40th St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		48.1			48.1			9.2			9.2	
Actuated g/C Ratio		0.80			0.80			0.15			0.15	
v/c Ratio		0.33			0.32			0.23			0.26	
Control Delay		5.7			2.6			19.7			17.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		5.7			2.6			19.7			17.9	
LOS		A			A			B			B	
Approach Delay		5.7			2.6			19.7			17.9	
Approach LOS		A			A			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 5 (8%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.33

Intersection Signal Delay: 5.1

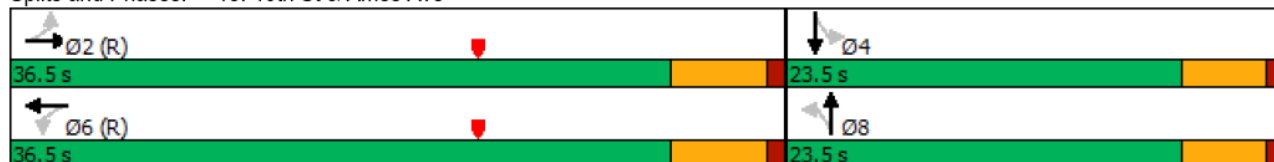
Intersection LOS: A

Intersection Capacity Utilization 48.2%

ICU Level of Service A

Analysis Period (min) 15

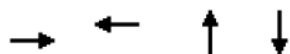
Splits and Phases: 15: 40th St & Ames Ave



Queues

15: 40th St & Ames Ave

09/08/2025



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	886	859	57	67
v/c Ratio	0.33	0.32	0.23	0.26
Control Delay	5.7	2.6	19.7	17.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	5.7	2.6	19.7	17.9
Queue Length 50th (ft)	101	32	13	13
Queue Length 95th (ft)	194	49	39	41
Internal Link Dist (ft)	575	1268	307	333
Turn Bay Length (ft)				
Base Capacity (vph)	2700	2714	483	482
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.33	0.32	0.12	0.14
Intersection Summary				

HCM 6th Signalized Intersection Summary

15: 40th St & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	750	15	5	730	20	20	15	15	25	10	25
Future Volume (veh/h)	15	750	15	5	730	20	20	15	15	25	10	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1885	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	17	852	17	6	830	23	23	17	17	28	11	28
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	78	2416	48	64	2410	66	140	96	65	143	65	89
Arrive On Green	0.23	0.23	0.23	0.69	0.69	0.69	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	23	3482	69	5	3473	96	430	731	493	446	496	676
Grp Volume(v), veh/h	461	0	425	451	0	408	57	0	0	67	0	0
Grp Sat Flow(s),veh/h/ln	1857	0	1717	1876	0	1698	1654	0	0	1618	0	0
Q Serve(g_s), s	0.0	0.0	12.5	0.0	0.0	5.8	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	12.2	0.0	12.5	5.8	0.0	5.8	1.7	0.0	0.0	2.1	0.0	0.0
Prop In Lane	0.04		0.04	0.01		0.06	0.40		0.30	0.42		0.42
Lane Grp Cap(c), veh/h	1351	0	1191	1362	0	1179	301	0	0	297	0	0
V/C Ratio(X)	0.34	0.00	0.36	0.33	0.00	0.35	0.19	0.00	0.00	0.23	0.00	0.00
Avail Cap(c_a), veh/h	1351	0	1191	1362	0	1179	581	0	0	572	0	0
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.00	0.93	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.8	0.0	11.9	3.7	0.0	3.7	23.4	0.0	0.0	23.5	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.8	0.7	0.0	0.8	0.3	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	0.0	5.8	1.6	0.0	1.5	0.7	0.0	0.0	0.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.4	0.0	12.7	4.3	0.0	4.5	23.7	0.0	0.0	23.9	0.0	0.0
LnGrp LOS	B	A	B	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		886			859			57			67	
Approach Delay, s/veh		12.5			4.4			23.7			23.9	
Approach LOS		B			A			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		47.1		12.9		47.1		12.9				
Change Period (Y+Rc), s		5.5		5.0		5.5		5.0				
Max Green Setting (Gmax), s		31.0		18.5		31.0		18.5				
Max Q Clear Time (g_c+I1), s		14.5		4.1		7.8		3.7				
Green Ext Time (p_c), s		3.7		0.1		3.8		0.1				
Intersection Summary												
HCM 6th Ctrl Delay				9.6								
HCM 6th LOS				A								

Lanes, Volumes, Timings
16: 37th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	850	15	25	680	5	0	0	0	5	5	5
Future Volume (vph)	5	850	15	25	680	5	0	0	0	5	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.999						0.955	
Flt Protected					0.998						0.984	
Satd. Flow (prot)	0	3599	0	0	3599	0	0	0	0	0	1785	0
Flt Permitted					0.998						0.984	
Satd. Flow (perm)	0	3599	0	0	3599	0	0	0	0	0	1785	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		1348			331			266			377	
Travel Time (s)		30.6			7.5			7.3			10.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	6	944	17	28	756	6	0	0	0	6	6	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	967	0	0	790	0	0	0	0	0	18	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	47.2%											
Analysis Period (min)	15											
ICU Level of Service A												

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕			↕↕						↕		
Traffic Vol, veh/h	5	850	15	25	680	5	0	0	0	5	5	5
Future Vol, veh/h	5	850	15	25	680	5	0	0	0	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	10835	10784	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	944	17	28	756	6	0	0	0	6	6	6

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	762	0	0	961	0	0	1299	1788	381
Stage 1	-	-	-	-	-	-	815	815	-
Stage 2	-	-	-	-	-	-	484	973	-
Critical Hdwy	4.1	-	-	4.1	-	-	6.8	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	859	-	-	724	-	-	156	82	623
Stage 1	-	-	-	-	-	-	401	394	-
Stage 2	-	-	-	-	-	-	591	333	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	859	-	-	724	-	-	143	0	623
Mov Cap-2 Maneuver	-	-	-	-	-	-	143	0	-
Stage 1	-	-	-	-	-	-	395	0	-
Stage 2	-	-	-	-	-	-	551	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0.6	21.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	859	-	-	724	-	-	233
HCM Lane V/C Ratio	0.006	-	-	0.038	-	-	0.072
HCM Control Delay (s)	9.2	0.1	-	10.2	0.3	-	21.6
HCM Lane LOS	A	A	-	B	A	-	C
HCM 95th %tile Q(veh)	0	-	-	0.1	-	-	0.2

Lanes, Volumes, Timings
17: 36th Ave & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	725	165	5	700	10	0	0	0	10	5	10
Future Volume (vph)	5	725	165	5	700	10	0	0	0	10	5	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		95	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Flt			0.850		0.998						0.947	
Flt Protected											0.981	
Satd. Flow (prot)	0	3610	1615	0	3603	0	0	0	0	0	1765	0
Flt Permitted											0.981	
Satd. Flow (perm)	0	3610	1615	0	3603	0	0	0	0	0	1765	0
Link Speed (mph)		30			35			25			25	
Link Distance (ft)		331			321			85			202	
Travel Time (s)		7.5			6.3			2.3			5.5	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	6	815	185	6	787	11	0	0	0	11	6	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	821	185	0	804	0	0	0	0	0	28	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			2			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Free			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	43.4%						ICU Level of Service A					
Analysis Period (min)	15											

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕	↗		↕↕						↕	
Traffic Vol, veh/h	5	725	165	5	700	10	0	0	0	10	5	10
Future Vol, veh/h	5	725	165	5	700	10	0	0	0	10	5	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	95	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	1083931648	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	815	185	6	787	11	0	0	0	11	6	11

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	798	0	0	1000	0	0	1225	1817	399
Stage 1	-	-	-	-	-	-	805	805	-
Stage 2	-	-	-	-	-	-	420	1012	-
Critical Hdwy	4.1	-	-	4.1	-	-	6.8	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	833	-	-	700	-	-	174	79	606
Stage 1	-	-	-	-	-	-	405	398	-
Stage 2	-	-	-	-	-	-	637	319	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	833	-	-	700	-	-	168	0	606
Mov Cap-2 Maneuver	-	-	-	-	-	-	168	0	-
Stage 1	-	-	-	-	-	-	398	0	-
Stage 2	-	-	-	-	-	-	627	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0.2	20.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	833	-	-	700	-	-	263
HCM Lane V/C Ratio	0.007	-	-	0.008	-	-	0.107
HCM Control Delay (s)	9.4	0.1	-	10.2	0.1	-	20.3
HCM Lane LOS	A	A	-	B	A	-	C
HCM 95th %tile Q(veh)	0	-	-	0	-	-	0.4

Lanes, Volumes, Timings
18: 36th St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	590	60	150	570	10	100	60	130	15	65	15
Future Volume (vph)	30	590	60	150	570	10	100	60	130	15	65	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	225		0	90		0	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.986			0.997			0.897			0.978	
Flt Protected	0.950			0.950			0.950				0.992	
Satd. Flow (prot)	1805	3559	0	1805	3599	0	1805	1704	0	0	1843	0
Flt Permitted	0.372			0.334			0.757				0.916	
Satd. Flow (perm)	707	3559	0	635	3599	0	1438	1704	0	0	1702	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			4			139			18	
Link Speed (mph)		35			30			25			25	
Link Distance (ft)		321			398			616			554	
Travel Time (s)		6.3			9.0			16.8			15.1	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	37	728	74	185	704	12	123	74	160	19	80	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	37	802	0	185	716	0	123	234	0	0	118	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		26.0	26.0		26.0	26.0	
Total Split (s)	33.0	33.0		33.0	33.0		27.0	27.0		27.0	27.0	
Total Split (%)	55.0%	55.0%		55.0%	55.0%		45.0%	45.0%		45.0%	45.0%	
Maximum Green (s)	28.0	28.0		28.0	28.0		22.0	22.0		22.0	22.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	

Lanes, Volumes, Timings

18: 36th St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	38.4	38.4		38.4	38.4		11.6	11.6			11.6	
Actuated g/C Ratio	0.64	0.64		0.64	0.64		0.19	0.19			0.19	
v/c Ratio	0.08	0.35		0.46	0.31		0.44	0.53			0.34	
Control Delay	3.2	3.3		11.0	5.6		26.0	13.8			20.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	3.2	3.3		11.0	5.6		26.0	13.8			20.1	
LOS	A	A		B	A		C	B			C	
Approach Delay		3.3			6.7			18.0			20.1	
Approach LOS		A			A			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 33 (55%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 8.0

Intersection LOS: A

Intersection Capacity Utilization 64.8%

ICU Level of Service C

Analysis Period (min) 15

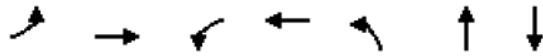
Splits and Phases: 18: 36th St & Ames Ave

Ø2 (R) 33 s	Ø4 27 s
Ø6 (R) 33 s	Ø8 27 s

Queues

18: 36th St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	37	802	185	716	123	234	118
v/c Ratio	0.08	0.35	0.46	0.31	0.44	0.53	0.34
Control Delay	3.2	3.3	11.0	5.6	26.0	13.8	20.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.2	3.3	11.0	5.6	26.0	13.8	20.1
Queue Length 50th (ft)	2	44	26	46	41	31	32
Queue Length 95th (ft)	5	28	73	80	67	63	57
Internal Link Dist (ft)		241		318		536	474
Turn Bay Length (ft)	100		225		90		
Base Capacity (vph)	452	2283	406	2302	527	712	635
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.35	0.46	0.31	0.23	0.33	0.19

Intersection Summary

HCM 6th Signalized Intersection Summary

18: 36th St & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	590	60	150	570	10	100	60	130	15	65	15
Future Volume (veh/h)	30	590	60	150	570	10	100	60	130	15	65	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	37	728	74	185	704	12	123	74	160	19	80	19
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	541	2146	218	499	2355	40	313	99	214	84	199	41
Arrive On Green	0.65	0.65	0.65	0.65	0.65	0.65	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	747	3308	336	689	3632	62	1317	535	1157	79	1074	221
Grp Volume(v), veh/h	37	397	405	185	350	366	123	0	234	118	0	0
Grp Sat Flow(s),veh/h/ln	747	1805	1839	689	1805	1889	1317	0	1692	1374	0	0
Q Serve(g_s), s	1.4	5.9	6.0	9.9	5.1	5.1	0.0	0.0	7.9	0.2	0.0	0.0
Cycle Q Clear(g_c), s	6.4	5.9	6.0	15.9	5.1	5.1	7.3	0.0	7.9	8.0	0.0	0.0
Prop In Lane	1.00		0.18	1.00		0.03	1.00		0.68	0.16		0.16
Lane Grp Cap(c), veh/h	541	1171	1193	499	1171	1225	313	0	313	324	0	0
V/C Ratio(X)	0.07	0.34	0.34	0.37	0.30	0.30	0.39	0.00	0.75	0.36	0.00	0.00
Avail Cap(c_a), veh/h	541	1171	1193	499	1171	1225	553	0	620	629	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.97	0.97	0.97	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.0	4.8	4.8	8.3	4.6	4.6	22.9	0.0	23.1	21.4	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.8	0.8	2.1	0.6	0.6	0.8	0.0	3.6	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.6	1.7	1.5	1.5	1.5	1.6	0.0	3.3	1.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.2	5.5	5.5	10.4	5.2	5.2	23.7	0.0	26.7	22.0	0.0	0.0
LnGrp LOS	A	A	A	B	A	A	C	A	C	C	A	A
Approach Vol, veh/h		839			901			357			118	
Approach Delay, s/veh		5.6			6.3			25.7			22.0	
Approach LOS		A			A			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		43.9		16.1		43.9		16.1				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		28.0		22.0		28.0		22.0				
Max Q Clear Time (g_c+I1), s		8.4		10.0		17.9		9.9				
Green Ext Time (p_c), s		3.5		0.3		3.5		1.2				
Intersection Summary												
HCM 6th Ctrl Delay				10.0								
HCM 6th LOS				A								

Lanes, Volumes, Timings

19: Ames Ave & 35th St

09/08/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	5	815	785	0	5	5
Future Volume (vph)	5	815	785	0	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt					0.932	
Flt Protected	0.950				0.976	
Satd. Flow (prot)	1805	3610	3574	0	1728	0
Flt Permitted	0.312				0.976	
Satd. Flow (perm)	593	3610	3574	0	1728	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					6	
Link Speed (mph)		30	30		25	
Link Distance (ft)		398	240		123	
Travel Time (s)		9.0	5.5		3.4	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%
Adj. Flow (vph)	6	948	913	0	6	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	948	913	0	12	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane		Yes	Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2		1	
Detector Template	Left	Thru	Thru		Left	
Leading Detector (ft)	20	100	100		20	
Trailing Detector (ft)	0	0	0		0	
Detector 1 Position(ft)	0	0	0		0	
Detector 1 Size(ft)	20	6	6		20	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA		Perm	
Protected Phases		2	6			
Permitted Phases	2				4	
Detector Phase	2	2	6		4	
Switch Phase						
Minimum Initial (s)	20.0	20.0	20.0		10.0	

Lanes, Volumes, Timings

19: Ames Ave & 35th St

09/08/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Minimum Split (s)	25.0	25.0	25.0		23.0	
Total Split (s)	50.0	50.0	50.0		40.0	
Total Split (%)	55.6%	55.6%	55.6%		44.4%	
Maximum Green (s)	45.0	45.0	45.0		35.0	
Yellow Time (s)	4.0	4.0	4.0		4.0	
All-Red Time (s)	1.0	1.0	1.0		1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	C-Max	C-Max	C-Max		None	
Walk Time (s)	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0		0	
Act Effct Green (s)	86.0	86.0	86.0		10.0	
Actuated g/C Ratio	0.96	0.96	0.96		0.11	
v/c Ratio	0.01	0.27	0.27		0.06	
Control Delay	1.4	1.0	1.0		28.1	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	1.4	1.1	1.0		28.1	
LOS	A	A	A		C	
Approach Delay		1.1	1.0		28.1	
Approach LOS		A	A		C	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 21 (23%), Referenced to phase 2:EBTL and 6:WBT, Start of FDW or yellow

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.27

Intersection Signal Delay: 1.2

Intersection LOS: A

Intersection Capacity Utilization 39.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 19: Ames Ave & 35th St

Ø2 (R) 50 s	Ø4 40 s
Ø6 (R) 50 s	

Queues

19: Ames Ave & 35th St

09/08/2025



Lane Group	EBL	EBT	WBT	SBL
Lane Group Flow (vph)	6	948	913	12
v/c Ratio	0.01	0.27	0.27	0.06
Control Delay	1.4	1.0	1.0	28.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	1.4	1.1	1.0	28.1
Queue Length 50th (ft)	0	0	0	3
Queue Length 95th (ft)	3	80	76	18
Internal Link Dist (ft)		318	160	43
Turn Bay Length (ft)	90			
Base Capacity (vph)	567	3449	3415	675
Starvation Cap Reductn	0	412	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.01	0.31	0.27	0.02
Intersection Summary				

Lanes, Volumes, Timings

20: 34th Ave & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	780	20	35	695	10	10	5	20	10	10	25
Future Volume (vph)	10	780	20	35	695	10	10	5	20	10	10	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.998			0.922			0.923	
Flt Protected		0.999			0.998			0.986			0.989	
Satd. Flow (prot)	0	3592	0	0	3596	0	0	1727	0	0	1734	0
Flt Permitted		0.999			0.998			0.986			0.989	
Satd. Flow (perm)	0	3592	0	0	3596	0	0	1727	0	0	1734	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		240			680			178			167	
Travel Time (s)		5.5			15.5			4.9			4.6	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	11	897	23	40	799	11	11	6	23	11	11	29
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	931	0	0	850	0	0	40	0	0	51	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		4			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	55.5%				ICU Level of Service B							
Analysis Period (min)	15											

Intersection

Int Delay, s/veh 2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕			↕↕			↕			↕		
Traffic Vol, veh/h	10	780	20	35	695	10	10	5	20	10	10	25
Future Vol, veh/h	10	780	20	35	695	10	10	5	20	10	10	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	11	897	23	40	799	11	11	6	23	11	11	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	810	0	0	920	0	0	1416	1821	460	1359	1827	405
Stage 1	-	-	-	-	-	-	931	931	-	885	885	-
Stage 2	-	-	-	-	-	-	485	890	-	474	942	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	825	-	-	750	-	-	99	78	554	109	78	601
Stage 1	-	-	-	-	-	-	291	348	-	310	366	-
Stage 2	-	-	-	-	-	-	537	364	-	545	344	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	825	-	-	750	-	-	75	69	554	89	69	601
Mov Cap-2 Maneuver	-	-	-	-	-	-	75	69	-	89	69	-
Stage 1	-	-	-	-	-	-	283	339	-	302	330	-
Stage 2	-	-	-	-	-	-	446	329	-	500	335	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.9	39.1	40.8
HCM LOS			E	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	145	825	-	-	750	-	-	151
HCM Lane V/C Ratio	0.277	0.014	-	-	0.054	-	-	0.343
HCM Control Delay (s)	39.1	9.4	0.1	-	10.1	0.4	-	40.8
HCM Lane LOS	E	A	A	-	B	A	-	E
HCM 95th %tile Q(veh)	1.1	0	-	-	0.2	-	-	1.4

Lanes, Volumes, Timings

21: 33rd Ave & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	810	5	20	780	5	0	0	5	10	15	20
Future Volume (vph)	25	810	5	20	780	5	0	0	5	10	15	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.999			0.865			0.941	
Flt Protected		0.999			0.999						0.989	
Satd. Flow (prot)	0	3603	0	0	3561	0	0	1644	0	0	1768	0
Flt Permitted		0.999			0.999						0.989	
Satd. Flow (perm)	0	3603	0	0	3561	0	0	1644	0	0	1768	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		680			646			233			228	
Travel Time (s)		15.5			14.7			6.4			6.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	8%	1%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	28	900	6	22	867	6	0	0	6	11	17	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	934	0	0	895	0	0	6	0	0	50	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	56.5%				ICU Level of Service B							
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕			↕↕			↕			↕		
Traffic Vol, veh/h	25	810	5	20	780	5	0	0	5	10	15	20
Future Vol, veh/h	25	810	5	20	780	5	0	0	5	10	15	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	8	1	0	0	0	0	0	0	0
Mvmt Flow	28	900	6	22	867	6	0	0	6	11	17	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	873	0	0	906	0	0	1445	1876	453	1420	1876	437
Stage 1	-	-	-	-	-	-	959	959	-	914	914	-
Stage 2	-	-	-	-	-	-	486	917	-	506	962	-
Critical Hdwy	4.1	-	-	4.26	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.28	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	781	-	-	710	-	-	94	72	559	98	72	573
Stage 1	-	-	-	-	-	-	280	338	-	298	355	-
Stage 2	-	-	-	-	-	-	537	354	-	522	337	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	781	-	-	710	-	-	65	63	559	88	63	573
Mov Cap-2 Maneuver	-	-	-	-	-	-	65	63	-	88	63	-
Stage 1	-	-	-	-	-	-	260	314	-	277	334	-
Stage 2	-	-	-	-	-	-	461	333	-	480	313	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.5	11.5	57.7
HCM LOS			B	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	559	781	-	-	710	-	-	116
HCM Lane V/C Ratio	0.01	0.036	-	-	0.031	-	-	0.431
HCM Control Delay (s)	11.5	9.8	0.3	-	10.2	0.3	-	57.7
HCM Lane LOS	B	A	A	-	B	A	-	F
HCM 95th %tile Q(veh)	0	0.1	-	-	0.1	-	-	1.9

Lanes, Volumes, Timings

22: 31st Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	730	20	30	680	25	20	30	75	35	60	40
Future Volume (vph)	15	730	20	30	680	25	20	30	75	35	60	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		65	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.995				0.850		0.960	
Flt Protected		0.999			0.998			0.980			0.987	
Satd. Flow (prot)	0	3592	0	0	3585	0	0	1862	1615	0	1800	0
Flt Permitted		0.934			0.895			0.818			0.892	
Satd. Flow (perm)	0	3358	0	0	3215	0	0	1554	1615	0	1627	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			10				90		34	
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		646			671			719			667	
Travel Time (s)		14.7			15.3			19.6			18.2	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	18	880	24	36	819	30	24	36	90	42	72	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	922	0	0	885	0	0	60	90	0	162	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8		8	4		
Detector Phase	2	2		6	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		23.0	23.0	23.0	23.0	23.0	
Total Split (s)	40.0	40.0		40.0	40.0		20.0	20.0	20.0	20.0	20.0	
Total Split (%)	66.7%	66.7%		66.7%	66.7%		33.3%	33.3%	33.3%	33.3%	33.3%	
Maximum Green (s)	35.0	35.0		35.0	35.0		15.0	15.0	15.0	15.0	15.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	

Lanes, Volumes, Timings

22: 31st Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0	0.0		0.0	
Total Lost Time (s)		5.0			5.0			5.0	5.0		5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None	None	None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		9.0	9.0	9.0	9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		43.1			43.1			10.3	10.3		10.3	
Actuated g/C Ratio		0.72			0.72			0.17	0.17		0.17	
v/c Ratio		0.38			0.38			0.23	0.26		0.53	
Control Delay		5.3			5.3			22.3	7.3		23.6	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		5.3			5.3			22.3	7.3		23.6	
LOS		A			A			C	A		C	
Approach Delay		5.3			5.3			13.3			23.6	
Approach LOS		A			A			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 2 (3%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 7.3

Intersection LOS: A

Intersection Capacity Utilization 64.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 22: 31st Street & Ames Ave

 Ø2 (R)		 Ø4
40 s		20 s
 Ø6 (R)		 Ø8
40 s		20 s

Queues

22: 31st Street & Ames Ave

09/08/2025

	→	←	↑	↘	↓
Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	922	885	60	90	162
v/c Ratio	0.38	0.38	0.23	0.26	0.53
Control Delay	5.3	5.3	22.3	7.3	23.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	5.3	5.3	22.3	7.3	23.6
Queue Length 50th (ft)	64	61	19	0	42
Queue Length 95th (ft)	107	103	40	25	76
Internal Link Dist (ft)	566	591	639		587
Turn Bay Length (ft)				65	
Base Capacity (vph)	2416	2314	388	471	432
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.38	0.38	0.15	0.19	0.38
Intersection Summary					

HCM 6th Signalized Intersection Summary

22: 31st Street & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↕	↗		↕	
Traffic Volume (veh/h)	15	730	20	30	680	25	20	30	75	35	60	40
Future Volume (veh/h)	15	730	20	30	680	25	20	30	75	35	60	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	18	880	24	36	819	30	24	36	90	42	72	48
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	79	2424	65	115	2299	83	145	174	211	117	112	64
Arrive On Green	0.70	0.70	0.70	0.70	0.70	0.70	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	24	3451	93	72	3272	118	468	1330	1610	314	854	492
Grp Volume(v), veh/h	480	0	442	449	0	436	60	0	90	162	0	0
Grp Sat Flow(s),veh/h/ln	1855	0	1712	1754	0	1708	1798	0	1610	1661	0	0
Q Serve(g_s), s	0.0	0.0	6.2	0.0	0.0	6.1	0.0	0.0	3.1	3.6	0.0	0.0
Cycle Q Clear(g_c), s	6.0	0.0	6.2	5.5	0.0	6.1	1.7	0.0	3.1	5.6	0.0	0.0
Prop In Lane	0.04		0.05	0.08		0.07	0.40		1.00	0.26		0.30
Lane Grp Cap(c), veh/h	1365	0	1203	1297	0	1200	319	0	211	293	0	0
V/C Ratio(X)	0.35	0.00	0.37	0.35	0.00	0.36	0.19	0.00	0.43	0.55	0.00	0.00
Avail Cap(c_a), veh/h	1365	0	1203	1297	0	1200	510	0	403	485	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.79	0.00	0.79	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	3.6	0.0	3.6	3.5	0.0	3.6	23.4	0.0	24.0	25.0	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.9	0.6	0.0	0.7	0.3	0.0	1.4	1.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	1.5	1.4	0.0	1.4	0.8	0.0	1.2	2.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.3	0.0	4.4	4.1	0.0	4.2	23.7	0.0	25.4	26.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	C	C	A	A
Approach Vol, veh/h		922			885			150			162	
Approach Delay, s/veh		4.4			4.1			24.7			26.6	
Approach LOS		A			A			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		47.1		12.9		47.1		12.9				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		35.0		15.0		35.0		15.0				
Max Q Clear Time (g_c+I1), s		8.2		7.6		8.1		5.1				
Green Ext Time (p_c), s		4.3		0.3		4.3		0.4				
Intersection Summary												
HCM 6th Ctrl Delay				7.4								
HCM 6th LOS				A								
Notes												
User approved pedestrian interval to be less than phase max green.												

