

TRAFFIC IMPACT STUDY

For

Jaynes Property
El Paso County, Colorado

May 2022

Prepared for:

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Prepared by:



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22-021604

Please add PCD File No.
SKP225

Traffic Engineer's Statement

The attached traffic report and supporting information were prepared under my responsible charge and they comport with the standard of care. So far as is consistent with the standard of care, said report was prepared in general conformance with the criteria established by the County for traffic reports.

Developer's Statement

I, the Developer, have read and will comply with all commitments made on my behalf within this report.

Developer

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I. Introduction

Project Overview

142 acre per the letter of intent

This traffic impact study is provided as a planning document and addresses the capacity, geometric, and control requirements associated with the development entitled Jaynes Property.

This proposed mixed-use development consists of a variety of residential, neighborhood commercial and park land uses. The 132-acre development is located along the west side of Vollmer Road between Poco Road and Dines Boulevard in El Paso County, Colorado.

It is anticipated that access to Vollmer will be limited to the proposed roadway intersections of Briargate and the proposed roadway aligned with the existing roadways at sterling ranch. Please rephrase this statement so that it does not give the impression that multiple access points will be allowed along Vollmer. The study area to be examined in this analysis encompasses the Vollmer Road intersections with Poco Road, Briargate Parkway (future) and Dines Boulevard, and the Briargate Parkway (future) intersections with key site development roadways (future).

Figure 1 illustrates location of the site and study intersections.

Site Description

Land for the development is vacant and surrounded predominately by existing or proposed residential land uses.

Coordinate with NES so that the appropriate units are accounted for. The letter of intent/sketch plan indicates 615 dwelling units with a density cap of 450 dwelling units per their land use break down.

The proposed development's sketch plan is conceptual and not all land uses have been determined. However, for purposes of this analysis, there is assumed to be construction for approximately 311 single-family housing dwelling units, 130 Duplex and Townhome dwelling units, and approximately 4.1-acre (35,720 square feet at an assumed 0.20 FAR) of commercial land use.

Considering the conceptual nature of the proposed development, future access will generally include multiple access drives along Vollmer Road and along future Briargate Parkway. For purposes of this analysis, primary points of entry to the overall development area are provided at the following locations:

- One full-movement access serving as the west leg of the Vollmer Road and (future) Sam Bass Drive intersection.
- One full-movement access serving as the west leg of the Briargate Parkway and Vollmer Road intersection.
- Two full-movement accesses on (future) Briargate Parkway serving as the north/south roadway connections to proposed development. These accesses are herein referred to as Street A and Street B.

For purposes of this study, it is anticipated that development construction would be phased with completion by end of Year 2040. A sketch plan, as prepared by N.E.S. Inc., is shown on Figure 2. This plan is provided for illustrative purposes only.

The sketch plan shows an additional roadway intersection aligned with Dines blvd. Please revise your traffic analysis accordingly.

Also, identify the anticipated classification of the proposed roadway.





Existing and Committed Surface Transportation Network

Within the study area, Vollmer Road and Briargate Parkway are the primary roadways that will accommodate traffic to and from the proposed development. A brief description of each roadway, based on the County's 2016 Major Transportation Corridors Plan (MTCP)¹ and Engineering Criteria Manual (ECM)², as well as the City of Colorado Springs' Major Thoroughfare Plan³, is provided below:

Vollmer Road is a north-south, minor arterial roadway having two through lanes (one lane in each direction) with shared turn lanes at the intersections within the study area. Vollmer Road provides posted speed limit 45 MPH.

Pursuant to the County's 2040 MTCP Roadway Plan, Vollmer Road is envisioned to be widened from two to four through lanes from Briargate Parkway to Marksheffel Road and remain as a two through lane roadway north of Briargate Parkway. Recently approved traffic studies^{4,5} for area development on the east side of Vollmer Road have proposed a modification to the MTCP Roadway Plan and recommend the widening of Vollmer Road to four through lanes between Briargate Parkway to Poco Road. The long-term vision of Vollmer Road would remain as a two-lane roadway north of Poco Road.

Briargate Parkway is a future east-west, four-lane principal arterial roadway. Briargate Parkway design plans, for portion east of Vollmer Road to Sterling Ranch Road, are under County review as of this study date. The Briargate Parkway extension west of Vollmer Road to Black Forest Road, and ultimately to North Powers Boulevard, will be completed through various future private development or public improvement projects. Briargate Parkway envisioned to provide a posted speed limit of 45 MPH.

The study intersections along Vollmer Road currently operate under a stop-controlled condition. A stop-controlled intersection is defined as a roadway intersection where vehicle rights-of-way are controlled by one or more "STOP" signs.

Beyond that described in this section, no other regional or specific improvements for the above-described roadways are known to be planned or committed at this time.

Discuss Poco Road and any planned improvements at the intersection with Vollmer.

Please identify who will be constructing the improvements listed. Does this development need to provide any ROW dedication or contribution for these improvements?

¹ El Paso County 2016 Major Transportation Corridors Plan Update, Felsburg Holt & Ullevig, December 2016.

² El Paso County Engineering Criteria Manual, El Paso County, October 2020.

³ Major Thoroughfare Plan, City of Colorado Springs, August 2011.

⁴ The Retreat at Timber Ridge Preliminary Plan Transportation Memorandum, LSC Transportation Consultants Inc., June 29, 2018.

⁵ Homestead North Phase 1 Updated Traffic Impact Study, LSC Transportation Consultants Inc., January 11, 2022.

II. Existing Traffic Conditions

Morning (AM) and afternoon (PM) peak hour traffic counts were collected at the following intersections:

- Vollmer Road / Poco Road
- Vollmer Road / Dines Boulevard

Average daily (24-hour) traffic volumes for study areas were derived from collected intersection peak hour volumes using standard average daily traffic volume conversion relationships or from adjacent traffic studies as earlier referenced.

Counts were collected on Thursday, March 24, 2022, with AM peak hour counts being collected during the period of 7:00 AM to 9:00 AM, and PM peak hour counts being collected during the period of 4:00 PM to 6:00 PM.

Newly collected counts and intersection geometry is shown on Figure 3.

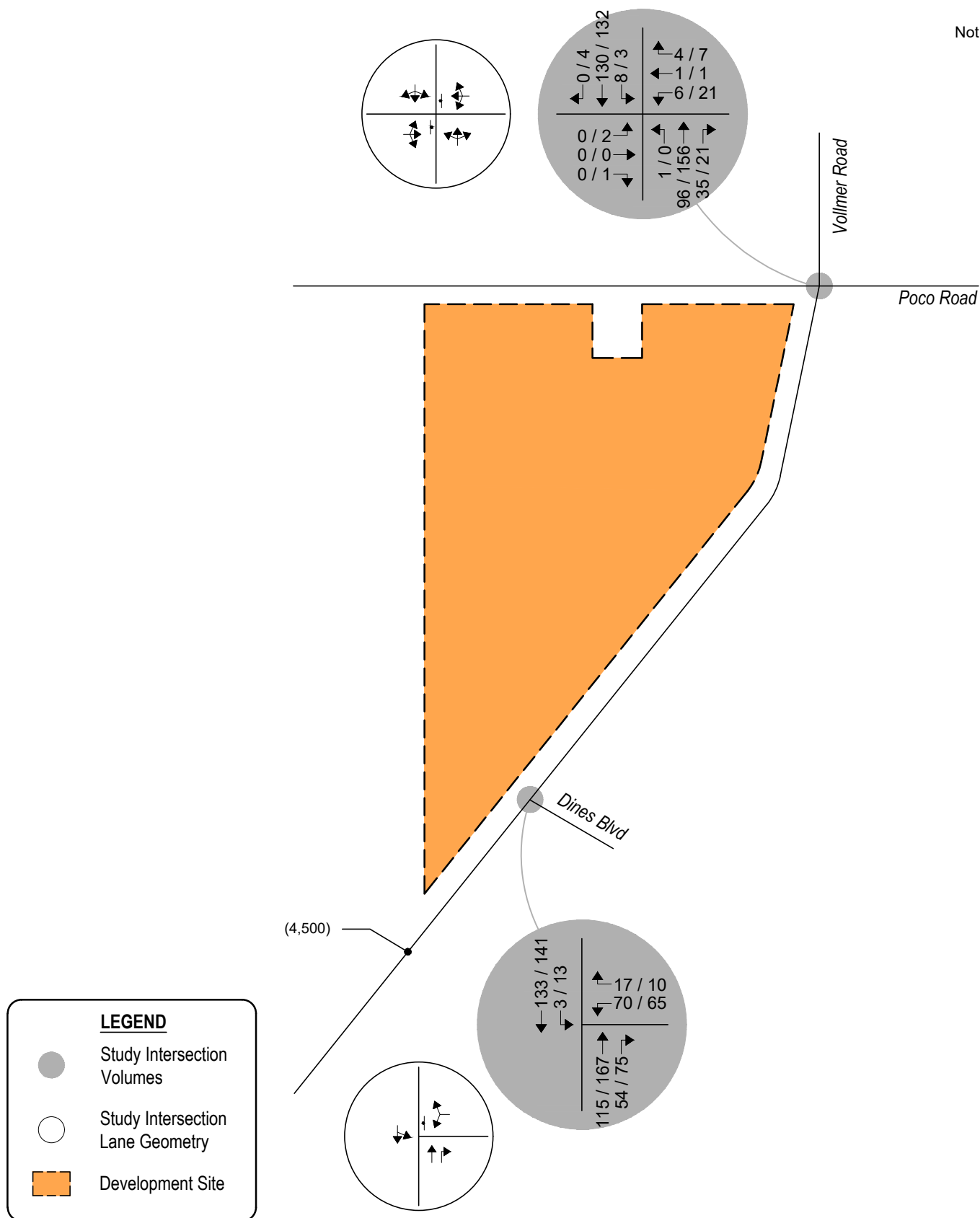


Figure 3
EXISTING TRAFFIC
Volumes & Intersection Geometry
AM / PM Peak Hour
(ADT) : Average Daily Traffic



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Peak Hour Intersection Levels of Service – Existing Traffic

The Signalized, Unsignalized, and Roundabout Intersection Analysis techniques, as published in the Highway Capacity Manual (HCM) by the Transportation Research Board and as incorporated into the SYNCHRO computer program, were used to analyze the study intersections for existing traffic conditions. These nationally accepted techniques allow for the determination of intersection level of service (LOS) based on the congestion and delay of each traffic movement and based on the volume to capacity ratio and control delay for each approach.

Level of service is a method of measurement used by transportation professionals to quantify a driver's perception of travel conditions that include travel time, number of stops, and total amount of stopped delay experienced on a roadway network. The HCM categorizes level of service into a range from "A" which indicates little, if any, vehicle delay, to "F" which indicates a level of operation considered unacceptable to most drivers. These levels of service grades with brief descriptions of the operating condition, for unsignalized and signalized intersections, are included for reference in Appendix B and have been used throughout this study.

The level of service analyses results for existing conditions are summarized in Table 1.

Intersection capacity worksheets developed for this study are provided in Appendix C.

Table 1 – Intersection Capacity Analysis Summary – Existing Traffic

INTERSECTION LANE GROUPS	LEVEL OF SERVICE	
	AM PEAK HOUR	PM PEAK HOUR
Poco Road / Vollmer Road (Stop-Controlled) Eastbound Left, Through and Right Westbound Left, Through and Right	A B	B B
Dines Boulevard / Vollmer Road (Stop-Controlled) Westbound Left and Right Southbound Left and Through	B A	B A

Key: Stop-Controlled Intersection: Level of Service

Existing Traffic Analysis Results

Under existing conditions, the stop-controlled intersections of Poco Road and Dines Boulevard with Vollmer Road have turn movement operations at or better than LOS B during both the morning and afternoon peak traffic hours.

III. Future Traffic Conditions Without Proposed Development

Background traffic is the traffic projected to be on area roadways without consideration of the proposed development. Background traffic includes traffic generated by development of vacant parcels in the area.

Additionally, this study's background traffic analysis includes through traffic and intersection traffic generated by adjacent development as described within the earlier reference traffic studies for Retreat at Timber Ridge and Homestead North Phase I. To account for projected increases in background traffic for Years 2027 and 2040 not considered in the referenced traffic study, a compounded annual growth rate was determined using population growth estimates provided by the Pikes Peak Area Council of Governments' (PPACG) 2045 Long Range Transportation Plan⁶. PPACG's 2045 Long Range Transportation Plan anticipate a 20-year growth rate between one and three percent. Because this area of the County is experiencing a large degree of regional growth and in order to provide for a conservative analysis, a growth rate of seven percent was applied to existing traffic volumes where short-term or long-term background traffic volumes were not considered in adjacent development traffic studies. This annual growth rate is aggressive but is considered to be consistent with long-term regional growth projections and the level of in-fill development expected within the area.

Pursuant to the committed area roadway improvements discussed in Section I, Year 2027 background traffic conditions assume the completion of various, earlier explained, roadway improvements for Vollmer Road (south of Poco Road) and Briargate Parkway (east of Vollmer Road) to accommodate regional transportation demands. Year 2040 background traffic conditions assumes the new construction and westerly extension of Briargate Parkway (west of Vollmer Road). Year 2040 also assumes signal timing parameters for Briargate Parkway and Vollmer Road consistent with that described in the referenced traffic study for Homestead North Phase I. These assumptions provide for a conservative analysis.

Projected background traffic volumes and intersection geometry for Year 2027 are shown on Figure 4.

Figure 5 shows projected background traffic volumes and intersection geometry for Year 2040.

⁶ Moving Forward 2045: Pikes Peak Area Regional Transportation Plan, Pikes Peak Area Council of Governments, January 2020.

Please indicate in your narrative why Marksheffel Road/Vollmer Rd intersection was not included in your study area.

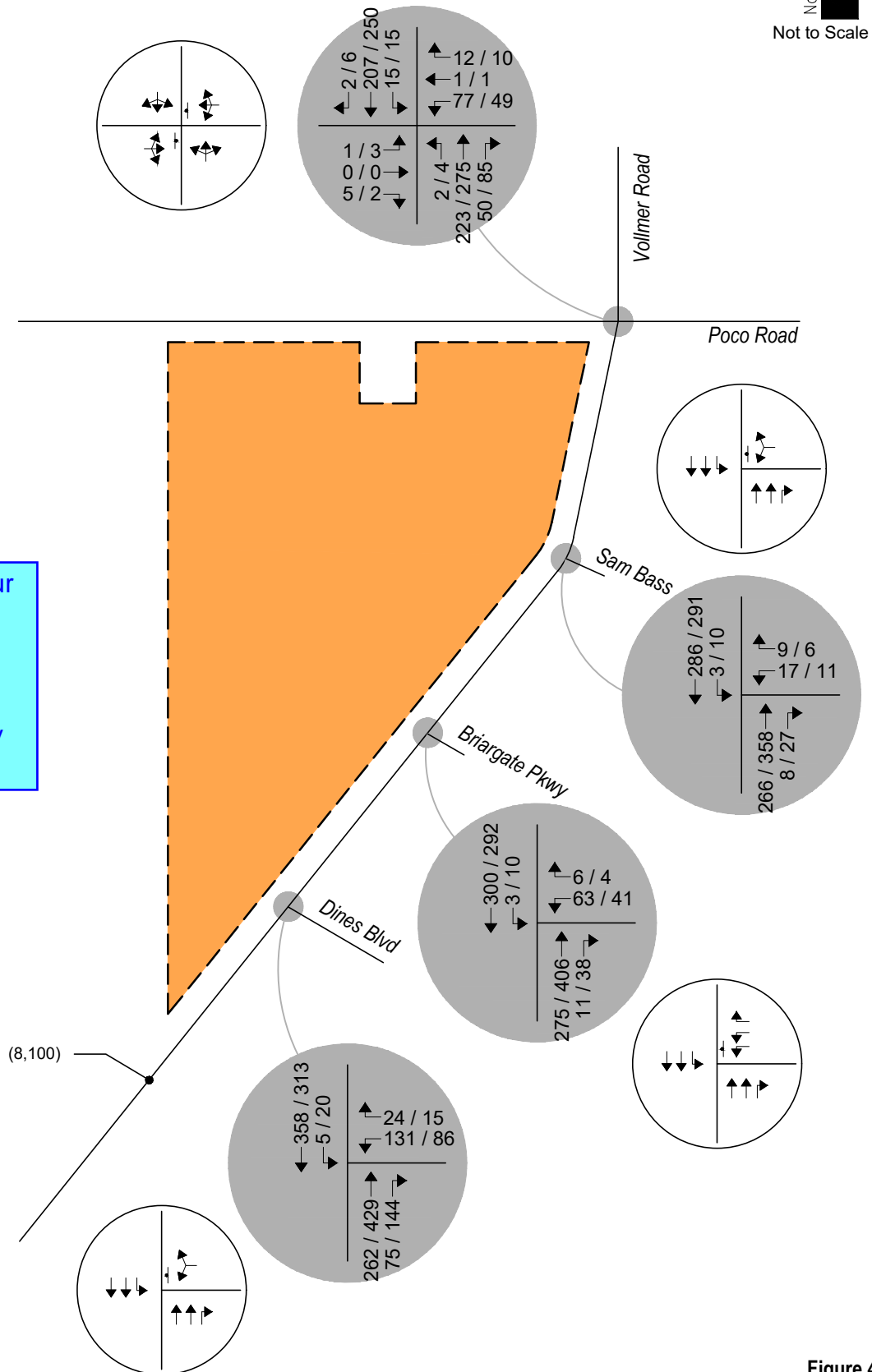
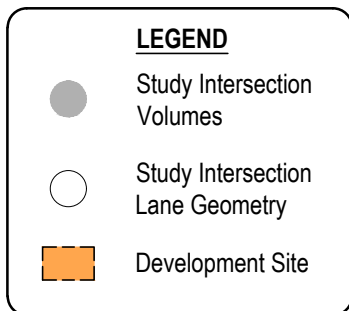


Figure 4
BACKGROUND TRAFFIC - YEAR 2027
Volumes & Intersection Geometry
AM / PM Peak Hour
(ADT) : Average Daily Traffic



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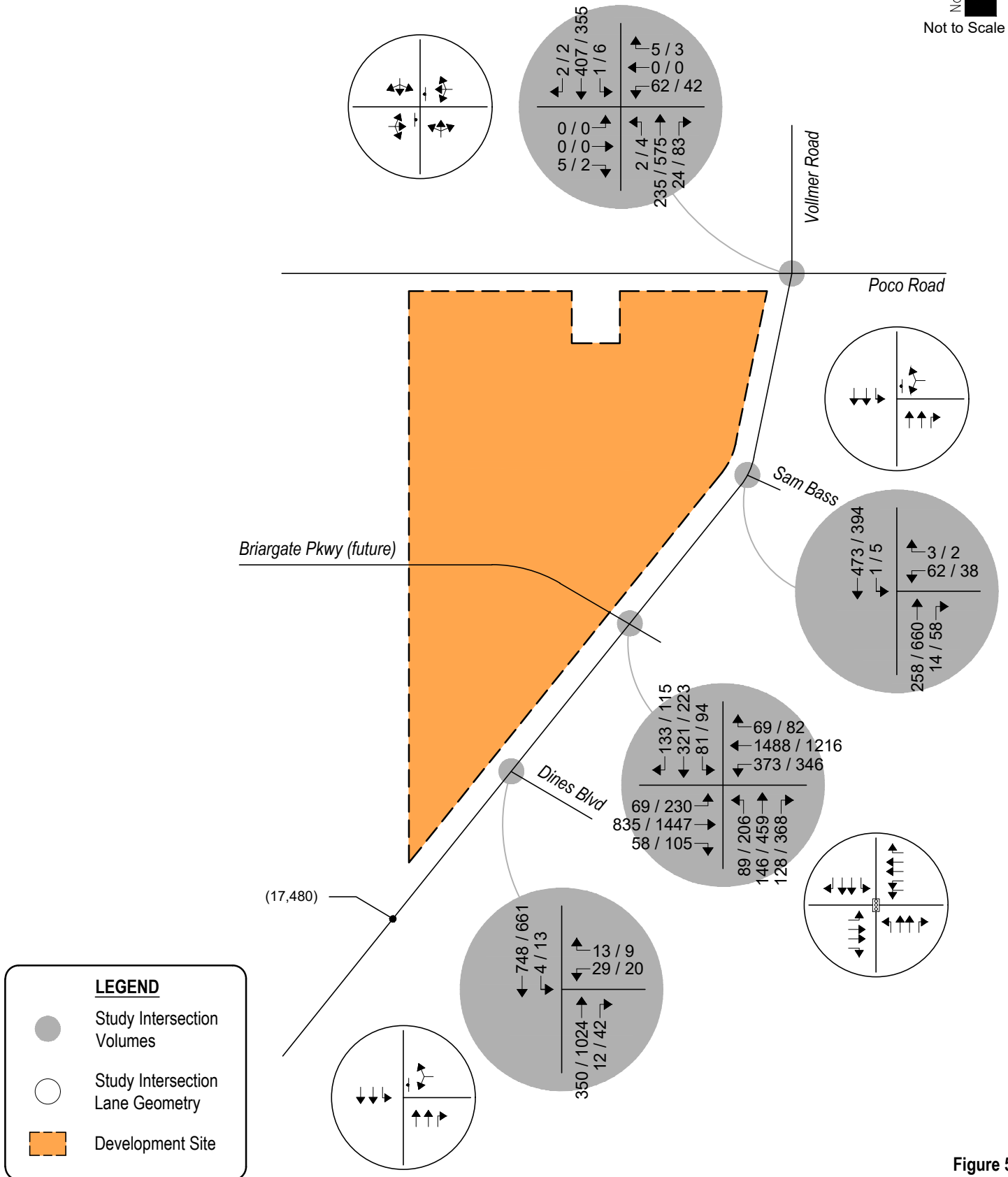


Figure 5
BACKGROUND TRAFFIC - YEAR 2040
Volumes & Intersection Geometry
AM / PM Peak Hour
(ADT) : Average Daily Traffic



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Peak Hour Intersection Levels of Service – Background Traffic

As with existing traffic conditions, the operations of study intersections were analyzed under background conditions, without the proposed development, using the SYNCHRO computer program.

Background traffic level of service analysis results for Year 2027 are listed in Table 2. Year 2040 operational results are summarized in Table 3.

Definitions of levels of service are given in Appendix B. Intersection capacity worksheets are provided in Appendix C.

Table 2 – Intersection Capacity Analysis Summary – Background Traffic – Year 2027

INTERSECTION LANE GROUPS	LEVEL OF SERVICE	
	AM PEAK HOUR	PM PEAK HOUR
Poco Road / Vollmer Road (Stop-Controlled) Eastbound Left, Through and Right Westbound Left, Through and Right	B B	B C
Sam Bass Drive / Vollmer Road (Stop-Controlled) Westbound Left and Right Southbound Left	B A	B A
Briargate Parkway / Vollmer Road (Stop-Controlled) Westbound Left Westbound Right Southbound Left	B A A	B A A
Dines Boulevard / Vollmer Road (Stop-Controlled) Westbound Left and Right Southbound Left	B A	C A

Key: Stop-Controlled Intersection: Level of Service

Background Traffic Analysis Results – Year 2027

Year 2027 background traffic analysis indicates that all stop-controlled intersections within the study area experience turn movement operations at or better than LOS C during both the morning and afternoon peak traffic hours.

Table 3 – Intersection Capacity Analysis Summary – Background Traffic – Year 2040

INTERSECTION LANE GROUPS	LEVEL OF SERVICE	
	AM PEAK HOUR	PM PEAK HOUR
Poco Road / Vollmer Road (Stop-Controlled) Eastbound Left, Through and Right Westbound Left, Through and Right	B C	B D
Sam Bass Drive / Vollmer Road (Stop-Controlled) Westbound Left and Right Southbound Left	B A	C A
Briargate Parkway / Vollmer Road (Signalized)	C (29.0)	D (50.9)
Dines Boulevard / Vollmer Road (Stop-Controlled) Westbound Left and Right Southbound Left	C A	E B

Key: Signalized Intersection: Level of Service (Control Delay in sec/veh)
 Stop-Controlled Intersection: Level of Service

Background Traffic Analysis Results – Year 2040

By Year 2040 and without the proposed development, the signalized intersection of Briargate Parkway and Vollmer Road is projected to have an overall operation at LOS C during the morning peak traffic hour and LOS D within the afternoon peak hour. These projected operations remain similar to referenced traffic studies for adjacent development.

All stop-controlled intersections within the study area project turn movement operations at or better than LOS D during both peak traffic hours. An exception is the existing westbound left and right turn movement for Dines Boulevard at Vollmer Road where a LOS E is projected during the afternoon peak hour. The LOS E operation is attributed to the long-term projected through traffic volume along Vollmer Road and the stop-controlled nature of the intersection. It is emphasized that it is not uncommon for unsignalized movements to or from an arterial roadway, in urbanized areas, to operate with noticeable delays during peak traffic hours. It is, however, likely that turn movements will operate better than the results obtained with this HCM Two Way Stop Control (TWSC) level of service analysis would indicate, as HCM analysis limitations may not accurately account for the effect of vehicle platooning and gaps caused by upstream signals. Upstream signal controls along Vollmer Road may create additional gaps in the traffic stream for turning movements at Dines Boulevard which could provide mitigation to the LOS E operations projected during the peak afternoon traffic hour.

IV. Proposed Project Traffic

Trip Generation

Standard traffic generation characteristics compiled by the Institute of Transportation Engineers (ITE) in their report entitled Trip Generation Manual, 11th Edition, were applied to the proposed land use in order to estimate average daily traffic (ADT), AM Peak Hour, and PM Peak Hour vehicle trips. A vehicle trip is defined as a one-way vehicle movement from a point of origin to a point of destination.

The ITE land use codes 210 (Single-Family Detached Housing), 215 (Single-Family Attached Housing), and 822 (Strip Retail Plaza) were used for estimating trip generation because of their best fit to the proposed land use descriptions.

Due to the conceptual nature of the proposed development, no specific commercial land uses have been determined. As such, a floor-area-ratio (FAR) of 0.20 was applied to the assumed commercial area of development.

As actual land uses, densities or site plans within the Jaynes Property sketch plan become defined over time and through additional County land use approval procedures, it is expected that traffic generation characteristics considered within this study will need to be updated by more specific traffic analyses or studies to help assess if transportation improvements are needed to mitigate potential traffic impacts.

Trip generation rates used in this study are presented in Table 4.

Table 4 – Trip Generation Rates

ITE CODE	LAND USE	UNIT	TRIP GENERATION RATES						
			24	AM PEAK HOUR			PM PEAK HOUR		
			HOUR	ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
210	Single-Family Detached	DU	9.43	0.18	0.52	0.70	0.59	0.35	0.94
215	Single-Family Attached	DU	7.20	0.15	0.33	0.48	0.32	0.25	0.57
822	Strip Retail Plaza	KSF	54.45	1.42	0.94	2.36	3.30	3.30	6.59

Key: KSF = Thousand Square Feet Gross Floor Area.
DU = Dwelling Units.

Table 5 illustrates projected ADT, AM Peak Hour, and PM Peak Hour traffic volumes likely generated by the proposed development upon build-out.

Please coordinate with the project planner and update the units/type of land use if necessary. EPC planning staff has provided comments that may cause changes or further define what is proposed.

Table 5 – Trip Generation Summary

ITE CODE	LAND USE	SIZE	24 HOUR	TOTAL TRIPS GENERATED					
				AM PEAK HOUR			PM PEAK HOUR		
				ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
210	Single-Family Detached	311 DU	2,933	57	161	218	184	108	292
215	Single-Family Attached	130 DU	936	19	43	62	42	32	74
822	Strip Retail Plaza	35.72 KSF	1,945	51	34	84	118	118	235
<i>Total:</i>			<i>5,814</i>	<i>127</i>	<i>238</i>	<i>364</i>	<i>344</i>	<i>258</i>	<i>602</i>

Key: KSF = Thousand Square Feet Gross Floor Area. DU = Dwelling Units.

Note: All data and calculations above are subject to being rounded to nearest value.

Upon build-out and without consideration of applicable vehicle trip reductions, Table 5 illustrates that the proposed development has the potential to generate approximately 5,814 daily trips with 364 of those occurring during the morning peak hour and 602 during the afternoon peak hour.

Adjustments to Trip Generation Rates

While a mixed-use development of this type is likely to attract trips from within area land uses as well as pass-by or diverted linked trips from the adjacent roadway system, no trip reduction was taken in this analysis due to its conceptual nature. This assumption provides for a conservative analysis.

Trip Distribution & Assignment

The construction of this development is assumed to be phased with the initial phase being completed by 2027 and entailing the portion of residential (246 dwelling units) located north of future Briargate Parkway.

Traffic assignment is how generated and distributed vehicle trips are expected to be loaded onto the available roadway network.

The initial and overall directional distribution of site-generated traffic was determined based on the location of development site within the County, proposed and existing area land uses, allowed turning movements, available roadway network, and in compliance to the adjacent traffic study prepared for Homestead North Phase I previously referenced.

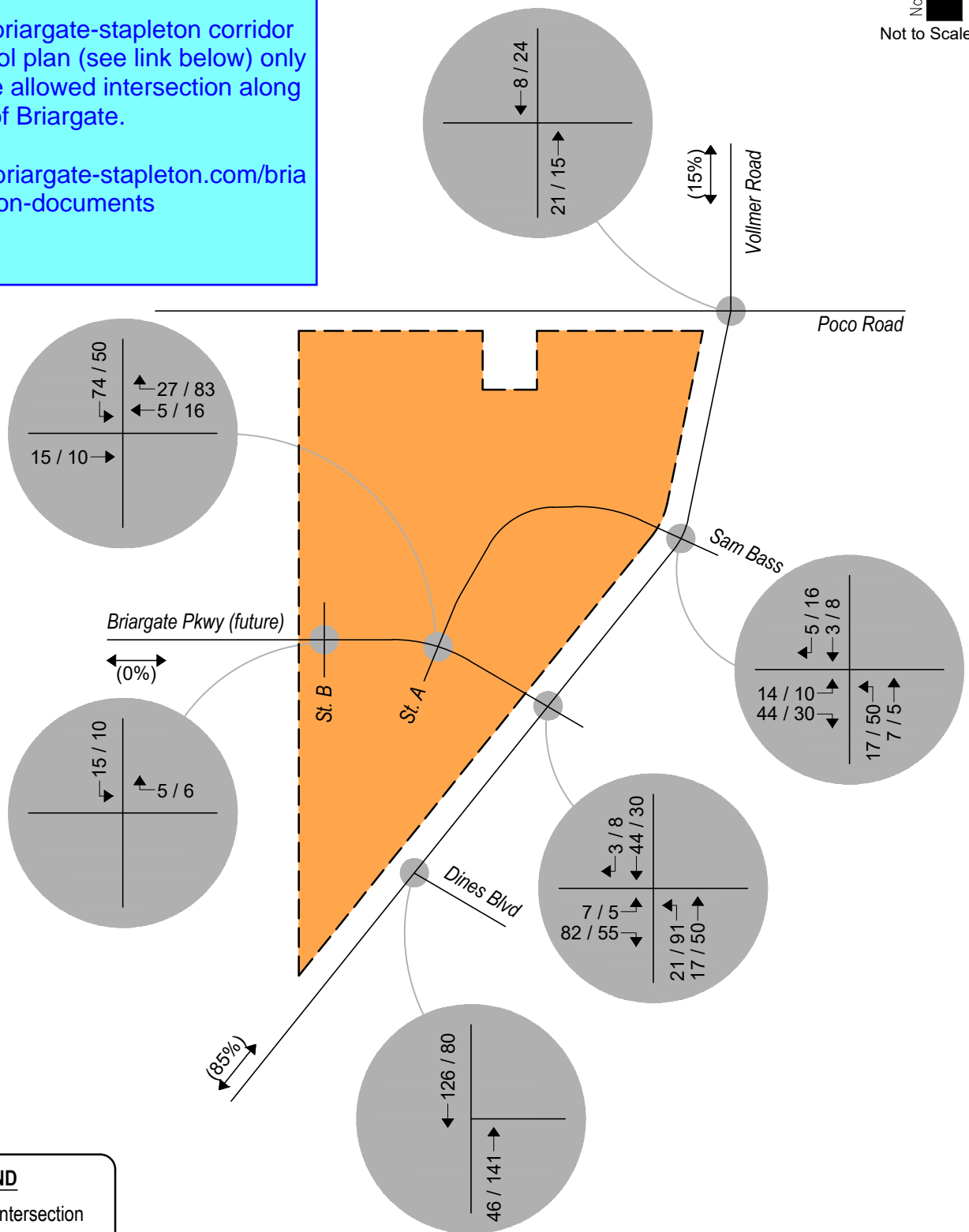
Trip distribution patterns for the initial phase of development are shown on Figure 6A. Applying trip distribution patterns to initial phase of site-generated traffic provides the initial site-generated trip assignments also shown on Figure 6A.