Lanes, Volumes, Timings

23: 30th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	720	85	60	550	75	80	245	75	125	380	195
Future Volume (vph)	185	720	85	60	550	75	80	245	75	125	380	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	300		0	110		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Fr't		0.984			0.982			0.965			0.949	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3552	0	1805	3545	0	1805	3484	0	1805	3426	0
Flt Permitted	0.195			0.312			0.229			0.535		
Satd. Flow (perm)	370	3552	0	593	3545	0	435	3484	0	1016	3426	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			17			54			99	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		671			893			1318			675	
Travel Time (s)		15.3			20.3			25.7			13.1	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	210	818	97	68	625	85	91	278	85	142	432	222
Shared Lane Traffic (%)												
Lane Group Flow (vph)	210	915	0	68	710	0	91	363	0	142	654	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases	5	2			6		3	8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		3	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	15.0		15.0	15.0		5.0	10.0		10.0	10.0	
Minimum Split (s)	12.0	20.0		20.0	20.0		12.0	16.0		16.0	16.0	
Total Split (s)	13.0	47.0		34.0	34.0		13.0	43.0		30.0	30.0	
Total Split (%)	14.4%	52.2%		37.8%	37.8%		14.4%	47.8%		33.3%	33.3%	
Maximum Green (s)	8.0	42.0		29.0	29.0		8.0	37.0		24.0	24.0	
Yellow Time (s)	3.0	3.8		3.8	3.8		3.2	4.3		4.3	4.3	

Lanes, Volumes, Timings

23: 30th Street & Ames Ave

09/08/2025

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
All-Red Time (s)	2.0	1.2		1.2	1.2		1.8	1.7		1.7	1.7		
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	6.0		6.0	6.0		
Lead/Lag	Lead			Lag		Lag		Lead			Lag		Lag
Lead-Lag Optimize?													
Vehicle Extension (s)	2.0	3.0		3.0	3.0		2.0	3.0		3.0	3.0		
Recall Mode	None	C-Max		C-Max	C-Max		None	Max		Max	Max		
Walk Time (s)		10.0		10.0	10.0			9.0		9.0	9.0		
Flash Dont Walk (s)		12.0		12.0	12.0			12.0		12.0	12.0		
Pedestrian Calls (#/hr)		0		0	0			0		0	0		
Act Effct Green (s)	42.0	42.0		29.1	29.1		38.0	37.0		27.1	27.1		
Actuated g/C Ratio	0.47	0.47		0.32	0.32		0.42	0.41		0.30	0.30		
v/c Ratio	0.70	0.55		0.35	0.61		0.32	0.25		0.47	0.59		
Control Delay	29.4	18.4		30.0	27.8		19.0	15.2		33.4	26.0		
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Total Delay	29.4	18.4		30.0	27.8		19.0	15.2		33.4	26.0		
LOS	C	B		C	C		B	B		C	C		
Approach Delay		20.4			28.0			15.9			27.3		
Approach LOS		C			C			B			C		

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 11 (12%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 23.4

Intersection LOS: C

Intersection Capacity Utilization 73.8%

ICU Level of Service D

Analysis Period (min) 15

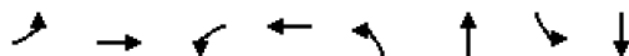
Splits and Phases: 23: 30th Street & Ames Ave

											
Ø2 (R)						Ø3			Ø4		
47 s						13 s			30 s		
											
Ø5			Ø6 (R)						Ø8		
13 s			34 s						43 s		

Queues

23: 30th Street & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	210	915	68	710	91	363	142	654
v/c Ratio	0.70	0.55	0.35	0.61	0.32	0.25	0.47	0.59
Control Delay	29.4	18.4	30.0	27.8	19.0	15.2	33.4	26.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.4	18.4	30.0	27.8	19.0	15.2	33.4	26.0
Queue Length 50th (ft)	69	184	29	173	31	58	68	145
Queue Length 95th (ft)	#124	234	67	226	59	86	127	201
Internal Link Dist (ft)		591		813		1238		595
Turn Bay Length (ft)	200		200		300		110	
Base Capacity (vph)	300	1667	192	1159	305	1464	305	1101
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.55	0.35	0.61	0.30	0.25	0.47	0.59

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary

23: 30th Street & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	720	85	60	550	75	80	245	75	125	380	195
Future Volume (veh/h)	185	720	85	60	550	75	80	245	75	125	380	195
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	210	818	97	68	625	85	91	278	85	142	432	222
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	359	1517	180	258	1029	140	285	1125	337	396	708	360
Arrive On Green	0.09	0.47	0.47	0.32	0.32	0.32	0.05	0.41	0.41	0.31	0.31	0.31
Sat Flow, veh/h	1810	3250	385	620	3193	434	1810	2737	820	1035	2315	1178
Grp Volume(v), veh/h	210	454	461	68	353	357	91	181	182	142	336	318
Grp Sat Flow(s),veh/h/ln	1810	1805	1831	620	1805	1822	1810	1805	1752	1035	1805	1688
Q Serve(g_s), s	6.7	16.1	16.1	7.9	14.8	14.9	3.0	5.9	6.1	9.9	14.3	14.5
Cycle Q Clear(g_c), s	6.7	16.1	16.1	11.0	14.8	14.9	3.0	5.9	6.1	9.9	14.3	14.5
Prop In Lane	1.00		0.21	1.00		0.24	1.00		0.47	1.00		0.70
Lane Grp Cap(c), veh/h	359	842	854	258	582	587	285	742	720	396	552	516
V/C Ratio(X)	0.59	0.54	0.54	0.26	0.61	0.61	0.32	0.24	0.25	0.36	0.61	0.62
Avail Cap(c_a), veh/h	359	842	854	258	582	587	355	742	720	396	552	516
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	0.94	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.5	17.1	17.1	25.7	25.7	25.7	20.1	17.3	17.4	25.1	26.7	26.7
Incr Delay (d2), s/veh	1.6	2.3	2.3	2.5	4.6	4.6	0.2	0.8	0.8	2.5	4.9	5.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	6.9	7.0	1.3	6.9	7.0	1.2	2.5	2.5	2.6	6.6	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.1	19.4	19.4	28.2	30.3	30.4	20.3	18.1	18.3	27.7	31.6	32.2
LnGrp LOS	C	B	B	C	C	C	C	B	B	C	C	C
Approach Vol, veh/h		1125			778			454			796	
Approach Delay, s/veh		19.5			30.2			18.6			31.1	
Approach LOS		B			C			B			C	
Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		47.0	9.5	33.5	13.0	34.0		43.0				
Change Period (Y+Rc), s		5.0	5.0	* 6	5.0	5.0		* 6				
Max Green Setting (Gmax), s		42.0	8.0	* 24	8.0	29.0		* 37				
Max Q Clear Time (g_c+I1), s		18.1	5.0	16.5	8.7	16.9		8.1				
Green Ext Time (p_c), s		4.1	0.0	2.3	0.0	3.0		1.4				

Intersection Summary

HCM 6th Ctrl Delay	25.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings
24: 28th Street & Ames Ave

09/08/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	
Traffic Volume (vph)	830	0	5	760	0	30
Future Volume (vph)	830	0	5	760	0	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.865					
Flt Protected						
Satd. Flow (prot)	3574	0	0	3574	1644	0
Flt Permitted						
Satd. Flow (perm)	3574	0	0	3574	1644	0
Link Speed (mph)	30			30	25	
Link Distance (ft)	893			90	310	
Travel Time (s)	20.3			2.0	8.5	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	1%	0%	0%	1%	0%	0%
Adj. Flow (vph)	912	0	5	835	0	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	912	0	0	840	33	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	34.5%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	
Traffic Vol, veh/h	830	0	5	760	0	30
Future Vol, veh/h	830	0	5	760	0	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	1	0	0	1	0	0
Mvmt Flow	912	0	5	835	0	33
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	912	0	1340	456
Stage 1	-	-	-	-	912	-
Stage 2	-	-	-	-	428	-
Critical Hdwy	-	-	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	755	-	146	557
Stage 1	-	-	-	-	357	-
Stage 2	-	-	-	-	631	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	755	-	144	557
Mov Cap-2 Maneuver	-	-	-	-	144	-
Stage 1	-	-	-	-	357	-
Stage 2	-	-	-	-	623	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.2		11.9	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1		EBT	EBR	WBL	WBT
Capacity (veh/h)	557		-	-	755	-
HCM Lane V/C Ratio	0.059		-	-	0.007	-
HCM Control Delay (s)	11.9		-	-	9.8	0.1
HCM Lane LOS	B		-	-	A	A
HCM 95th %tile Q(veh)	0.2		-	-	0	-

Lanes, Volumes, Timings

25: North Freeway SB Ramp & Ames Ave

09/08/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↕		↙↘	↑↑		
Traffic Volume (vph)	440	360	125	700	0	0
Future Volume (vph)	440	360	125	700	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	165		0	0
Storage Lanes		0	1		0	0
Taper Length (ft)			50		50	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.933					
Flt Protected			0.950			
Satd. Flow (prot)	3350	0	1805	3471	0	0
Flt Permitted			0.950			
Satd. Flow (perm)	3350	0	1805	3471	0	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	90			571	390	
Travel Time (s)	2.0			13.0	8.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	0%	0%	4%	0%	0%
Adj. Flow (vph)	478	391	136	761	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	869	0	136	761	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	66.6%			ICU Level of Service C		
Analysis Period (min)	15					

Lanes, Volumes, Timings

26: North Freeway NB Ramp & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	365	0	0	465	10	375	5	220	0	0	0
Future Volume (vph)	65	365	0	0	465	10	375	5	220	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	245		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Fr t					0.997			0.853				
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1805	3610	0	0	3551	0	1805	1605	0	0	0	0
Flt Permitted	0.469						0.950					
Satd. Flow (perm)	891	3610	0	0	3551	0	1805	1605	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					4			232				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		571			87			482			406	
Travel Time (s)		13.0			2.0			11.0			9.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	1%	17%	0%	0%	1%	0%	0%	0%
Adj. Flow (vph)	68	384	0	0	489	11	395	5	232	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	68	384	0	0	500	0	395	237	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	0			0		1	0				
Detector Template	Left	Thru			Thru		Left	Thru				
Leading Detector (ft)	50	0			0		50	0				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				
Detector 1 Size(ft)	50	6			6		50	6				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		2			6			8				
Permitted Phases	2						8					
Detector Phase	2	2			6		8	8				
Switch Phase												
Minimum Initial (s)	20.0	20.0			20.0		10.0	10.0				
Minimum Split (s)	25.0	25.0			25.0		32.0	32.0				
Total Split (s)	27.0	27.0			27.0		33.0	33.0				
Total Split (%)	45.0%	45.0%			45.0%		55.0%	55.0%				
Maximum Green (s)	22.0	22.0			22.0		28.0	28.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				

Lanes, Volumes, Timings

26: North Freeway NB Ramp & Ames Ave

09/08/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0				
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				
Recall Mode	C-Max	C-Max			C-Max		None	None				
Walk Time (s)	7.0	7.0			7.0		11.0	11.0				
Flash Dont Walk (s)	9.0	9.0			9.0		16.0	16.0				
Pedestrian Calls (#/hr)	0	0			0		0	0				
Act Effct Green (s)	30.9	30.9			30.9		19.1	19.1				
Actuated g/C Ratio	0.52	0.52			0.52		0.32	0.32				
v/c Ratio	0.15	0.21			0.27		0.69	0.35				
Control Delay	11.1	9.5			11.2		23.6	3.7				
Queue Delay	0.0	0.0			0.0		0.0	0.0				
Total Delay	11.1	9.5			11.2		23.6	3.7				
LOS	B	A			B		C	A				
Approach Delay		9.7			11.2			16.1				
Approach LOS		A			B			B				

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 36 (60%), Referenced to phase 2:EBTL and 6:WBT, Start of FDW or yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 12.8

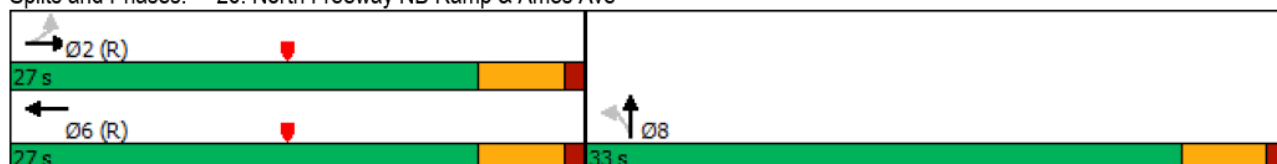
Intersection LOS: B

Intersection Capacity Utilization 66.6%

ICU Level of Service C

Analysis Period (min) 15

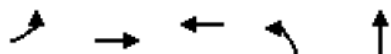
Splits and Phases: 26: North Freeway NB Ramp & Ames Ave



Queues

26: North Freeway NB Ramp & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBT	NBL	NBT
Lane Group Flow (vph)	68	384	500	395	237
v/c Ratio	0.15	0.21	0.27	0.69	0.35
Control Delay	11.1	9.5	11.2	23.6	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	11.1	9.5	11.2	23.6	3.7
Queue Length 50th (ft)	12	36	62	121	1
Queue Length 95th (ft)	40	74	101	167	34
Internal Link Dist (ft)		491	7		402
Turn Bay Length (ft)	245				
Base Capacity (vph)	459	1860	1831	842	872
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.15	0.21	0.27	0.47	0.27

Intersection Summary

HCM 6th Signalized Intersection Summary 26: North Freeway NB Ramp & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	365	0	0	465	10	375	5	220	0	0	0
Future Volume (veh/h)	65	365	0	0	465	10	375	5	220	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1885	1648	1900	1900	1885			
Adj Flow Rate, veh/h	68	384	0	0	489	11	395	5	232			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	0	0	0	0	1	17	0	0	1			
Cap, veh/h	542	2087	0	0	2070	47	462	9	404			
Arrive On Green	0.58	0.58	0.00	0.00	0.19	0.19	0.26	0.26	0.26			
Sat Flow, veh/h	912	3705	0	0	3675	80	1810	34	1581			
Grp Volume(v), veh/h	68	384	0	0	244	256	395	0	237			
Grp Sat Flow(s),veh/h/ln	912	1805	0	0	1791	1871	1810	0	1615			
Q Serve(g_s), s	2.6	3.0	0.0	0.0	6.9	6.9	12.5	0.0	7.7			
Cycle Q Clear(g_c), s	9.5	3.0	0.0	0.0	6.9	6.9	12.5	0.0	7.7			
Prop In Lane	1.00		0.00	0.00		0.04	1.00		0.98			
Lane Grp Cap(c), veh/h	542	2087	0	0	1035	1081	462	0	412			
V/C Ratio(X)	0.13	0.18	0.00	0.00	0.24	0.24	0.85	0.00	0.57			
Avail Cap(c_a), veh/h	542	2087	0	0	1035	1081	844	0	754			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	9.4	6.0	0.0	0.0	13.1	13.1	21.3	0.0	19.5			
Incr Delay (d2), s/veh	0.5	0.2	0.0	0.0	0.5	0.5	4.6	0.0	1.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.5	0.9	0.0	0.0	2.8	2.9	5.4	0.0	2.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.9	6.2	0.0	0.0	13.6	13.6	25.9	0.0	20.8			
LnGrp LOS	A	A	A	A	B	B	C	A	C			
Approach Vol, veh/h		452			500			632				
Approach Delay, s/veh		6.7			13.6			24.0				
Approach LOS		A			B			C				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		39.7				39.7		20.3				
Change Period (Y+Rc), s		5.0				5.0		5.0				
Max Green Setting (Gmax), s		22.0				22.0		28.0				
Max Q Clear Time (g_c+I1), s		11.5				0.0		14.5				
Green Ext Time (p_c), s		0.0				0.0		0.8				
Intersection Summary												
HCM 6th Ctrl Delay					15.8							
HCM 6th LOS					B							

Lanes, Volumes, Timings
27: 26th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	490	20	5	470	0	5	0	0	0	0	25
Future Volume (vph)	35	490	20	5	470	0	5	0	0	0	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994									0.865	
Flt Protected		0.997						0.950				
Satd. Flow (prot)	0	3578	0	0	3540	0	0	1805	0	0	1644	0
Flt Permitted		0.997						0.950				
Satd. Flow (perm)	0	3578	0	0	3540	0	0	1805	0	0	1644	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		87			334			236			238	
Travel Time (s)		2.0			7.6			6.4			6.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	38	533	22	5	511	0	5	0	0	0	0	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	593	0	0	516	0	0	5	0	0	27	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	42.5%						ICU Level of Service A					
Analysis Period (min)	15											

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕			↕↕			↕			↕		
Traffic Vol, veh/h	35	490	20	5	470	0	5	0	0	0	0	25
Future Vol, veh/h	35	490	20	5	470	0	5	0	0	0	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	2	0	0	0	0	0	0	0
Mvmt Flow	38	533	22	5	511	0	5	0	0	0	0	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	511	0	0	555	0	0	886	1141	278	864	1152	256
Stage 1	-	-	-	-	-	-	620	620	-	521	521	-
Stage 2	-	-	-	-	-	-	266	521	-	343	631	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1065	-	-	1026	-	-	242	202	725	251	199	749
Stage 1	-	-	-	-	-	-	447	483	-	512	535	-
Stage 2	-	-	-	-	-	-	722	535	-	651	477	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1065	-	-	1026	-	-	223	190	725	240	187	749
Mov Cap-2 Maneuver	-	-	-	-	-	-	223	190	-	240	187	-
Stage 1	-	-	-	-	-	-	424	458	-	485	531	-
Stage 2	-	-	-	-	-	-	691	531	-	617	452	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.1	21.5	10
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	223	1065	-	-	1026	-	-	749
HCM Lane V/C Ratio	0.024	0.036	-	-	0.005	-	-	0.036
HCM Control Delay (s)	21.5	8.5	0.2	-	8.5	0	-	10
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.1

Lanes, Volumes, Timings
28: 25th Ave & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	475	5	5	450	5	5	0	0	5	0	5
Future Volume (vph)	15	475	5	5	450	5	5	0	0	5	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Fr't		0.999			0.999						0.932	
Flt Protected		0.999						0.950			0.976	
Satd. Flow (prot)	0	3603	0	0	3537	0	0	1805	0	0	1728	0
Flt Permitted		0.999						0.950			0.976	
Satd. Flow (perm)	0	3603	0	0	3537	0	0	1805	0	0	1728	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		334			657			219			244	
Travel Time (s)		7.6			14.9			6.0			6.7	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	16	522	5	5	495	5	5	0	0	5	0	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	543	0	0	505	0	0	5	0	0	10	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		60	60		9	60		60	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	34.2%											
Analysis Period (min)	15											
ICU Level of Service A												

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕			↕↕			↕			↕		
Traffic Vol, veh/h	15	475	5	5	450	5	5	0	0	5	0	5
Future Vol, veh/h	15	475	5	5	450	5	5	0	0	5	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	2	0	0	0	0	0	0	0
Mvmt Flow	16	522	5	5	495	5	5	0	0	5	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	500	0	0	527	0	0	815	1067	264	801	1067	250
Stage 1	-	-	-	-	-	-	557	557	-	508	508	-
Stage 2	-	-	-	-	-	-	258	510	-	293	559	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1075	-	-	1050	-	-	273	224	741	279	224	756
Stage 1	-	-	-	-	-	-	487	515	-	521	542	-
Stage 2	-	-	-	-	-	-	730	541	-	696	514	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1075	-	-	1050	-	-	265	218	741	273	218	756
Mov Cap-2 Maneuver	-	-	-	-	-	-	265	218	-	273	218	-
Stage 1	-	-	-	-	-	-	477	504	-	510	538	-
Stage 2	-	-	-	-	-	-	720	537	-	681	503	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.1	18.9	14.2
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	265	1075	-	-	1050	-	-	401
HCM Lane V/C Ratio	0.021	0.015	-	-	0.005	-	-	0.027
HCM Control Delay (s)	18.9	8.4	0.1	-	8.4	0	-	14.2
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Lanes, Volumes, Timings
29: 24th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	
Traffic Volume (vph)	90	295	135	10	260	15	75	60	5	15	65	60
Future Volume (vph)	90	295	135	10	260	15	75	60	5	15	65	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Fr t		0.961			0.992			0.995			0.942	
Flt Protected		0.991			0.998			0.974			0.995	
Satd. Flow (prot)	0	3399	0	0	3542	0	0	1841	0	0	1781	0
Flt Permitted		0.837			0.937			0.741			0.957	
Satd. Flow (perm)	0	2871	0	0	3325	0	0	1401	0	0	1713	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		105			12			4			67	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		657			1321			1296			576	
Travel Time (s)		14.9			30.0			29.5			13.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	100	328	150	11	289	17	83	67	6	17	72	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	578	0	0	317	0	0	156	0	0	156	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	0		1	0		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	0		50	0		50	20		50	20	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	6		50	6		50	20		50	20	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		15.0	15.0		15.0	15.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		28.4	28.4		28.4	28.4	
Total Split (s)	31.0	31.0		31.0	31.0		29.0	29.0		29.0	29.0	
Total Split (%)	51.7%	51.7%		51.7%	51.7%		48.3%	48.3%		48.3%	48.3%	
Maximum Green (s)	26.6	26.6		26.6	26.6		24.6	24.6		24.6	24.6	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.8	3.8		3.8	3.8	
All-Red Time (s)	0.7	0.7		0.7	0.7		0.6	0.6		0.6	0.6	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.4			4.4			4.4			4.4	