Overall, long-term, trip distribution patterns and site-generated traffic assignment for development build-out are shown on Figure 6B.

Please also provide an analysis for only one intersection at Briargate Pkwy.

The current briargate-stapleton corridor access control plan (see link below) only indicates one allowed intersection along this section of Briargate.

<https://www.briargate-stapleton.com/briargate-stapleton-documents>



LEGEND

- Study Intersection Volumes
- Development Site

Figure 6-A
SITE DEVELOPMENT SHORT-TERM DISTRIBUTION
 (%) : Overall
SITE-GENERATED
 AM / PM Peak Hour

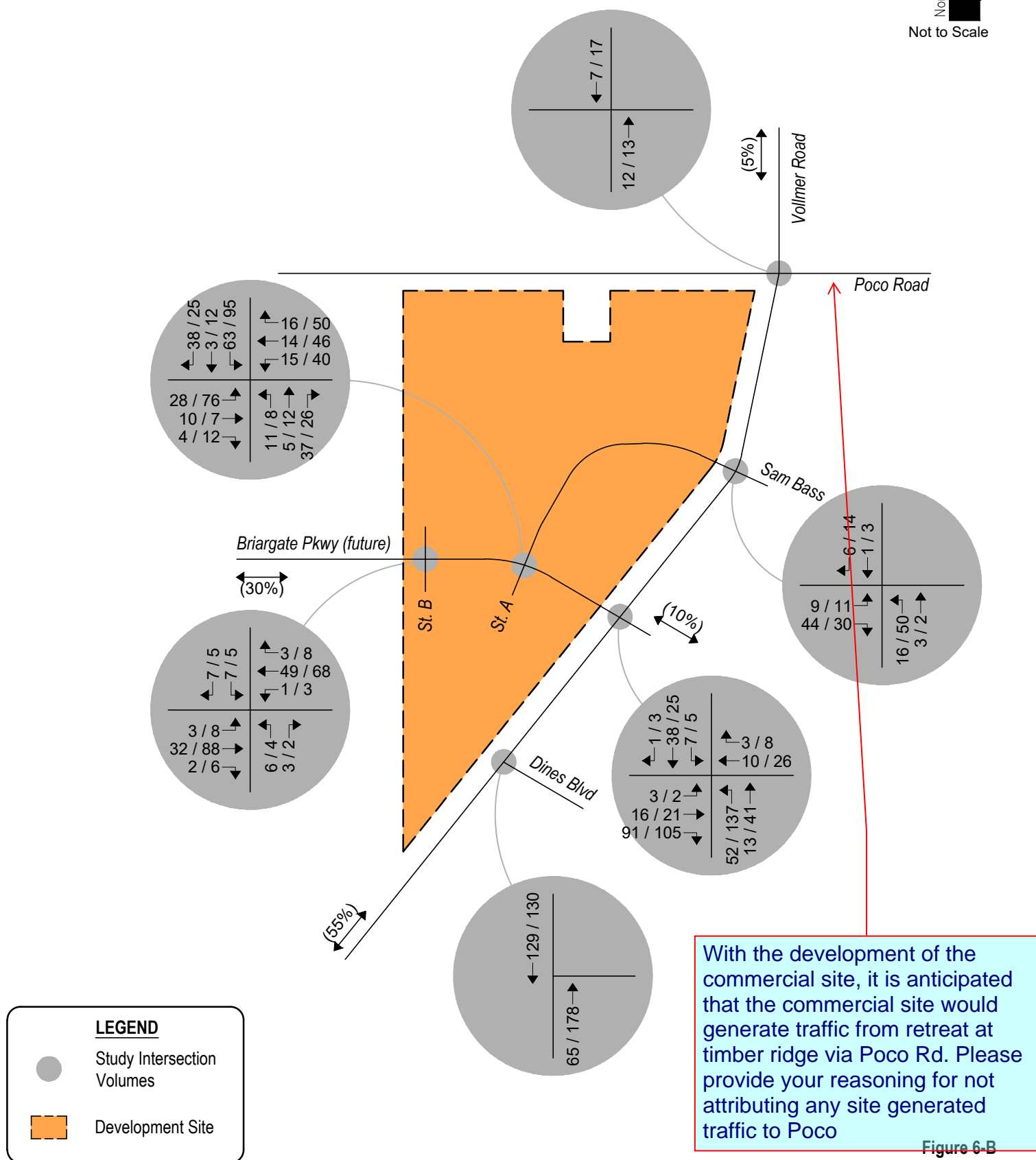


Figure 6-B
SITE DEVELOPMENT LONG-TERM DISTRIBUTION (%) : Overall

SITE-GENERATED
AM / PM Peak Hour



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V. Future Traffic Conditions With Proposed Developments

Total traffic is the traffic projected to be on area roadways with consideration of the proposed development. Total traffic includes background traffic projections for Years 2027 and 2040 with consideration of site-generated traffic. For analysis purposes, it was assumed that overall development construction would be completed by end of Year 2040.

Pursuant to area roadway improvement discussions provided in Section III, Year 2027 and Year 2040 total traffic conditions assume no additional roadway improvements to accommodate regional transportation demands than that described for each background analysis year. Roadway improvements associated with site development are expected to be limited to site access and frontage as required by the governing agency. An exception is Briargate Parkway where the construction of a partial roadway section (two through lanes with shared center turn lane) is envisioned with the initial phase of site development.

Projected Year 2027 total traffic volumes and intersection geometry are shown in Figure 7.

Figure 8 shows projected total traffic volumes and intersection geometry for Year 2040.

Total Traffic Auxiliary Lane Analysis

Please update to include the proposed roadway aligned with Dines Blvd

Auxiliary lanes for site development accesses were based on the County's ECM.

Considering development build-out, an evaluation of auxiliary lane requirements, pursuant to Section 2.3.7 of the County's ECM, reveals that a southbound right turn deceleration lane along Vollmer Road at Briargate Parkway is required since the southbound right turn ingress volume exceeds the 25 vehicles per hour threshold. While peak hour for southbound right turn ingress volumes along Vollmer Road at Sam Bass Drive are not projected to exceed the 25 vehicles per hour threshold, a right turn lane was assumed for analysis purposes. Dedicated right turn lanes were also assumed along the future, ultimate section of Briargate Parkway at Vollmer Road and Street A. No dedicated right turn lanes were assumed for the Briargate Parkway and Street B intersection since the projected ingress volume is not expected to exceed 25 vehicles per hour.

Section 2.3.7 of the County's ECM also reveals that an exclusive left turn deceleration lane is required along ultimate Briargate Parkway and Vollmer Road at Street B, Street A, and Sam Bass Drive since the projected left turn ingress volume exceeds the County's threshold of 10 vehicles per hour.

Due to the conservative analysis performed throughout this study and the conceptual nature of site development, it is expected that auxiliary lane requirements evaluated within this study will need to be updated by more specific traffic analyses or studies as actual area development occurs, to help assess if transportation improvements are needed to meet the County's vehicle volume thresholds.

A northbound left turn decel lane along Vollmer at Briargate is not mentioned yet the traffic volumes provided support it. Please include.

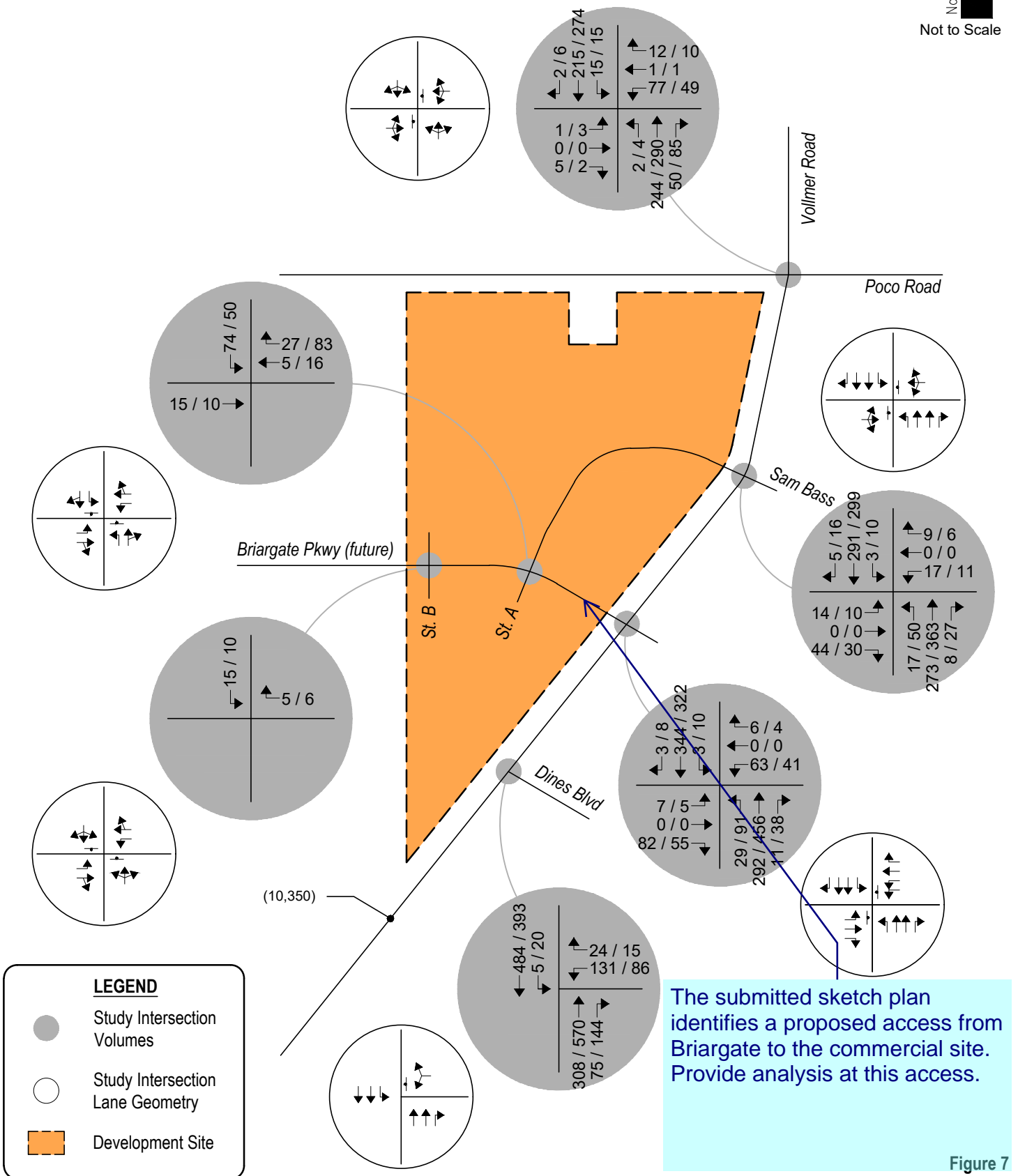


Figure 7

TOTAL TRAFFIC - YEAR 2027
Volumes & Intersection Geometry
AM / PM Peak Hour
(ADT) : Average Daily Traffic



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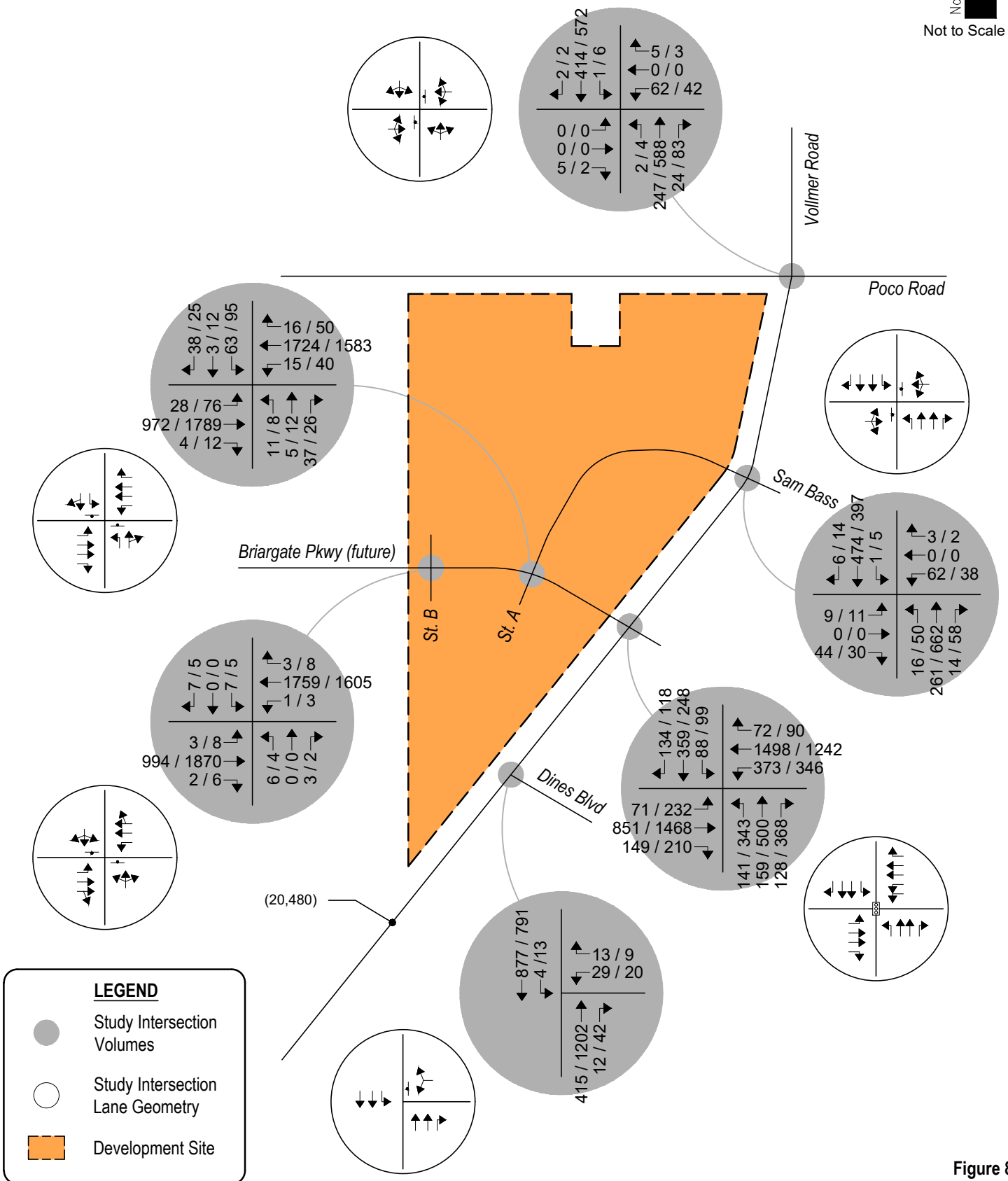


Figure 8
TOTAL TRAFFIC - YEAR 2040
Volumes & Intersection Geometry
AM / PM Peak Hour
(ADT) : Average Daily Traffic

VI. Project Impacts

The analyses and procedures described in this study were performed in accordance with the Highway Capacity Manual (HCM) and are based upon the worst-case conditions that occur during a typical weekday upon build-out of site development and analyzed land uses. Therefore, study intersections are likely to operate with traffic conditions better than those described within this study, which represent the peak hours of weekday operations only.