Lanes, Volumes, Timings

29: 24th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		40.7			40.7			15.2			15.2	
Actuated g/C Ratio		0.68			0.68			0.25			0.25	
v/c Ratio		0.29			0.14			0.43			0.32	
Control Delay		3.4			4.4			22.6			12.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		3.4			4.4			22.6			12.9	
LOS		A			A			C			B	
Approach Delay		3.4			4.4			22.6			12.9	
Approach LOS		A			A			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 2 (3%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.43

Intersection Signal Delay: 7.4

Intersection LOS: A

Intersection Capacity Utilization 59.7%

ICU Level of Service B

Analysis Period (min) 15

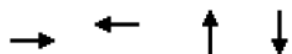
Splits and Phases: 29: 24th Street & Ames Ave

 Ø2 (R)		 Ø4
31 s		29 s
 Ø6 (R)		 Ø8
31 s		29 s

Queues

29: 24th Street & Ames Ave

09/08/2025



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	578	317	156	156
v/c Ratio	0.29	0.14	0.43	0.32
Control Delay	3.4	4.4	22.6	12.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	3.4	4.4	22.6	12.9
Queue Length 50th (ft)	20	26	46	25
Queue Length 95th (ft)	41	40	92	65
Internal Link Dist (ft)	577	1241	1216	496
Turn Bay Length (ft)				
Base Capacity (vph)	1982	2260	576	741
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.29	0.14	0.27	0.21
Intersection Summary				

HCM 6th Signalized Intersection Summary

29: 24th Street & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	90	295	135	10	260	15	75	60	5	15	65	60
Future Volume (veh/h)	90	295	135	10	260	15	75	60	5	15	65	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1870	1900	1900	1885	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	100	328	150	11	289	17	83	67	6	17	72	67
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	2	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	355	1097	495	96	1978	114	275	201	15	87	225	185
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	455	1814	819	52	3271	189	735	807	62	84	904	744
Grp Volume(v), veh/h	293	0	285	166	0	151	156	0	0	156	0	0
Grp Sat Flow(s),veh/h/ln	1533	0	1555	1831	0	1681	1603	0	0	1732	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	4.1	0.0	0.0	4.4	0.0	0.0
Prop In Lane	0.34		0.53	0.07		0.11	0.53		0.04	0.11		0.43
Lane Grp Cap(c), veh/h	1007	0	940	1171	0	1017	491	0	0	497	0	0
V/C Ratio(X)	0.29	0.00	0.30	0.14	0.00	0.15	0.32	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	1007	0	940	1171	0	1017	732	0	0	770	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	18.5	0.0	0.0	18.6	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.8	0.3	0.0	0.3	0.4	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.2	0.1	0.0	0.1	1.7	0.0	0.0	1.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.7	0.0	0.8	0.3	0.0	0.3	18.8	0.0	0.0	18.9	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	A	B	A	A
Approach Vol, veh/h		578			317			156			156	
Approach Delay, s/veh		0.8			0.3			18.8			18.9	
Approach LOS		A			A			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		40.7		19.3		40.7		19.3				
Change Period (Y+Rc), s		* 4.4		* 4.4		* 4.4		* 4.4				
Max Green Setting (Gmax), s		* 27		* 25		* 27		* 25				
Max Q Clear Time (g_c+I1), s		0.0		6.4		0.0		6.1				
Green Ext Time (p_c), s		0.0		0.4		0.0		0.4				
Intersection Summary												
HCM 6th Ctrl Delay				5.3								
HCM 6th LOS				A								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Lanes, Volumes, Timings

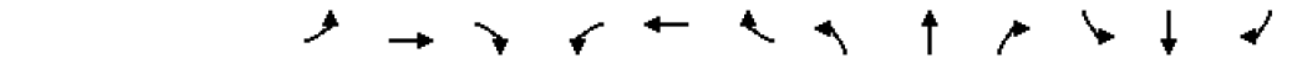
30: Florence Blvd & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	175	120	5	130	15	80	105	5	15	105	30
Future Volume (vph)	40	175	120	5	130	15	80	105	5	15	105	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		200	0		0	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.985			0.996			0.973	
Flt Protected		0.991			0.998			0.979			0.995	
Satd. Flow (prot)	0	1768	1599	0	3488	0	0	1853	0	0	1839	0
Flt Permitted		0.919			0.946			0.811			0.965	
Satd. Flow (perm)	0	1640	1599	0	3306	0	0	1535	0	0	1784	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			140		17			3			26	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1321			384			1315			473	
Travel Time (s)		30.0			8.7			29.9			10.8	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	8%	1%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	47	203	140	6	151	17	93	122	6	17	122	35
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	250	140	0	174	0	0	221	0	0	174	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8			4		
Minimum Split (s)	23.0	23.0	23.0	23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	30.0	30.0	30.0	30.0	30.0		30.0	30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	25.0	25.0	25.0	25.0	25.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0			0.0			0.0	
Total Lost Time (s)		5.0	5.0		5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	8.0	8.0	8.0	8.0	8.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)		25.0	25.0		25.0			25.0			25.0	
Actuated g/C Ratio		0.42	0.42		0.42			0.42			0.42	
v/c Ratio		0.37	0.19		0.13			0.34			0.23	
Control Delay		11.7	3.3		10.0			13.7			10.5	
Queue Delay		0.0	0.0		0.0			0.0			0.0	
Total Delay		11.7	3.3		10.0			13.7			10.5	

Lanes, Volumes, Timings 30: Florence Blvd & Ames Ave

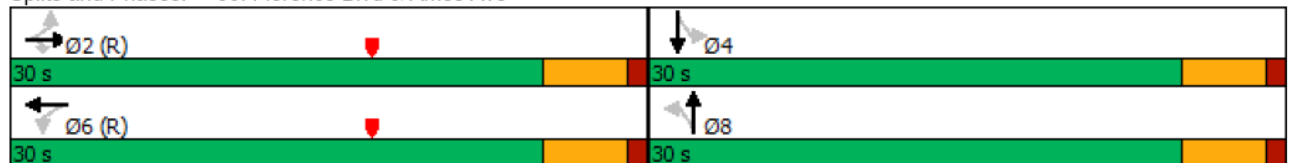
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		B	A		B			B			B	
Approach Delay		8.7			10.0			13.7			10.5	
Approach LOS		A			B			B			B	

Intersection Summary	
Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Offset:	32 (53%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow
Natural Cycle:	50
Control Type:	Pretimed
Maximum v/c Ratio:	0.37
Intersection Signal Delay:	10.4
Intersection Capacity Utilization	55.0%
Analysis Period (min)	15
Intersection LOS:	B
ICU Level of Service	B

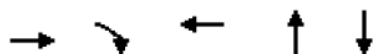
Splits and Phases: 30: Florence Blvd & Ames Ave



Queues

30: Florence Blvd & Ames Ave

09/08/2025



Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	250	140	174	221	174
v/c Ratio	0.37	0.19	0.13	0.34	0.23
Control Delay	11.7	3.3	10.0	13.7	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	11.7	3.3	10.0	13.7	10.5
Queue Length 50th (ft)	69	0	17	51	33
Queue Length 95th (ft)	71	0	32	91	64
Internal Link Dist (ft)	1241		304	1235	393
Turn Bay Length (ft)					
Base Capacity (vph)	683	747	1387	641	758
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.37	0.19	0.13	0.34	0.23
Intersection Summary					

HCM 6th Signalized Intersection Summary

30: Florence Blvd & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	175	120	5	130	15	80	105	5	15	105	30
Future Volume (veh/h)	40	175	120	5	130	15	80	105	5	15	105	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1781	1885	1900	1870	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	47	203	140	6	151	17	93	122	6	17	122	35
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	8	1	0	2	0	0	0	0	0	0	0
Cap, veh/h	157	610	666	81	1292	141	329	405	18	99	565	151
Arrive On Green	0.14	0.14	0.14	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	207	1464	1598	41	3100	339	586	971	43	80	1355	361
Grp Volume(v), veh/h	250	0	140	92	0	82	221	0	0	174	0	0
Grp Sat Flow(s),veh/h/ln	1670	0	1598	1838	0	1641	1601	0	0	1797	0	0
Q Serve(g_s), s	0.0	0.0	4.7	0.0	0.0	1.9	1.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.6	0.0	4.7	1.8	0.0	1.9	4.9	0.0	0.0	3.7	0.0	0.0
Prop In Lane	0.19		1.00	0.07		0.21	0.42		0.03	0.10		0.20
Lane Grp Cap(c), veh/h	767	0	666	830	0	684	752	0	0	814	0	0
V/C Ratio(X)	0.33	0.00	0.21	0.11	0.00	0.12	0.29	0.00	0.00	0.21	0.00	0.00
Avail Cap(c_a), veh/h	767	0	666	830	0	684	752	0	0	814	0	0
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.4	0.0	17.1	10.7	0.0	10.7	11.6	0.0	0.0	11.3	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.7	0.3	0.0	0.4	1.0	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	1.8	0.7	0.0	0.7	1.9	0.0	0.0	1.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.5	0.0	17.8	11.0	0.0	11.1	12.6	0.0	0.0	11.9	0.0	0.0
LnGrp LOS	B	A	B	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		390			174			221			174	
Approach Delay, s/veh		18.9			11.1			12.6			11.9	
Approach LOS		B			B			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		30.0		30.0		30.0		30.0				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		25.0		25.0		25.0		25.0				
Max Q Clear Time (g_c+I1), s		6.7		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.1		0.0		0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				14.7								
HCM 6th LOS				B								

Lanes, Volumes, Timings
161: 61st St EVHB & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	725	0	0	785	0	0	0	0	0	0	0
Future Volume (vph)	0	725	0	0	785	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Fr t												
Flt Protected												
Satd. Flow (prot)	0	3539	0	0	3539	0	0	0	0	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	3539	0	0	3539	0	0	0	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		660			644			163			152	
Travel Time (s)		11.3			11.0			4.4			4.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	788	0	0	853	0	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	788	0	0	853	0	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2							
Detector Template	Left	Thru		Left	Thru							
Leading Detector (ft)	20	100		20	100							
Trailing Detector (ft)	0	0		0	0							
Detector 1 Position(ft)	0	0		0	0							
Detector 1 Size(ft)	20	6		20	6							
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex							
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0							
Detector 1 Queue (s)	0.0	0.0		0.0	0.0							
Detector 1 Delay (s)	0.0	0.0		0.0	0.0							
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		CI+Ex			CI+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type		NA			NA							
Protected Phases		2			6							
Permitted Phases	2			6								
Detector Phase	2	2		6	6							
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0							
Minimum Split (s)	25.0	25.0		25.0	25.0							
Total Split (s)	50.0	50.0		50.0	50.0							
Total Split (%)	100.0%	100.0%		100.0%	100.0%							
Maximum Green (s)	45.0	45.0		45.0	45.0							

Lanes, Volumes, Timings

161: 61st St EVHB & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	4.0	4.0		4.0	4.0							
All-Red Time (s)	1.0	1.0		1.0	1.0							
Lost Time Adjust (s)		0.0			0.0							
Total Lost Time (s)		5.0			5.0							
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0							
Recall Mode	Max	Max		Max	Max							
Walk Time (s)	7.0	7.0		7.0	7.0							
Flash Dont Walk (s)	11.0	11.0		11.0	11.0							
Pedestrian Calls (#/hr)	0	0		0	0							
Act Effct Green (s)		65.0			65.0							
Actuated g/C Ratio		1.00			1.00							
v/c Ratio		0.22			0.24							
Control Delay		0.1			0.2							
Queue Delay		0.0			0.0							
Total Delay		0.1			0.2							
LOS		A			A							
Approach Delay		0.1			0.2							
Approach LOS		A			A							

Intersection Summary

Area Type: Other

Cycle Length: 50

Actuated Cycle Length: 65

Natural Cycle: 40

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.24

Intersection Signal Delay: 0.2

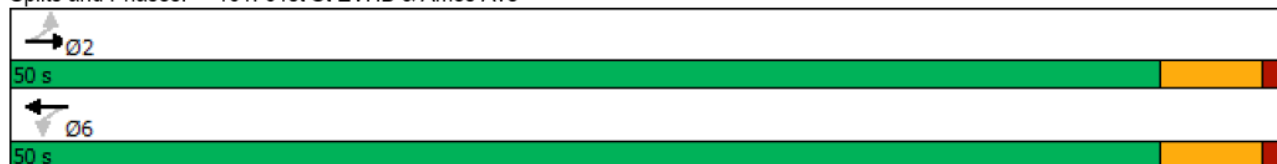
Intersection LOS: A

Intersection Capacity Utilization 25.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 161: 61st St EVHB & Ames Ave



Queues

161: 61st St EVHB & Ames Ave

09/08/2025



Lane Group	EBT	WBT
Lane Group Flow (vph)	788	853
v/c Ratio	0.22	0.24
Control Delay	0.1	0.2
Queue Delay	0.0	0.0
Total Delay	0.1	0.2
Queue Length 50th (ft)	0	0
Queue Length 95th (ft)	0	0
Internal Link Dist (ft)	580	564
Turn Bay Length (ft)		
Base Capacity (vph)	3539	3539
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.22	0.24
Intersection Summary		

HCM 6th Signalized Intersection Summary

161: 61st St EVHB & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	725	0	0	785	0	0	0	0	0	0	0
Future Volume (veh/h)	0	725	0	0	785	0	0	0	0	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0						
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00						
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00						
Work Zone On Approach		No			No							
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870						
Adj Flow Rate, veh/h	0	788	0	0	853	0						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92						
Percent Heavy Veh, %	2	2	2	2	2	2						
Cap, veh/h	0	3198	0	0	3198	0						
Arrive On Green	0.00	0.90	0.00	0.00	0.90	0.00						
Sat Flow, veh/h	0	3741	0	0	3741	0						
Grp Volume(v), veh/h	0	788	0	0	853	0						
Grp Sat Flow(s),veh/h/ln	0	1777	0	0	1777	0						
Q Serve(g_s), s	0.0	1.4	0.0	0.0	1.6	0.0						
Cycle Q Clear(g_c), s	0.0	1.4	0.0	0.0	1.6	0.0						
Prop In Lane	0.00		0.00	0.00		0.00						
Lane Grp Cap(c), veh/h	0	3198	0	0	3198	0						
V/C Ratio(X)	0.00	0.25	0.00	0.00	0.27	0.00						
Avail Cap(c_a), veh/h	0	3198	0	0	3198	0						
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00						
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00						
Uniform Delay (d), s/veh	0.0	0.3	0.0	0.0	0.3	0.0						
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.2	0.0						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	0.0	0.1	0.0	0.0	0.1	0.0						
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.5	0.0	0.0	0.5	0.0						
LnGrp LOS	A	A	A	A	A	A						
Approach Vol, veh/h		788			853							
Approach Delay, s/veh		0.5			0.5							
Approach LOS		A			A							
Timer - Assigned Phs		2			6							
Phs Duration (G+Y+Rc), s		50.0			50.0							
Change Period (Y+Rc), s		5.0			5.0							
Max Green Setting (Gmax), s		45.0			45.0							
Max Q Clear Time (g_c+I1), s		3.4			3.6							
Green Ext Time (p_c), s		6.0			6.6							
Intersection Summary												
HCM 6th Ctrl Delay			0.5									
HCM 6th LOS			A									

Lanes, Volumes, Timings

1: 72nd St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	70	10	705	110	140	55	640	750	135	645	25
Future Volume (vph)	25	70	10	705	110	140	55	640	750	135	645	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	65		0	150		325	150		0	250		0
Storage Lanes	1		0	1		1	1		2	1		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	0.88	1.00	0.95	0.95
Frt		0.981				0.850			0.850		0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1864	0	3502	1900	1615	1805	3610	2842	1787	3592	0
Flt Permitted	0.681			0.950			0.378			0.950		
Satd. Flow (perm)	1294	1864	0	3502	1900	1615	718	3610	2842	1787	3592	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				112			385		5	
Link Speed (mph)		25			40			35			35	
Link Distance (ft)		470			531			636			764	
Travel Time (s)		12.8			9.1			12.4			14.9	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%
Adj. Flow (vph)	27	75	11	758	118	151	59	688	806	145	694	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	86	0	758	118	151	59	688	806	145	719	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			28			18			18	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	0	0	0	1	0	
Detector Template												
Leading Detector (ft)	50	50		50	50	50	0	0	0	50	0	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	50	50		50	50	50	50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA		Prot	NA	pm+ov	Perm	NA	pm+ov	Prot	NA	
Protected Phases		2		1	6	7		8	1	7	4	
Permitted Phases	2					6	8		8			
Detector Phase	2	2		1	6	7	8	8	1	7	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0		7.0	8.0	5.0	20.0	20.0	7.0	5.0	20.0	
Minimum Split (s)	14.0	14.0		13.0	14.0	13.0	26.0	26.0	13.0	13.0	26.0	
Total Split (s)	15.0	15.0		33.0	48.0	18.0	54.0	54.0	33.0	18.0	72.0	
Total Split (%)	12.5%	12.5%		27.5%	40.0%	15.0%	45.0%	45.0%	27.5%	15.0%	60.0%	
Maximum Green (s)	9.0	9.0		27.0	42.0	12.0	48.0	48.0	27.0	12.0	66.0	
Yellow Time (s)	4.0	4.0		3.2	4.0	3.9	4.9	4.9	3.2	3.9	4.9	

Lanes, Volumes, Timings

1: 72nd St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	2.0	2.0		2.8	2.0	2.1	1.1	1.1	2.8	2.1	1.1	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lag	Lag		Lead		Lead	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		2.0	3.0	2.0	0.2	0.2	2.0	2.0	0.2	
Recall Mode	None	None		None	None	None	C-Max	C-Max	None	None	C-Max	
Walk Time (s)	12.0	12.0			12.0		17.0	17.0			17.0	
Flash Dont Walk (s)	28.0	28.0			28.0		22.0	22.0			22.0	
Pedestrian Calls (#/hr)	0	0			0		0	0			0	
Act Effct Green (s)	8.8	8.8		27.0	41.8	59.3	48.7	48.7	81.7	11.5	66.2	
Actuated g/C Ratio	0.07	0.07		0.22	0.35	0.49	0.41	0.41	0.68	0.10	0.55	
v/c Ratio	0.28	0.61		0.96	0.18	0.18	0.20	0.47	0.39	0.85	0.36	
Control Delay	60.6	69.5		62.6	20.1	7.4	26.0	27.7	4.6	91.7	15.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	60.6	69.5		62.6	20.1	7.4	26.0	27.7	4.6	91.7	15.6	
LOS	E	E		E	C	A	C	C	A	F	B	
Approach Delay		67.4			49.6			15.6			28.4	
Approach LOS		E			D			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 33 (28%), Referenced to phase 4:SBT and 8:NBTL, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 30.2

Intersection LOS: C

Intersection Capacity Utilization 77.1%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: 72nd St & Ames Ave

 Ø1	 Ø2	 Ø4 (R)	
33 s	15 s	72 s	
 Ø6	 Ø7	 Ø8 (R)	
48 s	18 s	54 s	

Queues

1: 72nd St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	27	86	758	118	151	59	688	806	145	719
v/c Ratio	0.28	0.61	0.96	0.18	0.18	0.20	0.47	0.39	0.85	0.36
Control Delay	60.6	69.5	62.6	20.1	7.4	26.0	27.7	4.6	91.7	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.6	69.5	62.6	20.1	7.4	26.0	27.7	4.6	91.7	15.6
Queue Length 50th (ft)	20	62	303	66	44	29	205	64	112	156
Queue Length 95th (ft)	52	#127	#427	103	77	63	261	98	#224	198
Internal Link Dist (ft)		390		451			556			684
Turn Bay Length (ft)	65		150		325	150			250	
Base Capacity (vph)	97	144	787	665	860	291	1464	2057	178	1983
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.60	0.96	0.18	0.18	0.20	0.47	0.39	0.81	0.36

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary

1: 72nd St & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	70	10	705	110	140	55	640	750	135	645	25
Future Volume (veh/h)	25	70	10	705	110	140	55	640	750	135	645	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1885	1900	1900
Adj Flow Rate, veh/h	27	75	11	758	118	151	59	688	806	145	694	25
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	1.00
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	1	0	0
Cap, veh/h	135	108	16	790	649	704	367	1490	1808	171	1984	71
Arrive On Green	0.07	0.07	0.07	0.07	0.11	0.11	0.41	0.41	0.41	0.10	0.56	0.56
Sat Flow, veh/h	1128	1620	238	3510	1900	1610	745	3610	2834	1795	3554	128
Grp Volume(v), veh/h	27	0	86	758	118	151	59	688	806	145	352	367
Grp Sat Flow(s),veh/h/ln	1128	0	1857	1755	1900	1610	745	1805	1417	1795	1805	1877
Q Serve(g_s), s	2.7	0.0	5.4	25.8	6.8	8.8	6.1	16.6	17.3	9.5	12.9	12.9
Cycle Q Clear(g_c), s	2.7	0.0	5.4	25.8	6.8	8.8	6.1	16.6	17.3	9.5	12.9	12.9
Prop In Lane	1.00		0.13	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	135	0	124	790	649	704	367	1490	1808	171	1008	1048
V/C Ratio(X)	0.20	0.00	0.69	0.96	0.18	0.21	0.16	0.46	0.45	0.85	0.35	0.35
Avail Cap(c_a), veh/h	145	0	139	790	665	717	367	1490	1808	180	1008	1048
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.5	0.0	54.8	55.0	38.0	29.0	22.5	25.6	11.0	53.4	14.5	14.5
Incr Delay (d2), s/veh	0.7	0.0	12.2	21.1	0.1	0.1	0.9	1.0	0.8	26.8	1.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	3.0	14.4	3.3	3.7	1.2	7.2	5.2	5.5	5.3	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.3	0.0	67.0	76.1	38.2	29.1	23.4	26.6	11.8	80.3	15.5	15.5
LnGrp LOS	D	A	E	E	D	C	C	C	B	F	B	B
Approach Vol, veh/h		113			1027			1553			864	
Approach Delay, s/veh		63.9			64.8			18.8			26.4	
Approach LOS		E			E			B			C	
Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	33.0	14.0		73.0		47.0	17.5	55.5				
Change Period (Y+Rc), s	6.0	6.0		* 6		6.0	6.0	* 6				
Max Green Setting (Gmax), s	27.0	9.0		* 66		42.0	12.0	* 48				
Max Q Clear Time (g_c+I1), s	27.8	7.4		0.0		10.8	11.5	0.0				
Green Ext Time (p_c), s	0.0	0.0		0.0		1.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay 35.4
 HCM 6th LOS D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings

2: Benson Park Plz & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	890	65	110	840	145	50	10	140	125	15	40
Future Volume (vph)	60	890	65	110	840	145	50	10	140	125	15	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	200		0	0		150	75		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.978			0.860			0.891	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3574	0	1805	3531	0	1805	1634	0	1805	1693	0
Flt Permitted	0.250			0.225			0.719			0.534		
Satd. Flow (perm)	475	3574	0	428	3531	0	1366	1634	0	1015	1693	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			26			146			42	
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		531			2105			252			288	
Travel Time (s)		9.1			35.9			6.9			7.9	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	63	927	68	115	875	151	52	10	146	130	16	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	995	0	115	1026	0	52	156	0	130	58	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			16			16	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	0		1	0		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	0		50	0		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	20.0		10.0	20.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	13.0	31.0		15.0	31.0		34.0	34.0		34.0	34.0	
Total Split (s)	13.0	71.0		15.0	73.0		34.0	34.0		34.0	34.0	
Total Split (%)	10.8%	59.2%		12.5%	60.8%		28.3%	28.3%		28.3%	28.3%	
Maximum Green (s)	7.0	65.0		10.0	67.0		28.0	28.0		28.0	28.0	
Yellow Time (s)	4.1	5.2		4.0	5.2		3.7	3.7		3.7	3.7	

Lanes, Volumes, Timings

2: Benson Park Plz & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	1.9	0.8		1.0	0.8		2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		5.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	0.2		3.0	0.2		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)		17.0			17.0		18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	79.8	74.0		88.3	79.3		19.0	19.0		19.0	19.0	
Actuated g/C Ratio	0.66	0.62		0.74	0.66		0.16	0.16		0.16	0.16	
v/c Ratio	0.17	0.45		0.27	0.44		0.24	0.41		0.81	0.19	
Control Delay	6.7	16.3		6.5	11.6		44.2	11.0		81.9	17.9	
Queue Delay	0.0	0.2		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	6.7	16.5		6.5	11.6		44.2	11.0		81.9	17.9	
LOS	A	B		A	B		D	B		F	B	
Approach Delay		15.9			11.1			19.3			62.2	
Approach LOS		B			B			B			E	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 58 (48%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 17.4

Intersection LOS: B

Intersection Capacity Utilization 70.3%

ICU Level of Service C

Analysis Period (min) 15

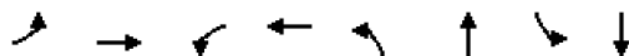
Splits and Phases: 2: Benson Park Plz & Ames Ave

 Ø1	 Ø2 (R)	 Ø4
15 s	71 s	34 s
 Ø5	 Ø6 (R)	 Ø8
13 s	73 s	34 s

Queues

2: Benson Park Plz & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	63	995	115	1026	52	156	130	58
v/c Ratio	0.17	0.45	0.27	0.44	0.24	0.41	0.81	0.19
Control Delay	6.7	16.3	6.5	11.6	44.2	11.0	81.9	17.9
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.7	16.5	6.5	11.6	44.2	11.0	81.9	17.9
Queue Length 50th (ft)	12	261	21	188	36	7	98	11
Queue Length 95th (ft)	m29	355	48	295	69	61	160	45
Internal Link Dist (ft)		451		2025		172		208
Turn Bay Length (ft)	150		200				75	
Base Capacity (vph)	398	2206	429	2343	318	493	236	427
Starvation Cap Reductn	0	418	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.56	0.27	0.44	0.16	0.32	0.55	0.14

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary

2: Benson Park Plz & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	890	65	110	840	145	50	10	140	125	15	40
Future Volume (veh/h)	60	890	65	110	840	145	50	10	140	125	15	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	62	927	68	115	875	151	52	10	146	130	16	42
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	379	1950	143	536	1873	323	301	21	312	211	95	250
Arrive On Green	0.07	1.00	1.00	0.08	0.61	0.61	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1810	3410	250	1810	3078	531	1366	104	1522	1250	464	1217
Grp Volume(v), veh/h	62	491	504	115	513	513	52	0	156	130	0	58
Grp Sat Flow(s),veh/h/ln	1810	1805	1855	1810	1805	1804	1366	0	1626	1250	0	1681
Q Serve(g_s), s	1.7	0.0	0.0	2.7	18.7	18.7	3.9	0.0	10.1	12.2	0.0	3.4
Cycle Q Clear(g_c), s	1.7	0.0	0.0	2.7	18.7	18.7	7.3	0.0	10.1	22.4	0.0	3.4
Prop In Lane	1.00		0.13	1.00		0.29	1.00		0.94	1.00		0.72
Lane Grp Cap(c), veh/h	379	1032	1061	536	1098	1098	301	0	333	211	0	345
V/C Ratio(X)	0.16	0.48	0.48	0.21	0.47	0.47	0.17	0.00	0.47	0.62	0.00	0.17
Avail Cap(c_a), veh/h	419	1032	1061	540	1098	1098	340	0	379	246	0	392
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	0.95	0.95	0.95	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.1	0.0	0.0	7.2	12.8	12.8	42.3	0.0	41.9	51.8	0.0	39.3
Incr Delay (d2), s/veh	0.1	1.4	1.3	0.2	1.4	1.4	0.3	0.0	1.0	3.5	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.4	0.4	1.0	7.4	7.4	1.4	0.0	4.2	4.1	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.2	1.4	1.3	7.4	14.2	14.2	42.6	0.0	43.0	55.3	0.0	39.5
LnGrp LOS	B	A	A	A	B	B	D	A	D	E	A	D
Approach Vol, veh/h	1057			1141			208			188		
Approach Delay, s/veh	1.9			13.5			42.9			50.4		
Approach LOS	A			B			D			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.8	74.6		30.6	10.4	79.0		30.6				
Change Period (Y+Rc), s	5.0	* 6		6.0	* 6	* 6		6.0				
Max Green Setting (Gmax), s	10.0	* 65		28.0	* 7	* 67		28.0				
Max Q Clear Time (g_c+I1), s	4.7	0.0		24.4	3.7	0.0		12.1				
Green Ext Time (p_c), s	0.1	0.0		0.2	0.0	0.0		0.7				

Intersection Summary

HCM 6th Ctrl Delay	13.8
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings

3: 66th St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	940	40	55	1010	10	25	5	25	10	5	20
Future Volume (vph)	35	940	40	55	1010	10	25	5	25	10	5	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.999			0.939			0.923	
Flt Protected	0.950			0.950				0.978			0.986	
Satd. Flow (prot)	1805	3588	0	1805	3606	0	0	1745	0	0	1729	0
Flt Permitted	0.271			0.284				0.837			0.917	
Satd. Flow (perm)	515	3588	0	540	3606	0	0	1493	0	0	1608	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			2			25			20	
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		2105			1330			821			664	
Travel Time (s)		35.9			22.7			22.4			18.1	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	35	949	40	56	1020	10	25	5	25	10	5	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	989	0	56	1030	0	0	55	0	0	35	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	26.0	26.0		26.0	26.0		30.0	30.0		30.0	30.0	
Total Split (s)	60.0	60.0		60.0	60.0		30.0	30.0		30.0	30.0	
Total Split (%)	66.7%	66.7%		66.7%	66.7%		33.3%	33.3%		33.3%	33.3%	
Maximum Green (s)	54.0	54.0		54.0	54.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	4.6	4.6		4.6	4.6		3.6	3.6		3.6	3.6	

Lanes, Volumes, Timings

3: 66th St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	1.4	1.4		1.4	1.4		1.4	1.4		1.4	1.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		17.0	17.0		17.0	17.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	74.2	74.2		74.2	74.2			8.6			8.6	
Actuated g/C Ratio	0.82	0.82		0.82	0.82			0.10			0.10	
v/c Ratio	0.08	0.33		0.13	0.35			0.33			0.20	
Control Delay	3.0	3.0		3.3	3.0			29.7			24.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	3.0	3.0		3.3	3.0			29.7			24.9	
LOS	A	A		A	A			C			C	
Approach Delay		3.0			3.1			29.7			24.9	
Approach LOS		A			A			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 46 (51%), Referenced to phase 2:EBWB, Start of FDW or yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.35

Intersection Signal Delay: 4.0

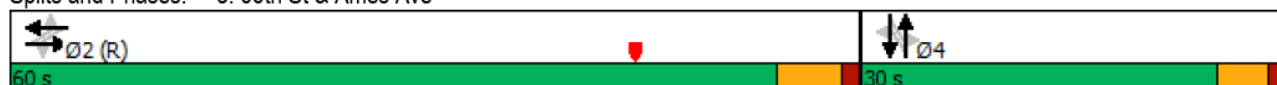
Intersection LOS: A

Intersection Capacity Utilization 61.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: 66th St & Ames Ave



Queues

3: 66th St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	35	989	56	1030	55	35
v/c Ratio	0.08	0.33	0.13	0.35	0.33	0.20
Control Delay	3.0	3.0	3.3	3.0	29.7	24.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.0	3.0	3.3	3.0	29.7	24.9
Queue Length 50th (ft)	3	64	6	68	16	8
Queue Length 95th (ft)	11	99	17	105	51	36
Internal Link Dist (ft)		2025		1250	741	584
Turn Bay Length (ft)	150		125			
Base Capacity (vph)	424	2959	445	2973	432	461
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.33	0.13	0.35	0.13	0.08

Intersection Summary

Lanes, Volumes, Timings

4: 63rd Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	1115	20	50	990	15	10	0	30	5	0	10
Future Volume (vph)	15	1115	20	50	990	15	10	0	30	5	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	110		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	80			85			50			50		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.998			0.898			0.907	
Flt Protected	0.950			0.950				0.988			0.985	
Satd. Flow (prot)	1805	3599	0	1805	3603	0	0	1686	0	0	1697	0
Flt Permitted	0.950			0.950				0.988			0.985	
Satd. Flow (perm)	1805	3599	0	1805	3603	0	0	1686	0	0	1697	0
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		1330			660			282			261	
Travel Time (s)		22.7			11.3			7.7			7.1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	15	1149	21	52	1021	15	10	0	31	5	0	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	15	1170	0	52	1036	0	0	41	0	0	16	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	48.1%						ICU Level of Service A					
Analysis Period (min)	15											

Intersection

Int Delay, s/veh 1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	1115	20	50	990	15	10	0	30	5	0	10
Future Vol, veh/h	15	1115	20	50	990	15	10	0	30	5	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	120	-	-	110	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	15	1149	21	52	1021	15	10	0	31	5	0	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1036	0	0	1170	0	0	1805	2330	585	1738	2333	518
Stage 1	-	-	-	-	-	-	1190	1190	-	1133	1133	-
Stage 2	-	-	-	-	-	-	615	1140	-	605	1200	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	679	-	-	604	-	-	51	38	459	57	37	508
Stage 1	-	-	-	-	-	-	202	263	-	219	280	-
Stage 2	-	-	-	-	-	-	450	278	-	456	261	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	679	-	-	604	-	-	46	34	459	49	33	508
Mov Cap-2 Maneuver	-	-	-	-	-	-	46	34	-	49	33	-
Stage 1	-	-	-	-	-	-	198	257	-	214	256	-
Stage 2	-	-	-	-	-	-	402	254	-	416	255	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.5	40.8	37.4
HCM LOS			E	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	141	679	-	-	604	-	-	127
HCM Lane V/C Ratio	0.292	0.023	-	-	0.085	-	-	0.126
HCM Control Delay (s)	40.8	10.4	-	-	11.5	-	-	37.4
HCM Lane LOS	E	B	-	-	B	-	-	E
HCM 95th %tile Q(veh)	1.1	0.1	-	-	0.3	-	-	0.4

Lanes, Volumes, Timings

5: 60th St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	915	85	110	805	115	95	245	125	170	240	140
Future Volume (vph)	105	915	85	110	805	115	95	245	125	170	240	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	200		0	175		0	175		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.987			0.981			0.949			0.945	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3563	0	1805	3541	0	1805	3426	0	1805	3411	0
Flt Permitted	0.183			0.148			0.450			0.358		
Satd. Flow (perm)	348	3563	0	281	3541	0	855	3426	0	680	3411	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			18			98			127	
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		644			1336			1335			1258	
Travel Time (s)		11.0			22.8			26.0			24.5	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	108	943	88	113	830	119	98	253	129	175	247	144
Shared Lane Traffic (%)												
Lane Group Flow (vph)	108	1031	0	113	949	0	98	382	0	175	391	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			16			16	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	20.0		5.0	20.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	13.0	29.0		13.0	29.0		13.0	16.0		13.0	16.0	
Total Split (s)	13.0	33.0		13.0	33.0		14.0	30.0		14.0	30.0	
Total Split (%)	14.4%	36.7%		14.4%	36.7%		15.6%	33.3%		15.6%	33.3%	
Maximum Green (s)	7.0	27.0		7.0	27.0		8.0	24.0		8.0	24.0	
Yellow Time (s)	3.5	4.9		3.9	4.9		3.0	4.6		3.6	4.6	

Lanes, Volumes, Timings

5: 60th St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	2.5	1.1		2.1	1.1		3.0	1.4		2.4	1.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0			8.0			8.0	
Flash Dont Walk (s)		16.0			16.0			16.0			16.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	45.9	39.0		46.1	39.1		20.8	13.2		22.4	16.0	
Actuated g/C Ratio	0.51	0.43		0.51	0.43		0.23	0.15		0.25	0.18	
v/c Ratio	0.35	0.67		0.40	0.61		0.35	0.65		0.65	0.55	
Control Delay	13.5	24.9		15.9	17.8		26.3	31.8		36.6	26.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	13.5	24.9		15.9	17.8		26.3	31.8		36.6	26.1	
LOS	B	C		B	B		C	C		D	C	
Approach Delay		23.8			17.6			30.7			29.4	
Approach LOS		C			B			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 72 (80%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 23.7

Intersection LOS: C

Intersection Capacity Utilization 74.3%

ICU Level of Service D

Analysis Period (min) 15

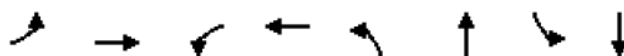
Splits and Phases: 5: 60th St & Ames Ave

 Ø1	 Ø2 (R) 	 Ø3	 Ø4
13 s	33 s	14 s	30 s
 Ø5	 Ø6 (R) 	 Ø7	 Ø8
13 s	33 s	14 s	30 s

Queues

5: 60th St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	108	1031	113	949	98	382	175	391
v/c Ratio	0.35	0.67	0.40	0.61	0.35	0.65	0.65	0.55
Control Delay	13.5	24.9	15.9	17.8	26.3	31.8	36.6	26.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.5	24.9	15.9	17.8	26.3	31.8	36.6	26.1
Queue Length 50th (ft)	26	246	13	230	41	80	77	74
Queue Length 95th (ft)	56	#395	48	333	74	121	123	115
Internal Link Dist (ft)		564		1256		1255		1178
Turn Bay Length (ft)	225		200		175		175	
Base Capacity (vph)	311	1548	286	1547	285	985	269	1002
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.67	0.40	0.61	0.34	0.39	0.65	0.39

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary

5: 60th St & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	915	85	110	805	115	95	245	125	170	240	140
Future Volume (veh/h)	105	915	85	110	805	115	95	245	125	170	240	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	108	943	88	113	830	119	98	253	129	175	247	144
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	410	1496	140	304	1424	204	255	335	166	277	378	213
Arrive On Green	0.05	0.45	0.45	0.11	0.90	0.90	0.06	0.14	0.14	0.09	0.17	0.17
Sat Flow, veh/h	1810	3338	311	1810	3169	454	1810	2341	1156	1810	2226	1253
Grp Volume(v), veh/h	108	510	521	113	473	476	98	193	189	175	199	192
Grp Sat Flow(s),veh/h/ln	1810	1805	1844	1810	1805	1818	1810	1805	1692	1810	1805	1674
Q Serve(g_s), s	2.9	19.6	19.6	3.0	5.0	5.0	4.1	9.2	9.7	7.4	9.2	9.7
Cycle Q Clear(g_c), s	2.9	19.6	19.6	3.0	5.0	5.0	4.1	9.2	9.7	7.4	9.2	9.7
Prop In Lane	1.00		0.17	1.00		0.25	1.00		0.68	1.00		0.75
Lane Grp Cap(c), veh/h	410	809	827	304	811	817	255	258	242	277	306	284
V/C Ratio(X)	0.26	0.63	0.63	0.37	0.58	0.58	0.38	0.75	0.78	0.63	0.65	0.68
Avail Cap(c_a), veh/h	457	809	827	349	811	817	303	481	451	277	481	447
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	0.94	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.1	19.1	19.1	13.8	2.8	2.8	30.4	37.0	37.2	30.0	34.9	35.0
Incr Delay (d2), s/veh	0.3	3.5	3.4	0.8	3.0	3.0	0.9	4.3	5.4	4.6	2.3	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	8.2	8.4	1.1	1.6	1.6	1.8	4.3	4.3	3.5	4.1	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.4	22.6	22.5	14.5	5.8	5.8	31.3	41.3	42.6	34.6	37.2	37.9
LnGrp LOS	B	C	C	B	A	A	C	D	D	C	D	D
Approach Vol, veh/h		1139			1062			480			566	
Approach Delay, s/veh		21.6			6.7			39.8			36.6	
Approach LOS		C			A			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.8	46.3	11.6	21.3	10.7	46.5	14.0	18.9				
Change Period (Y+Rc), s	6.0	* 6	6.0	* 6	6.0	* 6	6.0	* 6				
Max Green Setting (Gmax), s	7.0	* 27	8.0	* 24	7.0	* 27	8.0	* 24				
Max Q Clear Time (g_c+I1), s	5.0	21.6	6.1	11.7	4.9	7.0	9.4	11.7				
Green Ext Time (p_c), s	0.1	2.2	0.0	1.2	0.1	3.9	0.0	1.2				
Intersection Summary												
HCM 6th Ctrl Delay			22.0									
HCM 6th LOS			C									
Notes												

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings

6: Ames Ave & 56th Street (East)

09/08/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	50	1030	1095	45	30	30
Future Volume (vph)	50	1030	1095	45	30	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	80				50	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.994		0.932	
Flt Protected	0.950				0.976	
Satd. Flow (prot)	1805	3610	3588	0	1728	0
Flt Permitted	0.950				0.976	
Satd. Flow (perm)	1805	3610	3588	0	1728	0
Link Speed (mph)		40	40		25	
Link Distance (ft)		1336	420		331	
Travel Time (s)		22.8	7.2		9.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	52	1073	1141	47	31	31
Shared Lane Traffic (%)						
Lane Group Flow (vph)	52	1073	1188	0	62	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		14	14		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 48.5%				ICU Level of Service A		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	50	1030	1095	45	30	30
Future Vol, veh/h	50	1030	1095	45	30	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	160	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	52	1073	1141	47	31	31

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1188	0	0 1806 594
Stage 1	-	-	- 1165 -
Stage 2	-	-	- 641 -
Critical Hdwy	4.1	-	- 6.8 6.9
Critical Hdwy Stg 1	-	-	- 5.8 -
Critical Hdwy Stg 2	-	-	- 5.8 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	595	-	- 72 453
Stage 1	-	-	- 263 -
Stage 2	-	-	- 492 -
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	595	-	- 66 453
Mov Cap-2 Maneuver	-	-	- 66 -
Stage 1	-	-	- 240 -
Stage 2	-	-	- 492 -

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	68.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	595	-	-	-	115
HCM Lane V/C Ratio	0.088	-	-	-	0.543
HCM Control Delay (s)	11.6	-	-	-	68.5
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	0.3	-	-	-	2.6

Lanes, Volumes, Timings
7: 55th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	955	10	15	1190	10	10	0	5	5	0	20
Future Volume (vph)	20	955	10	15	1190	10	10	0	5	5	0	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	105		0	90		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	80			80			50			50		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.999			0.955			0.891	
Flt Protected	0.950			0.950				0.968			0.990	
Satd. Flow (prot)	1805	3606	0	1805	3606	0	0	1756	0	0	1676	0
Flt Permitted	0.950			0.950				0.968			0.990	
Satd. Flow (perm)	1805	3606	0	1805	3606	0	0	1756	0	0	1676	0
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		420			893			359			461	
Travel Time (s)		7.2			15.2			9.8			12.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	21	995	10	16	1240	10	10	0	5	5	0	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	1005	0	16	1250	0	0	15	0	0	26	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		14			14			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	43.2%						ICU Level of Service A					
Analysis Period (min)	15											

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	955	10	15	1190	10	10	0	5	5	0	20
Future Vol, veh/h	20	955	10	15	1190	10	10	0	5	5	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	105	-	-	90	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	21	995	10	16	1240	10	10	0	5	5	0	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1250	0	0	1005	0	0	1694	2324	503	1817	2324	625
Stage 1	-	-	-	-	-	-	1042	1042	-	1277	1277	-
Stage 2	-	-	-	-	-	-	652	1282	-	540	1047	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	564	-	-	697	-	-	62	38	519	50	38	433
Stage 1	-	-	-	-	-	-	249	309	-	179	239	-
Stage 2	-	-	-	-	-	-	428	238	-	499	308	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	564	-	-	697	-	-	56	36	519	47	36	433
Mov Cap-2 Maneuver	-	-	-	-	-	-	56	36	-	47	36	-
Stage 1	-	-	-	-	-	-	240	298	-	172	234	-
Stage 2	-	-	-	-	-	-	398	233	-	476	297	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	60.6	31.1
HCM LOS			F	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	80	564	-	-	697	-	-	164
HCM Lane V/C Ratio	0.195	0.037	-	-	0.022	-	-	0.159
HCM Control Delay (s)	60.6	11.6	-	-	10.3	-	-	31.1
HCM Lane LOS	F	B	-	-	B	-	-	D
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0.1	-	-	0.5

Lanes, Volumes, Timings

8: 52nd St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	900	80	145	980	90	80	190	130	95	195	75
Future Volume (vph)	80	900	80	145	980	90	80	190	130	95	195	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	160		0	180		200	200		300
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.988			0.987			0.939			0.958	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3567	0	1805	3563	0	1805	3390	0	1805	3458	0
Flt Permitted	0.205			0.211			0.509			0.432		
Satd. Flow (perm)	390	3567	0	401	3563	0	967	3390	0	821	3458	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			14			137			64	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		893			960			1336			1286	
Travel Time (s)		15.2			16.4			30.4			29.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	84	947	84	153	1032	95	84	200	137	100	205	79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	1031	0	153	1127	0	84	337	0	100	284	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		14			14			14			14	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	20.0		5.0	20.0		9.0	9.0		9.0	9.0	
Minimum Split (s)	12.0	29.0		12.0	29.0		14.0	14.0		14.0	14.0	
Total Split (s)	13.0	45.0		13.0	45.0		32.0	32.0		32.0	32.0	
Total Split (%)	14.4%	50.0%		14.4%	50.0%		35.6%	35.6%		35.6%	35.6%	
Maximum Green (s)	8.0	40.0		8.0	40.0		27.0	27.0		27.0	27.0	
Yellow Time (s)	3.1	4.5		3.6	4.5		4.1	4.1		4.1	4.1	