Peak Hour Intersection Levels of Service – Total Traffic

As with background traffic, the operations of the study intersections were analyzed under projected total traffic conditions using the SYNCHRO computer program. Total traffic level of service analysis results for Years 2027 and 2040 are summarized in Table 6 and Table 7, respectively.

Definitions of levels of service are given in Appendix B. Intersection capacity worksheets are provided in Appendix C.

Table 6 – Intersection Capacity Analysis Summary – Total Traffic – Year 2027

INTERSECTION LANE GROUPS	LEVEL OF SERVICE	
	AM PEAK HOUR	PM PEAK HOUR
Poco Road / Vollmer Road (Stop-Controlled) Eastbound Left, Through and Right Westbound Left, Through and Right	B C	B C
Sam Bass Drive / Vollmer Road (Stop-Controlled) Eastbound Left, Through and Right Westbound Left, Through and Right Northbound Left Southbound Left	B B A A	B B A A
Briargate Parkway / Vollmer Road (Stop-Controlled) Eastbound Left Eastbound Through Eastbound Right Westbound Left Westbound Through Westbound Right Northbound Left Southbound Left	B A A C A A A A	C A A D A A A A
Dines Boulevard / Vollmer Road (Stop-Controlled) Westbound Left and Right Southbound Left	C A	C A
Street A / Briargate Parkway (Stop-Controlled) Southbound Left	A	A
Street B / Briargate Parkway (Stop-Controlled) Southbound Left	A	A

Key: Stop-Controlled Intersection: Level of Service

Provide
comparison
analysis without
Street A

Table 7 – Intersection Capacity Analysis Summary – Total Traffic – Year 2040

INTERSECTION LANE GROUPS	LEVEL OF SERVICE	
	AM PEAK HOUR	PM PEAK HOUR
Poco Road / Vollmer Road (Stop-Controlled) Eastbound Left, Through and Right Westbound Left, Through and Right	B C	B E
Sam Bass Drive / Vollmer Road (Stop-Controlled) Eastbound Left, Through and Right Westbound Left, Through and Right Northbound Left Southbound Left	B C A A	B D A A
Briargate Parkway / Vollmer Road (Signalized)	C (31.6)	D (49.6)
Dines Boulevard / Vollmer Road (Stop-Controlled) Westbound Left and Right Southbound Left	C A	F B
Street A / Briargate Parkway (Stop-Controlled) Eastbound Left Westbound Left Northbound Left Northbound Through and Right Southbound Left Southbound Through and Right	C B F F F F	C C F F F F
Street B / Briargate Parkway (Stop-Controlled) Eastbound Left Westbound Left Northbound Left, Through and Right Southbound Left, Through and Right	C B F F	C C F F

Key: Signalized Intersection: Level of Service (Control Delay in sec/veh)
 Stop-Controlled Intersection: Level of Service

Provide
comparison
analysis without
Street A

Total Traffic Analysis Results Upon Development Build-Out

Table 7 illustrates how, by Year 2040 and upon assumed development build-out, the signalized intersection of Briargate Parkway with Vollmer Road experiences overall operations at LOS C during the morning peak traffic hour and LOS D during the afternoon peak traffic hour.

The stop-controlled intersections of along Briargate Parkway and Vollmer Road are projected to have turn movement operations at or better than LOS C during the morning peak traffic hour and LOS D or better during the afternoon peak traffic hour. Exceptions would include the northbound and southbound movements at Street B and Street A, westbound turn movements at Dines Boulevard, and westbound movements at Poco Road where long-term LOS E and LOS F operations are projected during the respective peak hour. The projected LOS E and LOS F operations are attributed to the through traffic volume along Briargate Parkway and Vollmer Road and the stop-controlled nature of the respective intersection.

Please provide possible solutions to bring the LOS E & F turn movements to satisfactory levels. for example, should Dines blvd be a RIRO instead of a full movement? please address.

Note that Dines Blvd. will always be a stop condition on the east side unless it is reconstructed to meet criteria.

It is again emphasized that it is not uncommon for unsignalized movements to or from an arterial roadway, in urbanized areas, to operate with noticeable delays during peak traffic hours. It is, however, likely that turn movements will operate better than the results obtained with this HCM Two Way Stop Control (TWSC) level of service analysis would indicate, as the HCM analysis limitations may not accurately account for the effect of vehicle platooning and gaps caused by upstream signals. Upstream signal controls along Briargate Parkway and Vollmer Road may create additional gaps in the traffic stream for turning movements onto Briargate Parkway or Vollmer Road which could provide mitigation to the LOS E and LOS F operations projected during peak traffic hours.

Queue Length Analysis

Queue lengths for the study intersections were analyzed using Year 2040 total traffic conditions. The analysis yields estimate of 95th percentile queue lengths, which have only a five percent probability of being exceeded during the analysis time period. Queue lengths were modeled and are included with the Synchro worksheets in Appendix C. No significant vehicle queuing lengths are noted through analysis.

Provide a Recommended Improvements Summary table including all major onsite and offsite improvements that will be necessary to serve this development.

State whether the MTCP or other corridor study calls for the construction of improvements in the immediate area and also state whether or not any improvements affected by this project are reimbursable under the current MTCP

State that the development will be subject to the El Paso County road impact fee

State any deviations that are anticipated to be required at the subdivision stage of the development.

VII. Conclusion

This traffic impact study is provided as a planning document and addressed the capacity, geometric, and control requirements associated with the development entitled Jaynes Property. This proposed mixed-use development consists of a variety of residential, neighborhood commercial, and park land uses. The 132-acre development is located along the west side of Vollmer Road between Poco Road and Dines Boulevard in El Paso County, Colorado.

The study area examined in this analysis encompassed the Vollmer Road intersections with Poco Road, Briargate Parkway (future) and Dines Boulevard, and the Briargate Parkway (future) intersections with key site development roadways (future).

Analysis was conducted for critical AM Peak Hour and PM Peak Hour traffic operations for existing traffic conditions, Year 2027 and Year 2040 background traffic conditions, and Year 2027 and Year 2040 total traffic conditions.

Analysis of existing traffic conditions indicates that the stop-controlled intersections of Poco Road and Dines Boulevard with Vollmer Road have turn movement operations at or better than LOS B during both the morning and afternoon peak traffic hours.

Without the proposed development, Year 2027 background operational analysis shows all stop-controlled intersections within the study area experience turn movement operations at or better than LOS C during both the morning and afternoon peak traffic hours.

By Year 2040 and without the proposed development, the signalized intersection of Briargate Parkway and Vollmer Road is projected to have an overall operation at LOS C during the morning peak traffic hour and LOS D within the afternoon peak hour and remain similar to referenced traffic studies for adjacent development. All stop-controlled intersections within the study area project turn movement operations at or better than LOS D during both peak traffic hours. The exception is the existing westbound left and right turn movement for Dines Boulevard at Vollmer Road where a LOS E is projected during the afternoon peak hour. The LOS E operation is attributed to the long-term projected through traffic volume along Vollmer Road and the stop-controlled nature of the intersection.

It has been emphasized throughout this study that it is not uncommon for unsignalized movements to or from an arterial roadway, in urban areas, to operate with noticeable delays during peak traffic hours. It is, however, likely that turn movements will operate better than the results obtained with this HCM Two Way Stop Control (TWSC) level of service analysis would indicate, as the HCM analysis limitations may not accurately account for the effect of vehicle platooning and gaps caused by upstream signals. Upstream signal controls along Briargate Parkway and Vollmer Road may create additional gaps in the traffic stream for turning movements along each roadway which could provide mitigation to the LOS E and LOS F operations projected during both peak traffic hours.

Analysis of future traffic conditions indicates that the addition of site-generated traffic is expected to create no negative impact to traffic operations for the existing and surrounding roadway system upon roadway and intersection control improvements assumed within this analysis.

APPENDIX A

Traffic Count Data



ALL TRAFFIC DATA SERVICES

(303) 216-2439

www.alltrafficdata.net

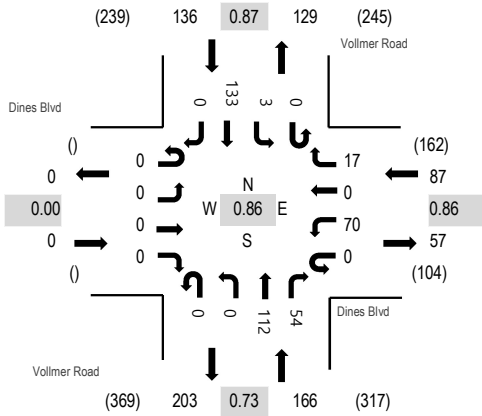
Location: 5 Vollmer Road & Dines Blvd AM

Date: Thursday, March 24, 2022

Peak Hour: 07:15 AM - 08:15 AM

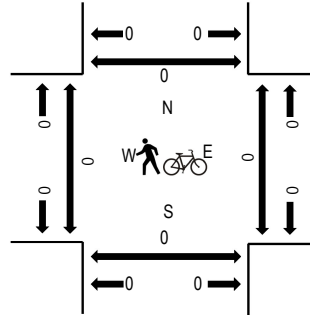
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	Dines Blvd Eastbound				Dines Blvd Westbound				Vollmer Road Northbound				Vollmer Road Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	0	0	0	11	0	1	0	0	25	14	0	2	16	0	69	370	0	0	0	0
7:15 AM	0	0	0	0	0	15	0	3	0	0	22	13	0	1	29	0	83	389	0	0	0	0
7:30 AM	0	0	0	0	0	21	0	5	0	0	27	13	0	0	39	0	105	381	0	0	0	0
7:45 AM	0	0	0	0	0	11	0	6	0	0	38	21	0	1	36	0	113	375	0	0	0	0
8:00 AM	0	0	0	0	0	23	0	3	0	0	25	7	0	1	29	0	88	348	0	0	0	0
8:15 AM	0	0	0	0	0	18	0	2	0	0	23	8	0	0	24	0	75		0	0	0	0
8:30 AM	0	0	0	0	0	23	0	1	1	0	28	13	1	2	30	0	99		0	0	0	0
8:45 AM	0	0	0	0	0	15	0	4	0	0	31	8	0	0	28	0	86		0	0	0	0
Count Total	0	0	0	0	0	137	0	25	1	0	219	97	1	7	231	0	718		0	0	0	0
Peak Hour	0	0	0	0	0	70	0	17	0	0	112	54	0	3	133	0	389		0	0	0	0



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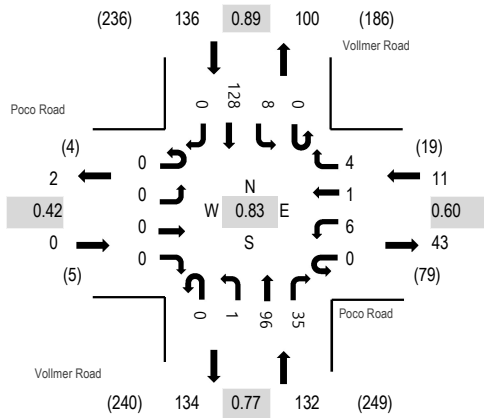
Location: 6 Vollmer Road & Poco Road AM

Date: Thursday, March 24, 2022

Peak Hour: 07:15 AM - 08:15 AM

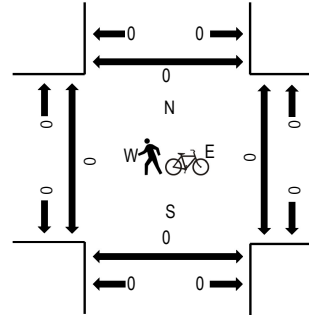
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	Poco Road Eastbound				Poco Road Westbound				Vollmer Road Northbound				Vollmer Road Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	0	0	0	0	0	0	0	0	10	15	0	1	20	0	46	264	0	0	0	0
7:15 AM	0	0	0	0	0	1	0	2	0	0	18	8	0	2	27	0	58	279	0	0	0	0
7:30 AM	0	0	0	0	0	1	0	2	0	1	26	8	0	2	36	0	76	273	0	0	0	0
7:45 AM	0	0	0	0	0	4	0	0	0	0	34	9	0	4	33	0	84	265	0	0	0	0
8:00 AM	0	0	0	0	0	0	1	0	0	0	18	10	0	0	32	0	61	245	0	0	0	0
8:15 AM	0	0	0	0	0	1	0	1	0	0	24	3	0	0	23	0	52		0	0	0	0
8:30 AM	0	0	0	2	0	3	0	2	0	1	24	6	0	1	29	0	68		0	0	0	0
8:45 AM	0	2	0	1	0	1	0	0	0	1	23	10	0	0	26	0	64		0	0	0	0
Count Total	0	2	0	3	0	11	1	7	0	3	177	69	0	10	226	0	509		0	0	0	0
Peak Hour	0	0	0	0	0	6	1	4	0	1	96	35	0	8	128	0	279		0	0	0	0



ALL TRAFFIC DATA SERVICES

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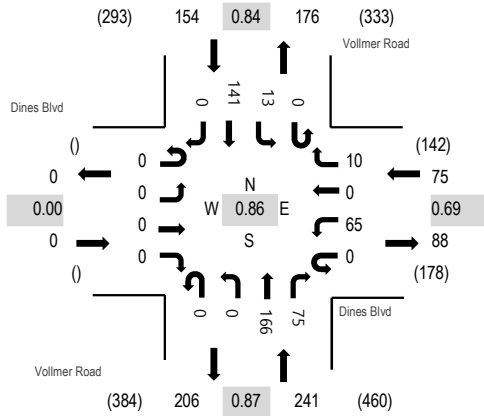
Location: 5 Vollmer Road & Dines Blvd PM

Date: Thursday, March 24, 2022

Peak Hour: 04:00 PM - 05:00 PM

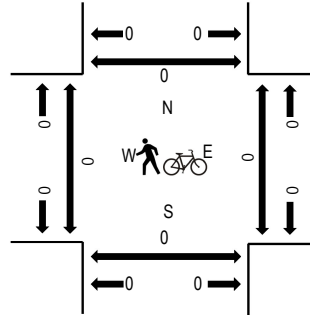
Peak 15-Minutes: 04:00 PM - 04:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	Dines Blvd Eastbound				Dines Blvd Westbound				Vollmer Road Northbound				Vollmer Road Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	0	0	0	24	0	3	0	0	46	18	0	2	44	0	137	470	0	0	0	0
4:15 PM	0	0	0	0	0	13	0	5	0	0	36	25	0	5	37	0	121	441	0	0	0	0
4:30 PM	0	0	0	0	0	12	0	2	0	0	35	11	0	3	30	0	93	436	0	0	0	0
4:45 PM	0	0	0	0	0	16	0	0	0	0	49	21	0	3	30	0	119	452	0	0	0	0
5:00 PM	0	0	0	0	0	14	0	5	0	0	42	18	0	2	27	0	108	425	0	0	0	0
5:15 PM	0	0	0	0	0	17	0	3	0	0	39	17	0	4	36	0	116		0	0	0	0
5:30 PM	0	0	0	0	0	12	0	1	0	0	36	21	0	8	31	0	109		0	0	0	0
5:45 PM	0	0	0	0	0	14	0	1	0	0	30	16	0	4	27	0	92		0	0	0	0
Count Total	0	0	0	0	0	122	0	20	0	0	313	147	0	31	262	0	895		0	0	0	0
Peak Hour	0	0	0	0	0	65	0	10	0	0	166	75	0	13	141	0	470		0	0	0	0



(303) 216-2439
www.alltrafficdata.net

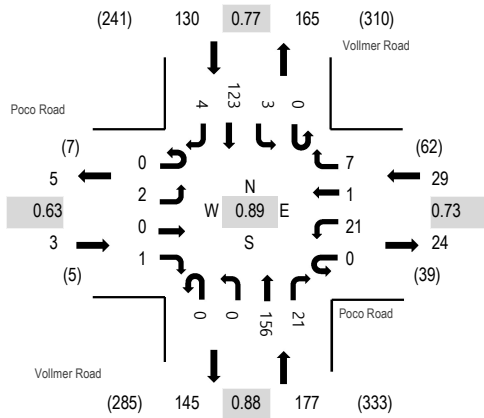
Location: 6 Vollmer Road & Poco Road PM

Date: Thursday, March 24, 2022

Peak Hour: 04:00 PM - 05:00 PM

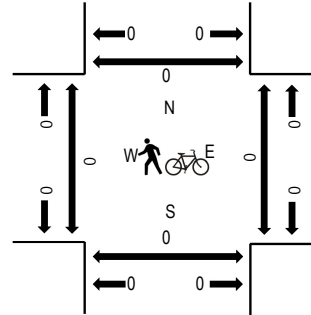
Peak 15-Minutes: 04:15 PM - 04:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	Poco Road Eastbound				Poco Road Westbound				Vollmer Road Northbound				Vollmer Road Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	0	0	0	8	1	4	0	0	41	4	0	1	29	2	90	339	0	0	0	0
4:15 PM	0	1	0	0	0	4	0	2	0	0	40	6	0	1	39	2	95	325	0	0	0	0
4:30 PM	0	0	0	0	0	2	0	0	0	0	32	3	0	1	28	0	66	313	0	0	0	0
4:45 PM	0	1	0	1	0	7	0	1	0	0	43	8	0	0	27	0	88	321	0	0	0	0
5:00 PM	0	0	0	2	0	6	0	1	0	0	44	3	0	0	20	0	76	302	0	0	0	0
5:15 PM	0	0	0	0	0	12	0	0	0	0	37	4	0	0	29	1	83		0	0	0	0
5:30 PM	0	0	0	0	0	6	0	2	0	0	33	3	0	1	29	0	74		0	0	0	0
5:45 PM	0	0	0	0	0	5	0	1	0	1	27	4	0	0	31	0	69		0	0	0	0
Count Total	0	2	0	3	0	50	1	11	0	1	297	35	0	4	232	5	641		0	0	0	0
Peak Hour	0	2	0	1	0	21	1	7	0	0	156	21	0	3	123	4	339		0	0	0	0

APPENDIX B

Level of Service Definitions

The following information can be found in the Highway Capacity Manual, Transportation Research Board, 2016: Chapter 19 – Signalized Intersections and Chapter 20 – Two-Way Stop Controlled Intersections.

Automobile Level of Service (LOS) for Signalized Intersections

Levels of service are defined to represent reasonable ranges in control delay.

LOS A

Describes operations with a control delay of 10 s/veh or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

LOS B

Describes operations with control delay between 10 and 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.

LOS C

Describes operations with control delay between 20 and 35 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual *cycle failures* (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.

LOS D

Describes operations with control delay between 35 and 55 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.

LOS E

Describes operations with control delay between 55 and 80 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.

LOS F

Describes operations with control delay exceeding 80 s/veh or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

Level of Service (LOS) for Unsignalized TWSC Intersections

Level of Service ($v/c \leq 1.0$)	Average Control Delay (s/veh)
A	0 - 10
B	> 10 - 15
C	> 15 - 25
D	> 25 - 35
E	> 35 - 50
F	> 50

APPENDIX C

Capacity Worksheets

HCM 6th TWSC
1: Poco Road & Vollmer Road

Existing Traffic Volumes
AM Peak Hour

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	0	0	0	6	1	4	1	96	35	8	130	0
Future Vol, veh/h	0	0	0	6	1	4	1	96	35	8	130	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	7	1	4	1	104	38	9	141	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	287	303	141	284	284	123	141	0	0	142	0	0
Stage 1	159	159	-	125	125	-	-	-	-	-	-	-
Stage 2	128	144	-	159	159	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	665	610	907	668	625	928	1442	-	-	1441	-	-
Stage 1	843	766	-	879	792	-	-	-	-	-	-	-
Stage 2	876	778	-	843	766	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	657	605	907	664	620	928	1442	-	-	1441	-	-
Mov Cap-2 Maneuver	657	605	-	664	620	-	-	-	-	-	-	-
Stage 1	842	761	-	878	791	-	-	-	-	-	-	-
Stage 2	870	777	-	837	761	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	0		10		0.1		0.4	
HCM LOS	A		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1442	-	-	-	735	1441	-
HCM Lane V/C Ratio	0.001	-	-	-	0.016	0.006	-
HCM Control Delay (s)	7.5	0	-	0	10	7.5	0
HCM Lane LOS	A	A	-	A	B	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0	-

HCM 6th TWSC
2: Vollmer Road & Dines Boulevard

Existing Traffic Volumes
AM Peak Hour

Intersection						
Int Delay, s/veh	2.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑	↗		↑
Traffic Vol, veh/h	70	17	115	54	3	113
Future Vol, veh/h	70	17	115	54	3	113
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	380	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	76	18	125	59	3	123
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	254	125	0	0	184	0
Stage 1	125	-	-	-	-	-
Stage 2	129	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	735	926	-	-	1391	-
Stage 1	901	-	-	-	-	-
Stage 2	897	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	734	926	-	-	1391	-
Mov Cap-2 Maneuver	734	-	-	-	-	-
Stage 1	901	-	-	-	-	-
Stage 2	895	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	10.4	0		0.2		
HCM LOS	B					
Minor Lane/Major Mvmt		NBT	NBRWBLn1	SBL	SBT	
Capacity (veh/h)		-	-	765	1391	-
HCM Lane V/C Ratio		-	-	0.124	0.002	-
HCM Control Delay (s)		-	-	10.4	7.6	-
HCM Lane LOS		-	-	B	A	-
HCM 95th %tile Q(veh)		-	-	0.4	0	-

HCM 6th TWSC
1: Poco Road & Vollmer Road

Existing Traffic Volumes
PM Peak Hour

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	2	0	1	21	1	7	0	156	21	3	132	4
Future Vol, veh/h	2	0	1	21	1	7	0	156	21	3	132	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	1	23	1	8	0	170	23	3	143	4
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	337	344	145	334	335	182	147	0	0	193	0	0
Stage 1	151	151	-	182	182	-	-	-	-	-	-	-
Stage 2	186	193	-	152	153	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	617	579	902	620	585	861	1435	-	-	1380	-	-
Stage 1	851	772	-	820	749	-	-	-	-	-	-	-
Stage 2	816	741	-	850	771	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	610	578	902	618	584	861	1435	-	-	1380	-	-
Mov Cap-2 Maneuver	610	578	-	618	584	-	-	-	-	-	-	-
Stage 1	851	770	-	820	749	-	-	-	-	-	-	-
Stage 2	808	741	-	847	769	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10.3		10.7		0		0.2					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1435	-	-	684	662	1380	-	-				
HCM Lane V/C Ratio	-	-	-	0.005	0.048	0.002	-	-				
HCM Control Delay (s)	0	-	-	10.3	10.7	7.6	0	-				
HCM Lane LOS	A	-	-	B	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-				

HCM 6th TWSC

2: Vollmer Road & Dines Boulevard

Existing Traffic Volumes
PM Peak Hour

Intersection						
Int Delay, s/veh	2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑	↑		↑
Traffic Vol, veh/h	65	10	167	75	13	141
Future Vol, veh/h	65	10	167	75	13	141
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	380	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	11	182	82	14	153
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	363	182	0	0	264	0
Stage 1	182	-	-	-	-	-
Stage 2	181	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	636	861	-	-	1300	-
Stage 1	849	-	-	-	-	-
Stage 2	850	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	628	861	-	-	1300	-
Mov Cap-2 Maneuver	628	-	-	-	-	-
Stage 1	849	-	-	-	-	-
Stage 2	840	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	11.3	0		0.7		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	- 652		1300	-	
HCM Lane V/C Ratio	-	- 0.125		0.011	-	
HCM Control Delay (s)	-	- 11.3		7.8	-	
HCM Lane LOS	-	- B		A	-	
HCM 95th %tile Q(veh)	-	- 0.4		0	-	

HCM 6th TWSC
1: Vollmer Road & Poco Road

Background Traffic Volumes
Year 2027 - AM Peak Hour

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	1	0	5	77	1	12	2	223	50	15	207	2
Future Vol, veh/h	1	0	5	77	1	12	2	223	50	15	207	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	5	84	1	13	2	242	54	16	225	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	538	558	226	534	532	269	227	0	0	296	0	0
Stage 1	258	258	-	273	273	-	-	-	-	-	-	-
Stage 2	280	300	-	261	259	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	454	438	813	457	453	770	1341	-	-	1265	-	-
Stage 1	747	694	-	733	684	-	-	-	-	-	-	-
Stage 2	727	666	-	744	694	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	440	431	813	448	446	770	1341	-	-	1265	-	-
Mov Cap-2 Maneuver	440	431	-	448	446	-	-	-	-	-	-	-
Stage 1	746	684	-	732	683	-	-	-	-	-	-	-
Stage 2	712	665	-	729	684	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.1		14.6		0.1		0.5	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1341	-	-	712	474	1265	-
HCM Lane V/C Ratio	0.002	-	-	0.009	0.206	0.013	-
HCM Control Delay (s)	7.7	0	-	10.1	14.6	7.9	0
HCM Lane LOS	A	A	-	B	B	A	A
HCM 95th %tile Q(veh)	0	-	-	0	0.8	0	-

HCM 6th TWSC

2: Vollmer Road & Dines Boulevard

Background Traffic Volumes
Year 2027 - AM Peak Hour

Intersection						
Int Delay, s/veh	2.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑↑	↑	↑	↑↑
Traffic Vol, veh/h	131	24	262	75	5	358
Future Vol, veh/h	131	24	262	75	5	358
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	250	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	142	26	285	82	5	389
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	490	143	0	0	367	0
Stage 1	285	-	-	-	-	-
Stage 2	205	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	507	879	-	-	1188	-
Stage 1	738	-	-	-	-	-
Stage 2	809	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	505	879	-	-	1188	-
Mov Cap-2 Maneuver	505	-	-	-	-	-
Stage 1	738	-	-	-	-	-
Stage 2	806	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	14.6	0	0.1			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	541	1188	-	
HCM Lane V/C Ratio	-	-	0.311	0.005	-	
HCM Control Delay (s)	-	-	14.6	8	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	1.3	0	-	

HCM 6th TWSC

3: Sam Bass Drive & Vollmer Road

Background Traffic Volumes
Year 2027 - AM Peak Hour

Intersection						
Int Delay, s/veh	0.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	YY		↑↑	↑	↑	↑↑
Traffic Vol, veh/h	17	9	266	8	3	286
Future Vol, veh/h	17	9	266	8	3	286
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	150	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	10	289	9	3	311







Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	451	145	0	0	298	0
Stage 1	289	-	-	-	-	-
Stage 2	162	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	537	876	-	-	1260	-
Stage 1	735	-	-	-	-	-
Stage 2	850	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	536	876	-	-	1260	-
Mov Cap-2 Maneuver	536	-	-	-	-	-
Stage 1	735	-	-	-	-	-
Stage 2	848	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	619	1260
HCM Lane V/C Ratio	-	-	0.046	0.003
HCM Control Delay (s)	-	-	11.1	7.9
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

HCM 6th TWSC
4: Vollmer Road & Briargate Parkway

Background Traffic Volumes
Year 2027 - AM Peak Hour

Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	63	6	275	11	3	300
Future Vol, veh/h	63	6	275	11	3	300
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	375	0	-	250	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	68	7	299	12	3	326
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	468	150	0	0	311	0
Stage 1	299	-	-	-	-	-
Stage 2	169	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	524	870	-	-	1246	-
Stage 1	726	-	-	-	-	-
Stage 2	843	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	523	870	-	-	1246	-
Mov Cap-2 Maneuver	523	-	-	-	-	-
Stage 1	726	-	-	-	-	-
Stage 2	841	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	12.6	0	0.1			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 523 870 1246	-	-		
HCM Lane V/C Ratio	-	- 0.131 0.007 0.003	-	-		
HCM Control Delay (s)	-	- 12.9 9.2 7.9	-	-		
HCM Lane LOS	-	- B A A	-	-		
HCM 95th %tile Q(veh)	-	- 0.4 0 0	-	-		

HCM 6th TWSC
1: Vollmer Road & Poco Road

Background Traffic Volumes
Year 2027 - PM Peak Hour

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	3	0	2	49	1	10	4	275	85	15	250	6
Future Vol, veh/h	3	0	2	49	1	10	4	275	85	15	250	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	0	2	53	1	11	4	299	92	16	272	7
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	667	707	276	662	664	345	279	0	0	391	0	0
Stage 1	308	308	-	353	353	-	-	-	-	-	-	-
Stage 2	359	399	-	309	311	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	372	360	763	375	381	698	1284	-	-	1168	-	-
Stage 1	702	660	-	664	631	-	-	-	-	-	-	-
Stage 2	659	602	-	701	658	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	360	353	763	368	373	698	1284	-	-	1168	-	-
Mov Cap-2 Maneuver	360	353	-	368	373	-	-	-	-	-	-	-
Stage 1	699	649	-	661	628	-	-	-	-	-	-	-
Stage 2	645	600	-	688	647	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	13		15.7		0.1		0.4					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1284	-	-	456	400	1168	-	-				
HCM Lane V/C Ratio	0.003	-	-	0.012	0.163	0.014	-	-				
HCM Control Delay (s)	7.8	0	-	13	15.7	8.1	0	-				
HCM Lane LOS	A	A	-	B	C	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.6	0	-	-				

HCM 6th TWSC 2: Vollmer Road & Dines Boulevard

Background Traffic Volumes
Year 2027 - PM Peak Hour

Intersection						
Int Delay, s/veh	1.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑↑	↑	↑	↑↑
Traffic Vol, veh/h	86	15	429	144	20	313
Future Vol, veh/h	86	15	429	144	20	313
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	250	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	93	16	466	157	22	340
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	680	233	0	0	623	0
Stage 1	466	-	-	-	-	-
Stage 2	214	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	385	769	-	-	954	-
Stage 1	598	-	-	-	-	-
Stage 2	801	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	376	769	-	-	954	-
Mov Cap-2 Maneuver	376	-	-	-	-	-
Stage 1	598	-	-	-	-	-
Stage 2	783	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	17.1	0		0.5		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	407	954	-	
HCM Lane V/C Ratio	-	-	0.27	0.023	-	
HCM Control Delay (s)	-	-	17.1	8.9	-	
HCM Lane LOS	-	-	C	A	-	
HCM 95th %tile Q(veh)	-	-	1.1	0.1	-	