Lanes, Volumes, Timings

8: 52nd St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	1.9	0.5		1.4	0.5		0.9	0.9		0.9	0.9	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	3.0		2.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)		17.0			17.0		17.0	17.0		17.0	17.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	58.9	53.0		62.2	56.1		15.0	15.0		15.0	15.0	
Actuated g/C Ratio	0.65	0.59		0.69	0.62		0.17	0.17		0.17	0.17	
v/c Ratio	0.24	0.49		0.40	0.51		0.53	0.50		0.74	0.45	
Control Delay	4.6	7.3		7.8	11.8		44.7	21.5		64.2	27.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	4.6	7.3		7.8	11.8		44.7	21.5		64.2	27.3	
LOS	A	A		A	B		D	C		E	C	
Approach Delay		7.1			11.3			26.1			36.9	
Approach LOS		A			B			C			D	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 29 (32%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 14.9

Intersection LOS: B

Intersection Capacity Utilization 69.0%

ICU Level of Service C

Analysis Period (min) 15

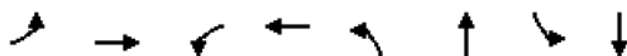
Splits and Phases: 8: 52nd St & Ames Ave

Ø1 13 s	Ø2 (R) 45 s	Ø4 32 s
Ø5 13 s	Ø6 (R) 45 s	Ø8 32 s

Queues

8: 52nd St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	84	1031	153	1127	84	337	100	284
v/c Ratio	0.24	0.49	0.40	0.51	0.53	0.50	0.74	0.45
Control Delay	4.6	7.3	7.8	11.8	44.7	21.5	64.2	27.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.6	7.3	7.8	11.8	44.7	21.5	64.2	27.3
Queue Length 50th (ft)	8	84	22	174	44	53	55	59
Queue Length 95th (ft)	m18	111	53	294	83	85	102	88
Internal Link Dist (ft)		813		880		1256		1206
Turn Bay Length (ft)	170		160		180		200	
Base Capacity (vph)	390	2104	411	2227	290	1112	246	1082
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.49	0.37	0.51	0.29	0.30	0.41	0.26

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary

8: 52nd St & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	900	80	145	980	90	80	190	130	95	195	75
Future Volume (veh/h)	80	900	80	145	980	90	80	190	130	95	195	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	84	947	84	153	1032	95	84	200	137	100	205	79
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	361	1888	167	496	1909	176	239	447	292	213	549	205
Arrive On Green	0.10	1.00	1.00	0.06	0.57	0.57	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1810	3354	297	1810	3342	308	1113	2093	1366	1060	2573	960
Grp Volume(v), veh/h	84	510	521	153	557	570	84	171	166	100	142	142
Grp Sat Flow(s),veh/h/ln	1810	1805	1846	1810	1805	1845	1113	1805	1654	1060	1805	1727
Q Serve(g_s), s	1.7	0.0	0.0	3.2	17.2	17.3	6.3	7.4	7.9	8.2	6.0	6.3
Cycle Q Clear(g_c), s	1.7	0.0	0.0	3.2	17.2	17.3	12.6	7.4	7.9	16.1	6.0	6.3
Prop In Lane	1.00		0.16	1.00		0.17	1.00		0.83	1.00		0.56
Lane Grp Cap(c), veh/h	361	1016	1040	496	1031	1053	239	385	353	213	385	369
V/C Ratio(X)	0.23	0.50	0.50	0.31	0.54	0.54	0.35	0.44	0.47	0.47	0.37	0.39
Avail Cap(c_a), veh/h	433	1016	1040	554	1031	1053	335	542	496	305	542	518
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.80	0.80	0.80	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.5	0.0	0.0	7.1	12.0	12.0	35.8	30.8	30.9	38.0	30.2	30.3
Incr Delay (d2), s/veh	0.1	1.8	1.7	0.1	1.6	1.6	0.9	0.8	1.0	1.6	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.5	0.5	1.0	6.4	6.6	1.7	3.3	3.2	2.2	2.6	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.6	1.8	1.7	7.2	13.6	13.6	36.6	31.6	31.9	39.6	30.8	31.0
LnGrp LOS	A	A	A	A	B	B	D	C	C	D	C	C
Approach Vol, veh/h	1115			1280			421			384		
Approach Delay, s/veh	2.3			12.8			32.7			33.2		
Approach LOS	A			B			C			C		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.1	55.7		24.2	9.4	56.4		24.2				
Change Period (Y+Rc), s	* 5	5.0		* 5	* 5	5.0		* 5				
Max Green Setting (Gmax), s	* 8	40.0		* 27	* 8	40.0		* 27				
Max Q Clear Time (g_c+I1), s	5.2	2.0		18.1	3.7	19.3		14.6				
Green Ext Time (p_c), s	0.1	4.7		1.1	0.0	4.9		1.5				

Intersection Summary

HCM 6th Ctrl Delay	14.2
HCM 6th LOS	B

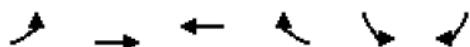
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings

9: Ames Ave & Wal Mart

09/08/2025

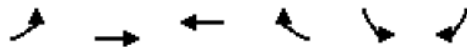


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	190	945	1030	155	155	185
Future Volume (vph)	190	945	1030	155	155	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	185			70	0	140
Storage Lanes	1			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1805	3610	3610	1615	1805	1615
Flt Permitted	0.179				0.950	
Satd. Flow (perm)	340	3610	3610	1615	1805	1615
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				100		191
Link Speed (mph)		40	40		25	
Link Distance (ft)		960	347		950	
Travel Time (s)		16.4	5.9		25.9	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	196	974	1062	160	160	191
Shared Lane Traffic (%)						
Lane Group Flow (vph)	196	974	1062	160	160	191
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		14	14		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	NA	Perm	Perm	Over
Protected Phases	5	2	6			5
Permitted Phases	2			6	4	
Detector Phase	5	2	6	6	4	5
Switch Phase						
Minimum Initial (s)	5.0	15.0	15.0	15.0	10.0	5.0
Minimum Split (s)	8.0	20.5	20.5	20.5	15.0	8.0
Total Split (s)	13.0	39.5	26.5	26.5	20.5	13.0
Total Split (%)	21.7%	65.8%	44.2%	44.2%	34.2%	21.7%
Maximum Green (s)	10.0	34.0	21.0	21.0	15.5	10.0
Yellow Time (s)	3.0	4.5	4.5	4.5	4.0	3.0

Lanes, Volumes, Timings

9: Ames Ave & Wal Mart

09/08/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
All-Red Time (s)	0.0	1.0	1.0	1.0	1.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	5.5	5.5	5.5	5.0	3.0
Lead/Lag	Lead		Lag	Lag		Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	3.0	3.0	3.0	3.0	2.0
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	43.5	42.1	31.0	31.0	11.5	7.1
Actuated g/C Ratio	0.72	0.70	0.52	0.52	0.19	0.12
v/c Ratio	0.47	0.38	0.57	0.18	0.47	0.53
Control Delay	7.6	5.8	7.0	1.8	25.8	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.6	5.8	7.0	1.8	25.8	10.3
LOS	A	A	A	A	C	B
Approach Delay		6.1	6.3		17.4	
Approach LOS		A	A		B	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 54 (90%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 7.6

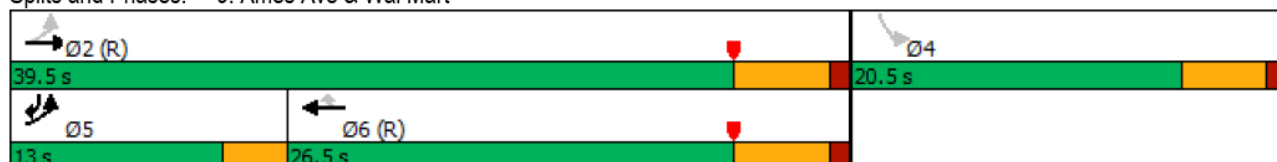
Intersection LOS: A

Intersection Capacity Utilization 59.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 9: Ames Ave & Wal Mart



Queues

9: Ames Ave & Wal Mart

09/08/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	196	974	1062	160	160	191
v/c Ratio	0.47	0.38	0.57	0.18	0.47	0.53
Control Delay	7.6	5.8	7.0	1.8	25.8	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.6	5.8	7.0	1.8	25.8	10.3
Queue Length 50th (ft)	19	73	66	1	53	0
Queue Length 95th (ft)	48	130	#80	10	94	47
Internal Link Dist (ft)		880	267		870	
Turn Bay Length (ft)	185			70		140
Base Capacity (vph)	490	2535	1862	881	466	428
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.38	0.57	0.18	0.34	0.45

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
10: 50th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	1065	5	10	1145	130	10	5	35	55	5	30
Future Volume (vph)	40	1065	5	10	1145	130	10	5	35	55	5	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	85		0	110		0	50		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	75			65			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.985			0.869			0.871	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3606	0	1805	3556	0	1805	1651	0	1805	1655	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1805	3606	0	1805	3556	0	1805	1651	0	1805	1655	0
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		347			510			165			250	
Travel Time (s)		5.9			8.7			4.5			6.8	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	40	1076	5	10	1157	131	10	5	35	56	5	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	40	1081	0	10	1288	0	10	40	0	56	35	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		14			14			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	52.2%						ICU Level of Service A					
Analysis Period (min)	15											

Intersection

Int Delay, s/veh 14

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱		↰	↰↱		↰	↰		↰	↰	
Traffic Vol, veh/h	40	1065	5	10	1145	130	10	5	35	55	5	30
Future Vol, veh/h	40	1065	5	10	1145	130	10	5	35	55	5	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	120	-	-	85	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	99	99	99	99	99	99	99	99	99	99	99	99
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	40	1076	5	10	1157	131	10	5	35	56	5	30

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1288	0	0	1081	0	0	1760	2467	541	1864	2404	644
Stage 1	-	-	-	-	-	-	1159	1159	-	1243	1243	-
Stage 2	-	-	-	-	-	-	601	1308	-	621	1161	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	545	-	-	653	-	-	55	31	491	~46	34	420
Stage 1	-	-	-	-	-	-	212	272	-	188	249	-
Stage 2	-	-	-	-	-	-	459	231	-	446	272	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	545	-	-	653	-	-	42	28	491	~34	31	420
Mov Cap-2 Maneuver	-	-	-	-	-	-	42	28	-	~34	31	-
Stage 1	-	-	-	-	-	-	197	252	-	174	245	-
Stage 2	-	-	-	-	-	-	411	228	-	376	252	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.1	51.1	\$ 360.5
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	42	160	545	-	-	653	-	-	34	150
HCM Lane V/C Ratio	0.241	0.253	0.074	-	-	0.015	-	-	1.634	0.236
HCM Control Delay (s)	116	34.9	12.1	-	-	10.6	-	-	\$ 566.9	36.2
HCM Lane LOS	F	D	B	-	-	B	-	-	F	E
HCM 95th %tile Q(veh)	0.8	1	0.2	-	-	0	-	-	6.1	0.9

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lanes, Volumes, Timings

11: 49th Ave & Ames Ave

09/08/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕↕	↗		↕↕		↗
Traffic Volume (vph)	1140	50	0	1265	0	20
Future Volume (vph)	1140	50	0	1265	0	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		130	0		0	0
Storage Lanes		1	0		0	1
Taper Length (ft)			50		50	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.865
Flt Protected						
Satd. Flow (prot)	3610	1615	0	3610	0	1644
Flt Permitted						
Satd. Flow (perm)	3610	1615	0	3610	0	1644
Link Speed (mph)	40			40	30	
Link Distance (ft)	510			810	369	
Travel Time (s)	8.7			13.8	8.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	1188	52	0	1318	0	21
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1188	52	0	1318	0	21
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	41.5%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Traffic Vol, veh/h	1140	50	0	1265	0	20
Future Vol, veh/h	1140	50	0	1265	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	130	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1188	52	0	1318	0	21

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	- - - 594
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - - 6.9
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - - 3.3
Pot Cap-1 Maneuver	-	-	0 - 0 453
Stage 1	-	-	0 - 0 -
Stage 2	-	-	0 - 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - - 453
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	453	-	-	-
HCM Lane V/C Ratio	0.046	-	-	-
HCM Control Delay (s)	13.3	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Lanes, Volumes, Timings
12: 48th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	1005	55	55	1055	45	70	30	55	30	20	25
Future Volume (vph)	40	1005	55	55	1055	45	70	30	55	30	20	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	130		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.994			0.952			0.955	
Flt Protected	0.950			0.950				0.978			0.981	
Satd. Flow (prot)	1805	3581	0	1805	3588	0	0	1769	0	0	1780	0
Flt Permitted	0.950			0.258				0.822			0.825	
Satd. Flow (perm)	1805	3581	0	490	3588	0	0	1487	0	0	1497	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			8			44			26	
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		810			1636			950			661	
Travel Time (s)		13.8			27.9			25.9			18.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	42	1047	57	57	1099	47	73	31	57	31	21	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	42	1104	0	57	1146	0	0	161	0	0	78	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		14			14			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8				4
Permitted Phases				6			8			4		
Detector Phase	5	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0		9.0	9.0		9.0	9.0	
Minimum Split (s)	8.0	24.5		24.5	24.5		29.0	29.0		29.0	29.0	
Total Split (s)	10.0	39.5		29.5	29.5		20.5	20.5		20.5	20.5	
Total Split (%)	16.7%	65.8%		49.2%	49.2%		34.2%	34.2%		34.2%	34.2%	
Maximum Green (s)	7.0	34.0		24.0	24.0		15.5	15.5		15.5	15.5	
Yellow Time (s)	3.0	4.5		4.5	4.5		4.0	4.0		4.0	4.0	

Lanes, Volumes, Timings

12: 48th Street & Ames Ave

09/08/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	0.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	3.0	5.5		5.5	5.5			5.0			5.0	
Lead/Lag	Lead			Lag								
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		12.0		12.0	12.0		17.0	17.0		17.0	17.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
Act Effct Green (s)	6.0	42.3		38.3	38.3			11.1			11.1	
Actuated g/C Ratio	0.10	0.70		0.64	0.64			0.18			0.18	
v/c Ratio	0.23	0.44		0.18	0.50			0.52			0.26	
Control Delay	22.6	6.5		5.6	5.1			21.9			16.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	22.6	6.5		5.6	5.1			21.9			16.8	
LOS	C	A		A	A			C			B	
Approach Delay		7.1			5.1			21.9			16.8	
Approach LOS		A			A			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 17 (28%), Referenced to phase 2:EBT and 6:WBTL, Start of FDW or yellow

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 7.4

Intersection LOS: A

Intersection Capacity Utilization 63.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 12: 48th Street & Ames Ave

→ Ø2 (R)		↓ Ø4	
39.5 s		20.5 s	
↖ Ø5	← Ø6 (R)	↗ Ø8	
10 s	29.5 s	20.5 s	

Queues

12: 48th Street & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	42	1104	57	1146	161	78
v/c Ratio	0.23	0.44	0.18	0.50	0.52	0.26
Control Delay	22.6	6.5	5.6	5.1	21.9	16.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.6	6.5	5.6	5.1	21.9	16.8
Queue Length 50th (ft)	11	127	3	36	39	16
Queue Length 95th (ft)	m28	213	m9	71	81	44
Internal Link Dist (ft)		730		1556	870	581
Turn Bay Length (ft)	120		130			
Base Capacity (vph)	213	2531	313	2294	416	406
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.44	0.18	0.50	0.39	0.19

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary

12: 48th Street & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	1005	55	55	1055	45	70	30	55	30	20	25
Future Volume (veh/h)	40	1005	55	55	1055	45	70	30	55	30	20	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	42	1047	57	57	1099	47	73	31	57	31	21	26
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	76	2360	128	424	2066	88	177	64	84	152	100	84
Arrive On Green	0.08	1.00	1.00	0.19	0.19	0.19	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1810	3481	189	519	3527	151	608	433	571	466	682	574
Grp Volume(v), veh/h	42	543	561	57	562	584	161	0	0	78	0	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1866	519	1805	1873	1612	0	0	1721	0	0
Q Serve(g_s), s	1.3	0.0	0.0	5.5	16.8	16.8	3.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.3	0.0	0.0	5.5	16.8	16.8	5.5	0.0	0.0	2.3	0.0	0.0
Prop In Lane	1.00		0.10	1.00		0.08	0.45		0.35	0.40		0.33
Lane Grp Cap(c), veh/h	76	1223	1265	424	1057	1097	325	0	0	337	0	0
V/C Ratio(X)	0.55	0.44	0.44	0.13	0.53	0.53	0.50	0.00	0.00	0.23	0.00	0.00
Avail Cap(c_a), veh/h	211	1223	1265	424	1057	1097	496	0	0	509	0	0
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.66	0.66	0.66	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	26.9	0.0	0.0	12.2	16.8	16.8	24.1	0.0	0.0	22.8	0.0	0.0
Incr Delay (d2), s/veh	2.3	1.2	1.1	0.4	1.3	1.2	1.2	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.4	0.4	0.6	8.1	8.4	2.2	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.3	1.2	1.1	12.7	18.1	18.0	25.2	0.0	0.0	23.2	0.0	0.0
LnGrp LOS	C	A	A	B	B	B	C	A	A	C	A	A
Approach Vol, veh/h	1146			1203			161			78		
Approach Delay, s/veh	2.2			17.8			25.2			23.2		
Approach LOS	A			B			C			C		
Timer - Assigned Phs	2			4		5	6	8				
Phs Duration (G+Y+Rc), s	46.2			13.8		5.5	40.7	13.8				
Change Period (Y+Rc), s	5.5			5.0		3.0	5.5	5.0				
Max Green Setting (Gmax), s	34.0			15.5		7.0	24.0	15.5				
Max Q Clear Time (g_c+I1), s	2.0			4.3		3.3	18.8	7.5				
Green Ext Time (p_c), s	5.1			0.2		0.0	2.6	0.3				

Intersection Summary

HCM 6th Ctrl Delay 11.5
 HCM 6th LOS B

Notes

User approved pedestrian interval to be less than phase max green.

Lanes, Volumes, Timings

13: Fontenelle Blvd & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	265	915	125	95	880	65	115	265	65	60	195	210
Future Volume (vph)	265	915	125	95	880	65	115	265	65	60	195	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	165		0	135		240	130		170
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.982			0.990				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3545	0	1805	3574	0	1805	1900	1615	1805	1900	1615
Flt Permitted	0.142			0.252			0.564			0.406		
Satd. Flow (perm)	270	3545	0	479	3574	0	1072	1900	1615	771	1900	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		41			14				164			228
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		1636			991			694			366	
Travel Time (s)		27.9			16.9			15.8			8.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	288	995	136	103	957	71	125	288	71	65	212	228
Shared Lane Traffic (%)												
Lane Group Flow (vph)	288	1131	0	103	1028	0	125	288	71	65	212	228
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		14			14			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	5	2		6	6		8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0		15.0	15.0		9.0	9.0	9.0	9.0	9.0	9.0
Minimum Split (s)	11.0	21.0		21.0	21.0		14.5	14.5	14.5	14.5	14.5	14.5
Total Split (s)	13.0	40.0		27.0	27.0		20.0	20.0	20.0	20.0	20.0	20.0
Total Split (%)	21.7%	66.7%		45.0%	45.0%		33.3%	33.3%	33.3%	33.3%	33.3%	33.3%
Maximum Green (s)	7.0	34.0		21.0	21.0		15.0	15.0	15.0	15.0	15.0	15.0
Yellow Time (s)	3.8	4.8		4.8	4.8		4.0	4.0	4.0	4.0	4.0	4.0

Lanes, Volumes, Timings

13: Fontenelle Blvd & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	2.2	1.2		1.2	1.2		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead			Lag								
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None	None	None	None	None
Act Effct Green (s)	36.0	36.0		22.2	22.2		13.0	13.0	13.0	13.0	13.0	13.0
Actuated g/C Ratio	0.60	0.60		0.37	0.37		0.22	0.22	0.22	0.22	0.22	0.22
v/c Ratio	0.80	0.53		0.58	0.77		0.54	0.70	0.15	0.39	0.51	0.43
Control Delay	28.5	6.3		28.5	19.1		29.3	30.9	0.7	26.7	24.9	6.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.5	6.3		28.5	19.1		29.3	30.9	0.7	26.7	24.9	6.0
LOS	C	A		C	B		C	C	A	C	C	A
Approach Delay	10.8			20.0			26.1			16.6		
Approach LOS	B			C			C			B		

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 59 (98%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 16.6

Intersection LOS: B

Intersection Capacity Utilization 81.6%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 13: Fontenelle Blvd & Ames Ave

 Ø2 (R)	 Ø4
40 s	20 s
 Ø5	 Ø6 (R)
13 s	27 s
	 Ø8
	20 s

Queues

13: Fontenelle Blvd & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	288	1131	103	1028	125	288	71	65	212	228
v/c Ratio	0.80	0.53	0.58	0.77	0.54	0.70	0.15	0.39	0.51	0.43
Control Delay	28.5	6.3	28.5	19.1	29.3	30.9	0.7	26.7	24.9	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.5	6.3	28.5	19.1	29.3	30.9	0.7	26.7	24.9	6.0
Queue Length 50th (ft)	29	156	16	107	39	94	0	20	66	0
Queue Length 95th (ft)	#165	38	m#84	#148	84	162	0	51	119	45
Internal Link Dist (ft)		1556		911		614			286	
Turn Bay Length (ft)	170		165		135		240	130		170
Base Capacity (vph)	360	2141	177	1331	268	475	526	192	475	574
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.53	0.58	0.77	0.47	0.61	0.13	0.34	0.45	0.40

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary

13: Fontenelle Blvd & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	265	915	125	95	880	65	115	265	65	60	195	210
Future Volume (veh/h)	265	915	125	95	880	65	115	265	65	60	195	210
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	288	995	136	103	957	71	125	288	71	65	212	228
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	419	1808	247	297	1192	88	270	475	403	240	475	403
Arrive On Green	0.23	1.00	1.00	0.70	0.70	0.70	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1810	3191	436	506	3407	253	964	1900	1610	1039	1900	1610
Grp Volume(v), veh/h	288	563	568	103	507	521	125	288	71	65	212	228
Grp Sat Flow(s),veh/h/ln	1810	1805	1822	506	1805	1855	964	1900	1610	1039	1900	1610
Q Serve(g_s), s	6.1	0.0	0.0	6.2	11.5	11.5	7.5	8.0	2.1	3.5	5.7	7.4
Cycle Q Clear(g_c), s	6.1	0.0	0.0	6.2	11.5	11.5	13.2	8.0	2.1	11.6	5.7	7.4
Prop In Lane	1.00		0.24	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	419	1023	1032	297	632	649	270	475	403	240	475	403
V/C Ratio(X)	0.69	0.55	0.55	0.35	0.80	0.80	0.46	0.61	0.18	0.27	0.45	0.57
Avail Cap(c_a), veh/h	419	1023	1032	297	632	649	270	475	403	240	475	403
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	0.83	0.83	0.83	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.2	0.0	0.0	6.8	7.6	7.6	24.6	19.9	17.7	25.0	19.0	19.7
Incr Delay (d2), s/veh	3.5	1.9	1.9	2.6	8.8	8.5	1.2	2.2	0.2	0.6	0.7	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.5	0.5	0.6	3.5	3.6	1.7	3.5	0.7	0.9	2.4	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.7	1.9	1.9	9.4	16.3	16.1	25.8	22.1	17.9	25.6	19.7	21.5
LnGrp LOS	B	A	A	A	B	B	C	C	B	C	B	C
Approach Vol, veh/h	1419			1131			484			505		
Approach Delay, s/veh	4.3			15.6			22.4			21.3		
Approach LOS	A			B			C			C		
Timer - Assigned Phs	2			4		5	6	8				
Phs Duration (G+Y+Rc), s	40.0			20.0		13.0	27.0	20.0				
Change Period (Y+Rc), s	* 6			5.0		6.0	* 6	5.0				
Max Green Setting (Gmax), s	* 34			15.0		7.0	* 21	15.0				
Max Q Clear Time (g_c+I1), s	2.0			13.6		8.1	13.5	15.2				
Green Ext Time (p_c), s	5.4			0.4		0.0	3.4	0.0				

Intersection Summary

HCM 6th Ctrl Delay	12.8
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings
14: 42nd St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	860	185	25	910	55	160	110	30	35	90	55
Future Volume (vph)	20	860	185	25	910	55	160	110	30	35	90	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	70		0	40		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.974			0.992			0.968			0.943	
Flt Protected		0.999			0.999		0.950			0.950		
Satd. Flow (prot)	0	3513	0	0	3578	0	1805	1839	0	1805	1792	0
Flt Permitted		0.926			0.909		0.661			0.664		
Satd. Flow (perm)	0	3256	0	0	3255	0	1256	1839	0	1262	1792	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		49			12			28			45	
Link Speed (mph)		40			35			25			25	
Link Distance (ft)		991			655			617			942	
Travel Time (s)		16.9			12.8			16.8			25.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	21	896	193	26	948	57	167	115	31	36	94	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1110	0	0	1031	0	167	146	0	36	151	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		9.0	9.0		9.0	9.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		29.0	29.0		29.0	29.0	
Total Split (s)	29.5	29.5		29.5	29.5		30.5	30.5		30.5	30.5	
Total Split (%)	49.2%	49.2%		49.2%	49.2%		50.8%	50.8%		50.8%	50.8%	
Maximum Green (s)	24.0	24.0		24.0	24.0		25.5	25.5		25.5	25.5	
Yellow Time (s)	4.5	4.5		4.5	4.5		4.0	4.0		4.0	4.0	

Lanes, Volumes, Timings

14: 42nd St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.5			5.5		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		17.0	17.0		17.0	17.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		35.8			35.8		13.7	13.7		13.7	13.7	
Actuated g/C Ratio		0.60			0.60		0.23	0.23		0.23	0.23	
v/c Ratio		0.57			0.53		0.58	0.33		0.12	0.34	
Control Delay		7.0			10.7		28.1	16.3		17.3	14.8	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		7.0			10.7		28.1	16.3		17.3	14.8	
LOS		A			B		C	B		B	B	
Approach Delay		7.0			10.7			22.6			15.3	
Approach LOS		A			B			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 45 (75%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 10.9

Intersection LOS: B

Intersection Capacity Utilization 74.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 14: 42nd St & Ames Ave

Ø2 (R) Ø2 (R)	Ø4 Ø4
29.5 s	30.5 s
Ø6 (R) Ø6 (R)	Ø8 Ø8
29.5 s	30.5 s

Queues

14: 42nd St & Ames Ave

09/08/2025



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	1110	1031	167	146	36	151
v/c Ratio	0.57	0.53	0.58	0.33	0.12	0.34
Control Delay	7.0	10.7	28.1	16.3	17.3	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.0	10.7	28.1	16.3	17.3	14.8
Queue Length 50th (ft)	47	143	54	36	10	32
Queue Length 95th (ft)	123	267	94	67	26	64
Internal Link Dist (ft)	911	575		537		862
Turn Bay Length (ft)			70		40	
Base Capacity (vph)	1962	1947	533	797	536	787
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.53	0.31	0.18	0.07	0.19

Intersection Summary

HCM 6th Signalized Intersection Summary

14: 42nd St & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	860	185	25	910	55	160	110	30	35	90	55
Future Volume (veh/h)	20	860	185	25	910	55	160	110	30	35	90	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	21	896	193	26	948	57	167	115	31	36	94	57
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	76	1640	348	84	1891	112	342	356	96	349	273	166
Arrive On Green	1.00	1.00	1.00	0.39	0.39	0.39	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	25	2835	603	36	3269	194	1256	1441	389	1262	1108	672
Grp Volume(v), veh/h	591	0	519	533	0	498	167	0	146	36	0	151
Grp Sat Flow(s),veh/h/ln	1842	0	1621	1805	0	1694	1256	0	1830	1262	0	1779
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	13.5	7.6	0.0	3.9	1.4	0.0	4.2
Cycle Q Clear(g_c), s	0.0	0.0	0.0	12.7	0.0	13.5	11.8	0.0	3.9	5.4	0.0	4.2
Prop In Lane	0.04		0.37	0.05		0.11	1.00		0.21	1.00		0.38
Lane Grp Cap(c), veh/h	1128	0	937	1107	0	980	342	0	451	349	0	439
V/C Ratio(X)	0.52	0.00	0.55	0.48	0.00	0.51	0.49	0.00	0.32	0.10	0.00	0.34
Avail Cap(c_a), veh/h	1128	0	937	1107	0	980	566	0	778	574	0	756
HCM Platoon Ratio	2.00	2.00	2.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.00	0.86	0.89	0.00	0.89	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	11.6	0.0	11.9	23.4	0.0	18.5	20.7	0.0	18.6
Incr Delay (d2), s/veh	1.5	0.0	2.0	1.3	0.0	1.7	1.1	0.0	0.4	0.1	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.5	5.5	0.0	5.4	2.2	0.0	1.6	0.4	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1.5	0.0	2.0	13.0	0.0	13.6	24.5	0.0	18.9	20.8	0.0	19.1
LnGrp LOS	A	A	A	B	A	B	C	A	B	C	A	B
Approach Vol, veh/h	1110			1031			313			187		
Approach Delay, s/veh	1.7			13.2			21.9			19.4		
Approach LOS	A			B			C			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	40.2			19.8			40.2			19.8		
Change Period (Y+Rc), s	5.5			5.0			5.5			5.0		
Max Green Setting (Gmax), s	24.0			25.5			24.0			25.5		
Max Q Clear Time (g_c+l1), s	2.0			7.4			15.5			13.8		
Green Ext Time (p_c), s	5.2			0.7			3.2			1.0		
Intersection Summary												
HCM 6th Ctrl Delay	9.9											
HCM 6th LOS	A											

Lanes, Volumes, Timings
15: 40th St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	20	820	15	15	1010	25	10	20	10	15	10	45
Future Volume (vph)	20	820	15	15	1010	25	10	20	10	15	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Fr t		0.997			0.996			0.966			0.913	
Flt Protected		0.999			0.999			0.987			0.990	
Satd. Flow (prot)	0	3596	0	0	3592	0	0	1812	0	0	1717	0
Flt Permitted		0.912			0.937			0.922			0.914	
Satd. Flow (perm)	0	3282	0	0	3369	0	0	1692	0	0	1586	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			6			12			52	
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		655			1348			387			413	
Travel Time (s)		14.9			30.6			10.6			11.3	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	23	953	17	17	1174	29	12	23	12	17	12	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	993	0	0	1220	0	0	47	0	0	81	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		9.0	9.0		9.0	9.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	36.5	36.5		36.5	36.5		23.5	23.5		23.5	23.5	
Total Split (%)	60.8%	60.8%		60.8%	60.8%		39.2%	39.2%		39.2%	39.2%	
Maximum Green (s)	31.0	31.0		31.0	31.0		18.5	18.5		18.5	18.5	
Yellow Time (s)	4.5	4.5		4.5	4.5		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.5			5.5			5.0			5.0	

Lanes, Volumes, Timings

15: 40th St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		48.2			48.2			9.1			9.1	
Actuated g/C Ratio		0.80			0.80			0.15			0.15	
v/c Ratio		0.38			0.45			0.18			0.28	
Control Delay		5.2			8.1			19.6			14.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		5.2			8.1			19.6			14.2	
LOS		A			A			B			B	
Approach Delay		5.2			8.1			19.6			14.2	
Approach LOS		A			A			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 26 (43%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.45

Intersection Signal Delay: 7.3

Intersection LOS: A

Intersection Capacity Utilization 55.6%

ICU Level of Service B

Analysis Period (min) 15

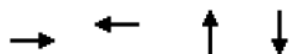
Splits and Phases: 15: 40th St & Ames Ave

	Ø2 (R)			Ø4
36.5 s			23.5 s	
	Ø6 (R)			Ø8
36.5 s			23.5 s	

Queues

15: 40th St & Ames Ave

09/08/2025



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	993	1220	47	81
v/c Ratio	0.38	0.45	0.18	0.28
Control Delay	5.2	8.1	19.6	14.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	5.2	8.1	19.6	14.2
Queue Length 50th (ft)	57	122	11	9
Queue Length 95th (ft)	150	258	34	39
Internal Link Dist (ft)	575	1268	307	333
Turn Bay Length (ft)				
Base Capacity (vph)	2635	2705	530	524
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.38	0.45	0.09	0.15

Intersection Summary

HCM 6th Signalized Intersection Summary

15: 40th St & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	20	820	15	15	1010	25	10	20	10	15	10	45
Future Volume (veh/h)	20	820	15	15	1010	25	10	20	10	15	10	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	23	953	17	17	1174	29	12	23	12	17	12	52
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	84	2379	42	73	2407	59	104	142	59	98	52	139
Arrive On Green	0.92	0.92	0.92	0.69	0.69	0.69	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	31	3434	60	17	3475	85	220	1070	442	192	395	1053
Grp Volume(v), veh/h	510	0	483	636	0	584	47	0	0	81	0	0
Grp Sat Flow(s),veh/h/ln	1807	0	1718	1863	0	1714	1733	0	0	1641	0	0
Q Serve(g_s), s	0.0	0.0	2.1	0.0	0.0	9.5	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.0	0.0	2.1	9.3	0.0	9.5	1.4	0.0	0.0	2.6	0.0	0.0
Prop In Lane	0.05		0.04	0.03		0.05	0.26		0.26	0.21		0.64
Lane Grp Cap(c), veh/h	1315	0	1190	1352	0	1187	304	0	0	290	0	0
V/C Ratio(X)	0.39	0.00	0.41	0.47	0.00	0.49	0.15	0.00	0.00	0.28	0.00	0.00
Avail Cap(c_a), veh/h	1315	0	1190	1352	0	1187	596	0	0	570	0	0
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.81	0.00	0.81	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.8	0.0	0.8	4.3	0.0	4.3	23.2	0.0	0.0	23.7	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.8	1.2	0.0	1.5	0.2	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.6	2.6	0.0	2.5	0.6	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1.5	0.0	1.6	5.4	0.0	5.8	23.4	0.0	0.0	24.2	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		993			1220			47			81	
Approach Delay, s/veh		1.6			5.6			23.4			24.2	
Approach LOS		A			A			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		47.1		12.9		47.1		12.9				
Change Period (Y+Rc), s		5.5		5.0		5.5		5.0				
Max Green Setting (Gmax), s		31.0		18.5		31.0		18.5				
Max Q Clear Time (g_c+I1), s		4.1		4.6		11.5		3.4				
Green Ext Time (p_c), s		4.9		0.2		5.8		0.1				
Intersection Summary												
HCM 6th Ctrl Delay				4.9								
HCM 6th LOS				A								

Lanes, Volumes, Timings
16: 37th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	880	15	10	975	5	0	0	0	5	0	0
Future Volume (vph)	10	880	15	10	975	5	0	0	0	5	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.999							
Flt Protected		0.999			0.999						0.950	
Satd. Flow (prot)	0	3596	0	0	3603	0	0	0	0	0	1805	0
Flt Permitted		0.999			0.999						0.950	
Satd. Flow (perm)	0	3596	0	0	3603	0	0	0	0	0	1805	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		1348			331			266			377	
Travel Time (s)		30.6			7.5			7.3			10.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	11	926	16	11	1026	5	0	0	0	5	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	953	0	0	1042	0	0	0	0	0	5	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	44.1%						ICU Level of Service A					
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕			↕↕						↕		
Traffic Vol, veh/h	10	880	15	10	975	5	0	0	0	5	0	0
Future Vol, veh/h	10	880	15	10	975	5	0	0	0	5	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	10835	10784	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	11	926	16	11	1026	5	0	0	0	5	0	0

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	1031	0	0	942	0	0	1536	2015	516
Stage 1	-	-	-	-	-	-	1051	1051	-
Stage 2	-	-	-	-	-	-	485	964	-
Critical Hdwy	4.1	-	-	4.1	-	-	6.8	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	682	-	-	736	-	-	109	59	509
Stage 1	-	-	-	-	-	-	302	306	-
Stage 2	-	-	-	-	-	-	591	336	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	682	-	-	736	-	-	102	0	509
Mov Cap-2 Maneuver	-	-	-	-	-	-	102	0	-
Stage 1	-	-	-	-	-	-	292	0	-
Stage 2	-	-	-	-	-	-	570	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0.3	42.2
HCM LOS	E		

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	682	-	-	736	-	-	102
HCM Lane V/C Ratio	0.015	-	-	0.014	-	-	0.052
HCM Control Delay (s)	10.4	0.2	-	10	0.2	-	42.2
HCM Lane LOS	B	A	-	A	A	-	E
HCM 95th %tile Q(veh)	0	-	-	0	-	-	0.2

Lanes, Volumes, Timings
17: 36th Ave & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	940	0	0	925	10	0	0	0	10	0	5
Future Volume (vph)	5	940	0	0	925	10	0	0	0	10	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		95	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.998						0.958	
Flt Protected											0.967	
Satd. Flow (prot)	0	3610	1900	0	3603	0	0	0	0	0	1760	0
Flt Permitted											0.967	
Satd. Flow (perm)	0	3610	1900	0	3603	0	0	0	0	0	1760	0
Link Speed (mph)		30			35			25			25	
Link Distance (ft)		331			321			85			202	
Travel Time (s)		7.5			6.3			2.3			5.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	5	1022	0	0	1005	11	0	0	0	11	0	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1027	0	0	1016	0	0	0	0	0	16	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			2			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Free			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	39.5%						ICU Level of Service A					
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕	↗		↕↕						↕	
Traffic Vol, veh/h	5	940	0	0	925	10	0	0	0	10	0	5
Future Vol, veh/h	5	940	0	0	925	10	0	0	0	10	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	95	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	1083931648	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	1022	0	0	1005	11	0	0	0	11	0	5

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	1016	0	0	1022	0	0	1532	2043	508
Stage 1	-	-	-	-	-	-	1011	1011	-
Stage 2	-	-	-	-	-	-	521	1032	-
Critical Hdwy	4.1	-	-	4.1	-	-	6.8	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	691	-	-	687	-	-	110	57	515
Stage 1	-	-	-	-	-	-	317	320	-
Stage 2	-	-	-	-	-	-	566	313	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	691	-	-	687	-	-	108	0	515
Mov Cap-2 Maneuver	-	-	-	-	-	-	108	0	-
Stage 1	-	-	-	-	-	-	312	0	-
Stage 2	-	-	-	-	-	-	566	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	32.5
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	691	-	-	687	-	-	147
HCM Lane V/C Ratio	0.008	-	-	-	-	-	0.111
HCM Control Delay (s)	10.3	0.1	-	0	-	-	32.5
HCM Lane LOS	B	A	-	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	0	-	-	0.4

Lanes, Volumes, Timings
18: 36th St & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	810	50	35	930	20	100	60	130	15	20	10
Future Volume (vph)	25	810	50	35	930	20	100	60	130	15	20	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	225		0	90		0	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.997			0.898			0.971	
Flt Protected	0.950			0.950			0.950				0.983	
Satd. Flow (prot)	1805	3578	0	1805	3599	0	1805	1706	0	0	1814	0
Flt Permitted	0.262			0.297			0.726				0.855	
Satd. Flow (perm)	498	3578	0	564	3599	0	1379	1706	0	0	1577	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			5			99			10	
Link Speed (mph)		35			30			25			25	
Link Distance (ft)		321			398			616			554	
Travel Time (s)		6.3			9.0			16.8			15.1	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	26	844	52	36	969	21	104	63	135	16	21	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	896	0	36	990	0	104	198	0	0	47	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8				4
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		26.0	26.0		26.0	26.0	
Total Split (s)	33.0	33.0		33.0	33.0		27.0	27.0		27.0	27.0	
Total Split (%)	55.0%	55.0%		55.0%	55.0%		45.0%	45.0%		45.0%	45.0%	
Maximum Green (s)	28.0	28.0		28.0	28.0		22.0	22.0		22.0	22.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	

Lanes, Volumes, Timings

18: 36th St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	38.8	38.8		38.8	38.8		11.2	11.2			11.2	
Actuated g/C Ratio	0.65	0.65		0.65	0.65		0.19	0.19			0.19	
v/c Ratio	0.08	0.39		0.10	0.42		0.41	0.50			0.16	
Control Delay	4.0	6.3		5.4	6.1		26.1	15.9			17.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	4.0	6.3		5.4	6.1		26.1	15.9			17.8	
LOS	A	A		A	A		C	B			B	
Approach Delay		6.2			6.0			19.4			17.8	
Approach LOS		A			A			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 58 (97%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.50

Intersection Signal Delay: 8.1

Intersection LOS: A

Intersection Capacity Utilization 52.8%

ICU Level of Service A

Analysis Period (min) 15

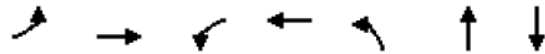
Splits and Phases: 18: 36th St & Ames Ave

 Ø2 (R)	 Ø4
33 s	27 s
 Ø6 (R)	 Ø8
33 s	27 s

Queues

18: 36th St & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	26	896	36	990	104	198	47
v/c Ratio	0.08	0.39	0.10	0.42	0.41	0.50	0.16
Control Delay	4.0	6.3	5.4	6.1	26.1	15.9	17.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.0	6.3	5.4	6.1	26.1	15.9	17.8
Queue Length 50th (ft)	1	63	4	69	34	32	12
Queue Length 95th (ft)	m10	205	16	126	69	78	33
Internal Link Dist (ft)		241		318		536	474
Turn Bay Length (ft)	100		225		90		
Base Capacity (vph)	322	2321	365	2331	505	688	584
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.39	0.10	0.42	0.21	0.29	0.08

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary

18: 36th St & Ames Ave

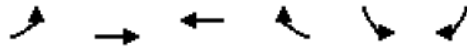
09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	810	50	35	930	20	100	60	130	15	20	10
Future Volume (veh/h)	25	810	50	35	930	20	100	60	130	15	20	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	26	844	52	36	969	21	104	62	135	16	21	10
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	435	2304	142	473	2410	52	330	88	193	110	120	40
Arrive On Green	0.67	0.67	0.67	0.67	0.67	0.67	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	578	3454	213	631	3613	78	1400	532	1159	177	722	243
Grp Volume(v), veh/h	26	441	455	36	484	506	104	0	197	47	0	0
Grp Sat Flow(s),veh/h/ln	578	1805	1862	631	1805	1886	1400	0	1691	1143	0	0
Q Serve(g_s), s	1.3	6.5	6.5	1.6	7.3	7.3	0.0	0.0	6.6	0.1	0.0	0.0
Cycle Q Clear(g_c), s	8.6	6.5	6.5	8.1	7.3	7.3	4.7	0.0	6.6	6.7	0.0	0.0
Prop In Lane	1.00		0.11	1.00		0.04	1.00		0.69	0.34		0.21
Lane Grp Cap(c), veh/h	435	1204	1242	473	1204	1258	330	0	281	270	0	0
V/C Ratio(X)	0.06	0.37	0.37	0.08	0.40	0.40	0.31	0.00	0.70	0.17	0.00	0.00
Avail Cap(c_a), veh/h	435	1204	1242	473	1204	1258	611	0	620	579	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.96	0.96	0.96	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.5	4.4	4.4	6.2	4.5	4.5	22.8	0.0	23.6	21.5	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.9	0.8	0.3	1.0	0.9	0.5	0.0	3.2	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.7	1.8	0.2	2.1	2.2	1.3	0.0	2.8	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.8	5.3	5.2	6.5	5.5	5.5	23.4	0.0	26.8	21.8	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	C	C	A	A
Approach Vol, veh/h		922			1026			301			47	
Approach Delay, s/veh		5.3			5.5			25.6			21.8	
Approach LOS		A			A			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		45.0		15.0		45.0		15.0				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		28.0		22.0		28.0		22.0				
Max Q Clear Time (g_c+I1), s		10.6		8.7		10.1		8.6				
Green Ext Time (p_c), s		3.8		0.1		4.6		1.0				
Intersection Summary												
HCM 6th Ctrl Delay				8.4								
HCM 6th LOS				A								

Lanes, Volumes, Timings

19: Ames Ave & 35th St

09/08/2025

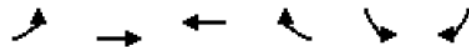


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↶↶	↶↶		↰	
Traffic Volume (vph)	5	870	1035	5	5	5
Future Volume (vph)	5	870	1035	5	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.999		0.932	
Flt Protected	0.950				0.976	
Satd. Flow (prot)	1805	3610	3606	0	1728	0
Flt Permitted	0.255				0.976	
Satd. Flow (perm)	484	3610	3606	0	1728	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			1		5	
Link Speed (mph)		30	30		25	
Link Distance (ft)		398	240		123	
Travel Time (s)		9.0	5.5		3.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	5	926	1101	5	5	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	5	926	1106	0	10	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane		Yes	Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2		1	
Detector Template	Left	Thru	Thru		Left	
Leading Detector (ft)	20	100	100		20	
Trailing Detector (ft)	0	0	0		0	
Detector 1 Position(ft)	0	0	0		0	
Detector 1 Size(ft)	20	6	6		20	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA		Perm	
Protected Phases		2	6			
Permitted Phases	2				4	
Detector Phase	2	2	6		4	
Switch Phase						
Minimum Initial (s)	20.0	20.0	20.0		10.0	

Lanes, Volumes, Timings

19: Ames Ave & 35th St

09/08/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Minimum Split (s)	25.0	25.0	25.0		23.0	
Total Split (s)	50.0	50.0	50.0		40.0	
Total Split (%)	55.6%	55.6%	55.6%		44.4%	
Maximum Green (s)	45.0	45.0	45.0		35.0	
Yellow Time (s)	4.0	4.0	4.0		4.0	
All-Red Time (s)	1.0	1.0	1.0		1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	C-Max	C-Max	C-Max		None	
Walk Time (s)	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0		0	
Act Effct Green (s)	86.0	86.0	86.0		10.0	
Actuated g/C Ratio	0.96	0.96	0.96		0.11	
v/c Ratio	0.01	0.27	0.32		0.05	
Control Delay	1.4	1.0	1.1		28.3	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	1.4	1.0	1.1		28.3	
LOS	A	A	A		C	
Approach Delay		1.0	1.1		28.3	
Approach LOS		A	A		C	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 21 (23%), Referenced to phase 2:EBTL and 6:WBT, Start of FDW or yellow
 Natural Cycle: 50
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.32
 Intersection Signal Delay: 1.2
 Intersection Capacity Utilization 45.4%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 19: Ames Ave & 35th St

 Ø2 (R) 50 s	 Ø4 40 s
 Ø6 (R) 50 s	

Queues

19: Ames Ave & 35th St

09/08/2025



Lane Group	EBL	EBT	WBT	SBL
Lane Group Flow (vph)	5	926	1106	10
v/c Ratio	0.01	0.27	0.32	0.05
Control Delay	1.4	1.0	1.1	28.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	1.4	1.0	1.1	28.3
Queue Length 50th (ft)	0	0	0	3
Queue Length 95th (ft)	3	83	104	18
Internal Link Dist (ft)		318	160	43
Turn Bay Length (ft)	90			
Base Capacity (vph)	462	3449	3446	675
Starvation Cap Reductn	0	416	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.01	0.31	0.32	0.01

Intersection Summary

Lanes, Volumes, Timings
20: 34th Ave & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	845	15	25	950	10	10	15	25	10	5	15
Future Volume (vph)	15	845	15	25	950	10	10	15	25	10	5	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.999			0.932			0.930	
Flt Protected		0.999			0.999			0.990			0.984	
Satd. Flow (prot)	0	3596	0	0	3603	0	0	1753	0	0	1739	0
Flt Permitted		0.999			0.999			0.990			0.984	
Satd. Flow (perm)	0	3596	0	0	3603	0	0	1753	0	0	1739	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		240			680			178			167	
Travel Time (s)		5.5			15.5			4.9			4.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	16	880	16	26	990	10	10	16	26	10	5	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	912	0	0	1026	0	0	52	0	0	31	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		4			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	54.6%				ICU Level of Service A							
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕			↕↕			↕↕			↕↕		
Traffic Vol, veh/h	15	845	15	25	950	10	10	15	25	10	5	15
Future Vol, veh/h	15	845	15	25	950	10	10	15	25	10	5	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	16	880	16	26	990	10	10	16	26	10	5	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1000	0	0	896	0	0	1470	1972	448	1527	1975	500
Stage 1	-	-	-	-	-	-	920	920	-	1047	1047	-
Stage 2	-	-	-	-	-	-	550	1052	-	480	928	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	700	-	-	766	-	-	90	63	564	82	63	522
Stage 1	-	-	-	-	-	-	296	352	-	248	308	-
Stage 2	-	-	-	-	-	-	492	306	-	541	349	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	700	-	-	766	-	-	74	56	564	56	56	522
Mov Cap-2 Maneuver	-	-	-	-	-	-	74	56	-	56	56	-
Stage 1	-	-	-	-	-	-	282	336	-	237	284	-
Stage 2	-	-	-	-	-	-	432	282	-	469	333	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.6	62.4	55.9
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	112	700	-	-	766	-	-	101
HCM Lane V/C Ratio	0.465	0.022	-	-	0.034	-	-	0.309
HCM Control Delay (s)	62.4	10.3	0.2	-	9.9	0.4	-	55.9
HCM Lane LOS	F	B	A	-	A	A	-	F
HCM 95th %tile Q(veh)	2	0.1	-	-	0.1	-	-	1.2

Lanes, Volumes, Timings

21: 33rd Ave & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	855	20	15	1020	5	5	10	15	10	10	25
Future Volume (vph)	20	855	20	15	1020	5	5	10	15	10	10	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.999			0.930			0.924	
Flt Protected		0.999			0.999			0.992			0.989	
Satd. Flow (prot)	0	3596	0	0	3603	0	0	1753	0	0	1736	0
Flt Permitted		0.999			0.999			0.992			0.989	
Satd. Flow (perm)	0	3596	0	0	3603	0	0	1753	0	0	1736	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		680			646			233			228	
Travel Time (s)		15.5			14.7			6.4			6.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	21	891	21	16	1063	5	5	10	16	10	10	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	933	0	0	1084	0	0	31	0	0	46	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	49.5%				ICU Level of Service A							
Analysis Period (min)	15											

Intersection

Int Delay, s/veh 2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕			↕↕			↕↕			↕↕		
Traffic Vol, veh/h	20	855	20	15	1020	5	5	10	15	10	10	25
Future Vol, veh/h	20	855	20	15	1020	5	5	10	15	10	10	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	21	891	21	16	1063	5	5	10	16	10	10	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1068	0	0	912	0	0	1513	2044	456	1591	2052	534
Stage 1	-	-	-	-	-	-	944	944	-	1098	1098	-
Stage 2	-	-	-	-	-	-	569	1100	-	493	954	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	660	-	-	755	-	-	84	57	557	73	56	496
Stage 1	-	-	-	-	-	-	286	344	-	230	291	-
Stage 2	-	-	-	-	-	-	479	290	-	532	340	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	660	-	-	755	-	-	61	51	557	55	50	496
Mov Cap-2 Maneuver	-	-	-	-	-	-	61	51	-	55	50	-
Stage 1	-	-	-	-	-	-	267	322	-	215	276	-
Stage 2	-	-	-	-	-	-	414	275	-	468	318	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.3	58.1	65.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	98	660	-	-	755	-	-	104
HCM Lane V/C Ratio	0.319	0.032	-	-	0.021	-	-	0.451
HCM Control Delay (s)	58.1	10.6	0.3	-	9.9	0.2	-	65.3
HCM Lane LOS	F	B	A	-	A	A	-	F
HCM 95th %tile Q(veh)	1.2	0.1	-	-	0.1	-	-	1.9

Lanes, Volumes, Timings

22: 31st Street & Ames Ave

09/08/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕	↗		↕	
Traffic Volume (vph)	25	755	25	35	935	45	50	90	135	15	15	10
Future Volume (vph)	25	755	25	35	935	45	50	90	135	15	15	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		65	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.993				0.850		0.965	
Flt Protected		0.998			0.998			0.983			0.982	
Satd. Flow (prot)	0	3585	0	0	3578	0	0	1868	1615	0	1800	0
Flt Permitted		0.904			0.905			0.865			0.856	
Satd. Flow (perm)	0	3247	0	0	3244	0	0	1644	1615	0	1569	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			13				144		11	
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		646			671			719			667	
Travel Time (s)		14.7			15.3			19.6			18.2	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	27	803	27	37	995	48	53	96	144	16	16	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	857	0	0	1080	0	0	149	144	0	43	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8				4
Permitted Phases	2			6			8		8	4		
Detector Phase	2	2		6	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		23.0	23.0	23.0	23.0	23.0	
Total Split (s)	40.0	40.0		40.0	40.0		20.0	20.0	20.0	20.0	20.0	
Total Split (%)	66.7%	66.7%		66.7%	66.7%		33.3%	33.3%	33.3%	33.3%	33.3%	
Maximum Green (s)	35.0	35.0		35.0	35.0		15.0	15.0	15.0	15.0	15.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	

Lanes, Volumes, Timings

22: 31st Street & Ames Ave

09/08/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0	0.0		0.0	
Total Lost Time (s)		5.0			5.0			5.0	5.0		5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None	None	None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		9.0	9.0	9.0	9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		39.3			39.3			10.7	10.7		10.7	
Actuated g/C Ratio		0.66			0.66			0.18	0.18		0.18	
v/c Ratio		0.40			0.51			0.51	0.35		0.15	
Control Delay		6.0			6.8			27.8	6.8		16.7	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		6.0			6.8			27.8	6.8		16.7	
LOS		A			A			C	A		B	
Approach Delay		6.0			6.8			17.5			16.7	
Approach LOS		A			A			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 26 (43%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.51

Intersection Signal Delay: 8.1

Intersection LOS: A

Intersection Capacity Utilization 70.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 22: 31st Street & Ames Ave

Ø2 (R) 40 s	Ø4 20 s
Ø6 (R) 40 s	Ø8 20 s

Queues

22: 31st Street & Ames Ave

09/08/2025



Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	857	1080	149	144	43
v/c Ratio	0.40	0.51	0.51	0.35	0.15
Control Delay	6.0	6.8	27.8	6.8	16.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	6.0	6.8	27.8	6.8	16.7
Queue Length 50th (ft)	61	85	49	0	10
Queue Length 95th (ft)	113	155	90	36	30
Internal Link Dist (ft)	566	591	639		587
Turn Bay Length (ft)				65	
Base Capacity (vph)	2130	2129	411	511	400
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.40	0.51	0.36	0.28	0.11

Intersection Summary

HCM 6th Signalized Intersection Summary

22: 31st Street & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↕	↕		↔↔	
Traffic Volume (veh/h)	25	755	25	35	935	45	50	90	135	15	15	10
Future Volume (veh/h)	25	755	25	35	935	45	50	90	135	15	15	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	27	803	27	37	995	48	53	96	144	16	16	11
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	97	2344	77	105	2306	109	148	168	210	113	94	43
Arrive On Green	0.70	0.70	0.70	0.70	0.70	0.70	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	47	3335	110	58	3282	156	511	1288	1610	235	723	329
Grp Volume(v), veh/h	438	0	419	555	0	525	149	0	144	43	0	0
Grp Sat Flow(s),veh/h/ln	1783	0	1709	1794	0	1701	1798	0	1610	1287	0	0
Q Serve(g_s), s	0.0	0.0	5.8	0.0	0.0	8.0	0.0	0.0	5.1	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.4	0.0	5.8	7.4	0.0	8.0	4.5	0.0	5.1	4.5	0.0	0.0
Prop In Lane	0.06		0.06	0.07		0.09	0.36		1.00	0.37		0.26
Lane Grp Cap(c), veh/h	1317	0	1201	1325	0	1195	316	0	210	250	0	0
V/C Ratio(X)	0.33	0.00	0.35	0.42	0.00	0.44	0.47	0.00	0.68	0.17	0.00	0.00
Avail Cap(c_a), veh/h	1317	0	1201	1325	0	1195	518	0	403	427	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.38	0.00	0.38	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	3.4	0.0	3.5	3.7	0.0	3.8	24.6	0.0	24.9	23.2	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.8	0.4	0.0	0.4	1.1	0.0	3.9	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	1.4	1.8	0.0	1.7	2.0	0.0	2.1	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.1	0.0	4.3	4.1	0.0	4.3	25.7	0.0	28.8	23.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	C	C	A	A
Approach Vol, veh/h		857			1080			293			43	
Approach Delay, s/veh		4.2			4.2			27.2			23.6	
Approach LOS		A			A			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		47.2		12.8		47.2		12.8				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		35.0		15.0		35.0		15.0				
Max Q Clear Time (g_c+I1), s		7.8		6.5		10.0		7.1				
Green Ext Time (p_c), s		4.1		0.1		5.4		0.7				
Intersection Summary												
HCM 6th Ctrl Delay				7.5								
HCM 6th LOS				A								
Notes												
User approved pedestrian interval to be less than phase max green.												

Lanes, Volumes, Timings

23: 30th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	165	760	145	90	760	115	165	400	95	100	305	210
Future Volume (vph)	165	760	145	90	760	115	165	400	95	100	305	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	300		0	110		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.976			0.980			0.971			0.939	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3523	0	1805	3538	0	1805	3505	0	1805	3390	0
Flt Permitted	0.131			0.267			0.269			0.452		
Satd. Flow (perm)	249	3523	0	507	3538	0	511	3505	0	859	3390	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		31			18			41			178	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		671			893			1318			675	
Travel Time (s)		15.3			20.3			25.7			13.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	179	826	158	98	826	125	179	435	103	109	332	228
Shared Lane Traffic (%)												
Lane Group Flow (vph)	179	984	0	98	951	0	179	538	0	109	560	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases	5	2			6		3	8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		3	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	15.0		15.0	15.0		5.0	10.0		10.0	10.0	
Minimum Split (s)	12.0	20.0		20.0	20.0		12.0	16.0		16.0	16.0	
Total Split (s)	14.0	44.0		30.0	30.0		19.0	46.0		27.0	27.0	
Total Split (%)	15.6%	48.9%		33.3%	33.3%		21.1%	51.1%		30.0%	30.0%	
Maximum Green (s)	9.0	39.0		25.0	25.0		14.0	40.0		21.0	21.0	
Yellow Time (s)	3.0	3.8		3.8	3.8		3.2	4.3		4.3	4.3	

Lanes, Volumes, Timings

23: 30th Street & Ames Ave

09/08/2025

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
All-Red Time (s)	2.0	1.2		1.2	1.2		1.8	1.7		1.7	1.7		
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	6.0		6.0	6.0		
Lead/Lag	Lead			Lag		Lag		Lead			Lag		Lag
Lead-Lag Optimize?													
Vehicle Extension (s)	2.0	3.0		3.0	3.0		2.0	3.0		3.0	3.0		
Recall Mode	None	C-Max		C-Max	C-Max		None	Max		Max	Max		
Walk Time (s)		10.0		10.0	10.0			9.0		9.0	9.0		
Flash Dont Walk (s)		12.0		12.0	12.0			12.0		12.0	12.0		
Pedestrian Calls (#/hr)		0		0	0			0		0	0		
Act Effct Green (s)	39.0	39.0		25.5	25.5		41.0	40.0		25.0	25.0		
Actuated g/C Ratio	0.43	0.43		0.28	0.28		0.46	0.44		0.28	0.28		
v/c Ratio	0.70	0.64		0.69	0.94		0.48	0.34		0.46	0.52		
Control Delay	32.8	21.6		56.2	49.1		19.4	15.7		35.6	20.9		
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Total Delay	32.8	21.6		56.2	49.1		19.4	15.7		35.6	20.9		
LOS	C	C		E	D		B	B		D	C		
Approach Delay		23.3			49.7			16.7			23.3		
Approach LOS		C			D			B			C		

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 77 (86%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 29.7

Intersection LOS: C

Intersection Capacity Utilization 79.9%

ICU Level of Service D

Analysis Period (min) 15

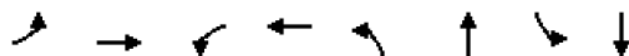
Splits and Phases: 23: 30th Street & Ames Ave

 Ø2 (R)	 Ø3	 Ø4
44 s	19 s	27 s
 Ø5	 Ø6 (R)	 Ø8
14 s	30 s	46 s

Queues

23: 30th Street & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	179	984	98	951	179	538	109	560
v/c Ratio	0.70	0.64	0.69	0.94	0.48	0.34	0.46	0.52
Control Delay	32.8	21.6	56.2	49.1	19.4	15.7	35.6	20.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.8	21.6	56.2	49.1	19.4	15.7	35.6	20.9
Queue Length 50th (ft)	62	216	50	274	59	93	51	93
Queue Length 95th (ft)	#133	282	#132	#404	102	131	111	154
Internal Link Dist (ft)		591		813		1238		595
Turn Bay Length (ft)	200		200		300		110	
Base Capacity (vph)	263	1544	143	1013	434	1580	239	1071
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.64	0.69	0.94	0.41	0.34	0.46	0.52

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary

23: 30th Street & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	760	145	90	760	115	165	400	95	100	305	210
Future Volume (veh/h)	165	760	145	90	760	115	165	400	95	100	305	210
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	179	826	158	98	826	125	179	435	103	109	332	228
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	261	1310	251	208	912	138	380	1289	303	345	622	418
Arrive On Green	0.09	0.43	0.43	0.29	0.29	0.29	0.09	0.44	0.44	0.30	0.30	0.30
Sat Flow, veh/h	1810	3023	578	581	3144	476	1810	2901	681	881	2066	1389
Grp Volume(v), veh/h	179	493	491	98	474	477	179	269	269	109	289	271
Grp Sat Flow(s),veh/h/ln	1810	1805	1796	581	1805	1814	1810	1805	1777	881	1805	1650
Q Serve(g_s), s	5.9	19.2	19.2	14.2	22.8	22.8	5.8	8.8	8.9	8.9	12.0	12.4
Cycle Q Clear(g_c), s	5.9	19.2	19.2	20.5	22.8	22.8	5.8	8.8	8.9	8.9	12.0	12.4
Prop In Lane	1.00		0.32	1.00		0.26	1.00		0.38	1.00		0.84
Lane Grp Cap(c), veh/h	261	782	778	208	524	527	380	802	790	345	543	497
V/C Ratio(X)	0.69	0.63	0.63	0.47	0.91	0.91	0.47	0.34	0.34	0.32	0.53	0.55
Avail Cap(c_a), veh/h	283	782	778	208	524	527	503	802	790	345	543	497
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.92	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	19.9	19.9	32.9	30.7	30.7	18.8	16.3	16.4	25.1	26.2	26.3
Incr Delay (d2), s/veh	4.4	3.5	3.6	7.5	21.7	21.7	0.3	1.1	1.2	2.4	3.7	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	8.4	8.4	2.4	12.7	12.8	2.3	3.7	3.7	2.0	5.5	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.5	23.4	23.4	40.4	52.5	52.4	19.1	17.5	17.5	27.5	29.9	30.6
LnGrp LOS	C	C	C	D	D	D	B	B	B	C	C	C
Approach Vol, veh/h	1163			1049			717			669		
Approach Delay, s/veh	23.9			51.3			17.9			29.8		
Approach LOS	C			D			B			C		
Timer - Assigned Phs	2		3	4		5	6		8			
Phs Duration (G+Y+Rc), s	44.0		12.9	33.1		12.9	31.1		46.0			
Change Period (Y+Rc), s	5.0		5.0	* 6		5.0	5.0		* 6			
Max Green Setting (Gmax), s	39.0		14.0	* 21		9.0	25.0		* 40			
Max Q Clear Time (g_c+I1), s	21.2		7.8	14.4		7.9	24.8		10.9			
Green Ext Time (p_c), s	4.3		0.2	1.8		0.0	0.1		2.2			
Intersection Summary												
HCM 6th Ctrl Delay	31.8											
HCM 6th LOS	C											

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings
24: 28th Street & Ames Ave

09/08/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	
Traffic Volume (vph)	885	5	5	990	5	20
Future Volume (vph)	885	5	5	990	5	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.999				0.892	
Flt Protected					0.990	
Satd. Flow (prot)	3606	0	0	3610	1678	0
Flt Permitted					0.990	
Satd. Flow (perm)	3606	0	0	3610	1678	0
Link Speed (mph)	30			30	25	
Link Distance (ft)	893			90	310	
Travel Time (s)	20.3			2.0	8.5	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	894	5	5	1000	5	20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	899	0	0	1005	25	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	40.9%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	
Traffic Vol, veh/h	885	5	5	990	5	20
Future Vol, veh/h	885	5	5	990	5	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	99	99	99	99	99	99
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	894	5	5	1000	5	20

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	899	0	1407	450
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	510	-
Critical Hdwy	-	-	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	764	-	132	562
Stage 1	-	-	-	-	363	-
Stage 2	-	-	-	-	574	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	764	-	130	562
Mov Cap-2 Maneuver	-	-	-	-	130	-
Stage 1	-	-	-	-	363	-
Stage 2	-	-	-	-	565	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	16.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	338	-	-	764	-
HCM Lane V/C Ratio	0.075	-	-	0.007	-
HCM Control Delay (s)	16.5	-	-	9.7	0.1
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Lanes, Volumes, Timings

25: North Freeway SB Ramp & Ames Ave

09/08/2025

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑		
Traffic Volume (vph)	540	405	205	1060	0	0
Future Volume (vph)	540	405	205	1060	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	165		0	0
Storage Lanes		0	1		0	0
Taper Length (ft)			50		50	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.936					
Flt Protected			0.950			
Satd. Flow (prot)	3379	0	1805	3539	0	0
Flt Permitted			0.950			
Satd. Flow (perm)	3379	0	1805	3539	0	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	90			571	390	
Travel Time (s)	2.0			13.0	8.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%
Adj. Flow (vph)	568	426	216	1116	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	994	0	216	1116	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	77.0%			ICU Level of Service D		
Analysis Period (min)	15					

Lanes, Volumes, Timings

26: North Freeway NB Ramp & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	470	0	0	650	15	530	5	200	0	0	0
Future Volume (vph)	60	470	0	0	650	15	530	5	200	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	245		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Fr t					0.997			0.853				
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1770	3610	0	0	3592	0	1805	1575	0	0	0	0
Flt Permitted	0.313						0.950					
Satd. Flow (perm)	583	3610	0	0	3592	0	1805	1575	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					4			172				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		571			87			482			406	
Travel Time (s)		13.0			2.0			11.0			9.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	0%	0%	0%	0%	9%	0%	0%	3%	0%	0%	0%
Adj. Flow (vph)	66	516	0	0	714	16	582	5	220	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	66	516	0	0	730	0	582	225	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	0			0		1	0				
Detector Template	Left	Thru			Thru		Left	Thru				
Leading Detector (ft)	50	0			0		50	0				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				
Detector 1 Size(ft)	50	6			6		50	6				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		2			6			8				
Permitted Phases	2						8					
Detector Phase	2	2			6		8	8				
Switch Phase												
Minimum Initial (s)	20.0	20.0			20.0		10.0	10.0				
Minimum Split (s)	25.0	25.0			25.0		32.0	32.0				
Total Split (s)	27.0	27.0			27.0		33.0	33.0				
Total Split (%)	45.0%	45.0%			45.0%		55.0%	55.0%				
Maximum Green (s)	22.0	22.0			22.0		28.0	28.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				

Lanes, Volumes, Timings

26: North Freeway NB Ramp & Ames Ave

09/08/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0				
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				
Recall Mode	C-Max	C-Max			C-Max		None	None				
Walk Time (s)	7.0	7.0			7.0		11.0	11.0				
Flash Dont Walk (s)	9.0	9.0			9.0		16.0	16.0				
Pedestrian Calls (#/hr)	0	0			0		0	0				
Act Effct Green (s)	25.9	25.9			25.9		24.1	24.1				
Actuated g/C Ratio	0.43	0.43			0.43		0.40	0.40				
v/c Ratio	0.26	0.33			0.47		0.80	0.31				
Control Delay	16.7	13.1			15.5		24.6	4.3				
Queue Delay	0.0	0.0			0.0		0.0	0.0				
Total Delay	16.7	13.1			15.5		24.6	4.3				
LOS	B	B			B		C	A				
Approach Delay		13.5			15.5			19.0				
Approach LOS		B			B			B				

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 35 (58%), Referenced to phase 2:EBTL and 6:WBT, Start of FDW or yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 16.3

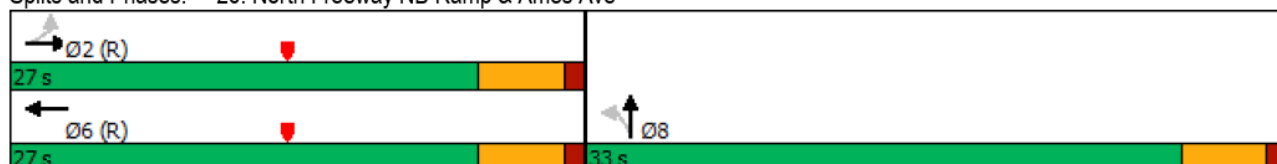
Intersection LOS: B

Intersection Capacity Utilization 77.0%

ICU Level of Service D

Analysis Period (min) 15

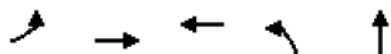
Splits and Phases: 26: North Freeway NB Ramp & Ames Ave



Queues

26: North Freeway NB Ramp & Ames Ave

09/08/2025



Lane Group	EBL	EBT	WBT	NBL	NBT
Lane Group Flow (vph)	66	516	730	582	225
v/c Ratio	0.26	0.33	0.47	0.80	0.31
Control Delay	16.7	13.1	15.5	24.6	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	16.7	13.1	15.5	24.6	4.3
Queue Length 50th (ft)	15	64	100	172	11
Queue Length 95th (ft)	46	106	150	259	42
Internal Link Dist (ft)		491	7		402
Turn Bay Length (ft)	245				
Base Capacity (vph)	251	1557	1551	842	826
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.26	0.33	0.47	0.69	0.27

Intersection Summary

HCM 6th Signalized Intersection Summary 26: North Freeway NB Ramp & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	470	0	0	650	15	530	5	200	0	0	0
Future Volume (veh/h)	60	470	0	0	650	15	530	5	200	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1900	0	0	1900	1767	1900	1900	1856			
Adj Flow Rate, veh/h	66	516	0	0	714	16	582	5	220			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91			
Percent Heavy Veh, %	2	0	0	0	0	9	0	0	3			
Cap, veh/h	334	1710	0	0	1710	38	651	13	568			
Arrive On Green	0.47	0.47	0.00	0.00	0.16	0.16	0.36	0.36	0.36			
Sat Flow, veh/h	726	3705	0	0	3705	81	1810	36	1580			
Grp Volume(v), veh/h	66	516	0	0	357	373	582	0	225			
Grp Sat Flow(s),veh/h/ln	726	1805	0	0	1805	1885	1810	0	1616			
Q Serve(g_s), s	4.2	5.3	0.0	0.0	10.7	10.7	18.2	0.0	6.2			
Cycle Q Clear(g_c), s	14.9	5.3	0.0	0.0	10.7	10.7	18.2	0.0	6.2			
Prop In Lane	1.00		0.00	0.00		0.04	1.00		0.98			
Lane Grp Cap(c), veh/h	334	1710	0	0	855	893	651	0	581			
V/C Ratio(X)	0.20	0.30	0.00	0.00	0.42	0.42	0.89	0.00	0.39			
Avail Cap(c_a), veh/h	334	1710	0	0	855	893	844	0	754			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	16.4	9.7	0.0	0.0	17.8	17.8	18.1	0.0	14.3			
Incr Delay (d2), s/veh	1.3	0.5	0.0	0.0	1.5	1.4	9.9	0.0	0.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.8	1.9	0.0	0.0	5.3	5.5	8.5	0.0	2.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.7	10.1	0.0	0.0	19.3	19.3	28.1	0.0	14.7			
LnGrp LOS	B	B	A	A	B	B	C	A	B			
Approach Vol, veh/h		582			730			807				
Approach Delay, s/veh		11.0			19.3			24.3				
Approach LOS		B			B			C				
Timer - Assigned Phs		2			6			8				
Phs Duration (G+Y+Rc), s		33.4			33.4			26.6				
Change Period (Y+Rc), s		5.0			5.0			5.0				
Max Green Setting (Gmax), s		22.0			22.0			28.0				
Max Q Clear Time (g_c+I1), s		16.9			0.0			20.2				
Green Ext Time (p_c), s		0.0			0.0			1.4				
Intersection Summary												
HCM 6th Ctrl Delay				18.9								
HCM 6th LOS				B								

Lanes, Volumes, Timings
27: 26th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	555	20	0	640	5	5	5	5	0	0	25
Future Volume (vph)	50	555	20	0	640	5	5	5	5	0	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Fr't		0.995			0.999			0.955			0.865	
Flt Protected		0.996						0.984				
Satd. Flow (prot)	0	3546	0	0	3571	0	0	1785	0	0	1644	0
Flt Permitted		0.996						0.984				
Satd. Flow (perm)	0	3546	0	0	3571	0	0	1785	0	0	1644	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		87			334			236			238	
Travel Time (s)		2.0			7.6			6.4			6.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	53	584	21	0	674	5	5	5	5	0	0	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	658	0	0	679	0	0	15	0	0	26	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	50.5%						ICU Level of Service A					
Analysis Period (min)	15											

Intersection

Int Delay, s/veh 1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕			↕↕			↕			↕		
Traffic Vol, veh/h	50	555	20	0	640	5	5	5	5	0	0	25
Future Vol, veh/h	50	555	20	0	640	5	5	5	5	0	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	1	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	53	584	21	0	674	5	5	5	5	0	0	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	679	0	0	605	0	0	1038	1380	303	1078	1388	340
Stage 1	-	-	-	-	-	-	701	701	-	677	677	-
Stage 2	-	-	-	-	-	-	337	679	-	401	711	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	923	-	-	983	-	-	188	146	699	176	144	662
Stage 1	-	-	-	-	-	-	400	444	-	414	455	-
Stage 2	-	-	-	-	-	-	656	454	-	602	439	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	923	-	-	983	-	-	168	133	699	158	131	662
Mov Cap-2 Maneuver	-	-	-	-	-	-	168	133	-	158	131	-
Stage 1	-	-	-	-	-	-	365	405	-	378	455	-
Stage 2	-	-	-	-	-	-	630	454	-	538	401	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0	24.4	10.7
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	201	923	-	-	983	-	-	662
HCM Lane V/C Ratio	0.079	0.057	-	-	-	-	-	0.04
HCM Control Delay (s)	24.4	9.1	0.3	-	0	-	-	10.7
HCM Lane LOS	C	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0.2	-	-	0	-	-	0.1

Lanes, Volumes, Timings

28: 25th Ave & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	495	15	0	625	0	10	5	5	5	5	25
Future Volume (vph)	5	495	15	0	625	0	10	5	5	5	5	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Fr't	0.996						0.968			0.901		
Flt Protected							0.974			0.993		
Satd. Flow (prot)	0	3561	0	0	3610	0	0	1791	0	0	1700	0
Flt Permitted							0.974			0.993		
Satd. Flow (perm)	0	3561	0	0	3610	0	0	1791	0	0	1700	0
Link Speed (mph)	30			30			25			25		
Link Distance (ft)	334			657			219			244		
Travel Time (s)	7.6			14.9			6.0			6.7		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	5	527	16	0	665	0	11	5	5	5	5	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	548	0	0	665	0	0	21	0	0	37	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	0			0			0			0		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control	Free			Free			Stop			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	27.7%						ICU Level of Service A					
Analysis Period (min)	15											

Intersection

Int Delay, s/veh 0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕			↕↕			↕			↕		
Traffic Vol, veh/h	5	495	15	0	625	0	10	5	5	5	5	25
Future Vol, veh/h	5	495	15	0	625	0	10	5	5	5	5	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	1	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	527	16	0	665	0	11	5	5	5	5	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	665	0	0	543	0	0	880	1210	272	941	1218	333
Stage 1	-	-	-	-	-	-	545	545	-	665	665	-
Stage 2	-	-	-	-	-	-	335	665	-	276	553	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	934	-	-	1036	-	-	245	184	732	221	182	669
Stage 1	-	-	-	-	-	-	495	522	-	420	461	-
Stage 2	-	-	-	-	-	-	658	461	-	712	518	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	934	-	-	1036	-	-	229	183	732	213	181	669
Mov Cap-2 Maneuver	-	-	-	-	-	-	229	183	-	213	181	-
Stage 1	-	-	-	-	-	-	491	518	-	417	461	-
Stage 2	-	-	-	-	-	-	625	461	-	694	514	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	20.3	15
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	257	934	-	-	1036	-	-	396
HCM Lane V/C Ratio	0.083	0.006	-	-	-	-	-	0.094
HCM Control Delay (s)	20.3	8.9	0	-	0	-	-	15
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.3

Lanes, Volumes, Timings

29: 24th Street & Ames Ave

09/08/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	80	285	185	20	335	25	135	120	25	25	100	70
Future Volume (vph)	80	285	185	20	335	25	135	120	25	25	100	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.949			0.990			0.988			0.952	
Flt Protected		0.993			0.997			0.976			0.994	
Satd. Flow (prot)	0	3367	0	0	3329	0	0	1832	0	0	1798	0
Flt Permitted		0.839			0.919			0.730			0.940	
Satd. Flow (perm)	0	2845	0	0	3068	0	0	1370	0	0	1700	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		191			16			10			57	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		657			1321			1296			576	
Travel Time (s)		14.9			30.0			29.5			13.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	2%	0%	0%	8%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	85	303	197	21	356	27	144	128	27	27	106	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	585	0	0	404	0	0	299	0	0	207	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	0		1	0		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	0		50	0		50	20		50	20	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	6		50	6		50	20		50	20	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		15.0	15.0		15.0	15.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		28.4	28.4		28.4	28.4	
Total Split (s)	31.0	31.0		31.0	31.0		29.0	29.0		29.0	29.0	
Total Split (%)	51.7%	51.7%		51.7%	51.7%		48.3%	48.3%		48.3%	48.3%	
Maximum Green (s)	26.6	26.6		26.6	26.6		24.6	24.6		24.6	24.6	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.8	3.8		3.8	3.8	
All-Red Time (s)	0.7	0.7		0.7	0.7		0.6	0.6		0.6	0.6	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.4			4.4			4.4			4.4	

Lanes, Volumes, Timings

29: 24th Street & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		33.0			33.0			18.2			18.2	
Actuated g/C Ratio		0.55			0.55			0.30			0.30	
v/c Ratio		0.35			0.24			0.71			0.37	
Control Delay		4.0			6.1			27.1			12.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		4.0			6.1			27.1			12.8	
LOS		A			A			C			B	
Approach Delay		4.0			6.1			27.1			12.8	
Approach LOS		A			A			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 57 (95%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 10.4

Intersection LOS: B

Intersection Capacity Utilization 69.2%

ICU Level of Service C

Analysis Period (min) 15

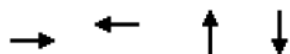
Splits and Phases: 29: 24th Street & Ames Ave

 Ø2 (R)		 Ø4
31 s		29 s
 Ø6 (R)		 Ø8
31 s		29 s

Queues

29: 24th Street & Ames Ave

09/08/2025



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	585	404	299	207
v/c Ratio	0.35	0.24	0.71	0.37
Control Delay	4.0	6.1	27.1	12.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	4.0	6.1	27.1	12.8
Queue Length 50th (ft)	20	30	94	42
Queue Length 95th (ft)	40	57	145	75
Internal Link Dist (ft)	577	1241	1216	496
Turn Bay Length (ft)				
Base Capacity (vph)	1648	1692	567	730
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.35	0.24	0.53	0.28
Intersection Summary				

HCM 6th Signalized Intersection Summary

29: 24th Street & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	285	185	20	335	25	135	120	25	25	100	70
Future Volume (veh/h)	80	285	185	20	335	25	135	120	25	25	100	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1870	1900	1900	1781	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	85	303	197	21	356	27	144	128	27	27	106	74
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0	0	8	0	0	0	0	0	0	0
Cap, veh/h	297	997	633	122	1780	133	259	190	36	99	254	158
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	365	1652	1049	93	2950	220	681	761	143	124	1015	633
Grp Volume(v), veh/h	301	0	284	210	0	194	299	0	0	207	0	0
Grp Sat Flow(s),veh/h/ln	1553	0	1513	1681	0	1582	1585	0	0	1772	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	10.1	0.0	0.0	5.9	0.0	0.0
Prop In Lane	0.28		0.69	0.10		0.14	0.48		0.09	0.13		0.36
Lane Grp Cap(c), veh/h	1014	0	913	1080	0	954	485	0	0	511	0	0
V/C Ratio(X)	0.30	0.00	0.31	0.19	0.00	0.20	0.62	0.00	0.00	0.41	0.00	0.00
Avail Cap(c_a), veh/h	1014	0	913	1080	0	954	722	0	0	779	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.99	0.00	0.99	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	20.4	0.0	0.0	19.1	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.9	0.4	0.0	0.5	1.3	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.2	0.1	0.0	0.1	3.7	0.0	0.0	2.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.7	0.0	0.9	0.4	0.0	0.5	21.7	0.0	0.0	19.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	B	A	A
Approach Vol, veh/h		585			404			299			207	
Approach Delay, s/veh		0.8			0.4			21.7			19.6	
Approach LOS		A			A			C			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		40.6		19.4		40.6		19.4				
Change Period (Y+Rc), s		* 4.4		* 4.4		* 4.4		* 4.4				
Max Green Setting (Gmax), s		* 27		* 25		* 27		* 25				
Max Q Clear Time (g_c+I1), s		0.0		7.9		0.0		12.1				
Green Ext Time (p_c), s		0.0		0.5		0.0		0.8				

Intersection Summary

HCM 6th Ctrl Delay	7.5
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings

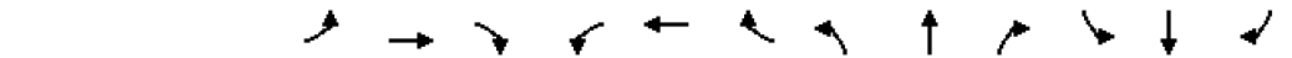
30: Florence Blvd & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	185	125	5	205	30	95	115	10	15	95	25
Future Volume (vph)	70	185	125	5	205	30	95	115	10	15	95	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		200	0		0	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t			0.850		0.981			0.994			0.975	
Fl _t Protected		0.986			0.999			0.979			0.995	
Satd. Flow (prot)	0	1873	1615	0	3478	0	0	1849	0	0	1843	0
Fl _t Permitted		0.844			0.950			0.812			0.960	
Satd. Flow (perm)	0	1604	1615	0	3308	0	0	1534	0	0	1778	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			137		32			5			23	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1321			384			1315			473	
Travel Time (s)		30.0			8.7			29.9			10.8	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	77	203	137	5	225	33	104	126	11	16	104	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	280	137	0	263	0	0	241	0	0	147	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8			4		
Minimum Split (s)	23.0	23.0	23.0	23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	30.0	30.0	30.0	30.0	30.0		30.0	30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	25.0	25.0	25.0	25.0	25.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0			0.0			0.0	
Total Lost Time (s)		5.0	5.0		5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	8.0	8.0	8.0	8.0	8.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)		25.0	25.0		25.0			25.0			25.0	
Actuated g/C Ratio		0.42	0.42		0.42			0.42			0.42	
v/c Ratio		0.42	0.18		0.19			0.38			0.19	
Control Delay		11.8	1.9		10.1			14.0			10.2	
Queue Delay		0.0	0.0		0.0			0.0			0.0	
Total Delay		11.8	1.9		10.1			14.0			10.2	

Lanes, Volumes, Timings 30: Florence Blvd & Ames Ave

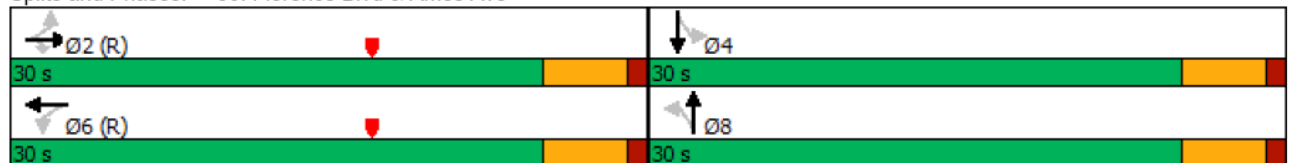
09/08/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		B	A		B			B			B	
Approach Delay		8.5			10.1			14.0			10.2	
Approach LOS		A			B			B			B	

Intersection Summary	
Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Offset:	32 (53%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow
Natural Cycle:	50
Control Type:	Pretimed
Maximum v/c Ratio:	0.42
Intersection Signal Delay:	10.4
Intersection Capacity Utilization	53.0%
Analysis Period (min)	15
Intersection LOS:	B
ICU Level of Service	A

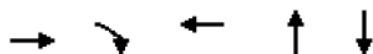
Splits and Phases: 30: Florence Blvd & Ames Ave



Queues

30: Florence Blvd & Ames Ave

09/08/2025



Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	280	137	263	241	147
v/c Ratio	0.42	0.18	0.19	0.38	0.19
Control Delay	11.8	1.9	10.1	14.0	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	11.8	1.9	10.1	14.0	10.2
Queue Length 50th (ft)	43	0	26	56	27
Queue Length 95th (ft)	81	1	47	106	58
Internal Link Dist (ft)	1241		304	1235	393
Turn Bay Length (ft)					
Base Capacity (vph)	668	752	1397	642	754
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.42	0.18	0.19	0.38	0.19
Intersection Summary					

HCM 6th Signalized Intersection Summary

30: Florence Blvd & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↶	↷		↶↷			↶↷			↶↷	
Traffic Volume (veh/h)	70	185	125	5	205	30	95	115	10	15	95	25
Future Volume (veh/h)	70	185	125	5	205	30	95	115	10	15	95	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1870	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	77	203	137	5	225	33	104	126	11	16	104	27
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	2	0	0	0	0	0	0	0
Cap, veh/h	222	548	671	68	1265	180	338	384	30	106	570	137
Arrive On Green	0.14	0.14	0.14	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	350	1316	1610	14	3036	433	605	922	73	95	1369	329
Grp Volume(v), veh/h	280	0	137	139	0	124	241	0	0	147	0	0
Grp Sat Flow(s),veh/h/ln	1666	0	1610	1859	0	1624	1599	0	0	1794	0	0
Q Serve(g_s), s	3.4	0.0	4.5	0.0	0.0	2.9	2.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.6	0.0	4.5	2.8	0.0	2.9	5.7	0.0	0.0	3.0	0.0	0.0
Prop In Lane	0.27		1.00	0.04		0.27	0.43		0.05	0.11		0.18
Lane Grp Cap(c), veh/h	771	0	671	837	0	677	752	0	0	814	0	0
V/C Ratio(X)	0.36	0.00	0.20	0.17	0.00	0.18	0.32	0.00	0.00	0.18	0.00	0.00
Avail Cap(c_a), veh/h	771	0	671	837	0	677	752	0	0	814	0	0
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.6	0.0	17.0	11.0	0.0	11.1	11.8	0.0	0.0	11.1	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.7	0.4	0.0	0.6	1.1	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	1.7	1.1	0.0	1.0	2.1	0.0	0.0	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.0	0.0	17.7	11.5	0.0	11.6	12.9	0.0	0.0	11.6	0.0	0.0
LnGrp LOS	B	A	B	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		417			263			241			147	
Approach Delay, s/veh		19.2			11.5			12.9			11.6	
Approach LOS		B			B			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		30.0		30.0		30.0		30.0				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		25.0		25.0		25.0		25.0				
Max Q Clear Time (g_c+I1), s		6.5		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.1		0.0		0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				14.9								
HCM 6th LOS				B								

Lanes, Volumes, Timings
161: 61st St EVHB & Ames Ave

09/08/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔							
Traffic Volume (vph)	0	1150	0	0	1040	0	0	0	0	0	0	0
Future Volume (vph)	0	1150	0	0	1040	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Fr t												
Flt Protected												
Satd. Flow (prot)	0	3539	0	0	3539	0	0	0	0	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	3539	0	0	3539	0	0	0	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		660			644			163			152	
Travel Time (s)		15.0			14.6			3.7			3.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1250	0	0	1130	0	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1250	0	0	1130	0	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60		60	60		60	60		60	60		60
Number of Detectors	1	2		1	2							
Detector Template	Left	Thru		Left	Thru							
Leading Detector (ft)	20	100		20	100							
Trailing Detector (ft)	0	0		0	0							
Detector 1 Position(ft)	0	0		0	0							
Detector 1 Size(ft)	20	6		20	6							
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex							
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0							
Detector 1 Queue (s)	0.0	0.0		0.0	0.0							
Detector 1 Delay (s)	0.0	0.0		0.0	0.0							
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type		NA			NA							
Protected Phases		2			6							
Permitted Phases	2			6								
Detector Phase	2	2		6	6							
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0							
Minimum Split (s)	23.0	23.0		23.0	23.0							
Total Split (s)	23.0	23.0		23.0	23.0							
Total Split (%)	100.0%	100.0%		100.0%	100.0%							
Maximum Green (s)	18.0	18.0		18.0	18.0							

Lanes, Volumes, Timings

161: 61st St EVHB & Ames Ave

09/08/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	4.0	4.0		4.0	4.0							
All-Red Time (s)	1.0	1.0		1.0	1.0							
Lost Time Adjust (s)		0.0			0.0							
Total Lost Time (s)		5.0			5.0							
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0							
Recall Mode	C-Max	C-Max		C-Max	C-Max							
Walk Time (s)	7.0	7.0		7.0	7.0							
Flash Dont Walk (s)	11.0	11.0		11.0	11.0							
Pedestrian Calls (#/hr)	0	0		0	0							
Act Effct Green (s)		23.0			23.0							
Actuated g/C Ratio		1.00			1.00							
v/c Ratio		0.35			0.32							
Control Delay		0.3			0.2							
Queue Delay		0.0			0.0							
Total Delay		0.3			0.2							
LOS		A			A							
Approach Delay		0.3			0.2							
Approach LOS		A			A							

Intersection Summary

Area Type: Other

Cycle Length: 23

Actuated Cycle Length: 23

Offset: 21 (91%), Referenced to phase 2:EBTL and 6:WBTL, Start of FDW or yellow

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.35

Intersection Signal Delay: 0.3

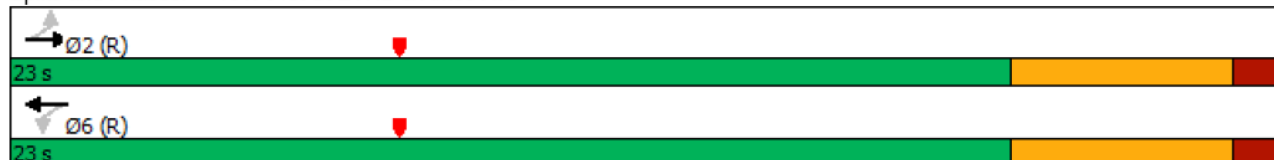
Intersection LOS: A

Intersection Capacity Utilization 36.0%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 161: 61st St EVHB & Ames Ave



Queues

161: 61st St EVHB & Ames Ave

09/08/2025



Lane Group	EBT	WBT
Lane Group Flow (vph)	1250	1130
v/c Ratio	0.35	0.32
Control Delay	0.3	0.2
Queue Delay	0.0	0.0
Total Delay	0.3	0.2
Queue Length 50th (ft)	0	0
Queue Length 95th (ft)	0	0
Internal Link Dist (ft)	580	564
Turn Bay Length (ft)		
Base Capacity (vph)	3539	3539
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.35	0.32
Intersection Summary		

HCM 6th Signalized Intersection Summary

161: 61st St EVHB & Ames Ave

09/08/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1150	0	0	1040	0	0	0	0	0	0	0
Future Volume (veh/h)	0	1150	0	0	1040	0	0	0	0	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0						
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00						
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00						
Work Zone On Approach		No			No							
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870						
Adj Flow Rate, veh/h	0	1250	0	0	1130	0						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92						
Percent Heavy Veh, %	2	2	2	2	2	2						
Cap, veh/h	0	2781	0	0	2781	0						
Arrive On Green	0.00	0.78	0.00	0.00	0.78	0.00						
Sat Flow, veh/h	0	3741	0	0	3741	0						
Grp Volume(v), veh/h	0	1250	0	0	1130	0						
Grp Sat Flow(s),veh/h/ln	0	1777	0	0	1777	0						
Q Serve(g_s), s	0.0	2.7	0.0	0.0	2.3	0.0						
Cycle Q Clear(g_c), s	0.0	2.7	0.0	0.0	2.3	0.0						
Prop In Lane	0.00		0.00	0.00		0.00						
Lane Grp Cap(c), veh/h	0	2781	0	0	2781	0						
V/C Ratio(X)	0.00	0.45	0.00	0.00	0.41	0.00						
Avail Cap(c_a), veh/h	0	2781	0	0	2781	0						
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00						
Upstream Filter(I)	0.00	1.00	0.00	0.00	0.78	0.00						
Uniform Delay (d), s/veh	0.0	0.8	0.0	0.0	0.8	0.0						
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	0.3	0.0						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.0	0.0	0.1	0.0						
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	1.4	0.0	0.0	1.1	0.0						
LnGrp LOS	A	A	A	A	A	A						
Approach Vol, veh/h		1250			1130							
Approach Delay, s/veh		1.4			1.1							
Approach LOS		A			A							
Timer - Assigned Phs		2			6							
Phs Duration (G+Y+Rc), s		23.0			23.0							
Change Period (Y+Rc), s		5.0			5.0							
Max Green Setting (Gmax), s		18.0			18.0							
Max Q Clear Time (g_c+l1), s		4.7			4.3							
Green Ext Time (p_c), s		7.4			6.8							
Intersection Summary												
HCM 6th Ctrl Delay				1.3								
HCM 6th LOS				A								