HCM 6th TWSC
3: Sam Bass Drive & Vollmer Road

Background Traffic Volumes
Year 2027 - PM Peak Hour

Intersection						
Int Delay, s/veh	0.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑↑	↑	↑	↑↑
Traffic Vol, veh/h	11	6	358	27	10	291
Future Vol, veh/h	11	6	358	27	10	291
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	150	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	7	389	29	11	316
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	569	195	0	0	418	0
Stage 1	389	-	-	-	-	-
Stage 2	180	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	452	814	-	-	1138	-
Stage 1	654	-	-	-	-	-
Stage 2	833	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	447	814	-	-	1138	-
Mov Cap-2 Maneuver	447	-	-	-	-	-
Stage 1	654	-	-	-	-	-
Stage 2	825	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	12	0		0.3		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	532	1138	-	
HCM Lane V/C Ratio	-	-	0.035	0.01	-	
HCM Control Delay (s)	-	-	12	8.2	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	0.1	0	-	

HCM 6th TWSC
4: Vollmer Road & Briargate Parkway

Background Traffic Volumes
Year 2027 - PM Peak Hour

Intersection						
Int Delay, s/veh	0.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	41	4	406	38	10	292
Future Vol, veh/h	41	4	406	38	10	292
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	375	0	-	250	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	4	441	41	11	317
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	622	221	0	0	482	0
Stage 1	441	-	-	-	-	-
Stage 2	181	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	419	783	-	-	1077	-
Stage 1	616	-	-	-	-	-
Stage 2	832	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	415	783	-	-	1077	-
Mov Cap-2 Maneuver	415	-	-	-	-	-
Stage 1	616	-	-	-	-	-
Stage 2	824	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	14.2	0		0.3		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT	
Capacity (veh/h)	-	-	415 783	1077	-	
HCM Lane V/C Ratio	-	-	0.107 0.006	0.01	-	
HCM Control Delay (s)	-	-	14.7 9.6	8.4	-	
HCM Lane LOS	-	-	B A	A	-	
HCM 95th %tile Q(veh)	-	-	0.4 0	0	-	

HCM 6th TWSC
1: Vollmer Road & Poco Road

Background Traffic Volumes
Year 2040 - AM Peak Hour

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	0	0	5	62	0	5	2	235	24	1	407	2
Future Vol, veh/h	0	0	5	62	0	5	2	235	24	1	407	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	5	67	0	5	2	255	26	1	442	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	720	730	443	720	718	268	444	0	0	281	0	0
Stage 1	445	445	-	272	272	-	-	-	-	-	-	-
Stage 2	275	285	-	448	446	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	343	349	615	343	355	771	1116	-	-	1282	-	-
Stage 1	592	575	-	734	685	-	-	-	-	-	-	-
Stage 2	731	676	-	590	574	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	340	348	615	339	354	771	1116	-	-	1282	-	-
Mov Cap-2 Maneuver	340	348	-	339	354	-	-	-	-	-	-	-
Stage 1	591	574	-	733	684	-	-	-	-	-	-	-
Stage 2	724	675	-	584	573	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.9		17.8		0.1		0	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1116	-	-	615	354	1282	-
HCM Lane V/C Ratio	0.002	-	-	0.009	0.206	0.001	-
HCM Control Delay (s)	8.2	0	-	10.9	17.8	7.8	0
HCM Lane LOS	A	A	-	B	C	A	A
HCM 95th %tile Q(veh)	0	-	-	0	0.8	0	-

HCM 6th TWSC

2: Vollmer Road & Dines Boulevard

Background Traffic Volumes
Year 2040 - AM Peak Hour

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑↑	↑	↑	↑↑
Traffic Vol, veh/h	29	13	350	12	4	748
Future Vol, veh/h	29	13	350	12	4	748
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	250	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	14	380	13	4	813
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	795	190	0	0	393	0
Stage 1	380	-	-	-	-	-
Stage 2	415	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	325	820	-	-	1162	-
Stage 1	661	-	-	-	-	-
Stage 2	635	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	324	820	-	-	1162	-
Mov Cap-2 Maneuver	324	-	-	-	-	-
Stage 1	661	-	-	-	-	-
Stage 2	633	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	15.2	0	0			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	399	1162	-	
HCM Lane V/C Ratio	-	-	0.114	0.004	-	
HCM Control Delay (s)	-	-	15.2	8.1	-	
HCM Lane LOS	-	-	C	A	-	
HCM 95th %tile Q(veh)	-	-	0.4	0	-	

HCM 6th TWSC
3: Sam Bass Drive & Vollmer Road

Background Traffic Volumes
Year 2040 - AM Peak Hour

























Intersection						
Int Delay, s/veh	1.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	YY		↑↑	↑	↑	↑↑
Traffic Vol, veh/h	62	3	258	14	1	473
Future Vol, veh/h	62	3	258	14	1	473
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	150	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	67	3	280	15	1	514
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	539	140	0	0	295	0
Stage 1	280	-	-	-	-	-
Stage 2	259	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	473	882	-	-	1263	-
Stage 1	742	-	-	-	-	-
Stage 2	761	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	473	882	-	-	1263	-
Mov Cap-2 Maneuver	473	-	-	-	-	-
Stage 1	742	-	-	-	-	-
Stage 2	760	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	13.7	0	0			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	483	1263	-	
HCM Lane V/C Ratio	-	-	0.146	0.001	-	
HCM Control Delay (s)	-	-	13.7	7.9	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	0.5	0	-	

Timings

4: Vollmer Road & Briargate Parkway

Background Traffic Volumes

Year 2040 - AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	835	58	373	1488	69	89	146	128	81	321	133
Future Volume (vph)	69	835	58	373	1488	69	89	146	128	81	321	133
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.095			0.950			0.384			0.651		
Satd. Flow (perm)	177	3539	1583	3433	3539	1583	715	3539	1583	1213	3539	1583
Satd. Flow (RTOR)			155			109			155			155
Lane Group Flow (vph)	75	908	63	405	1617	75	97	159	139	88	349	145
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2			6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	10.0	53.0	53.0	22.0	65.0	65.0	15.0	30.0	30.0	15.0	30.0	30.0
Total Split (%)	8.3%	44.2%	44.2%	18.3%	54.2%	54.2%	12.5%	25.0%	25.0%	12.5%	25.0%	25.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	45.8	40.4	40.4	16.4	55.0	55.0	23.4	16.5	16.5	23.2	16.4	16.4
Actuated g/C Ratio	0.46	0.40	0.40	0.16	0.55	0.55	0.23	0.17	0.17	0.23	0.16	0.16
v/c Ratio	0.45	0.63	0.09	0.72	0.83	0.08	0.37	0.27	0.36	0.27	0.60	0.37
Control Delay	21.6	26.6	0.2	51.2	25.8	1.3	33.9	41.5	7.9	31.8	46.2	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.6	26.6	0.2	51.2	25.8	1.3	33.9	41.5	7.9	31.8	46.2	8.8
LOS	C	C	A	D	C	A	C	D	A	C	D	A
Approach Delay		24.7			29.8			27.8			34.7	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	19	255	0	144	491	0	53	53	0	48	125	0
Queue Length 95th (ft)	46	349	0	#225	668	11	95	86	43	89	175	49
Internal Link Dist (ft)		3244			884			915			1327	
Turn Bay Length (ft)	375		250	375		250	250		250	250		250
Base Capacity (vph)	166	1825	891	626	2250	1046	283	950	538	347	950	538
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.50	0.07	0.65	0.72	0.07	0.34	0.17	0.26	0.25	0.37	0.27

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 99.9

Natural Cycle: 75

Control Type: Actuated-Uncoordinated









Maximum v/c Ratio: 0.83

Timings 4: Vollmer Road & Briargate Parkway

Background Traffic Volumes
Year 2040 - AM Peak Hour

Intersection Signal Delay: 29.0 Intersection LOS: C
Intersection Capacity Utilization 75.8% 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: 4: Vollmer Road & Briargate Parkway

 Ø1 22 s		 Ø2 53 s		 Ø3 15 s		 Ø4 30 s	
 Ø5 10 s		 Ø6 65 s		 Ø7 15 s		 Ø8 30 s	

HCM 6th TWSC
1: Vollmer Road & Poco Road






Background Traffic Volumes
Year 2040 - PM Peak Hour

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	0	0	2	42	0	3	4	575	83	6	355	2
Future Vol, veh/h	0	0	2	42	0	3	4	575	83	6	355	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	2	46	0	3	4	625	90	7	386	2
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1081	1124	387	1080	1080	670	388	0	0	715	0	0
Stage 1	401	401	-	678	678	-	-	-	-	-	-	-
Stage 2	680	723	-	402	402	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	195	205	661	196	218	457	1170	-	-	885	-	-
Stage 1	626	601	-	442	452	-	-	-	-	-	-	-
Stage 2	441	431	-	625	600	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	191	202	661	193	215	457	1170	-	-	885	-	-
Mov Cap-2 Maneuver	191	202	-	193	215	-	-	-	-	-	-	-
Stage 1	622	595	-	439	449	-	-	-	-	-	-	-
Stage 2	435	428	-	617	594	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10.5		28.6		0		0.2					
HCM LOS	B		D									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1170	-	-	661	201	885	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.003	0.243	0.007	-	-				
HCM Control Delay (s)	8.1	0	-	10.5	28.6	9.1	0	-				
HCM Lane LOS	A	A	-	B	D	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.9	0	-	-				

HCM 6th TWSC

2: Vollmer Road & Dines Boulevard






Background Traffic Volumes
Year 2040 - PM Peak Hour

Intersection						
Int Delay, s/veh	0.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	9	1024	42	13	661
Future Vol, veh/h	20	9	1024	42	13	661
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	250	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	10	1113	46	14	718
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1500	557	0	0	1159	0
Stage 1	1113	-	-	-	-	-
Stage 2	387	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	113	474	-	-	599	-
Stage 1	276	-	-	-	-	-
Stage 2	656	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	110	474	-	-	599	-
Mov Cap-2 Maneuver	110	-	-	-	-	-
Stage 1	276	-	-	-	-	-
Stage 2	641	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	36.9	0		0.2		
HCM LOS	E					
Minor Lane/Major Mvmt		NBT	NBRWBLn1	SBL	SBT	
Capacity (veh/h)		-	-	144	599	-
HCM Lane V/C Ratio		-	-	0.219	0.024	-
HCM Control Delay (s)		-	-	36.9	11.2	-
HCM Lane LOS		-	-	E	B	-
HCM 95th %tile Q(veh)		-	-	0.8	0.1	-

HCM 6th TWSC

3: Sam Bass Drive & Vollmer Road

Background Traffic Volumes
Year 2040 - PM Peak Hour

























Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	38	2	660	58	5	394
Future Vol, veh/h	38	2	660	58	5	394
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	150	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	2	717	63	5	428
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	941	359	0	0	780	0
Stage 1	717	-	-	-	-	-
Stage 2	224	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	262	638	-	-	833	-
Stage 1	445	-	-	-	-	-
Stage 2	792	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	260	638	-	-	833	-
Mov Cap-2 Maneuver	260	-	-	-	-	-
Stage 1	445	-	-	-	-	-
Stage 2	787	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	21	0		0.1		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	268	833	-	
HCM Lane V/C Ratio	-	-	0.162	0.007	-	
HCM Control Delay (s)	-	-	21	9.3	-	
HCM Lane LOS	-	-	C	A	-	
HCM 95th %tile Q(veh)	-	-	0.6	0	-	

Timings

4: Vollmer Road & Briargate Parkway

Background Traffic Volumes

Year 2040 - PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	230	1447	105	346	1216	82	206	459	368	94	223	115
Future Volume (vph)	230	1447	105	346	1216	82	206	459	368	94	223	115
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.088			0.950			0.377			0.324		
Satd. Flow (perm)	164	3539	1583	3433	3539	1583	702	3539	1583	604	3539	1583
Satd. Flow (RTOR)			200			155			400			200
Lane Group Flow (vph)	250	1573	114	376	1322	89	224	499	400	102	242	125
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2			6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	20.0	44.0	44.0	35.0	59.0	59.0	20.0	28.0	28.0	13.0	21.0	21.0
Total Split (%)	16.7%	36.7%	36.7%	29.2%	49.2%	49.2%	16.7%	23.3%	23.3%	10.8%	17.5%	17.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	59.9	45.8	45.8	17.7	49.3	49.3	33.2	20.8	20.8	22.5	14.7	14.7
Actuated g/C Ratio	0.53	0.41	0.41	0.16	0.44	0.44	0.30	0.19	0.19	0.20	0.13	0.13
v/c Ratio	0.86	1.09	0.15	0.70	0.85	0.11	0.66	0.76	0.65	0.51	0.52	0.33
Control Delay	57.5	85.1	0.4	52.5	34.9	0.3	43.0	52.5	9.5	41.0	51.1	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.5	85.1	0.4	52.5	34.9	0.3	43.0	52.5	9.5	41.0	51.1	2.6
LOS	E	F	A	D	C	A	D	D	A	D	D	A
Approach Delay		76.6			36.9			35.3			36.0	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	133	~702	0	143	462	0	138	191	0	58	92	0
Queue Length 95th (ft)	#290	#899	0	188	561	1	214	255	90	105	136	2
Internal Link Dist (ft)		3244			884			915			1327	
Turn Bay Length (ft)	375		250	375		250	250		250	250		250
Base Capacity (vph)	305	1443	763	927	1720	849	354	733	645	206	509	399
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	1.09	0.15	0.41	0.77	0.10	0.63	0.68	0.62	0.50	0.48	0.31

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 112.2

Natural Cycle: 90

Control Type: Actuated-Uncoordinated









Maximum v/c Ratio: 1.09

Timings 4: Vollmer Road & Briargate Parkway

Background Traffic Volumes
Year 2040 - PM Peak Hour

Intersection Signal Delay: 50.9	Intersection LOS: D
Intersection Capacity Utilization 84.4%	ICU Level of Service E
Analysis Period (min) 15	
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 4: Vollmer Road & Briargate Parkway

 Ø1	 Ø2	 Ø3	 Ø4
35 s	44 s	20 s	21 s
 Ø5	 Ø6	 Ø7	 Ø8
20 s	59 s	13 s	28 s

HCM 6th TWSC
1: Vollmer Road & Poco Road

Total Traffic Volumes
Year 2027 - AM Peak Hour

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	1	0	5	77	1	12	2	244	50	15	215	2
Future Vol, veh/h	1	0	5	77	1	12	2	244	50	15	215	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	5	84	1	13	2	265	54	16	234	2
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	570	590	235	566	564	292	236	0	0	319	0	0
Stage 1	267	267	-	296	296	-	-	-	-	-	-	-
Stage 2	303	323	-	270	268	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	432	420	804	435	435	747	1331	-	-	1241	-	-
Stage 1	738	688	-	712	668	-	-	-	-	-	-	-
Stage 2	706	650	-	736	687	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	418	413	804	426	428	747	1331	-	-	1241	-	-
Mov Cap-2 Maneuver	418	413	-	426	428	-	-	-	-	-	-	-
Stage 1	737	678	-	711	667	-	-	-	-	-	-	-
Stage 2	691	649	-	720	677	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10.2		15.2		0.1		0.5					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1331	-	-	697	452	1241	-	-				
HCM Lane V/C Ratio	0.002	-	-	0.009	0.216	0.013	-	-				
HCM Control Delay (s)	7.7	0	-	10.2	15.2	7.9	0	-				
HCM Lane LOS	A	A	-	B	C	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.8	0	-	-				

HCM 6th TWSC









2: Vollmer Road & Dines Boulevard

Total Traffic Volumes
Year 2027 - AM Peak Hour

Intersection						
Int Delay, s/veh	2.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑↑	↑	↑	↑↑
Traffic Vol, veh/h	131	24	308	75	5	484
Future Vol, veh/h	131	24	308	75	5	484
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	250	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	142	26	335	82	5	526
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	608	168	0	0	417	0
Stage 1	335	-	-	-	-	-
Stage 2	273	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	427	847	-	-	1138	-
Stage 1	697	-	-	-	-	-
Stage 2	748	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	425	847	-	-	1138	-
Mov Cap-2 Maneuver	425	-	-	-	-	-
Stage 1	697	-	-	-	-	-
Stage 2	745	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	17.2	0	0.1			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	461	1138	-	
HCM Lane V/C Ratio	-	-	0.365	0.005	-	
HCM Control Delay (s)	-	-	17.2	8.2	-	
HCM Lane LOS	-	-	C	A	-	
HCM 95th %tile Q(veh)	-	-	1.7	0	-	

HCM 6th TWSC
3: Sam Bass Drive & Vollmer Road

Total Traffic Volumes
Year 2027 - AM Peak Hour

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	14	0	44	17	0	9	17	273	8	3	291	5
Future Vol, veh/h	14	0	44	17	0	9	17	273	8	3	291	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	150	200	-	150
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	0	48	18	0	10	18	297	9	3	316	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	507	664	158	497	660	149	321	0	0	306	0	0
Stage 1	322	322	-	333	333	-	-	-	-	-	-	-
Stage 2	185	342	-	164	327	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	449	380	859	456	382	871	1236	-	-	1252	-	-
Stage 1	664	650	-	654	642	-	-	-	-	-	-	-
Stage 2	799	637	-	822	646	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	438	374	859	425	376	871	1236	-	-	1252	-	-
Mov Cap-2 Maneuver	438	374	-	425	376	-	-	-	-	-	-	-
Stage 1	654	649	-	644	632	-	-	-	-	-	-	-
Stage 2	779	627	-	774	645	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10.7		12.4		0.5		0.1					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1236	-	-	697	517	1252	-	-				
HCM Lane V/C Ratio	0.015	-	-	0.09	0.055	0.003	-	-				
HCM Control Delay (s)	8	-	-	10.7	12.4	7.9	-	-				
HCM Lane LOS	A	-	-	B	B	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.3	0.2	0	-	-				

HCM 6th TWSC
4: Vollmer Road & Briargate Parkway

Total Traffic Volumes
Year 2027 - AM Peak Hour

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Vol, veh/h	7	0	82	63	0	6	29	292	11	3	344	3
Future Vol, veh/h	7	0	82	63	0	6	29	292	11	3	344	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	250	375	-	250	250	-	250	250	-	250
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	0	89	68	0	7	32	317	12	3	374	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	603	773	187	574	764	159	377	0	0	329	0	0
Stage 1	380	380	-	381	381	-	-	-	-	-	-	-
Stage 2	223	393	-	193	383	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	383	328	823	402	332	858	1178	-	-	1227	-	-
Stage 1	614	612	-	613	612	-	-	-	-	-	-	-
Stage 2	759	604	-	790	610	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	372	318	823	351	322	858	1178	-	-	1227	-	-
Mov Cap-2 Maneuver	372	318	-	351	322	-	-	-	-	-	-	-
Stage 1	597	611	-	596	595	-	-	-	-	-	-	-
Stage 2	733	588	-	703	609	-	-	-	-	-	-	-






Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.3		17		0.7		0.1	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1178	-	-	372	-	823	351	-	858	1227	-	-
HCM Lane V/C Ratio	0.027	-	-	0.02	-	0.108	0.195	-	0.008	0.003	-	-
HCM Control Delay (s)	8.1	-	-	14.9	0	9.9	17.7	0	9.2	7.9	-	-
HCM Lane LOS	A	-	-	B	A	A	C	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-	0.4	0.7	-	0	0	-	-

HCM 6th TWSC
5: Briargate Parkway & Street A







Analyze without 2
accesses to
Briargate

Total Traffic Volumes
Year 2027 - AM Peak Hour

Intersection						
Int Delay, s/veh	5.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	15	5	27	74	0
Future Vol, veh/h	0	15	5	27	74	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	16	5	29	80	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	34	0	-	0	36	20
Stage 1	-	-	-	-	20	-
Stage 2	-	-	-	-	16	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1578	-	-	-	977	1058
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	1007	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1578	-	-	-	977	1058
Mov Cap-2 Maneuver	-	-	-	-	977	-
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	1007	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		9		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1578	-	-	-	977	-
HCM Lane V/C Ratio	-	-	-	-	0.082	-
HCM Control Delay (s)	0	-	-	-	9	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3	-

HCM 6th TWSC
6: Briargate Parkway & Street B

Total Traffic Volumes
Year 2027 - AM Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	5	15	0
Future Vol, veh/h	0	0	0	5	15	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	5	16	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	5	0	-	0	0	0
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1616	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1616	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0				
HCM LOS				-		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1616	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	-	-
HCM Lane LOS	A	-	-	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	-

HCM 6th TWSC
1: Vollmer Road & Poco Road

Total Traffic Volumes
Year 2027 - PM Peak Hour

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	3	0	2	49	1	10	4	290	85	15	274	6
Future Vol, veh/h	3	0	2	49	1	10	4	290	85	15	274	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	0	2	53	1	11	4	315	92	16	298	7

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	709	749	302	704	706	361	305	0	0	407	0	0
Stage 1	334	334	-	369	369	-	-	-	-	-	-	-
Stage 2	375	415	-	335	337	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	349	341	738	352	361	684	1256	-	-	1152	-	-
Stage 1	680	643	-	651	621	-	-	-	-	-	-	-
Stage 2	646	592	-	679	641	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	337	334	738	345	353	684	1256	-	-	1152	-	-
Mov Cap-2 Maneuver	337	334	-	345	353	-	-	-	-	-	-	-
Stage 1	677	632	-	648	619	-	-	-	-	-	-	-
Stage 2	632	590	-	665	630	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	13.5		16.6		0.1		0.4	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1256	-	-	431	376	1152	-
HCM Lane V/C Ratio	0.003	-	-	0.013	0.173	0.014	-
HCM Control Delay (s)	7.9	0	-	13.5	16.6	8.2	0
HCM Lane LOS	A	A	-	B	C	A	A
HCM 95th %tile Q(veh)	0	-	-	0	0.6	0	-

HCM 6th TWSC
2: Vollmer Road & Dines Boulevard

Total Traffic Volumes
Year 2027 - PM Peak Hour

Intersection						
Int Delay, s/veh	2.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘↘		↑↑	↗	↘	↑↑
Traffic Vol, veh/h	86	15	570	144	20	393
Future Vol, veh/h	86	15	570	144	20	393
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	250	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	93	16	620	157	22	427
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	878	310	0	0	777	0
Stage 1	620	-	-	-	-	-
Stage 2	258	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	287	686	-	-	835	-
Stage 1	499	-	-	-	-	-
Stage 2	761	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	280	686	-	-	835	-
Mov Cap-2 Maneuver	280	-	-	-	-	-
Stage 1	499	-	-	-	-	-
Stage 2	741	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	23.1	0		0.5		
HCM LOS	C					
Minor Lane/Major Mvmt		NBT	NBRWBLn1	SBL	SBT	
Capacity (veh/h)		-	-	307	835	-
HCM Lane V/C Ratio		-	-	0.358	0.026	-
HCM Control Delay (s)		-	-	23.1	9.4	-
HCM Lane LOS		-	-	C	A	-
HCM 95th %tile Q(veh)		-	-	1.6	0.1	-

HCM 6th TWSC
3: Sam Bass Drive & Vollmer Road

Total Traffic Volumes
Year 2027 - PM Peak Hour

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	10	0	30	11	0	6	50	363	27	10	299	16
Future Vol, veh/h	10	0	30	11	0	6	50	363	27	10	299	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	150	200	-	150
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	33	12	0	7	54	395	29	11	325	17
Major/Minor	Minor2		Minor1		Major1		Major2		Major2		Major2	
Conflicting Flow All	653	879	163	688	867	198	342	0	0	424	0	0
Stage 1	347	347	-	503	503	-	-	-	-	-	-	-
Stage 2	306	532	-	185	364	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	352	285	853	333	289	810	1214	-	-	1132	-	-
Stage 1	642	633	-	519	540	-	-	-	-	-	-	-
Stage 2	679	524	-	799	622	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	335	270	853	307	273	810	1214	-	-	1132	-	-
Mov Cap-2 Maneuver	335	270	-	307	273	-	-	-	-	-	-	-
Stage 1	614	627	-	496	516	-	-	-	-	-	-	-
Stage 2	644	501	-	761	616	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB		SB		SB	
HCM Control Delay, s	11.3		14.6		0.9		0.3					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1214	-	-	615	393	1132	-	-				
HCM Lane V/C Ratio	0.045	-	-	0.071	0.047	0.01	-	-				
HCM Control Delay (s)	8.1	-	-	11.3	14.6	8.2	-	-				
HCM Lane LOS	A	-	-	B	B	A	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.1	0	-	-				

HCM 6th TWSC
4: Vollmer Road & Briargate Parkway

Total Traffic Volumes
Year 2027 - PM Peak Hour

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Vol, veh/h	5	0	55	41	0	4	91	456	38	10	322	8
Future Vol, veh/h	5	0	55	41	0	4	91	456	38	10	322	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	250	375	-	250	250	-	250	250	-	250
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	60	45	0	4	99	496	41	11	350	9






Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	818	1107	175	891	1075	248	359	0	0	537	0	0
Stage 1	372	372	-	694	694	-	-	-	-	-	-	-
Stage 2	446	735	-	197	381	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	268	209	838	237	218	752	1196	-	-	1027	-	-
Stage 1	621	617	-	399	442	-	-	-	-	-	-	-
Stage 2	561	424	-	786	612	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	248	190	838	205	198	752	1196	-	-	1027	-	-
Mov Cap-2 Maneuver	248	190	-	205	198	-	-	-	-	-	-	-
Stage 1	569	610	-	366	405	-	-	-	-	-	-	-
Stage 2	512	389	-	722	605	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.5		25.8		1.3		0.3	
HCM LOS	B		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1196	-	-	248	-	838	205	-	752	1027	-	-
HCM Lane V/C Ratio	0.083	-	-	0.022	-	0.071	0.217	-	0.006	0.011	-	-
HCM Control Delay (s)	8.3	-	-	19.8	0	9.6	27.4	0	9.8	8.5	-	-
HCM Lane LOS	A	-	-	C	A	A	D	A	A	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-	0.2	0.8	-	0	0	-	-







HCM 6th TWSC
5: Briargate Parkway & Street A

Total Traffic Volumes
Year 2027 - PM Peak Hour

Intersection						
Int Delay, s/veh	2.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	10	16	83	50	0
Future Vol, veh/h	0	10	16	83	50	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	17	90	54	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	107	0	-	0	73	62
Stage 1	-	-	-	-	62	-
Stage 2	-	-	-	-	11	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1484	-	-	-	931	1003
Stage 1	-	-	-	-	961	-
Stage 2	-	-	-	-	1012	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1484	-	-	-	931	1003
Mov Cap-2 Maneuver	-	-	-	-	931	-
Stage 1	-	-	-	-	961	-
Stage 2	-	-	-	-	1012	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		9.1		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1484	-	-	-	931	-
HCM Lane V/C Ratio	-	-	-	-	0.058	-
HCM Control Delay (s)	0	-	-	-	9.1	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2	-

HCM 6th TWSC
6: Briargate Parkway & Street B

Total Traffic Volumes
Year 2027 - PM Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	6	10	0
Future Vol, veh/h	0	0	0	6	10	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	7	11	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	7	0	-	0	0	0
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1614	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1614	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0				
HCM LOS	-					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1614	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	-	-	-	
HCM Lane LOS	A	-	-	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

HCM 6th TWSC
1: Vollmer Road & Poco Road

Total Traffic Volumes
Year 2040 - AM Peak Hour

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	0	0	5	62	0	5	2	247	24	1	414	2
Future Vol, veh/h	0	0	5	62	0	5	2	247	24	1	414	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	5	67	0	5	2	268	26	1	450	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	741	751	451	741	739	281	452	0	0	294	0	0
Stage 1	453	453	-	285	285	-	-	-	-	-	-	-
Stage 2	288	298	-	456	454	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	332	340	608	332	345	758	1109	-	-	1268	-	-
Stage 1	586	570	-	722	676	-	-	-	-	-	-	-
Stage 2	720	667	-	584	569	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	329	339	608	328	344	758	1109	-	-	1268	-	-
Mov Cap-2 Maneuver	329	339	-	328	344	-	-	-	-	-	-	-
Stage 1	585	569	-	721	675	-	-	-	-	-	-	-
Stage 2	713	666	-	578	568	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11		18.4		0.1		0	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1109	-	-	608	342	1268	-
HCM Lane V/C Ratio	0.002	-	-	0.009	0.213	0.001	-
HCM Control Delay (s)	8.3	0	-	11	18.4	7.8	0
HCM Lane LOS	A	A	-	B	C	A	A
HCM 95th %tile Q(veh)	0	-	-	0	0.8	0	-

HCM 6th TWSC







2: Vollmer Road & Dines Boulevard

Total Traffic Volumes
Year 2040 - AM Peak Hour

Intersection						
Int Delay, s/veh	0.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘↘		↑↑	↗	↘	↑↑
Traffic Vol, veh/h	29	13	415	12	4	877
Future Vol, veh/h	29	13	415	12	4	877
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	250	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	14	451	13	4	953
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	936	226	0	0	464	0
Stage 1	451	-	-	-	-	-
Stage 2	485	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	264	777	-	-	1094	-
Stage 1	609	-	-	-	-	-
Stage 2	585	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	263	777	-	-	1094	-
Mov Cap-2 Maneuver	263	-	-	-	-	-
Stage 1	609	-	-	-	-	-
Stage 2	583	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	17.6	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt		NBT	NBRWBLn1	SBL	SBT	
Capacity (veh/h)		-	-	331	1094	-
HCM Lane V/C Ratio		-	-	0.138	0.004	-
HCM Control Delay (s)		-	-	17.6	8.3	-
HCM Lane LOS		-	-	C	A	-
HCM 95th %tile Q(veh)		-	-	0.5	0	-

HCM 6th TWSC
3: Sam Bass Drive & Vollmer Road

























Total Traffic Volumes
Year 2040 - AM Peak Hour

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	9	0	44	62	0	3	16	261	14	1	474	6
Future Vol, veh/h	9	0	44	62	0	3	16	261	14	1	474	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	150	200	-	150
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	0	48	67	0	3	17	284	15	1	515	7
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	693	850	258	578	842	142	522	0	0	299	0	0
Stage 1	517	517	-	318	318	-	-	-	-	-	-	-
Stage 2	176	333	-	260	524	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	330	296	741	399	299	880	1041	-	-	1259	-	-
Stage 1	509	532	-	668	652	-	-	-	-	-	-	-
Stage 2	809	642	-	722	528	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	324	291	741	368	294	880	1041	-	-	1259	-	-
Mov Cap-2 Maneuver	324	291	-	368	294	-	-	-	-	-	-	-
Stage 1	501	531	-	657	642	-	-	-	-	-	-	-
Stage 2	793	632	-	675	527	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	11.5		16.7		0.5		0					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1041	-	-	608	378	1259	-	-				
HCM Lane V/C Ratio	0.017	-	-	0.095	0.187	0.001	-	-				
HCM Control Delay (s)	8.5	-	-	11.5	16.7	7.9	-	-				
HCM Lane LOS	A	-	-	B	C	A	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.7	0	-	-				

Timings

4: Vollmer Road & Briargate Parkway

Total Traffic Volumes
Year 2040 - AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	851	149	373	1498	72	141	159	128	88	359	134
Future Volume (vph)	71	851	149	373	1498	72	141	159	128	88	359	134
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.093			0.950			0.309			0.643		
Satd. Flow (perm)	173	3539	1583	3433	3539	1583	576	3539	1583	1198	3539	1583
Satd. Flow (RTOR)			162			109			155			155
Lane Group Flow (vph)	77	925	162	405	1628	78	153	173	139	96	390	146
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2			6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	10.0	53.0	53.0	22.0	65.0	65.0	15.0	30.0	30.0	15.0	30.0	30.0
Total Split (%)	8.3%	44.2%	44.2%	18.3%	54.2%	54.2%	12.5%	25.0%	25.0%	12.5%	25.0%	25.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	46.6	41.4	41.4	16.2	55.3	55.3	29.0	21.6	21.6	26.7	17.7	17.7
Actuated g/C Ratio	0.44	0.39	0.39	0.15	0.52	0.52	0.27	0.20	0.20	0.25	0.17	0.17
v/c Ratio	0.50	0.67	0.23	0.77	0.88	0.09	0.58	0.24	0.31	0.27	0.66	0.37
Control Delay	25.4	29.1	4.3	56.0	29.9	1.5	39.4	40.2	6.9	31.3	48.1	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.4	29.1	4.3	56.0	29.9	1.5	39.4	40.2	6.9	31.3	48.1	8.4
LOS	C	C	A	E	C	A	D	D	A	C	D	A
Approach Delay		25.4			33.9			30.0			36.4	
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	20	267	0	146	513	0	86	58	0	52	142	0
Queue Length 95th (ft)	51	372	42	#235	#726	13	142	92	43	94	194	49
Internal Link Dist (ft)		672			884			915			1327	
Turn Bay Length (ft)	375		250	375		250	250		250	250		250
Base Capacity (vph)	154	1663	829	571	2078	974	275	866	504	374	866	504
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.56	0.20	0.71	0.78	0.08	0.56	0.20	0.28	0.26	0.45	0.29

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 105.5

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.88

Timings 4: Vollmer Road & Briargate Parkway









Total Traffic Volumes
Year 2040 - AM Peak Hour

Intersection Signal Delay: 31.6 Intersection LOS: C
Intersection Capacity Utilization 80.0% 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: 4: Vollmer Road & Briargate Parkway

 Ø1 22 s		 Ø2 53 s		 Ø3 15 s		 Ø4 30 s	
 Ø5 10 s		 Ø6 65 s		 Ø7 15 s		 Ø8 30 s	

HCM 6th TWSC
5: Briargate Parkway & Street A

Total Traffic Volumes
Year 2040 - AM Peak Hour

Intersection												
Int Delay, s/veh	97.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑		↰	↑	
Traffic Vol, veh/h	28	972	4	15	1724	16	11	5	37	63	3	38
Future Vol, veh/h	28	972	4	15	1724	16	11	5	37	63	3	38
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	150	-	150	150	-	150	150	-	-	150	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	1057	4	16	1874	17	12	5	40	68	3	41

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1891	0	0	1061	0	0	2088	3040	529	2497	3027	937
Stage 1	-	-	-	-	-	-	1117	1117	-	1906	1906	-
Stage 2	-	-	-	-	-	-	971	1923	-	591	1121	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	312	-	-	652	-	-	30	13	494	~ 15	13	266
Stage 1	-	-	-	-	-	-	221	281	-	71	115	-
Stage 2	-	-	-	-	-	-	271	113	-	460	280	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	312	-	-	652	-	-	18	11	494	~ 8	11	266
Mov Cap-2 Maneuver	-	-	-	-	-	-	18	11	-	~ 8	11	-
Stage 1	-	-	-	-	-	-	200	254	-	~ 64	112	-
Stage 2	-	-	-	-	-	-	217	110	-	374	253	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.1	159.3	\$ 2635.9
HCM LOS			F	F







Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	18	79	312	-	-	652	-	-	8	99
HCM Lane V/C Ratio	0.664	0.578	0.098	-	-	0.025	-	-	8.56	0.45
HCM Control Delay (s)	\$ 385.4	100.1	17.8	-	-	10.7	-	-	\$ 4306.9	68.2
HCM Lane LOS	F	F	C	-	-	B	-	-	F	F
HCM 95th %tile Q(veh)	1.8	2.5	0.3	-	-	0.1	-	-	10.1	1.9

Notes												
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined							*: All major volume in platoon			

HCM 6th TWSC
6: Brairgate Parkway/Briargate Parkway & Street B

May need to be
signalized?

Total Traffic Volumes
Year 2040 - AM Peak Hour

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	994	2	1	1759	3	6	0	3	7	0	7
Future Vol, veh/h	3	994	2	1	1759	3	6	0	3	7	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	150	-	-	150	-	-	-	-	-	-	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	1080	2	1	1912	3	7	0	3	8	0	8
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1915	0	0	1082	0	0	2045	3004	541	2462	3004	958
Stage 1	-	-	-	-	-	-	1087	1087	-	1916	1916	-
Stage 2	-	-	-	-	-	-	958	1917	-	546	1088	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	305	-	-	640	-	-	33	13	485	16	13	258
Stage 1	-	-	-	-	-	-	231	290	-	70	114	-
Stage 2	-	-	-	-	-	-	276	114	-	490	290	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	305	-	-	640	-	-	32	13	485	16	13	258
Mov Cap-2 Maneuver	-	-	-	-	-	-	32	13	-	16	13	-
Stage 1	-	-	-	-	-	-	229	287	-	69	114	-
Stage 2	-	-	-	-	-	-	267	114	-	482	287	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0			103.3			213.3		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	46	305	-	-	640	-	-	30				
HCM Lane V/C Ratio	0.213	0.011	-	-	0.002	-	-	0.507				
HCM Control Delay (s)	103.3	16.9	-	-	10.6	-	-	213.3				
HCM Lane LOS	F	C	-	-	B	-	-	F				
HCM 95th %tile Q(veh)	0.7	0	-	-	0	-	-	1.6				

HCM 6th TWSC
1: Vollmer Road & Poco Road

Total Traffic Volumes
Year 2040 - PM Peak Hour

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	0	0	2	42	0	3	4	588	83	6	572	2
Future Vol, veh/h	0	0	2	42	0	3	4	588	83	6	572	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	2	46	0	3	4	639	90	7	622	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1331	1374	623	1330	1330	684	624	0	0	729	0	0
Stage 1	637	637	-	692	692	-	-	-	-	-	-	-
Stage 2	694	737	-	638	638	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	132	145	486	132	155	449	957	-	-	875	-	-
Stage 1	465	471	-	434	445	-	-	-	-	-	-	-
Stage 2	433	425	-	465	471	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	129	142	486	129	152	449	957	-	-	875	-	-
Mov Cap-2 Maneuver	129	142	-	129	152	-	-	-	-	-	-	-
Stage 1	462	465	-	431	442	-	-	-	-	-	-	-
Stage 2	427	422	-	457	465	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.4		46.1		0.1		0.1	
HCM LOS	B		E					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	957	-	-	486	135	875	-
HCM Lane V/C Ratio	0.005	-	-	0.004	0.362	0.007	-
HCM Control Delay (s)	8.8	0	-	12.4	46.1	9.1	0
HCM Lane LOS	A	A	-	B	E	A	A
HCM 95th %tile Q(veh)	0	-	-	0	1.5	0	-







HCM 6th TWSC
2: Vollmer Road & Dines Boulevard

Total Traffic Volumes
Year 2040 - PM Peak Hour

Intersection						
Int Delay, s/veh	0.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑↑	↑	↑	↑↑
Traffic Vol, veh/h	20	9	1202	42	13	791
Future Vol, veh/h	20	9	1202	42	13	791
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	250	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	10	1307	46	14	860
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1765	654	0	0	1353	0
Stage 1	1307	-	-	-	-	-
Stage 2	458	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	75	409	-	-	504	-
Stage 1	217	-	-	-	-	-
Stage 2	604	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	73	409	-	-	504	-
Mov Cap-2 Maneuver	73	-	-	-	-	-
Stage 1	217	-	-	-	-	-
Stage 2	587	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	58.3	0	0.2			
HCM LOS	F					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	98	504	-	
HCM Lane V/C Ratio	-	-	0.322	0.028	-	
HCM Control Delay (s)	-	-	58.3	12.3	-	
HCM Lane LOS	-	-	F	B	-	
HCM 95th %tile Q(veh)	-	-	1.2	0.1	-	

HCM 6th TWSC
3: Sam Bass Drive & Vollmer Road

Total Traffic Volumes
Year 2040 - PM Peak Hour

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	0	30	38	0	2	50	662	58	5	397	14
Future Vol, veh/h	9	0	30	38	0	2	50	662	58	5	397	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	150	200	-	150
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	0	33	41	0	2	54	720	63	5	432	15
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	910	1333	216	1054	1285	360	447	0	0	783	0	0
Stage 1	442	442	-	828	828	-	-	-	-	-	-	-
Stage 2	468	891	-	226	457	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	230	153	789	180	163	637	1110	-	-	831	-	-
Stage 1	564	575	-	332	384	-	-	-	-	-	-	-
Stage 2	545	359	-	756	566	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	220	145	789	165	154	637	1110	-	-	831	-	-
Mov Cap-2 Maneuver	220	145	-	165	154	-	-	-	-	-	-	-
Stage 1	536	572	-	316	365	-	-	-	-	-	-	-
Stage 2	517	341	-	720	563	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	13		33.1		0.5		0.1					
HCM LOS	B		D									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1110	-	-	494	171	831	-	-				
HCM Lane V/C Ratio	0.049	-	-	0.086	0.254	0.007	-	-				
HCM Control Delay (s)	8.4	-	-	13	33.1	9.4	-	-				
HCM Lane LOS	A	-	-	B	D	A	-	-				
HCM 95th %tile Q(veh)	0.2	-	-	0.3	1	0	-	-				

Could need 2 LT
lanes?

Timings 4: Vollmer Road & Briargate Parkway

Total Traffic Volumes
Year 2040 - PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	232	1468	210	346	1242	90	343	500	368	99	248	118
Future Volume (vph)	232	1468	210	346	1242	90	343	500	368	99	248	118
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.073			0.950			0.267			0.449		
Satd. Flow (perm)	136	3539	1583	3433	3539	1583	497	3539	1583	836	3539	1583
Satd. Flow (RTOR)			165			155			232			155
Lane Group Flow (vph)	252	1596	228	376	1350	98	373	543	400	108	270	128
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2			6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	21.0	60.0	60.0	19.0	58.0	58.0	26.0	31.0	31.0	10.0	15.0	15.0
Total Split (%)	17.5%	50.0%	50.0%	15.8%	48.3%	48.3%	21.7%	25.8%	25.8%	8.3%	12.5%	12.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	70.2	55.0	55.0	14.0	53.8	53.8	36.0	26.0	26.0	15.0	10.0	10.0
Actuated g/C Ratio	0.58	0.46	0.46	0.12	0.45	0.45	0.30	0.22	0.22	0.12	0.08	0.08
v/c Ratio	0.88	0.98	0.28	0.94	0.85	0.12	1.01	0.71	0.76	0.76	0.92	0.47
Control Delay	61.6	51.3	6.9	85.0	36.2	0.8	87.0	49.4	28.7	69.2	90.0	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.6	51.3	6.9	85.0	36.2	0.8	87.0	49.4	28.7	69.2	90.0	10.3
LOS	E	D	A	F	D	A	F	D	C	E	F	B
Approach Delay		47.7			44.3			53.7			65.4	
Approach LOS		D			D			D			E	
Queue Length 50th (ft)	139	626	27	151	486	0	~257	206	125	62	111	0
Queue Length 95th (ft)	#283	#805	76	#245	589	6	#441	270	250	#120	#193	39
Internal Link Dist (ft)		672			884			915			1327	
Turn Bay Length (ft)	375		250	375		250	250		250	250		250
Base Capacity (vph)	298	1622	814	400	1587	795	371	766	524	143	294	274
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.98	0.28	0.94	0.85	0.12	1.01	0.71	0.76	0.76	0.92	0.47

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.01

May 2022

All of the poor (E&F) levels of service except the EBL appear to be caused by the project - address why and what mitigation would help.

Synchro Report
SM ROCHA, LLC

Timings 4: Vollmer Road & Briargate Parkway

Total Traffic Volumes
Year 2040 - PM Peak Hour

Intersection Signal Delay: 49.6

Intersection LOS: D

Intersection Capacity Utilization 93.0%

ICU Level of Service F

Analysis Period (min) 15









~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 4: Vollmer Road & Briargate Parkway

 Ø1	 Ø2	 Ø3	 Ø4
19 s	60 s	26 s	15 s
 Ø5	 Ø6	 Ø7	 Ø8
21 s	58 s	10 s	31 s

HCM 6th TWSC 5: Briargate Parkway & Street A

Total Traffic Volumes
Year 2040 - PM Peak Hour

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	76	1789	12	40	1583	50	8	12	26	95	12	25
Future Vol, veh/h	76	1789	12	40	1583	50	8	12	26	95	12	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	150	-	150	150	-	150	150	-	-	150	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	83	1945	13	43	1721	54	9	13	28	103	13	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1775	0	0	1958	0	0	3064	3972	973	2952	3931	861
Stage 1	-	-	-	-	-	-	2111	2111	-	1807	1807	-
Stage 2	-	-	-	-	-	-	953	1861	-	1145	2124	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	346	-	-	294	-	-	~ 5	~ 3	252	~ 6	~ 3	299
Stage 1	-	-	-	-	-	-	52	91	-	~ 82	129	-
Stage 2	-	-	-	-	-	-	278	121	-	212	89	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	346	-	-	294	-	-	-	~ 2	252	-	~ 2	299
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 2	-	-	~ 2	-
Stage 1	-	-	-	-	-	-	40	69	-	~ 62	110	-
Stage 2	-	-	-	-	-	-	190	103	-	116	68	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.5		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	6	346	-	-	294	-	-	-	6
HCM Lane V/C Ratio	-	6.884	0.239	-	-	0.148	-	-	-	6.703
HCM Control Delay (s)	\$	3829.3	18.6	-	-	19.4	-	-	\$	3747.3
HCM Lane LOS	-	F	C	-	-	C	-	-	-	F
HCM 95th %tile Q(veh)	-	6.7	0.9	-	-	0.5	-	-	-	6.6

Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon						

HCM 6th TWSC
6: Briargate Parkway & Street B

Total Traffic Volumes
Year 2040 - PM Peak Hour

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱		↰	↰↱			↰↱			↰↱	
Traffic Vol, veh/h	8	1870	6	3	1605	8	4	0	2	5	0	5
Future Vol, veh/h	8	1870	6	3	1605	8	4	0	2	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	150	-	-	150	-	-	-	-	-	-	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	2033	7	3	1745	9	4	0	2	5	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1754	0	0	2040	0	0	2934	3815	1020	2791	3814	877
Stage 1	-	-	-	-	-	-	2055	2055	-	1756	1756	-
Stage 2	-	-	-	-	-	-	879	1760	-	1035	2058	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	353	-	-	273	-	-	7	4	234	9	4	292
Stage 1	-	-	-	-	-	-	57	97	-	88	137	-
Stage 2	-	-	-	-	-	-	309	136	-	248	96	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	353	-	-	273	-	-	7	4	234	9	4	292
Mov Cap-2 Maneuver	-	-	-	-	-	-	7	4	-	9	4	-
Stage 1	-	-	-	-	-	-	56	95	-	86	135	-
Stage 2	-	-	-	-	-	-	300	135	-	239	94	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	\$ 621.1	\$ 395.5
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	10	353	-	-	273	-	-	17
HCM Lane V/C Ratio	0.652	0.025	-	-	0.012	-	-	0.639
HCM Control Delay (s)	\$ 621.1	15.5	-	-	18.3	-	-	\$ 395.5
HCM Lane LOS	F	C	-	-	C	-	-	F
HCM 95th %tile Q(veh)	1.4	0.1	-	-	0	-	-	1.7

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon