BEAUMONT VILLAGE TRAFFIC IMPACT ANALYSIS

City of Beaumont

January 16, 2024

Traffic Engineering ● Transportation Planning ● Parking ● Noise & Vibration
Air Quality ● Global Climate Change ● Health Risk Assessment

BEAUMONT VILLAGE
TRAFFIC IMPACT ANALYSIS

City of Beaumont

January 16, 2024

prepared by

Tom Huang, TE
Giancarlo Ganddini, TE, PTP

GANDDINI GROUP, INC.
550 Parkcenter Drive, Suite 202
Santa Ana, California 92705
(714) 795-3100 | ganddini.com

Project No. 19-0001

TABLE OF CONTENTS

Appendices

List of Tables

List of Figures

EXECUTIVE SUMMARY

The project site is located west of Beaumont Avenue and north of Oak Valley Parkway in the City of Beaumont. The 7.16 acre project site is proposed to include a total of 39,801 square feet of various commercial uses including 10,504 square feet of fast-food restaurants with drive-thru window, a 12 fueling position service station with a 3,130 square foot convenience market, a 3,605 square foot express car wash, and 22,562 square feet of strip retail plaza land uses. The proposed project is anticipated to be constructed and fully operational by year 2025.

Existing Conditions

The study intersections currently operate within acceptable Levels of Service during the peak hours for Existing traffic conditions, except for the following study intersections that are projected to operate at deficient Levels of Service (see Table 1):

- Beaumont Avenue/Brookside Avenue – #1 (AM & PM peak hours)
- Beaumont Avenue/Commercial Driveway – #3 (AM & PM peak hours)
- Beaumont Avenue/Oak Valley Parkway – #4 (AM peak hour)
- Palm Avenue/Oak Valley Parkway – #9 (AM peak hour)

A traffic signal appears to currently be warranted at the following study intersections based upon the California Manual on Uniform Traffic Control Devices (2014) for Existing conditions:

- Beaumont Avenue/Commercial Driveway – #3
- Palm Avenue/Oak Valley Parkway – #9

Project Trip Generation

The proposed project is forecast to generate a total of approximately 4,095 net daily vehicle trips, including 331 net trips during the AM peak hour and 335 net trips during the PM peak hour.

Intersection Improvements

The project shall construct the following improvements to provide project access and address the deficient intersection for Existing Plus Project conditions:

- Beaumont Avenue/Project Driveway 1 – #3
  - Install traffic signal
  - Add northbound left turn lane
  - Add eastbound left turn lane
  - Add eastbound shared through-right lane
  - Convert existing westbound right turn lane to one shared through-right lane.

Since the deficiencies at the following 3 study area intersection are the result of a degradation of Level of Service for currently deficient intersection operations under "Existing" conditions, the proposed project should pay its fair share of fees to an applicable program for the following improvements:

- Beaumont Avenue/Brookside Avenue – #1
  - Optimize signal timing

- Beaumont Avenue/Oak Valley Parkway – #4
  - Optimize signal timing
  - Provide a 350-foot eastbound left pocket

- Palm Avenue/Oak Valley Parkway – #9
  - Install traffic signal
  - Add northbound, eastbound and westbound left turn lanes

The following additional improvements are needed to mitigate the deficient intersections for Opening Year (2025) With Project conditions:

- Beaumont Avenue/12th Street – #5
  - Install traffic signal
  - Add northbound, southbound, eastbound and westbound left turn lanes

- Golf Club Drive/Oak Valley Parkway – #7
  - Optimize signal timing

Since these deficiencies are the result of a degradation of Level of Service for the already deficient intersection operations under "without project" conditions, the proposed project should pay its fair share of fees to an applicable program for the above improvements.

Project Fair Share Contribution

The project fair share contributions have also been calculated for Opening Year (2025) improvement locations. The project share of cost has been based on the proportion of project peak hour intersection turning movement volumes contributed to the improvement location relative to the total new peak hour Opening Year (2025) intersection turning movement volumes.

Table 9 presents a summary of improvement cost and project cost shares at the Opening Year (2025) study intersection improvement locations. The intersection fair share cost calculations are typically based on the higher of the weekday morning and weekday evening peak hour traffic volumes. As shown in Table 9, the project's fair share percentages of identified deficient intersections are approximately 1.5% to 14.2%. The fair share calculations are intended only for the discussion purposes of this traffic impact analysis, and do not imply any legal responsibility or formula for contributions or mitigation.

Site Access

The following improvements will be constructed by the project to provide project site access:

Project Driveway 1 at Beaumont Avenue (Intersection #3 – Opposite the existing driveway for the Oak Valley Town Center commercial plaza)

- Install a traffic signal.
- Provide a northbound left turn lane.
- Provide an eastbound left turn lane.
- Provide an eastbound shared through-right lane.
- Convert existing westbound right turn lane to one shared through-right lane.

Project Driveway 2 at Beaumont Avenue (Intersection #10)

- Install an eastbound stop sign.
- Provide an eastbound right turn lane.
- Provide a raised pork-chop median on the driveway to allow only right-in/right-out access.

Project Driveway 3 at Oak Valley Parkway (Intersection #11)

- Install a southbound stop sign.
- Provide a southbound shared left-right lane
- Provide an eastbound left turn lane.

Project Driveway 4 at Oak Valley Parkway (Intersection #12)

- Install a southbound stop sign.
- Provide a southbound right turn lane
- Provide a raised pork-chop median on the driveway to allow only right-in/right-out access.

Queuing Analysis

The Queuing Analysis has been prepared by running the SimTraffic simulation multiple times with at least 5 runs with PHF adjustment during the peak 15-minute in addition to the 5 minute initialization. To address the eastbound queuing issue along Oak Valley Parkway, it is recommended that the eastbound left turn pocket on Oak Valley Parkway at Beaumont Avenue [Intersection #4] be extended to 350 feet with 90-foot transition instead of the initially proposed 150-foot eastbound left turn pocket. The concept striping plan in Appendix G has been revised to show a 350-foot eastbound left turn pocket on Oak Valley Parkway from Beaumont Avenue [Intersection #4].

The simulation has shown high volume of eastbound left turn vehicles and queues at Beaumont Avenue [Intersection #4] which contributes to eastbound through queue length at Miguel Drive before the eastbound left turn vehicles reach Beaumont Avenue. By providing a 350-foot eastbound left turn pocket on Oak Valley Parkway from Beaumont Avenue [Intersection #4] that extend past the intersection of Miguel Drive, the eastbound through queue may been reduced significantly because the eastbound left turn vehicles are projected to not queue along the eastbound through lane when the eastbound left turn pocket has additional storage capacity. Based on the queuing analysis in Table 8 and the queue length summary figures in Appendix F, the 95th percentile AM and PM peak hour eastbound left turn queues (305 feet and 268 feet) on Oak Valley Parkway is projected to be accommodated within the recommended 350-foot left turn pocket.

Based on the queuing analysis in Table 8 and the queue length summary figures in Appendix F, the 95th percentile AM peak hour eastbound through queues on Oak Valley Parkway is projected to extend approximately 108' past Miguel Drive but it is not anticipated to reach Project Driveway 3 [Intersection #11]. With the proposed raised median on Oak Valley Parkway from Beaumont Avenue [Intersection #4] to the proposed Project Driveway 3 [Intersection #11], the currently full access intersection of San Miguel Drive at Oak Valley Parkway will be restricted to a right-in/right-out only intersection. The eastbound queue on Oak Valley Parkway is anticipated to have minimal impact to San Miguel Drive because it will be restricted to a right-in/right-out only intersection and the existing traffic volumes are expected to be low. Furthermore, there is an alternative access route to the south for the existing traffic on San Miguel Drive.

Based on the queuing analysis in Table 8 and the queue length summary figures in Appendix F, the 95th percentile eastbound through queues on Oak Valley Parkway is projected to not reach Project Driveway 3 [Intersection #11]. Since both the eastbound and westbound through lanes on Oak Valley Parkway at Project Driveway 3 [Intersection #11] are not congested or blocked, it is appropriate for Project Driveway 3 [Intersection #11] to be a stop-controlled full access intersection as proposed.

Based on a qualitative review of the SimTraffic simulation, there appears to be smooth traffic flow along Oak Valley Parkway. The queues for the project driveways will disperse within a reasonable amount of time based on the eastbound and westbound through traffic gaps on Oak Valley Parkway provided by the signalized intersection of Beaumont Avenue at Oak Valley Parkway.

Concept Striping Plan

The concept striping plan for Oak Valley Parkway and Beaumont Avenue adjacent to the project site is shown in Appendix G.

VMT Screening Assessment

Based on the VMT screening criteria of Step 3: Project Type Screening, the proposed project is screened from VMT assessment based on the justification that the project is a local serving retail project less than 50,000 square feet, which may be presumed to have less than significant impact. The proposed Beaumont Village project consists a total of 39,801 square feet of various mixed-use of commercial retail uses including several fast food restaurants, a gas station, an express car wash and retail shops.

Mitigation Measures

The proposed project is forecast to result in no significant transportation impacts under the California Environmental Quality Act (CEQA); therefore, no mitigation measures are required.

1. INTRODUCTION

This section describes the purpose of this traffic impact analysis, project location, proposed development, and study area. Figure 1 shows the project location map and Figure 2 illustrates the project site plan.

PURPOSE AND OBJECTIVES

The purpose of this report is to provide an assessment of potential transportation impacts forecast to result from development of the proposed project both in the context of operational performance standards established by the City of Beaumont and the California Environmental Quality Act (CEQA).

Although this is a technical document, effort has been made to write the report clearly and concisely. A glossary is provided in Appendix A to assist the reader with technical terms related to transportation engineering.

PROJECT DESCRIPTION

The project site is located at the northwest corner of Beaumont Avenue and Oak Valley Parkway in the City of Beaumont. The 7.16 acre project site is proposed to include a total of 39,801 square feet of various commercial uses including 10,504 square feet of fast-food restaurants with drive-thru window, a 12 fueling position service station with a 3,130 square foot convenience market, a 3,605 square foot express car wash, and 22,562 square feet of strip retail plaza land uses.

The project site is proposed to provide 4 access driveways. Project Driveway 1 is proposed to be signalized full access driveway on Beaumont Avenue that aligns with the existing driveway for the Oak Valley Town Center commercial plaza. Project Driveway 2 is proposed to be a stop-controlled right turns in/out only access on Beaumont Avenue near the northeast corner of the project site. Project Driveway 3 is proposed to be a stop-controlled full access driveway on Oak Valley Parkway that is located adjacent to the west project boundary. Project Driveway 4 is proposed to be a stop-controlled right turns in/out only access driveway on Oak Valley Parkway just west of Beaumont Avenue.

The proposed project is anticipated to be constructed and fully operational by year 2025.

STUDY AREA

Based on the study intersections identified in the approved scoping agreement (Appendix B), the study area consists of the following study intersections within the City of Beaumont jurisdiction:

Study Intersections[1]	Jurisdiction
1. Beaumont Avenue (NS) at Brookside Avenue (EW)	City of Beaumont
2. Beaumont Avenue (NS) at Cougar Way (EW)	City of Beaumont
3. Beaumont Avenue (NS) at Project Driveway 1/Commercial Driveway (EW)	City of Beaumont
4. Beaumont Avenue (NS) at Oak Valley Parkway (EW)	City of Beaumont
5. Beaumont Avenue (NS) at 12th Street (EW)	City of Beaumont
6. Beaumont Avenue (NS) at 10th Street (EW)	City of Beaumont
7. Golf Club Drive (NS) at Oak Valley Parkway (EW)	City of Beaumont
8. Oak View Drive (NS) at Oak Valley Parkway (EW)	City of Beaumont

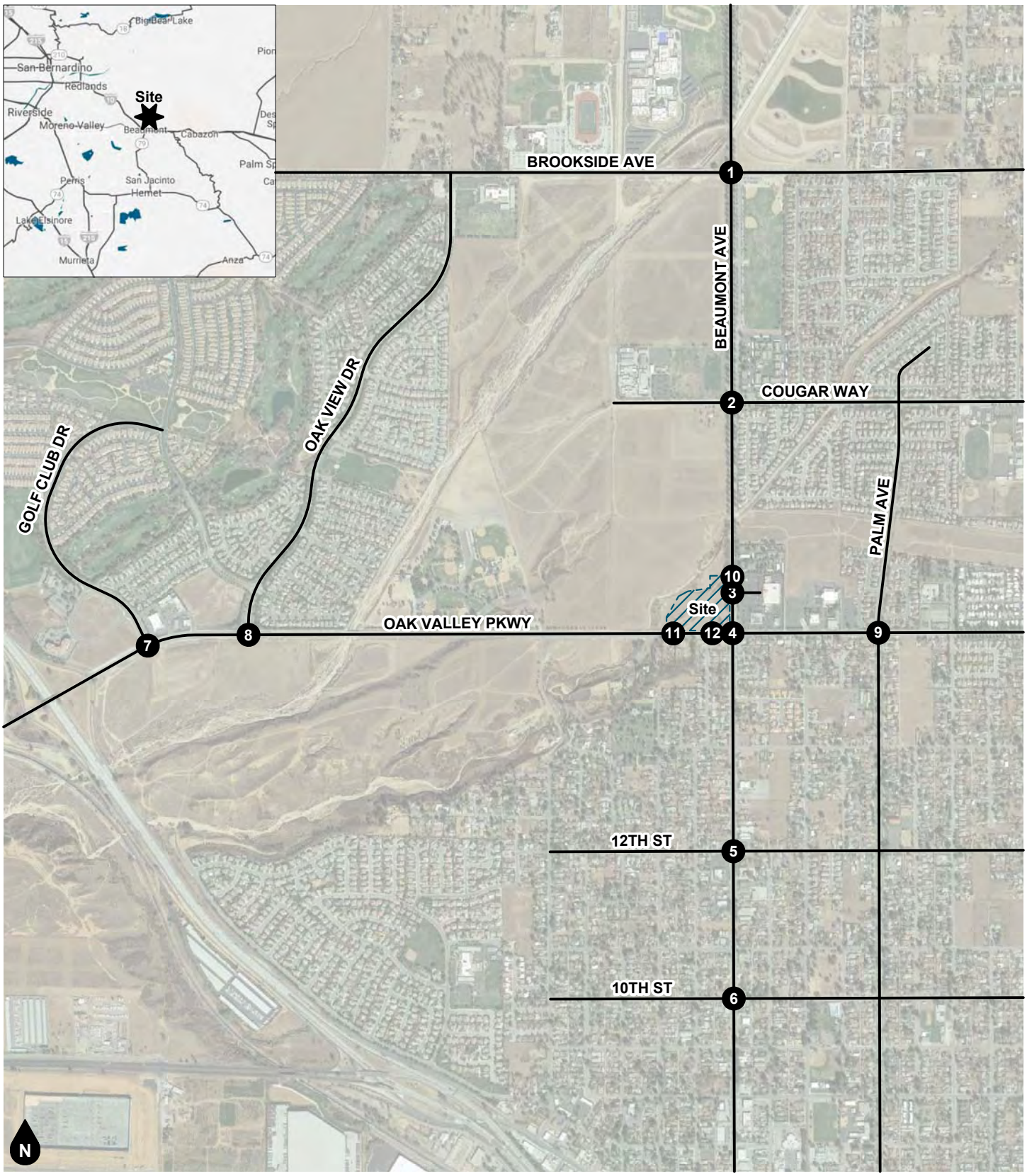
[1] (NS) = north-south roadway; (EW) = east-west roadway

Study Intersections[1]	Jurisdiction
9. Palm Avenue (NS) at Oak Valley Parkway (EW)	City of Beaumont
10. Beaumont Avenue (NS) at Project Driveway 2 (EW)	City of Beaumont
11. Project Driveway 3 (NS) at Oak Valley Parkway (EW)	City of Beaumont
12. Project Driveway 4 (NS) at Oak Valley Parkway (EW)	City of Beaumont

ANALYSIS SCENARIOS

The following scenarios are analyzed during typical weekday AM and PM peak hour conditions:

- Existing 2023 Conditions
- Existing Plus Project Conditions
- Opening Year (2025) Without Project Conditions
- Opening Year (2025) With Project Conditions



Legend

(#) Study Intersection

Figure 1
Project Location Map

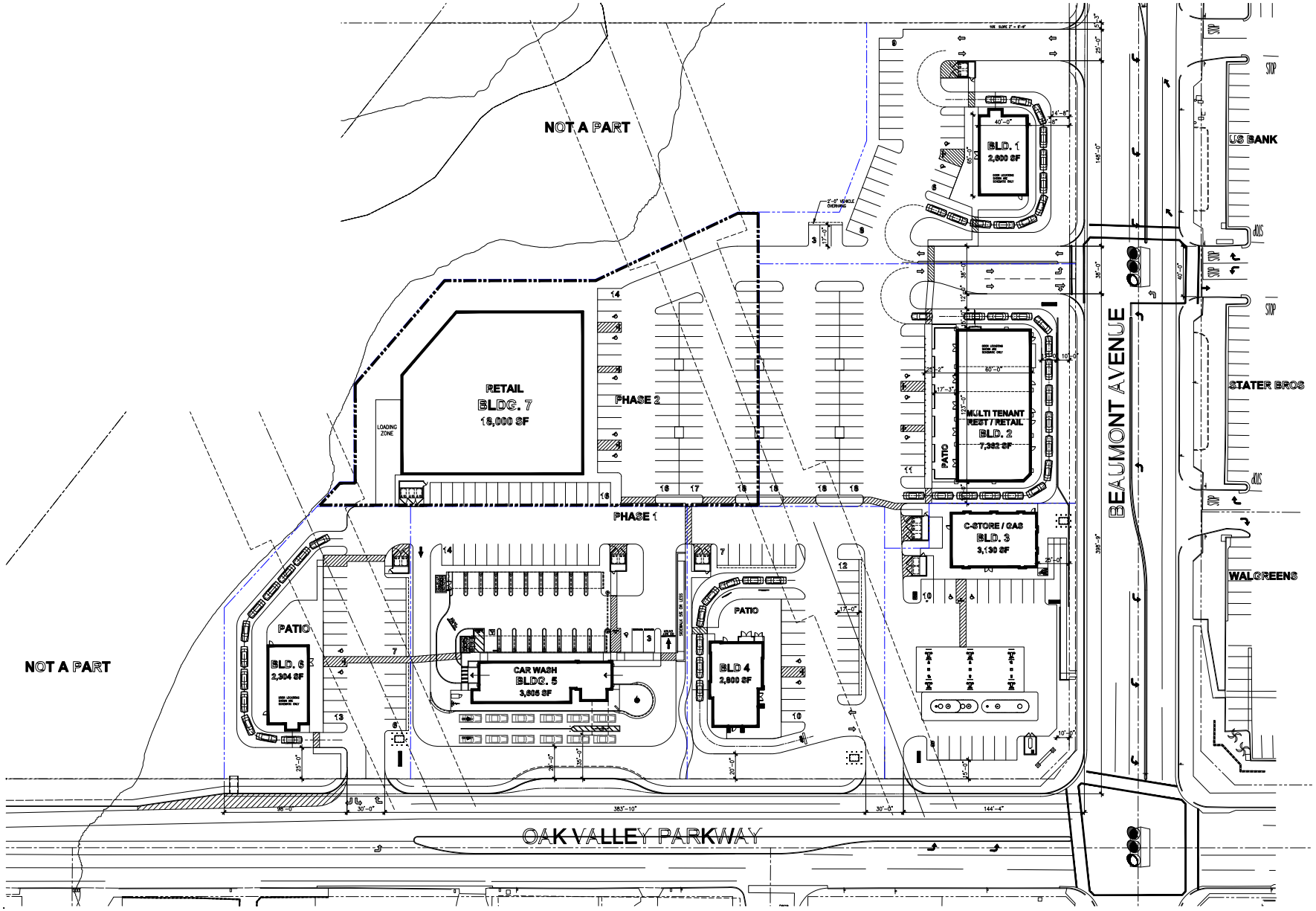


Figure 2
Site Plan

2. METHODOLOGY

This section discusses the analysis methodologies used to assess transportation facility performance as adopted by the respective jurisdictional agencies.

Potential transportation impacts forecast to result from development of the proposed project are analyzed both in the context of operational performance standards established by the City of Beaumont and the California Environmental Quality Act (CEQA). Operational improvements are identified where necessary to alleviate a project's substantial effect as defined by the City of Beaumont under its discretionary authority and police powers to protect the public welfare. A substantial effect and related operational improvements are differentiated from significant impacts and mitigation measures in the context of CEQA.

LEVEL OF SERVICE ANALYSIS METHODOLOGY (NON-CEQA)

Level of Service analysis is performed for assessing General Plan conformance in accordance with the performance standards established by the City of Beaumont. In accordance with CEQA provisions, Level of Service deficiencies, if any, would not constitute a significant impact under CEQA.

Intersection Delay Methodology

The technique used to assess the performance of intersections is known as the intersection delay methodology based on the procedures contained in the Highway Capacity Manual (Transportation Research Board, 7th Edition). The methodology considers the traffic volume and distribution of movements, traffic composition, geometric characteristics, and signalization details to calculate the average control delay per vehicle and corresponding Level of Service. Control delay is defined as the portion of delay attributed to the intersection traffic control (such as a traffic signal or stop sign) and includes initial deceleration, queue move-up time, stopped delay, and final acceleration delay. The intersection control delay is then correlated to Level of Service based on the following thresholds:

Level of Service	Intersection Control Delay (Seconds / Vehicle)	
	Signalized Intersection	Unsignalized Intersection
A	≤ 10.0	≤ 10.0
B	> 10.0 to ≤ 20.0	> 10.0 to ≤ 15.0
C	> 20.0 to ≤ 35.0	> 15.0 to ≤ 25.0
D	> 35.0 to ≤ 55.0	> 25.0 to ≤ 35.0
E	> 55.0 to ≤ 80.0	> 35.0 to ≤ 50.0
F	> 80.0	> 50.0

Source: Transportation Research Board, Highway Capacity Manual (7th Edition).

Level of Service is used to qualitatively describe the performance of a roadway facility, ranging from Level of Service A (free-flow conditions) to Level of Service F (extreme congestion and system failure). At intersections with traffic signal or all way stop control, Level of Service is determined by the average control delay for the overall intersection. At intersections with cross street stop control (i.e., one- or two-way stop control), Level of Service is determined by the average control delay for the worst individual movement (or movements sharing a single lane).

Intersection delay analysis was performed using the Vistro (Version 6.00-00) software. Measured peak hour factors of 0.95 or higher measured from the traffic counts have been applied for existing 2023 and near-term conditions.

Performance Standards

City of Beaumont. The City of Beaumont has established Level of Service D as the minimum acceptable Level of Service.

California Department of Transportation. As stated in the Guide for the Preparation of Traffic Impact Studies (State of California, 2002), "California Department of Transportation endeavors to maintain a target LOS [Level of Service] at the transition between LOS "C" and LOS "D" on State highway facilities". The California Department of Transportation acknowledges this may not always be feasible and recommends consultation with the California Department of Transportation to determine the appropriate target Level of Service. For consistency with local requirements, this analysis defines Level of Service D as the minimum acceptable Level of Service for State Highway facilities.

Definition of Project-Related Level of Service Deficiency

Based on the performance standards established by the City of Beaumont and Caltrans, a project-related Level of Service deficiency is considered substantial and may require correction under following conditions:

- The addition of project-generated trips causes a study intersection to deteriorate from acceptable Level of Service (D or better) to deficient Level of Service (E or F); or

- The addition of project-generated trips worsens delay operations at a study intersection operating at deficient Level of Service (E or F) prior to the addition of project-generated trips.

Corrective measures may include the construction of or fair share contributions toward roadway improvements.

VEHICLE MILES TRAVELED ANALYSIS METHODOLOGY (CEQA)

The methodology used to evaluate the impact of land use and transportation projects under CEQA is known as Vehicle Miles Traveled (VMT). In general terms, VMT quantifies the amount and distance of automobile travel attributable to a project or region. Additional information and a project assessment are provided in the Vehicle Miles Traveled section of this report.

3. EXISTING CONDITIONS

EXISTING ROADWAY SYSTEM

Figure 3 identifies the lane geometry and intersection traffic controls for Existing conditions based on a field survey of the study area. Regional access to the project site is provided by the I-10 Freeway located approximately 1.5 miles west and south of the project site, and the SR-60 Freeway located approximately 1.5 miles west of the project site. Key roadways providing local circulation include Beaumont Avenue, Oak Valley Parkway and Brookside Avenue.

GENERAL PLAN CONTEXT

Figure 4 shows the City of Beaumont General Plan Circulation Element roadway classifications map. This figure shows the nature and extent of arterial and collector highways that are needed to adequately serve the ultimate development depicted by the Land Use Element of the General Plan. The City of Beaumont standard roadway cross-sections are illustrated on Figure 5.

TRANSIT SERVICE

Figure 6 shows Existing public transit facilities and routes in the project vicinity. As shown on Figure 6, the study area is currently served by PassTransit bus service. Route 2 run along Beaumont Avenue, Cougar Way and Oak Valley Parkway. Route 3 runs along Cougar Way and Beaumont Avenue. Route 4 runs along 10th Street, Palm Avenue, Cougar Way, Beaumont Avenue and Brookside Avenue. Routes 7 runs along Oak Valley Parkway, Beaumont Avenue, Cougar Way and Brookside Avenue. Route 9 runs along Palm Avenue, Cougar Way and Beaumont Avenue.

BICYCLE FACILITIES

The City of Beaumont bike paths are illustrated on Figure 7. Existing pedestrian facilities in the project vicinity are shown on Figure 8. There are currently existing bicycle lanes along Oak Valley Parkway west of Beaumont Avenue. Sidewalks are not provided on the west sides of the street along Beaumont Avenue north of Oak Valley Parkway, and along both sides of Oak Valley Parkway west of Beaumont Avenue.

EXISTING ROADWAY VOLUMES

Figure 9 shows the Existing average daily traffic volumes. The Existing average daily traffic volumes have been factored from peak hour intersection turning movement volumes using the following formula for each intersection leg:

Evening Peak Hour (Approach Volume + Exit Volume) x 12[2] = Leg Volume.

The peak hour to daily volume factor was derived based on a comparison of the existing evening peak hour intersection turning movement volumes with sample 24-hour roadway segment volume counts collected in the study area. This is a conservative estimate and may over-estimate the average daily traffic volumes.

Existing peak hour traffic conditions are based upon morning peak period and evening peak period intersection turning movement counts obtained in January 2018 during typical weekday conditions. The weekday morning peak period was counted between 7:00 AM and 9:00 AM, and the weekday evening peak period was counted

[2] Source: Approximate average evening peak hour K factor based on a comparison of the existing peak hour intersection turning movement counts with the roadway segment daily traffic volume data obtained from the California Department of Transportation (2017).

between 4:00 PM and 6:00 PM. The actual peak hour within the peak period is the four consecutive 15 minute periods with the highest total volume when all movements are added together. Thus, the weekday evening peak hour at one intersection may be 4:45 PM to 5:45 PM if those four consecutive 15 minute periods have the highest combined volume. Intersection turning movement count worksheets are provided in Appendix C. Historic January 2018 counts were previously conducted at the study area intersections. Due to the COVID-19 pandemic restrictions, current 2022/2023 traffic patterns may not be normalized for an extended period of time. Therefore, the pre-pandemic 2022/2023 base traffic volumes at the study intersections have been estimated using the historic January 2018 counts based an annual growth rate per SCAG Annual Average Traffic Growth. The 3.47% annual growth rate is SCAG's Annual Average Traffic Growth per forecast period 2018-2020. The 2.74% annual growth rate is SCAG's Annual Average Traffic Growth per forecast period 2020-2035. To derive the existing 2023 baseline conditions, the annual growth rate would be 3.47% from 2018 to 2020 for a total growth of 7.06% for 2 years, and then the annual growth rate would be 2.74% from 2020 to 2023 for an additional growth of 8.45% for 3 years, which is an overall 5-year growth of 16.10% from 2018 to 2023.

Figure 10 and Figure 11 show the Existing morning peak hour and evening peak hour intersection turning movement volumes.

EXISTING LEVEL OF SERVICE

The intersection Levels of Service for Existing conditions have been calculated and are shown in Table 1. Existing intersection Level of Service worksheets are provided in Appendix D.

As shown in Table 1, the study intersections currently operate within acceptable Levels of Service during the peak hours for Existing conditions, except for the following study intersection that is projected to operate at deficient Levels of Service (E or F):

- Beaumont Avenue/Brookside Avenue – #1 (AM & PM peak hours)
- Beaumont Avenue/Commercial Driveway – #3 (AM & PM peak hours)
- Beaumont Avenue/Oak Valley Parkway – #4 (AM peak hour)
- Palm Avenue/Oak Valley Parkway – #9 (AM peak hour)

EXISTING TRAFFIC SIGNAL WARRANT ANALYSIS

A traffic signal appears to currently be warranted at the following study intersections based upon the California Manual on Uniform Traffic Control Devices (2014), peak hour volume graphs (Warrant 3), for existing conditions:

- Beaumont Avenue/Commercial Driveway – #3
- Palm Avenue/Oak Valley Parkway – #9

Traffic signal warrant analysis worksheets are provided in Appendix E.

Table 1
Existing (2023) Intersection Levels of Service

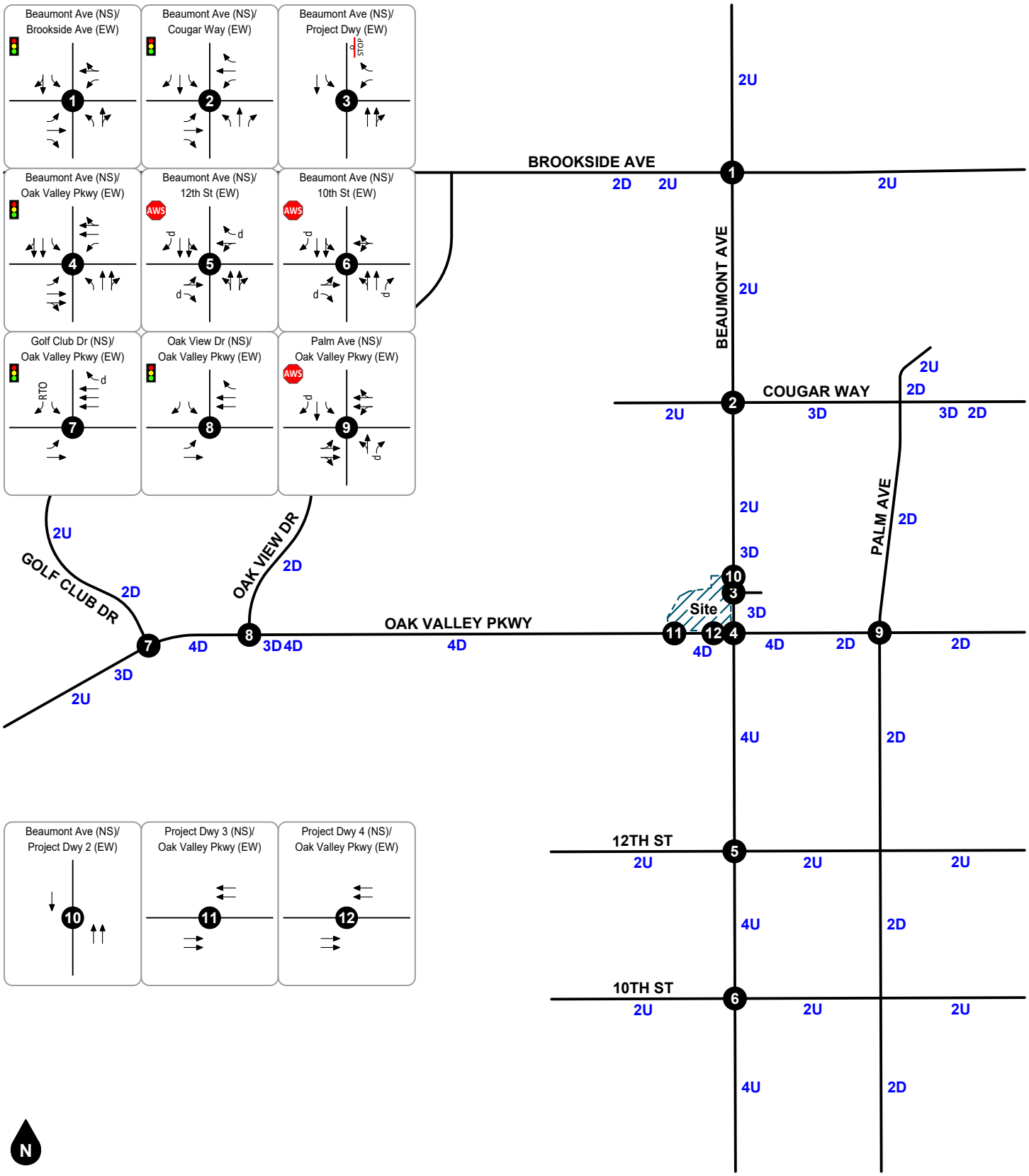
Study Intersection	Traffic Control[1]	Weekday AM Peak Hour		Weekday PM Peak Hour	
		Delay[2]	LOS[3]	Delay[2]	LOS[3]
1. Beaumont Ave at Brookside Ave	TS	57.6	E	111.9	F
2. Beaumont Ave at Cougar Way	TS	24.0	C	14.1	B
3. Beaumont Ave at Commercial Dwy	CSS	96.6	F	42.6	E
4. Beaumont Ave at Oak Valley Pkwy	TS	63.7	E	23.2	C
5. Beaumont Ave at 12th St	AWS	24.4	C	13.6	B
6. Beaumont Ave at 10th St	AWS	16.2	C	12.6	B
7. Golf Club Dr at Oak Valley Pkwy	TS	7.5	A	9.1	A
8. Oak View Dr at Oak Valley Pkwy	TS	19.8	B	15.1	B
9. Palm Ave at Oak Valley Pkwy	AWS	35.8	E	16.6	C

Notes:

(1) TS = Traffic Signal; CSS = Cross Street Stop; AWS = All-Way Stop

(2) Delay is shown in seconds/vehicle. For intersections with traffic signal, all way stop control, or roundabout, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst individual lane (or movements sharing a lane).

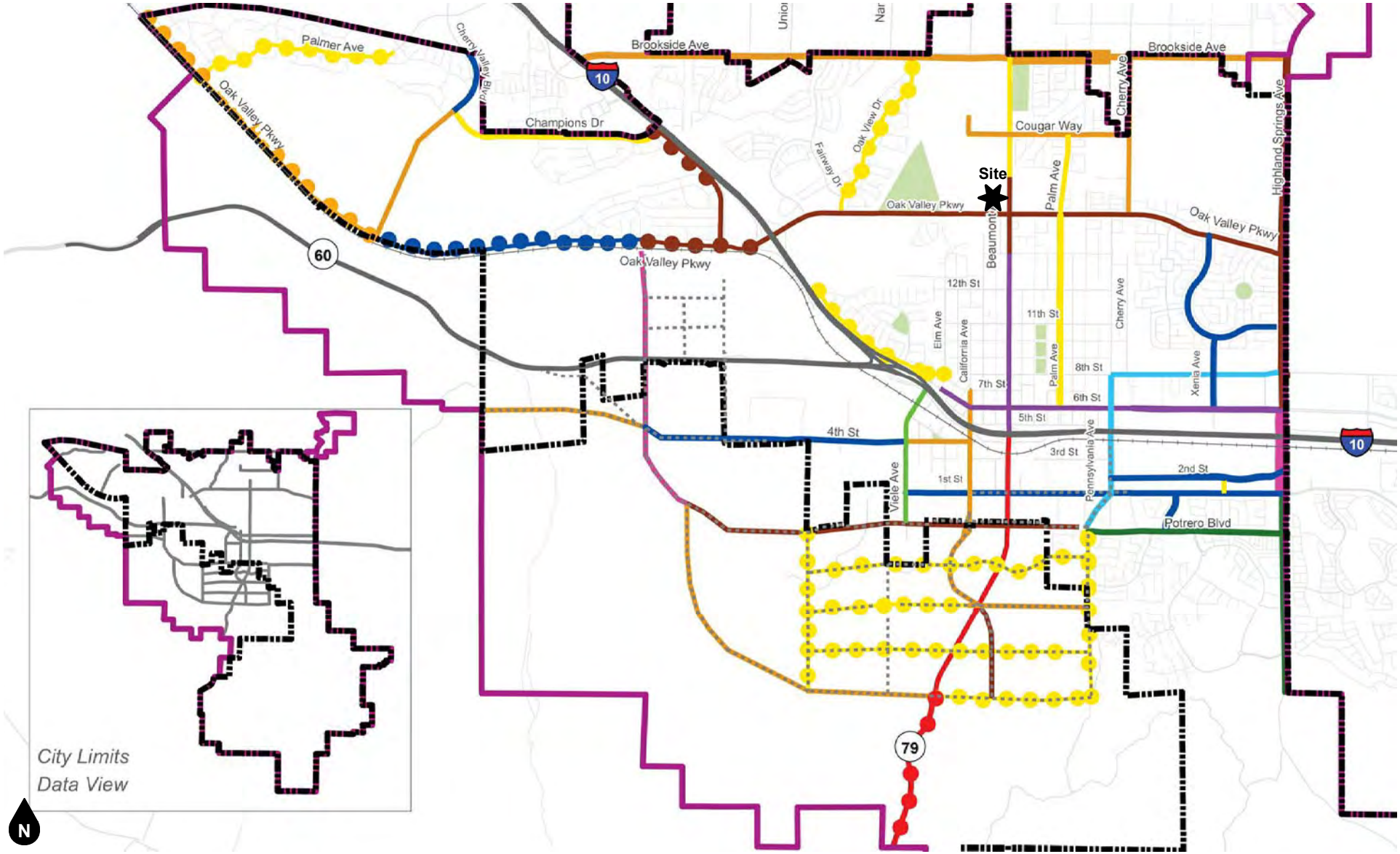
(3) LOS = Level of Service



Legend

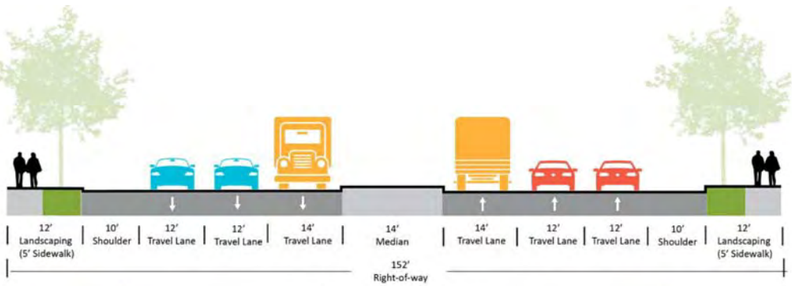
- Traffic Signal
- AWS All Way Stop
- STOP Stop Sign
- #D #-Lane Divided Roadway
- #U #-Lane Undivided Roadway
- Existing Lane
- RTO Right Turn Overlap
- d De Facto Right Turn Lane

Figure 3
Existing Lane Geometry and Intersection Traffic Controls

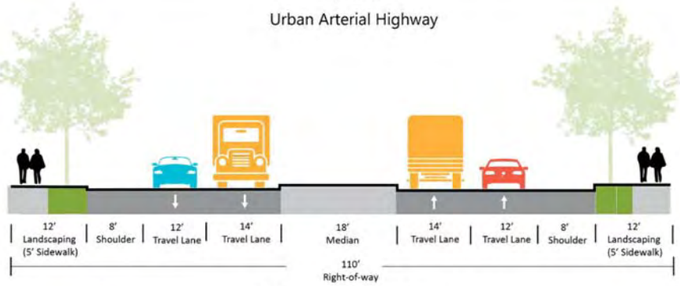


Source: City of Beaumont

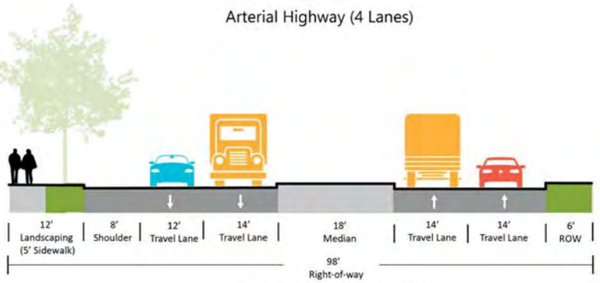
Figure 4
City of Beaumont General Plan Circulation Element



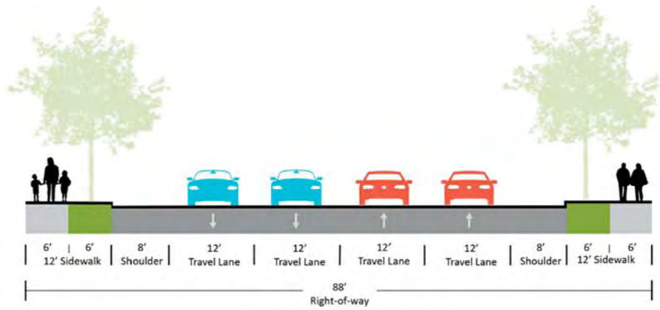
Urban Arterial Highway



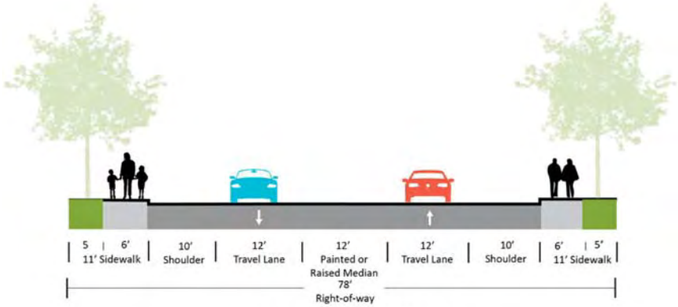
Arterial Highway (4 Lanes)



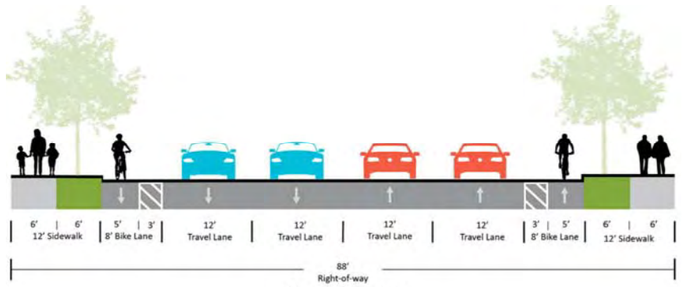
Arterial Highway Frontage



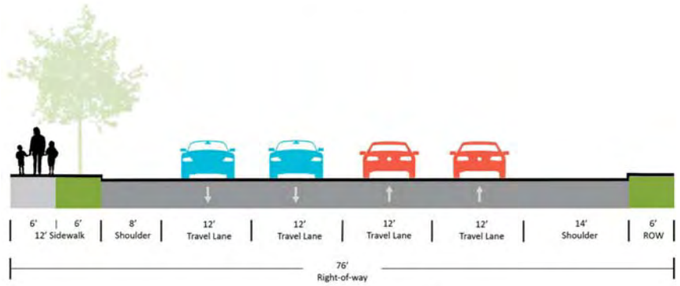
Collector Street (4 Lanes)



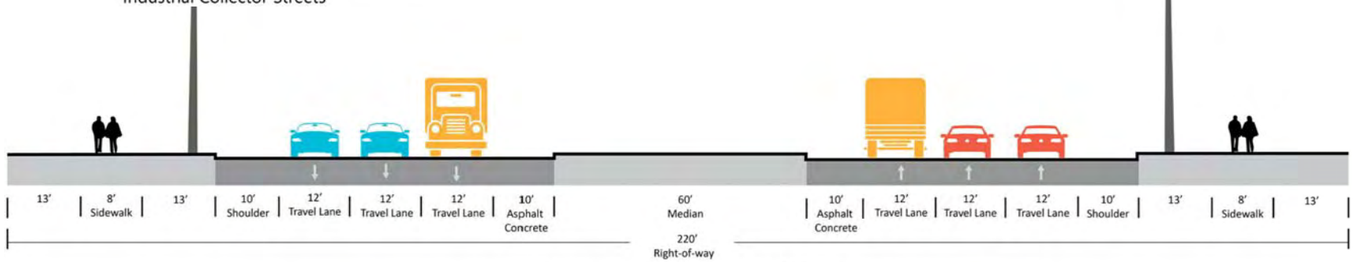
Industrial Collector Streets



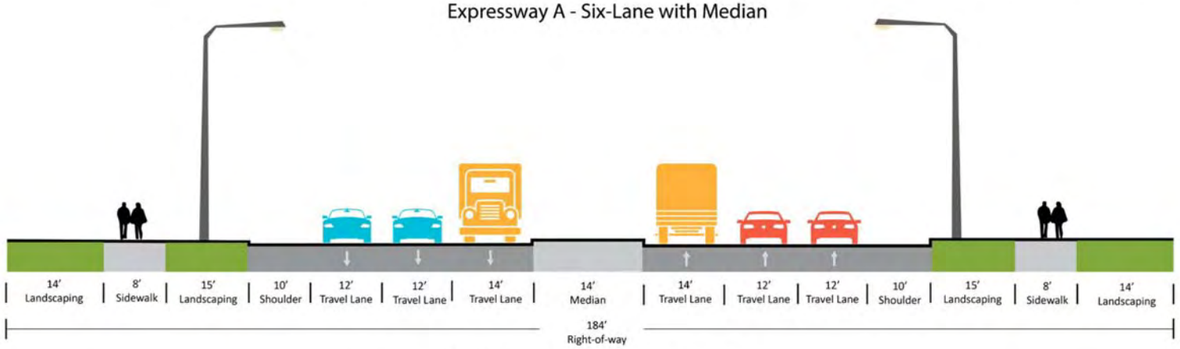
Secondary Streets



Secondary Frontage Road



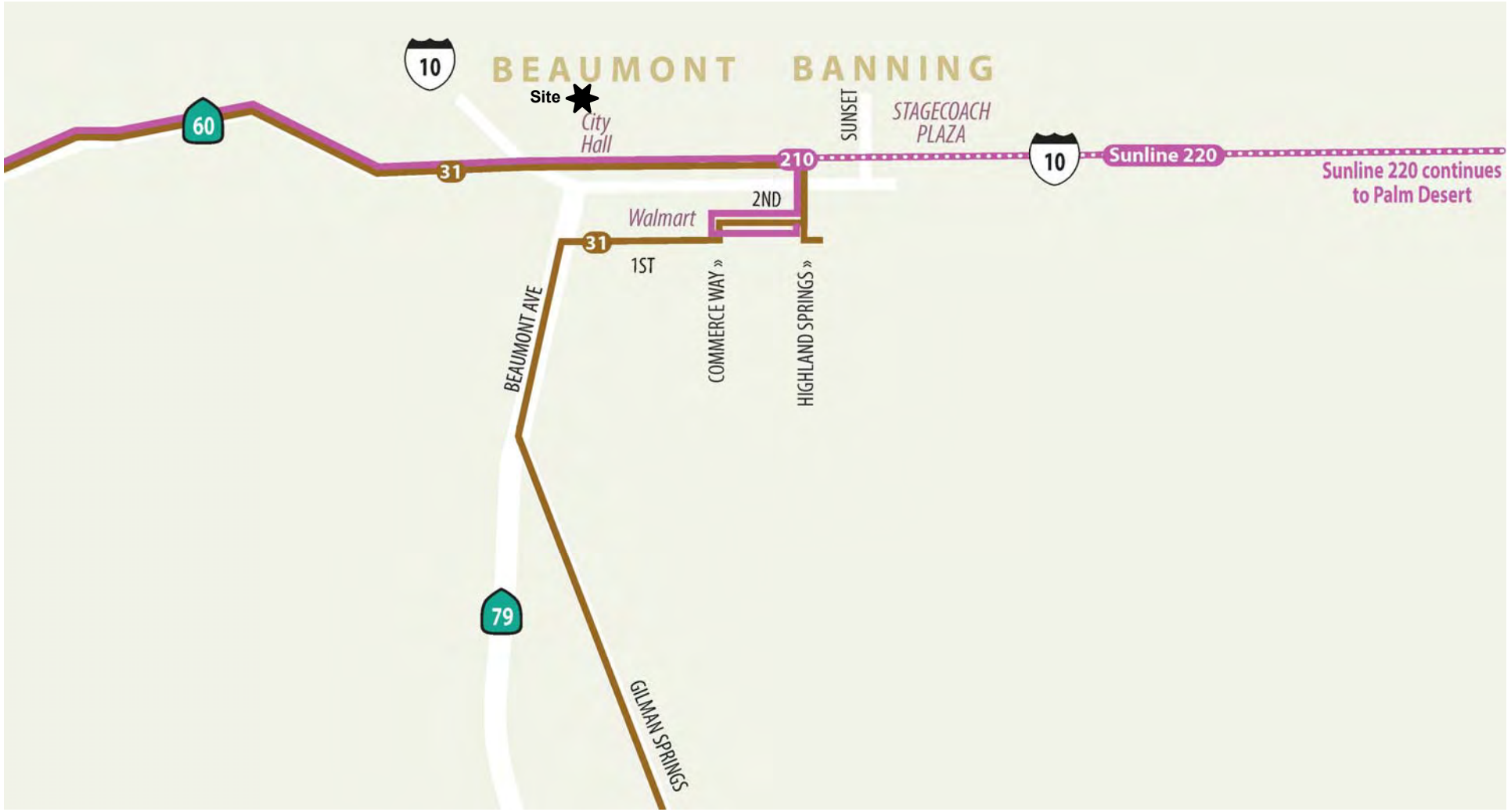
Expressway A - Six-Lane with Median



Expressway B - Six-Lane with Median

Figure 5
City of Beaumont General Plan Roadway Cross-Sections

Source: City of Beaumont



Source: Riverside Transit Agency

Figure 6
Existing Transit Routes

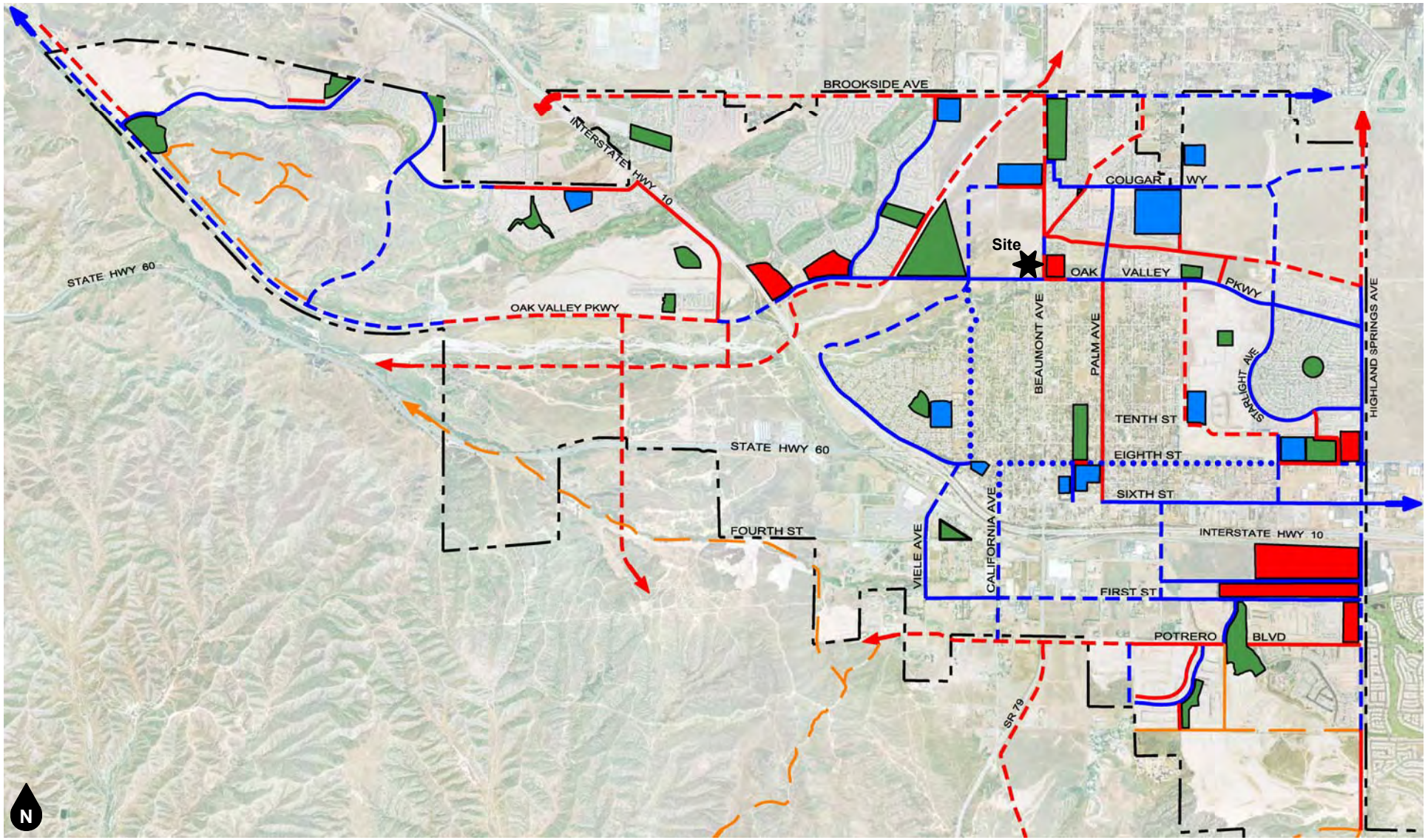
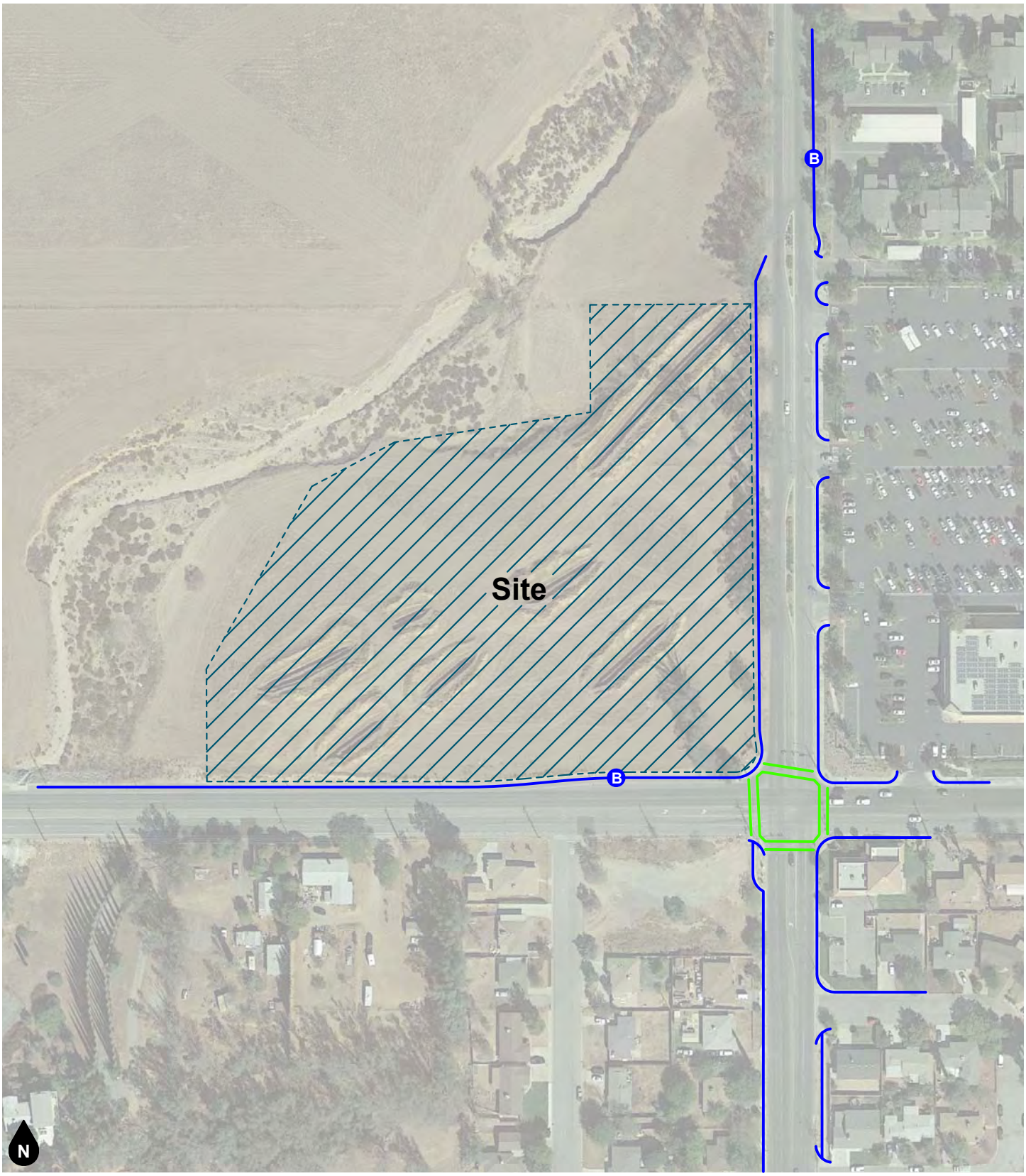


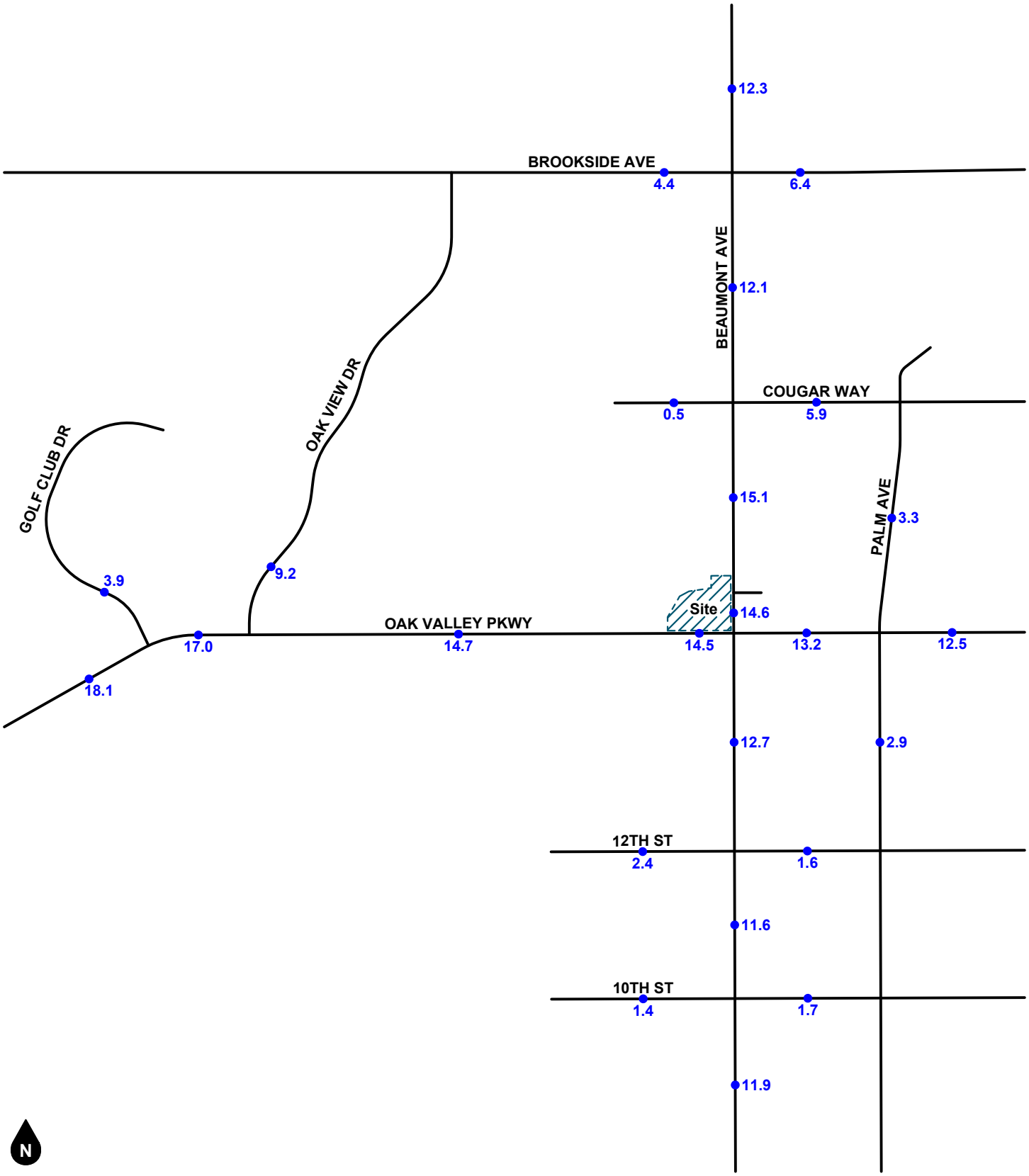
Figure 7
City of Beaumont General Plan Bike Routes

Source: City of Beaumont



Legend
- Sidewalk
- Cross Walk
- B Bus Stop

Figure 8
Existing Pedestrian Facilities



Legend
●## Vehicles Per Day (1,000's)

Figure 9
Existing Average Daily Traffic Volumes

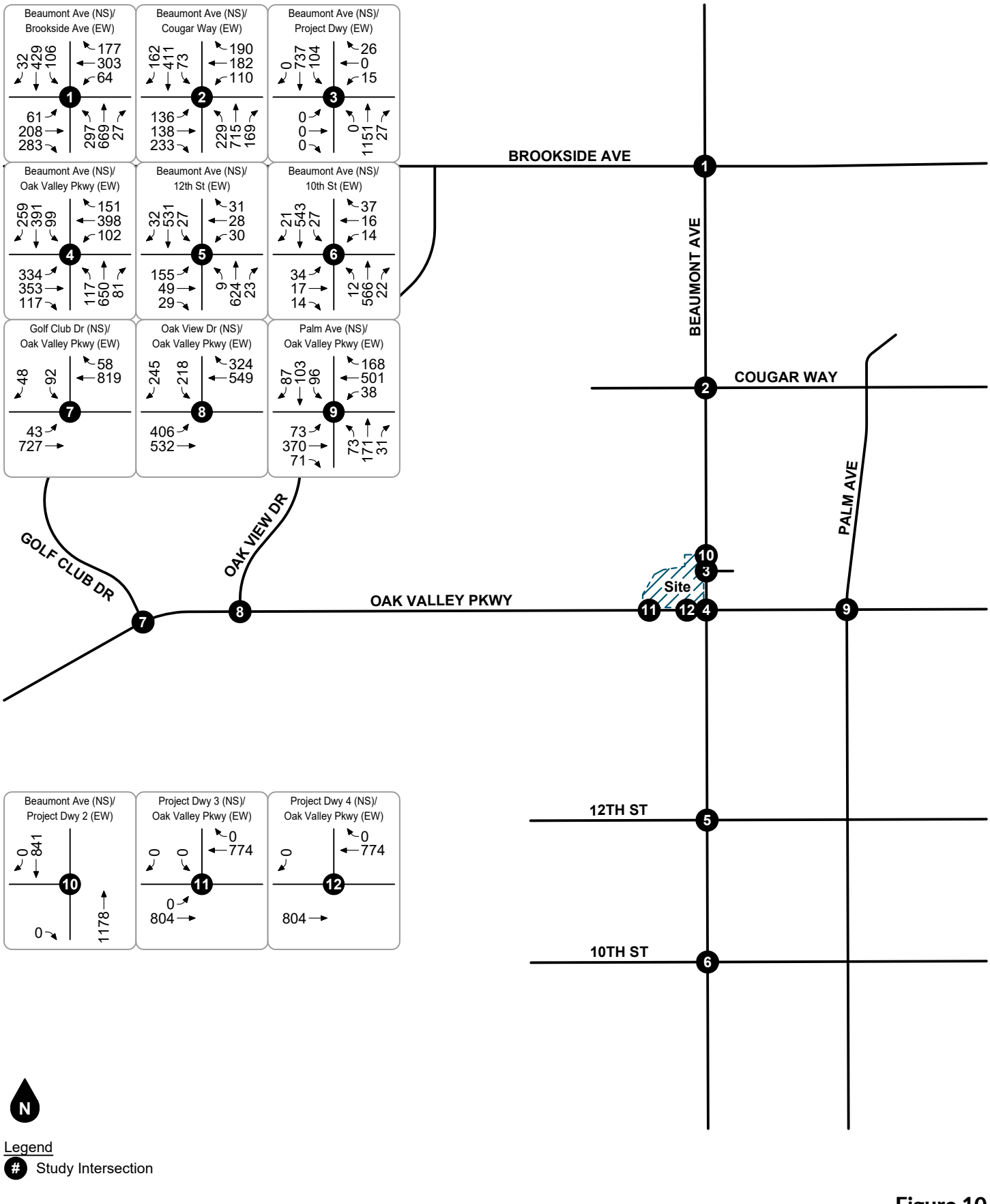


Figure 10
Existing AM Peak Hour Intersection Turning Movement Volumes

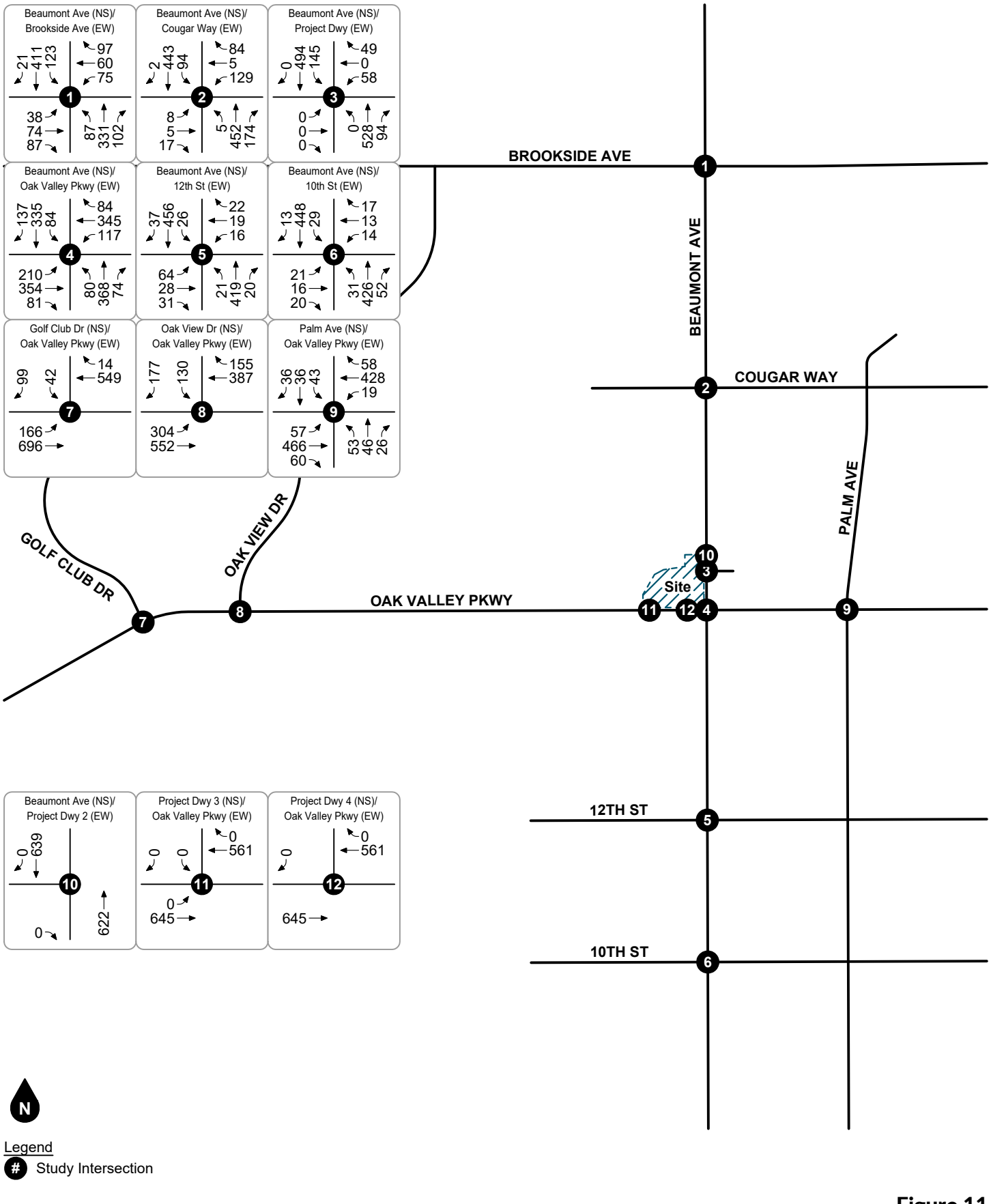


Figure 11
Existing PM Peak Hour Intersection Turning Movement Volumes

4. PROJECT TRIP FORECASTS

This section describes how project trip generation, trip distribution, and trip assignment forecasts were developed. The forecast project volumes are illustrated on figures contained in this section.

PROJECT TRIP GENERATION

Table 2 shows the project trip generation based upon trip generation rates obtained from the Institute of Transportation Engineers, Trip Generation Manual, 11th Edition, 2021 and San Diego Association of Governments (SANDAG), Brief Guide of Vehicular Traffic Generation Rates (April 2002). The trip generation assumption for the proposed express car wash project (Building 5) is estimated based on the information provided by the applicant that operates similar express car wash facilities. Based on applicant input, an express car wash project has a daily average of 350 customers and 4 employees for a total of 708 daily trips. Similar to SANDAG trip rates for a car wash, AM peak hour is approximately 4% of daily trips (50% inbound/50% outbound) and PM peak hour is approximately 9% of daily trips (50% inbound/50% outbound).

Land uses such as strip retail plaza, restaurants, gasoline stations, and convenience stores will often locate next to busy roadways to attract motorists already on the street. Since the trip generation rates contained in the ITE Trip Generation Manual represent vehicles entering and exiting at the site driveway(s), it is appropriate to reduce the initial trip generation forecast by the applicable pass-by trip rate when calculating the net new trips that will be added to the surrounding street system. This analysis applies a pass-by trip reduction for the fast-food restaurant with drive-thru and super convenience market/gas station land uses based upon rates from the ITE Trip Generation Manual (11th Edition, 2021). For the express car wash pass-by/internal trips assumptions, the ITE Trip Generation Manual shows that the pass-by percentages for automobile-related commercial uses ranges from 25% to 43% (auto parts and tire stores). Since there will be cross marketing incentives and discounts for customers to purchase gasoline and car wash during the same visit, a pass-by/internal trip reduction percentage of 40% is utilized in the trip generation calculations to account for the internal interaction between the car wash and the adjacent gas station.

As shown in Table 3, the proposed project is forecast to generate a total of approximately 8,766 daily trips prior to accounting for pass-by trip adjustments, including 683 trips during the AM peak hour and 721 trips during the PM peak hour. With applicable pass-by trip adjustments, the proposed project is forecast to generate a total of approximately 4,095 net daily vehicle trips, including 331 net trips during the AM peak hour and 335 net trips during the PM peak hour.

The traffic volumes shown in Table 3 consists of the sum of trips generated for each individual project land use. Since a trip generated by a fast-food restaurant may also visit a retail land use within the project, a double counting of those trips occurs. In order to analyze a conservative scenario in terms of the assignment of project trips, the project trip generation forecast has not been reduced as a result of internal interaction between the proposed land uses.

PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

Figure 12 shows the forecast directional outbound and inbound distribution patterns for the project generated trips. The project trip distribution patterns are based on review of existing volume data, surrounding land uses, designated truck routes, and the local and regional roadway facilities in the project vicinity.

Based on the identified project trip generation and distributions, project net average daily traffic volumes have been calculated and shown on Figure 13. Project net morning and evening peak hour intersection turning movement volumes expected from the project are depicted on Figure 14 and Figure 15, respectively. Project pass-by trip adjustment morning and evening peak hour intersection turning movement volumes expected from the project are depicted on Figure 16 and Figure 17, respectively.

PROJECT DESIGN FEATURES

This analysis assumes the following improvements will be constructed by the project to provide project site access:

Project Driveway 1 at Beaumont Avenue (Intersection #3 – Opposite the existing driveway for the Oak Valley Town Center commercial plaza)

- Install a traffic signal.
- Provide a northbound left turn lane.
- Provide an eastbound left turn lane.
- Provide an eastbound shared through-right lane.
- Convert existing westbound right turn lane to one shared through-right lane.

Project Driveway 2 at Beaumont Avenue (Intersection #10)

- Install an eastbound stop sign.
- Provide an eastbound right turn lane.
- Provide a raised pork-chop median on the driveway to allow only right-in/right-out access.

Project Driveway 3 at Oak Valley Parkway (Intersection #11)

- Install a southbound stop sign.
- Provide a southbound shared left-right lane
- Provide an eastbound left turn lane.

Project Driveway 4 at Oak Valley Parkway (Intersection #13)

- Install a southbound stop sign.
- Provide a southbound right turn lane
- Provide a raised pork-chop median on the driveway to allow only right-in/right-out access.

Table 2
Trip Generation Rates

No.	Land Use	Rate Code[1]	Units[2]	AM Peak Hour			PM Peak Hour			Daily
				In %	Out %	Total	In %	Out %	Total	
1	Strip Retail Plaza (<40k)	ITE 822	TSF	60%	40%	2.36	50%	50%	6.89	54.45
2	High-Turnover (Sit-Down) Restaurant	ITE 932	TSF	55%	45%	9.57	61%	39%	9.05	107.20
3	Fast-Food Restaurant w/ Drive-Thru	ITE 934	TSF	51%	49%	44.61	52%	48%	33.03	467.48
4	Gasoline Station w/ Food Mart	SANDAG[3]	VFP	50%	50%	11.20	50%	50%	12.80	160.00
5	Express Car Wash (Client Info)	Custom[4]	Site	50%	50%	28.32	50%	50%	63.72	708.00

Notes:

(1) ITE = Institute of Transportation Engineers (ITE), Trip Generation Manual, 11th Edition, 2021; ### = Land Use Code

SANDAG = San Diego Association of Governments (SANDAG), Brief Guide of Vehicular Traffic Generation Rates, April 2002

(2) TSF = Thousand Square Feet; VFP = Vehicle Fueling Positions

(3) The proposed gas station (Building 3) portion of the project utilized the SANDAG trip rates of "gasoline station with food mart" because the data set is derived based on local facilities in Southern California with similar proposed features such as the fuel pumps and convenience food store. The SANDAG trip generation characteristics and intensity are more compatible for this type of gas station which is located within a mixed-use commercial center in close proximity to other retail and service land uses, which lends itself to internal interaction with surrounding uses during the same trip. The ITE pass-by trip percentages are utilized by the proposed gas station so that the assumption is consistent with other proposed uses of the project which also utilized ITE pass-by assumptions.

(4) Based on applicant input, an Express Car Wash has a daily average of 350 customers and 4 employees for a total of 708 daily trips. Similar to SANDAG trip rates for a car wash, AM peak hour is approximately 4% of daily trips (50% inbound/50% outbound) and PM peak hour is approximately 9% of daily trips (50% inbound/50% outbound).

Table 3
Project Trip Generation[1]

No.	Land Use	Quantity[2]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
1	Fast-Food Restaurant w/ Drive-Thru	2.600 TSF	59	57	116	45	41	86	1,215
	Pass-By Trips[3]	50% [3]	-30	-30	-60	-23	-23	-46	-608
	Subtotal Net Trips		29	27	56	22	18	40	607
2	Fast-Food Restaurant w/ Drive-Thru	2.800 TSF	64	61	125	48	44	92	1,309
	Pass-By Trips[3]	50% [3]	-32	-32	-64	-24	-24	-48	-655
	Strip Retail Plaza (<40k)	4.562 TSF	6	4	10	16	16	32	248
	Pass-By Trips[3] (PM/Daily)	40% [3]	0	0	0	-6	-6	-12	-99
	Subtotal Net Trips		38	33	71	34	30	64	803
3	Gasoline Station w/ Food Mart	12 VFP	67	67	134	77	77	154	1,920
	Pass-By Trips[3]	75% [3]	-50	-50	-100	-58	-58	-116	-1,440
	Subtotal Net Trips (3.010 TSF)		17	17	34	19	19	38	480
4	Fast-Food Restaurant w/ Drive-Thru	2.800 TSF	64	61	125	48	44	92	1,309
	Pass-By Trips[3]	50% [3]	-32	-32	-64	-24	-24	-48	-655
	Subtotal Net Trips		32	29	61	24	20	44	654
5	Express Car Wash (Client Info)	1 Site	14	14	28	32	32	64	708
	Pass-By/Internal Trips[4]	40% [4]	-6	-6	-12	-13	-13	-26	-283
	Subtotal Net Trips		8	8	16	19	19	38	425
6	Fast-Food Restaurant w/ Drive-Thru	2.304 TSF	52	50	102	40	37	77	1,077
	Pass-By Trips[3]	50% [3]	-26	-26	-52	-20	-20	-40	-539
	Subtotal Net Trips		26	24	50	20	17	37	538
7	Strip Retail Plaza (<40k)	18.000 TSF	26	17	43	62	62	124	980
	Pass-By Trips[3] (PM/Daily)	40% [3]	0	0	0	-25	-25	-50	-392
	Subtotal Net Trips		26	17	43	37	37	74	588
Total Gross Trips Generated		39.801 TSF	352	331	683	368	353	721	8,766
Total Pass-By Trip Reduction			-176	-176	-352	-193	-193	-386	-4,671
Total Net Trips with Pass-By/Internal Trip Reduction			176	155	331	175	160	335	4,095

Notes:

(1) Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, 11th Edition, 2021 (see Table 2).

(2) TSF = Thousand Square Feet; VFP = Vehicle Fueling Position

(3) Pass-By Trips: ITE, Trip Generation Manual, 11th Edition, 2021.

Land Use Code 821 - Shopping Plaza (40-150k), Average Pass-By Trip Percentage = 40%. Daily and PM Only.

Land Use Code 932 - High-Turnover (Sit-Down) Restaurant, Average Pass-By Trip Percentage = 43%.

Land Use Code 934 - Fast-Food Restaurant with Drive-Through Window, Average Pass-By Trip Percentage = 50-55%.

Land Use Code 945 - Convenience Store Gas Station, Average Pass-By Trip Percentage = 75%.

(4) Express Car Wash Pass-By/Internal Trips: In ITE Trip Generation Manual, 11th Edition, 2021, pass-by percentages for automobile-related commercial uses ranges from 25% to 43% (auto parts and tire stores). Since there will be cross marketing incentives and discounts for customers to purchase gasoline and car wash during the same visit, a pass-by/internal trip reduction percentage of 40% is utilized in the trip generation calculations to account for the internal interaction between the car wash and the adjacent gas station.

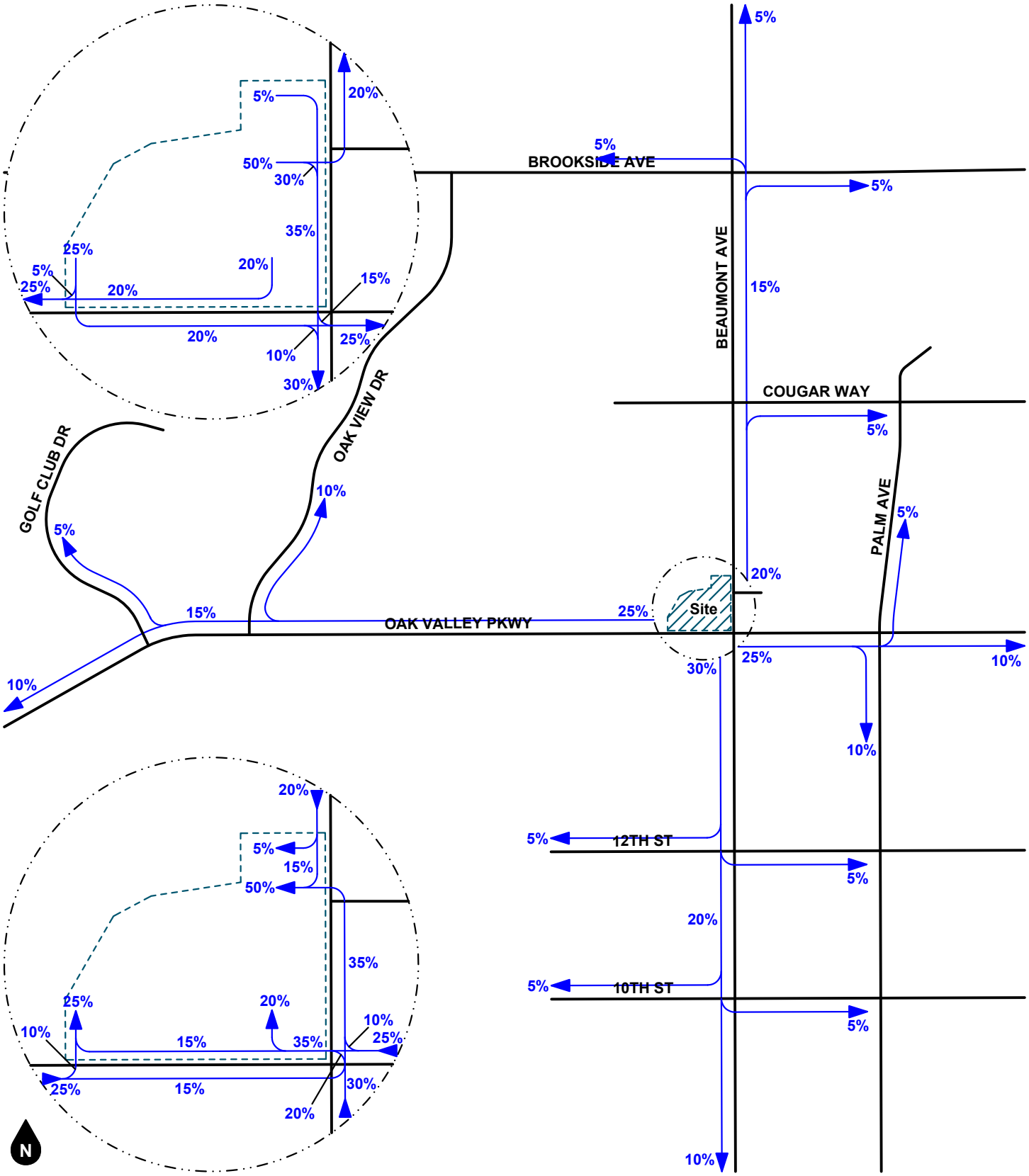
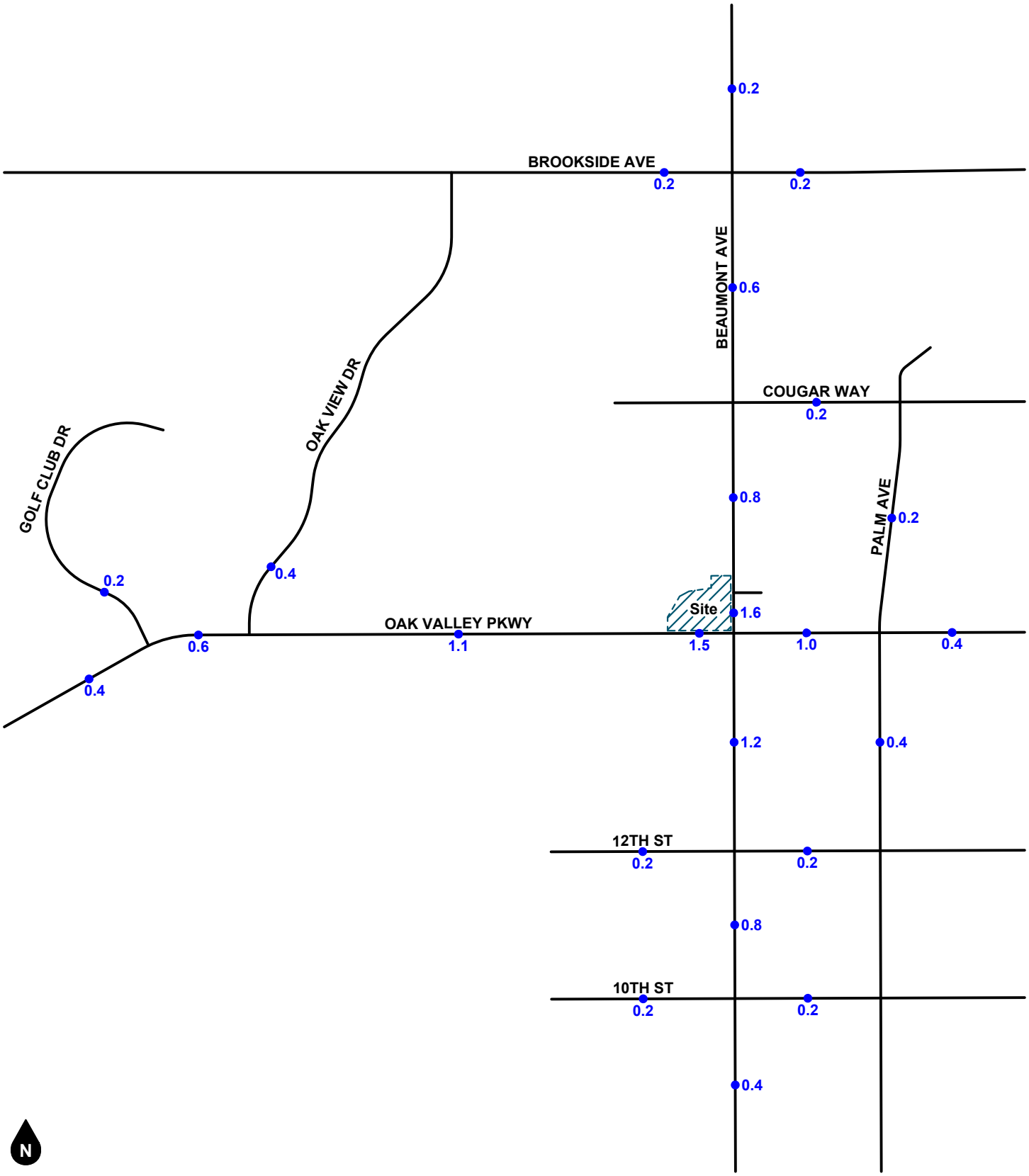


Figure 12
Project Trip Distribution



Legend
●## Vehicles Per Day (1,000's)

Figure 13
Project Average Daily Traffic Volumes

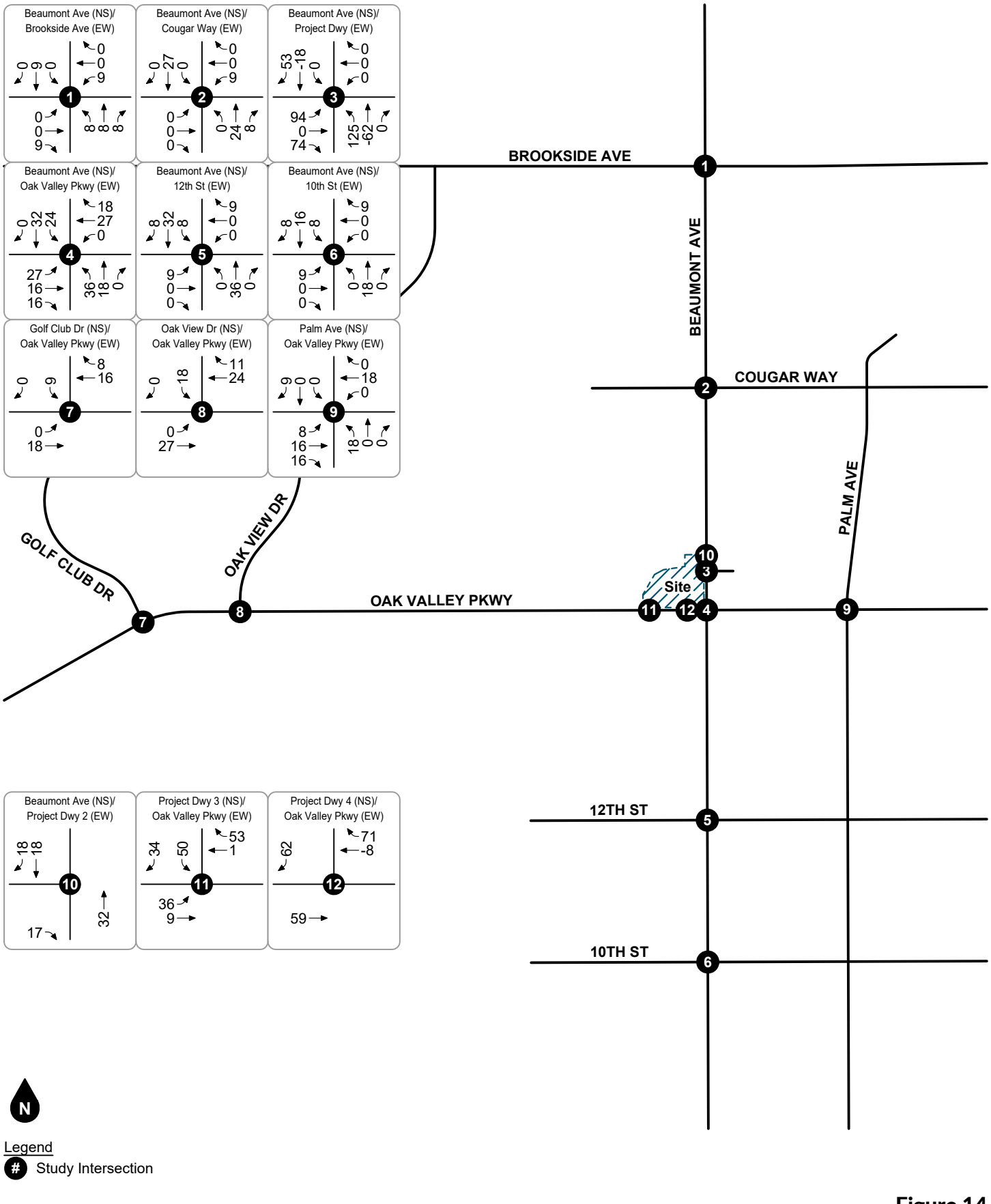


Figure 14
Project Net AM Peak Hour Intersection Turning Movement Volumes

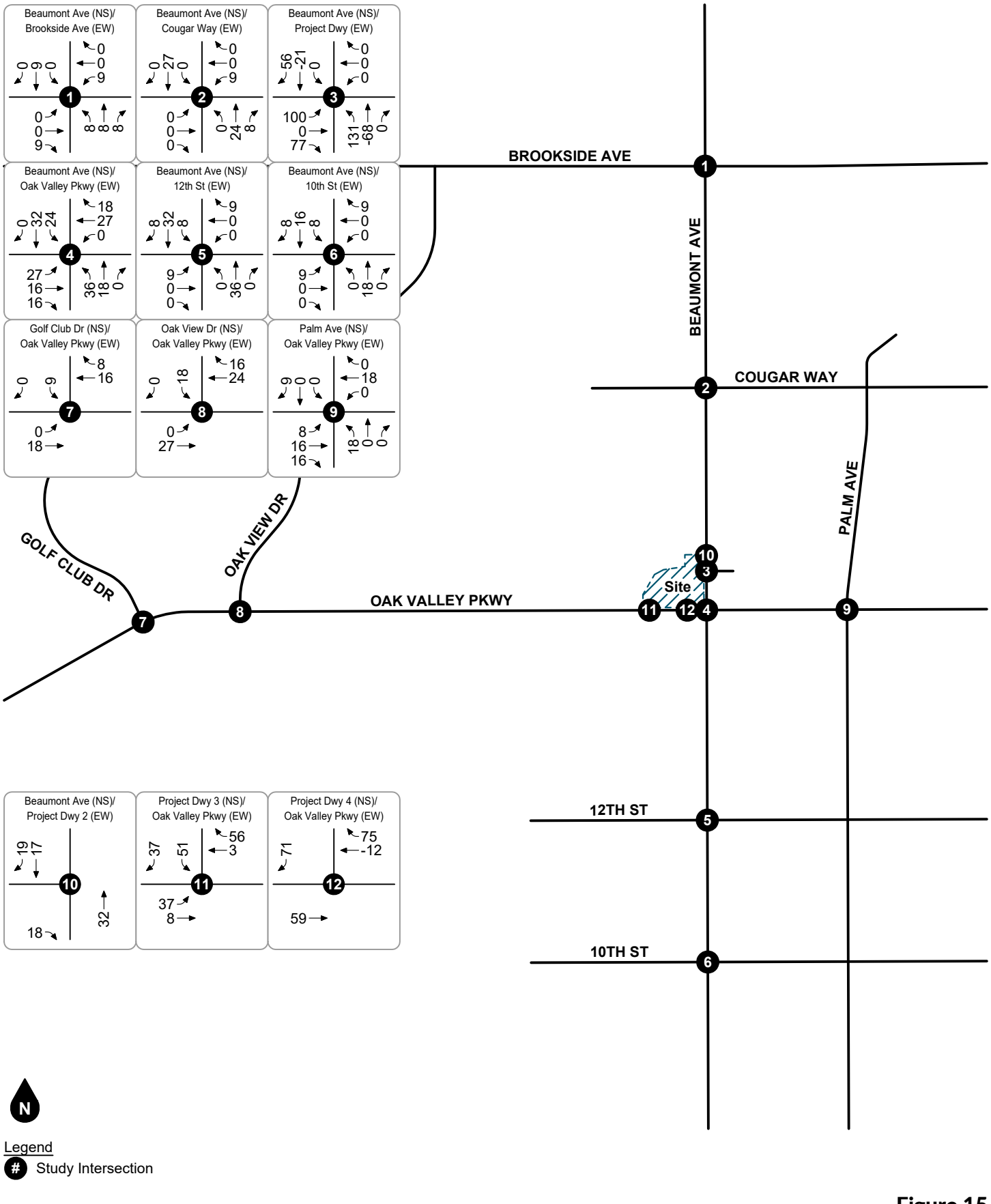
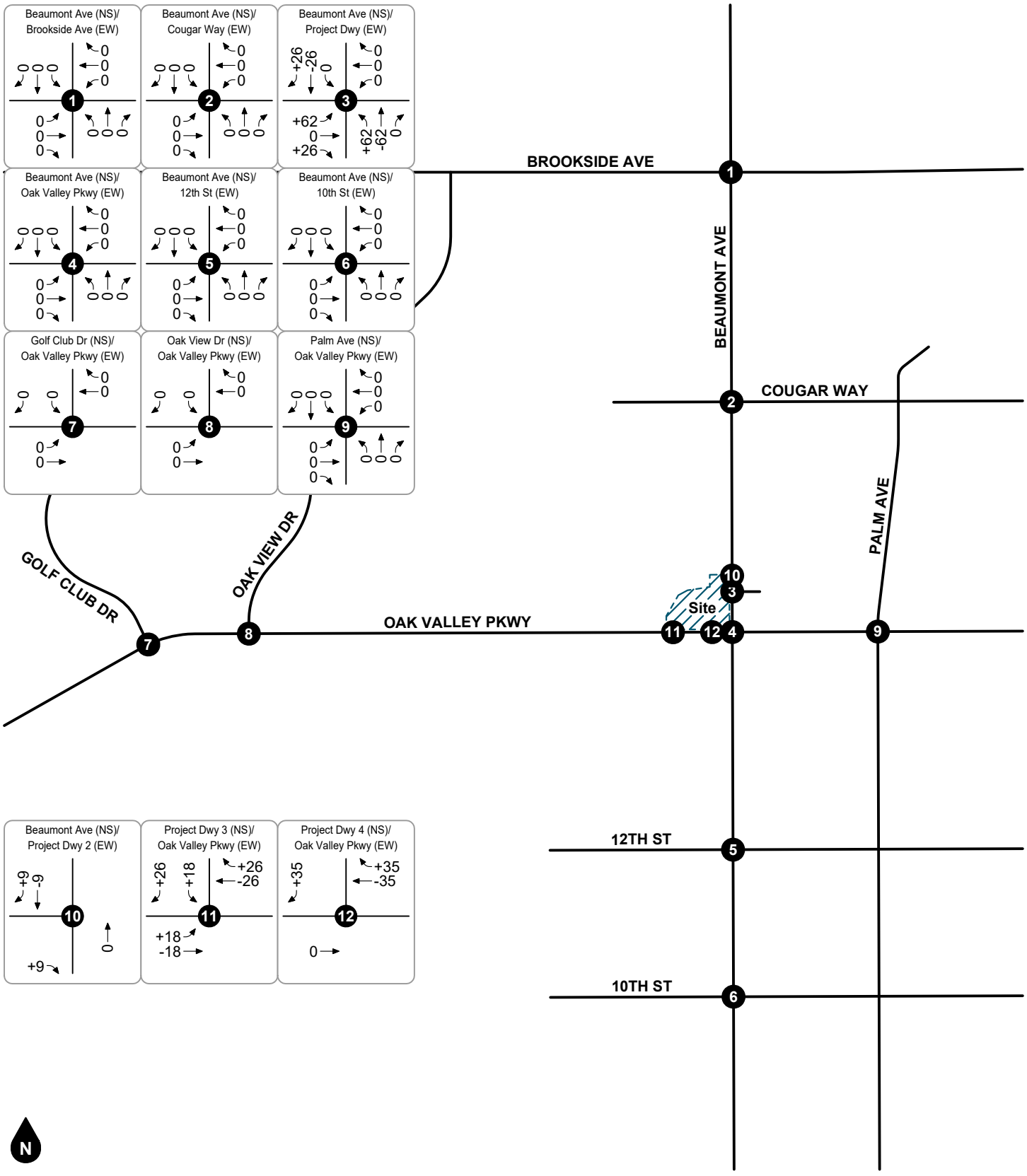


Figure 15
Project Net PM Peak Hour Intersection Turning Movement Volumes



Legend

(#) Study Intersection

Figure 16
Project Pass-By Trip Adjustment
AM Peak Hour Intersection Turning Movement Volumes

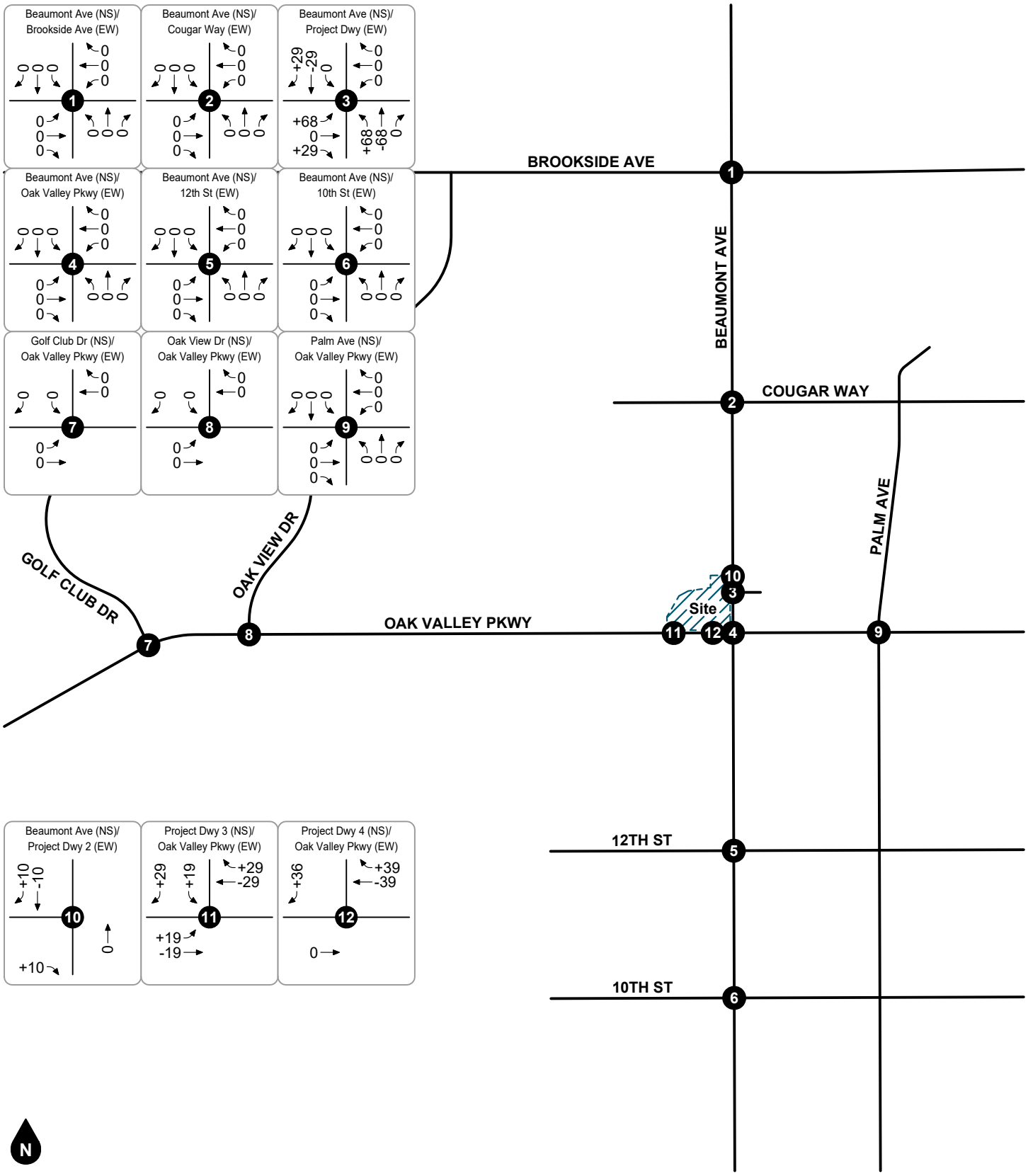


Figure 17
Project Pass-By Trip Adjustment
PM Peak Hour Intersection Turning Movement Volumes

5. FUTURE VOLUME FORECASTS

This section describes how future volume forecasts for each analysis scenario were developed. Forecast study area volumes are illustrated on figures contained in this section.

CUMULATIVE TRIPS

Ambient Growth Rate

To account for ambient growth on roadways, the Opening Year 2025 will included a 2.74% annual growth for 2 years (total growth = 5.56%) over the 2023 base volumes. The 2.74% annual growth rate is SCAG's Annual Average Traffic Growth per forecast period 2020-2035.

Other Development

To account for trips generated by future development, trips generated by pending or approved other development projects in the City of Beaumont were added to the study area. Table 4 shows the trip generation summary for other development projects.

Figure 18 shows the forecast average daily traffic volumes for the other development. Figure 19 and Figure 20 show the forecast morning and evening peak hour intersection turning movement volumes for trips generated by other developments.

ANALYSIS SCENARIO VOLUME FORECASTS

Existing Plus Project

Existing Plus Project volume forecasts were derived by adding the project generated trips to Existing volumes. Existing Plus Project average daily traffic volumes are shown on Figure 21. Existing Plus Project morning and evening peak hour intersection turning movement volumes are shown on Figure 22 and Figure 23.

Opening Year (2025) Without Project

To develop Opening Year (2025) Without Project volume forecasts, Existing volumes were combined with ambient growth and trips generated by other developments. Opening Year (2025) Without Project average daily traffic volumes are shown on Figure 24. Opening Year (2025) Without Project morning and evening peak hour intersection turning movement volumes are shown Figure 25 and Figure 26.

Opening Year (2025) With Project

Opening Year (2025) With Project volume forecasts were developed by adding project generated trips to the Opening Year (2025) Without Project forecast. Opening Year (2025) With Project average daily traffic volumes are shown on Figure 27. Opening Year (2025) With Project morning and evening peak hour intersection turning movement volumes are shown on Figure 28 and Figure 29.

Table 4 (1 of 3)
Other Cumulative Development Trip Generation

Trip Generation Rates										
				AM Peak Hour			PM Peak Hour			
No.	Land Use	Source[1]	Unit[2]	% In	% Out	Rate	% In	% Out	Rate	Daily
1	General Light Industrial	ITE 110	TSF	88%	12%	0.74	14%	86%	0.65	4.87
2	Manufacturing	ITE 140	TSF	76%	24%	0.68	31%	69%	0.74	4.75
3	Warehousing	ITE 150	TSF	77%	23%	0.17	28%	72%	0.18	1.71
4	Single-Family Detached Residential	ITE 210	DU	26%	74%	0.70	63%	37%	0.94	9.43
5	Hotel	ITE 310	RM	56%	44%	0.46	51%	49%	0.59	7.99
6	Golf Course	ITE 430	AC	74%	26%	0.19	34%	66%	0.28	3.74
7	Elementary School	ITE 520	TSF	55%	45%	6.97	45%	55%	1.37	19.52
8	High School	ITE 530	TSF	71%	29%	3.38	54%	46%	0.97	14.07
9	Fire and Rescue Station	ITE 575	TSF	71%	29%	0.48	29%	71%	0.48	3.61
10	General Office Building	ITE 710	TSF	88%	12%	1.52	17%	83%	1.44	10.84
11	Office Park	ITE 750	TSF	89%	11%	1.33	14%	86%	1.30	11.07
12	Shopping Plaza	ITE 821	TSF	62%	38%	1.73	49%	51%	5.19	67.52
13	Fast-Food Restaurant With Drive-Through Window	ITE 934	TSF	51%	49%	44.61	52%	48%	33.03	467.48
14	Coffee/Donut Shop With Drive-Through Window	ITE 937	TSF	51%	49%	85.88	50%	50%	38.99	533.57
15	Gasoline/Service Station With Convenience Market	ITE 945	VFP	50%	50%	16.06	50%	50%	18.42	265.12

Trips Generated											
					AM Peak Hour			PM Peak Hour			
TAZ	Project[3]	Land Use	Quantity	Unit[2]	In	Out	Total	In	Out	Total	Daily
1	Sundance Specific Plan	Single-Family Detached Residential	505	DU	92	262	354	299	176	475	4,762
2	Fairway Canyon SCPGA[4]	Single-Family Detached Residential	1,750.000	DU	736	1,224	1,960	1,945	1,566	3,511	34,145
		Commerical/Retail	707.410	TSF							
3	Four Seasons (Tract No. 32260 & 33096)	Single-Family Detached Residential	1,890	DU	344	979	1,323	1,119	658	1,777	17,823
4	Heartland (Olivewood)	Single-Family Detached Residential	981	DU	730	882	1,612	1,802	1,686	3,488	43,756
		Commerical/Retail	942.200	TSF							
5	Jack Rabbit Trail	High-Cube Fulfillment Center Warehouse	4,500.000	TSF	2,346	1,020	3,366	1,903	3,909	5,812	42,510
		General Light Industrial	500.000	TSF							
		Hotel	125	RM							
		Indoor Go-Kart Facility	77.000	TSF							
		Rock Climbing Gym Facility	26.000	TSF							
		Miniature Golf	36	HE							
		Trampoline Park	24.000	TSF							
		Bowling Alley	40.000	TSF							
		Quality Restaurant	15.000	TSF							
		High Turnover (Sit-Down)Restaurant	15.000	TSF							
6	Sundance Corporate Center	Office Park	130.000	TSF	154	19	173	24	145	169	1,439
7	Kirkwood Ranch	Single-Family Detached Residential	403	DU	73	209	282	239	140	379	3,800
8	Potrero Creek Estates	Single-Family Detached Residential	700	DU	127	363	490	415	243	658	6,601
9	Tract No. 32850	Single-Family Detached Residential	95	DU	17	50	67	56	33	89	896
10	Noble Creek Vistas	Single-Family Detached Residential	648	DU	118	336	454	384	225	609	6,111
11	Beaumont Summit Station[11]	High-Cube Short-Term Storage Building	2,199.185	TSF	520	315	835	349	483	832	13,152
		General Warehouse	358.370	TSF							
		Hotel	220	RM							
		Shopping Center	25.000	TSF							
		High-Turnover (Sit-Down) Restaurant	15.000	TSF							
		Fast Food with Drive Through	10.000	TSF							

Table 4 (2 of 3)
Other Cumulative Development Trip Generation

Trips Generated											
					AM Peak Hour			PM Peak Hour			
TAZ	Project[3]	Land Use	Quantity	Unit[2]	In	Out	Total	In	Out	Total	Daily
12	Beaumont Shopping Center	Commerical	46.100	TSF	27	16	43	55	61	116	1,680
13	Tournament Hills 3, TM 36307	Single-Family Detached Residential	279	DU	51	144	195	165	97	262	2,631
14	Prologis (Rolling Hills Ranch Industrial Phase 2)	General Light Industrial	2,850.000	TSF	1,856	253	2,109	259	1,594	1,853	13,880
15	8th and Highland Springs[5]	Super Convenience Market/Gas Station	12	VFP	74	71	145	52	48	100	1,100
		Fast Food with Drive Through	3.500	TSF							
16	Beyond Beaumont[6]	Super Mart with Gas Station	16.000	VFP	85	85	170	81	81	162	1,401
17	Butterfield Specific Plan[7]	Single-Family Detached Residential	5,387	DU	980	2,791	3,771	3,190	1,874	5,064	50,799
		Commercial	549.000	TSF	589	361	950	1,396	1,453	2,849	37,068
		Pass-By Trips: 0%/40%/AM+PM[8]			0	0	0	-558	-582	-1,140	-1,140
		Golf Course	253.900	AC	36	12	48	24	47	71	950
		Elementary School	230.000	TSF	882	721	1,603	142	173	315	4,490
		Subtotal			2,487	3,885	6,372	4,194	2,965	7,159	92,167
18	Beaumont Pointe Specific Plan[7]	Hotel	125	RM	32	26	58	38	36	74	999
		Industrial	4,995.000	TSF	3,253	443	3,696	455	2,792	3,247	24,326
		Subtotal	4,995.000	TSF	3,285	469	3,754	493	2,828	3,321	25,325
19	7-11 NWC Ramsey St. & Sunset Ave	Gasoline Station w/ Conveneince Market	10	VFP	80	81	161	92	92	184	2,651
20	Nourish	Commercial	10.700	TSF	11	8	19	27	29	56	722
		Pass-By Trips: 0%/40%/AM+PM[8]			0	0	0	-11	-11	-22	-22
		Subtotal	10.700	TSF	11	8	19	16	18	34	700
21	The Alley Barber & Hair Styling	Commercial	1.600	TSF	2	1	3	4	4	8	108
		Pass-By Trips: 0%/40%/AM+PM[8]			0	0	0	-2	-1	-3	-3
		Subtotal	1.600	TSF	2	1	3	2	3	5	105
22	Oak Valley Village[4]	Commerical/Retail	490.000	TSF	286	175	461	591	641	1,232	12,209
23	Country-Club Village[4]	Congregate Care	150	DU	163	92	255	153	197	350	4,006
		Assisted Living	105	BD							
		Senior Adult Housing-Attached	12	DU							
		Senior Adult Housing-Detached	60	DU							
		Medical/Dental Office Building	30.000	TSF							
		Speciality/General Retail	22.500	TSF							
		Speciality Retail	3.200	TSF							
		Hotel	150	RM							
		Restaurant	3.000	TSF							
24	Summerwind Ranch at Oak Valley[4]	Single-Family Detached Residential	712	DU	519	632	1,151	1,245	1,128	2,373	23,245
		Commerial/Retail	663.200	TSF							
25	Beaumont Landing[4]	Gasoline Station w/ Convenience Market	18	VFP	38	37	75	34	32	66	1,013
		Fast Food with Drive Through	4.000	TSF							
26	Potrero Logistics Center[7]	Industrial/High-Cube Logistic Warehouse	577.290	TSF	376	51	427	53	322	375	2,811
27	Legacy Highlands[7]	Single-Family Detached Residential	2,868	DU	522	1,486	2,008	1,698	998	2,696	27,045
28	High Sands[9]	General Office Building	6.400	TSF	32	26	58	22	25	47	1,140
		Fast Food with Drive Through	2.480	TSF							
29	McClure Machine Shop[10]	General Light Industrial	17.602	TSF	9	3	12	4	9	13	84
30	Orchard Logistic Center[10]	Warehouse	590.000	TSF	77	23	100	30	76	106	1,009
		General Office Building	20.000	TSF	27	3	30	5	24	29	217
		Subtotal	610.000	TSF	104	26	130	35	100	135	1,226

Table 4 (3 of 3)
Other Cumulative Development Trip Generation

Trips Generated											
					AM Peak Hour			PM Peak Hour			
TAZ	Project[3]	Land Use	Quantity	Unit[2]	In	Out	Total	In	Out	Total	Daily
31	Zendaja's[10]	Fast-Food with Drive-Through Window	2.336	TSF	53	51	104	40	37	77	1,092
		Pass-By Trips: 50%/55%/AM+PM[8]			-27	-25	-52	-22	-20	-42	-94
		Subtotal	2.336	TSF	26	26	52	18	17	35	998
32	Starbucks on 4th Street[10]	Coffee Shop with Drive-Through Window	2.200	TSF	96	93	189	43	43	86	1,174
		Pass-By Trips: 90%/98%/AM+PM[8]			-86	-84	-170	-42	-42	-84	-254
		Subtotal	2.200	TSF	10	9	19	1	1	2	920
33	West Side Fire Station[10]	Fire and Rescue Station	10.760	TSF	4	1	5	1	4	5	39
Total Other Development Trips					15,304	13,236	28,540	17,799	20,525	38,324	391,371

Notes:

(1) ITE = Institute of Transportation Engineers, Trip Generation Manual, 11th Edition, 2021; ### = Land Use Code

(2) DU = Dwelling Units; TSF = Thousand Square Feet; VFP = Vehicle Fueling Positions; RM = Rooms; HE = Holes; BD = Beds; AC = Acres

(3) Sources: Highland Springs & 8th Retail Traffic Impact Analysis (April 23, 2020), Urban Crossroads. Traffic Impact Study for New Gas Station NWC of Pennsylvania Ave and I-10 WB Off Ramp (March 20, 2020), K2 Traffic Engineering, Inc. 655 Highland Springs Office-Commerical Project Traffic Impact Analysis (December 14, 2020), Ganddini Group Inc.

(4) Source: Beaumont Landing Traffic Impact Analysis (February 27, 2020), LSA

(5) Source: Highland Springs and 8th Retail Traffic Impact Analysis (April 23, 2020), Urban Crossroads

(6) Source: Sixth at Pennsylvania Beyond Food Mart Project Traffic Impact Analysis (July 29, 2020), Ganddini Group Inc

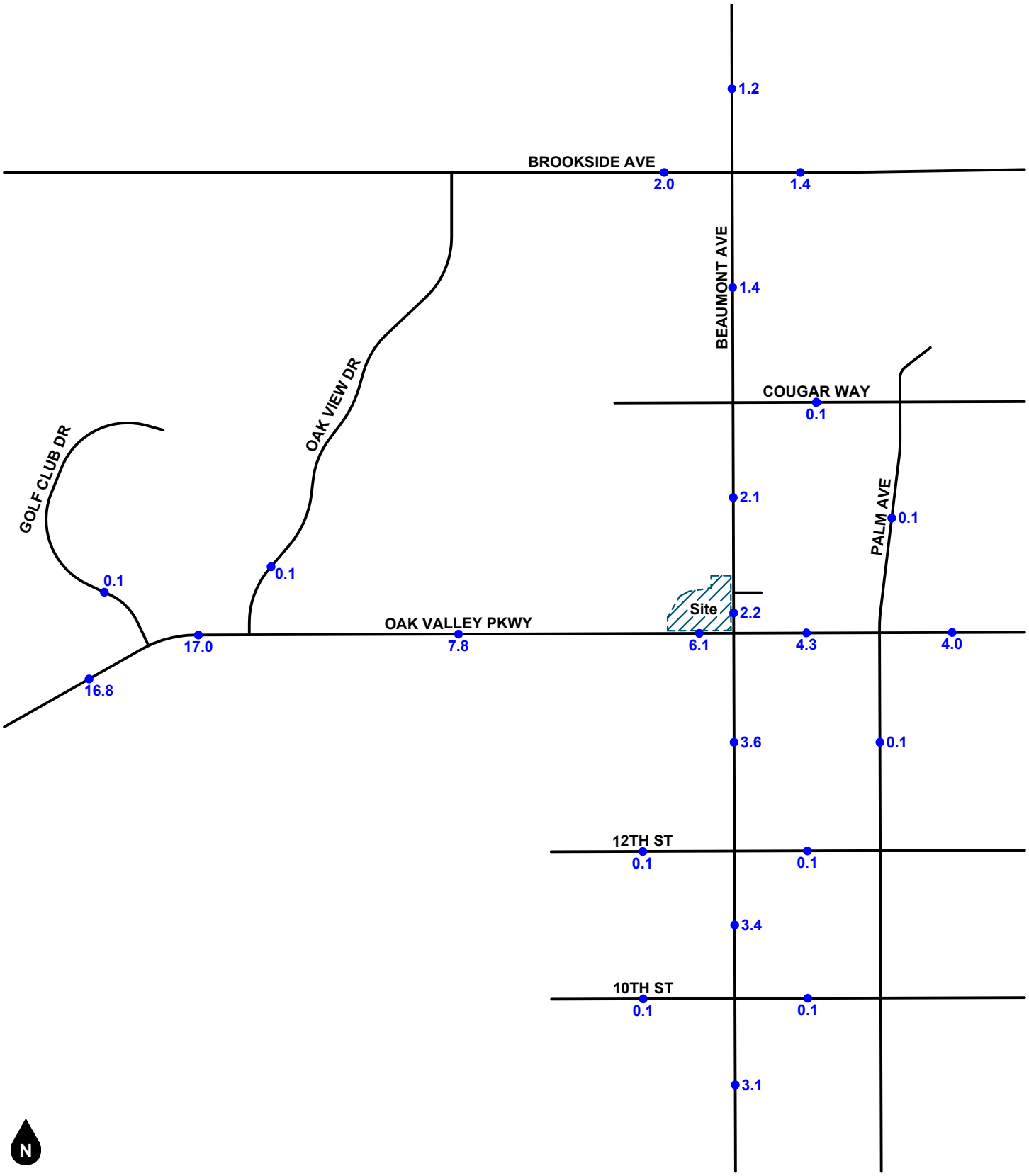
(7) Source: City of Beaumont Planning Public Documents January 2022

(8) ITE Trip Generation Manual (11th Edition, 2021). Pass-By peak hour trips per handbook average Pass-By trip percentages. Daily Pass-By trip is the sum of the Pass-By peak hour trips when no daily rate is available.

(9) Source: 655 Highland Springs Office-Commercial Project Traffic Impact Analysis (March 12, 2021), Ganddini Group Inc.

(10) Source: City of Beaumont Planning Projects, November 2022. Development Plan.

(11) Source: Beaumont Summit Station Project Traffic Study (February, 2022), Kimley Horn and Associates, Inc.



Legend
●## Vehicles Per Day (1,000's)

Figure 18
Other Development Average Daily Traffic Volumes

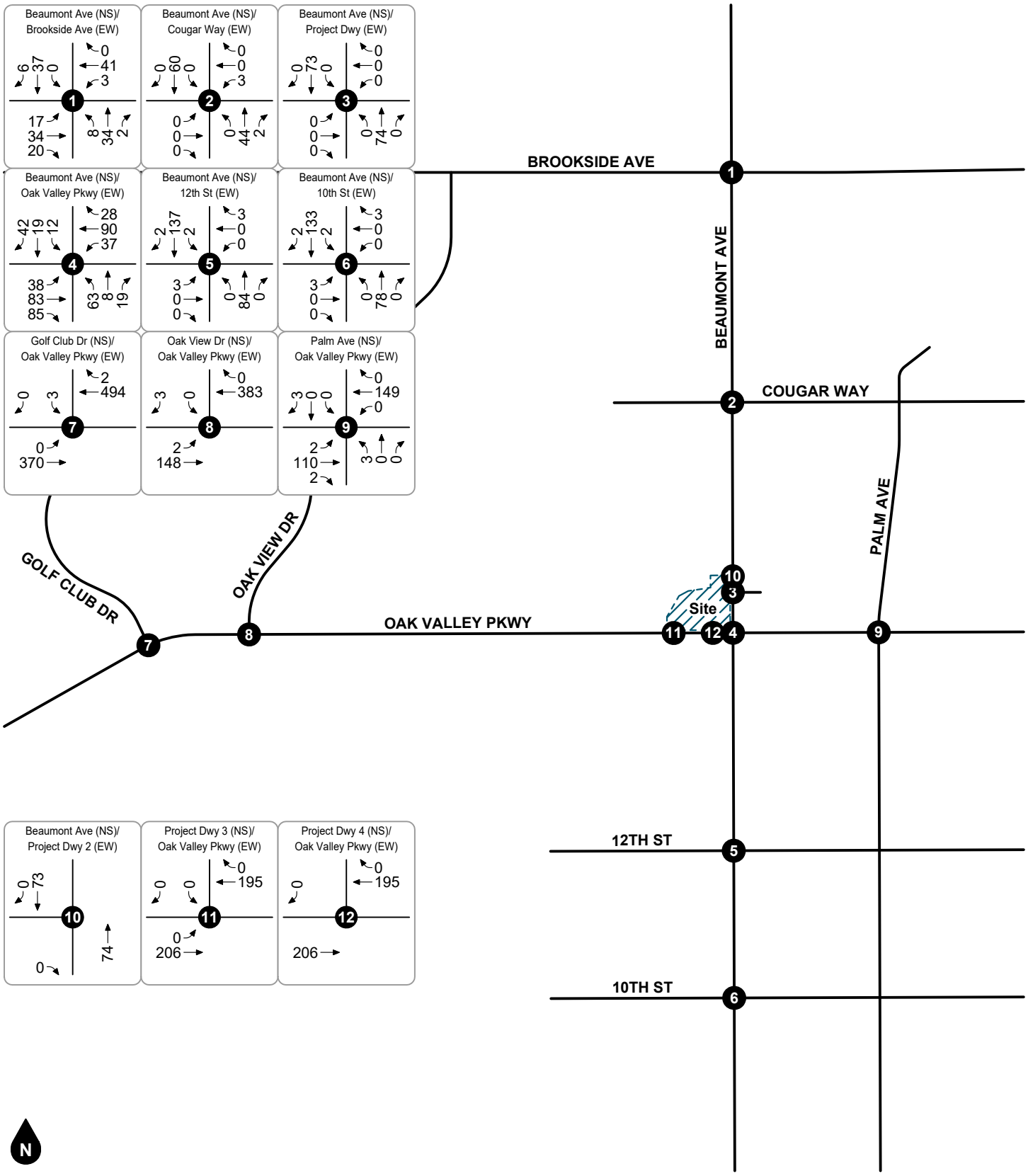


Figure 19
Other Development
AM Peak Hour Intersection Turning Movement Volumes

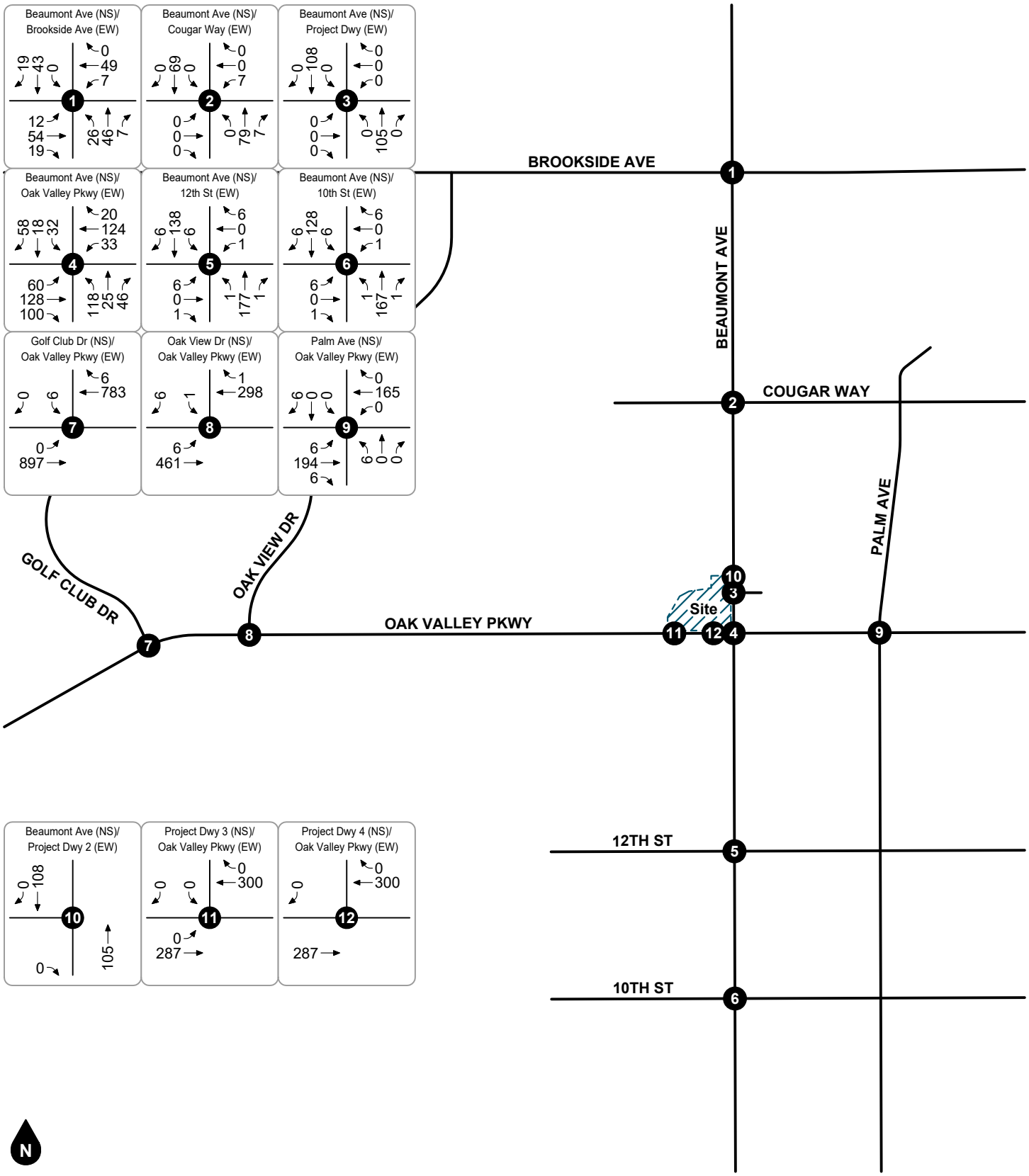
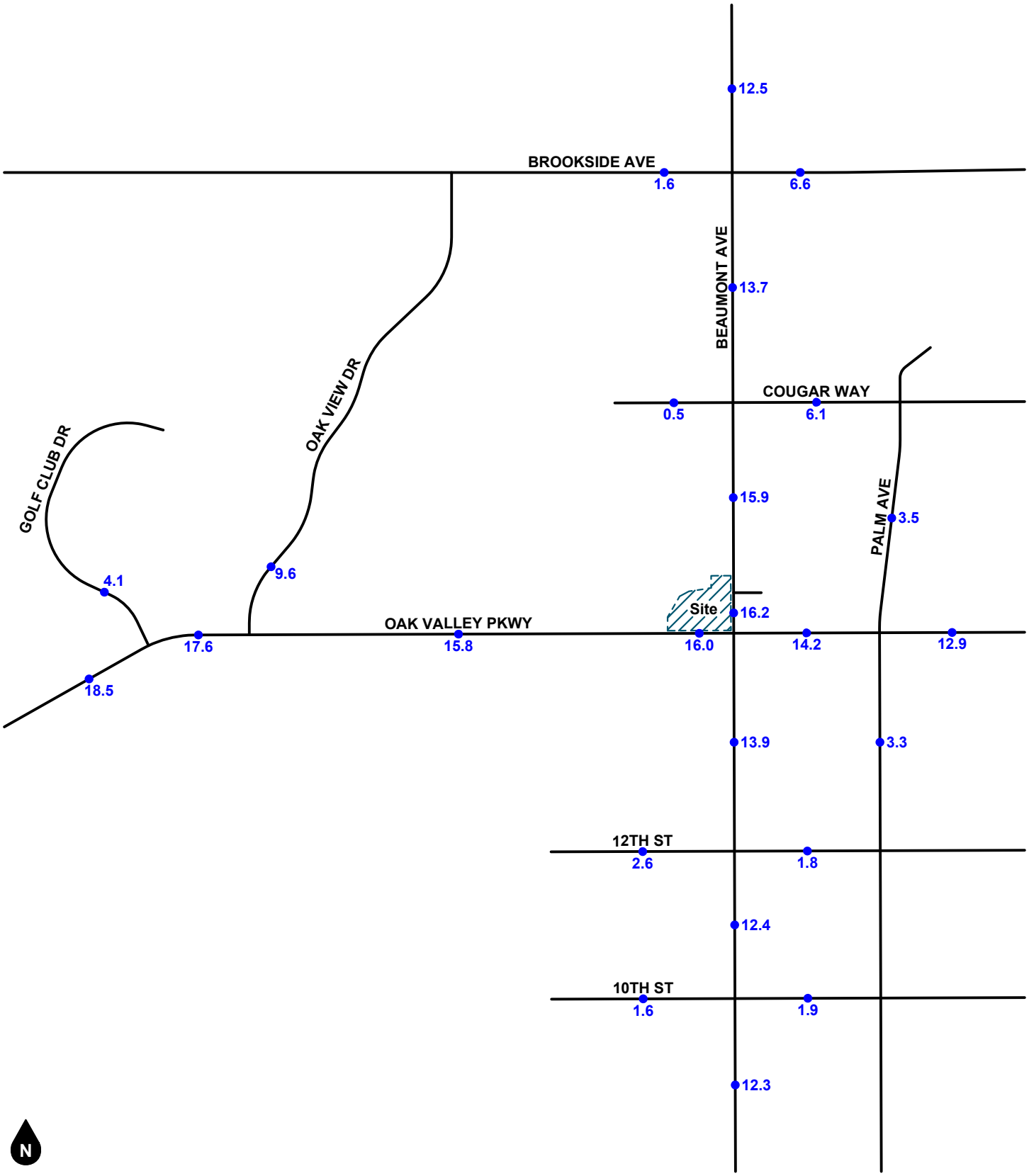
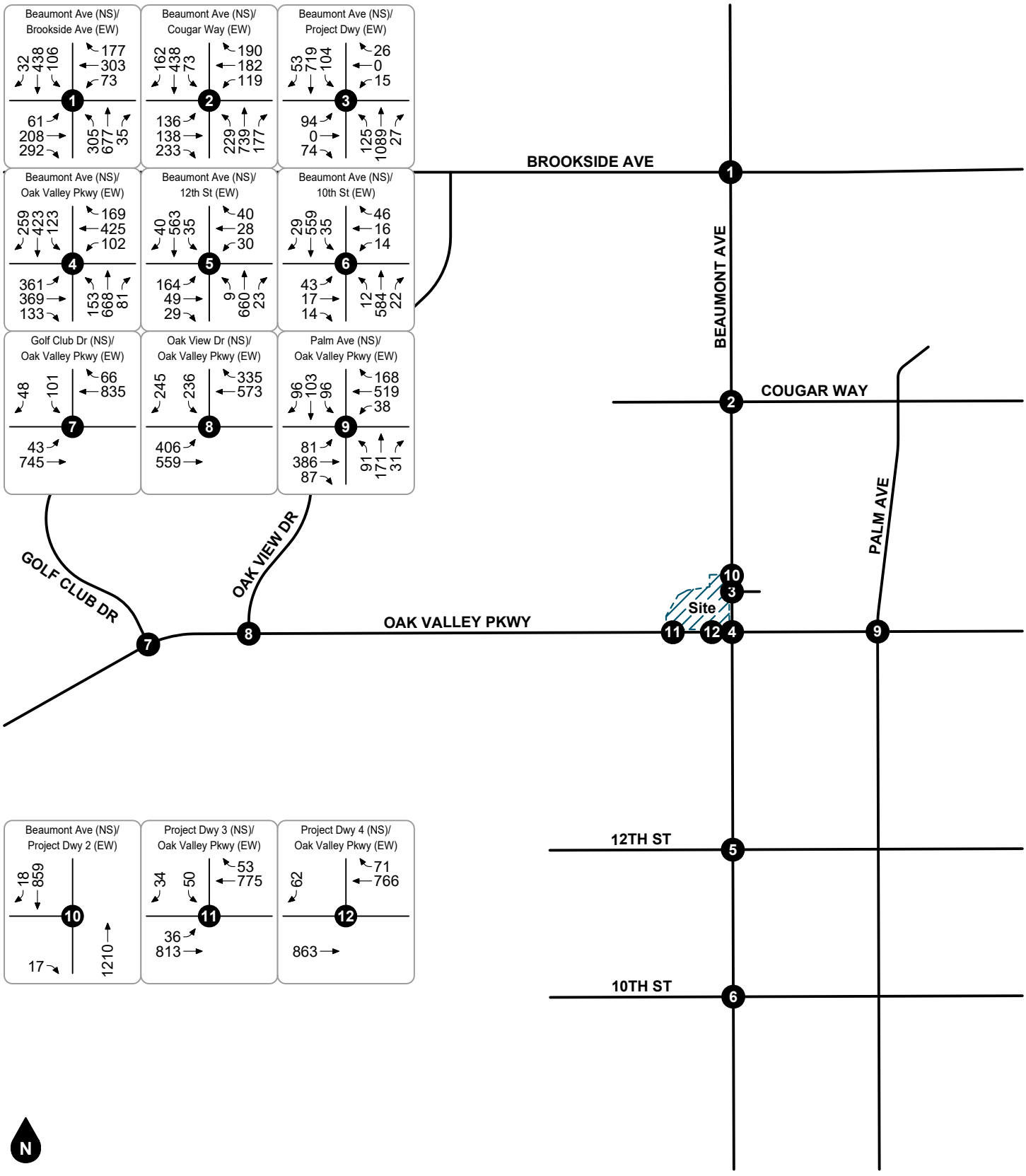


Figure 20
Other Development
PM Peak Hour Intersection Turning Movement Volumes



Legend
●## Vehicles Per Day (1,000's)

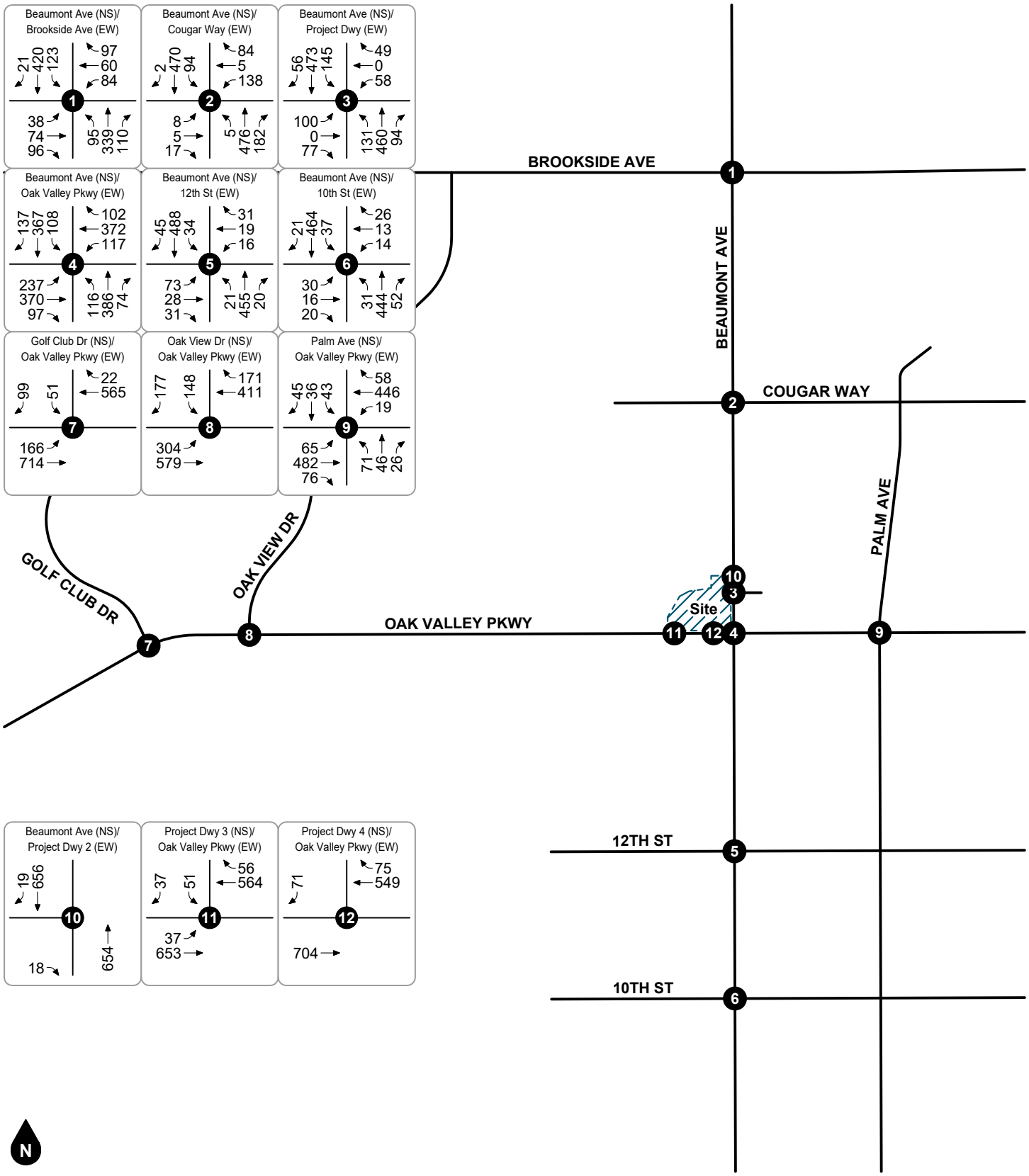
Figure 21
Existing Plus Project Average Daily Traffic Volumes



Legend

(#) Study Intersection

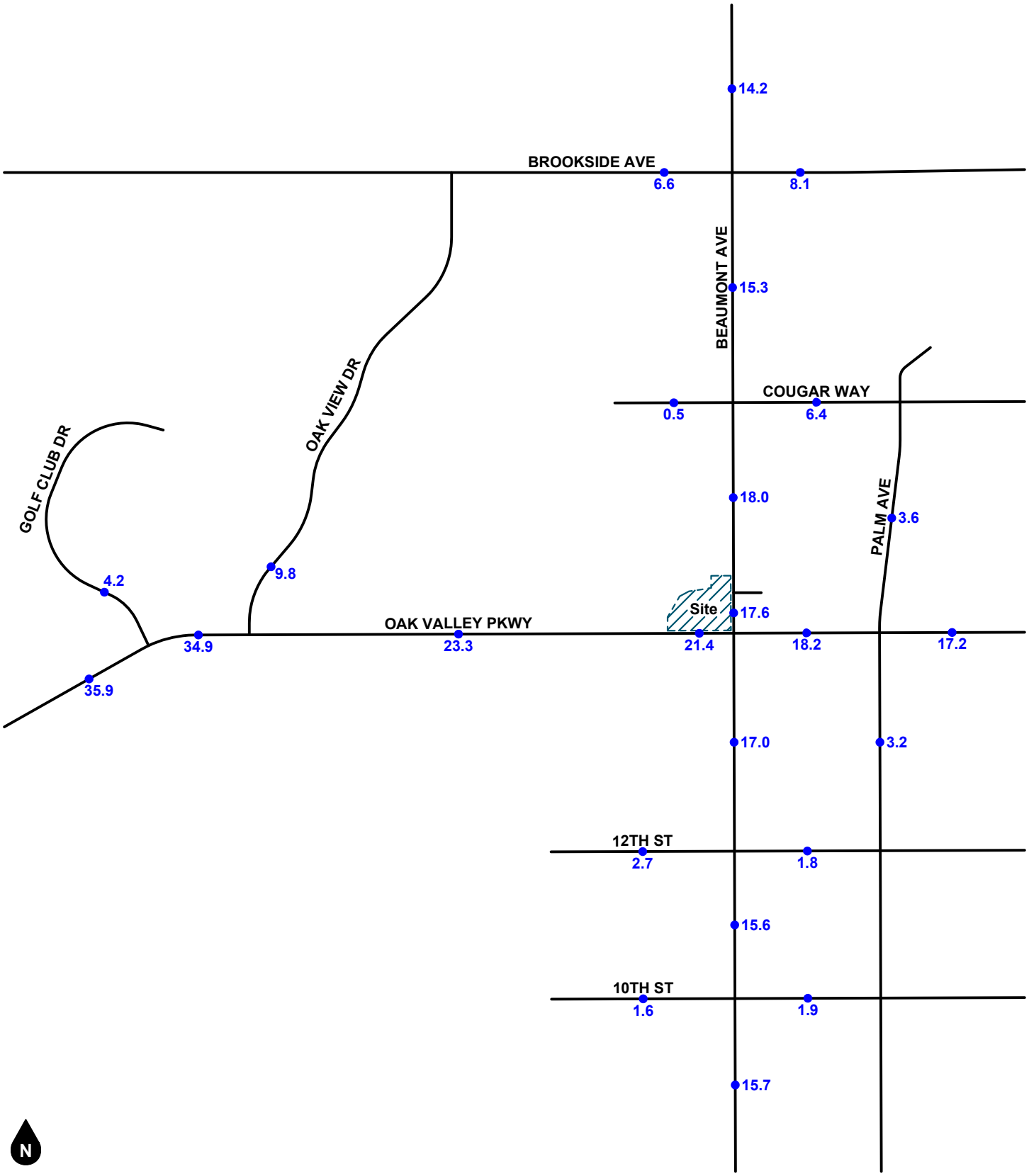
Figure 22
Existing Plus Project
AM Peak Hour Intersection Turning Movement Volumes



Legend

(#) Study Intersection

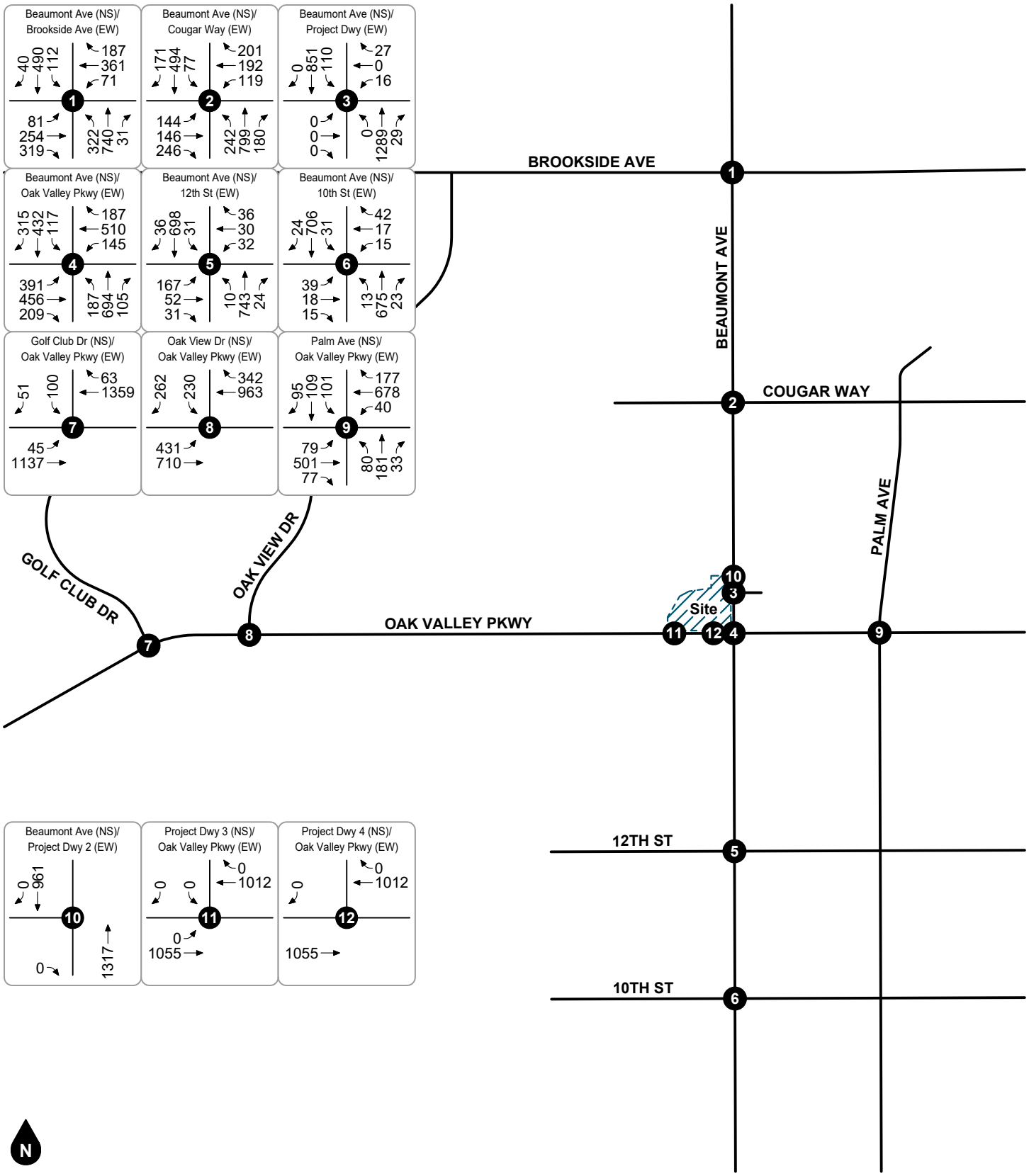
Figure 23
Existing Plus Project
PM Peak Hour Intersection Turning Movement Volumes



Legend

●## Vehicles Per Day (1,000's)

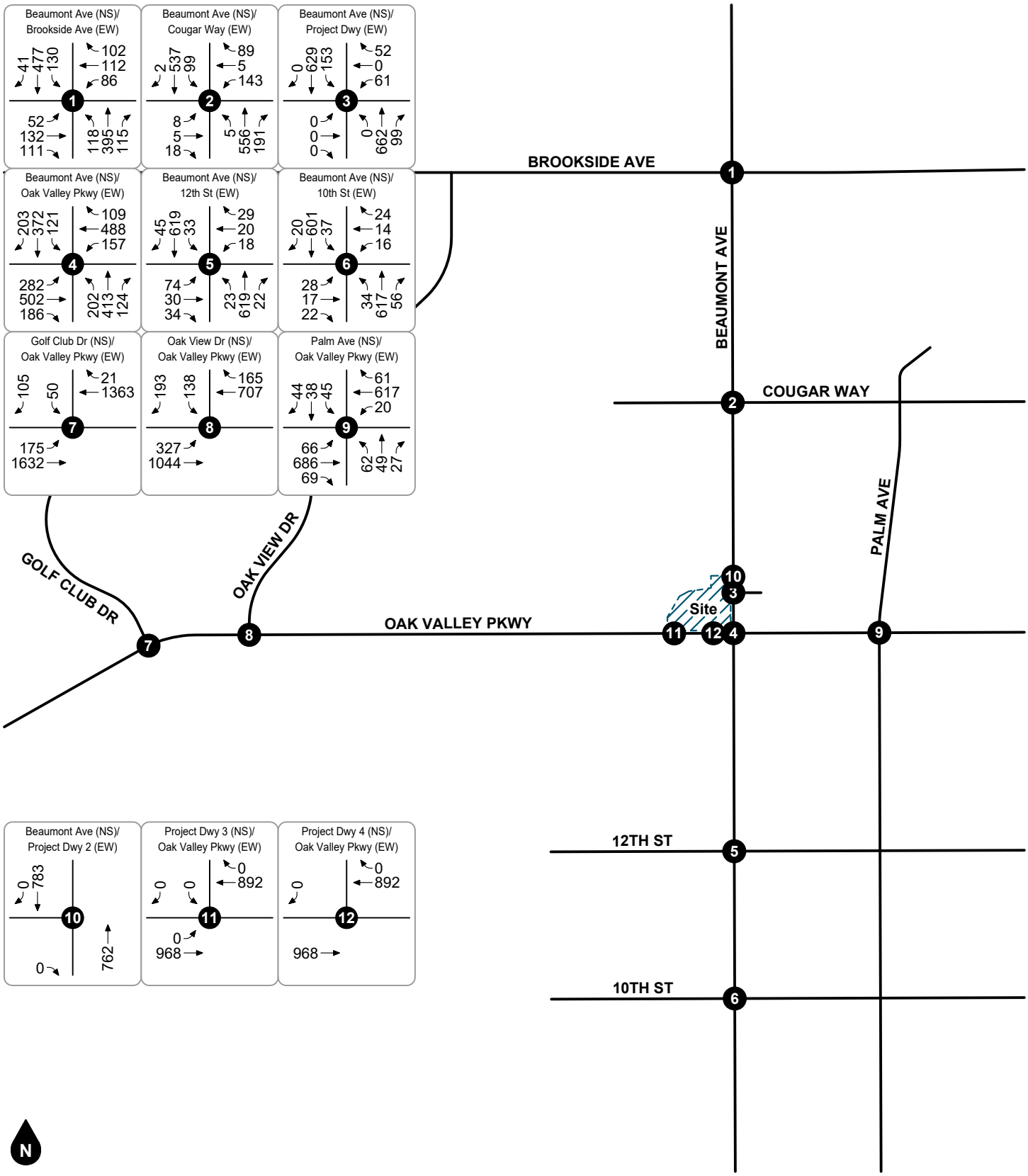
Figure 24
Opening Year (2025) Without Project Average Daily Traffic Volumes



Legend

(#) Study Intersection

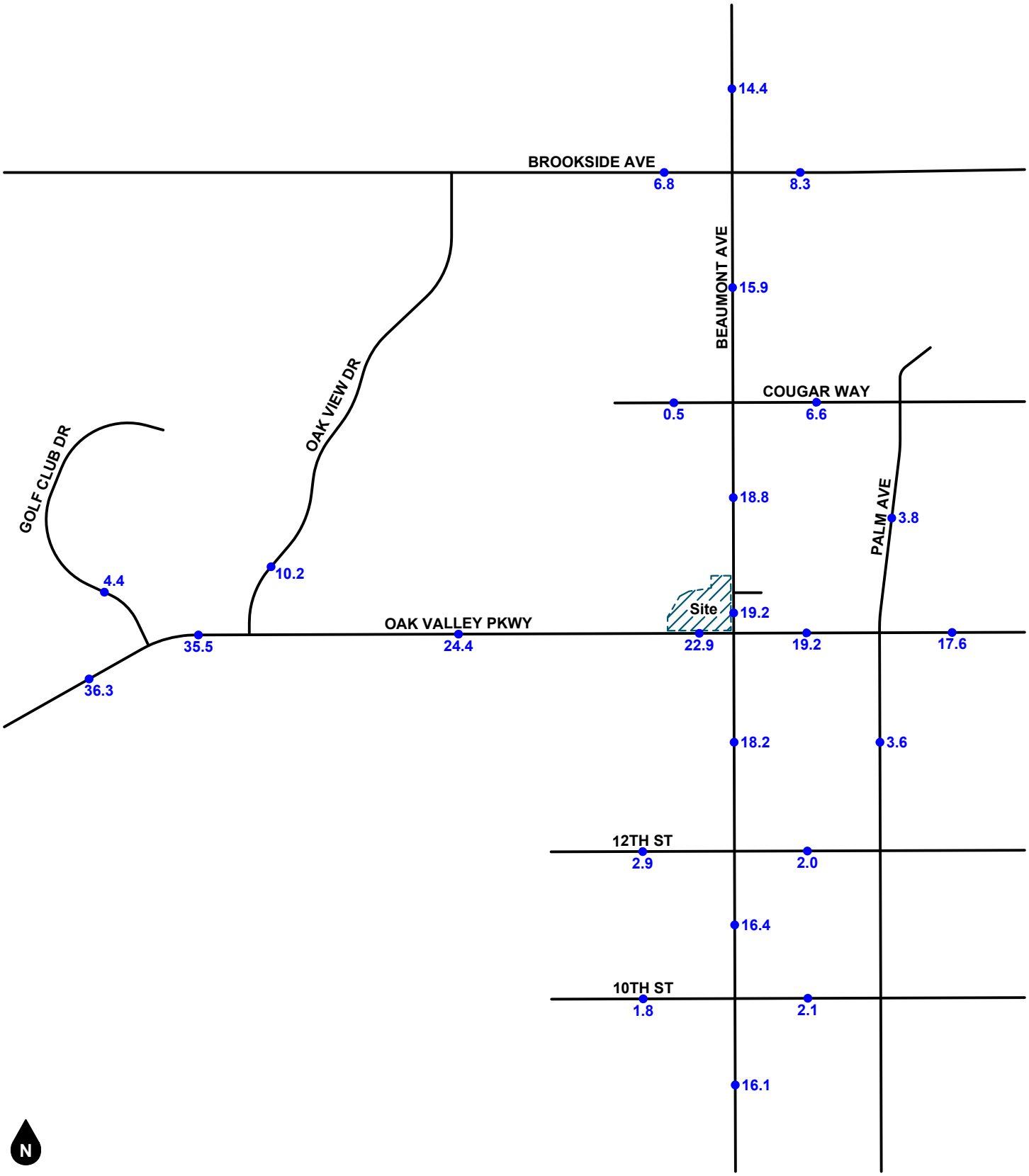
Figure 25
Opening Year (2025) Without Project
AM Peak Hour Intersection Turning Movement Volumes



Legend

(#) Study Intersection

Figure 26
Opening Year (2025) Without Project
PM Peak Hour Intersection Turning Movement Volumes



Legend
●## Vehicles Per Day (1,000's)

Figure 27
Opening Year (2025) With Project Average Daily Traffic Volumes

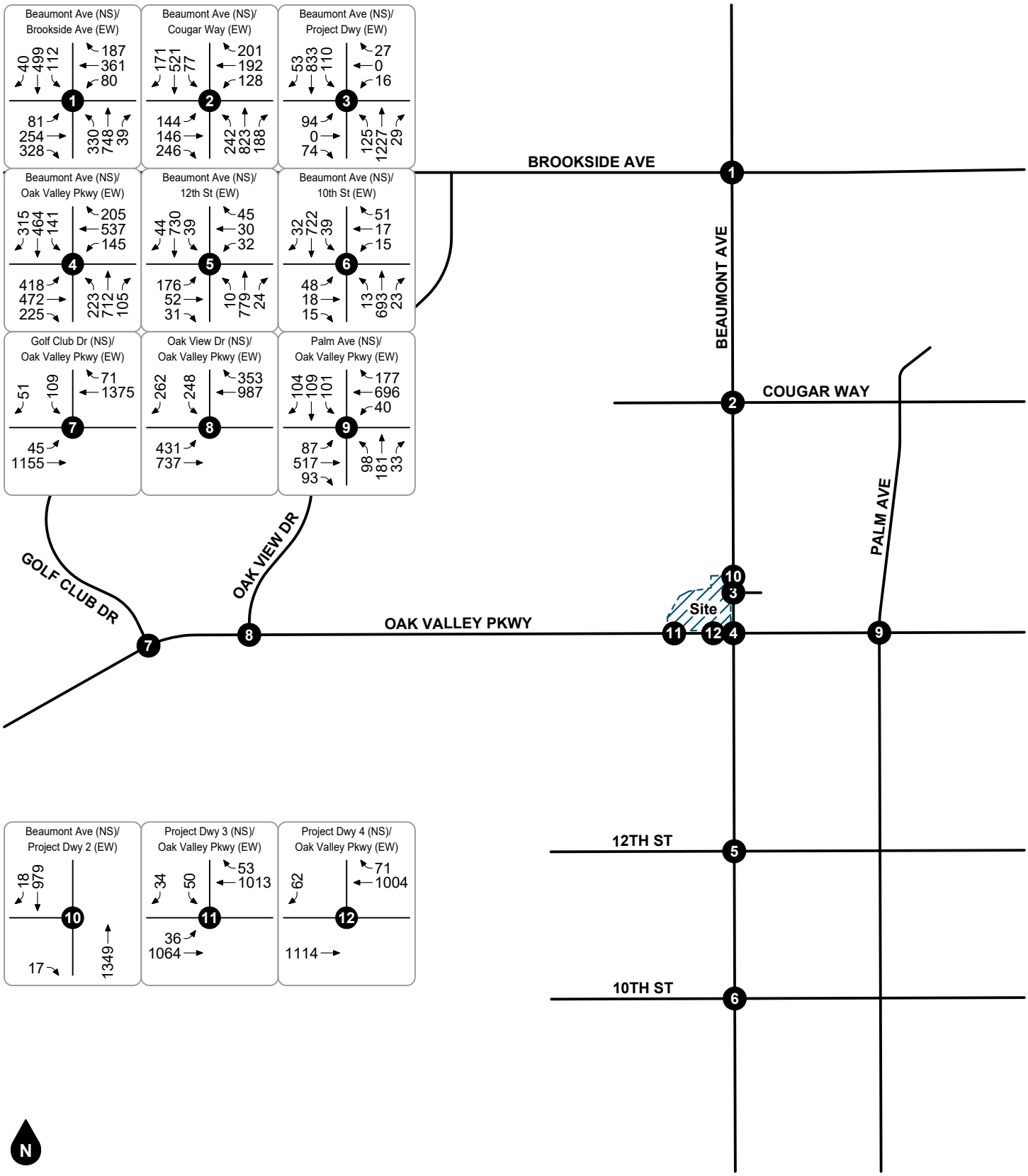
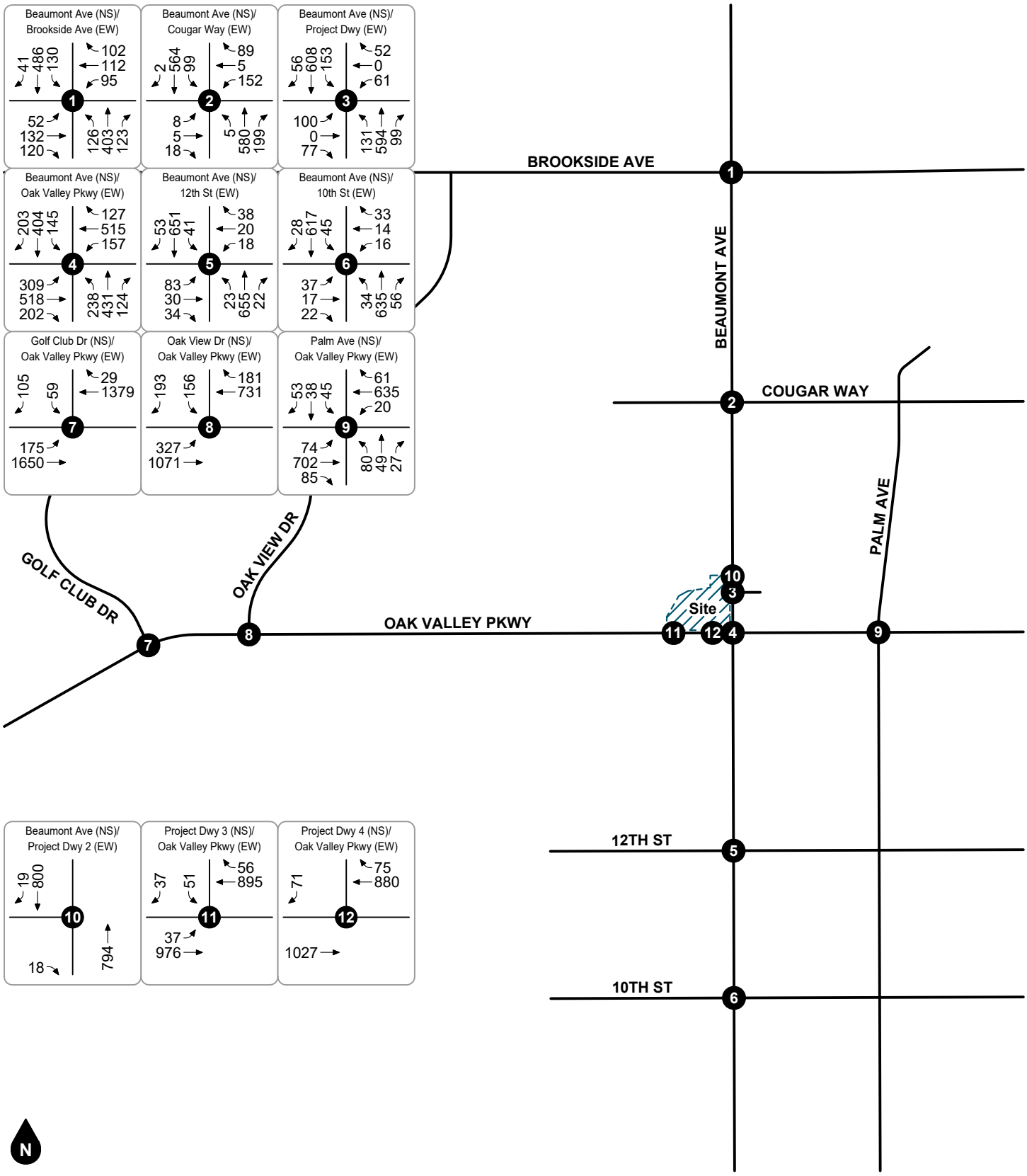


Figure 28
Opening Year (2025) With Project
AM Peak Hour Intersection Turning Movement Volumes



Legend

(#) Study Intersection

Figure 29
Opening Year (2025) With Project
PM Peak Hour Intersection Turning Movement Volumes

6. FUTURE OPERATIONAL ANALYSIS

Detailed intersection Level of Service calculation worksheets for each of the following analysis scenarios are provided in Appendix D.

EXISTING PLUS PROJECT

The intersection Levels of Service for Existing Plus Project conditions are shown in Table 5. As shown in Table 5, the study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Existing Plus Project conditions, except for the following study intersection that is projected to operate at deficient Levels of Service:

- Beaumont Avenue/Brookside Avenue – #1 (AM & PM peak hours)
- Beaumont Avenue/Project Driveway 1 – #3 (AM & PM peak hours)
- Beaumont Avenue/Oak Valley Parkway – #4 (AM peak hour)
- Palm Avenue/Oak Valley Parkway – #9 (AM peak hour)

The project shall construct the following improvements to provide project access and address the deficient intersection for Existing Plus Project conditions:

- Beaumont Avenue/Project Driveway 1 – #3
  - Install traffic signal
  - Add northbound left turn lane
  - Add eastbound left turn lane
  - Add eastbound shared through-right lane
  - Convert existing westbound right turn lane to one shared through-right lane.

Since the deficiencies at the following intersections are the result of a degradation of Level of Service for currently deficient intersection operations under "Existing" conditions, the proposed project should pay its fair share of fees to an applicable program for the following improvements:

- Beaumont Avenue/Brookside Avenue – #1
  - Optimize signal timing

- Beaumont Avenue/Oak Valley Parkway – #4
  - Optimize signal timing
  - Provide a 350-foot eastbound left turn pocket

- Palm Avenue/Oak Valley Parkway – #9
  - Install traffic signal
  - Add northbound, eastbound and westbound left turn lanes

OPENING YEAR (2025) WITHOUT PROJECT

The intersection Levels of Service for Opening Year (2025) Without Project conditions are shown in Table 6. As shown in Table 6, the study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Opening Year (2025) Without Project conditions, except for the following study intersections that are forecast to operate at deficient Levels of Service (E or F):

- Beaumont Avenue/Brookside – #1 (AM & PM peak hours)
- Beaumont Avenue/Project Driveway 1 – #3 (AM & PM peak hours)

- Beaumont Avenue/Oak Valley Parkway – #4 (AM & PM peak hours)
- Beaumont Avenue/12th Street – #5 (AM peak hour)
- Golf Club Drive/Oak Valley Parkway – #7 (PM peak hour)
- Palm Avenue/Oak Valley Parkway – #9 (AM & PM peak hours)

OPENING YEAR (2025) WITH PROJECT

The intersection Levels of Service for Opening Year (2025) With Project conditions are shown in Table 7. As shown in Table 7, the study intersections are projected to operate within acceptable Levels of Service (D or better) during the peak hours for Opening Year (2025) With Project conditions, except for the following study intersections that are forecast to continue operating at deficient Levels of Service (E or F):

- Beaumont Avenue/Brookside – #1 (AM & PM peak hours)
- Beaumont Avenue/Project Driveway 1 – #3 (AM & PM peak hours)
- Beaumont Avenue/Oak Valley Parkway – #4 (AM & PM peak hours)
- Beaumont Avenue/12th Street – #5 (AM peak hour)
- Golf Club Drive/Oak Valley Parkway – #7 (PM peak hour)
- Palm Avenue/Oak Valley Parkway – #9 (AM & PM peak hours)

The following improvements are needed to address the deficient intersection operations for Opening Year (2025) With Project conditions:

- Beaumont Avenue/Brookside Avenue – #1
  - Optimize signal timing

- Beaumont Avenue/Project Driveway 1 – #3
  - Install traffic signal
  - Add northbound left turn lane
  - Add eastbound left turn lane
  - Add eastbound shared through-right lane
  - Convert existing westbound right turn lane to one shared through-right lane

- Beaumont Avenue/Oak Valley Parkway – #4
  - Optimize signal timing
  - Provide a 350-foot eastbound left turn pocket

- Beaumont Avenue/12th Street – #5
  - Install traffic signal
  - Add northbound, southbound, eastbound and westbound left turn lanes

- Golf Club Drive/Oak Valley Parkway – #7
  - Optimize signal timing

- Palm Avenue/Oak Valley Parkway – #9
  - Install traffic signal
  - Add northbound, eastbound and westbound left turn lanes

Since these deficiencies are the result of a degradation of Level of Service for the already deficient intersection operations under "without project" conditions, the proposed project should pay its fair share of fees to an applicable program for the above improvements.

FUTURE TRAFFIC SIGNAL WARRANT ANALYSIS

A traffic signal is projected to be warranted at the following study intersections based upon the California Manual on Uniform Traffic Control Devices, (2014) peak hour volume graphs (Warrant 3), for Existing Plus Project, Opening Year (2025) Without Project and Opening Year (2025) With Project conditions:

- Beaumont Avenue/Project Driveway 1 – #3
- Beaumont Avenue/12th Street – #5
- Palm Avenue/Oak Valley Parkway – #9

Traffic signal warrant analysis worksheets are provided in Appendix E.

Table 5
Existing (2023) Plus Project Intersection Levels of Service

Study Intersection	Traffic Control[1]	AM Peak Hour					PM Peak Hour				
		Without Project		With Project		Deficient LOS?	Without Project		With Project		Deficient LOS?
		Delay[2]	LOS[3]	Delay[2]	LOS[3]		Delay[2]	LOS[3]	Delay[2]	LOS[3]	
1. Beaumont Ave at Brookside Ave	TS	57.6	E	59.7	E	Yes	111.9	F	140.9	F	Yes
•Optimize Signal Timing	TS	-	-	33.1	C	No	-	-	24.0	C	No
2. Beaumont Ave at Cougar Way	TS	24.0	C	24.7	C	No	14.1	B	14.3	B	No
3. Beaumont Ave at Project Dwy 1	CSS	96.6	F	1310.4	F	Yes	42.6	E	352.8	F	Yes
•Traffic Signal; NB Left; EB Shared Through-Right; Convert WB Right to Shared Through-Right	TS	-	-	6.1	A	No	-	-	7.5	A	No
4. Beaumont Ave at Oak Valley Pkwy	TS	63.7	E	163.7	F	Yes	23.2	C	24.9	C	No
•Optimize Signal Timing; 350' EB Left Turn Pocket	TS	-	-	41.6	D	No	-	-	32.5	C	No
5. Beaumont Ave at 12th St	AWS	24.4	C	29.8	D	No	13.6	B	14.9	B	No
6. Beaumont Ave at 10th St	AWS	16.2	C	17.6	C	No	12.6	B	13.3	B	No
7. Golf Club Dr at Oak Valley Pkwy	TS	7.5	A	7.7	A	No	9.1	A	9.2	A	No
8. Oak View Dr at Oak Valley Pkwy	TS	19.8	B	20.1	C	No	15.1	B	15.2	B	No
9. Palm Ave at Oak Valley Pkwy	AWS	35.8	E	41.5	E	Yes	16.6	C	18.5	C	No
•Traffic Signal;NB/EB/WB Left	TS	-	-	14.1	B	No	-	-	16.4	B	No
10. Beaumont Ave at Project Dwy 2	CSS	0.0	A	11.8	B	No	0.0	A	10.8	B	No
11. Project Dwy 3 at Oak Valley Pkwy	CSS	0.0	A	19.0	C	No	0.0	A	15.5	C	No
12. Project Dwy 4 at Oak Valley Pkwy	CSS	0.0	A	12.2	B	No	0.0	A	11.1	B	No

Notes:

(1) TS = Traffic Signal; CSS = Cross Street Stop; AWS = All-Way Stop

(2) Delay is shown in seconds/vehicle. For intersections with traffic signal, all way stop control, or roundabout, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst individual lane (or movements sharing a lane).

(3) LOS = Level of Service

Table 6
Opening Year (2025) Without Project Intersection Levels of Service

Study Intersection	Traffic Control[1]	AM Peak Hour		PM Peak Hour	
		Delay[2]	LOS[3]	Delay[2]	LOS[3]
1. Beaumont Ave at Brookside Ave	TS	84.8	F	226.4	F
2. Beaumont Ave at Cougar Way	TS	28.3	C	14.6	B
3. Beaumont Ave at Commercial Dwy	CSS	170.1	F	82.0	F
4. Beaumont Ave at Oak Valley Pkwy	TS	578.2	F	62.3	E
5. Beaumont Ave at 12th St	AWS	57.4	F	22.7	C
6. Beaumont Ave at 10th St	AWS	25.6	D	19.1	C
7. Golf Club Dr at Oak Valley Pkwy	TS	10.5	B	56.4	E
8. Oak View Dr at Oak Valley Pkwy	TS	35.2	D	17.9	B
9. Palm Ave at Oak Valley Pkwy	AWS	93.3	F	40.1	E

Notes:

(1) TS = Traffic Signal; CSS = Cross Street Stop; AWS = All-Way Stop

(2) Delay is shown in seconds/vehicle. For intersections with traffic signal, all way stop control, or roundabout, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst individual lane (or movements sharing a lane).

(3) LOS = Level of Service

Table 7
Opening Year (2025) With Project Intersection Levels of Service

Study Intersection	Traffic Control[1]	AM Peak Hour					PM Peak Hour				
		Without Project		With Project		Deficient LOS?	Without Project		With Project		Deficient LOS?
		Delay[2]	LOS[3]	Delay[2]	LOS[3]		Delay[2]	LOS[3]	Delay[2]	LOS[3]	
1. Beaumont Ave at Brookside Ave	TS	84.8	F	88.4	F	Yes	226.4	F	257.9	F	Yes
• Optimize Signal Timing	TS	-	-	9.6	A	No	-	-	28.6	C	No
2. Beaumont Ave at Cougar Way	TS	28.3	C	30.0	C	No	14.6	B	14.9	B	No
3. Beaumont Ave at Project Dwy 1	CSS	170.1	F	2266.1	F	Yes	82.0	F	771.8	F	Yes
•Traffic Signal; NB Left; EB Shared Through-Right; Convert WB Right to Shared Through-Right	TS	-	-	6.3	A	No	-	-	7.5	A	No
4. Beaumont Ave at Oak Valley Pkwy	TS	578.2	F	1206.4	F	Yes	62.3	E	124.8	F	Yes
•Optimize Signal Timing; 350' EB Left Turn Pocket	TS	-	-	54.9	D	No	-	-	46.1	D	No
5. Beaumont Ave at 12th St	AWS	57.4	F	71.7	F	Yes	22.7	C	27.1	D	No
•Traffic Signal; NB/SB/EB/WB Left	TS	-	-	9.5	A	No	-	-	6.5	A	No
6. Beaumont Ave at 10th St	AWS	25.6	D	29.4	D	No	19.1	C	21.1	C	No
7. Golf Club Dr at Oak Valley Pkwy	TS	10.5	B	11.4	B	No	56.4	E	59.0	E	Yes
•Optimize Signal Timing	TS	-	-	10.3	B	No	-	-	39.1	D	No
8. Oak View Dr at Oak Valley Pkwy	TS	35.2	D	38.6	D	No	17.9	B	23.7	C	No
9. Palm Ave at Oak Valley Pkwy	AWS	93.3	F	118.9	F	Yes	40.1	E	50.8	F	Yes
•Traffic Signal; NB/EB/WB Left	TS	-	-	14.1	B	No	-	-	16.5	B	No
10. Beaumont Ave at Project Dwy 2	CSS	0.0	A	12.5	B	No	0.0	A	11.5	B	No
11. Project Dwy 3 at Oak Valley Pkwy	CSS	0.0	A	25.4	D	No	0.0	A	22.2	C	No
12. Project Dwy 4 at Oak Valley Pkwy	CSS	0.0	A	13.9	B	No	0.0	A	13.2	B	No

Notes:

(1) TS = Traffic Signal; CSS = Cross Street Stop; AWS = All-Way Stop

(2) Delay is shown in seconds/vehicle. For intersections with traffic signal, all way stop control, or roundabout, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst individual lane (or movements sharing a lane).

(3) LOS = Level of Service

7. QUEUING ANALYSIS

This section presents the queuing analysis conducted for Oak Valley Parkway between Beaumont Avenue (Intersection #4), the two project driveways (Intersections #11 and #12) and the adjacent street of San Miguel Drive. The queuing analysis was performed using the Synchro/SimTraffic analysis and simulation software for Opening Year (2025) With Project conditions. The queueing analysis assessed the average and 95th-percentile queue lengths at the following four intersections along Oak Valley Parkway:

- Beaumont Avenue/Oak Valley Parkway
- Project Driveway 3 / Oak Valley Parkway
- Project Driveway 4 / Oak Valley Parkway
- San Miguel Drive / Oak Valley Parkway

Table 8 summarizes the queuing analysis results for Opening Year (2025) With Project conditions. The SimTraffic intersection queuing analysis worksheets are included in Appendix F. Table 8 also shows the available storage length and traffic volumes for the various traffic movements. The lane configuration for queuing analysis is based on the concept striping plan for Oak Valley Parkway shown in Appendix G. The Queuing Analysis has been prepared by running the SimTraffic simulation multiple times with at least 5 runs with PHF adjustment during the peak 15-minute in addition to the 5 minute initialization. To address the eastbound queuing issue along Oak Valley Parkway, it is recommended that the eastbound left turn pocket on Oak Valley Parkway at Beaumont Avenue [Intersection #4] be extended to 350 feet with 90-foot transition instead of the initially proposed 150-foot eastbound left turn pocket. The concept striping plan in Appendix G has been revised to show a 350-foot eastbound left turn pocket on Oak Valley Parkway from Beaumont Avenue [Intersection #4].

The simulation has shown high volume of eastbound left turn vehicles and queues at Beaumont Avenue [Intersection #4] which contributes to eastbound through queue length at Miguel Drive before the eastbound left turn vehicles reach Beaumont Avenue. By providing a 350-foot eastbound left turn pocket on Oak Valley Parkway from Beaumont Avenue [Intersection #4] that extend past the intersection of Miguel Drive, the eastbound through queue may been reduced significantly because the eastbound left turn vehicles are projected to not queue along the eastbound through lane when the eastbound left turn pocket has additional storage capacity. Based on the queuing analysis in Table 8 and the queue length summary figures in Appendix F, the 95th percentile AM and PM peak hour eastbound left turn queues (305 feet and 268 feet) on Oak Valley Parkway is projected to be accommodated within the recommended 350-foot left turn pocket.

Based on the queuing analysis in Table 8 and the queue length summary figures in Appendix F, the 95th percentile AM peak hour eastbound through queues on Oak Valley Parkway is projected to extend approximately 108' past Miguel Drive but it is not anticipated to reach Project Driveway 3 [Intersection #11]. With the proposed raised median on Oak Valley Parkway from Beaumont Avenue [Intersection #4] to the proposed Project Driveway 3 [Intersection #11], the currently full access intersection of San Miguel Drive at Oak Valley Parkway will be restricted to a right-in/right-out only intersection. The eastbound queue on Oak Valley Parkway is anticipated to have minimal impact to San Miguel Drive because it will be restricted to a right-in/right-out only intersection and the existing traffic volumes are expected to be low. Furthermore, there is an alternative access route to the south for the existing traffic on San Miguel Drive.

Based on the queuing analysis in Table 8 and the queue length summary figures in Appendix F, the 95th percentile eastbound through queues on Oak Valley Parkway is projected to not reach Project Driveway 3 [Intersection #11]. Since both the eastbound and westbound through lanes on Oak Valley Parkway at Project Driveway 3 [Intersection #11] are not congested or blocked, it is appropriate for Project Driveway 3 [Intersection #11] to be a stop-controlled full access intersection as proposed.

Based on a qualitative review of the SimTraffic simulation, there appears to be smooth traffic flow along Oak Valley Parkway. The queues for the project driveways will disperse within a reasonable amount of time based on the eastbound and westbound through traffic gaps on Oak Valley Parkway provided by the signalized intersection of Beaumont Avenue at Oak Valley Parkway.

Table 8
Oak Valley Parkway Intersection and Driveway Queuing Analysis

Study Intersection	Turning Movement	Available Storage Length		Opening Year (2025) With Project					
				Weekday AM Peak Hour			Weekday PM Peak Hour		
				Traffic Volumes	Average Queue	95th Percentile Queue	Traffic Volumes	Average Queue	95th Percentile Queue
4. Beaumont Ave at Oak Valley Pkwy	NB Left	100' Pocket + 90' Transition	100'	223	206'	310'	238	162'	244'
	NB Thru-Right	410' on Street[2]	410'	817	342'	527'	555	130'	230'
	SB Left	150' Pocket + 90' Transition	150'	141	160'	275'	146	118'	204'
	SB Thru-Right	370' on Street[2]	370'	779	299'	427'	607	192'	299'
	EB Left	**350' Pocket[3] + 90' Transition**	350'	418	240'	305'	309	187'	268'
	EB Thru-Right	220' on Street[2]	220'	697	175'	273'	720	181'	263'
	WB Left	150' Pocket + 150' 2-Way Left Turn Lane	300'	145	121'	164'	157	143'	221'
	WB Thru-Right	760' on Street[2]	760'	742	236'	323'	642	164'	227'
11. Project Dwy 3 at Oak Valley Pkwy	SB Left-Right	50' Throat + 200' Parking Aisle[1]	250'	84	47'	72'	88	48'	76'
	EB Left	150' Pocket + 90' Transition	150'	36	27'	30'	37	23'	51'
	EB Thru	1300' on Street[2]	1300'	1,064	0'	0'	976	0'	0'
	WB Thru-Right	250' on Street[2]	250'	1,066	3'	16'	951	0'	0'
12. Project Dwy 4 at Oak Valley Pkwy	SB Right	50' Throat + 200' Parking Aisle[1]	250'	62	35'	54'	71	34'	45'
	WB Thru-Right	160' on Street[2]	160'	1,076	0'	0'	955	0'	0'
13. San Miguel Dr at Oak Valley Pkwy	NB Right	150' on Street[2]	150'	10	4'	22'	10	24'	61'
	EB Thru-Right	250' on Street[2]	250'	1,114	30'	108'	1,027	0'	0'

Notes:

(1) For exit movement at the driveway, the available storage length includes the length of the driveway throat and parking access aisle.

(2) There are no turn lanes. Available storage length is the distance to the upstream intersection or major driveway opening.

(3) **Bold** = Extended left turn pocket

8. VEHICLE MILES TRAVELED (VMT) ASSESSMENT

This section provides an assessment of the project VMT impacts and mitigation, if necessary, for compliance with CEQA Section 15064.3(b).

BACKGROUND

California Senate Bill 743 (SB 743) directs the State Office of Planning and Research (OPR) to amend the California Environmental Quality Act (CEQA) Guidelines for evaluating transportation impacts to provide alternatives to Level of Service that "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." In December 2018, the California Natural Resources Agency certified and adopted the updated CEQA Guidelines package. The amended CEQA Guidelines, specifically Section 15064.3, recommend the use of Vehicle Miles Travelled (VMT) as the primary metric for the evaluation of transportation impacts associated with land use and transportation projects. In general terms, VMT quantifies the amount and distance of automobile travel attributable to a project or region. All agencies and projects State-wide are required to utilize the updated CEQA guidelines recommending use of VMT for evaluating transportation impacts as of July 1, 2020.

The updated CEQA Guidelines allow for lead agency discretion in establishing methodologies and thresholds provided there is substantial evidence to demonstrate that the established procedures promote the intended goals of the legislation. Where quantitative models or methods are unavailable, Section 15064.3 allows agencies to assess VMT qualitatively using factors such as availability of transit and proximity to other destinations. The Office of Planning and Research (OPR) Technical Advisory on Evaluating Transportation Impacts in CEQA (State of California, December 2018) ["OPR Technical Advisory"] provides technical considerations regarding methodologies and thresholds with a focus on office, residential, and retail developments as these projects tend to have the greatest influence on VMT.

VMT SCREENING

The City of Beaumont has ratified SB743 VMT Threshold for CEQA Compliance Related to Transportation Analysis on June 16, 2020. The City's guidelines are based on the Western Riverside Council of Governments (WRCOG) Recommended Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment, updated March 2020, which also consider guidance and substantial evidence provided in the Office of Planning and Research (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA* (December 2018).

Based on the VMT screening criteria of Step 3: Project Type Screening, the proposed project is screened from VMT assessment based on the justification that the project is a local serving retail project less than 50,000 square feet, which may be presumed to have less than significant impact. The proposed Beaumont Village project consists a total of 39,801 square feet of various mixed-use of commercial retail uses including several fast food restaurants, a gas station, an express car wash and retail shops. A local serving retail development such as the proposed Beaumont Village project generally improves the convenience of shopping close to home and has the effect of reducing vehicle travel.

9. CONCLUSIONS

This section summarizes the findings and improvements/mitigation measures (if any) identified in previous sections of this report.

PROJECT TRIP GENERATION

The proposed project is forecast to generate a total of approximately 4,095 net daily vehicle trips, including 331 net trips during the AM peak hour and 335 net trips during the PM peak hour.

INTERSECTION IMPROVEMENTS

The project shall construct the following improvements to provide project access and address the deficient intersection for Existing Plus Project conditions:

- Beaumont Avenue/Project Driveway 1 – #3
  - Install traffic signal
  - Add northbound left turn lane
  - Add eastbound left turn lane
  - Add eastbound shared through-right lane
  - Convert existing westbound right turn lane to one shared through-right lane.

Since the deficiency at the following intersections are the result of a degradation of Level of Service for currently deficient intersection operations under "Existing" conditions, the proposed project should pay its fair share of fees to an applicable program for the following improvements:

- Beaumont Avenue/Brookside Avenue – #1
  - Optimize signal timing

- Beaumont Avenue/Oak Valley Parkway – #4
  - Optimize signal timing
  - Provide a 350-foot eastbound left turn pocket

- Palm Avenue/Oak Valley Parkway – #9
  - Install traffic signal
  - Add northbound, eastbound and westbound left turn lanes

The following additional improvements are needed to mitigate the deficient intersections for Opening Year (2025) With Project conditions:

- Beaumont Avenue/12th Street – #5
  - Install traffic signal
  - Add northbound, southbound, eastbound and westbound left turn lanes

- Golf Club Drive/Oak Valley Parkway – #7
  - Optimize signal timing

Since these deficiencies are the result of a degradation of Level of Service for the already deficient intersection operations under "without project" conditions, the proposed project should pay its fair share of fees to an applicable program for the above improvements.

PROJECT FAIR SHARE CONTRIBUTION

The project fair share contributions have also been calculated for Opening Year (2025) improvement locations. The project share of cost has been based on the proportion of project peak hour intersection turning movement volumes contributed to the improvement location relative to the total new peak hour Opening Year (2025) intersection turning movement volumes.

Table 9 presents a summary of improvement cost and project cost shares at the Opening Year (2025) study intersection improvement locations. The intersection fair share cost calculations are typically based on the higher of the weekday morning and weekday evening peak hour traffic volumes. As shown in Table 9, the project's fair share percentages of identified deficient intersections are approximately 1.5% to 14.2%. The fair share calculations are intended only for the discussion purposes of this traffic impact analysis, and do not imply any legal responsibility or formula for contributions or mitigation.

SITE ACCESS

The following improvements will be constructed by the project to provide project site access:

Project Driveway 1 at Beaumont Avenue (Intersection #3 – Opposite the existing driveway for the Oak Valley Town Center commercial plaza)

- Install a traffic signal.
- Provide a northbound left turn lane.
- Provide an eastbound left turn lane.
- Provide an eastbound shared through-right lane.
- Convert existing westbound right turn lane to one shared through-right lane.

Project Driveway 2 at Beaumont Avenue (Intersection #10)

- Install an eastbound stop sign.
- Provide an eastbound right turn lane.
- Provide a raised pork-chop median on the driveway to allow only right-in/right-out access.

Project Driveway 3 at Oak Valley Parkway (Intersection #11)

- Install a southbound stop sign.
- Provide a southbound shared left-right lane
- Provide an eastbound left turn lane.

Project Driveway 4 at Oak Valley Parkway (Intersection #13)

- Install a southbound stop sign.
- Provide a southbound right turn lane
- Provide a raised pork-chop median on the driveway to allow only right-in/right-out access.

QUEUING ANALYSIS

The Queuing Analysis has been prepared by running the SimTraffic simulation multiple times with at least 5 runs with PHF adjustment during the peak 15-minute in addition to the 5 minute initialization. To address the eastbound queuing issue along Oak Valley Parkway, it is recommended that the eastbound left turn pocket on Oak Valley Parkway at Beaumont Avenue [Intersection #4] be extended to 350 feet with 90-foot transition instead of the initially proposed 150-foot eastbound left turn pocket. The concept striping plan in Appendix G has been revised to show a 350-foot eastbound left turn pocket on Oak Valley Parkway from Beaumont Avenue [Intersection #4].

The simulation has shown high volume of eastbound left turn vehicles and queues at Beaumont Avenue [Intersection #4] which contributes to eastbound through queue length at Miguel Drive before the eastbound left turn vehicles reach Beaumont Avenue. By providing a 350-foot eastbound left turn pocket on Oak Valley Parkway from Beaumont Avenue [Intersection #4] that extend past the intersection of Miguel Drive, the eastbound through queue may been reduced significantly because the eastbound left turn vehicles are projected to not queue along the eastbound through lane when the eastbound left turn pocket has additional storage capacity. Based on the queuing analysis in Table 8 and the queue length summary figures in Appendix F, the 95th percentile AM and PM peak hour eastbound left turn queues (305 feet and 268 feet) on Oak Valley Parkway is projected to be accommodated within the recommended 350-foot left turn pocket.

Based on the queuing analysis in Table 8 and the queue length summary figures in Appendix F, the 95th percentile AM peak hour eastbound through queues on Oak Valley Parkway is projected to extend approximately 108' past Miguel Drive but it is not anticipated to reach Project Driveway 3 [Intersection #11]. With the proposed raised median on Oak Valley Parkway from Beaumont Avenue [Intersection #4] to the proposed Project Driveway 3 [Intersection #11], the currently full access intersection of San Miguel Drive at Oak Valley Parkway will be restricted to a right-in/right-out only intersection. The eastbound queue on Oak Valley Parkway is anticipated to have minimal impact to San Miguel Drive because it will be restricted to a right-in/right-out only intersection and the existing traffic volumes are expected to be low. Furthermore, there is an alternative access route to the south for the existing traffic on San Miguel Drive.

Based on the queuing analysis in Table 8 and the queue length summary figures in Appendix F, the 95th percentile eastbound through queues on Oak Valley Parkway is projected to not reach Project Driveway 3 [Intersection #11]. Since both the eastbound and westbound through lanes on Oak Valley Parkway at Project Driveway 3 [Intersection #11] are not congested or blocked, it is appropriate for Project Driveway 3 [Intersection #11] to be a stop-controlled full access intersection as proposed.

Based on a qualitative review of the SimTraffic simulation, there appears to be smooth traffic flow along Oak Valley Parkway. The queues for the project driveways will disperse within a reasonable amount of time based on the eastbound and westbound through traffic gaps on Oak Valley Parkway provided by the signalized intersection of Beaumont Avenue at Oak Valley Parkway.

CONCEPT STRIPING PLAN

The concept striping plan for Oak Valley Parkway and Beaumont Avenue adjacent to the project site is shown in Appendix G.

VMT SCREENING ASSESSMENT

Based on the VMT screening criteria of Step 3: Project Type Screening, the proposed project is screened from VMT assessment based on the justification that the project is a local serving retail project less than 50,000 square feet, which may be presumed to have less than significant impact. The proposed Beaumont Village project consists a total of 39,801 square feet of various mixed-use of commercial retail uses including several fast food restaurants, a gas station, an express car wash and retail shops.

MITIGATION MEASURES

The proposed project is forecast to result in no significant transportation impacts under the California Environmental Quality Act (CEQA); therefore, no mitigation measures are required.

GENERAL RECOMMENDATIONS

Figure 30 summarizes the circulation recommendations for the proposed project.

Beaumont Avenue, from Oak Valley Parkway to the north project boundary (15th Street), should be constructed at its ultimate western half-section width as a Major roadway, including landscaping and parkway improvements in conjunction with development per City standards.

Oak Valley Parkway, from Beaumont Avenue to the west project boundary, should be constructed at its ultimate northern half-section width as an Arterial roadway, including landscaping and parkway improvements in conjunction with development per City standards.

All roadway design, traffic signing and striping, and traffic control improvements relating to the proposed project should be constructed in accordance with applicable engineering standards and to the satisfaction of the City of Beaumont.

Site-adjacent roadways should be constructed or repaired at their ultimate half-section width, including landscaping and parkway improvements in conjunction with development, or as otherwise required by the City of Beaumont.

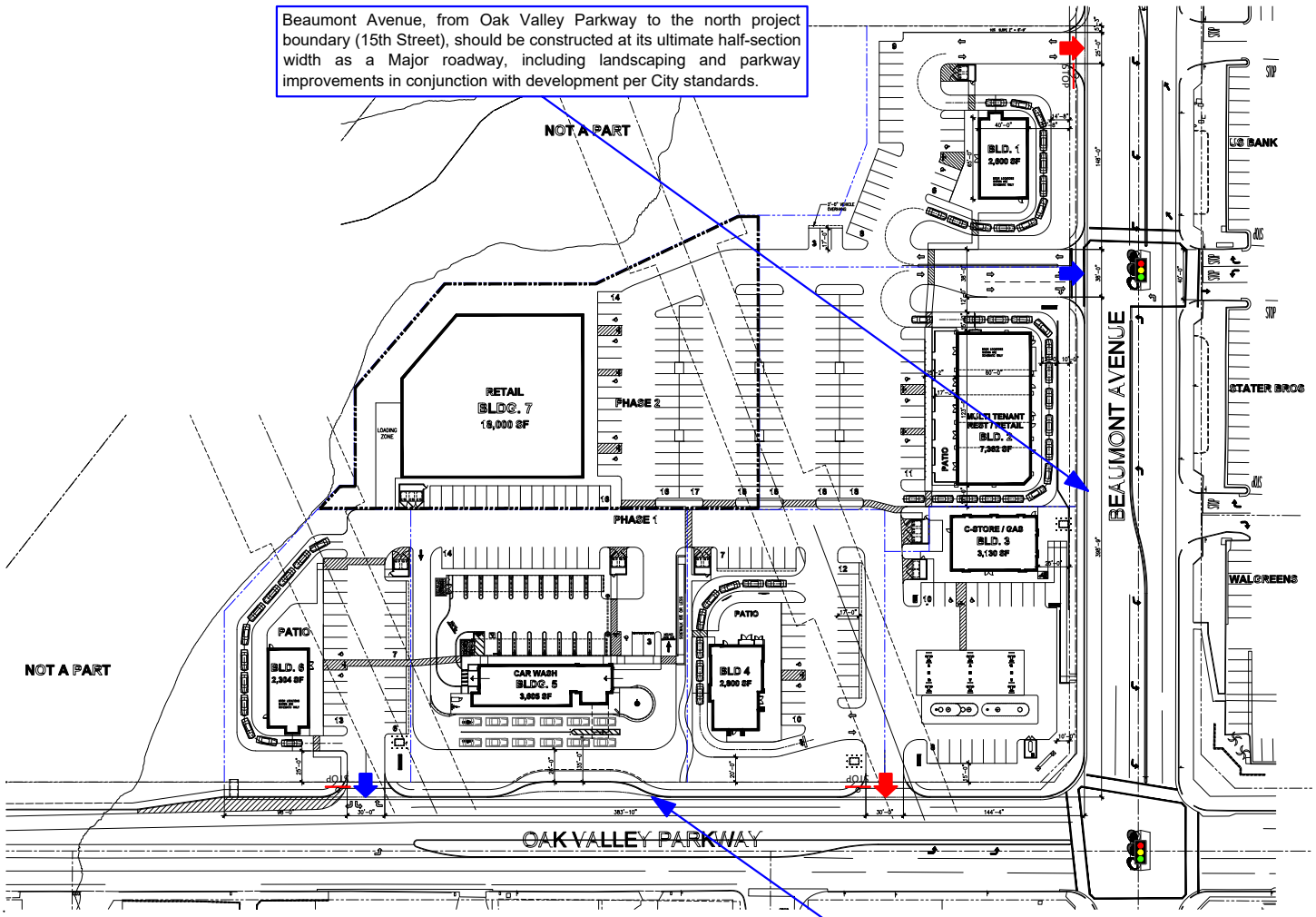
On-site traffic signing and striping plans should be submitted for City of Beaumont approval in conjunction with detailed construction plans for the project.

The final grading, landscaping, and street improvement plans should demonstrate that sight distance standards are met in accordance with applicable City of Beaumont/California Department of Transportation sight distance standards.

As is the case for any roadway design, the City of Beaumont should periodically review traffic operations in the vicinity of the project once the project is constructed to assure that the traffic operations are satisfactory.

Table 9
Project Fair Share Intersection Traffic Contribution

Study Intersection	Peak Hour	Intersection Turning Movement Volumes			
		Existing (2023)	Opening Year (2025) With Project	Project	Project Percent of Total Future
1. Beaumont Ave at Brookside Ave	AM	2,656	3,059	51	1.7%
	PM	1,506	1,922	51	2.7%
3. Beaumont Ave at Project Dwy 1	AM	2,060	2,588	266	10.3%
	PM	1,368	1,931	275	14.2%
4. Beaumont Ave at Oak Valley Pkwy	AM	3,052	3,962	214	5.4%
	PM	2,269	3,373	214	6.3%
5. Beaumont Ave at 12th St	AM	1,568	1,992	102	5.1%
	PM	1,159	1,668	102	6.1%
7. Golf Club Dr at Oak Valley Pkwy	AM	1,787	2,806	51	1.8%
	PM	1,566	3,397	51	1.5%
9. Palm Ave at Oak Valley Pkwy	AM	1,782	2,236	85	3.8%
	PM	1,328	1,869	85	4.5%



All roadway design, traffic signing and striping, and traffic control improvements relating to the proposed project should be constructed in accordance with applicable engineering standards and to the satisfaction of the City of Beaumont.

Site-adjacent roadways should be constructed or repaired at their ultimate half-section width, including landscaping and parkway improvements in conjunction with development, or as otherwise required by the City of Beaumont.

On-site traffic signing and striping plans should be submitted for City of Beaumont approval in conjunction with detailed construction plans for the project.

The final grading, landscaping, and street improvement plans should demonstrate that sight distance standards are met in accordance with applicable City of Beaumont/California Department of Transportation sight distance standards.

As is the case for any roadway design, the City of Beaumont should periodically review traffic operations in the vicinity of the project once the project is constructed to assure that the traffic operations are satisfactory.

Oak Valley Parkway, from Beaumont Avenue to the west project boundary, should be constructed at its ultimate half-section width as an Arterial roadway, including landscaping and parkway improvements in conjunction with development per City standards.

N

Legend
- Traffic Signal
- STOP Stop Sign
- Full Access Driveway
- Right Turns In/Out Only Access Driveway

Figure 30
Circulation Recommendations

APPENDICES

Appendix A Glossary

Appendix B Scoping Agreement

Appendix C Volume Count Worksheets

Appendix D Level of Service Worksheets

Appendix E Traffic Signal Warrant Analysis

Appendix F Intersection Queuing Analysis

Appendix G Concept Striping Plan

APPENDIX A

GLOSSARY

GLOSSARY OF TERMS

ACRONYMS

AC	Acres
ADT	Average Daily Traffic
Caltrans	California Department of Transportation
DU	Dwelling Unit
ICU	Intersection Capacity Utilization
LOS	Level of Service
TSF	Thousand Square Feet
V/C	Volume/Capacity
VMT	Vehicle Miles Traveled

TERMS

AVERAGE DAILY TRAFFIC: The average 24-hour volume for a stated period divided by the number of days in that period. For example, Annual Average Daily Traffic is the total volume during a year divided by 365 days.

BANDWIDTH: The number of seconds of green time available for through traffic in a signal progression.

BOTTLENECK: A point of constriction along a roadway that limits the amount of traffic that can proceed downstream from its location.

CAPACITY: The maximum number of vehicles that can be reasonably expected to pass over a given section of a lane or a roadway in a given time period.

CHANNELIZATION: The separation or regulation of conflicting traffic movements into definite paths of travel by the use of pavement markings, raised islands, or other suitable means to facilitate the safe and orderly movements of both vehicles and pedestrians.

CLEARANCE INTERVAL: Nearly same as yellow time. If there is an all red interval after the end of a yellow, then that is also added into the clearance interval.

CONTROL DELAY: The component of delay, typically expressed in seconds per vehicle, resulting from the type of traffic control at an intersection. Control delay is measured by comparison with the uncontrolled condition; it includes delay incurred by slowing down, stopping/waiting, and speeding up.

CORDON: An imaginary line around an area across which vehicles, persons, or other items are counted (in and out).

CORNER SIGHT DISTANCE: The minimum sight distance required by the driver of a vehicle to cross or enter the lanes of the major roadway without requiring approaching traffic travelling at a given speed to radically alter their speed or trajectory. Corner sight distance is measured from the driver's eye at 42 inches above the pavement to an object height of 36 inches above the pavement in the center of the nearest approach lane.

CYCLE LENGTH: The time period in seconds required for a traffic signal to complete one full cycle of indications.

CUL-DE-SAC: A local street open at one end only and with special provisions for turning around.

DAILY CAPACITY: A theoretical value representing the daily traffic volume that will typically result in a peak hour volume equal to the capacity of the roadway.

DELAY: The time consumed while traffic is impeded in its movement by some element over which it has no control, usually expressed in seconds per vehicle.

DEMAND RESPONSIVE SIGNAL: Same as traffic-actuated signal.

DENSITY: The number of vehicles occupying in a unit length of the through traffic lanes of a roadway at any given instant. Usually expressed in vehicles per mile.

DETECTOR: A device that responds to a physical stimulus and transmits a resulting impulse to the signal controller.

DESIGN SPEED: A speed selected for purposes of design. Features of a highway, such as curvature, superelevation, and sight distance (upon which the safe operation of vehicles is dependent) are correlated to design speed.

DIRECTIONAL SPLIT: The percent of traffic in the peak direction at any point in time.

DIVERSION: The rerouting of peak hour traffic to avoid congestion.

FORCED FLOW: Opposite of free flow.

FREE FLOW: Volumes are well below capacity. Vehicles can maneuver freely and travel is unimpeded by other traffic.

GAP: Time or distance between successive vehicles in a traffic stream, rear bumper to front bumper.

HEADWAY: Time or distance spacing between successive vehicles in a traffic stream, front bumper to front bumper.

INTERCONNECTED SIGNAL SYSTEM: A number of intersections that are connected to achieve signal progression.

LEVEL OF SERVICE: A qualitative measure of a number of factors, which include speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs.

LOOP DETECTOR: A vehicle detector consisting of a loop of wire embedded in the roadway, energized by alternating current and producing an output circuit closure when passed over by a vehicle.

MINIMUM ACCEPTABLE GAP: Smallest time headway between successive vehicles in a traffic stream into which another vehicle is willing and able to cross or merge.

MULTI-MODAL: More than one mode; such as automobile, bus transit, rail rapid transit, and bicycle transportation modes.

OFFSET: The time interval in seconds between the beginning of green at one intersection and the beginning of green at an adjacent intersection.

PLATOON: A closely grouped component of traffic that is composed of several vehicles moving, or standing ready to move, with clear spaces ahead and behind.

PASSENGER CAR EQUIVALENT (PCE): A metric used to assess the impact of larger vehicles, such as trucks, recreational vehicles, and buses, by converting the traffic volume of larger vehicles to an equivalent number of passenger cars.

PEAK HOUR: The 60 consecutive minutes with the highest number of vehicles.

PRETIMED SIGNAL: A type of traffic signal that directs traffic to stop and go on a predetermined time schedule without regard to traffic conditions. Also, fixed time signal.

PROGRESSION: A term used to describe the progressive movement of traffic through several signalized intersections.

QUEUE: The number of vehicles waiting at a service area such as a traffic signal, stop sign, or access gate.

QUEUE LENGTH: The length of vehicle queue, typically expressed in feet, waiting at a service area such as a traffic signal, stop sign, or access gate.

SCREEN-LINE: An imaginary line or physical feature across which all trips are counted, normally to verify the validity of mathematical traffic models.

SHARED/RECIPROCAL PARKING AGREEMENT: A written binding document executed between property owners to provide a designated number of off-street parking stalls within a designated area to be available for specified businesses or land uses.

SIGHT DISTANCE: The continuous length of roadway visible to a driver or roadway user.

SIGNAL CYCLE: The time period in seconds required for one complete sequence of signal indications.

SIGNAL PHASE: The part of the signal cycle allocated to one or more traffic movements.

STACKING DISTANCE: The length of area available behind a service area, such as a traffic signal or gate, for vehicle queueing to occur.

STARTING DELAY: The delay experienced in initiating the movement of queued traffic from a stop to an average running speed through an intersection.

STOPPING SIGHT DISTANCE: The minimum distance required by the driver of a vehicle on the major roadway travelling at a given speed to bring the vehicle to a stop after an object on the road becomes visible. Stopping sight distance is measured from the driver's eye at 42 inches above the pavement to an object height of 6 inches above the pavement.

TRAFFIC-ACTUATED SIGNAL: A type of traffic signal that directs traffic to stop and go in accordance with the demands of traffic, as registered by the actuation of detectors.

TRIP: The movement of a person or vehicle from one location (origin) to another (destination). For example, from home to store to home is two trips, not one.

TRIP-END: One end of a trip at either the origin or destination (i.e., each trip has two trip-ends). A trip-end occurs when a person, object, or message is transferred to or from a vehicle.

TRIP GENERATION RATE: The quantity of trips produced and/or attracted by a specific land use stated in terms of units such as per dwelling, per acre, and per 1,000 square feet of floor space.

TRUCK: A vehicle having dual tires on one or more axles, or having more than two axles.

TURNING RADIUS: The circular arc formed by the smallest turning path radius of the front outside tire of a vehicle, such as that performed by a U-turn maneuver. This is based on the length and width of the wheel base as well as the steering mechanism of the vehicle.

UNBALANCED FLOW: Heavier traffic flow in one direction than the other. On a daily basis, most facilities have balanced flow. During the peak hours, flow is seldom balanced in an urban area.

VEHICLE MILES OF TRAVEL: A measure of the amount of usage of a section of highway, obtained by multiplying the average daily traffic by length of facility in miles.

APPENDIX B

SCOPING AGREEMENT

MEMORANDUM OF UNDERSTANDING

TO: Suzanne Foxworth | CITY OF BEAUMONT

FROM: Tom Huang | GANDDINI GROUP, INC.

DATE: November 30, 2022

SUBJECT: Beaumont Village Project Traffic Study Scope
PW2020-0574

INTRODUCTION

The purpose of this scoping document is to outline the proposed traffic analysis parameters and assumptions for review/concurrence by City of Beaumont staff.

PROJECT DESCRIPTION

Figure 1 shows the project location map. The project site is located west of Beaumont Avenue and north of Oak Valley Parkway in the City of Beaumont.

The site plan is show in Appendix A. The 7.16 acre project site is proposed to include a total of 39,801 square feet of various commercial uses including 10,504 square feet of fast-food restaurants with drive-thru window, a 12 fueling position service station with a 3,130 square foot convenience market, a 3,605 square foot express car wash, and 22,562 square feet of strip retail plaza land uses. The proposed project is anticipated to be constructed and fully operational by year 2025.

The project site is proposed to provide 4 access driveways. Project Driveway 1 (Intersection #3) is proposed to be signalized full access driveway on Beaumont Avenue that aligns with the existing driveway for the Oak Valley Town Center commercial plaza. Project Driveway 2 (Intersection #10) is proposed to be a stop-controlled right turns in/out only access on Beaumont Avenue near the northeast corner of the project site. Project Driveway 3 (Intersection #11) is proposed to be a stop-controlled full access driveway on Oak Valley Parkway that is located adjacent to the west project boundary. Project Driveway 4 (Intersection #12) is proposed to be a stop-controlled right-in/right-out only access driveway on Oak Valley Parkway just west of Beaumont Avenue.

PROJECT TRIP GENERATION & DISTRIBUTION

Table 2 shows the project trip generation based upon rates obtained from the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021) and San Diego Association of Governments (SANDAG), Brief Guide of Vehicular Traffic Generation Rates (April 2002). The trip generation assumption for the proposed express car wash project (Building 5) is estimated based on the information provided by the applicant that operates similar express car wash facilities. Based on applicant input, an express car wash project has a daily average of 350 customers and 4 employees for a total of 708 daily trips. Similar to SANDAG trip rates for a car wash, AM peak hour is approximately 4% of daily trips (50% inbound/50% outbound) and PM peak hour is approximately 9% of daily trips (50% inbound/50% outbound).

Land uses such as strip retail plaza, restaurants, gasoline stations, and convenience stores will often locate next to busy roadways to attract motorists already on the street. Since the trip generation rates contained in the ITE Trip Generation Manual represent vehicles entering and exiting at the site driveway(s), it is appropriate to reduce the initial trip generation forecast by the applicable pass-by trip rate when calculating the net new trips that will be added to the surrounding street system. This analysis applies a pass-by trip reduction for the fast-food restaurant with drive-thru and super convenience market/gas station land uses based upon rates from the ITE Trip Generation Manual (11th Edition, 2021). For the express car wash pass-by/internal trips assumptions, the ITE Trip Generation Manual shows that the pass-by percentages for automobile-related commercial uses ranges from 25% to 43% (auto parts and tire stores). Since there will be cross marketing incentives and discounts for customers to purchase gasoline and car wash during the same visit, a pass-by/internal trip reduction percentage of 40% is utilized in the trip generation calculations to account for the internal interaction between the car wash and the adjacent gas station.

As shown in Table 3, the proposed project is forecast to generate approximately 4,095 net daily trips, including 335 net trips during the AM peak hour and 342 net trips during the PM peak hour.

Figure 12 illustrates the forecast directional distribution patterns of project-generated trips.

STUDY AREA

Based on the Riverside County Transportation Department Transportation Analysis Guidelines (2020), intersections identified for analysis typically include signalized intersections at which a project is forecast to contribute 50 or more trips during the AM or PM peak hours. The study area is proposed to consist of the following twelve (12) study intersections, even if the project may not contribute 50 or more trips during either the AM or PM peak hours, but are the adjacent or primary intersections impacted by the proposed project.

Study Intersections (Figure 1)

1. Beaumont Avenue (NS) at Brookside Avenue (EW)
2. Beaumont Avenue (NS) at Cougar Way (EW)
3. Beaumont Avenue (NS) at Project Driveway 1/Commercial Driveway (EW)
4. Beaumont Avenue (NS) at Oak Valley Parkway (EW)
5. Beaumont Avenue (NS) at 12th Street (EW)
6. Beaumont Avenue (NS) at 10th Street (EW)
7. Golf Club Drive (NS) at Oak Valley Parkway (EW)
8. Oak View Drive (NS) at Oak Valley Parkway (EW)
9. Palm Avenue (NS) at Oak Valley Parkway (EW)
10. Beaumont Avenue (NS) at Project Driveway 2 (EW)
11. Project Driveway 3 (NS) at Oak Valley Parkway (EW)
12. Project Driveway 4 (NS) at Oak Valley Parkway (EW)

TRAFFIC COUNTS

Intersection turning movement counts will be used at the study intersections during the AM peak period (7:00 AM – 9:00 AM) and PM peak period (4:00 PM – 6:00 PM) on a typical weekday (Tuesday, Wednesday, or Thursday). Historic January 2018 counts were previously conducted at the study area intersections. Due to the COVID-19 pandemic restrictions, current 2022/2023 traffic patterns may not be normalized for an extended period of time. Therefore, it is recommended that the pre-pandemic 2022/2023 base traffic volumes at the study intersections be estimated using the historic January 2018 counts based an annual growth rate per SCAG Annual Average Traffic Growth. The 3.47% annual growth rate is SCAG's Annual Average Traffic Growth per forecast period 2018-2020. The 2.74% annual growth rate is SCAG's Annual Average Traffic Growth per forecast period 2020-2035. To derive the existing 2023 baseline conditions, the

annual growth rate would be 3.47% from 2018 to 2020 for a total growth of 7.06% for 2 years, and then the annual growth rate would be 2.74% from 2020 to 2023 for an additional growth of 8.45% for 3 years, which is an overall 5-year growth of 16.10% from 2018 to 2023.

ANALYSIS SCENARIOS

The traffic study shall evaluate the following analysis scenarios for weekday AM and PM peak hour conditions:

- Existing (2023)
- Existing Plus Project
- Opening Year (2025) Without Project
- Opening Year (2025) With Project

FORECASTING METHODOLOGY

To account for ambient growth, the Opening Year 2025 will included a 2.74% annual growth for 2 years (total growth = 5.56%) over the 2023 base volumes. The 2.74% annual growth rate is SCAG's Annual Average Traffic Growth per forecast period 2020-2035.

In addition, a list of pending and approved other development projects shall be requested from the City of Beaumont. Trip forecasts for other development projects within the project study area shall be determined based on the Institute of Transportation Engineers (ITE), Trip Generation Manual, 11th Edition, 2021 and will be added to existing roadway volumes for the applicable analysis scenarios. Table 4 shows an updated list of other cumulative developments and Figure 3 shows the other cumulative development location map. The cumulative development information was obtained from the City's website and various approved project traffic studies from other resources.

ANALYSIS METHODOLOGY

To assess the performance of an intersection, the analysis will use the intersection delay method based on procedures contained in the Highway Capacity Manual (Transportation Research Board, 6th Edition). The methodology considers the traffic volume and distribution of movements, traffic composition, geometric characteristics, and signalization details to calculate the average control delay per vehicle and corresponding Level of Service. Control delay is defined as the portion of delay attributed to the intersection traffic control (such as a traffic signal or stop sign) and includes initial deceleration, queue move-up time, stopped delay, and final acceleration delay. The intersection control delay is then correlated to Level of Service based on the following thresholds:

Level of Service	Intersection Control Delay (Seconds / Vehicle)	
	Signalized Intersection	Unsignalized Intersection
A	≤ 10.0	≤ 10.0
B	> 10.0 to ≤ 20.0	> 10.0 to ≤ 15.0
C	> 20.0 to ≤ 35.0	> 15.0 to ≤ 25.0
D	> 35.0 to ≤ 55.0	> 25.0 to ≤ 35.0
E	> 55.0 to ≤ 80.0	> 35.0 to ≤ 50.0
F	> 80.0	> 50.0

Source: Transportation Research Board, Highway Capacity Manual (6th Edition).

Level of Service is used to qualitatively describe the performance of a roadway facility, ranging from Level of Service A (free-flow conditions) to Level of Service F (extreme congestion and system failure). At intersections with traffic signal or all way stop control, Level of Service is determined by the average control delay for the overall intersection. At intersections with cross street stop control (i.e., one- or two-way stop control), Level of Service is determined by the average control delay for the worst individual movement (or movements sharing a single lane).

Intersection Level of Service analysis shall be performed using the Vistro software.

PERFORMANCE STANDARDS

City of Beaumont

The City of Beaumont has established Level of Service D as the target Level of Service standard and Level of E as a threshold standard.

THRESHOLDS OF SIGNIFICANCE

City of Beaumont

Based on the established performance standards for the City of Beaumont, a potentially significant transportation impact is defined to occur if:

- The addition of project-generated trips is forecast to cause the performance of a study intersection to deteriorate from acceptable Level of Service (D or better) to unacceptable Level of Service (E or F); or,

- The addition of project generated trips is forecast to worsen the performance of a study intersection operating at unacceptable Level of Service (E or F) in the baseline condition.

VEHICLES MILES TRAVELED (VMT) SCREENING

California Senate Bill 743 (SB 743) directs the State Office of Planning and Research (OPR) to amend the California Environmental Quality Act (CEQA) Guidelines for evaluating transportation impacts to provide alternatives to Level of Service that "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." In December 2018, the California Natural Resources Agency certified and adopted the updated CEQA Guidelines package. The amended CEQA Guidelines, specifically Section 15064.3, recommend the use of Vehicle Miles Travelled (VMT) as the primary metric for the evaluation of transportation impacts associated with land use and transportation projects. In general terms, VMT quantifies the amount and distance of automobile travel attributable to a project or region. Agencies may currently opt-in to applying the updated CEQA guidelines for VMT analysis and implementation is required State-wide by July 1, 2020.

The City of Beaumont has ratified SB743 VMT Threshold for CEQA Compliance Related to Transportation Analysis on June 16, 2020. The City's guidelines are based on the Western Riverside Council of Governments (WRCOG) Recommended Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment, updated March 2020. Based on the VMT screening criteria of Step 3: Project Type Screening, the proposed project is screened from VMT assessment based on the justification that the project is a local serving retail project less than 50,000 square feet, which may be presumed to have less than significant impact. The proposed Beaumont Village project consists a total of 39,801 square feet of various mixed-use of commercial retail uses including several fast food restaurants, a gas station, an express car wash and retail shops. A local serving retail development such as the proposed Beaumont Village project generally improves the convenience of shopping close to home and has the effect of reducing vehicle travel.

INTERSECTION QUEUING ANALYSIS

Since Oak Valley Parkway narrows west of Beaumont Avenue, a SimTraffic simulation analysis will be prepared for Oak Valley Parkway between Beaumont Avenue (Intersection #4) and the two project driveways (Intersections #11 and #12). The SimTraffic simulation analysis will assess the queue lengths at these 3 intersections along Oak Valley Parkway.

The traffic analysis will include the following:

1. Driveway impacts to adjacent streets,
2. Identify any conflicting vehicle movements with all driveways within 300 feet of the project
3. Recommend solution or improvements for all the above.

CONCLUSION

We appreciate the opportunity to provide this scoping document for your review. Should you have any questions or comments regarding the proposed scope, please contact Tom Huang at (714) 795-3100 x 102 or tom@ganddini.com.

Table 2
Trip Generation Rates

No.	Land Use	Rate Code[1]	Units[2]	AM Peak Hour			PM Peak Hour			Daily
				In %	Out %	Total	In %	Out %	Total	
1	Strip Retail Plaza (<40k)	ITE 822	TSF	60%	40%	2.36	50%	50%	6.89	54.45
2	High-Turnover (Sit-Down) Restaurant	ITE 932	TSF	55%	45%	9.57	61%	39%	9.05	107.20
3	Fast-Food Restaurant w/ Drive-Thru	ITE 934	TSF	51%	49%	44.61	52%	48%	33.03	467.48
4	Gasoline Station w/ Food Mart	SANDAG	VFP	50%	50%	11.20	50%	50%	12.80	160.00
5	Express Car Wash (Client Info)	Custom[3]	Site	50%	50%	28.32	50%	50%	63.72	708.00

Notes:

(1) ITE = Institute of Transportation Engineers (ITE), Trip Generation Manual, 11th Edition, 2021; ### = Land Use Code

SANDAG = San Diego Association of Governments (SANDAG), Brief Guide of Vehicular Traffic Generation Rates, April 2002

(2) TSF = Thousand Square Feet; VFP = Vehicle Fueling Positions

(3) Based on applicant input, an Express Car Wash has a daily average of 350 customers and 4 employees for a total of 708 daily trips. Similar to SANDAG trip rates for a car wash, AM peak hour is approximately 4% of daily trips (50% inbound/50% outbound) and PM peak hour is approximately 9% of daily trips (50% inbound/50% outbound).

Table 3
Project Trip Generation[1]

No.	Land Use	Quantity[2]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
1	Fast-Food Restaurant w/ Drive-Thru	2.600 TSF	59	57	116	45	41	86	1,215
	Pass-By Trips[3]	50% [3]	-30	-29	-59	-23	-21	-44	-608
	Subtotal Net Trips		29	28	57	22	20	42	607
2	Fast-Food Restaurant w/ Drive-Thru	2.800 TSF	64	61	125	48	44	92	1,309
	Pass-By Trips[3]	50% [3]	-32	-31	-63	-24	-22	-46	-655
	Strip Retail Plaza (<40k)	4.562 TSF	6	4	10	16	16	32	248
	Pass-By Trips[3] (PM/Daily)	40% [3]	0	0	0	-6	-6	-12	-99
	Subtotal Net Trips		38	34	72	34	32	66	803
3	Gasoline Station w/ Food Mart	12 VFP	67	67	134	77	77	154	1,920
	Pass-By Trips[3]	75% [3]	-50	-50	-100	-58	-58	-116	-1,440
	Subtotal Net Trips (3.010 TSF)		17	17	34	19	19	38	480
4	Fast-Food Restaurant w/ Drive-Thru	2.800 TSF	64	61	125	48	44	92	1,309
	Pass-By Trips[3]	50% [3]	-32	-31	-63	-24	-22	-46	-655
	Subtotal Net Trips		32	30	62	24	22	46	654
5	Express Car Wash (Client Info)	1 Site	14	14	28	32	32	64	708
	Pass-By/Internal Trips[4]	40% [4]	-6	-6	-12	-13	-13	-26	-283
	Subtotal Net Trips		8	8	16	19	19	38	425
6	Fast-Food Restaurant w/ Drive-Thru	2.304 TSF	52	50	102	40	37	77	1,077
	Pass-By Trips[3]	50% [3]	-26	-25	-51	-20	-19	-39	-539
	Subtotal Net Trips		26	25	51	20	18	38	538
7	Strip Retail Plaza (<40k)	18.000 TSF	26	17	43	62	62	124	980
	Pass-By Trips[3] (PM/Daily)	40% [3]	0	0	0	-25	-25	-50	-392
	Subtotal Net Trips		26	17	43	37	37	74	588
Total Gross Trips Generated		39.801 TSF	352	331	683	368	353	721	8,766
Total Pass-By Trip Reduction			-176	-172	-348	-193	-186	-379	-4,671
Total Net Trips with Pass-By/Internal Trip Reduction			176	159	335	175	167	342	4,095

Notes:

(1) Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, 11th Edition, 2021 (see Table 2).

(2) TSF = Thousand Square Feet; VFP = Vehicle Fueling Position

(3) Pass-By Trips: ITE, Trip Generation Manual, 11th Edition, 2021.

Land Use Code 821 - Shopping Plaza (40-150k), Average Pass-By Trip Percentage = 40%. Daily and PM Only.

Land Use Code 932 - High-Turnover (Sit-Down) Restaurant, Average Pass-By Trip Percentage = 43%.

Land Use Code 934 - Fast-Food Restaurant with Drive-Through Window, Average Pass-By Trip Percentage = 50-55%.

Land Use Code 945 - Convenience Store Gas Station, Average Pass-By Trip Percentage = 75%.

(4) Express Car Wash Pass-By/Internal Trips: In ITE Trip Generation Manual, 11th Edition, 2021, pass-by percentages for automobile-related commercial uses ranges from 25% to 43% (auto parts and tire stores). Since there will be cross marketing incentives and discounts for customers to purchase gasoline and car wash during the same visit, a pass-by/internal trip reduction percentage of 40% is utilized in the trip generation calculations to account for the internal interaction between the car wash and the adjacent gas station.

Table 4 (1 of 3)
Other Cumulative Development Trip Generation

Trip Generation Rates										
				AM Peak Hour			PM Peak Hour			
No.	Land Use	Source[1]	Unit[2]	% In	% Out	Rate	% In	% Out	Rate	Daily
1	General Light Industrial	ITE 110	TSF	88%	12%	0.74	14%	86%	0.65	4.87
2	Manufacturing	ITE 140	TSF	76%	24%	0.68	31%	69%	0.74	4.75
3	Warehousing	ITE 150	TSF	77%	23%	0.17	28%	72%	0.18	1.71
4	Single-Family Detached Residential	ITE 210	DU	26%	74%	0.70	63%	37%	0.94	9.43
5	Hotel	ITE 310	RM	56%	44%	0.46	51%	49%	0.59	7.99
6	Golf Course	ITE 430	AC	74%	26%	0.19	34%	66%	0.28	3.74
7	Elementary School	ITE 520	TSF	55%	45%	6.97	45%	55%	1.37	19.52
8	High School	ITE 530	TSF	71%	29%	3.38	54%	46%	0.97	14.07
9	Fire and Rescue Station	ITE 575	TSF	71%	29%	0.48	29%	71%	0.48	3.61
10	General Office Building	ITE 710	TSF	88%	12%	1.52	17%	83%	1.44	10.84
11	Office Park	ITE 750	TSF	89%	11%	1.33	14%	86%	1.30	11.07
12	Shopping Plaza	ITE 821	TSF	62%	38%	1.73	49%	51%	5.19	67.52
13	Fast-Food Restaurant With Drive-Through Window	ITE 934	TSF	51%	49%	44.61	52%	48%	33.03	467.48
14	Coffee/Donut Shop With Drive-Through Window	ITE 937	TSF	51%	49%	85.88	50%	50%	38.99	533.57
15	Gasoline/Service Station With Convenience Market	ITE 945	VFP	50%	50%	16.06	50%	50%	18.42	265.12

Trips Generated											
					AM Peak Hour			PM Peak Hour			
TAZ	Project[3]	Land Use	Quantity	Unit[2]	In	Out	Total	In	Out	Total	Daily
1	Sundance Specific Plan	Single-Family Detached Residential	505	DU	92	262	354	299	176	475	4,762
2	Fairway Canyon SCPGA[4]	Single-Family Detached Residential	1,750.000	DU	736	1,224	1,960	1,945	1,566	3,511	34,145
		Commerical/Retail	707.410	TSF							
3	Four Seasons (Tract No. 32260 & 33096)	Single-Family Detached Residential	1,890	DU	344	979	1,323	1,119	658	1,777	17,823
4	Heartland (Olivewood)	Single-Family Detached Residential	981	DU	730	882	1,612	1,802	1,686	3,488	43,756
		Commerical/Retail	942.200	TSF							
5	Jack Rabbit Trail	High-Cube Fulfillment Center Warehouse	4,500.000	TSF	2,346	1,020	3,366	1,903	3,909	5,812	42,510
		General Light Industrial	500.000	TSF							
		Hotel	125	RM							
		Indoor Go-Kart Facility	77.000	TSF							
		Rock Climbing Gym Facility	26.000	TSF							
		Miniature Golf	36	HE							
		Trampoline Park	24.000	TSF							
		Bowling Alley	40.000	TSF							
		Quality Restaurant	15.000	TSF							
		High Turnover (Sit-Down)Restaurant	15.000	TSF							
6	Sundance Corporate Center	Office Park	130.000	TSF	154	19	173	24	145	169	1,439
7	Kirkwood Ranch	Single-Family Detached Residential	403	DU	73	209	282	239	140	379	3,800
8	Potrero Creek Estates	Single-Family Detached Residential	700	DU	127	363	490	415	243	658	6,601
9	Tract No. 32850	Single-Family Detached Residential	95	DU	17	50	67	56	33	89	896
10	Noble Creek Vistas	Single-Family Detached Residential	648	DU	118	336	454	384	225	609	6,111
11	Beaumont Summit Station[11]	High-Cube Short-Term Storage Building	2,199.185	TSF	520	315	835	349	483	832	13,152
		General Warehouse	358.370	TSF							
		Hotel	220	RM							
		Shopping Center	25.000	TSF							
		High-Turnover (Sit-Down) Restaurant	15.000	TSF							
		Fast Food with Drive Through	10.000	TSF							

Table 4 (2 of 3)
Other Cumulative Development Trip Generation

Trips Generated											
					AM Peak Hour			PM Peak Hour			
TAZ	Project[3]	Land Use	Quantity	Unit[2]	In	Out	Total	In	Out	Total	Daily
12	Beaumont Shopping Center	Commerical	46.100	TSF	27	16	43	55	61	116	1,680
13	Tournament Hills 3, TM 36307	Single-Family Detached Residential	279	DU	51	144	195	165	97	262	2,631
14	Prologis (Rolling Hills Ranch Industrial Phase 2)	General Light Industrial	2,850.000	TSF	1,856	253	2,109	259	1,594	1,853	13,880
15	8th and Highland Springs[5]	Super Convenience Market/Gas Station	12	VFP	74	71	145	52	48	100	1,100
		Fast Food with Drive Through	3.500	TSF							
16	Beyond Beaumont[6]	Super Mart with Gas Station	16.000	VFP	85	85	170	81	81	162	1,401
17	Butterfield Specific Plan[7]	Single-Family Detached Residential	5,387	DU	980	2,791	3,771	3,190	1,874	5,064	50,799
		Commercial	549.000	TSF	589	361	950	1,396	1,453	2,849	37,068
		Pass-By Trips: 0%/40%/AM+PM[8]			0	0	0	-558	-582	-1,140	-1,140
		Golf Course	253.900	AC	36	12	48	24	47	71	950
		Elementary School	230.000	TSF	882	721	1,603	142	173	315	4,490
		Subtotal			2,487	3,885	6,372	4,194	2,965	7,159	92,167
18	Beaumont Pointe Specific Plan[7]	Hotel	125	RM	32	26	58	38	36	74	999
		Industrial	4,995.000	TSF	3,253	443	3,696	455	2,792	3,247	24,326
		Subtotal	4,995.000	TSF	3,285	469	3,754	493	2,828	3,321	25,325
19	7-11 NWC Ramsey St. & Sunset Ave	Gasoline Station w/ Conveneince Market	10	VFP	80	81	161	92	92	184	2,651
20	Nourish	Commercial	10.700	TSF	11	8	19	27	29	56	722
		Pass-By Trips: 0%/40%/AM+PM[8]			0	0	0	-11	-11	-22	-22
		Subtotal	10.700	TSF	11	8	19	16	18	34	700
21	The Alley Barber & Hair Styling	Commercial	1.600	TSF	2	1	3	4	4	8	108
		Pass-By Trips: 0%/40%/AM+PM[8]			0	0	0	-2	-1	-3	-3
		Subtotal	1.600	TSF	2	1	3	2	3	5	105
22	Oak Valley Village[4]	Commerical/Retail	490.000	TSF	286	175	461	591	641	1,232	12,209
23	Country-Club Village[4]	Congregate Care	150	DU	163	92	255	153	197	350	4,006
		Assisted Living	105	BD							
		Senior Adult Housing-Attached	12	DU							
		Senior Adult Housing-Detached	60	DU							
		Medical/Dental Office Building	30.000	TSF							
		Speciality/General Retail	22.500	TSF							
		Speciality Retail	3.200	TSF							
		Hotel	150	RM							
		Restaurant	3.000	TSF							
24	Summerwind Ranch at Oak Valley[4]	Single-Family Detached Residential	712	DU	519	632	1,151	1,245	1,128	2,373	23,245
		Commerial/Retail	663.200	TSF							
25	Beaumont Landing[4]	Gasoline Station w/ Convenience Market	18	VFP	38	37	75	34	32	66	1,013
		Fast Food with Drive Through	4.000	TSF							
26	Potrero Logistics Center[7]	Industrial/High-Cube Logistic Warehouse	577.290	TSF	376	51	427	53	322	375	2,811
27	Legacy Highlands[7]	Single-Family Detached Residential	2,868	DU	522	1,486	2,008	1,698	998	2,696	27,045
28	High Sands[9]	General Office Building	6.400	TSF	32	26	58	22	25	47	1,140
		Fast Food with Drive Through	2.480	TSF							
29	McClure Machine Shop[10]	General Light Industrial	17.602	TSF	9	3	12	4	9	13	84
30	Orchard Logistic Center[10]	Warehouse	590.000	TSF	77	23	100	30	76	106	1,009
		General Office Building	20.000	TSF	27	3	30	5	24	29	217
		Subtotal	610.000	TSF	104	26	130	35	100	135	1,226

Table 4 (3 of 3)
Other Cumulative Development Trip Generation

Trips Generated											
					AM Peak Hour			PM Peak Hour			
TAZ	Project[3]	Land Use	Quantity	Unit[2]	In	Out	Total	In	Out	Total	Daily
31	Zendaja's[10]	Fast-Food with Drive-Through Window	2.336	TSF	53	51	104	40	37	77	1,092
		Pass-By Trips: 50%/55%/AM+PM[8]			-27	-25	-52	-22	-20	-42	-94
		Subtotal	2.336	TSF	26	26	52	18	17	35	998
32	Starbucks on 4th Street[10]	Coffee Shop with Drive-Through Window	2.200	TSF	96	93	189	43	43	86	1,174
		Pass-By Trips: 90%/98%/AM+PM[8]			-86	-84	-170	-42	-42	-84	-254
		Subtotal	2.200	TSF	10	9	19	1	1	2	920
33	West Side Fire Station[10]	Fire and Rescue Station	10.760	TSF	4	1	5	1	4	5	39
Total Other Development Trips					15,304	13,236	28,540	17,799	20,525	38,324	391,371

Notes:

(1) ITE = Institute of Transportation Engineers, Trip Generation Manual, 11th Edition, 2021; ### = Land Use Code

(2) DU = Dwelling Units; TSF = Thousand Square Feet; VFP = Vehicle Fueling Positions; RM = Rooms; HE = Holes; BD = Beds; AC = Acres

(3) Sources: Highland Springs & 8th Retail Traffic Impact Analysis (April 23, 2020), Urban Crossroads. Traffic Impact Study for New Gas Station NWC of Pennsylvania Ave and I-10 WB Off Ramp (March 20, 2020), K2 Traffic Engineering, Inc. 655 Highland Springs Office-Commerical Project Traffic Impact Analysis (December 14, 2020), Ganddini Group Inc.

(4) Source: Beaumont Landing Traffic Impact Analysis (February 27, 2020), LSA

(5) Source: Highland Springs and 8th Retail Traffic Impact Analysis (April 23, 2020), Urban Crossroads

(6) Source: Sixth at Pennsylvania Beyond Food Mart Project Traffic Impact Analysis (July 29, 2020), Ganddini Group Inc

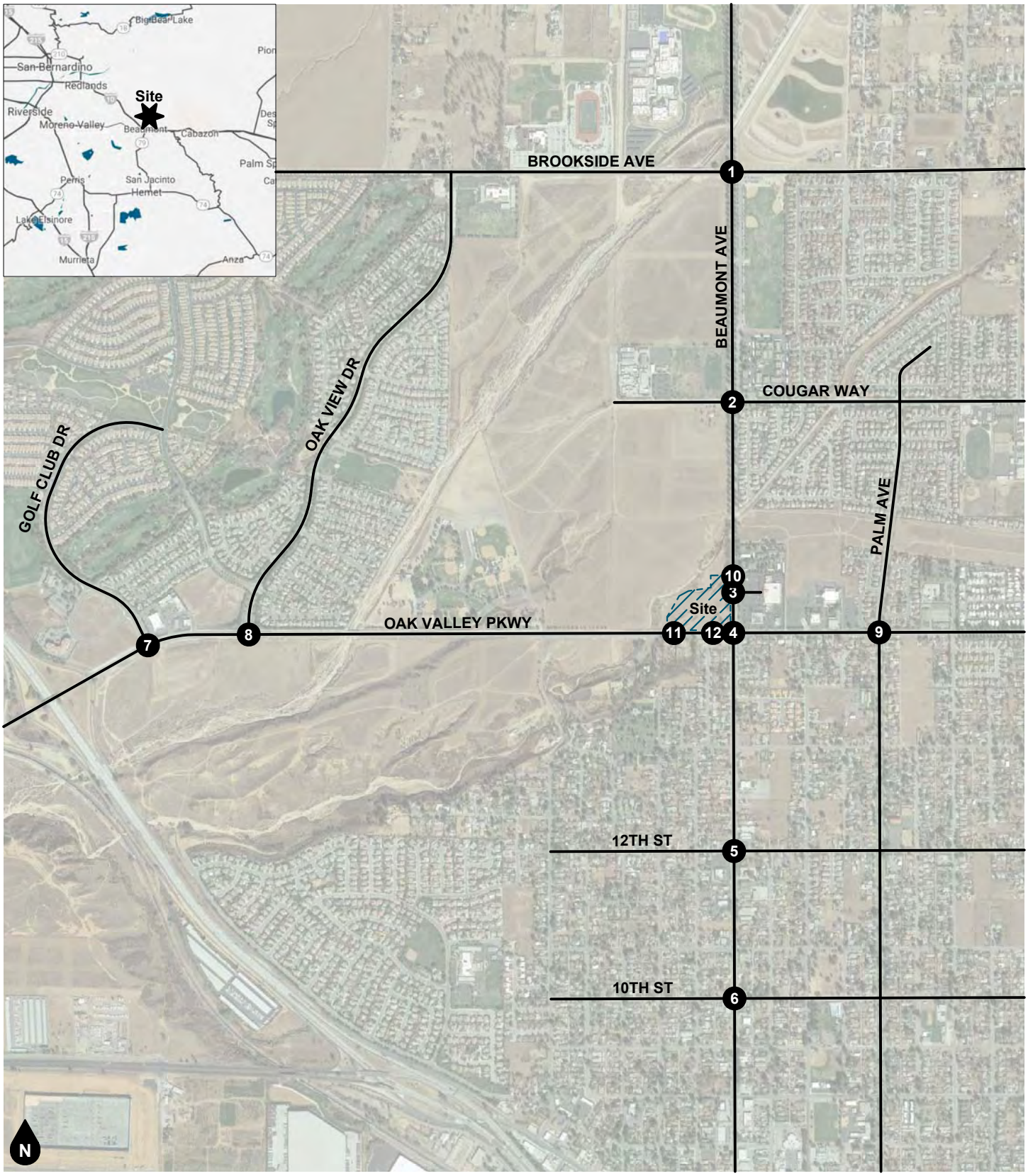
(7) Source: City of Beaumont Planning Public Documents January 2022

(8) ITE Trip Generation Manual (11th Edition, 2021). Pass-By peak hour trips per handbook average Pass-By trip percentages. Daily Pass-By trip is the sum of the Pass-By peak hour trips when no daily rate is available.

(9) Source: 655 Highland Springs Office-Commercial Project Traffic Impact Analysis (March 12, 2021), Ganddini Group Inc.

(10) Source: City of Beaumont Planning Projects, November 2022. Development Plan.

(11) Source: Beaumont Summit Station Project Traffic Study (February, 2022), Kimley Horn and Associates, Inc.



Legend

(#) Study Intersection

Figure 1
Project Location Map

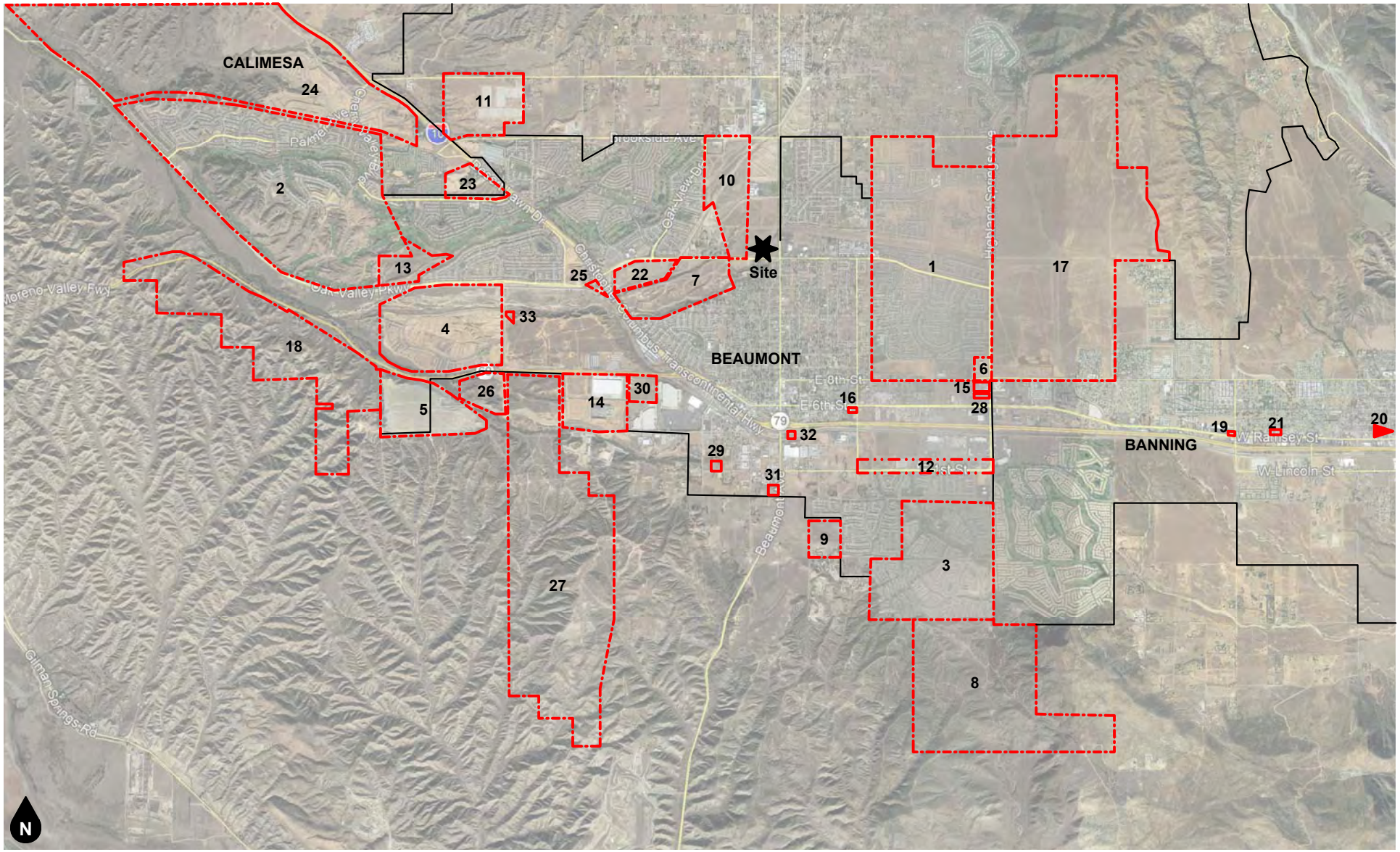
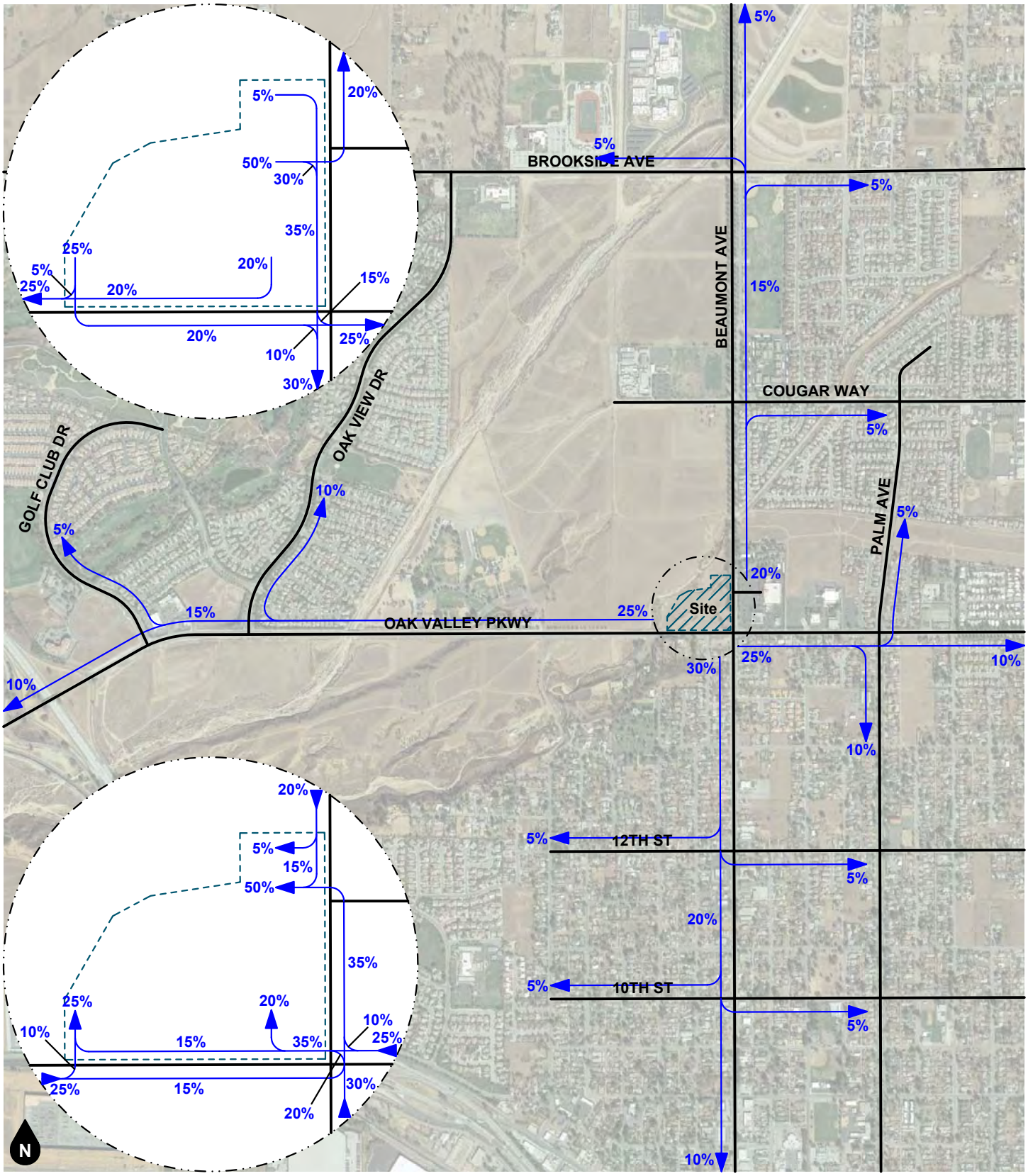


Figure 3
Other Development Location Map



Legend

10% Percent To/From Project

Figure 12
Project Trip Distribution

Appendix A

Site Plan

PROJECT SUMMARY

LOT AREA: APPROX. 312,150 S.F. – 7.16 ACRES

BUILDING AREAS

BUILDING 1:	2,600 S.F.
BUILDING 2:	7,362 S.F.
BUILDING 3:	3,130 S.F.
BUILDING 4:	2,800 S.F.
BUILDING 5:	3,605 S.F.
BUILDING 6:	2,304 S.F.
BUILDING 7:	18,000 S.F.
TOTAL BUILDING AREA:	39,801 S.F.

PARKING REQUIREMENTS

BUILDING 1 @ 1 PER 100SF:	26 SPACES RQD
BUILDING 2 @ 1 PER 100SF FOR 3,800:	38 SPACES RQD
BUILDING 2 @ 1 PER 200SF FOR 3,562:	18 SPACES RQD
BUILDING 3 @ 1 PER 200SF:	16 SPACES RQD
BUILDING 4 @ 1 PER 100SF:	28 SPACES RQD
BUILDING 5 @ 1 PER 200SF FOR 600:	03 SPACES RQD
BUILDING 5 @ 0 PER 000SF FOR 3,005:	00 SPACES RQD
BUILDING 6 @ 1 PER 100SF:	24 SPACES RQD
BUILDING 7 @ 1 PER 200SF:	90 SPACES RQD
TOTAL PARKING REQUIRED:	243 SPACES RQD
TOTAL PARKING PROVIDED:	263 SPACES
PARKING RATIO PROVIDED:	6.61 SPACES PER 1,000 S.F.

NOT A PART

RETAIL
BLDG. 7
18,000 SF

LOADING ZONE

PHASE 2

PHASE 1

BLD. 1
2,600 SF

MULTI TENANT
REST / RETAIL
BLD. 2
7,362 SF

C-STORE / GAS
BLD. 3
3,130 SF

CAR WASH
BLDG. 5
3,605 SF

BLD 4
2,800 SF

BLD. 6
2,304 SF

PATIO

DOOR LOCATIONS SHOWN ARE SCHEMATIC ONLY

RETAINING WALL REQUIRED

2'-0" VEHICLE OVERHANG

SIDEWALK 5' OR LESS

10% SLOPE 2' = 8'-9"

PROJECT NORTH

NOT A PART

BEAUMONT AVENUE

US BANK

STATER BROS

WALGREENS

OAK VALLEY PARKWAY

MH

PERUZZI
ARCHITECTS
8800 VENICE BLVD #317
LOS ANGELES, CA 90034
TEL 310 . 838 . 9766
WWW.PERUZZIARCHITECTS.COM

PROJECT OWNER
SANTIAGO HOLDINGS
9454 WILSHIRE BLVD, STE 650
BEVERLY HILLS, CA 90212
310-553-1031

ARCHITECTS SEAL

DATE OF SEAL

REVISIONS
No. DATE

RETAIL & RESTAURANTS AT
BEAUMONT VILLAGE
NWC BEAUMONT & OAK VALLEY
BEAUMONT . CA . 92223

PROJECT NUMBER: 195-001-20
DRAWING DATE: NOV . 09 . 2022
DRAWING SCALE: AS NOTED
DRAWN BY: TL

SITE PLAN - SCHEME N1 - Option B

A-100

APPENDIX C

VOLUME COUNT WORKSHEETS

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Beaumont Avenue
E/W: Brookside Avenue
Weather: Clear

File Name : 01_BMT_Beaumont_Brookside AM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 1

Groups Printed- Total Volume

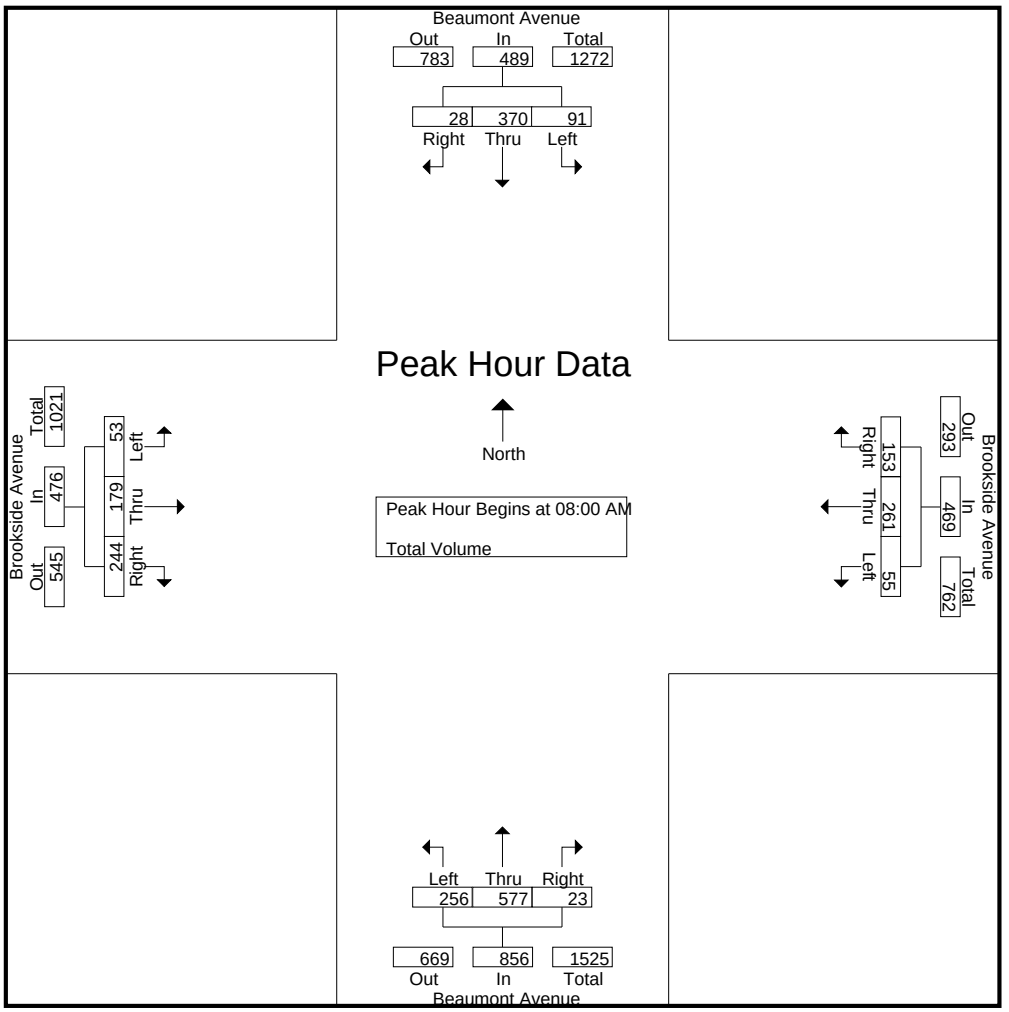
	Beaumont Avenue Southbound				Brookside Avenue Westbound				Beaumont Avenue Northbound				Brookside Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	13	58	3	74	20	22	37	79	35	110	3	148	2	15	30	47	348
07:15 AM	10	70	1	81	20	32	28	80	35	123	6	164	5	8	43	56	381
07:30 AM	7	51	8	66	15	17	33	65	24	165	4	193	7	15	56	78	402
07:45 AM	9	93	2	104	13	20	29	62	40	165	6	211	5	16	49	70	447
Total	39	272	14	325	68	91	127	286	134	563	19	716	19	54	178	251	1578
08:00 AM	16	81	4	101	12	28	32	72	58	179	4	241	6	14	55	75	489
08:15 AM	18	76	9	103	13	80	51	144	70	147	4	221	5	57	52	114	582
08:30 AM	32	100	7	139	10	79	32	121	69	134	9	212	18	54	76	148	620
08:45 AM	25	113	8	146	20	74	38	132	59	117	6	182	24	54	61	139	599
Total	91	370	28	489	55	261	153	469	256	577	23	856	53	179	244	476	2290
Grand Total	130	642	42	814	123	352	280	755	390	1140	42	1572	72	233	422	727	3868
Apprch %	16	78.9	5.2		16.3	46.6	37.1		24.8	72.5	2.7		9.9	32	58		
Total %	3.4	16.6	1.1	21	3.2	9.1	7.2	19.5	10.1	29.5	1.1	40.6	1.9	6	10.9	18.8	

	Beaumont Avenue Southbound				Brookside Avenue Westbound				Beaumont Avenue Northbound				Brookside Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	16	81	4	101	12	28	32	72	58	**179**	4	**241**	6	14	55	75	489
08:15 AM	18	76	**9**	103	13	**80**	**51**	**144**	**70**	147	4	221	5	**57**	52	114	582
08:30 AM	**32**	100	7	139	10	79	32	121	69	134	**9**	212	18	54	**76**	**148**	**620**
08:45 AM	25	**113**	8	**146**	**20**	74	38	132	59	117	6	182	**24**	54	61	139	599
Total Volume	91	370	28	489	55	261	153	469	256	577	23	856	53	179	244	476	2290
% App. Total	18.6	75.7	5.7		11.7	55.7	32.6		29.9	67.4	2.7		11.1	37.6	51.3		
PHF	.711	.819	.778	.837	.688	.816	.750	.814	.914	.806	.639	.888	.552	.785	.803	.804	.923

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Beaumont Avenue
E/W: Brookside Avenue
Weather: Clear

File Name : 01_BMT_Beaumont_Brookside AM
Site Code : 07518044
Start Date : 1/17/2018



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				07:45 AM				08:00 AM			
+0 mins.	16	81	4	101	12	28	32	72	40	165	6	211	6	14	55	75
+15 mins.	18	76	**9**	103	13	**80**	**51**	**144**	58	**179**	4	**241**	5	**57**	52	114
+30 mins.	**32**	100	7	139	10	79	32	121	**70**	147	4	221	18	54	**76**	**148**
+45 mins.	25	**113**	8	**146**	**20**	74	38	132	69	134	**9**	212	**24**	54	61	139
Total Volume	91	370	28	489	55	261	153	469	237	625	23	885	53	179	244	476
% App. Total	18.6	75.7	5.7		11.7	55.7	32.6		26.8	70.6	2.6		11.1	37.6	51.3	
PHF	.711	.819	.778	.837	.688	.816	.750	.814	.846	.873	.639	.918	.552	.785	.803	.804

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Beaumont Avenue
E/W: Brookside Avenue
Weather: Clear

File Name : 01_BMT_Beaumont_Brookside PM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 1

Groups Printed- Total Volume

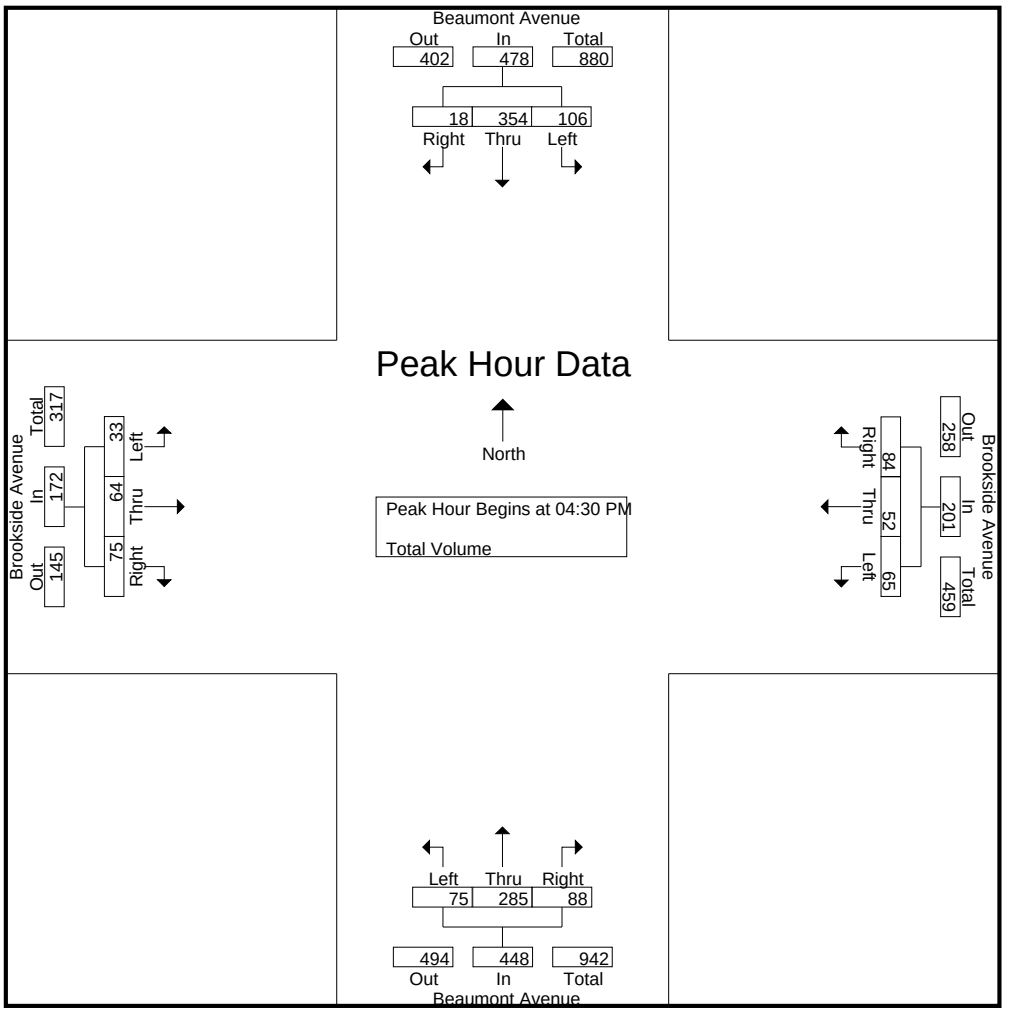
	Beaumont Avenue Southbound				Brookside Avenue Westbound				Beaumont Avenue Northbound				Brookside Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	23	71	3	97	15	19	21	55	17	69	27	113	4	18	13	35	300
04:15 PM	25	69	2	96	11	13	15	39	15	75	20	110	7	19	26	52	297
04:30 PM	26	81	9	116	23	13	17	53	5	84	21	110	13	19	17	49	328
04:45 PM	30	87	3	120	20	11	27	58	26	87	27	140	6	18	23	47	365
Total	104	308	17	429	69	56	80	205	63	315	95	473	30	74	79	183	1290
05:00 PM	26	80	2	108	10	16	23	49	20	62	16	98	8	12	18	38	293
05:15 PM	24	106	4	134	12	12	17	41	24	52	24	100	6	15	17	38	313
05:30 PM	23	70	2	95	16	10	25	51	7	67	22	96	7	12	27	46	288
05:45 PM	31	77	2	110	15	9	11	35	9	58	14	81	2	5	9	16	242
Total	104	333	10	447	53	47	76	176	60	239	76	375	23	44	71	138	1136
Grand Total	208	641	27	876	122	103	156	381	123	554	171	848	53	118	150	321	2426
Apprch %	23.7	73.2	3.1		32	27	40.9		14.5	65.3	20.2		16.5	36.8	46.7		
Total %	8.6	26.4	1.1	36.1	5	4.2	6.4	15.7	5.1	22.8	7	35	2.2	4.9	6.2	13.2	

	Beaumont Avenue Southbound				Brookside Avenue Westbound				Beaumont Avenue Northbound				Brookside Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	26	81	**9**	116	**23**	13	17	53	5	84	21	110	**13**	**19**	17	**49**	328
04:45 PM	**30**	87	3	120	20	11	**27**	**58**	**26**	**87**	**27**	**140**	6	18	**23**	47	**365**
05:00 PM	26	80	2	108	10	**16**	23	49	20	62	16	98	8	12	18	38	293
05:15 PM	24	**106**	4	**134**	12	12	17	41	24	52	24	100	6	15	17	38	313
Total Volume	106	354	18	478	65	52	84	201	75	285	88	448	33	64	75	172	1299
% App. Total	22.2	74.1	3.8		32.3	25.9	41.8		16.7	63.6	19.6		19.2	37.2	43.6		
PHF	.883	.835	.500	.892	.707	.813	.778	.866	.721	.819	.815	.800	.635	.842	.815	.878	.890

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Beaumont Avenue
E/W: Brookside Avenue
Weather: Clear

File Name : 01_BMT_Beaumont_Brookside PM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:00 PM				04:00 PM				04:15 PM			
+0 mins.	26	81	**9**	116	15	**19**	21	55	17	69	**27**	113	7	**19**	**26**	**52**
+15 mins.	**30**	87	3	120	11	13	15	39	15	75	20	110	**13**	19	17	49
+30 mins.	26	80	2	108	**23**	13	17	53	5	84	21	110	6	18	23	47
+45 mins.	24	**106**	4	**134**	20	11	**27**	**58**	**26**	**87**	27	**140**	8	12	18	38
Total Volume	106	354	18	478	69	56	80	205	63	315	95	473	34	68	84	186
% App. Total	22.2	74.1	3.8		33.7	27.3	39		13.3	66.6	20.1		18.3	36.6	45.2	
PHF	.883	.835	.500	.892	.750	.737	.741	.884	.606	.905	.880	.845	.654	.895	.808	.894

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Beaumont Avenue
E/W: Cougar Way
Weather: Clear

File Name : 02_BMT_Beaumont_Cougar AM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 1

Groups Printed- Total Volume

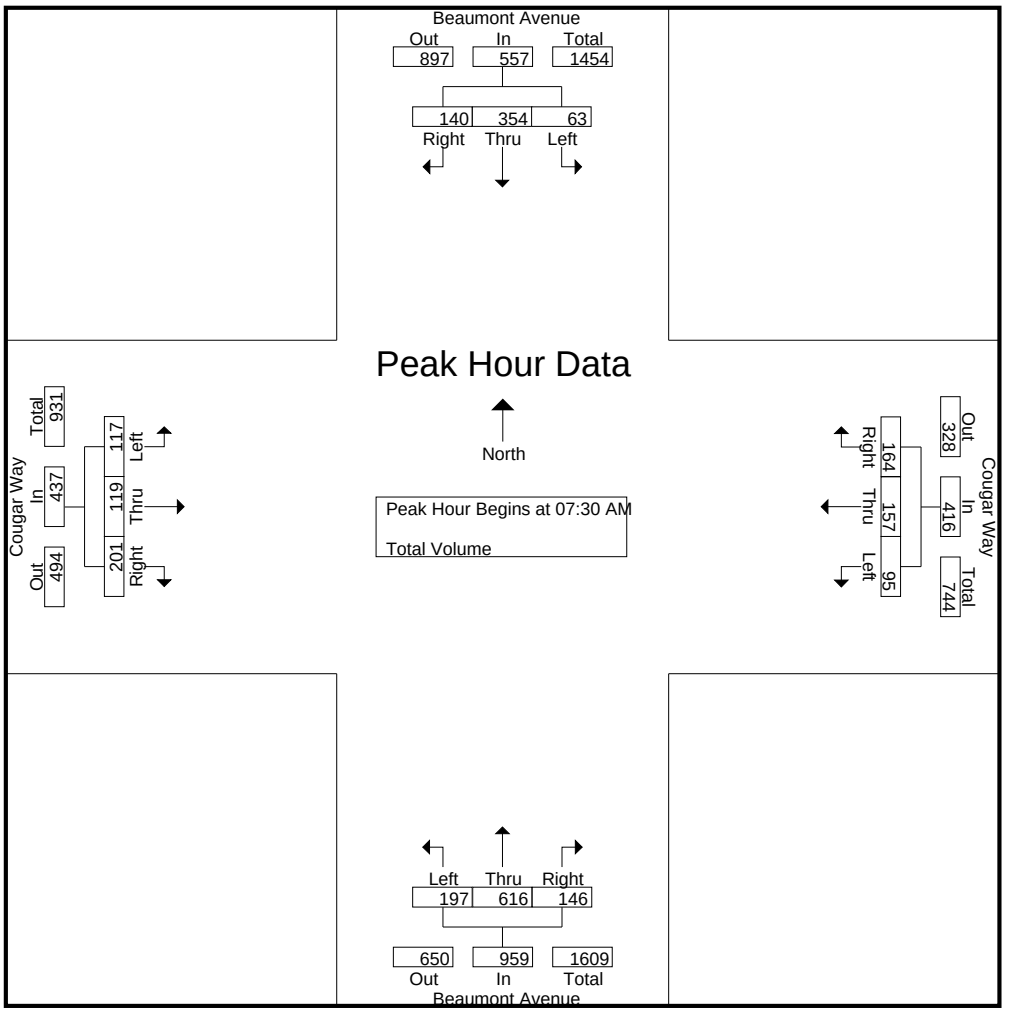
	Beaumont Avenue Southbound				Cougar Way Westbound				Beaumont Avenue Northbound				Cougar Way Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	11	63	25	99	47	17	38	102	42	91	22	155	23	5	44	72	428
07:15 AM	7	90	37	134	37	17	25	79	63	128	13	204	17	10	62	89	506
07:30 AM	7	63	50	120	33	28	22	83	66	138	19	223	31	21	56	108	534
07:45 AM	10	101	41	152	23	59	32	114	54	165	28	247	36	40	53	129	642
Total	35	317	153	505	140	121	117	378	225	522	82	829	107	76	215	398	2110
08:00 AM	16	72	44	132	15	60	44	119	58	171	39	268	39	44	67	150	669
08:15 AM	30	118	5	153	24	10	66	100	19	142	60	221	11	14	25	50	524
08:30 AM	23	131	7	161	26	6	47	79	6	159	46	211	1	1	9	11	462
08:45 AM	30	164	4	198	22	1	30	53	2	137	16	155	1	1	3	5	411
Total	99	485	60	644	87	77	187	351	85	609	161	855	52	60	104	216	2066
Grand Total	134	802	213	1149	227	198	304	729	310	1131	243	1684	159	136	319	614	4176
Apprch %	11.7	69.8	18.5		31.1	27.2	41.7		18.4	67.2	14.4		25.9	22.1	52		
Total %	3.2	19.2	5.1	27.5	5.4	4.7	7.3	17.5	7.4	27.1	5.8	40.3	3.8	3.3	7.6	14.7	

	Beaumont Avenue Southbound				Cougar Way Westbound				Beaumont Avenue Northbound				Cougar Way Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	7	63	**50**	120	**33**	28	22	83	**66**	138	19	223	31	21	56	108	534
07:45 AM	10	101	41	152	23	59	32	114	54	165	28	247	36	40	53	129	642
08:00 AM	16	72	44	132	15	**60**	44	**119**	58	**171**	39	**268**	**39**	**44**	**67**	**150**	**669**
08:15 AM	**30**	**118**	5	**153**	24	10	**66**	100	19	142	**60**	221	11	14	25	50	524
Total Volume	63	354	140	557	95	157	164	416	197	616	146	959	117	119	201	437	2369
% App. Total	11.3	63.6	25.1		22.8	37.7	39.4		20.5	64.2	15.2		26.8	27.2	46		
PHF	.525	.750	.700	.910	.720	.654	.621	.874	.746	.901	.608	.895	.750	.676	.750	.728	.885

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Beaumont Avenue
E/W: Cougar Way
Weather: Clear

File Name : 02_BMT_Beaumont_Cougar AM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:30 AM				07:30 AM				07:15 AM			
+0 mins.	16	72	**44**	132	**33**	28	22	83	**66**	138	19	223	17	10	62	89
+15 mins.	**30**	118	5	153	23	59	32	114	54	165	28	247	31	21	56	108
+30 mins.	23	131	7	161	15	**60**	44	**119**	58	**171**	39	**268**	36	40	53	129
+45 mins.	30	**164**	4	**198**	24	10	**66**	100	19	142	**60**	221	**39**	**44**	**67**	**150**
Total Volume	99	485	60	644	95	157	164	416	197	616	146	959	123	115	238	476
% App. Total	15.4	75.3	9.3		22.8	37.7	39.4		20.5	64.2	15.2		25.8	24.2	50	
PHF	.825	.739	.341	.813	.720	.654	.621	.874	.746	.901	.608	.895	.788	.653	.888	.793

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Beaumont Avenue
E/W: Cougar Way
Weather: Clear

File Name : 02_BMT_Beaumont_Cougar PM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 1

Groups Printed- Total Volume

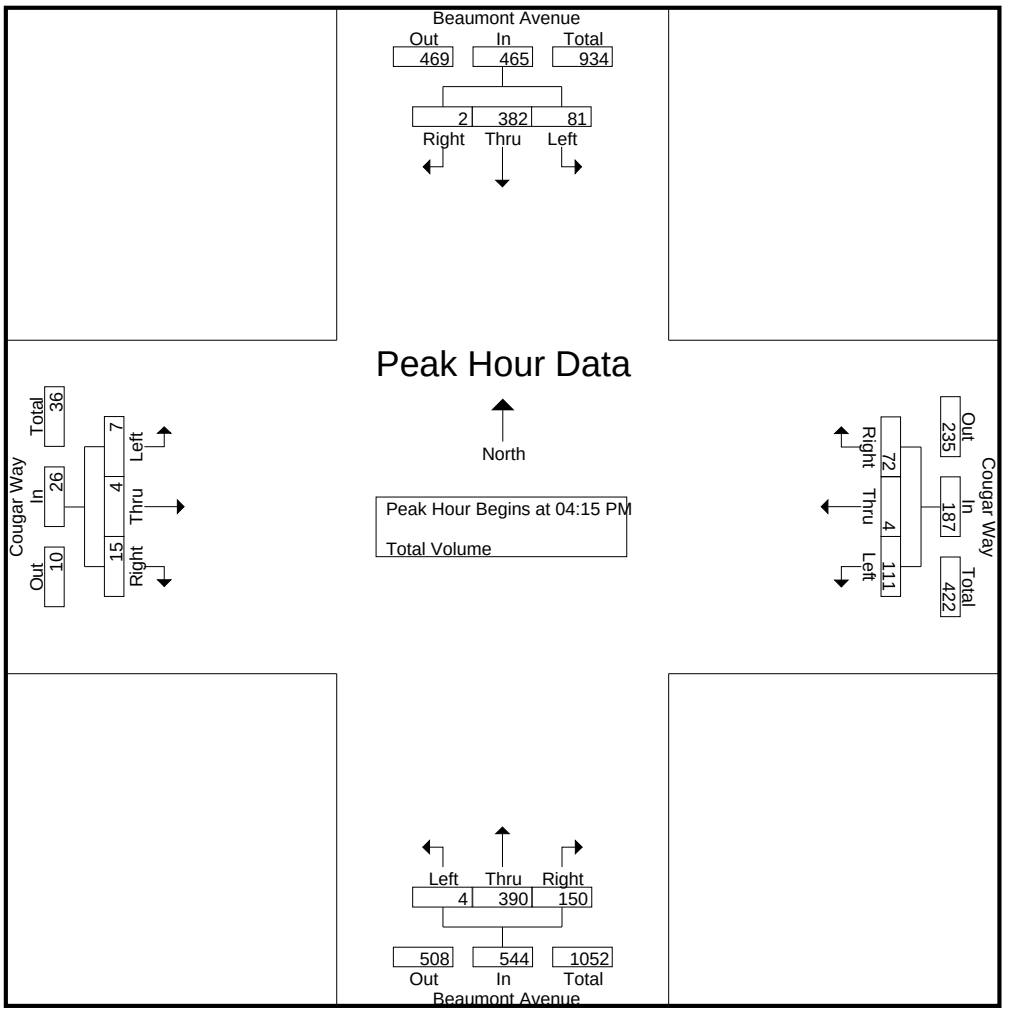
	Beaumont Avenue Southbound				Cougar Way Westbound				Beaumont Avenue Northbound				Cougar Way Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	13	85	0	98	26	1	20	47	0	75	39	114	5	4	3	12	271
04:15 PM	21	88	0	109	26	2	18	46	2	95	49	146	2	0	2	4	305
04:30 PM	19	108	0	127	21	1	16	38	0	95	26	121	2	2	5	9	295
04:45 PM	22	107	2	131	29	0	23	52	1	122	30	153	0	1	5	6	342
Total	75	388	2	465	102	4	77	183	3	387	144	534	9	7	15	31	1213
05:00 PM	19	79	0	98	35	1	15	51	1	78	45	124	3	1	3	7	280
05:15 PM	28	95	1	124	22	1	12	35	0	92	49	141	0	1	2	3	303
05:30 PM	33	72	5	110	21	3	5	29	5	96	46	147	2	1	4	7	293
05:45 PM	16	82	4	102	26	2	12	40	5	61	36	102	4	4	13	21	265
Total	96	328	10	434	104	7	44	155	11	327	176	514	9	7	22	38	1141
Grand Total	171	716	12	899	206	11	121	338	14	714	320	1048	18	14	37	69	2354
Apprch %	19	79.6	1.3		60.9	3.3	35.8		1.3	68.1	30.5		26.1	20.3	53.6		
Total %	7.3	30.4	0.5	38.2	8.8	0.5	5.1	14.4	0.6	30.3	13.6	44.5	0.8	0.6	1.6	2.9	

	Beaumont Avenue Southbound				Cougar Way Westbound				Beaumont Avenue Northbound				Cougar Way Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	21	88	0	109	26	**2**	18	46	**2**	95	**49**	146	2	0	2	4	305
04:30 PM	19	**108**	0	127	21	1	16	38	0	95	26	121	2	**2**	**5**	**9**	295
04:45 PM	**22**	107	**2**	**131**	29	0	**23**	**52**	1	**122**	30	**153**	0	1	5	6	**342**
05:00 PM	19	79	0	98	**35**	1	15	51	1	78	45	124	**3**	1	3	7	280
Total Volume	81	382	2	465	111	4	72	187	4	390	150	544	7	4	15	26	1222
% App. Total	17.4	82.2	0.4		59.4	2.1	38.5		0.7	71.7	27.6		26.9	15.4	57.7		
PHF	.920	.884	.250	.887	.793	.500	.783	.899	.500	.799	.765	.889	.583	.500	.750	.722	.893

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Beaumont Avenue
E/W: Cougar Way
Weather: Clear

File Name : 02_BMT_Beaumont_Cougar PM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:15 PM				04:45 PM				05:00 PM			
+0 mins.	19	**108**	0	127	26	**2**	18	46	1	**122**	30	**153**	3	1	3	7
+15 mins.	22	107	**2**	**131**	21	1	16	38	1	78	45	124	0	1	2	3
+30 mins.	19	79	0	98	29	0	**23**	**52**	0	92	**49**	141	2	1	4	7
+45 mins.	**28**	95	1	124	**35**	1	15	51	**5**	96	46	147	**4**	**4**	**13**	**21**
Total Volume	88	389	3	480	111	4	72	187	7	388	170	565	9	7	22	38
% App. Total	18.3	81	0.6		59.4	2.1	38.5		1.2	68.7	30.1		23.7	18.4	57.9	
PHF	.786	.900	.375	.916	.793	.500	.783	.899	.350	.795	.867	.923	.563	.438	.423	.452

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Beaumont Avenue
E/W: Oak Valley Towne Center Driveway
Weather: Clear

File Name : 03_BMT_Beaumont_Oak Valley Towne Center DW AM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 1

Groups Printed- Total Volume

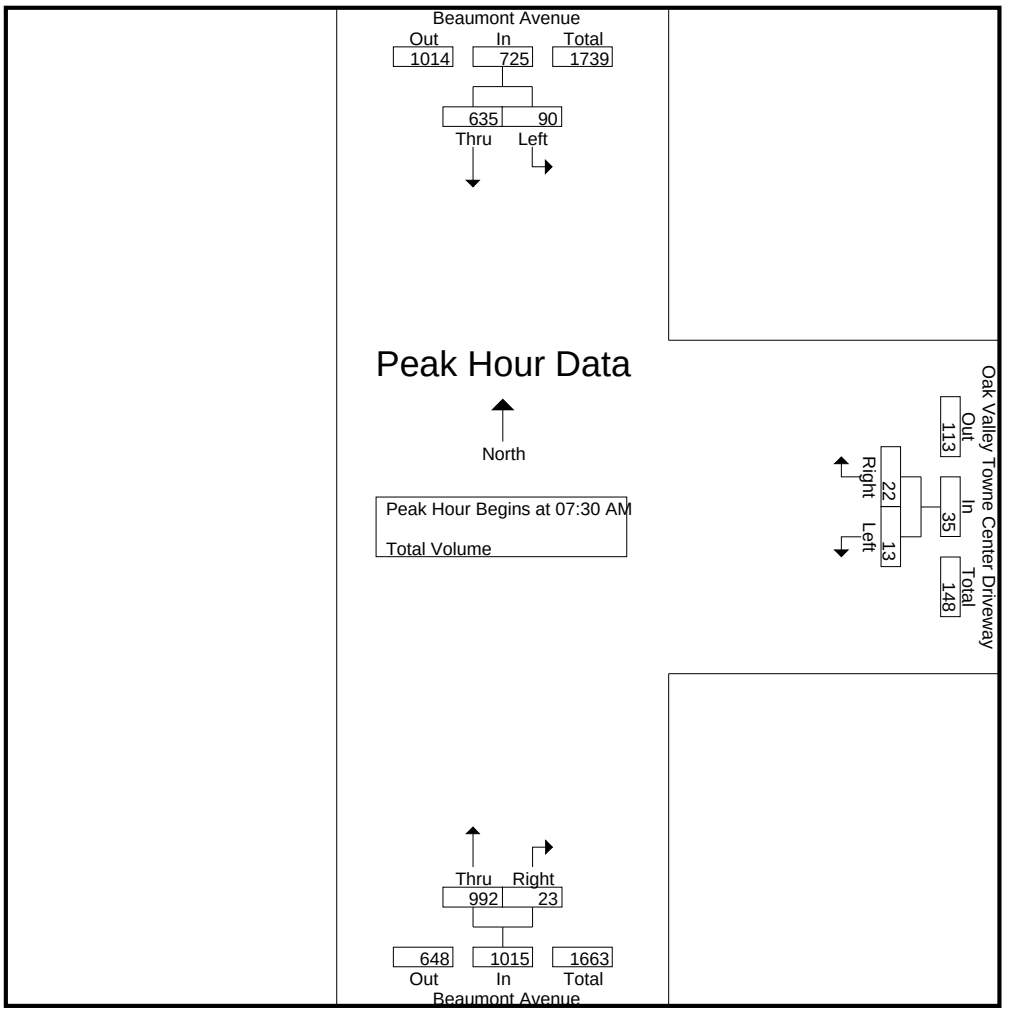
	Beaumont Avenue Southbound			Oak Valley Towne Center Driveway Westbound			Beaumont Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	10	159	169	3	9	12	158	4	162	343
07:15 AM	14	179	193	1	3	4	198	2	200	397
07:30 AM	16	149	165	2	1	3	229	5	234	402
07:45 AM	24	173	197	4	8	12	262	3	265	474
Total	64	660	724	10	21	31	847	14	861	1616
08:00 AM	28	144	172	1	9	10	277	7	284	466
08:15 AM	22	169	191	6	4	10	224	8	232	433
08:30 AM	22	164	186	6	6	12	178	6	184	382
08:45 AM	29	181	210	6	6	12	135	8	143	365
Total	101	658	759	19	25	44	814	29	843	1646
Grand Total	165	1318	1483	29	46	75	1661	43	1704	3262
Apprch %	11.1	88.9		38.7	61.3		97.5	2.5		
Total %	5.1	40.4	45.5	0.9	1.4	2.3	50.9	1.3	52.2	

	Beaumont Avenue Southbound			Oak Valley Towne Center Driveway Westbound			Beaumont Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	16	149	165	2	1	3	229	5	234	402
07:45 AM	24	**173**	**197**	4	8	**12**	262	3	265	**474**
08:00 AM	**28**	144	172	1	**9**	10	**277**	7	**284**	466
08:15 AM	22	169	191	**6**	4	10	224	**8**	232	433
Total Volume	90	635	725	13	22	35	992	23	1015	1775
% App. Total	12.4	87.6		37.1	62.9		97.7	2.3		
PHF	.804	.918	.920	.542	.611	.729	.895	.719	.893	.936

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Beaumont Avenue
E/W: Oak Valley Towne Center Driveway
Weather: Clear

File Name : 03_BMT_Beaumont_Oak Valley Towne Center DW AM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM			07:45 AM			07:30 AM		
+0 mins.	28	144	172	4	8	**12**	229	5	234
+15 mins.	22	169	191	1	**9**	10	262	3	265
+30 mins.	22	164	186	**6**	4	10	**277**	7	**284**
+45 mins.	**29**	**181**	**210**	6	6	12	224	**8**	232
Total Volume	101	658	759	17	27	44	992	23	1015
% App. Total	13.3	86.7		38.6	61.4		97.7	2.3	
PHF	.871	.909	.904	.708	.750	.917	.895	.719	.893

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Beaumont Avenue
E/W: Oak Valley Towne Center Driveway
Weather: Clear

File Name : 03_BMT_Beaumont_Oak Valley Towne Center DW PM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 1

Groups Printed- Total Volume

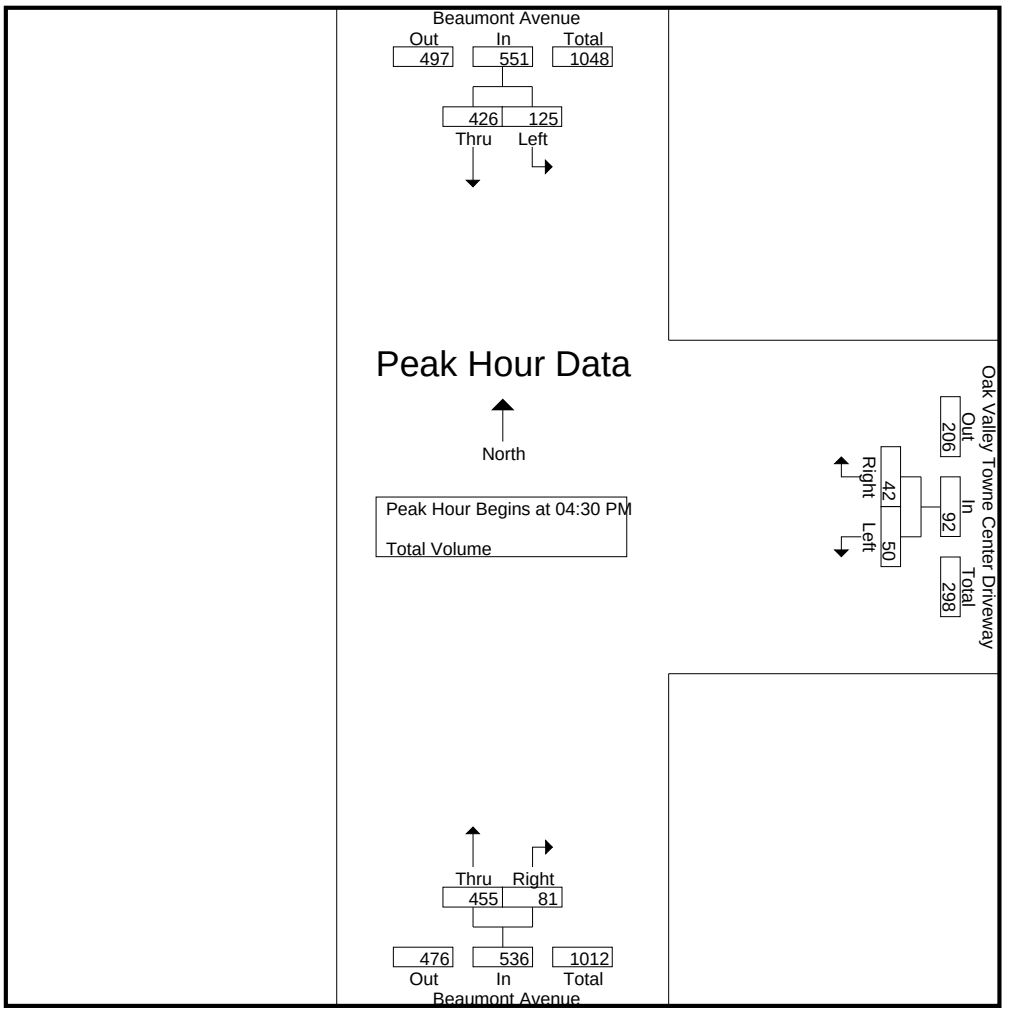
	Beaumont Avenue Southbound			Oak Valley Towne Center Driveway Westbound			Beaumont Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	24	102	126	15	6	21	99	14	113	260
04:15 PM	23	93	116	10	12	22	118	14	132	270
04:30 PM	25	115	140	11	9	20	113	20	133	293
04:45 PM	32	112	144	12	9	21	131	22	153	318
Total	104	422	526	48	36	84	461	70	531	1141
05:00 PM	34	105	139	15	10	25	106	16	122	286
05:15 PM	34	94	128	12	14	26	105	23	128	282
05:30 PM	28	80	108	14	10	24	111	18	129	261
05:45 PM	32	95	127	11	5	16	88	13	101	244
Total	128	374	502	52	39	91	410	70	480	1073
Grand Total	232	796	1028	100	75	175	871	140	1011	2214
Apprch %	22.6	77.4		57.1	42.9		86.2	13.8		
Total %	10.5	36	46.4	4.5	3.4	7.9	39.3	6.3	45.7	

	Beaumont Avenue Southbound			Oak Valley Towne Center Driveway Westbound			Beaumont Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	25	**115**	140	11	9	20	113	20	133	293
04:45 PM	32	112	**144**	12	9	21	**131**	22	**153**	**318**
05:00 PM	**34**	105	139	**15**	10	25	106	16	122	286
05:15 PM	34	94	128	12	**14**	**26**	105	**23**	128	282
Total Volume	125	426	551	50	42	92	455	81	536	1179
% App. Total	22.7	77.3		54.3	45.7		84.9	15.1		
PHF	.919	.926	.957	.833	.750	.885	.868	.880	.876	.927

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Beaumont Avenue
E/W: Oak Valley Towne Center Driveway
Weather: Clear

File Name : 03_BMT_Beaumont_Oak Valley Towne Center DW PM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:45 PM			04:15 PM		
+0 mins.	25	**115**	140	12	9	21	118	14	132
+15 mins.	32	112	**144**	**15**	10	25	113	20	133
+30 mins.	**34**	105	139	12	**14**	**26**	**131**	**22**	**153**
+45 mins.	34	94	128	14	10	24	106	16	122
Total Volume	125	426	551	53	43	96	468	72	540
% App. Total	22.7	77.3		55.2	44.8		86.7	13.3	
PHF	.919	.926	.957	.883	.768	.923	.893	.818	.882

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Beaumont Avenue
E/W: Oak Valley Parkway
Weather: Clear

File Name : 04_BMT_Beaumont_Oak Valley AM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 1

Groups Printed- Total Volume

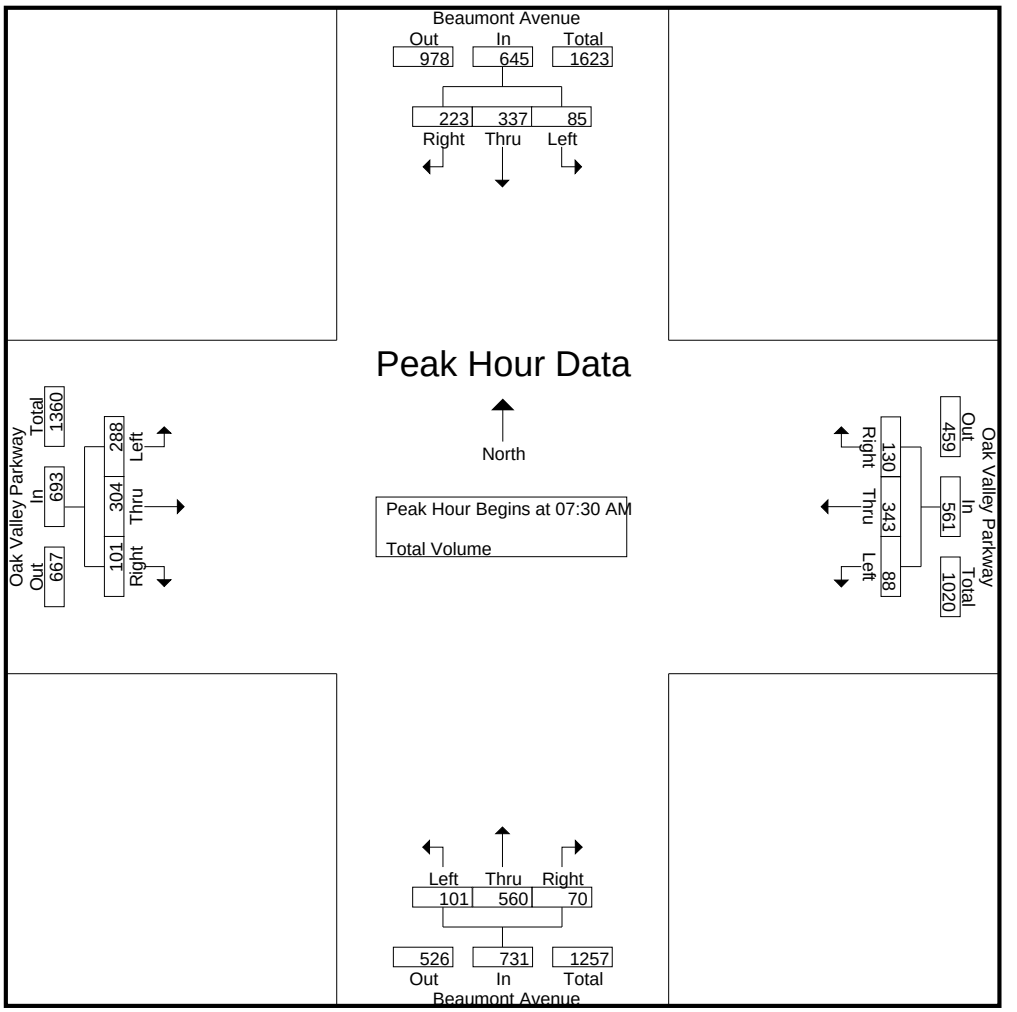
	Beaumont Avenue Southbound				Oak Valley Parkway Westbound				Beaumont Avenue Northbound				Oak Valley Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	40	77	74	191	24	143	13	180	6	82	15	103	59	46	10	115	589
07:15 AM	7	99	69	175	13	106	27	146	13	104	8	125	75	48	17	140	586
07:30 AM	15	76	53	144	17	92	26	135	25	125	22	172	83	82	24	189	640
07:45 AM	21	91	60	172	13	83	30	126	27	151	13	191	71	86	28	185	674
Total	83	343	256	682	67	424	96	587	71	462	58	591	288	262	79	629	2489
08:00 AM	22	75	59	156	21	80	35	136	26	161	18	205	72	80	27	179	676
08:15 AM	27	95	51	173	37	88	39	164	23	123	17	163	62	56	22	140	640
08:30 AM	37	94	42	173	24	83	28	135	28	106	10	144	39	63	22	124	576
08:45 AM	33	118	33	184	15	71	28	114	17	64	14	95	57	72	33	162	555
Total	119	382	185	686	97	322	130	549	94	454	59	607	230	271	104	605	2447
Grand Total	202	725	441	1368	164	746	226	1136	165	916	117	1198	518	533	183	1234	4936
Apprch %	14.8	53	32.2		14.4	65.7	19.9		13.8	76.5	9.8		42	43.2	14.8		
Total %	4.1	14.7	8.9	27.7	3.3	15.1	4.6	23	3.3	18.6	2.4	24.3	10.5	10.8	3.7	25	

	Beaumont Avenue Southbound				Oak Valley Parkway Westbound				Beaumont Avenue Northbound				Oak Valley Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	15	76	53	144	17	**92**	26	135	25	125	**22**	172	**83**	82	24	**189**	640
07:45 AM	21	91	**60**	172	13	83	30	126	**27**	151	13	191	71	**86**	**28**	185	674
08:00 AM	22	75	59	156	21	80	35	136	26	**161**	18	**205**	72	80	27	179	**676**
08:15 AM	**27**	**95**	51	**173**	**37**	88	**39**	**164**	23	123	17	163	62	56	22	140	640
Total Volume	85	337	223	645	88	343	130	561	101	560	70	731	288	304	101	693	2630
% App. Total	13.2	52.2	34.6		15.7	61.1	23.2		13.8	76.6	9.6		41.6	43.9	14.6		
PHF	.787	.887	.929	.932	.595	.932	.833	.855	.935	.870	.795	.891	.867	.884	.902	.917	.973

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Beaumont Avenue
E/W: Oak Valley Parkway
Weather: Clear

File Name : 04_BMT_Beaumont_Oak Valley AM
Site Code : 07518044
Start Date : 1/17/2018



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:00 AM				07:30 AM				07:15 AM			
+0 mins.	22	75	**59**	156	**24**	**143**	13	**180**	25	125	**22**	172	75	48	17	140
+15 mins.	27	95	51	173	13	106	27	146	**27**	151	13	191	**83**	82	24	**189**
+30 mins.	**37**	94	42	173	17	92	26	135	26	**161**	18	**205**	71	**86**	**28**	185
+45 mins.	33	**118**	33	**184**	13	83	**30**	126	23	123	17	163	72	80	27	179
Total Volume	119	382	185	686	67	424	96	587	101	560	70	731	301	296	96	693
% App. Total	17.3	55.7	27		11.4	72.2	16.4		13.8	76.6	9.6		43.4	42.7	13.9	
PHF	.804	.809	.784	.932	.698	.741	.800	.815	.935	.870	.795	.891	.907	.860	.857	.917

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Beaumont Avenue
E/W: Oak Valley Parkway
Weather: Clear

File Name : 04_BMT_Beaumont_Oak Valley PM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 1

Groups Printed- Total Volume

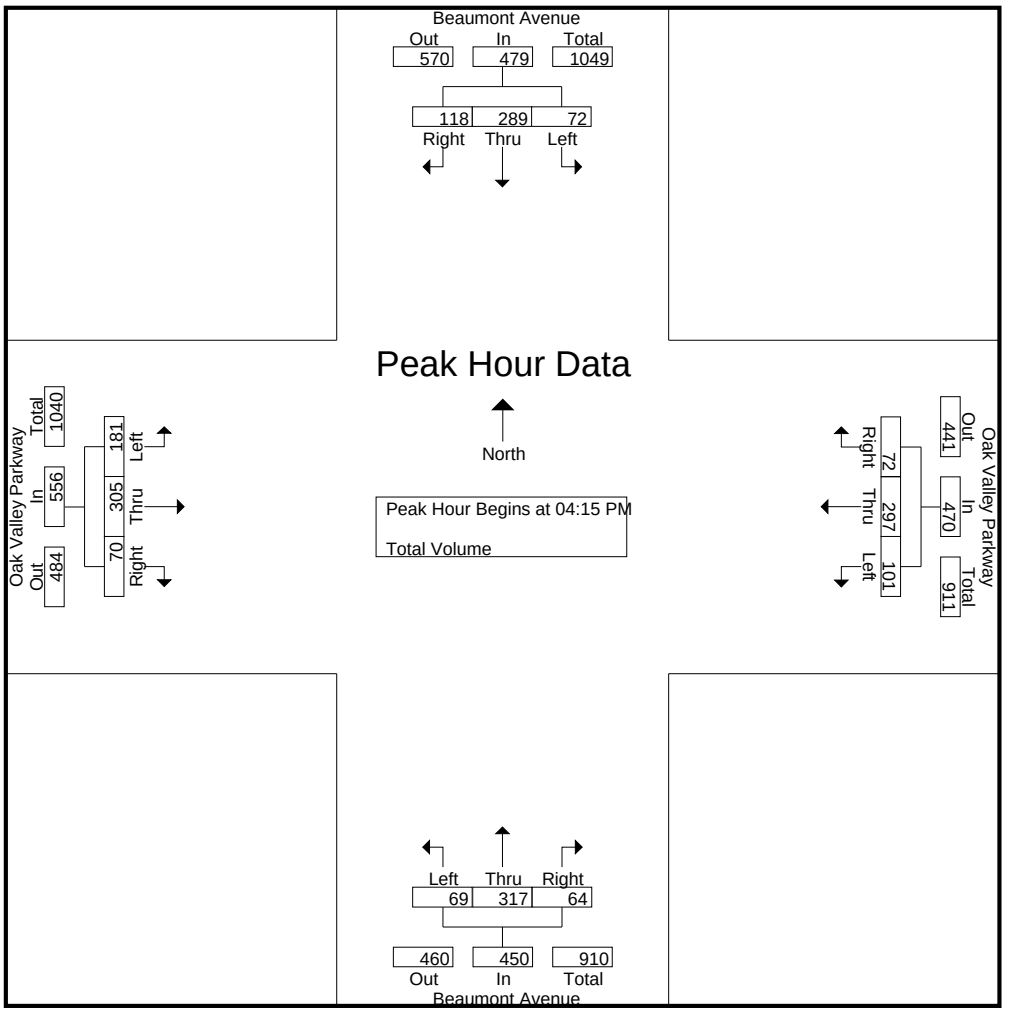
	Beaumont Avenue Southbound				Oak Valley Parkway Westbound				Beaumont Avenue Northbound				Oak Valley Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	17	67	31	115	17	83	8	108	9	82	13	104	32	68	13	113	440
04:15 PM	19	62	28	109	23	71	14	108	12	94	20	126	37	72	13	122	465
04:30 PM	22	70	28	120	24	78	18	120	14	76	17	107	45	89	13	147	494
04:45 PM	16	80	30	126	31	77	26	134	20	77	6	103	57	66	24	147	510
Total	74	279	117	470	95	309	66	470	55	329	56	440	171	295	63	529	1909
05:00 PM	15	77	32	124	23	71	14	108	23	70	21	114	42	78	20	140	486
05:15 PM	22	48	33	103	11	65	12	88	13	77	18	108	49	86	19	154	453
05:30 PM	15	48	34	97	15	79	13	107	16	79	19	114	45	88	17	150	468
05:45 PM	14	49	38	101	33	67	9	109	12	67	22	101	32	97	14	143	454
Total	66	222	137	425	82	282	48	412	64	293	80	437	168	349	70	587	1861
Grand Total	140	501	254	895	177	591	114	882	119	622	136	877	339	644	133	1116	3770
Apprch %	15.6	56	28.4		20.1	67	12.9		13.6	70.9	15.5		30.4	57.7	11.9		
Total %	3.7	13.3	6.7	23.7	4.7	15.7	3	23.4	3.2	16.5	3.6	23.3	9	17.1	3.5	29.6	

	Beaumont Avenue Southbound				Oak Valley Parkway Westbound				Beaumont Avenue Northbound				Oak Valley Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	19	62	28	109	23	71	14	108	12	**94**	20	**126**	37	72	13	122	465
04:30 PM	**22**	70	28	120	24	**78**	18	120	14	76	17	107	45	**89**	13	**147**	494
04:45 PM	16	**80**	30	**126**	**31**	77	**26**	**134**	20	77	6	103	**57**	66	**24**	147	**510**
05:00 PM	15	77	**32**	124	23	71	14	108	**23**	70	**21**	114	42	78	20	140	486
Total Volume	72	289	118	479	101	297	72	470	69	317	64	450	181	305	70	556	1955
% App. Total	15	60.3	24.6		21.5	63.2	15.3		15.3	70.4	14.2		32.6	54.9	12.6		
PHF	.818	.903	.922	.950	.815	.952	.692	.877	.750	.843	.762	.893	.794	.857	.729	.946	.958

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Beaumont Avenue
E/W: Oak Valley Parkway
Weather: Clear

File Name : 04_BMT_Beaumont_Oak Valley PM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:00 PM				04:15 PM				04:45 PM			
+0 mins.	19	62	28	109	17	**83**	8	108	12	**94**	20	**126**	**57**	66	**24**	147
+15 mins.	**22**	70	28	120	23	71	14	108	14	76	17	107	42	78	20	140
+30 mins.	16	**80**	30	**126**	24	78	18	120	20	77	6	103	49	86	19	**154**
+45 mins.	15	77	**32**	124	**31**	77	**26**	**134**	**23**	70	**21**	114	45	**88**	17	150
Total Volume	72	289	118	479	95	309	66	470	69	317	64	450	193	318	80	591
% App. Total	15	60.3	24.6		20.2	65.7	14		15.3	70.4	14.2		32.7	53.8	13.5	
PHF	.818	.903	.922	.950	.766	.931	.635	.877	.750	.843	.762	.893	.846	.903	.833	.959

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Beaumont Avenue
E/W: 12th Street
Weather: Clear

File Name : 05_BMT_Beaumont_12th AM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 1

Groups Printed- Total Volume

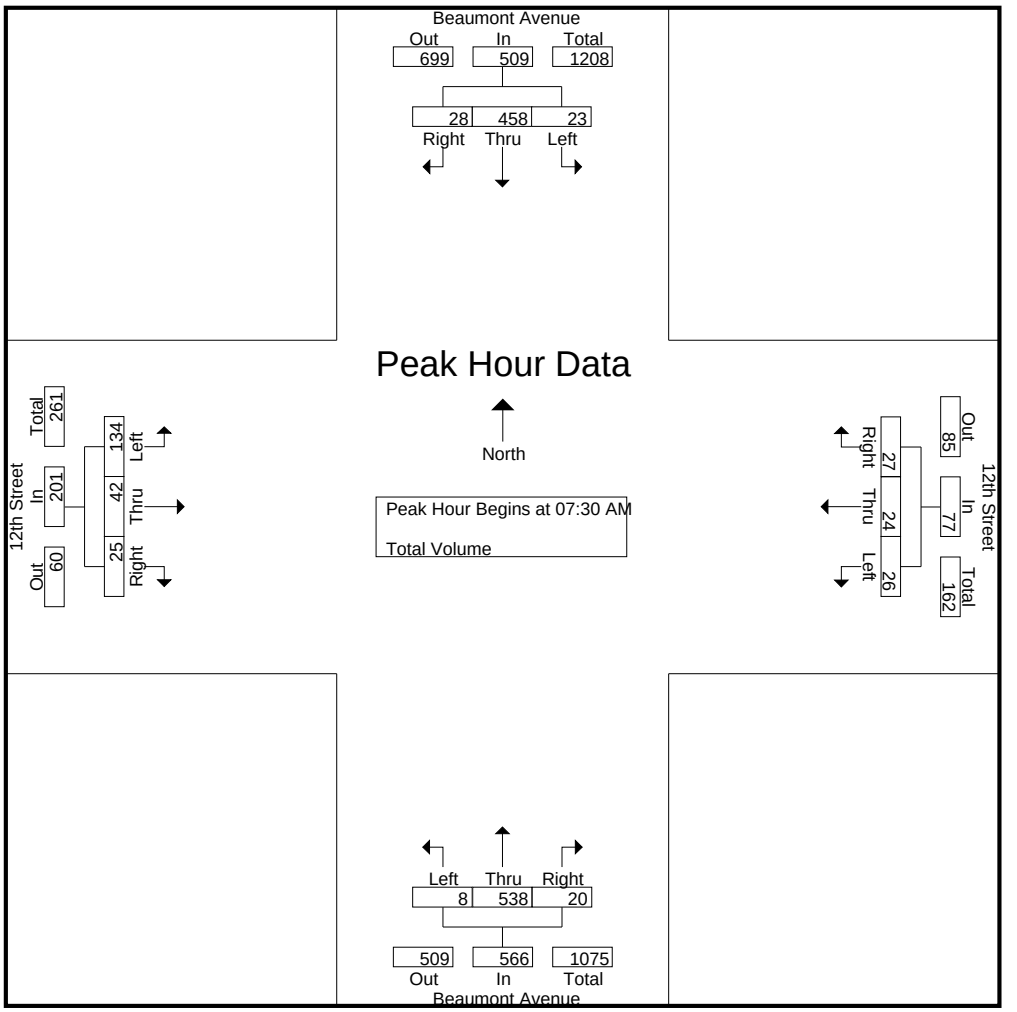
	Beaumont Avenue Southbound				12th Street Westbound				Beaumont Avenue Northbound				12th Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	3	91	13	107	8	10	3	21	4	66	3	73	28	11	5	44	245
07:15 AM	4	103	13	120	6	11	4	21	3	83	3	89	35	11	8	54	284
07:30 AM	5	105	10	120	9	4	9	22	0	108	8	116	49	13	6	68	326
07:45 AM	6	113	8	127	4	8	3	15	2	154	4	160	42	16	8	66	368
Total	18	412	44	474	27	33	19	79	9	411	18	438	154	51	27	232	1223
08:00 AM	7	104	5	116	6	7	9	22	5	155	3	163	20	5	6	31	332
08:15 AM	5	136	5	146	7	5	6	18	1	121	5	127	23	8	5	36	327
08:30 AM	10	112	9	131	2	4	9	15	4	103	2	109	16	6	6	28	283
08:45 AM	18	143	7	168	6	2	4	12	2	91	2	95	7	5	4	16	291
Total	40	495	26	561	21	18	28	67	12	470	12	494	66	24	21	111	1233
Grand Total	58	907	70	1035	48	51	47	146	21	881	30	932	220	75	48	343	2456
Apprch %	5.6	87.6	6.8		32.9	34.9	32.2		2.3	94.5	3.2		64.1	21.9	14		
Total %	2.4	36.9	2.9	42.1	2	2.1	1.9	5.9	0.9	35.9	1.2	37.9	9	3.1	2	14	

	Beaumont Avenue Southbound				12th Street Westbound				Beaumont Avenue Northbound				12th Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	5	105	**10**	120	**9**	4	**9**	**22**	0	108	**8**	116	**49**	13	6	**68**	326
07:45 AM	6	113	8	127	4	**8**	3	15	2	154	4	160	42	**16**	**8**	66	**368**
08:00 AM	**7**	104	5	116	6	7	9	22	**5**	**155**	3	**163**	20	5	6	31	332
08:15 AM	5	**136**	5	**146**	7	5	6	18	1	121	5	127	23	8	5	36	327
Total Volume	23	458	28	509	26	24	27	77	8	538	20	566	134	42	25	201	1353
% App. Total	4.5	90	5.5		33.8	31.2	35.1		1.4	95.1	3.5		66.7	20.9	12.4		
PHF	.821	.842	.700	.872	.722	.750	.750	.875	.400	.868	.625	.868	.684	.656	.781	.739	.919

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Beaumont Avenue
E/W: 12th Street
Weather: Clear

File Name : 05_BMT_Beaumont_12th AM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:15 AM				07:30 AM				07:00 AM			
+0 mins.	7	104	5	116	6	**11**	4	21	0	108	**8**	116	28	11	5	44
+15 mins.	5	136	5	146	**9**	4	**9**	**22**	2	154	4	160	35	11	**8**	54
+30 mins.	10	112	**9**	131	4	8	3	15	**5**	**155**	3	**163**	**49**	13	6	**68**
+45 mins.	**18**	**143**	7	**168**	6	7	9	22	1	121	5	127	42	**16**	8	66
Total Volume	40	495	26	561	25	30	25	80	8	538	20	566	154	51	27	232
% App. Total	7.1	88.2	4.6		31.2	37.5	31.2		1.4	95.1	3.5		66.4	22	11.6	
PHF	.556	.865	.722	.835	.694	.682	.694	.909	.400	.868	.625	.868	.786	.797	.844	.853

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Beaumont Avenue
E/W: 12th Street
Weather: Clear

File Name : 05_BMT_Beaumont_12th PM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 1

Groups Printed- Total Volume

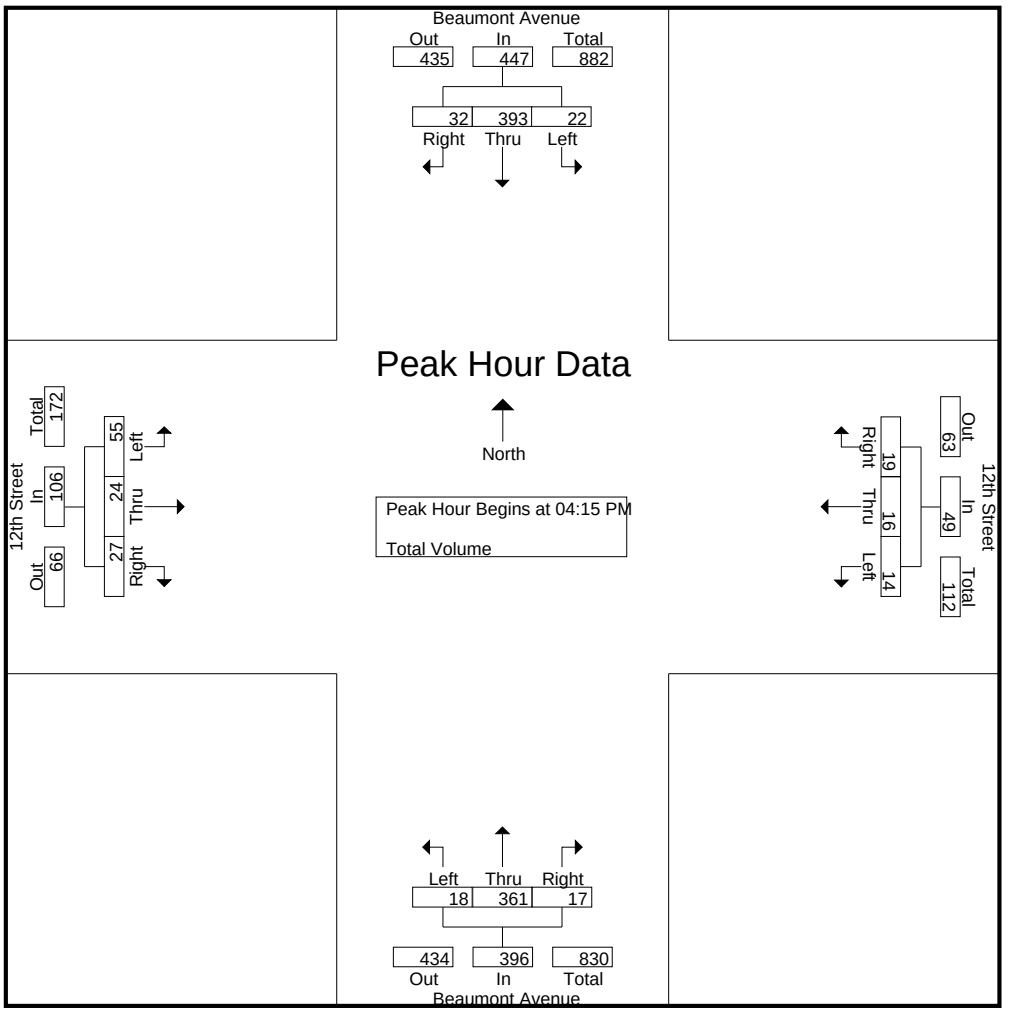
	Beaumont Avenue Southbound				12th Street Westbound				Beaumont Avenue Northbound				12th Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	82	10	92	2	3	5	10	7	90	2	99	15	7	3	25	226
04:15 PM	5	83	8	96	3	7	3	13	1	97	7	105	17	3	5	25	239
04:30 PM	5	101	9	115	2	4	5	11	6	97	2	105	9	7	5	21	252
04:45 PM	7	110	6	123	4	3	7	14	7	82	5	94	16	10	9	35	266
Total	17	376	33	426	11	17	20	48	21	366	16	403	57	27	22	106	983
05:00 PM	5	99	9	113	5	2	4	11	4	85	3	92	13	4	8	25	241
05:15 PM	6	69	5	80	5	4	5	14	6	91	1	98	18	7	5	30	222
05:30 PM	3	65	11	79	1	4	6	11	7	98	3	108	9	6	2	17	215
05:45 PM	5	76	14	95	2	3	2	7	5	86	4	95	16	8	4	28	225
Total	19	309	39	367	13	13	17	43	22	360	11	393	56	25	19	100	903
Grand Total	36	685	72	793	24	30	37	91	43	726	27	796	113	52	41	206	1886
Apprch %	4.5	86.4	9.1		26.4	33	40.7		5.4	91.2	3.4		54.9	25.2	19.9		
Total %	1.9	36.3	3.8	42	1.3	1.6	2	4.8	2.3	38.5	1.4	42.2	6	2.8	2.2	10.9	

	Beaumont Avenue Southbound				12th Street Westbound				Beaumont Avenue Northbound				12th Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	5	83	8	96	3	**7**	3	13	1	**97**	**7**	**105**	**17**	3	5	25	239
04:30 PM	5	101	**9**	115	2	4	5	11	6	97	2	105	9	7	5	21	252
04:45 PM	**7**	**110**	6	**123**	4	3	**7**	**14**	**7**	82	5	94	16	**10**	**9**	**35**	**266**
05:00 PM	5	99	9	113	**5**	2	4	11	4	85	3	92	13	4	8	25	241
Total Volume	22	393	32	447	14	16	19	49	18	361	17	396	55	24	27	106	998
% App. Total	4.9	87.9	7.2		28.6	32.7	38.8		4.5	91.2	4.3		51.9	22.6	25.5		
PHF	.786	.893	.889	.909	.700	.571	.679	.875	.643	.930	.607	.943	.809	.600	.750	.757	.938

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Beaumont Avenue
E/W: 12th Street
Weather: Clear

File Name : 05_BMT_Beaumont_12th PM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:30 PM				04:00 PM				04:30 PM			
+0 mins.	5	83	8	96	2	**4**	5	11	**7**	90	2	99	9	7	5	21
+15 mins.	5	101	**9**	115	4	3	**7**	**14**	1	**97**	**7**	**105**	16	**10**	**9**	**35**
+30 mins.	**7**	**110**	6	**123**	**5**	2	4	11	6	97	2	105	13	4	8	25
+45 mins.	5	99	9	113	5	4	5	14	7	82	5	94	**18**	7	5	30
Total Volume	22	393	32	447	16	13	21	50	21	366	16	403	56	28	27	111
% App. Total	4.9	87.9	7.2		32	26	42		5.2	90.8	4		50.5	25.2	24.3	
PHF	.786	.893	.889	.909	.800	.813	.750	.893	.750	.943	.571	.960	.778	.700	.750	.793

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Beaumont Avenue
E/W: 10th Street
Weather: Clear

File Name : 06_BMT_Beaumont_10th AM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 1

Groups Printed- Total Volume

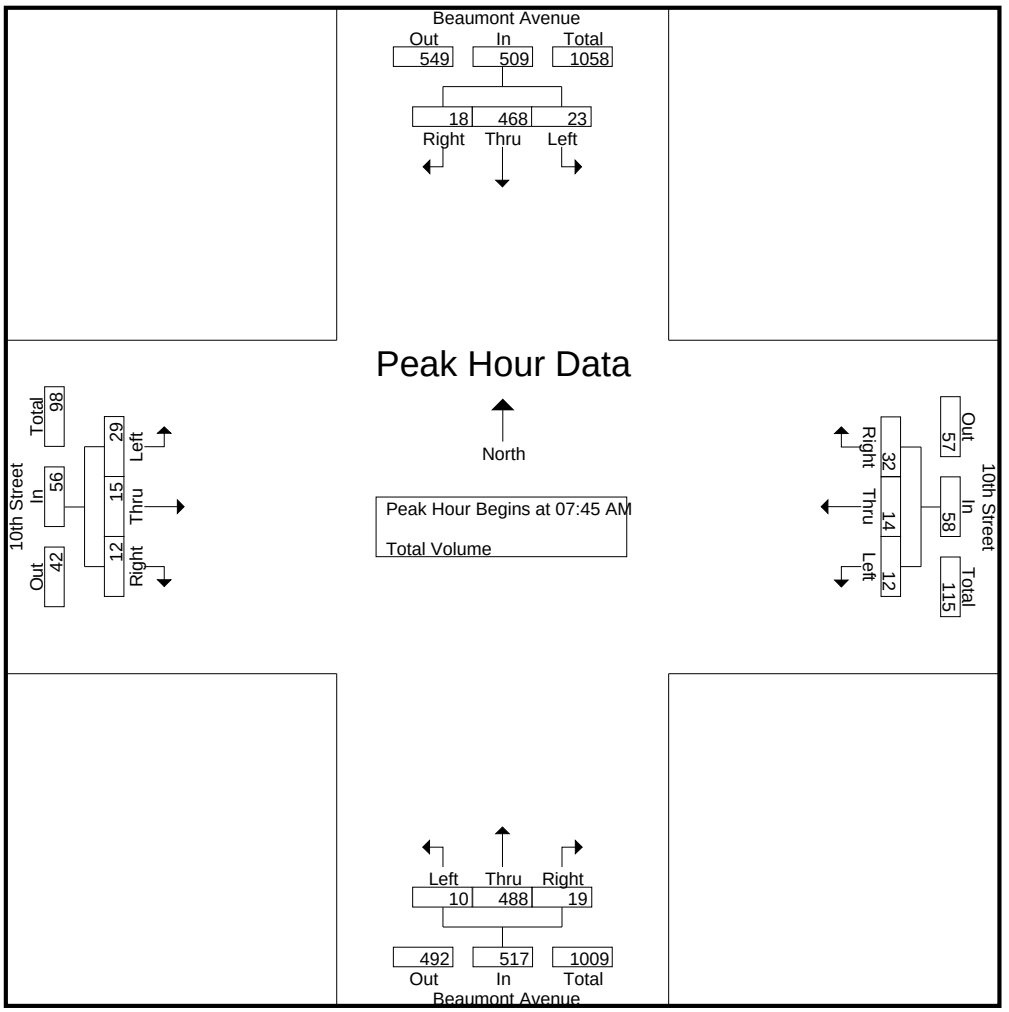
	Beaumont Avenue Southbound				10th Street Westbound				Beaumont Avenue Northbound				10th Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	81	6	88	3	2	2	7	1	66	2	69	4	1	2	7	171
07:15 AM	4	103	6	113	2	1	4	7	1	85	3	89	3	3	2	8	217
07:30 AM	8	100	7	115	3	6	1	10	2	104	3	109	6	6	1	13	247
07:45 AM	6	103	5	114	3	3	9	15	4	140	2	146	11	5	3	19	294
Total	19	387	24	430	11	12	16	39	8	395	10	413	24	15	8	47	929
08:00 AM	3	113	5	121	5	5	11	21	2	141	6	149	6	4	2	12	303
08:15 AM	11	131	4	146	3	5	9	17	4	110	4	118	6	3	3	12	293
08:30 AM	3	121	4	128	1	1	3	5	0	97	7	104	6	3	4	13	250
08:45 AM	3	132	9	144	1	2	1	4	2	91	9	102	3	2	2	7	257
Total	20	497	22	539	10	13	24	47	8	439	26	473	21	12	11	44	1103
Grand Total	39	884	46	969	21	25	40	86	16	834	36	886	45	27	19	91	2032
Apprch %	4	91.2	4.7		24.4	29.1	46.5		1.8	94.1	4.1		49.5	29.7	20.9		
Total %	1.9	43.5	2.3	47.7	1	1.2	2	4.2	0.8	41	1.8	43.6	2.2	1.3	0.9	4.5	

	Beaumont Avenue Southbound				10th Street Westbound				Beaumont Avenue Northbound				10th Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	6	103	**5**	114	3	3	9	15	**4**	140	2	146	**11**	**5**	3	**19**	294
08:00 AM	3	113	5	121	**5**	**5**	**11**	**21**	2	**141**	6	**149**	6	4	2	12	**303**
08:15 AM	**11**	**131**	4	**146**	3	5	9	17	4	110	4	118	6	3	3	12	293
08:30 AM	3	121	4	128	1	1	3	5	0	97	**7**	104	6	3	**4**	13	250
Total Volume	23	468	18	509	12	14	32	58	10	488	19	517	29	15	12	56	1140
% App. Total	4.5	91.9	3.5		20.7	24.1	55.2		1.9	94.4	3.7		51.8	26.8	21.4		
PHF	.523	.893	.900	.872	.600	.700	.727	.690	.625	.865	.679	.867	.659	.750	.750	.737	.941

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Beaumont Avenue
E/W: 10th Street
Weather: Clear

File Name : 06_BMT_Beaumont_10th AM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	3	113	5	121	3	**6**	1	10	2	104	3	109	6	**6**	1	13
+15 mins.	**11**	131	4	**146**	3	3	9	15	**4**	140	2	146	**11**	5	**3**	**19**
+30 mins.	3	121	4	128	**5**	5	**11**	**21**	2	**141**	**6**	**149**	6	4	2	12
+45 mins.	3	**132**	**9**	144	3	5	9	17	4	110	4	118	6	3	3	12
Total Volume	20	497	22	539	14	19	30	63	12	495	15	522	29	18	9	56
% App. Total	3.7	92.2	4.1		22.2	30.2	47.6		2.3	94.8	2.9		51.8	32.1	16.1	
PHF	.455	.941	.611	.923	.700	.792	.682	.750	.750	.878	.625	.876	.659	.750	.750	.737

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Beaumont Avenue
E/W: 10th Street
Weather: Clear

File Name : 06_BMT_Beaumont_10th PM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 1

Groups Printed- Total Volume

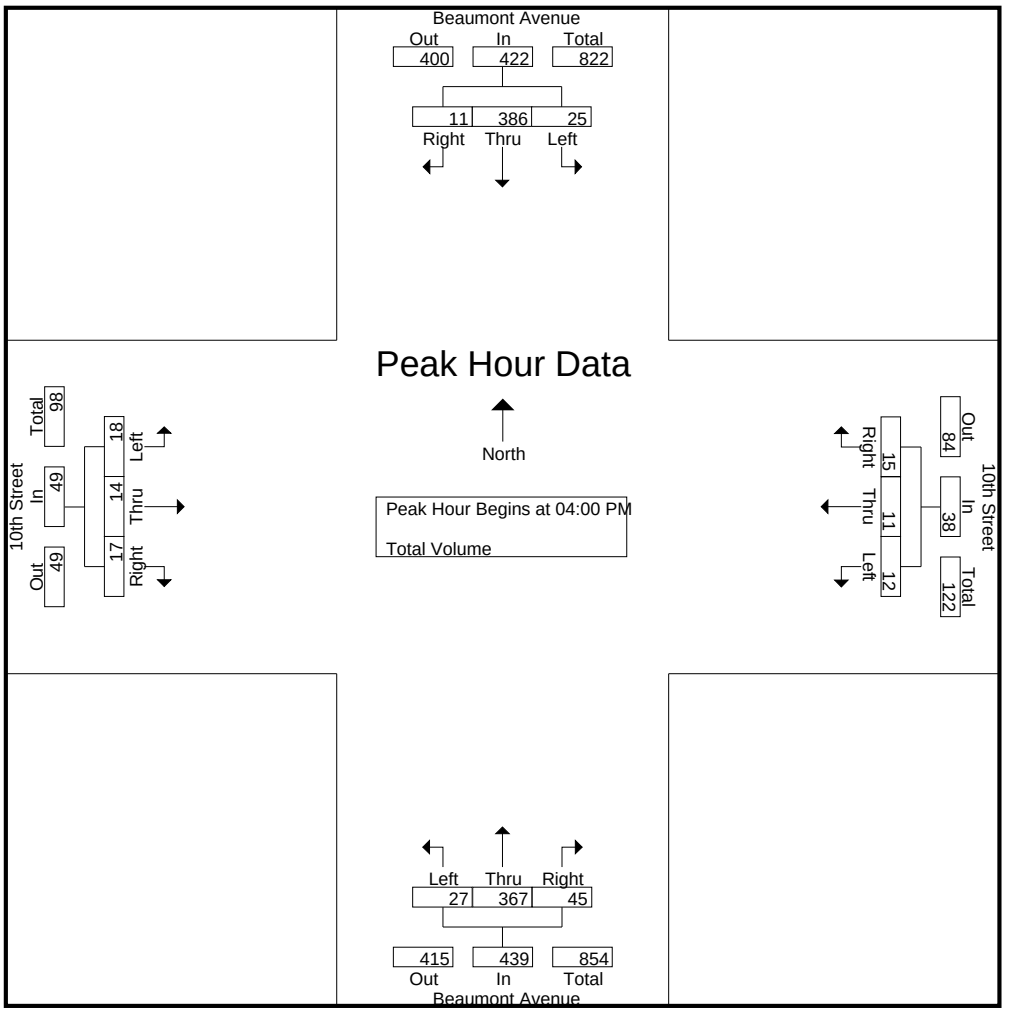
	Beaumont Avenue Southbound				10th Street Westbound				Beaumont Avenue Northbound				10th Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	6	85	4	95	4	3	3	10	8	94	10	112	2	4	3	9	226
04:15 PM	7	77	2	86	3	2	7	12	7	95	15	117	5	1	8	14	229
04:30 PM	4	97	2	103	4	4	2	10	7	93	12	112	5	8	2	15	240
04:45 PM	8	127	3	138	1	2	3	6	5	85	8	98	6	1	4	11	253
Total	25	386	11	422	12	11	15	38	27	367	45	439	18	14	17	49	948
05:00 PM	7	100	2	109	2	1	1	4	5	85	4	94	4	5	7	16	223
05:15 PM	7	75	7	89	3	1	3	7	3	93	3	99	6	0	4	10	205
05:30 PM	2	66	3	71	1	2	1	4	13	101	3	117	7	0	6	13	205
05:45 PM	2	78	2	82	3	0	1	4	2	90	6	98	3	0	0	3	187
Total	18	319	14	351	9	4	6	19	23	369	16	408	20	5	17	42	820
Grand Total	43	705	25	773	21	15	21	57	50	736	61	847	38	19	34	91	1768
Apprch %	5.6	91.2	3.2		36.8	26.3	36.8		5.9	86.9	7.2		41.8	20.9	37.4		
Total %	2.4	39.9	1.4	43.7	1.2	0.8	1.2	3.2	2.8	41.6	3.5	47.9	2.1	1.1	1.9	5.1	

	Beaumont Avenue Southbound				10th Street Westbound				Beaumont Avenue Northbound				10th Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	6	85	**4**	95	**4**	3	3	10	**8**	94	10	112	2	4	3	9	226
04:15 PM	7	77	2	86	3	2	**7**	**12**	7	**95**	**15**	**117**	5	1	**8**	14	229
04:30 PM	4	97	2	103	4	**4**	2	10	7	93	12	112	5	**8**	2	**15**	240
04:45 PM	**8**	**127**	3	**138**	1	2	3	6	5	85	8	98	**6**	1	4	11	**253**
Total Volume	25	386	11	422	12	11	15	38	27	367	45	439	18	14	17	49	948
% App. Total	5.9	91.5	2.6		31.6	28.9	39.5		6.2	83.6	10.3		36.7	28.6	34.7		
PHF	.781	.760	.688	.764	.750	.688	.536	.792	.844	.966	.750	.938	.750	.438	.531	.817	.937

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Beaumont Avenue
E/W: 10th Street
Weather: Clear

File Name : 06_BMT_Beaumont_10th PM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:00 PM				04:00 PM				04:15 PM			
+0 mins.	4	97	2	103	**4**	3	3	10	**8**	94	10	112	5	1	**8**	14
+15 mins.	**8**	**127**	3	**138**	3	2	**7**	**12**	7	**95**	**15**	**117**	5	**8**	2	15
+30 mins.	7	100	2	109	4	**4**	2	10	7	93	12	112	**6**	1	4	11
+45 mins.	7	75	**7**	89	1	2	3	6	5	85	8	98	4	5	7	**16**
Total Volume	26	399	14	439	12	11	15	38	27	367	45	439	20	15	21	56
% App. Total	5.9	90.9	3.2		31.6	28.9	39.5		6.2	83.6	10.3		35.7	26.8	37.5	
PHF	.813	.785	.500	.795	.750	.688	.536	.792	.844	.966	.750	.938	.833	.469	.656	.875

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Golf Club Drive
E/W: Oak Valley Parkway
Weather: Clear

File Name : 07_BMT_Golf Club_Oak Valley AM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 1

Groups Printed- Total Volume

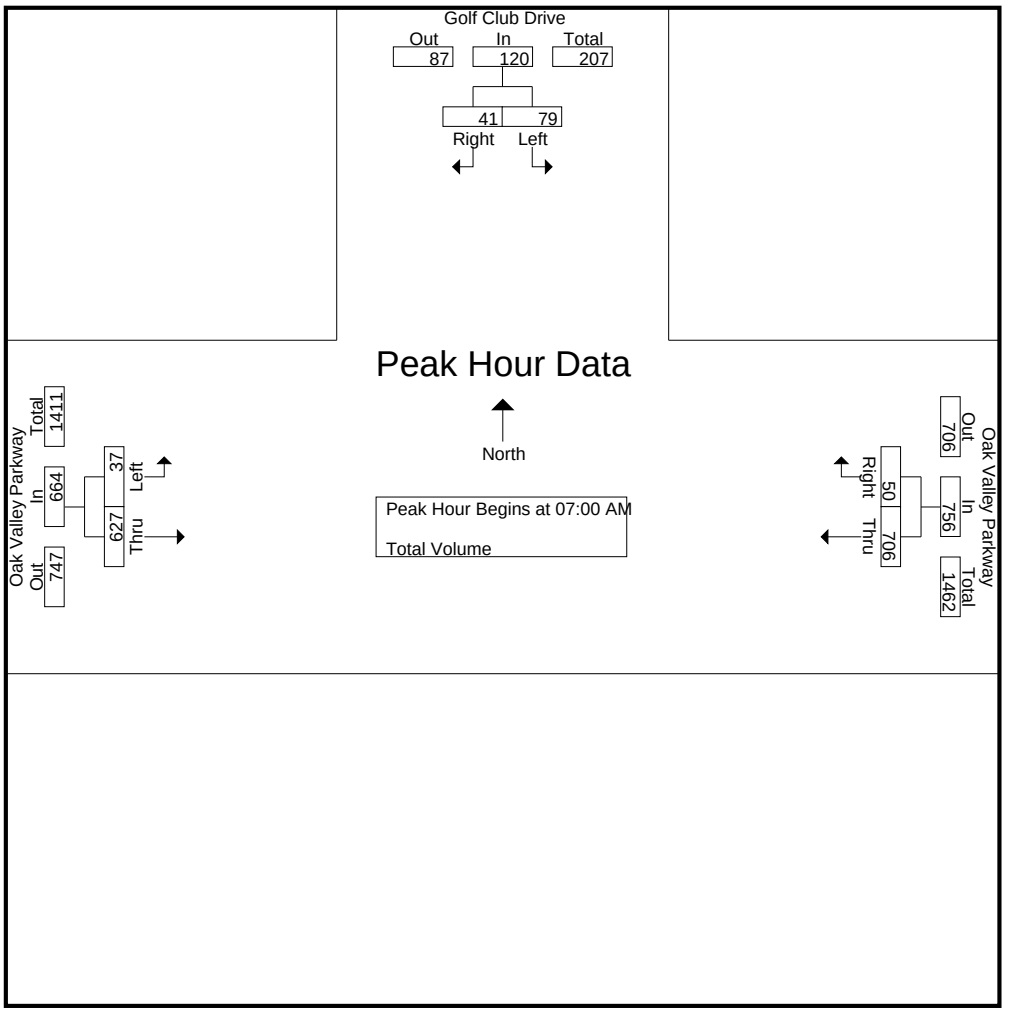
	Golf Club Drive Southbound			Oak Valley Parkway Westbound			Oak Valley Parkway Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	9	6	15	233	7	240	14	145	159	414
07:15 AM	22	11	33	180	17	197	9	164	173	403
07:30 AM	23	14	37	141	11	152	7	165	172	361
07:45 AM	25	10	35	152	15	167	7	153	160	362
Total	79	41	120	706	50	756	37	627	664	1540
08:00 AM	18	7	25	145	15	160	17	175	192	377
08:15 AM	30	18	48	142	25	167	22	134	156	371
08:30 AM	17	24	41	144	15	159	14	178	192	392
08:45 AM	20	22	42	105	10	115	28	136	164	321
Total	85	71	156	536	65	601	81	623	704	1461
Grand Total	164	112	276	1242	115	1357	118	1250	1368	3001
Apprch %	59.4	40.6		91.5	8.5		8.6	91.4		
Total %	5.5	3.7	9.2	41.4	3.8	45.2	3.9	41.7	45.6	

	Golf Club Drive Southbound			Oak Valley Parkway Westbound			Oak Valley Parkway Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	9	6	15	**233**	7	**240**	**14**	145	159	**414**
07:15 AM	22	11	33	180	**17**	197	9	164	**173**	403
07:30 AM	23	**14**	**37**	141	11	152	7	**165**	172	361
07:45 AM	**25**	10	35	152	15	167	7	153	160	362
Total Volume	79	41	120	706	50	756	37	627	664	1540
% App. Total	65.8	34.2		93.4	6.6		5.6	94.4		
PHF	.790	.732	.811	.758	.735	.788	.661	.950	.960	.930

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Golf Club Drive
E/W: Oak Valley Parkway
Weather: Clear

File Name : 07_BMT_Golf Club_Oak Valley AM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM			07:00 AM			08:00 AM		
+0 mins.	18	7	25	**233**	7	**240**	17	175	**192**
+15 mins.	**30**	18	**48**	180	**17**	197	22	134	156
+30 mins.	17	**24**	41	141	11	152	14	**178**	192
+45 mins.	20	22	42	152	15	167	**28**	136	164
Total Volume	85	71	156	706	50	756	81	623	704
% App. Total	54.5	45.5		93.4	6.6		11.5	88.5	
PHF	.708	.740	.813	.758	.735	.788	.723	.875	.917

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Golf Club Drive
E/W: Oak Valley Parkway
Weather: Clear

File Name : 07_BMT_Golf Club_Oak Valley PM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 1

Groups Printed- Total Volume

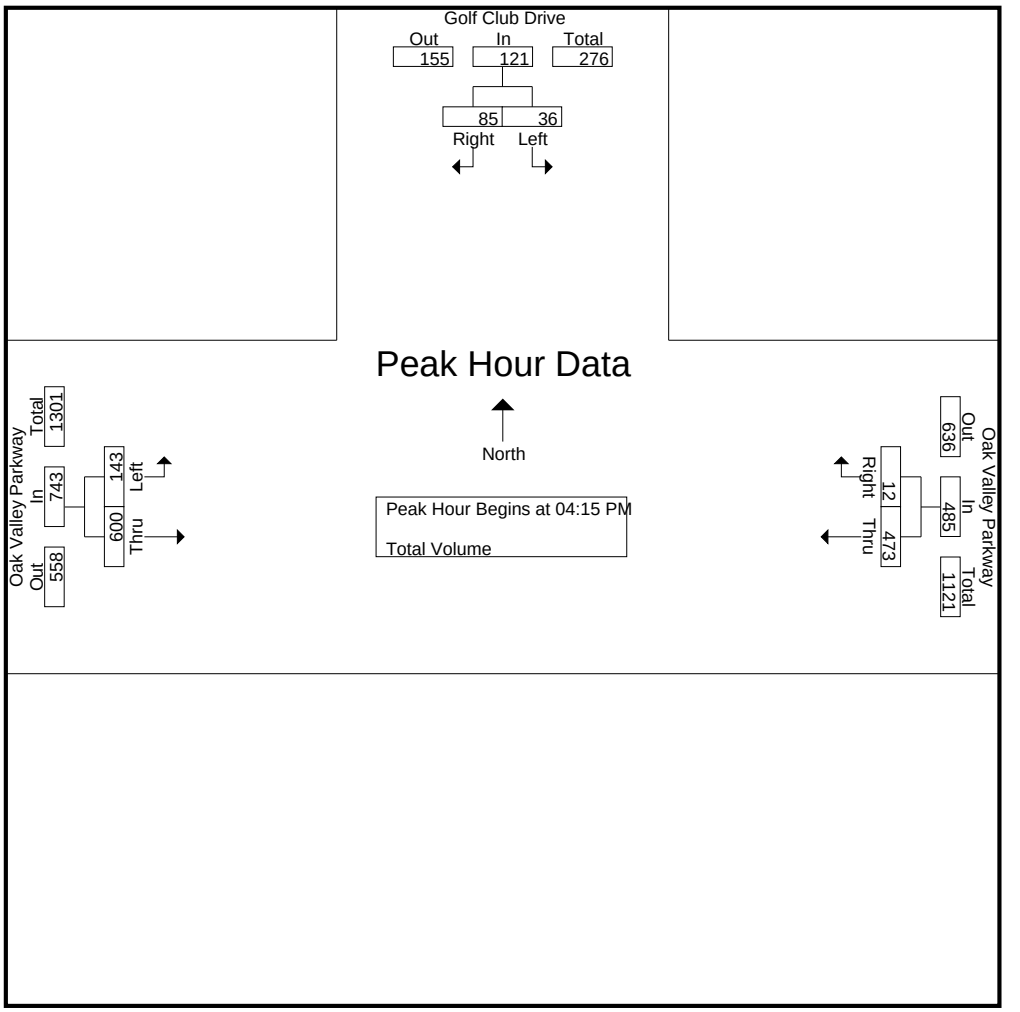
	Golf Club Drive Southbound			Oak Valley Parkway Westbound			Oak Valley Parkway Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	4	18	22	108	3	111	33	142	175	308
04:15 PM	8	29	37	116	3	119	45	133	178	334
04:30 PM	13	17	30	109	3	112	35	152	187	329
04:45 PM	7	23	30	108	5	113	31	149	180	323
Total	32	87	119	441	14	455	144	576	720	1294
05:00 PM	8	16	24	140	1	141	32	166	198	363
05:15 PM	6	23	29	92	2	94	34	142	176	299
05:30 PM	5	15	20	130	2	132	34	166	200	352
05:45 PM	2	17	19	90	7	97	19	152	171	287
Total	21	71	92	452	12	464	119	626	745	1301
Grand Total	53	158	211	893	26	919	263	1202	1465	2595
Apprch %	25.1	74.9		97.2	2.8		18	82		
Total %	2	6.1	8.1	34.4	1	35.4	10.1	46.3	56.5	

	Golf Club Drive Southbound			Oak Valley Parkway Westbound			Oak Valley Parkway Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	8	**29**	**37**	116	3	119	**45**	133	178	334
04:30 PM	**13**	17	30	109	3	112	35	152	187	329
04:45 PM	7	23	30	108	**5**	113	31	149	180	323
05:00 PM	8	16	24	**140**	1	**141**	32	**166**	**198**	**363**
Total Volume	36	85	121	473	12	485	143	600	743	1349
% App. Total	29.8	70.2		97.5	2.5		19.2	80.8		
PHF	.692	.733	.818	.845	.600	.860	.794	.904	.938	.929

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Golf Club Drive
E/W: Oak Valley Parkway
Weather: Clear

File Name : 07_BMT_Golf Club_Oak Valley PM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM			04:15 PM			04:45 PM		
+0 mins.	8	**29**	**37**	116	3	119	31	149	180
+15 mins.	**13**	17	30	109	3	112	32	**166**	198
+30 mins.	7	23	30	108	**5**	113	**34**	142	176
+45 mins.	8	16	24	**140**	1	**141**	34	166	**200**
Total Volume	36	85	121	473	12	485	131	623	754
% App. Total	29.8	70.2		97.5	2.5		17.4	82.6	
PHF	.692	.733	.818	.845	.600	.860	.963	.938	.943

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Oak View Drive
E/W: Oak Valley Parkway
Weather: Clear

File Name : 08_BMT_Oak View_Oak Valley AM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 1

Groups Printed- Total Volume

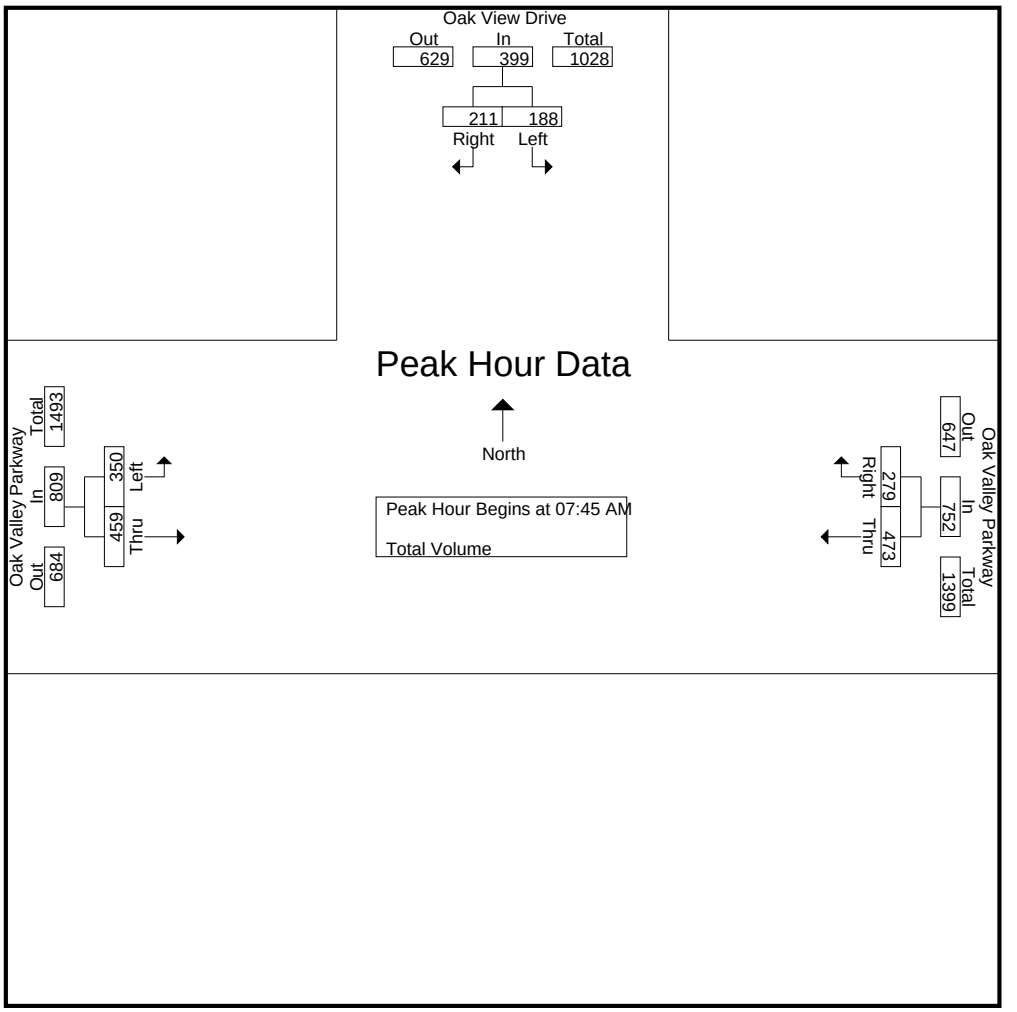
	Oak View Drive Southbound			Oak Valley Parkway Westbound			Oak Valley Parkway Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	26	54	80	186	32	218	53	92	145	443
07:15 AM	28	47	75	151	38	189	72	117	189	453
07:30 AM	36	30	66	149	54	203	84	140	224	493
07:45 AM	56	43	99	136	67	203	54	129	183	485
Total	146	174	320	622	191	813	263	478	741	1874
08:00 AM	42	45	87	121	68	189	81	133	214	490
08:15 AM	36	53	89	115	73	188	101	107	208	485
08:30 AM	54	70	124	101	71	172	114	90	204	500
08:45 AM	44	54	98	87	53	140	74	111	185	423
Total	176	222	398	424	265	689	370	441	811	1898
Grand Total	322	396	718	1046	456	1502	633	919	1552	3772
Apprch %	44.8	55.2		69.6	30.4		40.8	59.2		
Total %	8.5	10.5	19	27.7	12.1	39.8	16.8	24.4	41.1	

	Oak View Drive Southbound			Oak Valley Parkway Westbound			Oak Valley Parkway Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	**56**	43	99	**136**	67	**203**	54	129	183	485
08:00 AM	42	45	87	121	68	189	81	**133**	**214**	490
08:15 AM	36	53	89	115	**73**	188	101	107	208	485
08:30 AM	54	**70**	**124**	101	71	172	**114**	90	204	**500**
Total Volume	188	211	399	473	279	752	350	459	809	1960
% App. Total	47.1	52.9		62.9	37.1		43.3	56.7		
PHF	.839	.754	.804	.869	.955	.926	.768	.863	.945	.980

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Oak View Drive
E/W: Oak Valley Parkway
Weather: Clear

File Name : 08_BMT_Oak View_Oak Valley AM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM			07:00 AM			07:30 AM		
+0 mins.	**56**	43	99	**186**	32	**218**	84	**140**	**224**
+15 mins.	42	45	87	151	38	189	54	129	183
+30 mins.	36	53	89	149	54	203	81	133	214
+45 mins.	54	**70**	**124**	136	**67**	203	**101**	107	208
Total Volume	188	211	399	622	191	813	320	509	829
% App. Total	47.1	52.9		76.5	23.5		38.6	61.4	
PHF	.839	.754	.804	.836	.713	.932	.792	.909	.925

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Oak View Drive
E/W: Oak Valley Parkway
Weather: Clear

File Name : 08_BMT_Oak View_Oak Valley PM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 1

Groups Printed- Total Volume

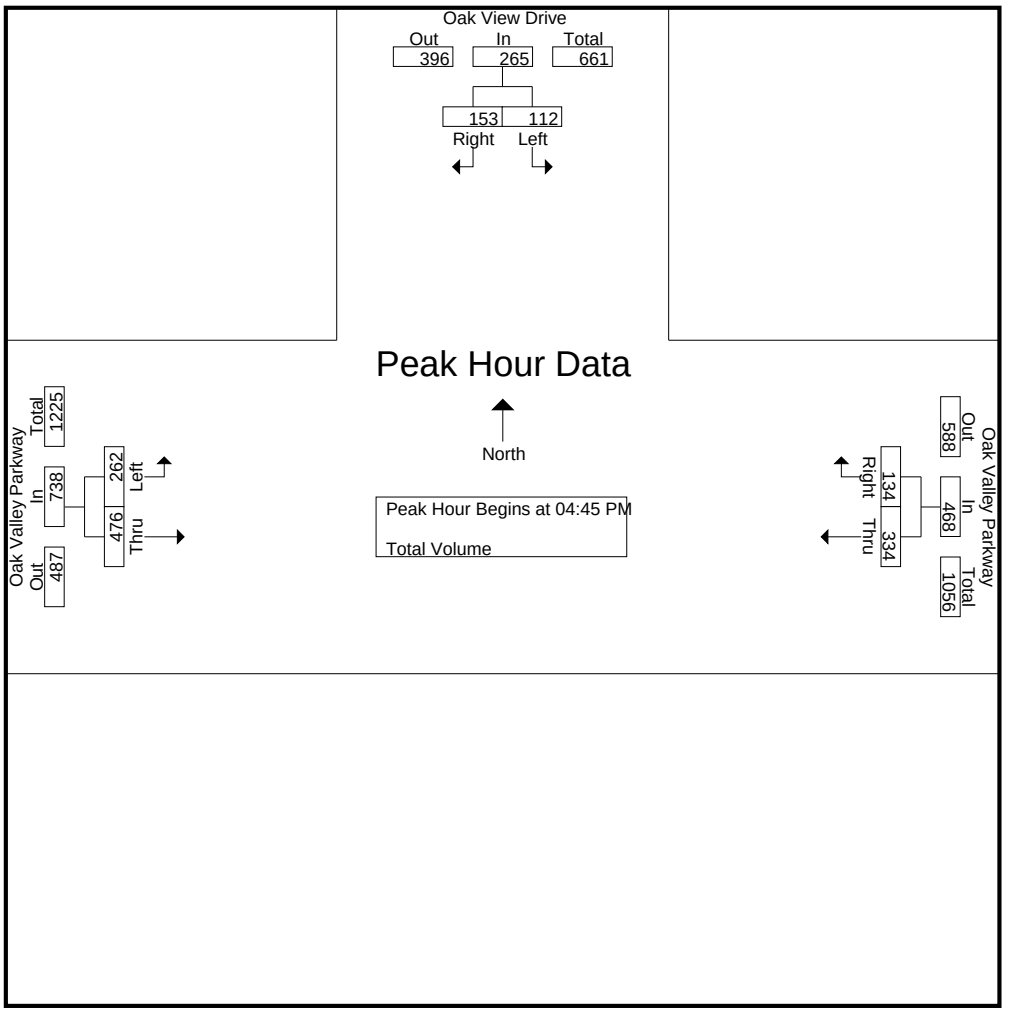
	Oak View Drive Southbound			Oak Valley Parkway Westbound			Oak Valley Parkway Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	26	25	51	85	28	113	51	101	152	316
04:15 PM	24	36	60	89	20	109	51	98	149	318
04:30 PM	24	36	60	78	33	111	60	125	185	356
04:45 PM	35	39	74	81	35	116	55	117	172	362
Total	109	136	245	333	116	449	217	441	658	1352
05:00 PM	24	35	59	94	32	126	69	117	186	371
05:15 PM	32	43	75	69	35	104	66	119	185	364
05:30 PM	21	36	57	90	32	122	72	123	195	374
05:45 PM	26	32	58	79	21	100	49	116	165	323
Total	103	146	249	332	120	452	256	475	731	1432
Grand Total	212	282	494	665	236	901	473	916	1389	2784
Apprch %	42.9	57.1		73.8	26.2		34.1	65.9		
Total %	7.6	10.1	17.7	23.9	8.5	32.4	17	32.9	49.9	

	Oak View Drive Southbound			Oak Valley Parkway Westbound			Oak Valley Parkway Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	**35**	39	74	81	**35**	116	55	117	172	362
05:00 PM	24	35	59	**94**	32	**126**	69	117	186	371
05:15 PM	32	**43**	**75**	69	35	104	66	119	185	364
05:30 PM	21	36	57	90	32	122	**72**	**123**	**195**	**374**
Total Volume	112	153	265	334	134	468	262	476	738	1471
% App. Total	42.3	57.7		71.4	28.6		35.5	64.5		
PHF	.800	.890	.883	.888	.957	.929	.910	.967	.946	.983

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Oak View Drive
E/W: Oak Valley Parkway
Weather: Clear

File Name : 08_BMT_Oak View_Oak Valley PM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:45 PM			04:45 PM		
+0 mins.	24	36	60	81	**35**	116	55	117	172
+15 mins.	**35**	39	74	**94**	32	**126**	69	117	186
+30 mins.	24	35	59	69	35	104	66	119	185
+45 mins.	32	**43**	**75**	90	32	122	**72**	**123**	**195**
Total Volume	115	153	268	334	134	468	262	476	738
% App. Total	42.9	57.1		71.4	28.6		35.5	64.5	
PHF	.821	.890	.893	.888	.957	.929	.910	.967	.946

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Palm Avenue
E/W: Oak Valley Parkway
Weather: Clear

File Name : 09_BMT_Palm_Oak Valley AM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 1

Groups Printed- Total Volume

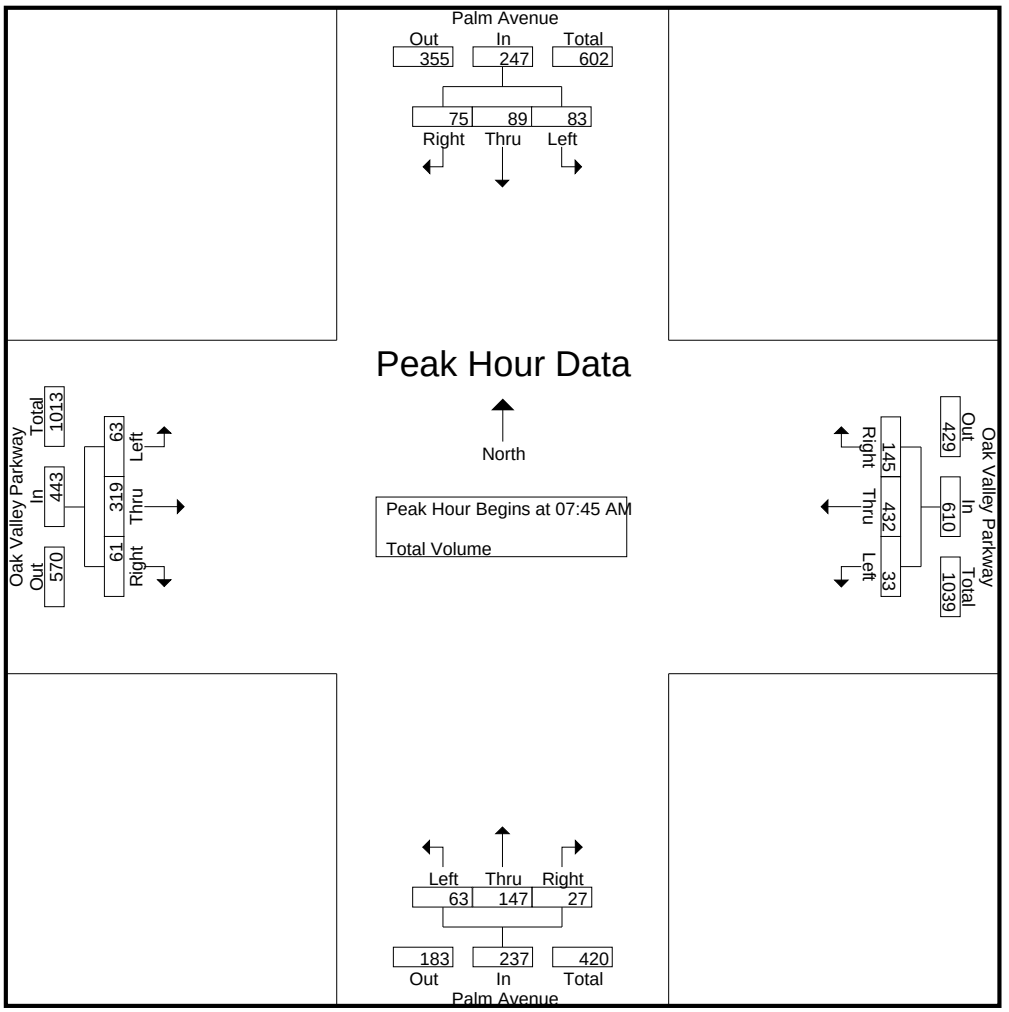
	Palm Avenue Southbound				Oak Valley Parkway Westbound				Palm Avenue Northbound				Oak Valley Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	13	14	31	58	8	142	19	169	16	17	0	33	10	50	6	66	326
07:15 AM	13	22	23	58	4	112	13	129	9	9	4	22	9	40	9	58	267
07:30 AM	12	26	22	60	7	93	23	123	12	24	3	39	8	77	10	95	317
07:45 AM	14	31	24	69	13	91	36	140	15	33	11	59	13	72	21	106	374
Total	52	93	100	245	32	438	91	561	52	83	18	153	40	239	46	325	1284
08:00 AM	26	31	23	80	7	109	50	166	20	60	3	83	18	73	11	102	431
08:15 AM	17	15	13	45	9	120	39	168	14	45	7	66	23	72	18	113	392
08:30 AM	26	12	15	53	4	112	20	136	14	9	6	29	9	102	11	122	340
08:45 AM	21	10	9	40	4	86	13	103	23	11	7	41	7	95	14	116	300
Total	90	68	60	218	24	427	122	573	71	125	23	219	57	342	54	453	1463
Grand Total	142	161	160	463	56	865	213	1134	123	208	41	372	97	581	100	778	2747
Apprch %	30.7	34.8	34.6		4.9	76.3	18.8		33.1	55.9	11		12.5	74.7	12.9		
Total %	5.2	5.9	5.8	16.9	2	31.5	7.8	41.3	4.5	7.6	1.5	13.5	3.5	21.2	3.6	28.3	

	Palm Avenue Southbound				Oak Valley Parkway Westbound				Palm Avenue Northbound				Oak Valley Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	14	**31**	**24**	69	**13**	91	36	140	15	33	**11**	59	13	72	**21**	106	374
08:00 AM	**26**	31	23	**80**	7	109	**50**	166	**20**	**60**	3	**83**	18	73	11	102	**431**
08:15 AM	17	15	13	45	9	**120**	39	**168**	14	45	7	66	**23**	72	18	113	392
08:30 AM	26	12	15	53	4	112	20	136	14	9	6	29	9	**102**	11	**122**	340
Total Volume	83	89	75	247	33	432	145	610	63	147	27	237	63	319	61	443	1537
% App. Total	33.6	36	30.4		5.4	70.8	23.8		26.6	62	11.4		14.2	72	13.8		
PHF	.798	.718	.781	.772	.635	.900	.725	.908	.788	.613	.614	.714	.685	.782	.726	.908	.892

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Palm Avenue
E/W: Oak Valley Parkway
Weather: Clear

File Name : 09_BMT_Palm_Oak Valley AM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:45 AM				07:30 AM				08:00 AM			
+0 mins.	13	22	23	58	**13**	91	36	140	12	24	3	39	18	73	11	102
+15 mins.	12	26	22	60	7	109	**50**	166	15	33	**11**	59	**23**	72	**18**	113
+30 mins.	14	**31**	**24**	69	9	**120**	39	**168**	**20**	**60**	3	**83**	9	**102**	11	**122**
+45 mins.	**26**	31	23	**80**	4	112	20	136	14	45	7	66	7	95	14	116
Total Volume	65	110	92	267	33	432	145	610	61	162	24	247	57	342	54	453
% App. Total	24.3	41.2	34.5		5.4	70.8	23.8		24.7	65.6	9.7		12.6	75.5	11.9	
PHF	.625	.887	.958	.834	.635	.900	.725	.908	.763	.675	.545	.744	.620	.838	.750	.928

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Palm Avenue
E/W: Oak Valley Parkway
Weather: Clear

File Name : 09_BMT_Palm_Oak Valley PM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 1

Groups Printed- Total Volume

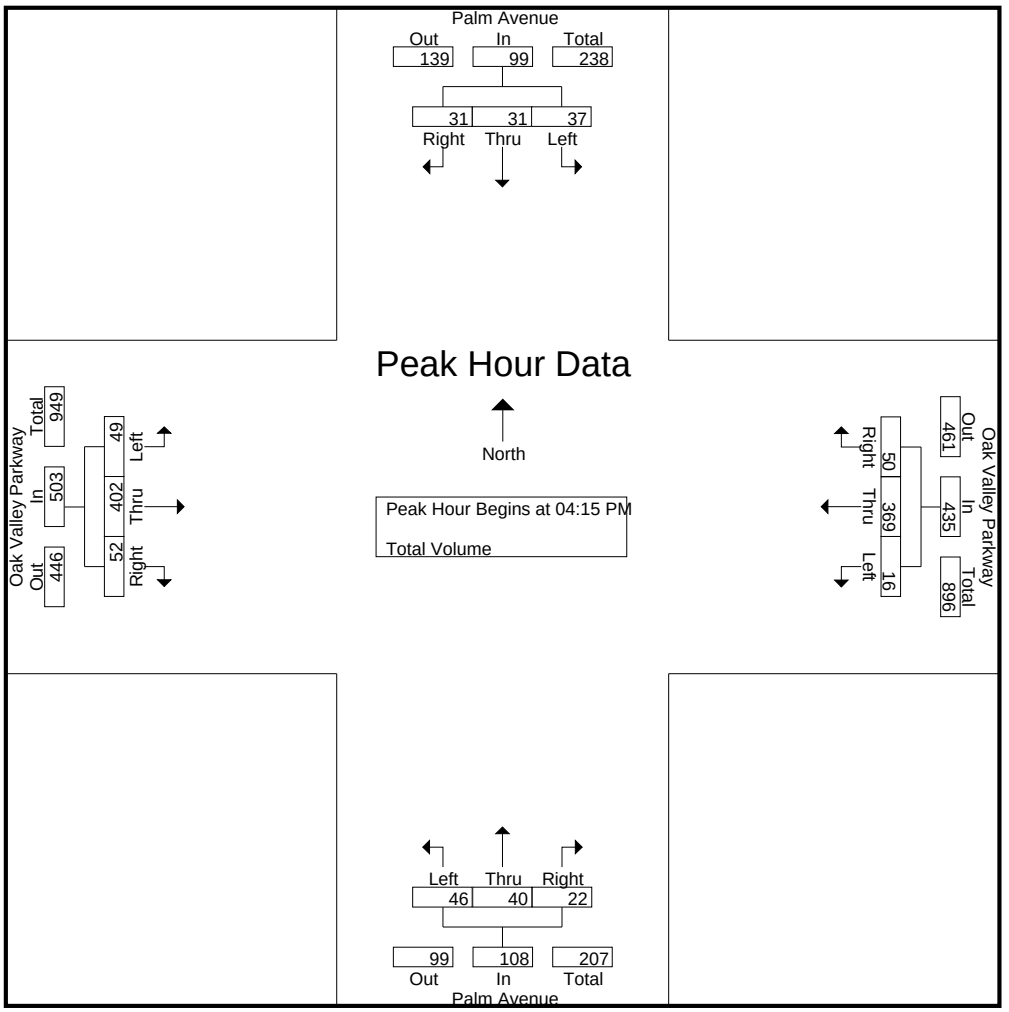
	Palm Avenue Southbound				Oak Valley Parkway Westbound				Palm Avenue Northbound				Oak Valley Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	6	9	12	27	2	85	12	99	18	8	6	32	5	96	7	108	266
04:15 PM	11	9	10	30	2	96	9	107	12	11	7	30	13	96	14	123	290
04:30 PM	9	9	6	24	9	96	14	119	12	6	5	23	8	120	10	138	304
04:45 PM	7	9	9	25	3	96	15	114	14	13	5	32	13	87	12	112	283
Total	33	36	37	106	16	373	50	439	56	38	23	117	39	399	43	481	1143
05:00 PM	10	4	6	20	2	81	12	95	8	10	5	23	15	99	16	130	268
05:15 PM	8	12	3	23	6	73	17	96	11	4	8	23	16	108	11	135	277
05:30 PM	8	9	8	25	3	86	18	107	6	9	7	22	19	100	14	133	287
05:45 PM	7	6	15	28	8	84	13	105	10	11	5	26	16	102	11	129	288
Total	33	31	32	96	19	324	60	403	35	34	25	94	66	409	52	527	1120
Grand Total	66	67	69	202	35	697	110	842	91	72	48	211	105	808	95	1008	2263
Apprch %	32.7	33.2	34.2		4.2	82.8	13.1		43.1	34.1	22.7		10.4	80.2	9.4		
Total %	2.9	3	3	8.9	1.5	30.8	4.9	37.2	4	3.2	2.1	9.3	4.6	35.7	4.2	44.5	

	Palm Avenue Southbound				Oak Valley Parkway Westbound				Palm Avenue Northbound				Oak Valley Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	**11**	**9**	**10**	**30**	2	**96**	9	107	12	11	**7**	30	13	96	14	123	290
04:30 PM	9	9	6	24	**9**	96	14	**119**	12	6	5	23	8	**120**	10	**138**	**304**
04:45 PM	7	9	9	25	3	96	**15**	114	**14**	**13**	5	**32**	13	87	12	112	283
05:00 PM	10	4	6	20	2	81	12	95	8	10	5	23	**15**	99	**16**	130	268
Total Volume	37	31	31	99	16	369	50	435	46	40	22	108	49	402	52	503	1145
% App. Total	37.4	31.3	31.3		3.7	84.8	11.5		42.6	37	20.4		9.7	79.9	10.3		
PHF	.841	.861	.775	.825	.444	.961	.833	.914	.821	.769	.786	.844	.817	.838	.813	.911	.942

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Beaumont
N/S: Palm Avenue
E/W: Oak Valley Parkway
Weather: Clear

File Name : 09_BMT_Palm_Oak Valley PM
Site Code : 07518044
Start Date : 1/17/2018
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				05:00 PM			
+0 mins.	6	**9**	**12**	27	2	85	12	99	**18**	8	6	**32**	15	99	**16**	130
+15 mins.	**11**	9	10	**30**	2	**96**	9	107	12	11	**7**	30	16	**108**	11	**135**
+30 mins.	9	9	6	24	**9**	96	14	**119**	12	6	5	23	**19**	100	14	133
+45 mins.	7	9	9	25	3	96	**15**	114	14	**13**	5	32	16	102	11	129
Total Volume	33	36	37	106	16	373	50	439	56	38	23	117	66	409	52	527
% App. Total	31.1	34	34.9		3.6	85	11.4		47.9	32.5	19.7		12.5	77.6	9.9	
PHF	.750	1.000	.771	.883	.444	.971	.833	.922	.778	.731	.821	.914	.868	.947	.813	.976

APPENDIX D

LEVEL OF SERVICE WORKSHEETS

Existing

Beaumont Village Project

Vistro File: G:\...\AM.vistro
Report File: G:\...\AM E.pdf

Scenario 1 Existing
1/15/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Beaumont Ave (NS) at Brookside Ave (EW)	Signalized	HCM 7th Edition	NB Thru	0.860	57.6	E
2	Beaumont Ave (NS) at Cougar Way (EW)	Signalized	HCM 7th Edition	SB Left	0.750	24.0	C
3	Beaumont Ave (NS) at Project Dwy (EW)	Two-way stop	HCM 7th Edition	WB Left	0.294	96.6	F
4	Beaumont Ave (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	SB Right	0.836	63.7	E
5	Beaumont Ave (NS) at 12th St (EW)	All-way stop	HCM 7th Edition	NB Left	0.737	24.4	C
6	Beaumont Ave (NS) at 10th St (EW)	All-way stop	HCM 7th Edition	NB Left	0.554	16.2	C
7	Golf Club Dr (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	SB Left	0.579	7.5	A
8	Oak View Dr (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	WB Right	0.747	19.8	B
9	Palm Ave (NS) at Oak Valley Pkwy (EW)	All-way stop	HCM 7th Edition	WB Left	0.911	35.8	E

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Beaumont Ave (NS) at Brookside Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	57.6
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.860

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Brookside Ave			Brookside Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	200.00	100.00	100.00	266.00	100.00	175.00	152.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			50.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			Brookside Ave			Brookside Ave		
Base Volume Input [veh/h]	256	577	23	91	370	28	53	179	244	55	261	153
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	297	669	27	106	429	32	61	208	283	64	303	177
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	78	176	7	28	113	8	16	55	74	17	80	47
Total Analysis Volume [veh/h]	313	704	28	112	452	34	64	219	298	67	319	186
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	5	2	0	1	6	0	7	4	4	3	8	0
Auxiliary Signal Groups									4,5			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	11	11	0	11	11	0	11	11	11	11	11	0
Maximum Green [s]	30	30	0	30	30	0	30	30	30	30	30	0
Amber [s]	4.3	4.3	0.0	4.3	4.3	0.0	4.1	4.1	4.1	4.1	4.1	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	25	48	0	18	41	0	17	37	37	17	37	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	7	0	7	0
Pedestrian Clearance [s]	0	16	0	0	16	0	0	16	16	0	16	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.3	3.3	0.0	3.3	3.3	0.0	3.1	3.1	3.1	3.1	3.1	0.0
Minimum Recall	No	No		No	No		No	No	No	No	No	
Maximum Recall	No	No		No	No		No	No	No	No	No	
Pedestrian Recall	No	No		No	No		No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.30	5.30	5.30	5.30	5.10	5.10	5.30	5.10	5.10
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.30	0.00	3.30	0.00	3.10	0.00	0.00	3.10
g_i, Effective Green Time [s]	61	45	61	38	49	34	56	49	34
g / C, Green / Cycle	0.51	0.37	0.51	0.32	0.41	0.28	0.47	0.41	0.28
(v / s)_i Volume / Saturation Flow Rate	0.26	0.39	0.12	0.26	0.06	0.12	0.19	0.06	0.29
s, saturation flow rate [veh/h]	1206	1857	968	1847	1127	1870	1589	1122	1756
c, Capacity [veh/h]	482	693	309	587	297	527	746	458	497
d1, Uniform Delay [s]	22.87	37.60	24.60	37.87	27.01	35.04	20.80	22.61	43.02
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11	0.19	0.11	0.44
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.63	49.78	0.71	12.63	0.36	0.52	0.61	0.15	42.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.65	1.06	0.36	0.83	0.22	0.42	0.40	0.15	1.02
d, Delay for Lane Group [s/veh]	29.50	87.38	25.31	50.50	27.36	35.56	21.41	22.75	85.19
Lane Group LOS	C	F	C	D	C	D	C	C	F
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.87	29.03	1.57	14.56	1.12	5.18	5.39	1.16	20.06
50th-Percentile Queue Length [ft/ln]	146.70	725.80	39.36	363.90	28.01	129.52	134.72	29.06	501.44
95th-Percentile Queue Length [veh/ln]	9.84	39.36	2.83	20.81	2.02	8.91	9.20	2.09	27.69
95th-Percentile Queue Length [ft/ln]	246.02	983.97	70.84	520.33	50.42	222.84	229.90	52.31	692.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.50	87.38	87.38	25.31	50.50	50.50	27.36	35.56	21.41	22.75	85.19	85.19
Movement LOS	C	F	F	C	D	D	C	D	C	C	F	F
d_A, Approach Delay [s/veh]	70.05			45.78			27.40			77.87		
Approach LOS	E			D			C			E		
d_I, Intersection Delay [s/veh]	57.60											
Intersection LOS	E											
Intersection V/C	0.860											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.789	2.822	2.699	2.419
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	712	595	532	532
d_b, Bicycle Delay [s]	24.90	29.61	32.34	32.34
l_b,int, Bicycle LOS Score for Intersection	3.284	2.546	2.518	2.503
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Beaumont Ave (NS) at Cougar Way (EW)

Control Type:	Signalized	Delay (sec / veh):	24.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.750

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Cougar Way			Cougar Way		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	310.00	100.00	235.00	303.00	100.00	174.00	200.00	100.00	98.00	221.00	100.00	224.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Beaumont Ave			Beaumont Ave			Cougar Way			Cougar Way		
Base Volume Input [veh/h]	197	616	146	63	354	140	117	119	201	95	157	164
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	229	715	169	73	411	162	136	138	233	110	182	190
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	60	188	44	19	108	43	36	36	61	29	48	50
Total Analysis Volume [veh/h]	241	753	178	77	433	171	143	145	245	116	192	200
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	3	4	0	3	4	0	0	4	0	0	4	0
Maximum Green [s]	14	30	0	14	30	0	0	60	0	0	60	0
Amber [s]	3.0	4.2	0.0	3.0	4.2	0.0	0.0	4.2	0.0	0.0	4.2	0.0
All red [s]	2.0	1.5	0.0	2.0	1.5	0.0	0.0	1.4	0.0	0.0	1.4	0.0
Split [s]	21	33	0	10	22	0	0	17	0	0	17	0
Vehicle Extension [s]	3.0	4.2	0.0	3.0	4.2	0.0	0.0	4.2	0.0	0.0	4.2	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	20	0	0	16	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.7	0.0	3.0	3.7	0.0	0.0	3.6	0.0	0.0	3.6	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	5.00	5.70	5.70	5.00	5.70	5.70	5.60	5.60	5.60	5.60	5.60	5.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.70	3.70	3.00	3.70	3.70	3.60	3.60	3.60	3.60	3.60	3.60
g_i, Effective Green Time [s]	10	29	29	3	22	22	11	11	11	11	11	11
g / C, Green / Cycle	0.17	0.48	0.48	0.06	0.37	0.37	0.19	0.19	0.19	0.19	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.14	0.40	0.11	0.04	0.23	0.11	0.14	0.08	0.15	0.12	0.10	0.13
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1870	1589	992	1870	1589	994	1870	1589
c, Capacity [veh/h]	299	898	763	101	690	587	195	360	306	219	360	306
d1, Uniform Delay [s]	24.12	13.62	9.16	28.00	15.60	13.43	28.92	21.29	23.22	27.52	21.89	22.47
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.17	0.17	0.17	0.17	0.17	0.17
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.11	9.24	0.72	11.10	4.28	1.26	7.93	1.11	7.25	3.00	1.87	3.59
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	0.84	0.23	0.76	0.63	0.29	0.73	0.40	0.80	0.53	0.53	0.65
d, Delay for Lane Group [s/veh]	29.23	22.87	9.88	39.10	19.88	14.69	36.85	22.41	30.47	30.52	23.77	26.06
Lane Group LOS	C	C	A	D	B	B	D	C	C	C	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	3.37	9.01	1.22	1.31	4.86	1.58	2.44	1.82	3.76	1.72	2.36	2.63
50th-Percentile Queue Length [ft/ln]	84.30	225.23	30.44	32.80	121.51	39.46	60.92	45.41	93.94	43.02	59.08	65.79
95th-Percentile Queue Length [veh/ln]	6.07	13.93	2.19	2.36	8.48	2.84	4.39	3.27	6.76	3.10	4.25	4.74
95th-Percentile Queue Length [ft/ln]	151.75	348.29	54.80	59.04	211.89	71.04	109.66	81.73	169.09	77.43	106.34	118.42

Movement, Approach, & Intersection Results

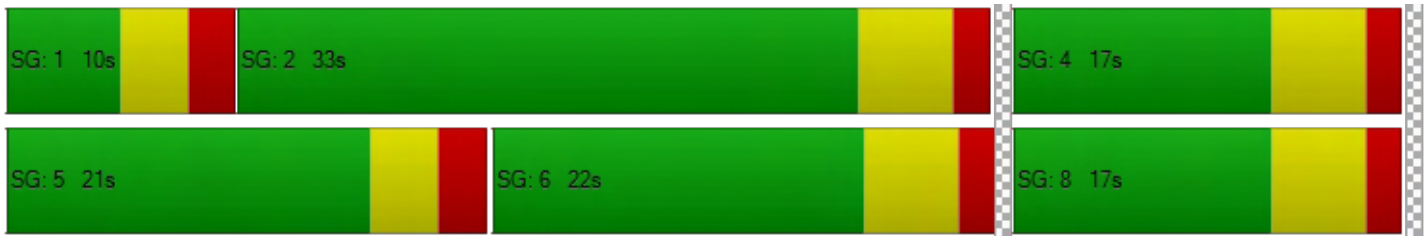
d_M, Delay for Movement [s/veh]	29.23	22.87	9.88	39.10	19.88	14.69	36.85	22.41	30.47	30.52	23.77	26.06
Movement LOS	C	C	A	D	B	B	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	22.20			20.75			29.99			26.21		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	24.00											
Intersection LOS	C											
Intersection V/C	0.750											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	908	542	379	379
d_b, Bicycle Delay [s]	8.96	15.97	19.74	19.74
l_b,int, Bicycle LOS Score for Intersection	3.493	2.683	2.439	2.398
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Beaumont Ave (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	96.6
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.294

Intersection Setup

Name	Beaumont Ave		Beaumont Ave		Project Dwy	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0
Entry Pocket Length [ft]	150.00	100.00	150.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Beaumont Ave		Beaumont Ave		Project Dwy	
Base Volume Input [veh/h]	992	23	90	635	13	22
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1151	27	104	737	15	26
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	303	7	27	194	4	7
Total Analysis Volume [veh/h]	1212	28	109	776	16	27
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.20	0.01	0.29	0.06
d_M, Delay for Movement [s/veh]	0.00	0.00	13.02	0.00	96.61	13.91
Movement LOS	A	A	B	A	F	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.72	0.00	1.03	0.20
95th-Percentile Queue Length [ft/ln]	0.00	0.00	18.00	0.00	25.71	4.99
d_A, Approach Delay [s/veh]	0.00		1.60		44.68	
Approach LOS	A		A		E	
d_I, Intersection Delay [s/veh]	1.54					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 4: Beaumont Ave (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	63.7
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.836

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	102.00	100.00	100.00	145.00	100.00	100.00	125.00	100.00	100.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			45.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Base Volume Input [veh/h]	101	560	70	85	337	223	288	304	101	88	343	130
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	117	650	81	99	391	259	334	353	117	102	398	151
Peak Hour Factor	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	167	21	25	100	67	86	91	30	26	102	39
Total Analysis Volume [veh/h]	120	668	83	102	402	266	343	363	120	105	409	155
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	6	0	5	6	0	5	4	0	5	4	0
Maximum Green [s]	16	40	0	16	40	0	16	16	0	16	16	0
Amber [s]	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	29	0	11	29	0	25	42	0	12	29	0
Vehicle Extension [s]	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	17	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	2.5	0.0	2.5	2.5	0.0	2.5	2.5	0.0	2.5	2.5	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
g_i, Effective Green Time [s]	5	11	11	4	10	10	13	22	22	5	13	13
g / C, Green / Cycle	0.09	0.18	0.18	0.07	0.17	0.17	0.22	0.37	0.37	0.08	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.07	0.20	0.20	0.06	0.19	0.19	0.19	0.13	0.13	0.06	0.16	0.16
s, saturation flow rate [veh/h]	1781	1870	1798	1781	1870	1625	1781	1870	1713	1781	1870	1698
c, Capacity [veh/h]	155	341	328	132	318	276	397	686	629	136	412	374
d1, Uniform Delay [s]	26.86	24.56	24.56	27.31	24.94	24.94	22.46	13.91	13.92	27.22	21.67	21.70
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.15	0.15	0.04	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.12	85.65	86.71	3.54	87.50	93.21	2.37	0.47	0.51	3.43	3.27	3.71
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	1.12	1.12	0.77	1.12	1.13	0.86	0.37	0.37	0.77	0.71	0.72
d, Delay for Lane Group [s/veh]	29.97	110.21	111.27	30.85	112.44	118.15	24.83	14.38	14.43	30.66	24.94	25.41
Lane Group LOS	C	F	F	C	F	F	C	B	B	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.67	12.41	12.03	1.44	11.74	10.64	4.26	2.13	1.96	1.50	3.83	3.56
50th-Percentile Queue Length [ft/ln]	41.63	310.32	300.87	36.01	293.45	265.98	106.39	53.16	48.99	37.56	95.80	88.95
95th-Percentile Queue Length [veh/ln]	3.00	19.22	18.73	2.59	18.31	16.90	7.64	3.83	3.53	2.70	6.90	6.40
95th-Percentile Queue Length [ft/ln]	74.93	480.58	468.22	64.82	457.85	422.42	190.97	95.69	88.19	67.60	172.44	160.11

Movement, Approach, & Intersection Results

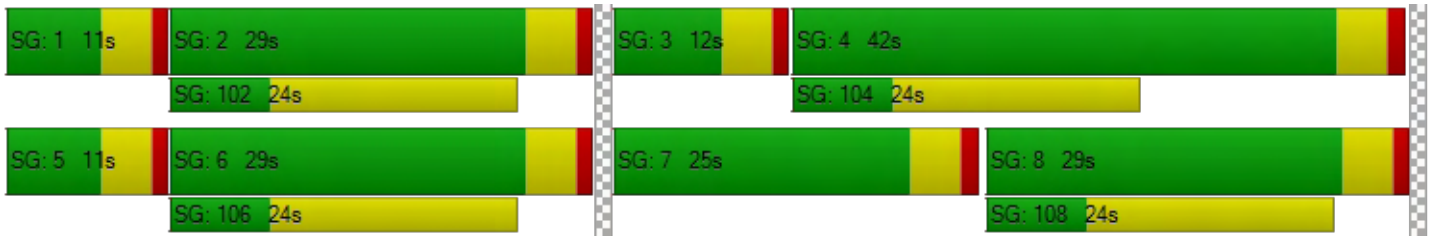
d_M, Delay for Movement [s/veh]	29.97	110.66	111.27	30.85	113.09	118.15	24.83	14.39	14.43	30.66	25.07	25.41
Movement LOS	C	F	F	C	F	F	C	B	B	C	C	C
d_A, Approach Delay [s/veh]	99.60			103.94			18.73			26.03		
Approach LOS	F			F			B			C		
d_I, Intersection Delay [s/veh]	63.67											
Intersection LOS	E											
Intersection V/C	0.836											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	20.03	20.03	20.03	20.03
l_p,int, Pedestrian LOS Score for Intersection	2.755	2.781	2.751	2.554
Crosswalk LOS	C	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	816	816	1249	816
d_b, Bicycle Delay [s]	10.52	10.52	4.23	10.52
l_b,int, Bicycle LOS Score for Intersection	2.278	2.195	2.241	2.112
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Beaumont Ave (NS) at 12th St (EW)

Control Type:	All-way stop	Delay (sec / veh):	24.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.737

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			12th St			12th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			12th St			12th St		
Base Volume Input [veh/h]	8	538	20	23	458	28	134	42	25	26	24	27
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	624	23	27	531	32	155	49	29	30	28	31
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	164	6	7	140	8	41	13	8	8	7	8
Total Analysis Volume [veh/h]	9	657	24	28	559	34	163	52	31	32	29	33
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	469	472	455	457	502	402	456	385	428
Degree of Utilization, x	0.74	0.73	0.65	0.64	0.07	0.53	0.07	0.16	0.08

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	6.03	5.93	4.48	4.43	0.22	3.05	0.22	0.56	0.25
95th-Percentile Queue Length [ft]	150.78	148.21	111.97	110.64	5.43	76.28	5.45	13.92	6.23
Approach Delay [s/veh]	28.65		23.08			20.19		13.10	
Approach LOS	D		C			C		B	
Intersection Delay [s/veh]	24.41								
Intersection LOS	C								

Intersection Level Of Service Report
Intersection 6: Beaumont Ave (NS) at 10th St (EW)

Control Type:	All-way stop	Delay (sec / veh):	16.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.554

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			10th St			10th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			10th St			10th St		
Base Volume Input [veh/h]	10	488	19	23	468	18	29	15	12	12	14	32
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	566	22	27	543	21	34	17	14	14	16	37
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	149	6	7	143	6	9	4	4	4	4	10
Total Analysis Volume [veh/h]	13	596	23	28	572	22	36	18	15	15	17	39
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	549	551	617	547	550	616	444	506	483
Degree of Utilization, x	0.55	0.55	0.04	0.55	0.55	0.04	0.12	0.03	0.15

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.36	3.34	0.12	3.30	3.26	0.11	0.41	0.09	0.51
95th-Percentile Queue Length [ft]	84.04	83.54	2.90	82.56	81.49	2.77	10.30	2.29	12.79
Approach Delay [s/veh]	16.74			16.64			11.51		11.73
Approach LOS	C			C			B		B
Intersection Delay [s/veh]	16.18								
Intersection LOS	C								

Intersection Level Of Service Report
Intersection 7: Golf Club Dr (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	7.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.579

Intersection Setup

Name	Golf Club Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0
Entry Pocket Length [ft]	172.00	100.00	197.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Golf Club Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Base Volume Input [veh/h]	79	41	37	627	706	50
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	92	48	43	727	819	58
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	13	11	191	216	15
Total Analysis Volume [veh/h]	97	51	45	765	862	61
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Overlap	Protected	Permissive	Permissive	Permissive
Signal Group	7	4	5	2	6	0
Auxiliary Signal Groups		4,5				
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	5	5	5	10	10	0
Maximum Green [s]	20	25	25	40	40	0
Amber [s]	4.3	3.0	3.0	4.3	4.3	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	26	26	74	94	20	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	4	0	0	4	4	0
Pedestrian Clearance [s]	20	0	0	22	22	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.3	2.0	2.0	3.3	3.3	0.0
Minimum Recall	No	No	No	No	No	
Maximum Recall	No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	5.30	4.00	4.00	5.30	5.30	5.30
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.30	0.00	2.00	3.30	3.30	3.30
g_i, Effective Green Time [s]	4	12	3	45	38	38
g / C, Green / Cycle	0.07	0.21	0.04	0.75	0.64	0.64
(v / s)_i Volume / Saturation Flow Rate	0.05	0.03	0.03	0.41	0.17	0.04
s, saturation flow rate [veh/h]	1781	1589	1781	1870	5094	1589
c, Capacity [veh/h]	132	331	82	1402	3247	1013
d1, Uniform Delay [s]	27.28	19.49	28.09	3.19	4.76	4.11
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.72	0.21	5.65	1.53	0.20	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.15	0.55	0.55	0.27	0.06
d, Delay for Lane Group [s/veh]	35.00	19.71	33.74	4.72	4.96	4.23
Lane Group LOS	C	B	C	A	A	A
Critical Lane Group	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.60	0.58	0.70	1.37	0.91	0.19
50th-Percentile Queue Length [ft/ln]	39.93	14.44	17.49	34.25	22.78	4.70
95th-Percentile Queue Length [veh/ln]	2.87	1.04	1.26	2.47	1.64	0.34
95th-Percentile Queue Length [ft/ln]	71.87	26.00	31.49	61.64	41.00	8.46

Movement, Approach, & Intersection Results

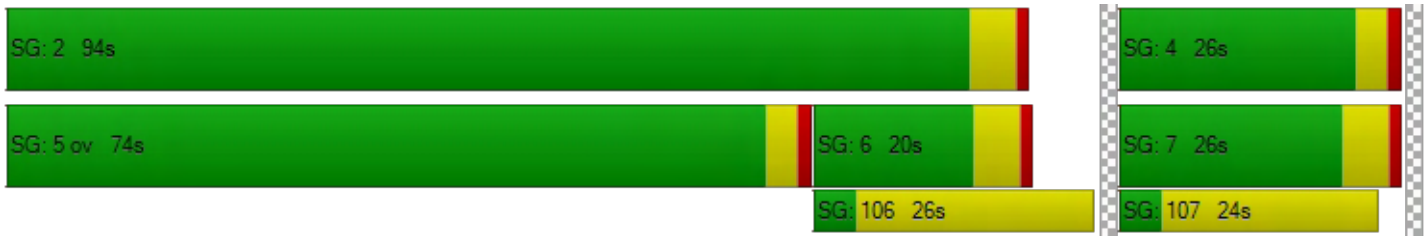
d_M, Delay for Movement [s/veh]	35.00	19.71	33.74	4.72	4.96	4.23
Movement LOS	C	B	C	A	A	A
d_A, Approach Delay [s/veh]	29.73		6.33		4.91	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	7.48					
Intersection LOS	A					
Intersection V/C	0.579					

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	8.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.57	22.57	0.00
l_p,int, Pedestrian LOS Score for Intersection	1.991	2.786	0.000
Crosswalk LOS	A	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	689	955	489
d_b, Bicycle Delay [s]	12.91	8.20	17.14
l_b,int, Bicycle LOS Score for Intersection	1.560	2.896	2.067
Bicycle LOS	A	C	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Oak View Dr (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	19.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.747

Intersection Setup

Name	Oak View Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	1
Entry Pocket Length [ft]	200.00	100.00	143.00	100.00	100.00	146.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Oak View Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Base Volume Input [veh/h]	188	211	350	459	473	279
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	218	245	406	532	549	324
Peak Hour Factor	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	63	104	136	140	83
Total Analysis Volume [veh/h]	222	250	414	543	560	331
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	40	0	36	45	45	0
Amber [s]	4.0	0.0	4.0	4.0	4.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	49	0	51	71	20	0
Vehicle Extension [s]	2.5	0.0	1.5	3.5	3.5	0.0
Walk [s]	9	0	0	11	11	0
Pedestrian Clearance [s]	10	0	0	13	13	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	0.0	3.0	3.0	3.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	12	12	16	38	17	17
g / C, Green / Cycle	0.20	0.20	0.26	0.64	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.12	0.16	0.23	0.29	0.16	0.21
s, saturation flow rate [veh/h]	1781	1589	1781	1870	3560	1589
c, Capacity [veh/h]	355	316	467	1187	1030	460
d1, Uniform Delay [s]	22.04	22.89	21.33	5.66	18.02	19.18
k, delay calibration	0.08	0.08	0.04	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.35	3.31	2.31	1.27	2.06	9.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.63	0.79	0.89	0.46	0.54	0.72
d, Delay for Lane Group [s/veh]	23.39	26.21	23.65	6.93	20.08	28.53
Lane Group LOS	C	C	C	A	C	C
Critical Lane Group	No	Yes	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.85	3.47	5.03	2.35	3.04	4.65
50th-Percentile Queue Length [ft/ln]	71.30	86.79	125.65	58.72	76.06	116.29
95th-Percentile Queue Length [veh/ln]	5.13	6.25	8.70	4.23	5.48	8.19
95th-Percentile Queue Length [ft/ln]	128.34	156.23	217.57	105.69	136.91	204.72

Movement, Approach, & Intersection Results

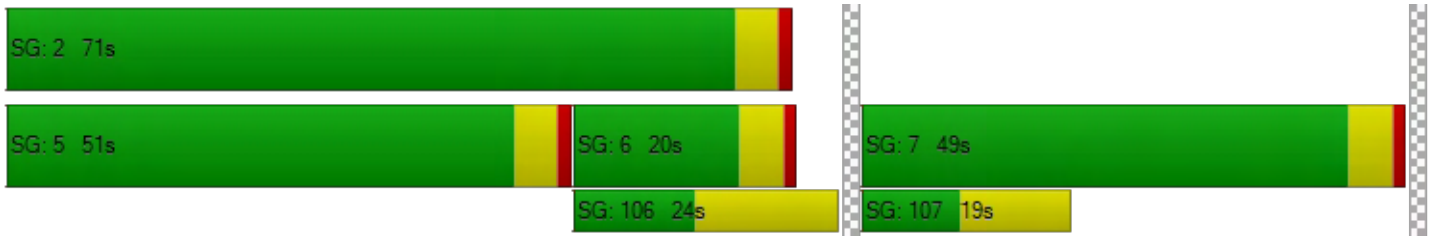
d_M, Delay for Movement [s/veh]	23.39	26.21	23.65	6.93	20.08	28.53
Movement LOS	C	C	C	A	C	C
d_A, Approach Delay [s/veh]	24.88		14.16		23.22	
Approach LOS	C		B		C	
d_I, Intersection Delay [s/veh]	19.82					
Intersection LOS	B					
Intersection V/C	0.747					

Other Modes

g_Walk,mi, Effective Walk Time [s]	15.0	13.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	16.91	18.44	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.241	2.858	0.000
Crosswalk LOS	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1465	200	499
d_b, Bicycle Delay [s]	2.15	24.34	16.91
I_b,int, Bicycle LOS Score for Intersection	1.560	3.139	2.295
Bicycle LOS	A	C	B

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Palm Ave (NS) at Oak Valley Pkwy (EW)

Control Type:	All-way stop	Delay (sec / veh):	35.8
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.911

Intersection Setup

Name	Palm Ave			Palm Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	90.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Ave			Palm Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Base Volume Input [veh/h]	63	147	27	83	89	75	63	319	61	33	432	145
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	73	171	31	96	103	87	73	370	71	38	501	168
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	46	8	26	28	23	20	99	19	10	135	45
Total Analysis Volume [veh/h]	78	184	33	103	111	94	78	398	76	41	539	181
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	373	409	338	355	382	391	405	418	437
Degree of Utilization, x	0.70	0.08	0.30	0.31	0.25	0.71	0.68	0.91	0.87

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	5.15	0.26	1.26	1.31	0.96	5.28	4.92	9.84	8.93
95th-Percentile Queue Length [ft]	128.82	6.56	31.54	32.75	23.89	132.09	123.05	245.95	223.36
Approach Delay [s/veh]	29.91		16.92			29.96		49.85	
Approach LOS	D		C			D		E	
Intersection Delay [s/veh]	35.76								
Intersection LOS	E								

Beaumont Village Project

Vistro File: G:\...\PM.vistro
Report File: G:\...\PM E.pdf

Scenario 1 Existing
1/10/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Beaumont Ave (NS) at Brookside Ave (EW)	Signalized	HCM 7th Edition	NB Thru	0.579	111.9	F
2	Beaumont Ave (NS) at Cougar Way (EW)	Signalized	HCM 7th Edition	NB Left	0.510	14.1	B
3	Beaumont Ave (NS) at Project Dwy (EW)	Two-way stop	HCM 7th Edition	WB Left	0.394	42.6	E
4	Beaumont Ave (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	SB Left	0.592	23.2	C
5	Beaumont Ave (NS) at 12th St (EW)	All-way stop	HCM 7th Edition	SB Left	0.456	13.6	B
6	Beaumont Ave (NS) at 10th St (EW)	All-way stop	HCM 7th Edition	SB Left	0.429	12.6	B
7	Golf Club Dr (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	SB Left	0.558	9.1	A
8	Oak View Dr (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	SB Right	0.517	15.1	B
9	Palm Ave (NS) at Oak Valley Pkwy (EW)	All-way stop	HCM 7th Edition	EB Left	0.589	16.6	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Beaumont Ave (NS) at Brookside Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	111.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.579

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Brookside Ave			Brookside Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	200.00	100.00	100.00	266.00	100.00	175.00	152.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			50.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			Brookside Ave			Brookside Ave		
Base Volume Input [veh/h]	75	285	88	106	354	18	33	64	75	65	52	84
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	87	331	102	123	411	21	38	74	87	75	60	97
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	87	27	32	108	6	10	19	23	20	16	26
Total Analysis Volume [veh/h]	92	348	107	129	433	22	40	78	92	79	63	102
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	5	2	0	1	6	0	7	4	4	3	8	0
Auxiliary Signal Groups									4,5			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	11	11	0	11	11	0	11	11	11	11	11	0
Maximum Green [s]	30	30	0	30	30	0	30	30	30	30	30	0
Amber [s]	4.3	4.3	0.0	4.3	4.3	0.0	4.1	4.1	4.1	4.1	4.1	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	14	28	0	9	23	0	9	73	73	10	74	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	7	0	7	0
Pedestrian Clearance [s]	0	16	0	0	16	0	0	16	16	0	16	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.3	3.3	0.0	3.3	3.3	0.0	3.1	3.1	3.1	3.1	3.1	0.0
Minimum Recall	No	No		No	No		No	No	No	No	No	
Maximum Recall	No	No		No	No		No	No	No	No	No	
Pedestrian Recall	No	No		No	No		No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	5.30	5.30	5.30	5.30	5.10	5.10	5.30	5.10	5.10
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.30	0.00	3.30	0.00	3.10	0.00	0.00	3.10
g_i, Effective Green Time [s]	26	11	26	12	24	10	24	24	13
g / C, Green / Cycle	0.43	0.18	0.43	0.20	0.39	0.17	0.40	0.39	0.22
(v / s)_i Volume / Saturation Flow Rate	0.11	0.25	0.09	0.25	0.03	0.04	0.06	0.05	0.10
s, saturation flow rate [veh/h]	861	1795	1361	1854	1423	1870	1589	1484	1686
c, Capacity [veh/h]	656	327	599	370	638	324	641	723	368
d1, Uniform Delay [s]	11.50	24.60	11.56	24.07	11.52	21.45	11.37	11.60	20.39
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.45	194.32	0.18	124.30	0.04	0.38	0.10	0.07	0.86
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.14	1.39	0.22	1.23	0.06	0.24	0.14	0.11	0.45
d, Delay for Lane Group [s/veh]	11.94	218.93	11.74	148.37	11.56	21.83	11.47	11.66	21.25
Lane Group LOS	B	F	B	F	B	C	B	B	C
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.67	21.75	0.82	17.21	0.29	0.89	0.67	0.57	1.86
50th-Percentile Queue Length [ft/ln]	16.85	543.80	20.40	430.19	7.13	22.15	16.65	14.37	46.62
95th-Percentile Queue Length [veh/ln]	1.21	33.96	1.47	26.52	0.51	1.59	1.20	1.03	3.36
95th-Percentile Queue Length [ft/ln]	30.33	849.11	36.72	663.01	12.83	39.87	29.97	25.87	83.91

Movement, Approach, & Intersection Results

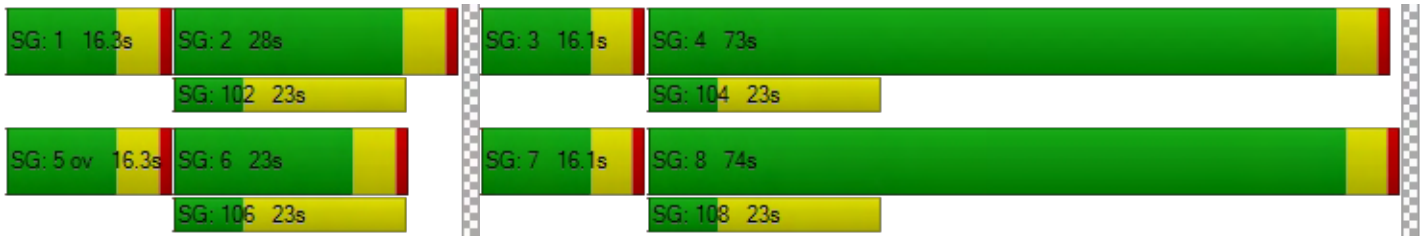
d_M, Delay for Movement [s/veh]	11.94	218.93	218.93	11.74	148.37	148.37	11.56	21.83	11.47	11.66	21.25	21.25
Movement LOS	B	F	F	B	F	F	B	C	B	B	C	C
d_A, Approach Delay [s/veh]	184.11			118.19			15.33			18.14		
Approach LOS	F			F			B			B		
d_I, Intersection Delay [s/veh]	111.91											
Intersection LOS	F											
Intersection V/C	0.579											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	20.05	20.05	20.05	20.05
l_p,int, Pedestrian LOS Score for Intersection	2.440	2.514	2.265	2.199
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	756	589	263	296
d_b, Bicycle Delay [s]	11.63	14.95	22.66	21.80
l_b,int, Bicycle LOS Score for Intersection	2.462	2.523	1.906	1.962
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Beaumont Ave (NS) at Cougar Way (EW)

Control Type:	Signalized	Delay (sec / veh):	14.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.510

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Cougar Way			Cougar Way		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	310.00	100.00	235.00	303.00	100.00	174.00	200.00	100.00	98.00	221.00	100.00	224.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Beaumont Ave			Beaumont Ave			Cougar Way			Cougar Way		
Base Volume Input [veh/h]	4	390	150	81	382	2	7	4	15	111	4	72
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	452	174	94	443	2	8	5	17	129	5	84
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	119	46	25	117	1	2	1	4	34	1	22
Total Analysis Volume [veh/h]	5	476	183	99	466	2	8	5	18	136	5	88
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	3	4	0	3	4	0	0	4	0	0	4	0
Maximum Green [s]	14	30	0	14	30	0	0	60	0	0	60	0
Amber [s]	3.0	4.2	0.0	3.0	4.2	0.0	0.0	4.2	0.0	0.0	4.2	0.0
All red [s]	2.0	1.5	0.0	2.0	1.5	0.0	0.0	1.4	0.0	0.0	1.4	0.0
Split [s]	9	36	0	13	40	0	0	11	0	0	11	0
Vehicle Extension [s]	3.0	4.2	0.0	3.0	4.2	0.0	0.0	4.2	0.0	0.0	4.2	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	20	0	0	16	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.7	0.0	3.0	3.7	0.0	0.0	3.6	0.0	0.0	3.6	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	5.00	5.70	5.70	5.00	5.70	5.70	5.60	5.60	5.60	5.60	5.60	5.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.70	3.70	3.00	3.70	3.70	3.60	3.60	3.60	3.60	3.60	3.60
g_i, Effective Green Time [s]	0	34	34	4	38	38	5	5	5	5	5	5
g / C, Green / Cycle	0.00	0.57	0.57	0.07	0.63	0.63	0.09	0.09	0.09	0.09	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.00	0.25	0.12	0.06	0.25	0.00	0.01	0.00	0.01	0.10	0.00	0.06
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1870	1589	1303	1870	1589	1388	1870	1589
c, Capacity [veh/h]	8	1056	897	129	1183	1006	200	171	146	205	171	146
d1, Uniform Delay [s]	29.87	7.64	6.44	27.37	5.40	4.06	26.64	24.87	25.09	28.90	24.87	26.26
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.17	0.17	0.17	0.17	0.17	0.17
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	59.66	1.39	0.51	9.02	0.98	0.00	0.12	0.10	0.58	5.51	0.10	6.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.62	0.45	0.20	0.77	0.39	0.00	0.04	0.03	0.12	0.66	0.03	0.60
d, Delay for Lane Group [s/veh]	89.53	9.04	6.95	36.39	6.38	4.06	26.77	24.98	25.66	34.41	24.98	32.30
Lane Group LOS	F	A	A	D	A	A	C	C	C	C	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.20	2.90	0.94	1.60	2.05	0.01	0.11	0.07	0.25	2.17	0.06	1.35
50th-Percentile Queue Length [ft/ln]	4.98	72.61	23.41	39.92	51.16	0.16	2.79	1.69	6.28	54.34	1.61	33.66
95th-Percentile Queue Length [veh/ln]	0.36	5.23	1.69	2.87	3.68	0.01	0.20	0.12	0.45	3.91	0.12	2.42
95th-Percentile Queue Length [ft/ln]	8.97	130.69	42.13	71.86	92.09	0.29	5.02	3.05	11.30	97.81	2.89	60.58

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	89.53	9.04	6.95	36.39	6.38	4.06	26.77	24.98	25.66	34.41	24.98	32.30
Movement LOS	F	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	9.07			11.61			25.84			33.39		
Approach LOS	A			B			C			C		
d_I, Intersection Delay [s/veh]	14.12											
Intersection LOS	B											
Intersection V/C	0.510											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1009	1142	180	180
d_b, Bicycle Delay [s]	7.37	5.52	24.87	24.87
l_b,int, Bicycle LOS Score for Intersection	2.655	2.495	1.611	1.937
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Beaumont Ave (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	42.6
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.394

Intersection Setup

Name	Beaumont Ave		Beaumont Ave		Project Dwy	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0
Entry Pocket Length [ft]	150.00	100.00	150.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Beaumont Ave		Beaumont Ave		Project Dwy	
Base Volume Input [veh/h]	455	81	125	426	50	42
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	528	94	145	494	58	49
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	139	25	38	130	15	13
Total Analysis Volume [veh/h]	556	99	153	520	61	52
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.16	0.01	0.39	0.08
d_M, Delay for Movement [s/veh]	0.00	0.00	9.64	0.00	42.58	10.84
Movement LOS	A	A	A	A	E	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.59	0.00	1.70	0.25
95th-Percentile Queue Length [ft/ln]	0.00	0.00	14.72	0.00	42.55	6.31
d_A, Approach Delay [s/veh]	0.00		2.19		27.97	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	3.22					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 4: Beaumont Ave (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	23.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.592

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	102.00	100.00	100.00	145.00	100.00	100.00	125.00	100.00	100.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			45.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Base Volume Input [veh/h]	69	317	64	72	289	118	181	305	70	101	297	72
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	368	74	84	335	137	210	354	81	117	345	84
Peak Hour Factor	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	96	19	22	87	36	55	92	21	31	90	22
Total Analysis Volume [veh/h]	84	384	77	88	350	143	219	370	85	122	360	88
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	6	0	5	6	0	5	4	0	5	4	0
Maximum Green [s]	16	40	0	16	40	0	16	16	0	16	16	0
Amber [s]	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	30	0	12	29	0	25	42	0	12	29	0
Vehicle Extension [s]	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	17	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	2.5	0.0	2.5	2.5	0.0	2.5	2.5	0.0	2.5	2.5	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
g_i, Effective Green Time [s]	4	18	18	4	18	18	9	15	15	5	11	11
g / C, Green / Cycle	0.06	0.30	0.30	0.06	0.30	0.30	0.15	0.25	0.25	0.09	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.05	0.13	0.13	0.05	0.14	0.14	0.12	0.13	0.13	0.07	0.12	0.12
s, saturation flow rate [veh/h]	1781	1870	1763	1781	1870	1689	1781	1870	1751	1781	1870	1745
c, Capacity [veh/h]	114	561	529	117	564	509	272	460	431	159	341	318
d1, Uniform Delay [s]	27.66	16.87	16.90	27.64	17.02	17.06	24.62	19.56	19.58	26.79	22.95	22.98
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.15	0.15	0.04	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.41	2.31	2.49	3.65	2.65	3.01	2.13	1.25	1.35	2.91	3.31	3.67
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.73	0.42	0.43	0.75	0.46	0.46	0.80	0.51	0.51	0.77	0.68	0.68
d, Delay for Lane Group [s/veh]	31.06	19.18	19.39	31.29	19.67	20.08	26.75	20.81	20.93	29.70	26.26	26.65
Lane Group LOS	C	B	B	C	B	C	C	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.19	2.60	2.51	1.25	2.89	2.70	2.81	2.58	2.44	1.71	3.09	2.95
50th-Percentile Queue Length [ft/ln]	29.80	65.12	62.77	31.36	72.14	67.50	70.13	64.48	61.07	42.84	77.16	73.66
95th-Percentile Queue Length [veh/ln]	2.15	4.69	4.52	2.26	5.19	4.86	5.05	4.64	4.40	3.08	5.56	5.30
95th-Percentile Queue Length [ft/ln]	53.64	117.22	112.99	56.45	129.85	121.49	126.24	116.06	109.92	77.12	138.89	132.59

Movement, Approach, & Intersection Results

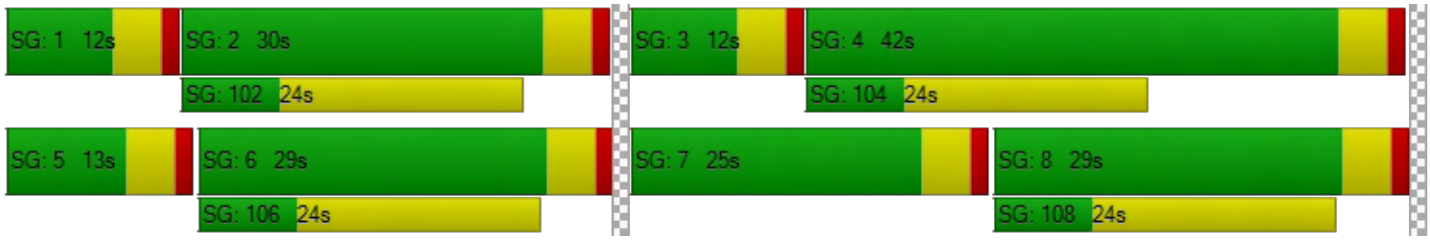
d_M, Delay for Movement [s/veh]	31.06	19.26	19.39	31.29	19.78	20.08	26.75	20.85	20.93	29.70	26.40	26.65
Movement LOS	C	B	B	C	B	C	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	21.10			21.59			22.78			27.15		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	23.15											
Intersection LOS	C											
Intersection V/C	0.592											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	20.05	20.05	20.05	20.05
l_p,int, Pedestrian LOS Score for Intersection	2.669	2.608	2.646	2.529
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	849	815	1248	815
d_b, Bicycle Delay [s]	9.96	10.54	4.25	10.54
l_b,int, Bicycle LOS Score for Intersection	2.009	2.039	2.116	2.030
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Beaumont Ave (NS) at 12th St (EW)

Control Type:	All-way stop	Delay (sec / veh):	13.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.456

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			12th St			12th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			12th St			12th St		
Base Volume Input [veh/h]	18	361	17	22	393	32	55	24	27	14	16	19
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	419	20	26	456	37	64	28	31	16	19	22
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	110	5	7	120	10	17	7	8	4	5	6
Total Analysis Volume [veh/h]	22	441	21	27	480	39	67	29	33	17	20	23
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	554	564	556	561	630	467	539	466	528
Degree of Utilization, x	0.44	0.43	0.46	0.45	0.06	0.21	0.06	0.08	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.20	2.14	2.36	2.33	0.20	0.76	0.20	0.26	0.14
95th-Percentile Queue Length [ft]	55.01	53.60	59.10	58.30	4.94	19.11	4.88	6.44	3.41
Approach Delay [s/veh]	13.97		13.99			11.74		10.61	
Approach LOS	B		B			B		B	
Intersection Delay [s/veh]	13.58								
Intersection LOS	B								

Intersection Level Of Service Report
Intersection 6: Beaumont Ave (NS) at 10th St (EW)

Control Type:	All-way stop	Delay (sec / veh):	12.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.429

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			10th St			10th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			10th St			10th St		
Base Volume Input [veh/h]	27	367	45	25	386	11	18	14	17	12	11	15
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	426	52	29	448	13	21	16	20	14	13	17
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	112	14	8	118	3	6	4	5	4	3	4
Total Analysis Volume [veh/h]	33	448	55	31	472	14	22	17	21	15	14	18
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	586	593	669	586	592	668	486	557	517
Degree of Utilization, x	0.41	0.41	0.08	0.43	0.43	0.02	0.08	0.04	0.09

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.00	1.96	0.27	2.15	2.11	0.06	0.26	0.12	0.30
95th-Percentile Queue Length [ft]	49.91	49.05	6.69	53.69	52.84	1.60	6.52	2.93	7.47
Approach Delay [s/veh]	12.51			13.16			10.29		10.66
Approach LOS	B			B			B		B
Intersection Delay [s/veh]	12.61								
Intersection LOS	B								

Intersection Level Of Service Report
Intersection 7: Golf Club Dr (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	9.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.558

Intersection Setup

Name	Golf Club Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0
Entry Pocket Length [ft]	172.00	100.00	197.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Golf Club Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Base Volume Input [veh/h]	36	85	143	600	473	12
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	42	99	166	696	549	14
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	26	44	183	144	4
Total Analysis Volume [veh/h]	44	104	175	733	578	15
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Overlap	Protected	Permissive	Permissive	Permissive
Signal Group	7	4	5	2	6	0
Auxiliary Signal Groups		4,5				
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	5	5	5	10	10	0
Maximum Green [s]	20	25	25	40	40	0
Amber [s]	4.3	3.0	3.0	4.3	4.3	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	26	26	74	94	20	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	4	0	0	4	4	0
Pedestrian Clearance [s]	20	0	0	22	22	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.3	2.0	2.0	3.3	3.3	0.0
Minimum Recall	No	No	No	No	No	
Maximum Recall	No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	5.30	4.00	4.00	5.30	5.30	5.30
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.30	0.00	2.00	3.30	3.30	3.30
g_i, Effective Green Time [s]	3	16	8	46	34	34
g / C, Green / Cycle	0.05	0.27	0.13	0.77	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.02	0.07	0.10	0.39	0.11	0.01
s, saturation flow rate [veh/h]	1781	1589	1781	1870	5094	1589
c, Capacity [veh/h]	93	436	238	1442	2910	908
d1, Uniform Delay [s]	27.69	16.96	25.04	2.59	6.24	5.58
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.65	0.28	4.38	1.28	0.15	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.47	0.24	0.74	0.51	0.20	0.02
d, Delay for Lane Group [s/veh]	31.34	17.24	29.42	3.87	6.39	5.62
Lane Group LOS	C	B	C	A	A	A
Critical Lane Group	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.69	1.09	2.41	0.81	0.82	0.06
50th-Percentile Queue Length [ft/ln]	17.22	27.22	60.16	20.14	20.42	1.56
95th-Percentile Queue Length [veh/ln]	1.24	1.96	4.33	1.45	1.47	0.11
95th-Percentile Queue Length [ft/ln]	31.00	49.00	108.30	36.26	36.76	2.81

Movement, Approach, & Intersection Results

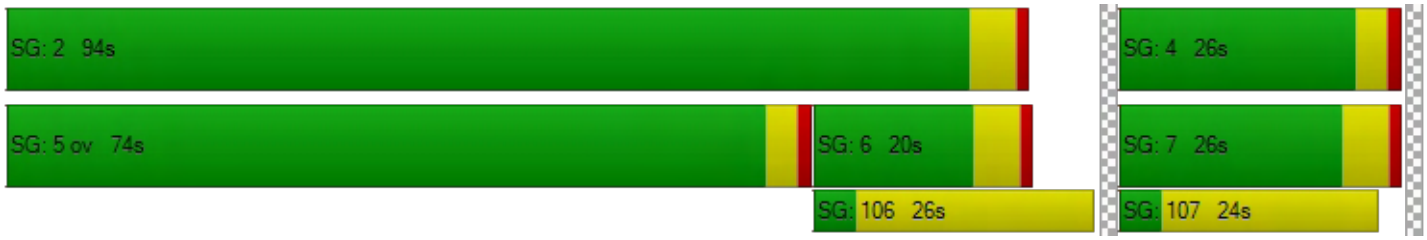
d_M, Delay for Movement [s/veh]	31.34	17.24	29.42	3.87	6.39	5.62
Movement LOS	C	B	C	A	A	A
d_A, Approach Delay [s/veh]	21.43		8.79		6.37	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	9.06					
Intersection LOS	A					
Intersection V/C	0.558					

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	8.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.57	22.57	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.014	2.747	0.000
Crosswalk LOS	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	689	955	489
d_b, Bicycle Delay [s]	12.91	8.20	17.14
I_b,int, Bicycle LOS Score for Intersection	1.560	3.058	1.886
Bicycle LOS	A	C	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Oak View Dr (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	15.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.517

Intersection Setup

Name	Oak View Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	1
Entry Pocket Length [ft]	200.00	100.00	143.00	100.00	100.00	146.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Oak View Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Base Volume Input [veh/h]	112	153	262	476	334	134
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	130	177	304	552	387	155
Peak Hour Factor	0.9830	0.9830	0.9830	0.9830	0.9830	0.9830
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	45	77	140	98	39
Total Analysis Volume [veh/h]	132	180	309	562	394	158
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	40	0	36	45	45	0
Amber [s]	4.0	0.0	4.0	4.0	4.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	49	0	51	71	20	0
Vehicle Extension [s]	2.5	0.0	1.5	3.5	3.5	0.0
Walk [s]	9	0	0	11	11	0
Pedestrian Clearance [s]	10	0	0	13	13	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	0.0	3.0	3.0	3.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	9	9	12	41	24	24
g / C, Green / Cycle	0.15	0.15	0.20	0.68	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.07	0.11	0.17	0.30	0.11	0.10
s, saturation flow rate [veh/h]	1781	1589	1781	1870	3560	1589
c, Capacity [veh/h]	271	242	363	1275	1405	627
d1, Uniform Delay [s]	23.36	24.39	23.06	4.35	12.39	12.23
k, delay calibration	0.08	0.08	0.04	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.01	3.39	2.19	1.11	0.50	0.96
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.49	0.75	0.85	0.44	0.28	0.25
d, Delay for Lane Group [s/veh]	24.37	27.78	25.26	5.46	12.89	13.20
Lane Group LOS	C	C	C	A	B	B
Critical Lane Group	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.72	2.56	3.86	1.79	1.54	1.31
50th-Percentile Queue Length [ft/ln]	42.91	64.08	96.52	44.67	38.49	32.76
95th-Percentile Queue Length [veh/ln]	3.09	4.61	6.95	3.22	2.77	2.36
95th-Percentile Queue Length [ft/ln]	77.24	115.34	173.74	80.41	69.29	58.96

Movement, Approach, & Intersection Results

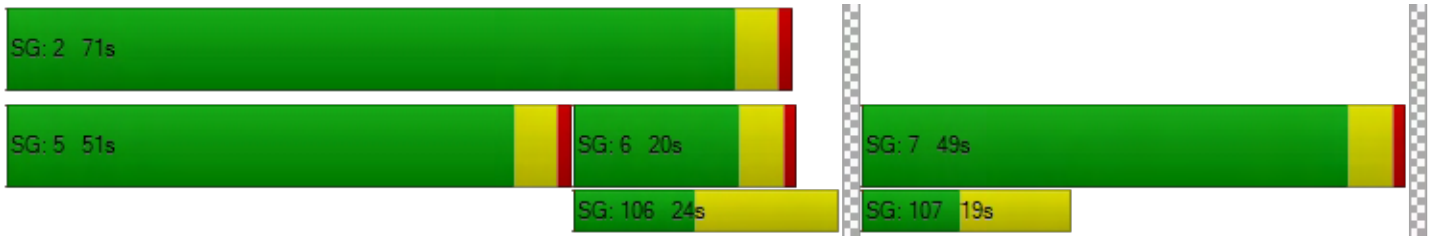
d_M, Delay for Movement [s/veh]	24.37	27.78	25.26	5.46	12.89	13.20
Movement LOS	C	C	C	A	B	B
d_A, Approach Delay [s/veh]	26.34		12.49		12.97	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	15.13					
Intersection LOS	B					
Intersection V/C	0.517					

Other Modes

g_Walk,mi, Effective Walk Time [s]	15.0	13.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	16.91	18.44	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.122	2.779	0.000
Crosswalk LOS	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1465	200	499
d_b, Bicycle Delay [s]	2.15	24.34	16.91
I_b,int, Bicycle LOS Score for Intersection	1.560	2.997	2.015
Bicycle LOS	A	C	B

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Palm Ave (NS) at Oak Valley Pkwy (EW)

Control Type:	All-way stop	Delay (sec / veh):	16.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.589

Intersection Setup

Name	Palm Ave			Palm Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	90.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Ave			Palm Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Base Volume Input [veh/h]	46	40	22	37	31	31	49	402	52	16	369	50
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	53	46	26	43	36	36	57	466	60	19	428	58
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	12	7	11	9	9	15	123	16	5	113	15
Total Analysis Volume [veh/h]	56	48	27	45	38	38	60	491	63	20	451	61
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	430	486	413	438	478	522	540	514	529
Degree of Utilization, x	0.24	0.06	0.11	0.09	0.08	0.59	0.57	0.52	0.50

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.94	0.18	0.36	0.28	0.26	3.77	3.53	2.94	2.80
95th-Percentile Queue Length [ft]	23.40	4.40	9.12	7.10	6.44	94.18	88.13	73.41	69.88
Approach Delay [s/veh]	13.07		11.74			18.40		16.57	
Approach LOS	B		B			C		C	
Intersection Delay [s/veh]	16.63								
Intersection LOS	C								

Existing Plus Project

Beaumont Village Project

Vistro File: G:\...\AM.vistro
Report File: G:\...\AM EP.pdf

Scenario 2 Existing Plus Project
1/15/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Beaumont Ave (NS) at Brookside Ave (EW)	Signalized	HCM 7th Edition	WB Thru	0.872	59.7	E
2	Beaumont Ave (NS) at Cougar Way (EW)	Signalized	HCM 7th Edition	SB Left	0.766	24.7	C
3	Beaumont Ave (NS) at Project Dwy (EW)	Two-way stop	HCM 7th Edition	EB Left	3.300	1,310.4	F
4	Beaumont Ave (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	SB Right	0.912	163.7	F
5	Beaumont Ave (NS) at 12th St (EW)	All-way stop	HCM 7th Edition	NB Left	0.808	29.8	D
6	Beaumont Ave (NS) at 10th St (EW)	All-way stop	HCM 7th Edition	SB Left	0.590	17.6	C
7	Golf Club Dr (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	SB Left	0.598	7.7	A
8	Oak View Dr (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	WB Right	0.756	20.1	C
9	Palm Ave (NS) at Oak Valley Pkwy (EW)	All-way stop	HCM 7th Edition	WB Left	0.945	41.5	E
10	Beaumont Ave (NS) at Project Dwy 2 (EW)	Two-way stop	HCM 7th Edition	EB Right	0.033	11.8	B
11	Project Dwy 3 (NS) at Oak Valley Pkwy (EW)	Two-way stop	HCM 7th Edition	SB Left	0.166	19.0	C
12	Project Dwy 4 (NS) at Oak Valley Pkwy (EW)	Two-way stop	HCM 7th Edition	SB Right	0.115	12.2	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Beaumont Ave (NS) at Brookside Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	59.7
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.872

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Brookside Ave			Brookside Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	200.00	100.00	100.00	266.00	100.00	175.00	152.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			50.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			Brookside Ave			Brookside Ave		
Base Volume Input [veh/h]	256	577	23	91	370	28	53	179	244	55	261	153
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	8	8	0	9	0	0	0	9	9	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	305	677	35	106	438	32	61	208	292	73	303	177
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	80	178	9	28	115	8	16	55	77	19	80	47
Total Analysis Volume [veh/h]	321	713	37	112	461	34	64	219	307	77	319	186
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	5	2	0	1	6	0	7	4	4	3	8	0
Auxiliary Signal Groups									4,5			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	11	11	0	11	11	0	11	11	11	11	11	0
Maximum Green [s]	30	30	0	30	30	0	30	30	30	30	30	0
Amber [s]	4.3	4.3	0.0	4.3	4.3	0.0	4.1	4.1	4.1	4.1	4.1	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	25	50	0	17	42	0	17	36	36	17	36	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	7	0	7	0
Pedestrian Clearance [s]	0	16	0	0	16	0	0	16	16	0	16	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.3	3.3	0.0	3.3	3.3	0.0	3.1	3.1	3.1	3.1	3.1	0.0
Minimum Recall	No	No		No	No		No	No	No	No	No	
Maximum Recall	No	No		No	No		No	No	No	No	No	
Pedestrian Recall	No	No		No	No		No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.30	5.30	5.30	5.30	5.10	5.10	5.30	5.10	5.10
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.30	0.00	3.30	0.00	3.10	0.00	0.00	3.10
g_i, Effective Green Time [s]	62	46	62	39	48	33	56	48	33
g / C, Green / Cycle	0.51	0.38	0.51	0.32	0.40	0.27	0.46	0.40	0.28
(v / s)_i Volume / Saturation Flow Rate	0.27	0.40	0.12	0.27	0.06	0.12	0.19	0.07	0.29
s, saturation flow rate [veh/h]	1205	1854	955	1848	1131	1870	1589	1128	1756
c, Capacity [veh/h]	489	707	309	593	297	507	737	451	483
d1, Uniform Delay [s]	22.62	37.11	24.48	37.77	27.33	36.12	21.41	23.37	43.51
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11	0.22	0.11	0.46
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.76	50.98	0.72	13.00	0.36	0.58	0.78	0.18	52.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.66	1.06	0.36	0.83	0.22	0.43	0.42	0.17	1.05
d, Delay for Lane Group [s/veh]	29.39	88.09	25.19	50.77	27.69	36.70	22.20	23.55	95.69
Lane Group LOS	C	F	C	D	C	D	C	C	F
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.95	29.80	1.54	14.88	1.14	5.28	5.69	1.37	20.85
50th-Percentile Queue Length [ft/ln]	148.63	744.89	38.54	372.07	28.47	131.94	142.35	34.17	521.14
95th-Percentile Queue Length [veh/ln]	9.94	40.41	2.77	21.21	2.05	9.05	9.61	2.46	29.15
95th-Percentile Queue Length [ft/ln]	248.60	1010.32	69.37	530.24	51.25	226.13	240.18	61.51	728.80

Movement, Approach, & Intersection Results

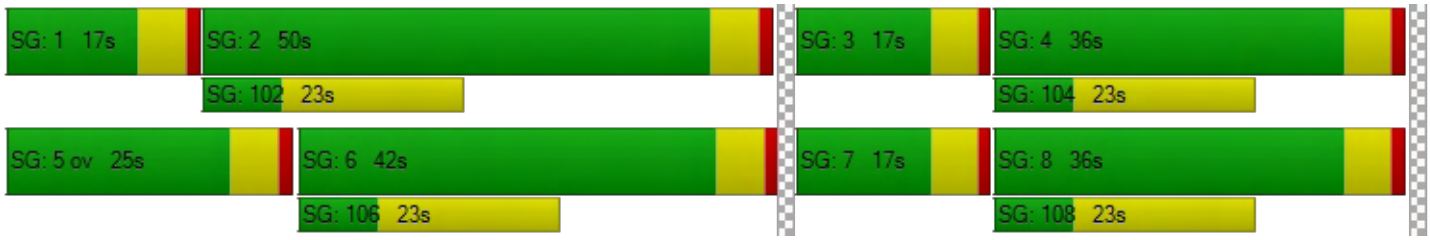
d_M, Delay for Movement [s/veh]	29.39	88.09	88.09	25.19	50.77	50.77	27.69	36.70	22.20	23.55	95.69	95.69
Movement LOS	C	F	F	C	D	D	C	D	C	C	F	F
d_A, Approach Delay [s/veh]	70.50			46.05			28.18			86.15		
Approach LOS	E			D			C			F		
d_I, Intersection Delay [s/veh]	59.73											
Intersection LOS	E											
Intersection V/C	0.872											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.816	2.831	2.710	2.429
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	745	612	515	515
d_b, Bicycle Delay [s]	23.63	28.91	33.08	33.08
l_b,int, Bicycle LOS Score for Intersection	3.327	2.561	2.533	2.520
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Beaumont Ave (NS) at Cougar Way (EW)

Control Type:	Signalized	Delay (sec / veh):	24.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.766

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Cougar Way			Cougar Way		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	310.00	100.00	235.00	303.00	100.00	174.00	200.00	100.00	98.00	221.00	100.00	224.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Beaumont Ave			Beaumont Ave			Cougar Way			Cougar Way		
Base Volume Input [veh/h]	197	616	146	63	354	140	117	119	201	95	157	164
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	24	8	0	27	0	0	0	0	9	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	229	739	177	73	438	162	136	138	233	119	182	190
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	60	194	47	19	115	43	36	36	61	31	48	50
Total Analysis Volume [veh/h]	241	778	186	77	461	171	143	145	245	125	192	200
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	3	4	0	3	4	0	0	4	0	0	4	0
Maximum Green [s]	14	30	0	14	30	0	0	60	0	0	60	0
Amber [s]	3.0	4.2	0.0	3.0	4.2	0.0	0.0	4.2	0.0	0.0	4.2	0.0
All red [s]	2.0	1.5	0.0	2.0	1.5	0.0	0.0	1.4	0.0	0.0	1.4	0.0
Split [s]	20	34	0	9	23	0	0	17	0	0	17	0
Vehicle Extension [s]	3.0	4.2	0.0	3.0	4.2	0.0	0.0	4.2	0.0	0.0	4.2	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	20	0	0	16	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.7	0.0	3.0	3.7	0.0	0.0	3.6	0.0	0.0	3.6	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	5.00	5.70	5.70	5.00	5.70	5.70	5.60	5.60	5.60	5.60	5.60	5.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.70	3.70	3.00	3.70	3.70	3.60	3.60	3.60	3.60	3.60	3.60
g_i, Effective Green Time [s]	10	29	29	3	22	22	11	11	11	11	11	11
g / C, Green / Cycle	0.17	0.48	0.48	0.06	0.37	0.37	0.19	0.19	0.19	0.19	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.14	0.42	0.12	0.04	0.25	0.11	0.14	0.08	0.15	0.13	0.10	0.13
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1870	1589	992	1870	1589	994	1870	1589
c, Capacity [veh/h]	298	898	763	101	691	587	195	360	306	219	360	306
d1, Uniform Delay [s]	24.15	13.93	9.21	28.01	15.88	13.41	28.92	21.29	23.22	27.70	21.89	22.47
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.17	0.17	0.17	0.17	0.17	0.17
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.20	10.97	0.76	11.23	5.05	1.25	7.93	1.11	7.25	3.53	1.87	3.59
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	0.87	0.24	0.76	0.67	0.29	0.73	0.40	0.80	0.57	0.53	0.65
d, Delay for Lane Group [s/veh]	29.34	24.90	9.97	39.24	20.93	14.66	36.85	22.41	30.47	31.24	23.77	26.06
Lane Group LOS	C	C	A	D	C	B	D	C	C	C	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	3.38	9.82	1.28	1.32	5.35	1.58	2.44	1.82	3.76	1.89	2.36	2.63
50th-Percentile Queue Length [ft/ln]	84.50	245.52	32.02	32.88	133.76	39.42	60.92	45.41	93.94	47.23	59.08	65.79
95th-Percentile Queue Length [veh/ln]	6.08	14.96	2.31	2.37	9.14	2.84	4.39	3.27	6.76	3.40	4.25	4.74
95th-Percentile Queue Length [ft/ln]	152.10	374.01	57.63	59.18	228.59	70.95	109.66	81.73	169.09	85.02	106.34	118.42

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.34	24.90	9.97	39.24	20.93	14.66	36.85	22.41	30.47	31.24	23.77	26.06
Movement LOS	C	C	A	D	C	B	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	23.48			21.41			29.99			26.46		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	24.68											
Intersection LOS	C											
Intersection V/C	0.766											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	941	576	379	379
d_b, Bicycle Delay [s]	8.42	15.25	19.74	19.74
l_b,int, Bicycle LOS Score for Intersection	3.548	2.729	2.439	2.413
Bicycle LOS	D	B	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Beaumont Ave (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	1,310.4
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	3.300

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Project Dwy			Project Dwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Beaumont Ave			Beaumont Ave			Project Dwy			Project Dwy		
Base Volume Input [veh/h]	0	992	23	90	635	0	0	0	0	13	0	22
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	63	0	0	0	8	27	32	0	48	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	62	-62	0	0	-26	26	62	0	26	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	125	1089	27	104	719	53	94	0	74	15	0	26
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	287	7	27	189	14	25	0	19	4	0	7
Total Analysis Volume [veh/h]	132	1146	28	109	757	56	99	0	78	16	0	27
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.01	0.00	0.18	0.01	0.00	3.30	0.00	0.13	0.79	0.00	0.06
d_M, Delay for Movement [s/veh]	10.31	0.00	0.00	12.47	0.00	0.00	1310.42	176.16	11.98	392.73	179.33	13.45
Movement LOS	B	A	A	B	A	A	F	F	B	F	F	B
95th-Percentile Queue Length [veh/ln]	0.58	0.00	0.00	0.67	0.00	0.00	11.78	0.45	0.45	2.20	0.19	0.19
95th-Percentile Queue Length [ft/ln]	14.51	0.00	0.00	16.78	0.00	0.00	294.44	11.26	11.26	55.02	4.74	4.74
d_A, Approach Delay [s/veh]	1.04			1.47			738.23			154.58		
Approach LOS	A			A			F			F		
d_I, Intersection Delay [s/veh]	57.20											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 4: Beaumont Ave (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	163.7
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.912

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	102.00	100.00	100.00	145.00	100.00	100.00	125.00	100.00	100.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			45.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Base Volume Input [veh/h]	101	560	70	85	337	223	288	304	101	88	343	130
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	36	18	0	24	32	0	27	16	16	0	27	18
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	153	668	81	123	423	259	361	369	133	102	425	169
Peak Hour Factor	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	172	21	32	109	67	93	95	34	26	109	43
Total Analysis Volume [veh/h]	157	687	83	126	435	266	371	379	137	105	437	174
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	6	0	5	6	0	5	4	0	5	4	0
Maximum Green [s]	16	40	0	16	40	0	16	16	0	16	16	0
Amber [s]	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	14	31	0	12	29	0	27	43	0	13	29	0
Vehicle Extension [s]	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	17	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	2.5	0.0	2.5	2.5	0.0	2.5	2.5	0.0	2.5	2.5	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
g_i, Effective Green Time [s]	7	8	8	5	7	7	14	24	24	5	14	14
g / C, Green / Cycle	0.11	0.13	0.13	0.09	0.11	0.11	0.24	0.40	0.40	0.08	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.09	0.21	0.21	0.07	0.20	0.20	0.21	0.14	0.14	0.06	0.17	0.17
s, saturation flow rate [veh/h]	1781	1870	1800	1781	1870	1636	1781	1870	1703	1781	1870	1692
c, Capacity [veh/h]	200	250	241	163	211	185	426	746	679	137	442	400
d1, Uniform Delay [s]	25.98	26.03	26.03	26.70	26.66	26.66	21.98	12.70	12.70	27.22	21.14	21.17
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.15	0.15	0.04	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.59	274.27	275.00	2.97	364.58	369.29	2.25	0.42	0.46	3.39	3.20	3.61
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	1.57	1.57	0.77	1.77	1.77	0.87	0.36	0.36	0.77	0.72	0.73
d, Delay for Lane Group [s/veh]	28.56	300.30	301.03	29.67	391.24	395.95	24.22	13.12	13.16	30.61	24.34	24.78
Lane Group LOS	C	F	F	C	F	F	C	B	B	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.12	22.26	21.48	1.74	24.10	21.32	4.55	2.13	1.95	1.50	4.11	3.79
50th-Percentile Queue Length [ft/ln]	53.00	556.50	536.94	43.45	602.59	533.10	113.69	53.25	48.72	37.52	102.74	94.76
95th-Percentile Queue Length [veh/ln]	3.82	35.27	34.17	3.13	38.40	34.44	8.04	3.83	3.51	2.70	7.40	6.82
95th-Percentile Queue Length [ft/ln]	95.41	881.81	854.20	78.21	960.06	860.97	201.12	95.85	87.70	67.54	184.93	170.57

Movement, Approach, & Intersection Results

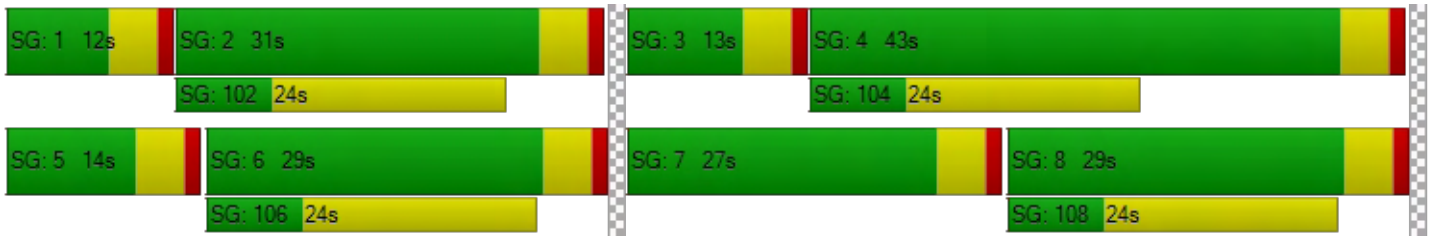
d_M, Delay for Movement [s/veh]	28.56	300.61	301.03	29.67	391.90	395.95	24.22	13.13	13.16	30.61	24.46	24.78
Movement LOS	C	F	F	C	F	F	C	B	B	C	C	C
d_A, Approach Delay [s/veh]	254.58			338.02			17.78			25.44		
Approach LOS	F			F			B			C		
d_I, Intersection Delay [s/veh]	163.69											
Intersection LOS	F											
Intersection V/C	0.912											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	20.03	20.03	20.03	20.03
l_p,int, Pedestrian LOS Score for Intersection	2.778	2.813	2.788	2.574
Crosswalk LOS	C	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	883	816	1282	816
d_b, Bicycle Delay [s]	9.37	10.52	3.87	10.52
l_b,int, Bicycle LOS Score for Intersection	2.324	2.242	2.291	2.150
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Beaumont Ave (NS) at 12th St (EW)

Control Type:	All-way stop	Delay (sec / veh):	29.8
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.808

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			12th St			12th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			12th St			12th St		
Base Volume Input [veh/h]	8	538	20	23	458	28	134	42	25	26	24	27
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	36	0	8	32	8	9	0	0	0	0	9
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	660	23	35	563	40	164	49	29	30	28	40
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	174	6	9	148	11	43	13	8	8	7	11
Total Analysis Volume [veh/h]	9	695	24	37	593	42	173	52	31	32	29	42
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	451	454	437	440	482	385	434	366	405
Degree of Utilization, x	0.81	0.80	0.72	0.72	0.09	0.59	0.07	0.17	0.10

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	7.47	7.35	5.65	5.57	0.29	3.59	0.23	0.59	0.34
95th-Percentile Queue Length [ft]	186.75	183.76	141.33	139.25	7.13	89.67	5.74	14.77	8.61
Approach Delay [s/veh]	36.16		28.06			22.90		13.72	
Approach LOS	E		D			C		B	
Intersection Delay [s/veh]	29.82								
Intersection LOS	D								

Intersection Level Of Service Report
Intersection 6: Beaumont Ave (NS) at 10th St (EW)

Control Type:	All-way stop	Delay (sec / veh):	17.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.590

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			10th St			10th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			10th St			10th St		
Base Volume Input [veh/h]	10	488	19	23	468	18	29	15	12	12	14	32
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	18	0	8	16	8	9	0	0	0	0	9
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	584	22	35	559	29	43	17	14	14	16	46
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	154	6	9	147	8	11	4	4	4	4	12
Total Analysis Volume [veh/h]	13	615	23	37	588	31	45	18	15	15	17	48
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	533	535	597	530	535	596	430	491	472
Degree of Utilization, x	0.59	0.59	0.04	0.59	0.58	0.05	0.15	0.03	0.17

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.78	3.76	0.12	3.78	3.72	0.16	0.51	0.09	0.61
95th-Percentile Queue Length [ft]	94.62	94.07	3.00	94.62	93.05	4.10	12.71	2.36	15.13
Approach Delay [s/veh]	18.31			18.18			12.06		12.19
Approach LOS	C			C			B		B
Intersection Delay [s/veh]	17.58								
Intersection LOS	C								

Intersection Level Of Service Report
Intersection 7: Golf Club Dr (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	7.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.598

Intersection Setup

Name	Golf Club Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0
Entry Pocket Length [ft]	172.00	100.00	197.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Golf Club Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Base Volume Input [veh/h]	79	41	37	627	706	50
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	0	0	18	16	8
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	101	48	43	745	835	66
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	13	11	196	220	17
Total Analysis Volume [veh/h]	106	51	45	784	879	69
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Overlap	Protected	Permissive	Permissive	Permissive
Signal Group	7	4	5	2	6	0
Auxiliary Signal Groups		4,5				
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	5	5	5	10	10	0
Maximum Green [s]	20	25	25	40	40	0
Amber [s]	4.3	3.0	3.0	4.3	4.3	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	26	26	74	94	20	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	4	0	0	4	4	0
Pedestrian Clearance [s]	20	0	0	22	22	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.3	2.0	2.0	3.3	3.3	0.0
Minimum Recall	No	No	No	No	No	
Maximum Recall	No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	5.30	4.00	4.00	5.30	5.30	5.30
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.30	0.00	2.00	3.30	3.30	3.30
g_i, Effective Green Time [s]	5	13	3	45	38	38
g / C, Green / Cycle	0.08	0.21	0.04	0.74	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.06	0.03	0.03	0.42	0.17	0.04
s, saturation flow rate [veh/h]	1781	1589	1781	1870	5094	1589
c, Capacity [veh/h]	144	341	82	1389	3212	1002
d1, Uniform Delay [s]	27.03	19.16	28.09	3.42	4.96	4.29
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.13	0.20	5.65	1.66	0.21	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.15	0.55	0.56	0.27	0.07
d, Delay for Lane Group [s/veh]	34.16	19.36	33.74	5.08	5.17	4.42
Lane Group LOS	C	B	C	A	A	A
Critical Lane Group	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.72	0.57	0.70	1.60	0.97	0.22
50th-Percentile Queue Length [ft/ln]	42.91	14.28	17.49	40.04	24.35	5.56
95th-Percentile Queue Length [veh/ln]	3.09	1.03	1.26	2.88	1.75	0.40
95th-Percentile Queue Length [ft/ln]	77.24	25.70	31.49	72.08	43.82	10.01

Movement, Approach, & Intersection Results

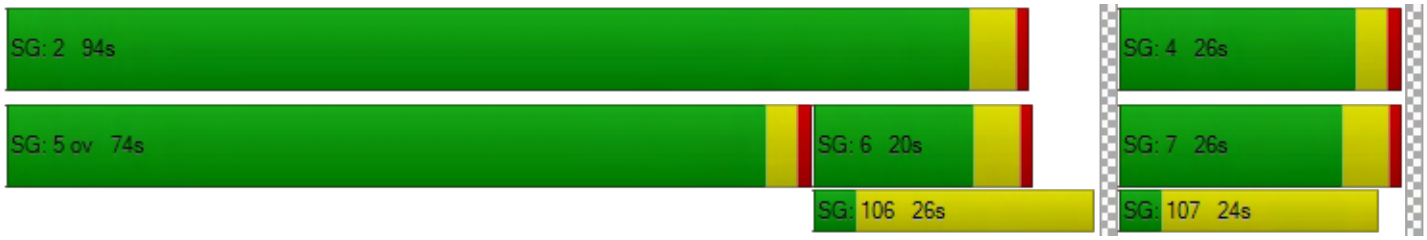
d_M, Delay for Movement [s/veh]	34.16	19.36	33.74	5.08	5.17	4.42
Movement LOS	C	B	C	A	A	A
d_A, Approach Delay [s/veh]	29.35		6.64		5.12	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	7.74					
Intersection LOS	A					
Intersection V/C	0.598					

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	8.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.57	22.57	0.00
l_p,int, Pedestrian LOS Score for Intersection	1.996	2.797	0.000
Crosswalk LOS	A	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	689	955	489
d_b, Bicycle Delay [s]	12.91	8.20	17.14
l_b,int, Bicycle LOS Score for Intersection	1.560	2.927	2.081
Bicycle LOS	A	C	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Oak View Dr (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	20.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.756

Intersection Setup

Name	Oak View Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	1
Entry Pocket Length [ft]	200.00	100.00	143.00	100.00	100.00	146.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Oak View Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Base Volume Input [veh/h]	188	211	350	459	473	279
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	0	0	27	24	11
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	236	245	406	559	573	335
Peak Hour Factor	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	60	63	104	143	146	85
Total Analysis Volume [veh/h]	241	250	414	570	585	342
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	40	0	36	45	45	0
Amber [s]	4.0	0.0	4.0	4.0	4.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	49	0	51	71	20	0
Vehicle Extension [s]	2.5	0.0	1.5	3.5	3.5	0.0
Walk [s]	9	0	0	11	11	0
Pedestrian Clearance [s]	10	0	0	13	13	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	0.0	3.0	3.0	3.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	12	12	16	38	17	17
g / C, Green / Cycle	0.20	0.20	0.26	0.63	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.14	0.16	0.23	0.30	0.16	0.22
s, saturation flow rate [veh/h]	1781	1589	1781	1870	3560	1589
c, Capacity [veh/h]	355	317	467	1186	1029	459
d1, Uniform Delay [s]	22.28	22.86	21.33	5.79	18.20	19.38
k, delay calibration	0.08	0.08	0.04	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.69	3.27	2.31	1.40	2.28	10.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.68	0.79	0.89	0.48	0.57	0.74
d, Delay for Lane Group [s/veh]	23.97	26.13	23.65	7.19	20.48	29.86
Lane Group LOS	C	C	C	A	C	C
Critical Lane Group	No	Yes	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.15	3.47	5.03	2.53	3.22	4.94
50th-Percentile Queue Length [ft/ln]	78.82	86.65	125.65	63.34	80.58	123.60
95th-Percentile Queue Length [veh/ln]	5.67	6.24	8.70	4.56	5.80	8.59
95th-Percentile Queue Length [ft/ln]	141.87	155.98	217.57	114.02	145.04	214.76

Movement, Approach, & Intersection Results

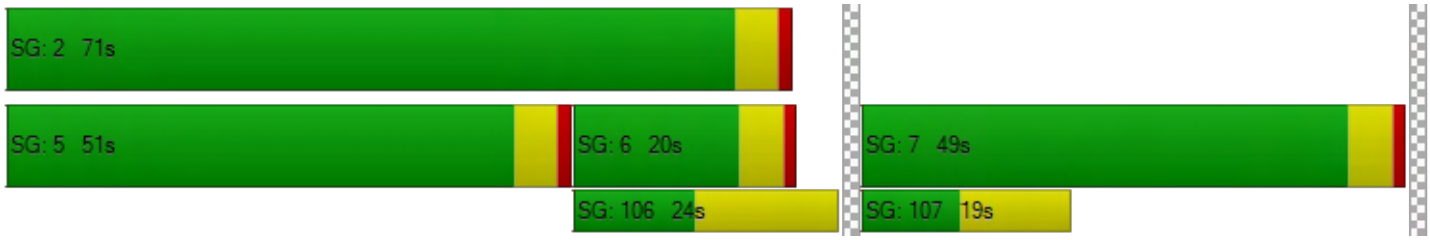
d_M, Delay for Movement [s/veh]	23.97	26.13	23.65	7.19	20.48	29.86
Movement LOS	C	C	C	A	C	C
d_A, Approach Delay [s/veh]	25.07		14.11		23.94	
Approach LOS	C		B		C	
d_I, Intersection Delay [s/veh]	20.14					
Intersection LOS	C					
Intersection V/C	0.756					

Other Modes

g_Walk,mi, Effective Walk Time [s]	15.0	13.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	16.91	18.44	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.249	2.870	0.000
Crosswalk LOS	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1465	200	499
d_b, Bicycle Delay [s]	2.15	24.34	16.91
I_b,int, Bicycle LOS Score for Intersection	1.560	3.183	2.324
Bicycle LOS	A	C	B

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Palm Ave (NS) at Oak Valley Pkwy (EW)

Control Type:	All-way stop	Delay (sec / veh):	41.5
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.945

Intersection Setup

Name	Palm Ave			Palm Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	90.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Ave			Palm Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Base Volume Input [veh/h]	63	147	27	83	89	75	63	319	61	33	432	145
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	0	0	0	0	9	8	16	16	0	18	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	91	171	31	96	103	96	81	386	87	38	519	168
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	45	8	25	27	25	21	102	23	10	137	44
Total Analysis Volume [veh/h]	96	180	33	101	108	101	85	406	92	40	546	177
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	358	392	327	343	368	379	394	404	421
Degree of Utilization, x	0.77	0.08	0.31	0.32	0.27	0.77	0.74	0.95	0.91

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	6.26	0.27	1.28	1.32	1.10	6.34	5.87	10.66	9.75
95th-Percentile Queue Length [ft]	156.43	6.86	32.12	33.06	27.51	158.61	146.71	266.47	243.78
Approach Delay [s/veh]	36.66		17.59			35.79		57.51	
Approach LOS	E		C			E		F	
Intersection Delay [s/veh]	41.49								
Intersection LOS	E								

Intersection Level Of Service Report
Intersection 10: Beaumont Ave (NS) at Project Dwy 2 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	11.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.033

Intersection Setup

Name	Beaumont Ave		Beaumont Ave		Project Dwy 2	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	49.21	0.00	0.00
Speed [mph]	40.00		40.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Beaumont Ave		Beaumont Ave		Project Dwy 2	
Base Volume Input [veh/h]	0	1015	725	0	0	0
Base Volume Adjustment Factor	1.0000	1.1601	1.1601	1.1601	1.0000	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	32	27	9	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	-9	9	0	9
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1210	859	18	0	17
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	318	226	5	0	4
Total Analysis Volume [veh/h]	0	1274	904	19	0	18
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	11.81
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.10
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	2.55
d_A, Approach Delay [s/veh]	0.00		0.00		11.81	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.10					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 11: Project Dwy 3 (NS) at Oak Valley Pkwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	19.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.166

Intersection Setup

Name	Project Dwy 3		Oak Valley Pkwy		Oak Valley Pkwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Dwy 3		Oak Valley Pkwy		Oak Valley Pkwy	
Base Volume Input [veh/h]	0	0	0	693	667	0
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	32	8	18	27	27	27
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	18	26	18	-18	-26	26
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	34	36	813	775	53
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	9	9	214	204	14
Total Analysis Volume [veh/h]	53	36	38	856	816	56
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.17	0.06	0.05	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	19.02	14.08	9.92	0.00	0.00	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.87	0.87	0.16	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	21.82	21.82	3.89	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	17.02		0.42		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	1.02					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 12: Project Dwy 4 (NS) at Oak Valley Pkwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.115

Intersection Setup

Name	Project Dwy 4		Oak Valley Pkwy		Oak Valley Pkwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Dwy 4		Oak Valley Pkwy		Oak Valley Pkwy	
Base Volume Input [veh/h]	0	0	0	693	667	0
Base Volume Adjustment Factor	1.0000	1.1601	1.1080	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	27	0	59	27	36
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	35	0	0	-35	35
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	62	0	863	766	71
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	16	0	227	202	19
Total Analysis Volume [veh/h]	0	65	0	908	806	75
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.12	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	12.21	0.00	0.00	0.00	0.00
Movement LOS		B		A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.39	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	9.70	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.21		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.43					
Intersection LOS	B					

Beaumont Village Project

Vistro File: G:\...\PM.vistro
Report File: G:\...\PM EP.pdf

Scenario 2 Existing Plus Project
1/10/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Beaumont Ave (NS) at Brookside Ave (EW)	Signalized	HCM 7th Edition	NB Thru	0.594	140.9	F
2	Beaumont Ave (NS) at Cougar Way (EW)	Signalized	HCM 7th Edition	NB Left	0.535	14.3	B
3	Beaumont Ave (NS) at Project Dwy (EW)	Two-way stop	HCM 7th Edition	EB Left	1.429	352.8	F
4	Beaumont Ave (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	SB Left	0.671	24.9	C
5	Beaumont Ave (NS) at 12th St (EW)	All-way stop	HCM 7th Edition	SB Left	0.511	14.9	B
6	Beaumont Ave (NS) at 10th St (EW)	All-way stop	HCM 7th Edition	SB Left	0.462	13.3	B
7	Golf Club Dr (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	SB Left	0.571	9.2	A
8	Oak View Dr (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	SB Right	0.535	15.2	B
9	Palm Ave (NS) at Oak Valley Pkwy (EW)	All-way stop	HCM 7th Edition	EB Left	0.647	18.5	C
10	Beaumont Ave (NS) at Project Dwy 2 (EW)	Two-way stop	HCM 7th Edition	EB Right	0.030	10.8	B
11	Project Dwy 3 (NS) at Oak Valley Pkwy (EW)	Two-way stop	HCM 7th Edition	SB Left	0.132	15.5	C
12	Project Dwy 4 (NS) at Oak Valley Pkwy (EW)	Two-way stop	HCM 7th Edition	SB Right	0.112	11.1	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Beaumont Ave (NS) at Brookside Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	140.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.594

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Brookside Ave			Brookside Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	200.00	100.00	100.00	266.00	100.00	175.00	152.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			50.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			Brookside Ave			Brookside Ave		
Base Volume Input [veh/h]	75	285	88	106	354	18	33	64	75	65	52	84
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	8	8	0	9	0	0	0	9	9	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	95	339	110	123	420	21	38	74	96	84	60	97
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	89	29	32	111	6	10	19	25	22	16	26
Total Analysis Volume [veh/h]	100	357	116	129	442	22	40	78	101	88	63	102
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	5	2	0	1	6	0	7	4	4	3	8	0
Auxiliary Signal Groups									4,5			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	11	11	0	11	11	0	11	11	11	11	11	0
Maximum Green [s]	30	30	0	30	30	0	30	30	30	30	30	0
Amber [s]	4.3	4.3	0.0	4.3	4.3	0.0	4.1	4.1	4.1	4.1	4.1	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	14	28	0	9	23	0	9	73	73	10	74	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	7	0	7	0
Pedestrian Clearance [s]	0	16	0	0	16	0	0	16	16	0	16	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.3	3.3	0.0	3.3	3.3	0.0	3.1	3.1	3.1	3.1	3.1	0.0
Minimum Recall	No	No		No	No		No	No	No	No	No	
Maximum Recall	No	No		No	No		No	No	No	No	No	
Pedestrian Recall	No	No		No	No		No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	5.30	5.30	5.30	5.30	5.10	5.10	5.30	5.10	5.10
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.30	0.00	3.30	0.00	3.10	0.00	0.00	3.10
g_i, Effective Green Time [s]	26	11	26	11	24	10	25	24	14
g / C, Green / Cycle	0.43	0.17	0.43	0.19	0.40	0.17	0.41	0.40	0.23
(v / s)_i Volume / Saturation Flow Rate	0.11	0.26	0.09	0.25	0.03	0.04	0.06	0.06	0.10
s, saturation flow rate [veh/h]	907	1792	1362	1854	1419	1870	1589	1483	1686
c, Capacity [veh/h]	666	312	598	346	649	327	651	735	381
d1, Uniform Delay [s]	11.69	24.85	11.77	24.46	11.21	21.38	11.19	11.35	19.96
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.48	249.02	0.18	171.15	0.04	0.37	0.11	0.07	0.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.15	1.52	0.22	1.34	0.06	0.24	0.16	0.12	0.43
d, Delay for Lane Group [s/veh]	12.17	273.87	11.95	195.61	11.25	21.75	11.30	11.42	20.74
Lane Group LOS	B	F	B	F	B	C	B	B	C
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.75	25.49	0.84	20.62	0.28	0.88	0.72	0.63	1.83
50th-Percentile Queue Length [ft/ln]	18.75	637.15	20.88	515.57	6.99	22.09	18.10	15.77	45.85
95th-Percentile Queue Length [veh/ln]	1.35	40.01	1.50	32.03	0.50	1.59	1.30	1.14	3.30
95th-Percentile Queue Length [ft/ln]	33.76	1000.36	37.58	800.69	12.57	39.76	32.58	28.38	82.53

Movement, Approach, & Intersection Results

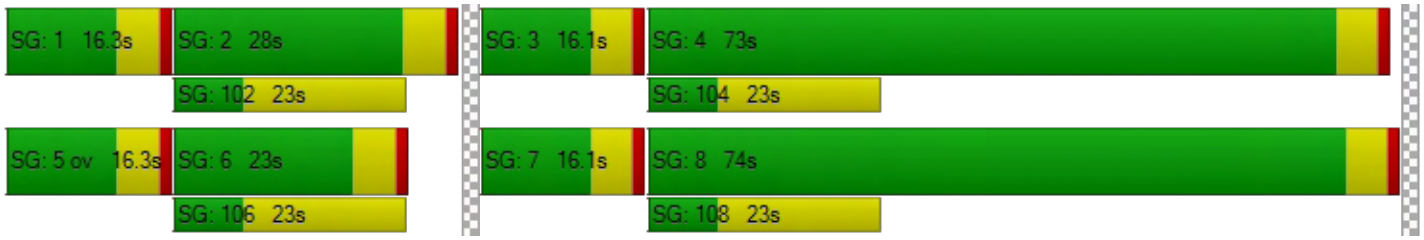
d_M, Delay for Movement [s/veh]	12.17	273.87	273.87	11.95	195.61	195.61	11.25	21.75	11.30	11.42	20.74	20.74
Movement LOS	B	F	F	B	F	F	B	C	B	B	C	C
d_A, Approach Delay [s/veh]	228.20			155.66			15.02			17.50		
Approach LOS	F			F			B			B		
d_I, Intersection Delay [s/veh]	140.89											
Intersection LOS	F											
Intersection V/C	0.594											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	20.05	20.05	20.05	20.05
l_p,int, Pedestrian LOS Score for Intersection	2.465	2.524	2.271	2.206
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	756	589	263	296
d_b, Bicycle Delay [s]	11.63	14.95	22.66	21.80
l_b,int, Bicycle LOS Score for Intersection	2.505	2.538	1.921	1.977
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Beaumont Ave (NS) at Cougar Way (EW)

Control Type:	Signalized	Delay (sec / veh):	14.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.535

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Cougar Way			Cougar Way		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	310.00	100.00	235.00	303.00	100.00	174.00	200.00	100.00	98.00	221.00	100.00	224.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Beaumont Ave			Beaumont Ave			Cougar Way			Cougar Way		
Base Volume Input [veh/h]	4	390	150	81	382	2	7	4	15	111	4	72
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	24	8	0	27	0	0	0	0	9	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	476	182	94	470	2	8	5	17	138	5	84
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	125	48	25	124	1	2	1	4	36	1	22
Total Analysis Volume [veh/h]	5	501	192	99	495	2	8	5	18	145	5	88
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	3	4	0	3	4	0	0	4	0	0	4	0
Maximum Green [s]	14	30	0	14	30	0	0	60	0	0	60	0
Amber [s]	3.0	4.2	0.0	3.0	4.2	0.0	0.0	4.2	0.0	0.0	4.2	0.0
All red [s]	2.0	1.5	0.0	2.0	1.5	0.0	0.0	1.4	0.0	0.0	1.4	0.0
Split [s]	9	36	0	13	40	0	0	11	0	0	11	0
Vehicle Extension [s]	3.0	4.2	0.0	3.0	4.2	0.0	0.0	4.2	0.0	0.0	4.2	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	20	0	0	16	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.7	0.0	3.0	3.7	0.0	0.0	3.6	0.0	0.0	3.6	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	5.00	5.70	5.70	5.00	5.70	5.70	5.60	5.60	5.60	5.60	5.60	5.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.70	3.70	3.00	3.70	3.70	3.60	3.60	3.60	3.60	3.60	3.60
g_i, Effective Green Time [s]	0	34	34	4	38	38	5	5	5	5	5	5
g / C, Green / Cycle	0.00	0.57	0.57	0.07	0.63	0.63	0.09	0.09	0.09	0.09	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.00	0.27	0.12	0.06	0.26	0.00	0.01	0.00	0.01	0.10	0.00	0.06
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1870	1589	1303	1870	1589	1388	1870	1589
c, Capacity [veh/h]	8	1056	897	129	1183	1006	200	171	146	205	171	146
d1, Uniform Delay [s]	29.87	7.78	6.48	27.37	5.51	4.06	26.64	24.87	25.09	28.97	24.87	26.26
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.17	0.17	0.17	0.17	0.17	0.17
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	59.66	1.53	0.55	9.02	1.09	0.00	0.12	0.10	0.58	6.67	0.10	6.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.62	0.47	0.21	0.77	0.42	0.00	0.04	0.03	0.12	0.71	0.03	0.60
d, Delay for Lane Group [s/veh]	89.53	9.31	7.03	36.39	6.60	4.06	26.77	24.98	25.66	35.64	24.98	32.30
Lane Group LOS	F	A	A	D	A	A	C	C	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.20	3.12	0.99	1.60	2.23	0.01	0.11	0.07	0.25	2.38	0.06	1.35
50th-Percentile Queue Length [ft/ln]	4.98	78.09	24.74	39.92	55.67	0.16	2.79	1.69	6.28	59.42	1.61	33.66
95th-Percentile Queue Length [veh/ln]	0.36	5.62	1.78	2.87	4.01	0.01	0.20	0.12	0.45	4.28	0.12	2.42
95th-Percentile Queue Length [ft/ln]	8.97	140.57	44.53	71.86	100.21	0.29	5.02	3.05	11.30	106.95	2.89	60.58

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	89.53	9.31	7.03	36.39	6.60	4.06	26.77	24.98	25.66	35.64	24.98	32.30
Movement LOS	F	A	A	D	A	A	C	C	C	D	C	C
d_A, Approach Delay [s/veh]	9.26			11.54			25.84			34.18		
Approach LOS	A			B			C			C		
d_I, Intersection Delay [s/veh]	14.25											
Intersection LOS	B											
Intersection V/C	0.535											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1009	1142	180	180
d_b, Bicycle Delay [s]	7.37	5.52	24.87	24.87
l_b,int, Bicycle LOS Score for Intersection	2.711	2.543	1.611	1.952
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Beaumont Ave (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	352.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.429

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Project Dwy			Project Dwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Beaumont Ave			Beaumont Ave			Project Dwy			Project Dwy		
Base Volume Input [veh/h]	0	455	81	125	426	0	0	0	0	50	0	42
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	63	0	0	0	8	27	32	0	48	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	68	-68	0	0	-29	29	68	0	29	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	131	460	94	145	473	56	100	0	77	58	0	49
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	121	25	38	124	15	26	0	20	15	0	13
Total Analysis Volume [veh/h]	138	484	99	153	498	59	105	0	81	61	0	52
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.00	0.00	0.15	0.00	0.00	1.43	0.00	0.11	0.89	0.00	0.07
d_M, Delay for Movement [s/veh]	9.13	0.00	0.00	9.31	0.00	0.00	352.79	59.20	10.64	178.44	57.47	10.51
Movement LOS	A	A	A	A	A	A	F	F	B	F	F	B
95th-Percentile Queue Length [veh/ln]	0.47	0.00	0.00	0.55	0.00	0.00	8.55	0.38	0.38	4.32	0.24	0.24
95th-Percentile Queue Length [ft/ln]	11.82	0.00	0.00	13.68	0.00	0.00	213.73	9.48	9.48	107.98	5.96	5.96
d_A, Approach Delay [s/veh]	1.75			2.01			203.79			101.17		
Approach LOS	A			A			F			F		
d_I, Intersection Delay [s/veh]	30.07											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 4: Beaumont Ave (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	24.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.671

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	102.00	100.00	100.00	145.00	100.00	100.00	125.00	100.00	100.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			45.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Base Volume Input [veh/h]	69	317	64	72	289	118	181	305	70	101	297	72
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	36	18	0	24	32	0	27	16	16	0	27	18
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	116	386	74	108	367	137	237	370	97	117	372	102
Peak Hour Factor	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	101	19	28	96	36	62	97	25	31	97	27
Total Analysis Volume [veh/h]	121	403	77	113	383	143	247	386	101	122	388	106
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	6	0	5	6	0	5	4	0	5	4	0
Maximum Green [s]	16	40	0	16	40	0	16	16	0	16	16	0
Amber [s]	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	30	0	12	29	0	25	42	0	12	29	0
Vehicle Extension [s]	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	17	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	2.5	0.0	2.5	2.5	0.0	2.5	2.5	0.0	2.5	2.5	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
g_i, Effective Green Time [s]	5	15	15	5	15	15	10	17	17	5	12	12
g / C, Green / Cycle	0.09	0.25	0.25	0.08	0.25	0.25	0.17	0.28	0.28	0.09	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.07	0.13	0.13	0.06	0.15	0.15	0.14	0.13	0.14	0.07	0.14	0.14
s, saturation flow rate [veh/h]	1781	1870	1767	1781	1870	1700	1781	1870	1738	1781	1870	1734
c, Capacity [veh/h]	158	469	443	148	458	416	302	519	483	159	370	343
d1, Uniform Delay [s]	26.81	19.45	19.47	27.01	20.10	20.13	24.10	18.14	18.15	26.79	22.43	22.47
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.15	0.15	0.04	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.90	4.15	4.46	3.07	5.67	6.39	2.10	1.00	1.08	2.91	3.27	3.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.52	0.53	0.76	0.60	0.60	0.82	0.48	0.49	0.77	0.69	0.70
d, Delay for Lane Group [s/veh]	29.71	23.60	23.93	30.08	25.77	26.52	26.20	19.14	19.23	29.70	25.70	26.09
Lane Group LOS	C	C	C	C	C	C	C	B	B	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.67	3.13	3.02	1.57	3.69	3.47	3.13	2.62	2.46	1.71	3.38	3.20
50th-Percentile Queue Length [ft/ln]	41.76	78.15	75.38	39.29	92.18	86.70	78.34	65.48	61.43	42.84	84.40	79.94
95th-Percentile Queue Length [veh/ln]	3.01	5.63	5.43	2.83	6.64	6.24	5.64	4.71	4.42	3.08	6.08	5.76
95th-Percentile Queue Length [ft/ln]	75.17	140.67	135.69	70.73	165.92	156.06	141.01	117.87	110.58	77.12	151.92	143.89

Movement, Approach, & Intersection Results

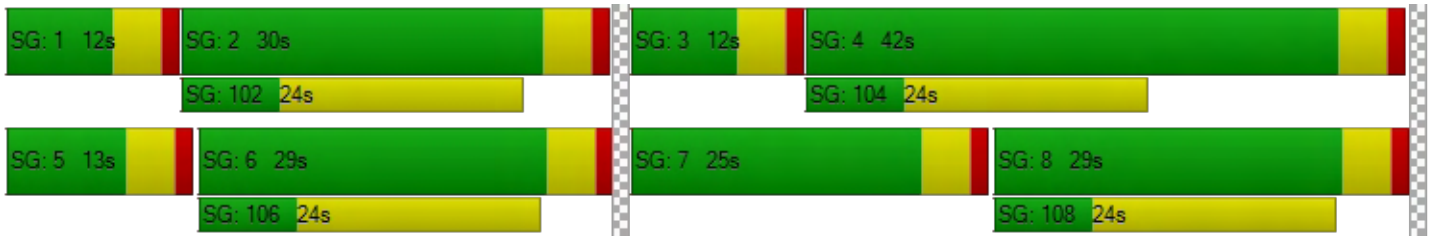
d_M, Delay for Movement [s/veh]	29.71	23.73	23.93	30.08	25.98	26.52	26.20	19.17	19.23	29.70	25.83	26.09
Movement LOS	C	C	C	C	C	C	C	B	B	C	C	C
d_A, Approach Delay [s/veh]	24.96			26.83			21.54			26.64		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	24.85											
Intersection LOS	C											
Intersection V/C	0.671											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	20.05	20.05	20.05	20.05
l_p,int, Pedestrian LOS Score for Intersection	2.692	2.640	2.683	2.549
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	849	815	1248	815
d_b, Bicycle Delay [s]	9.96	10.54	4.25	10.54
l_b,int, Bicycle LOS Score for Intersection	2.055	2.087	2.165	2.068
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Beaumont Ave (NS) at 12th St (EW)

Control Type:	All-way stop	Delay (sec / veh):	14.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.511

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			12th St			12th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			12th St			12th St		
Base Volume Input [veh/h]	18	361	17	22	393	32	55	24	27	14	16	19
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	36	0	8	32	8	9	0	0	0	0	9
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	455	20	34	488	45	73	28	31	16	19	31
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	120	5	9	128	12	19	7	8	4	5	8
Total Analysis Volume [veh/h]	22	479	21	36	514	47	77	29	33	17	20	33
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	537	545	538	543	608	451	519	450	507
Degree of Utilization, x	0.49	0.48	0.51	0.51	0.08	0.23	0.06	0.08	0.07

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.64	2.57	2.88	2.84	0.25	0.90	0.20	0.27	0.21
95th-Percentile Queue Length [ft]	65.92	64.31	72.12	70.90	6.27	22.54	5.07	6.68	5.20
Approach Delay [s/veh]	15.41		15.51			12.39		10.88	
Approach LOS	C		C			B		B	
Intersection Delay [s/veh]	14.90								
Intersection LOS	B								

Intersection Level Of Service Report
Intersection 6: Beaumont Ave (NS) at 10th St (EW)

Control Type:	All-way stop	Delay (sec / veh):	13.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.462

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			10th St			10th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			10th St			10th St		
Base Volume Input [veh/h]	27	367	45	25	386	11	18	14	17	12	11	15
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	18	0	8	16	8	9	0	0	0	0	9
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	444	52	37	464	21	30	16	20	14	13	26
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	117	14	10	122	6	8	4	5	4	3	7
Total Analysis Volume [veh/h]	33	467	55	39	488	22	32	17	21	15	14	27
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	571	577	649	571	577	651	474	545	512
Degree of Utilization, x	0.44	0.43	0.08	0.46	0.46	0.03	0.10	0.04	0.11

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.22	2.18	0.28	2.42	2.37	0.10	0.34	0.12	0.37
95th-Percentile Queue Length [ft]	55.40	54.48	6.91	60.50	59.34	2.62	8.60	3.00	9.15
Approach Delay [s/veh]	13.24			13.95			10.69		10.89
Approach LOS	B			B			B		B
Intersection Delay [s/veh]	13.30								
Intersection LOS	B								

Intersection Level Of Service Report
Intersection 7: Golf Club Dr (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	9.2
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.571

Intersection Setup

Name	Golf Club Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0
Entry Pocket Length [ft]	172.00	100.00	197.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Golf Club Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Base Volume Input [veh/h]	36	85	143	600	473	12
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	0	0	18	16	8
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	51	99	166	714	565	22
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	26	44	188	149	6
Total Analysis Volume [veh/h]	54	104	175	752	595	23
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Overlap	Protected	Permissive	Permissive	Permissive
Signal Group	7	4	5	2	6	0
Auxiliary Signal Groups		4,5				
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	5	5	5	10	10	0
Maximum Green [s]	20	25	25	40	40	0
Amber [s]	4.3	3.0	3.0	4.3	4.3	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	26	26	74	94	20	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	4	0	0	4	4	0
Pedestrian Clearance [s]	20	0	0	22	22	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.3	2.0	2.0	3.3	3.3	0.0
Minimum Recall	No	No	No	No	No	
Maximum Recall	No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	5.30	4.00	4.00	5.30	5.30	5.30
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.30	0.00	2.00	3.30	3.30	3.30
g_i, Effective Green Time [s]	3	16	8	46	34	34
g / C, Green / Cycle	0.05	0.27	0.13	0.77	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.03	0.07	0.10	0.40	0.12	0.01
s, saturation flow rate [veh/h]	1781	1589	1781	1870	5094	1589
c, Capacity [veh/h]	94	436	238	1442	2910	908
d1, Uniform Delay [s]	27.85	16.96	25.04	2.63	6.26	5.61
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.53	0.28	4.38	1.35	0.16	0.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.58	0.24	0.74	0.52	0.20	0.03
d, Delay for Lane Group [s/veh]	33.38	17.24	29.42	3.98	6.42	5.66
Lane Group LOS	C	B	C	A	A	A
Critical Lane Group	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.88	1.09	2.41	0.85	0.84	0.10
50th-Percentile Queue Length [ft/ln]	21.92	27.22	60.16	21.16	21.11	2.41
95th-Percentile Queue Length [veh/ln]	1.58	1.96	4.33	1.52	1.52	0.17
95th-Percentile Queue Length [ft/ln]	39.46	49.00	108.30	38.08	37.99	4.33

Movement, Approach, & Intersection Results

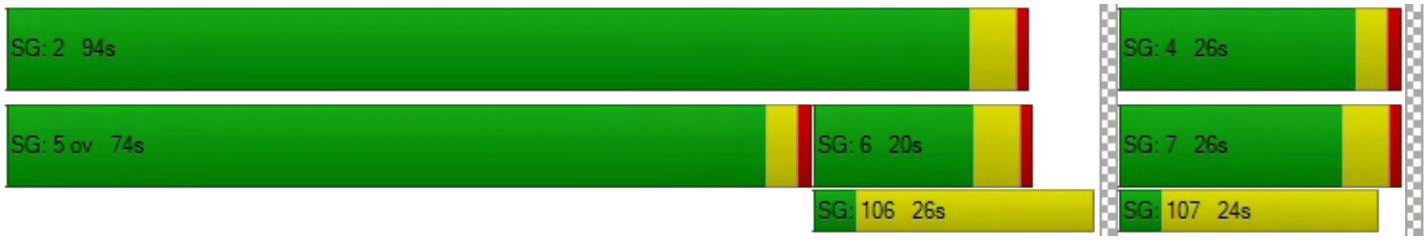
d_M, Delay for Movement [s/veh]	33.38	17.24	29.42	3.98	6.42	5.66
Movement LOS	C	B	C	A	A	A
d_A, Approach Delay [s/veh]	22.75		8.78		6.39	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	9.21					
Intersection LOS	A					
Intersection V/C	0.571					

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	8.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.57	22.57	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.019	2.758	0.000
Crosswalk LOS	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	689	955	489
d_b, Bicycle Delay [s]	12.91	8.20	17.14
l_b,int, Bicycle LOS Score for Intersection	1.560	3.089	1.900
Bicycle LOS	A	C	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Oak View Dr (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	15.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.535

Intersection Setup

Name	Oak View Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	1
Entry Pocket Length [ft]	200.00	100.00	143.00	100.00	100.00	146.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Oak View Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Base Volume Input [veh/h]	112	153	262	476	334	134
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	0	0	27	24	16
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	148	177	304	579	411	171
Peak Hour Factor	0.9830	0.9830	0.9830	0.9830	0.9830	0.9830
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	45	77	147	105	43
Total Analysis Volume [veh/h]	151	180	309	589	418	174
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	40	0	36	45	45	0
Amber [s]	4.0	0.0	4.0	4.0	4.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	49	0	51	71	20	0
Vehicle Extension [s]	2.5	0.0	1.5	3.5	3.5	0.0
Walk [s]	9	0	0	11	11	0
Pedestrian Clearance [s]	10	0	0	13	13	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	0.0	3.0	3.0	3.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	9	9	12	41	24	24
g / C, Green / Cycle	0.15	0.15	0.20	0.68	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.08	0.11	0.17	0.31	0.12	0.11
s, saturation flow rate [veh/h]	1781	1589	1781	1870	3560	1589
c, Capacity [veh/h]	272	243	363	1274	1403	626
d1, Uniform Delay [s]	23.59	24.35	23.06	4.46	12.51	12.40
k, delay calibration	0.08	0.08	0.04	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.32	3.32	2.19	1.21	0.54	1.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.56	0.74	0.85	0.46	0.30	0.28
d, Delay for Lane Group [s/veh]	24.91	27.67	25.26	5.67	13.05	13.50
Lane Group LOS	C	C	C	A	B	B
Critical Lane Group	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.00	2.56	3.86	1.93	1.65	1.47
50th-Percentile Queue Length [ft/ln]	49.90	63.93	96.52	48.24	41.26	36.65
95th-Percentile Queue Length [veh/ln]	3.59	4.60	6.95	3.47	2.97	2.64
95th-Percentile Queue Length [ft/ln]	89.82	115.08	173.74	86.84	74.27	65.98

Movement, Approach, & Intersection Results

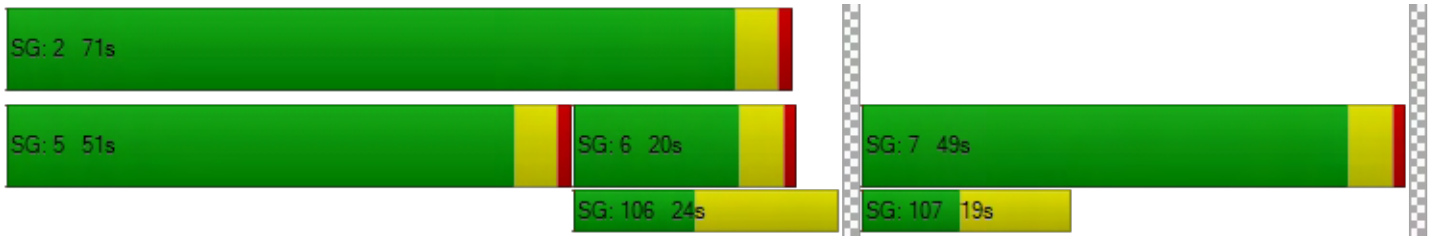
d_M, Delay for Movement [s/veh]	24.91	27.67	25.26	5.67	13.05	13.50
Movement LOS	C	C	C	A	B	B
d_A, Approach Delay [s/veh]	26.41		12.41		13.18	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	15.21					
Intersection LOS	B					
Intersection V/C	0.535					

Other Modes

g_Walk,mi, Effective Walk Time [s]	15.0	13.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	16.91	18.44	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.131	2.792	0.000
Crosswalk LOS	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1465	200	499
d_b, Bicycle Delay [s]	2.15	24.34	16.91
I_b,int, Bicycle LOS Score for Intersection	1.560	3.041	2.048
Bicycle LOS	A	C	B

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Palm Ave (NS) at Oak Valley Pkwy (EW)

Control Type:	All-way stop	Delay (sec / veh):	18.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.647

Intersection Setup

Name	Palm Ave			Palm Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	90.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Ave			Palm Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Base Volume Input [veh/h]	46	40	22	37	31	31	49	402	52	16	369	50
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	0	0	0	0	9	8	16	16	0	18	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	71	46	26	43	36	45	65	482	76	19	446	58
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	12	7	11	9	12	17	127	20	5	117	15
Total Analysis Volume [veh/h]	75	48	27	45	38	47	68	507	80	20	469	61
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	418	473	399	423	461	506	526	497	510
Degree of Utilization, x	0.29	0.06	0.11	0.09	0.10	0.65	0.62	0.55	0.54

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.21	0.18	0.38	0.29	0.34	4.57	4.23	3.32	3.17
95th-Percentile Queue Length [ft]	30.32	4.53	9.44	7.36	8.46	114.24	105.70	83.04	79.17
Approach Delay [s/veh]	14.14		12.09			21.06		18.13	
Approach LOS	B		B			C		C	
Intersection Delay [s/veh]	18.49								
Intersection LOS	C								

Intersection Level Of Service Report
Intersection 10: Beaumont Ave (NS) at Project Dwy 2 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.030

Intersection Setup

Name	Beaumont Ave		Beaumont Ave		Project Dwy 2	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	49.21	0.00	0.00
Speed [mph]	40.00		40.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Beaumont Ave		Beaumont Ave		Project Dwy 2	
Base Volume Input [veh/h]	0	536	551	0	0	0
Base Volume Adjustment Factor	1.0000	1.1601	1.1601	1.1601	1.0000	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	32	27	9	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	-10	10	0	10
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	654	656	19	0	18
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	172	173	5	0	5
Total Analysis Volume [veh/h]	0	688	691	20	0	19
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	10.79
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.09
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	2.29
d_A, Approach Delay [s/veh]	0.00		0.00		10.79	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.14					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 11: Project Dwy 3 (NS) at Oak Valley Pkwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	15.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.132

Intersection Setup

Name	Project Dwy 3		Oak Valley Pkwy		Oak Valley Pkwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Dwy 3		Oak Valley Pkwy		Oak Valley Pkwy	
Base Volume Input [veh/h]	0	0	0	556	484	0
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	32	8	18	27	32	27
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	19	29	19	-19	-29	29
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	51	37	37	653	564	56
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	10	10	172	148	15
Total Analysis Volume [veh/h]	54	39	39	687	594	59
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.06	0.04	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	15.53	12.10	9.04	0.00	0.00	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.70	0.70	0.13	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	17.39	17.39	3.28	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	14.09		0.49		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.13					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 12: Project Dwy 4 (NS) at Oak Valley Pkwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	11.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.112

Intersection Setup

Name	Project Dwy 4		Oak Valley Pkwy		Oak Valley Pkwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Dwy 4		Oak Valley Pkwy		Oak Valley Pkwy	
Base Volume Input [veh/h]	0	0	0	556	484	0
Base Volume Adjustment Factor	1.0000	1.1601	1.1080	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	32	0	59	27	36
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	39	0	0	-39	39
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	71	0	704	549	75
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	19	0	185	144	20
Total Analysis Volume [veh/h]	0	75	0	741	578	79
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.11	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	11.08	0.00	0.00	0.00	0.00
Movement LOS		B		A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.38	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	9.45	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.08		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.56					
Intersection LOS	B					

Beaumont Village Project

Vistro File: G:\...\AM MIT.vistro
Report File: G:\...\AM EP MIT.pdf

Scenario 2 Existing Plus Project
1/15/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Beaumont Ave (NS) at Brookside Ave (EW)	Signalized	HCM 7th Edition	WB Thru	0.877	33.1	C
3	Beaumont Ave (NS) at Project Dwy (EW)	Signalized	HCM 7th Edition	EB Left	0.446	6.1	A
4	Beaumont Ave (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	EB Left	0.798	41.6	D
9	Palm Ave (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	EB Left	0.368	14.1	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Beaumont Ave (NS) at Brookside Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	33.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.877

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Brookside Ave			Brookside Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	200.00	100.00	100.00	266.00	100.00	175.00	152.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			50.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			Brookside Ave			Brookside Ave		
Base Volume Input [veh/h]	256	577	23	91	370	28	53	179	244	55	261	153
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	8	8	0	9	0	0	0	9	9	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	305	677	35	106	438	32	61	208	292	73	303	177
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	80	178	9	28	115	8	16	55	77	19	80	47
Total Analysis Volume [veh/h]	321	713	37	112	461	34	64	219	307	77	319	186
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	5	2	0	1	6	0	7	4	4	3	8	0
Auxiliary Signal Groups									4,5			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	7	0	5	7	0	5	7	7	5	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	30	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	13	27	0	9	23	0	9	62	62	12	65	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	7	0	7	0
Pedestrian Clearance [s]	0	9	0	0	12	0	0	15	15	0	9	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No	No	No	No	
Maximum Recall	No	No		No	No		No	No	No	No	No	
Pedestrian Recall	No	No		No	No		No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00
g_i, Effective Green Time [s]	60	50	60	47	43	34	47	43	34
g / C, Green / Cycle	0.54	0.46	0.54	0.42	0.39	0.31	0.43	0.39	0.31
(v / s)_i Volume / Saturation Flow Rate	0.30	0.40	0.13	0.27	0.06	0.12	0.19	0.08	0.29
s, saturation flow rate [veh/h]	1066	1854	839	1848	1027	1870	1589	1019	1756
c, Capacity [veh/h]	481	849	287	779	245	575	678	408	545
d1, Uniform Delay [s]	18.15	27.16	21.44	25.14	26.12	29.90	22.45	22.19	36.74
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.18	12.89	0.87	3.93	0.56	0.42	0.47	0.22	7.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.67	0.88	0.39	0.64	0.26	0.38	0.45	0.19	0.93
d, Delay for Lane Group [s/veh]	25.33	40.06	22.30	29.07	26.68	30.32	22.93	22.41	44.10
Lane Group LOS	C	D	C	C	C	C	C	C	D
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.15	19.67	1.29	10.22	1.06	4.49	5.50	1.27	13.69
50th-Percentile Queue Length [ft/ln]	128.63	491.84	32.31	255.52	26.55	112.23	137.39	31.66	342.30
95th-Percentile Queue Length [veh/ln]	8.87	26.95	2.33	15.46	1.91	7.96	9.34	2.28	19.76
95th-Percentile Queue Length [ft/ln]	221.63	673.69	58.16	386.60	47.80	199.10	233.50	56.99	494.01

Movement, Approach, & Intersection Results

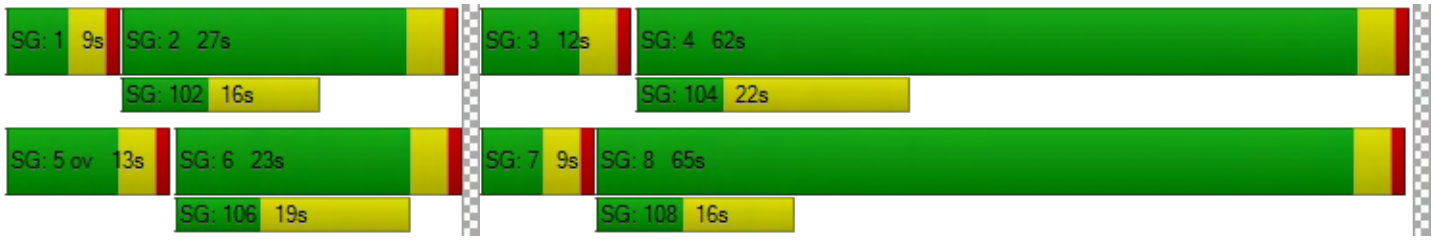
d_M, Delay for Movement [s/veh]	25.33	40.06	40.06	22.30	29.07	29.07	26.68	30.32	22.93	22.41	44.10	44.10
Movement LOS	C	D	D	C	C	C	C	C	C	C	D	D
d_A, Approach Delay [s/veh]	35.64			27.82			26.08			41.23		
Approach LOS	D			C			C			D		
d_I, Intersection Delay [s/veh]	33.14											
Intersection LOS	C											
Intersection V/C	0.877											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	44.58	44.58	44.58	44.58
l_p,int, Pedestrian LOS Score for Intersection	2.816	2.830	2.753	2.437
Crosswalk LOS	C	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	418	345	1054	1109
d_b, Bicycle Delay [s]	34.43	37.67	12.31	10.93
l_b,int, Bicycle LOS Score for Intersection	3.327	2.561	2.533	2.520
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Beaumont Ave (NS) at Project Dwy (EW)

Control Type:	Signalized	Delay (sec / veh):	6.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.446

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Project Dwy			Project Dwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Beaumont Ave			Beaumont Ave			Project Dwy			Project Dwy		
Base Volume Input [veh/h]	0	992	23	90	635	0	0	0	0	13	0	22
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	63	0	0	0	8	27	32	0	48	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	62	-62	0	0	-26	26	62	0	26	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	125	1089	27	104	719	53	94	0	74	15	0	26
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	287	7	27	189	14	25	0	19	4	0	7
Total Analysis Volume [veh/h]	132	1146	28	109	757	56	99	0	78	16	0	27
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	36	0	0	36	0	0	24	0	0	24	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	45	45	45	45	45	45	7	7	7	7
g / C, Green / Cycle	0.74	0.74	0.74	0.74	0.74	0.74	0.12	0.12	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.20	0.32	0.32	0.23	0.22	0.22	0.07	0.05	0.01	0.02
s, saturation flow rate [veh/h]	671	1870	1854	478	1870	1825	1383	1589	1321	1589
c, Capacity [veh/h]	523	1390	1378	380	1390	1356	261	197	219	197
d1, Uniform Delay [s]	5.96	2.90	2.91	8.06	2.55	2.55	26.17	24.30	26.08	23.51
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.16	0.95	0.96	1.89	0.54	0.56	0.91	1.28	0.14	0.31
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.25	0.42	0.42	0.29	0.30	0.30	0.38	0.40	0.07	0.14
d, Delay for Lane Group [s/veh]	7.12	3.85	3.86	9.95	3.09	3.11	27.08	25.58	26.22	23.82
Lane Group LOS	A	A	A	A	A	A	C	C	C	C
Critical Lane Group	No	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.71	1.19	1.18	0.80	0.71	0.70	1.38	1.05	0.22	0.35
50th-Percentile Queue Length [ft/ln]	17.86	29.67	29.54	20.02	17.82	17.52	34.56	26.31	5.39	8.65
95th-Percentile Queue Length [veh/ln]	1.29	2.14	2.13	1.44	1.28	1.26	2.49	1.89	0.39	0.62
95th-Percentile Queue Length [ft/ln]	32.15	53.40	53.17	36.04	32.07	31.53	62.21	47.36	9.71	15.57

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.12	3.86	3.86	9.95	3.10	3.11	27.08	25.58	25.58	26.22	23.82	23.82
Movement LOS	A	A	A	A	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	4.19			3.91			26.42			24.71		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	6.05											
Intersection LOS	A											
Intersection V/C	0.446											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1064	1064	665	665
d_b, Bicycle Delay [s]	6.58	6.58	13.39	13.39
l_b,int, Bicycle LOS Score for Intersection	2.637	2.320	1.852	1.631
Bicycle LOS	B	B	A	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report

Intersection 4: Beaumont Ave (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	41.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.798

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	102.00	100.00	100.00	145.00	100.00	100.00	125.00	100.00	100.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			45.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Base Volume Input [veh/h]	101	560	70	85	337	223	288	304	101	88	343	130
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	36	18	0	24	32	0	27	16	16	0	27	18
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	153	668	81	123	423	259	361	369	133	102	425	169
Peak Hour Factor	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	172	21	32	109	67	93	95	34	26	109	43
Total Analysis Volume [veh/h]	157	687	83	126	435	266	371	379	137	105	437	174
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	99
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	6	0	5	6	0	5	4	0	5	4	0
Maximum Green [s]	16	40	0	16	40	0	16	16	0	16	16	0
Amber [s]	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	14	31	0	12	29	0	27	43	0	13	29	0
Vehicle Extension [s]	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	17	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	2.5	0.0	2.5	2.5	0.0	2.5	2.5	0.0	2.5	2.5	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	99	99	99	99	99	99	99	99	99	99	99	99
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
g_i, Effective Green Time [s]	10	31	31	8	29	29	22	35	35	7	20	20
g / C, Green / Cycle	0.10	0.32	0.32	0.08	0.30	0.30	0.22	0.35	0.35	0.07	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.09	0.21	0.21	0.07	0.20	0.20	0.21	0.14	0.14	0.06	0.17	0.17
s, saturation flow rate [veh/h]	1781	1870	1800	1781	1870	1636	1781	1870	1703	1781	1870	1692
c, Capacity [veh/h]	173	589	567	137	552	483	399	656	598	134	378	342
d1, Uniform Delay [s]	44.33	29.41	29.42	45.43	30.75	30.77	37.68	24.39	24.39	45.04	38.05	38.11
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.34	0.15	0.15	0.04	0.24	0.24
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.19	5.86	6.08	9.45	6.52	7.47	23.31	0.59	0.65	3.77	10.71	12.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.91	0.67	0.67	0.92	0.68	0.68	0.93	0.41	0.41	0.78	0.85	0.85
d, Delay for Lane Group [s/veh]	51.51	35.27	35.49	54.88	37.27	38.25	61.00	24.98	25.04	48.81	48.76	50.33
Lane Group LOS	D	D	D	D	D	D	E	C	C	D	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.05	8.65	8.36	3.35	8.49	7.57	10.91	4.61	4.21	2.63	8.40	7.79
50th-Percentile Queue Length [ft/ln]	101.26	216.24	209.05	83.84	212.15	189.33	272.86	115.29	105.30	65.86	209.92	194.81
95th-Percentile Queue Length [veh/ln]	7.29	13.47	13.10	6.04	13.26	12.09	16.33	8.13	7.58	4.74	13.15	12.37
95th-Percentile Queue Length [ft/ln]	182.27	336.82	327.61	150.90	331.59	302.16	408.31	203.34	189.44	118.55	328.72	309.27

Movement, Approach, & Intersection Results

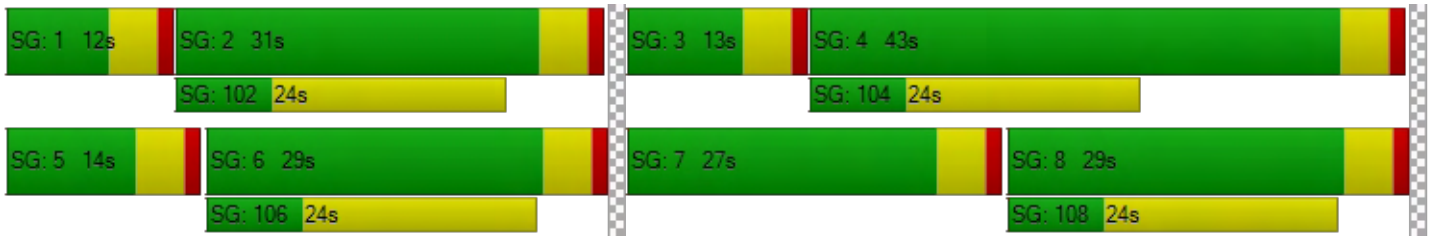
d_M, Delay for Movement [s/veh]	51.51	35.36	35.49	54.88	37.41	38.25	61.00	25.00	25.04	48.81	49.18	50.33
Movement LOS	D	D	D	D	D	D	E	C	C	D	D	D
d_A, Approach Delay [s/veh]	38.11			40.34			40.06			49.41		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	41.58											
Intersection LOS	D											
Intersection V/C	0.798											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	39.14	39.14	39.14	39.14
l_p,int, Pedestrian LOS Score for Intersection	2.805	2.840	2.815	2.601
Crosswalk LOS	C	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	535	495	777	495
d_b, Bicycle Delay [s]	26.57	28.06	18.51	28.06
l_b,int, Bicycle LOS Score for Intersection	2.324	2.242	2.291	2.150
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Palm Ave (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	14.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.368

Intersection Setup

Name	Palm Ave			Palm Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	90.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Ave			Palm Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Base Volume Input [veh/h]	63	147	27	83	89	75	63	319	61	33	432	145
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	0	0	0	0	9	8	16	16	0	18	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	91	171	31	96	103	96	81	386	87	38	519	168
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	45	8	25	27	25	21	102	23	10	137	44
Total Analysis Volume [veh/h]	96	180	33	101	108	101	85	406	92	40	546	177
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	23	0	0	23	0	0	37	0	0	37	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	9	0	0	12	0	0	9	0	0	12	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	31	31	31	31	31	21	21	21	21	21	21
g / C, Green / Cycle	0.51	0.51	0.51	0.51	0.51	0.36	0.36	0.36	0.36	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.08	0.12	0.09	0.06	0.06	0.12	0.14	0.14	0.04	0.20	0.20
s, saturation flow rate [veh/h]	1173	1820	1168	1870	1589	730	1870	1752	900	1870	1715
c, Capacity [veh/h]	636	925	592	950	807	244	671	629	325	671	615
d1, Uniform Delay [s]	10.25	8.23	11.66	7.71	7.76	23.43	14.29	14.32	18.71	15.45	15.46
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.50	0.58	0.62	0.24	0.32	0.85	0.36	0.39	0.17	0.74	0.81
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.15	0.23	0.17	0.11	0.13	0.35	0.38	0.39	0.12	0.56	0.56
d, Delay for Lane Group [s/veh]	10.75	8.81	12.28	7.95	8.07	24.28	14.65	14.70	18.88	16.19	16.27
Lane Group LOS	B	A	B	A	A	C	B	B	B	B	B
Critical Lane Group	No	Yes	No	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.71	1.32	0.83	0.62	0.59	1.09	2.32	2.20	0.42	3.72	3.44
50th-Percentile Queue Length [ft/ln]	17.85	32.95	20.73	15.48	14.85	27.31	57.95	55.06	10.61	92.94	85.97
95th-Percentile Queue Length [veh/ln]	1.29	2.37	1.49	1.11	1.07	1.97	4.17	3.96	0.76	6.69	6.19
95th-Percentile Queue Length [ft/ln]	32.13	59.30	37.32	27.87	26.72	49.15	104.31	99.12	19.09	167.30	154.75

Movement, Approach, & Intersection Results

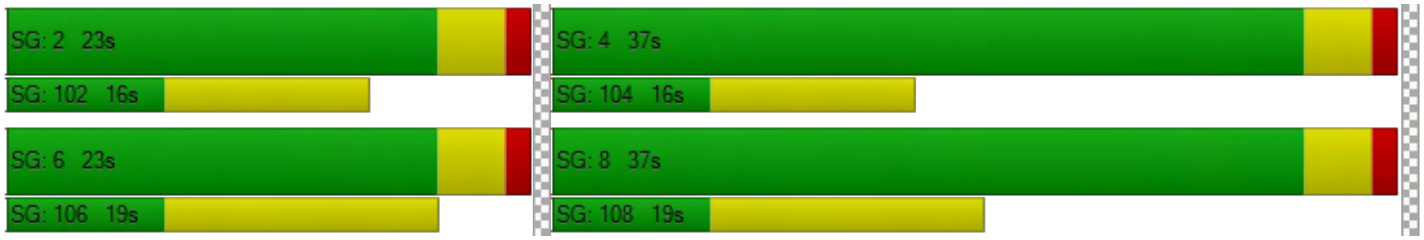
d_M, Delay for Movement [s/veh]	10.75	8.81	8.81	12.28	7.95	8.07	24.28	14.67	14.70	18.88	16.21	16.27
Movement LOS	B	A	A	B	A	A	C	B	B	B	B	B
d_A, Approach Delay [s/veh]	9.41			9.40			16.08			16.37		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	14.09											
Intersection LOS	B											
Intersection V/C	0.368											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	20.01	20.01	20.01	20.01
l_p,int, Pedestrian LOS Score for Intersection	2.212	2.474	2.716	2.717
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	633	633	1100	1100
d_b, Bicycle Delay [s]	14.01	14.01	6.08	6.08
l_b,int, Bicycle LOS Score for Intersection	2.069	2.071	2.041	2.189
Bicycle LOS	B	B	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Beaumont Village Project

Vistro File: G:\...\PM MIT.vistro
Report File: G:\...\PM EP MIT.pdf

Scenario 2 Existing Plus Project
1/15/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Beaumont Ave (NS) at Brookside Ave (EW)	Signalized	HCM 7th Edition	WB Right	0.502	24.0	C
3	Beaumont Ave (NS) at Project Dwy (EW)	Signalized	HCM 6th Edition	EB Left	0.302	7.5	A
4	Beaumont Ave (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	EB Left	0.603	32.5	C
9	Palm Ave (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	EB Left	0.253	16.4	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Beaumont Ave (NS) at Brookside Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	24.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.502

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Brookside Ave			Brookside Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	200.00	100.00	100.00	266.00	100.00	175.00	152.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			50.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			Brookside Ave			Brookside Ave		
Base Volume Input [veh/h]	75	285	88	106	354	18	33	64	75	65	52	84
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	8	8	0	9	0	0	0	9	9	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	95	339	110	123	420	21	38	74	96	84	60	97
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	89	29	32	111	6	10	19	25	22	16	26
Total Analysis Volume [veh/h]	100	357	116	129	442	22	40	78	101	88	63	102
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	96
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	5	2	0	1	6	0	7	4	4	3	8	0
Auxiliary Signal Groups									4,5			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	11	11	0	11	11	0	11	11	11	11	11	0
Maximum Green [s]	30	30	0	30	30	0	30	30	30	30	30	0
Amber [s]	4.3	4.3	0.0	4.3	4.3	0.0	4.1	4.1	4.1	4.1	4.1	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	17	29	0	17	29	0	17	31	31	19	33	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	7	0	7	0
Pedestrian Clearance [s]	0	16	0	0	16	0	0	16	16	0	16	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.3	3.3	0.0	3.3	3.3	0.0	3.1	3.1	3.1	3.1	3.1	0.0
Minimum Recall	No	No		No	No		No	No	No	No	No	
Maximum Recall	No	No		No	No		No	No	No	No	No	
Pedestrian Recall	No	No		No	No		No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C
C, Cycle Length [s]	96	96	96	96	96	96	96	96	96
L, Total Lost Time per Cycle [s]	5.30	5.30	5.30	5.30	5.10	5.10	5.30	5.10	5.10
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.30	0.00	3.30	0.00	3.10	0.00	0.00	3.10
g_i, Effective Green Time [s]	60	44	60	44	26	11	26	26	14
g / C, Green / Cycle	0.62	0.45	0.62	0.46	0.27	0.11	0.27	0.27	0.14
(v / s)_i Volume / Saturation Flow Rate	0.09	0.26	0.11	0.25	0.03	0.04	0.06	0.06	0.10
s, saturation flow rate [veh/h]	1123	1792	1123	1854	1445	1870	1589	1495	1686
c, Capacity [veh/h]	632	813	620	848	393	214	437	475	240
d1, Uniform Delay [s]	9.29	19.52	9.82	18.87	26.50	39.37	27.01	26.89	39.21
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.53	3.04	0.16	2.53	0.11	1.04	0.27	0.19	3.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.16	0.58	0.21	0.55	0.10	0.37	0.23	0.19	0.69
d, Delay for Lane Group [s/veh]	9.82	22.56	9.98	21.40	26.62	40.42	27.28	27.08	42.70
Lane Group LOS	A	C	A	C	C	D	C	C	D
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.81	7.90	0.91	7.19	0.67	1.72	1.76	1.52	3.81
50th-Percentile Queue Length [ft/ln]	20.32	197.53	22.72	179.85	16.79	42.88	44.06	37.92	95.24
95th-Percentile Queue Length [veh/ln]	1.46	12.51	1.64	11.59	1.21	3.09	3.17	2.73	6.86
95th-Percentile Queue Length [ft/ln]	36.58	312.77	40.90	289.82	30.23	77.19	79.30	68.25	171.43

Movement, Approach, & Intersection Results

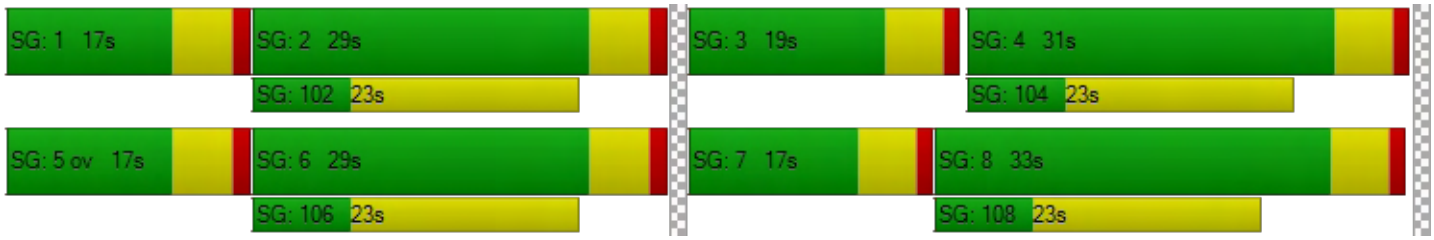
d_M, Delay for Movement [s/veh]	9.82	22.56	22.56	9.98	21.40	21.40	26.62	40.42	27.28	27.08	42.70	42.70
Movement LOS	A	C	C	A	C	C	C	D	C	C	D	D
d_A, Approach Delay [s/veh]	20.34			18.92			31.84			37.27		
Approach LOS	C			B			C			D		
d_I, Intersection Delay [s/veh]	23.98											
Intersection LOS	C											
Intersection V/C	0.502											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	37.67	37.67	37.67	37.67
l_p,int, Pedestrian LOS Score for Intersection	2.482	2.544	2.333	2.280
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	493	493	539	581
d_b, Bicycle Delay [s]	27.27	27.27	25.63	24.19
l_b,int, Bicycle LOS Score for Intersection	2.505	2.538	1.921	1.977
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Beaumont Ave (NS) at Project Dwy (EW)

Control Type:	Signalized	Delay (sec / veh):	7.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.302

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Project Dwy			Project Dwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Beaumont Ave			Beaumont Ave			Project Dwy			Project Dwy		
Base Volume Input [veh/h]	0	455	81	125	426	0	0	0	0	50	0	42
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	63	0	0	0	8	27	32	0	49	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	68	-68	0	0	-29	29	68	0	29	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	131	460	94	145	473	56	100	0	78	58	0	49
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	121	25	38	124	15	26	0	21	15	0	13
Total Analysis Volume [veh/h]	138	484	99	153	498	59	105	0	82	61	0	52
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	40	0	0	40	0	0	20	0	0	20	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	44	44	44	44	44	44	8	8	8	8
g / C, Green / Cycle	0.73	0.73	0.73	0.73	0.73	0.73	0.14	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.16	0.16	0.16	0.18	0.15	0.15	0.08	0.05	0.05	0.03
s, saturation flow rate [veh/h]	852	1870	1761	832	1870	1801	1352	1589	1316	1589
c, Capacity [veh/h]	640	1355	1276	624	1355	1305	267	227	241	227
d1, Uniform Delay [s]	5.43	2.72	2.72	5.69	2.69	2.69	25.91	23.35	26.01	22.90
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.77	0.38	0.40	0.93	0.35	0.37	0.94	0.97	0.54	0.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.22	0.22	0.22	0.25	0.21	0.21	0.39	0.36	0.25	0.23
d, Delay for Lane Group [s/veh]	6.20	3.10	3.12	6.63	3.04	3.06	26.85	24.32	26.56	23.41
Lane Group LOS	A	A	A	A	A	A	C	C	C	C
Critical Lane Group	No	No	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.65	0.59	0.56	0.76	0.55	0.53	1.46	1.07	0.84	0.66
50th-Percentile Queue Length [ft/ln]	16.36	14.64	14.06	19.08	13.68	13.34	36.58	26.78	20.94	16.51
95th-Percentile Queue Length [veh/ln]	1.18	1.05	1.01	1.37	0.99	0.96	2.63	1.93	1.51	1.19
95th-Percentile Queue Length [ft/ln]	29.44	26.35	25.31	34.35	24.63	24.02	65.85	48.21	37.69	29.71

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.20	3.11	3.12	6.63	3.05	3.06	26.85	24.32	24.32	26.56	23.41	23.41
Movement LOS	A	A	A	A	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	3.70			3.82			25.74			25.11		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	7.53											
Intersection LOS	A											
Intersection V/C	0.302											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1198	1198	532	532
d_b, Bicycle Delay [s]	4.84	4.84	16.19	16.19
l_b,int, Bicycle LOS Score for Intersection	2.154	2.145	1.868	1.746
Bicycle LOS	B	B	A	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Beaumont Ave (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	32.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.603

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	102.00	100.00	100.00	145.00	100.00	100.00	125.00	100.00	100.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			45.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Base Volume Input [veh/h]	69	317	64	72	289	118	181	305	70	101	297	72
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	36	18	0	25	32	0	27	17	17	0	27	18
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	116	386	74	109	367	137	237	371	98	117	372	102
Peak Hour Factor	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	101	19	28	96	36	62	97	26	31	97	27
Total Analysis Volume [veh/h]	121	403	77	114	383	143	247	387	102	122	388	106
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	87
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	6	0	5	6	0	5	4	0	5	4	0
Maximum Green [s]	16	40	0	16	40	0	16	16	0	16	16	0
Amber [s]	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	29	0	11	29	0	18	35	0	12	29	0
Vehicle Extension [s]	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	17	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	2.5	0.0	2.5	2.5	0.0	2.5	2.5	0.0	2.5	2.5	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	87	87	87	87	87	87	87	87	87	87	87	87
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
g_i, Effective Green Time [s]	7	34	34	7	34	34	14	21	21	8	15	15
g / C, Green / Cycle	0.08	0.39	0.39	0.08	0.39	0.39	0.16	0.24	0.24	0.09	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.07	0.13	0.13	0.06	0.15	0.15	0.14	0.14	0.14	0.07	0.14	0.14
s, saturation flow rate [veh/h]	1781	1870	1767	1781	1870	1700	1781	1870	1737	1781	1870	1734
c, Capacity [veh/h]	136	726	686	136	726	660	276	453	421	155	326	303
d1, Uniform Delay [s]	39.97	18.82	18.84	39.80	19.15	19.18	36.18	28.98	29.00	39.04	34.45	34.50
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.18	0.15	0.15	0.04	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.61	1.26	1.35	5.23	1.50	1.68	15.21	1.53	1.67	3.29	5.76	6.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.89	0.34	0.34	0.84	0.38	0.38	0.89	0.56	0.56	0.79	0.78	0.79
d, Delay for Lane Group [s/veh]	47.58	20.08	20.19	45.03	20.65	20.86	51.39	30.51	30.66	42.33	40.21	40.95
Lane Group LOS	D	C	C	D	C	C	D	C	C	D	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.76	3.50	3.35	2.52	3.98	3.69	6.01	4.51	4.23	2.63	5.51	5.22
50th-Percentile Queue Length [ft/ln]	68.98	87.43	83.77	62.91	99.55	92.35	150.25	112.83	105.71	65.78	137.74	130.50
95th-Percentile Queue Length [veh/ln]	4.97	6.29	6.03	4.53	7.17	6.65	10.03	8.00	7.60	4.74	9.36	8.97
95th-Percentile Queue Length [ft/ln]	124.16	157.37	150.79	113.24	179.19	166.24	250.77	199.94	190.02	118.40	233.97	224.17

Movement, Approach, & Intersection Results

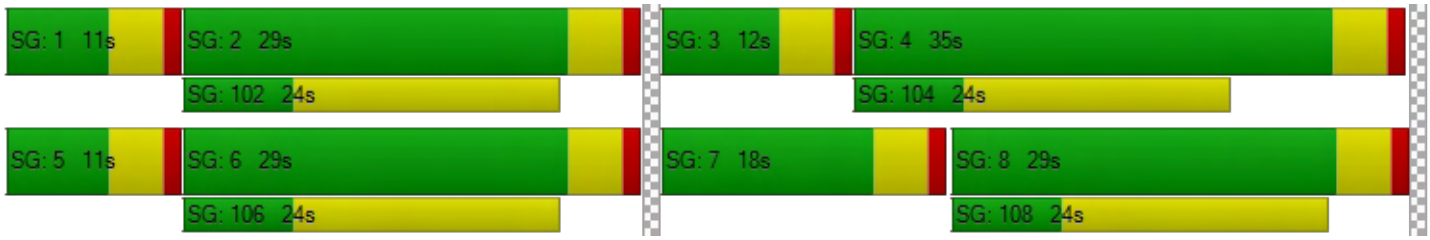
d_M, Delay for Movement [s/veh]	47.58	20.12	20.19	45.03	20.71	20.86	51.39	30.57	30.66	42.33	40.46	40.95
Movement LOS	D	C	C	D	C	C	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	25.66			25.07			37.57			40.91		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	32.52											
Intersection LOS	C											
Intersection V/C	0.603											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	33.27	33.27	33.27	33.27
l_p,int, Pedestrian LOS Score for Intersection	2.712	2.661	2.704	2.569
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	562	562	700	562
d_b, Bicycle Delay [s]	22.52	22.52	18.41	22.52
l_b,int, Bicycle LOS Score for Intersection	2.055	2.088	2.167	2.068
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Palm Ave (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	16.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.253

Intersection Setup

Name	Palm Ave			Palm Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	90.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Ave			Palm Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Base Volume Input [veh/h]	46	40	22	37	31	31	49	402	52	16	369	50
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	0	0	0	0	9	8	17	17	0	18	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	71	46	26	43	36	45	65	483	77	19	446	58
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	12	7	11	9	12	17	127	20	5	117	15
Total Analysis Volume [veh/h]	75	48	27	45	38	47	68	508	81	20	469	61
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	23	0	0	23	0	0	37	0	0	37	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	9	0	0	12	0	0	9	0	0	12	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	34	34	34	34	34	18	18	18	18	18	18
g / C, Green / Cycle	0.57	0.57	0.57	0.57	0.57	0.30	0.30	0.30	0.30	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.06	0.04	0.03	0.02	0.03	0.08	0.16	0.16	0.02	0.14	0.15
s, saturation flow rate [veh/h]	1312	1758	1324	1870	1589	873	1870	1782	827	1870	1796
c, Capacity [veh/h]	822	998	815	1062	902	238	559	533	218	559	537
d1, Uniform Delay [s]	6.89	5.86	7.01	5.72	5.78	24.32	17.58	17.59	23.87	17.23	17.25
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.22	0.15	0.13	0.06	0.11	0.65	0.81	0.86	0.18	0.65	0.68
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.09	0.08	0.06	0.04	0.05	0.29	0.54	0.54	0.09	0.48	0.49
d, Delay for Lane Group [s/veh]	7.11	6.00	7.14	5.79	5.89	24.97	18.38	18.45	24.05	17.88	17.93
Lane Group LOS	A	A	A	A	A	C	B	B	C	B	B
Critical Lane Group	Yes	No	No	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.40	0.34	0.24	0.17	0.21	0.88	3.21	3.08	0.25	2.81	2.72
50th-Percentile Queue Length [ft/ln]	10.00	8.55	6.04	4.19	5.34	21.95	80.21	77.04	6.22	70.15	68.07
95th-Percentile Queue Length [veh/ln]	0.72	0.62	0.44	0.30	0.38	1.58	5.78	5.55	0.45	5.05	4.90
95th-Percentile Queue Length [ft/ln]	17.99	15.38	10.88	7.55	9.62	39.50	144.38	138.68	11.19	126.26	122.53

Movement, Approach, & Intersection Results

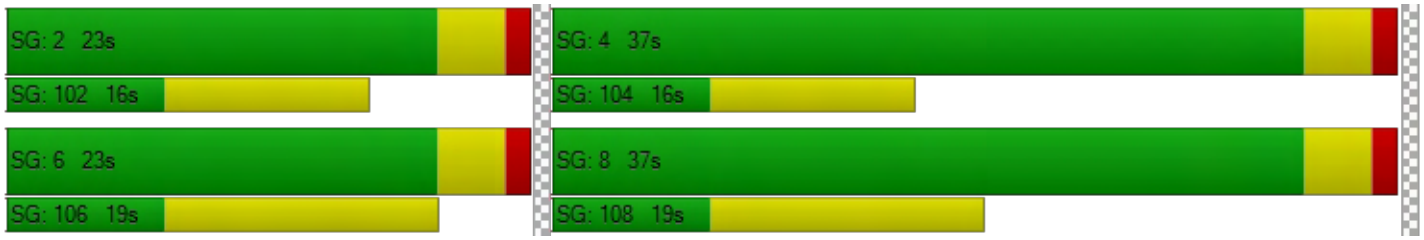
d_M, Delay for Movement [s/veh]	7.11	6.00	6.00	7.14	5.79	5.89	24.97	18.41	18.45	24.05	17.90	17.93
Movement LOS	A	A	A	A	A	A	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	6.56			6.29			19.09			18.13		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	16.35											
Intersection LOS	B											
Intersection V/C	0.253											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	20.01	20.01	20.01	20.01
l_p,int, Pedestrian LOS Score for Intersection	2.071	2.305	2.668	2.598
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	633	633	1100	1100
d_b, Bicycle Delay [s]	14.01	14.01	6.08	6.08
l_b,int, Bicycle LOS Score for Intersection	1.807	1.774	2.102	2.013
Bicycle LOS	A	A	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Opening Year (2025) Without Project

Beaumont Village Project

Vistro File: G:\...\AM.vistro
Report File: G:\...\AM OY.pdf

Scenario 3 Opening Year (2025) Without Project
1/15/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Beaumont Ave (NS) at Brookside Ave (EW)	Signalized	HCM 7th Edition	WB Thru	0.968	84.8	F
2	Beaumont Ave (NS) at Cougar Way (EW)	Signalized	HCM 7th Edition	EB Left	0.822	28.3	C
3	Beaumont Ave (NS) at Project Dwy (EW)	Two-way stop	HCM 7th Edition	WB Left	0.464	170.1	F
4	Beaumont Ave (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	SB Right	1.029	578.2	F
5	Beaumont Ave (NS) at 12th St (EW)	All-way stop	HCM 7th Edition	NB Left	0.996	57.4	F
6	Beaumont Ave (NS) at 10th St (EW)	All-way stop	HCM 7th Edition	SB Left	0.763	25.6	D
7	Golf Club Dr (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	SB Left	0.874	10.5	B
8	Oak View Dr (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	WB Thru	0.864	35.2	D
9	Palm Ave (NS) at Oak Valley Pkwy (EW)	All-way stop	HCM 7th Edition	WB Left	1.260	93.3	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Beaumont Ave (NS) at Brookside Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	84.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.968

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Brookside Ave			Brookside Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	200.00	100.00	100.00	266.00	100.00	175.00	152.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			50.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			Brookside Ave			Brookside Ave		
Base Volume Input [veh/h]	256	577	23	91	370	28	53	179	244	55	261	153
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	34	2	0	37	6	17	34	20	3	41	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	322	740	31	112	490	40	81	254	319	71	361	187
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	85	195	8	29	129	11	21	67	84	19	95	49
Total Analysis Volume [veh/h]	339	779	33	118	516	42	85	267	336	75	380	197
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	5	2	0	1	6	0	7	4	4	3	8	0
Auxiliary Signal Groups									4,5			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	11	11	0	11	11	0	11	11	11	11	11	0
Maximum Green [s]	30	30	0	30	30	0	30	30	30	30	30	0
Amber [s]	4.3	4.3	0.0	4.3	4.3	0.0	4.1	4.1	4.1	4.1	4.1	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	24	47	0	18	41	0	17	37	37	17	37	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	7	0	7	0
Pedestrian Clearance [s]	0	16	0	0	16	0	0	16	16	0	16	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.3	3.3	0.0	3.3	3.3	0.0	3.1	3.1	3.1	3.1	3.1	0.0
Minimum Recall	No	No		No	No		No	No	No	No	No	
Maximum Recall	No	No		No	No		No	No	No	No	No	
Pedestrian Recall	No	No		No	No		No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.30	5.30	5.30	5.30	5.10	5.10	5.30	5.10	5.10
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.30	0.00	3.30	0.00	3.10	0.00	0.00	3.10
g_i, Effective Green Time [s]	61	45	61	37	49	34	57	49	33
g / C, Green / Cycle	0.51	0.37	0.51	0.31	0.41	0.28	0.48	0.41	0.28
(v / s)_i Volume / Saturation Flow Rate	0.29	0.44	0.13	0.30	0.08	0.14	0.21	0.07	0.33
s, saturation flow rate [veh/h]	1187	1857	929	1845	1097	1870	1589	1078	1764
c, Capacity [veh/h]	442	693	308	567	306	522	759	425	489
d1, Uniform Delay [s]	29.43	37.60	24.66	41.25	27.18	36.37	20.77	23.14	43.38
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11	0.26	0.11	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.04	91.92	0.78	33.91	0.49	0.78	0.96	0.20	100.84
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	1.17	0.38	0.98	0.28	0.51	0.44	0.18	1.18
d, Delay for Lane Group [s/veh]	41.47	129.51	25.44	75.15	27.67	37.15	21.74	23.34	144.22
Lane Group LOS	D	F	C	E	C	D	C	C	F
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	6.97	37.15	1.67	20.80	1.51	6.55	6.19	1.31	27.70
50th-Percentile Queue Length [ft/ln]	174.13	928.73	41.64	519.90	37.72	163.72	154.75	32.76	692.47
95th-Percentile Queue Length [veh/ln]	11.29	52.40	3.00	28.27	2.72	10.75	10.27	2.36	40.05
95th-Percentile Queue Length [ft/ln]	282.34	1309.96	74.96	706.87	67.90	268.64	256.76	58.97	1001.34

Movement, Approach, & Intersection Results

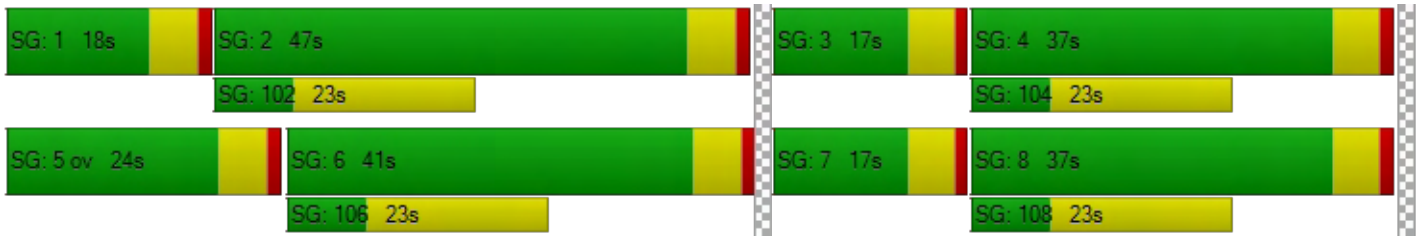
d_M, Delay for Movement [s/veh]	41.47	129.51	129.51	25.44	75.15	75.15	27.67	37.15	21.74	23.34	144.22	144.22
Movement LOS	D	F	F	C	E	E	C	D	C	C	F	F
d_A, Approach Delay [s/veh]	103.58			66.48			28.45			130.32		
Approach LOS	F			E			C			F		
d_I, Intersection Delay [s/veh]	84.84											
Intersection LOS	F											
Intersection V/C	0.968											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.51	49.51	49.51	49.51
l_p,int, Pedestrian LOS Score for Intersection	2.886	2.930	2.772	2.483
Crosswalk LOS	C	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	695	595	532	532
d_b, Bicycle Delay [s]	25.55	29.61	32.34	32.34
l_b,int, Bicycle LOS Score for Intersection	3.459	2.675	2.695	2.635
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Beaumont Ave (NS) at Cougar Way (EW)

Control Type:	Signalized	Delay (sec / veh):	28.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.822

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Cougar Way			Cougar Way		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	310.00	100.00	235.00	303.00	100.00	174.00	200.00	100.00	98.00	221.00	100.00	224.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Beaumont Ave			Beaumont Ave			Cougar Way			Cougar Way		
Base Volume Input [veh/h]	197	616	146	63	354	140	117	119	201	95	157	164
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	44	2	0	60	0	0	0	0	3	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	242	799	180	77	494	171	144	146	246	119	192	201
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	210	47	20	130	45	38	38	65	31	51	53
Total Analysis Volume [veh/h]	255	841	189	81	520	180	152	154	259	125	202	212
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	3	4	0	3	4	0	0	4	0	0	4	0
Maximum Green [s]	14	30	0	14	30	0	0	60	0	0	60	0
Amber [s]	3.0	4.2	0.0	3.0	4.2	0.0	0.0	4.2	0.0	0.0	4.2	0.0
All red [s]	2.0	1.5	0.0	2.0	1.5	0.0	0.0	1.4	0.0	0.0	1.4	0.0
Split [s]	15	34	0	9	28	0	0	17	0	0	17	0
Vehicle Extension [s]	3.0	4.2	0.0	3.0	4.2	0.0	0.0	4.2	0.0	0.0	4.2	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	20	0	0	16	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.7	0.0	3.0	3.7	0.0	0.0	3.6	0.0	0.0	3.6	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	5.00	5.70	5.70	5.00	5.70	5.70	5.60	5.60	5.60	5.60	5.60	5.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.70	3.70	3.00	3.70	3.70	3.60	3.60	3.60	3.60	3.60	3.60
g_i, Effective Green Time [s]	10	29	29	4	22	22	11	11	11	11	11	11
g / C, Green / Cycle	0.17	0.48	0.48	0.06	0.37	0.37	0.19	0.19	0.19	0.19	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.14	0.45	0.12	0.05	0.28	0.11	0.16	0.08	0.16	0.13	0.11	0.13
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1870	1589	972	1870	1589	973	1870	1589
c, Capacity [veh/h]	296	893	759	106	693	589	188	360	306	213	360	306
d1, Uniform Delay [s]	24.43	14.95	9.34	27.90	16.52	13.45	29.17	21.41	23.47	27.97	22.02	22.67
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.17	0.17	0.17	0.17	0.17	0.17
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.64	18.98	0.78	10.73	7.32	1.34	11.80	1.23	9.46	3.90	2.09	4.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.86	0.94	0.25	0.76	0.75	0.31	0.81	0.43	0.85	0.59	0.56	0.69
d, Delay for Lane Group [s/veh]	32.08	33.92	10.12	38.63	23.84	14.79	40.96	22.64	32.92	31.87	24.12	26.93
Lane Group LOS	C	C	B	D	C	B	D	C	C	C	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	3.78	12.91	1.32	1.37	6.57	1.67	2.75	1.94	4.16	1.92	2.51	2.85
50th-Percentile Queue Length [ft/ln]	94.45	322.67	32.91	34.17	164.22	41.82	68.75	48.59	104.00	47.97	62.80	71.24
95th-Percentile Queue Length [veh/ln]	6.80	18.80	2.37	2.46	10.77	3.01	4.95	3.50	7.49	3.45	4.52	5.13
95th-Percentile Queue Length [ft/ln]	170.01	469.96	59.24	61.51	269.30	75.28	123.75	87.46	187.20	86.35	113.04	128.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.08	33.92	10.12	38.63	23.84	14.79	40.96	22.64	32.92	31.87	24.12	26.93
Movement LOS	C	C	B	D	C	B	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	30.06			23.29			32.28			27.02		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	28.27											
Intersection LOS	C											
Intersection V/C	0.822											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	941	742	379	379
d_b, Bicycle Delay [s]	8.42	11.89	19.74	19.74
l_b,int, Bicycle LOS Score for Intersection	3.680	2.848	2.492	2.449
Bicycle LOS	D	C	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Beaumont Ave (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	170.1
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.464

Intersection Setup

Name	Beaumont Ave		Beaumont Ave		Project Dwy	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0
Entry Pocket Length [ft]	150.00	100.00	150.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Beaumont Ave		Beaumont Ave		Project Dwy	
Base Volume Input [veh/h]	992	23	90	635	13	22
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	74	0	0	73	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1289	29	110	851	16	27
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	339	8	29	224	4	7
Total Analysis Volume [veh/h]	1357	31	116	896	17	28
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.24	0.01	0.46	0.07
d_M, Delay for Movement [s/veh]	0.00	0.00	14.63	0.00	170.10	15.08
Movement LOS	A	A	B	A	F	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.91	0.00	1.58	0.23
95th-Percentile Queue Length [ft/ln]	0.00	0.00	22.87	0.00	39.53	5.85
d_A, Approach Delay [s/veh]	0.00		1.68		73.64	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	2.05					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 4: Beaumont Ave (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	578.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.029

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	102.00	100.00	100.00	145.00	100.00	100.00	125.00	100.00	100.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			45.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Base Volume Input [veh/h]	101	560	70	85	337	223	288	304	101	88	343	130
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	63	8	19	12	19	42	38	83	85	37	90	28
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	187	694	105	117	432	315	391	456	209	145	510	187
Peak Hour Factor	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	178	27	30	111	81	100	117	54	37	131	48
Total Analysis Volume [veh/h]	192	713	108	120	444	324	402	469	215	149	524	192
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	6	0	5	6	0	5	4	0	5	4	0
Maximum Green [s]	16	40	0	16	40	0	16	16	0	16	16	0
Amber [s]	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	32	0	12	29	0	27	42	0	14	29	0
Vehicle Extension [s]	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	17	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	2.5	0.0	2.5	2.5	0.0	2.5	2.5	0.0	2.5	2.5	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
g_i, Effective Green Time [s]	8	5	5	5	3	3	15	25	25	6	16	16
g / C, Green / Cycle	0.13	0.09	0.09	0.09	0.04	0.04	0.26	0.42	0.42	0.11	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.11	0.22	0.22	0.07	0.22	0.22	0.23	0.19	0.19	0.08	0.20	0.20
s, saturation flow rate [veh/h]	1781	1870	1785	1781	1870	1611	1781	1870	1674	1781	1870	1701
c, Capacity [veh/h]	240	164	157	156	76	66	457	782	700	191	502	457
d1, Uniform Delay [s]	25.24	27.43	27.43	26.85	28.84	28.84	21.46	12.62	12.63	26.15	20.11	20.12
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.08	0.15	0.15	0.04	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.36	716.68	717.58	3.02	2007.97	2015.04	4.25	0.61	0.68	2.61	3.15	3.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	2.55	2.55	0.77	5.40	5.40	0.88	0.46	0.46	0.78	0.75	0.75
d, Delay for Lane Group [s/veh]	27.61	744.10	745.00	29.87	2036.81	2043.89	25.71	13.23	13.30	28.76	23.27	23.59
Lane Group LOS	C	F	F	C	F	F	C	B	B	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.55	34.88	33.34	1.66	43.61	37.70	5.14	2.88	2.60	2.06	4.71	4.33
50th-Percentile Queue Length [ft/ln]	63.73	872.04	833.45	41.55	1090.25	942.48	128.39	72.09	64.98	51.41	117.63	108.15
95th-Percentile Queue Length [veh/ln]	4.59	54.72	52.51	2.99	64.83	56.75	8.85	5.19	4.68	3.70	8.26	7.74
95th-Percentile Queue Length [ft/ln]	114.71	1368.02	1312.79	74.78	1620.70	1418.71	221.31	129.77	116.97	92.54	206.57	193.43

Movement, Approach, & Intersection Results

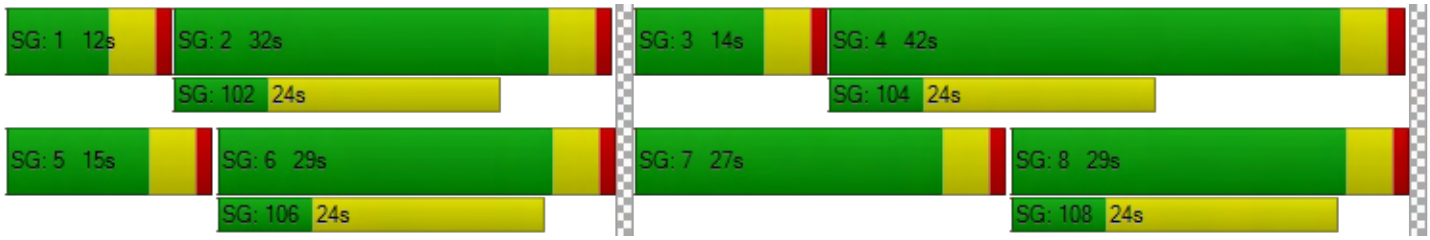
d_M, Delay for Movement [s/veh]	27.61	744.47	745.00	29.87	2037.32	2043.89	25.71	13.25	13.30	28.76	23.36	23.59
Movement LOS	C	F	F	C	F	F	C	B	B	C	C	C
d_A, Approach Delay [s/veh]	608.66			1768.44			17.87			24.34		
Approach LOS	F			F			B			C		
d_I, Intersection Delay [s/veh]	578.25											
Intersection LOS	F											
Intersection V/C	1.029											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	20.04	20.04	20.04	20.04
l_p,int, Pedestrian LOS Score for Intersection	2.825	2.848	2.899	2.633
Crosswalk LOS	C	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	916	816	1249	816
d_b, Bicycle Delay [s]	8.83	10.53	4.24	10.53
l_b,int, Bicycle LOS Score for Intersection	2.395	2.292	2.456	2.273
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Beaumont Ave (NS) at 12th St (EW)

Control Type:	All-way stop	Delay (sec / veh):	57.4
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.996

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			12th St			12th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			12th St			12th St		
Base Volume Input [veh/h]	8	538	20	23	458	28	134	42	25	26	24	27
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	84	0	2	137	2	3	0	0	0	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	743	24	31	698	36	167	52	31	32	30	36
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	196	6	8	184	9	44	14	8	8	8	9
Total Analysis Volume [veh/h]	11	782	25	33	735	38	176	55	33	34	32	38
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	411	413	410	412	448	348	387	332	362
Degree of Utilization, x	1.00	0.99	0.94	0.93	0.08	0.66	0.09	0.20	0.10

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	12.28	12.11	10.49	10.38	0.28	4.53	0.28	0.73	0.35
95th-Percentile Queue Length [ft]	307.04	302.87	262.27	259.58	6.92	113.14	6.94	18.25	8.72
Approach Delay [s/veh]	72.30		56.96			28.99		15.35	
Approach LOS	F		F			D		C	
Intersection Delay [s/veh]	57.38								
Intersection LOS	F								

Intersection Level Of Service Report
Intersection 6: Beaumont Ave (NS) at 10th St (EW)

Control Type:	All-way stop	Delay (sec / veh):	25.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.763

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			10th St			10th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			10th St			10th St		
Base Volume Input [veh/h]	10	488	19	23	468	18	29	15	12	12	14	32
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	78	0	2	133	2	3	0	0	0	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	675	23	31	706	24	39	18	15	15	17	42
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	178	6	8	186	6	10	5	4	4	4	11
Total Analysis Volume [veh/h]	14	711	24	33	743	25	41	19	16	16	18	44
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	505	506	561	509	512	569	395	446	428
Degree of Utilization, x	0.72	0.72	0.04	0.76	0.76	0.04	0.15	0.04	0.18

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	5.78	5.75	0.13	6.68	6.59	0.14	0.53	0.11	0.66
95th-Percentile Queue Length [ft]	144.48	143.64	3.34	167.10	164.86	3.44	13.25	2.79	16.46
Approach Delay [s/veh]	25.38			28.19			12.93		13.27
Approach LOS	D			D			B		B
Intersection Delay [s/veh]	25.59								
Intersection LOS	D								

Intersection Level Of Service Report
Intersection 7: Golf Club Dr (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	10.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.874

Intersection Setup

Name	Golf Club Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0
Entry Pocket Length [ft]	172.00	100.00	197.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Golf Club Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Base Volume Input [veh/h]	79	41	37	627	706	50
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	0	0	370	494	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	51	45	1137	1359	63
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	13	12	299	358	17
Total Analysis Volume [veh/h]	105	54	47	1197	1431	66
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Overlap	Protected	Permissive	Permissive	Permissive
Signal Group	7	4	5	2	6	0
Auxiliary Signal Groups		4,5				
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	5	5	5	10	10	0
Maximum Green [s]	20	25	25	40	40	0
Amber [s]	4.3	3.0	3.0	4.3	4.3	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	26	26	74	94	20	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	4	0	0	4	4	0
Pedestrian Clearance [s]	20	0	0	22	22	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.3	2.0	2.0	3.3	3.3	0.0
Minimum Recall	No	No	No	No	No	
Maximum Recall	No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	5.30	4.00	4.00	5.30	5.30	5.30
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.30	0.00	2.00	3.30	3.30	3.30
g_i, Effective Green Time [s]	5	13	3	45	38	38
g / C, Green / Cycle	0.08	0.21	0.05	0.74	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.06	0.03	0.03	0.64	0.28	0.04
s, saturation flow rate [veh/h]	1781	1589	1781	1870	5094	1589
c, Capacity [veh/h]	143	342	84	1391	3209	1001
d1, Uniform Delay [s]	27.06	19.17	28.05	5.49	5.73	4.30
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.19	0.21	5.69	7.17	0.45	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.16	0.56	0.86	0.45	0.07
d, Delay for Lane Group [s/veh]	34.25	19.39	33.74	12.66	6.18	4.42
Lane Group LOS	C	B	C	B	A	A
Critical Lane Group	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.70	0.61	0.73	5.09	1.85	0.21
50th-Percentile Queue Length [ft/ln]	42.58	15.13	18.23	127.34	46.17	5.33
95th-Percentile Queue Length [veh/ln]	3.07	1.09	1.31	8.79	3.32	0.38
95th-Percentile Queue Length [ft/ln]	76.64	27.24	32.82	219.87	83.10	9.59

Movement, Approach, & Intersection Results

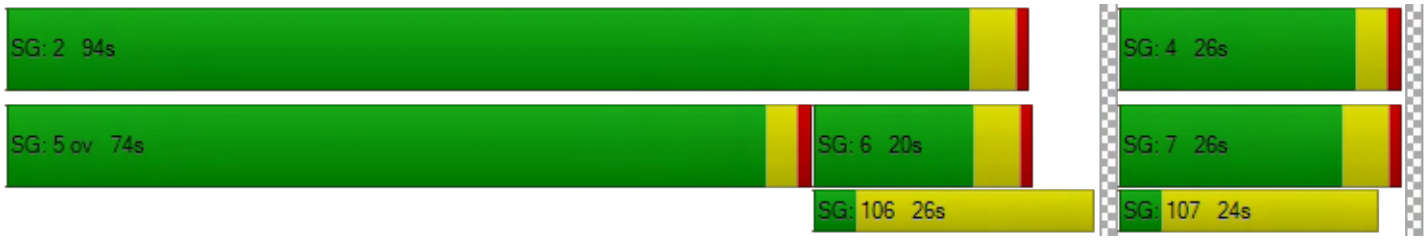
d_M, Delay for Movement [s/veh]	34.25	19.39	33.74	12.66	6.18	4.42
Movement LOS	C	B	C	B	A	A
d_A, Approach Delay [s/veh]	29.20		13.46		6.10	
Approach LOS	C		B		A	
d_I, Intersection Delay [s/veh]	10.52					
Intersection LOS	B					
Intersection V/C	0.874					

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	8.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.57	22.57	0.00
l_p,int, Pedestrian LOS Score for Intersection	1.996	3.080	0.000
Crosswalk LOS	A	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	689	955	489
d_b, Bicycle Delay [s]	12.91	8.20	17.14
l_b,int, Bicycle LOS Score for Intersection	1.560	3.612	2.383
Bicycle LOS	A	D	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Oak View Dr (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	35.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.864

Intersection Setup

Name	Oak View Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	1
Entry Pocket Length [ft]	200.00	100.00	143.00	100.00	100.00	146.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Oak View Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Base Volume Input [veh/h]	188	211	350	459	473	279
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	3	2	148	383	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	230	262	431	710	963	342
Peak Hour Factor	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	59	67	110	181	246	87
Total Analysis Volume [veh/h]	235	267	440	724	983	349
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	40	0	36	45	45	0
Amber [s]	4.0	0.0	4.0	4.0	4.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	49	0	51	71	20	0
Vehicle Extension [s]	2.5	0.0	1.5	3.5	3.5	0.0
Walk [s]	9	0	0	11	11	0
Pedestrian Clearance [s]	10	0	0	13	13	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	0.0	3.0	3.0	3.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	13	13	17	38	16	16
g / C, Green / Cycle	0.21	0.21	0.28	0.62	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.13	0.17	0.25	0.39	0.28	0.22
s, saturation flow rate [veh/h]	1781	1589	1781	1870	3560	1589
c, Capacity [veh/h]	374	334	492	1166	940	420
d1, Uniform Delay [s]	21.61	22.55	20.91	6.95	22.13	20.87
k, delay calibration	0.08	0.08	0.04	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.29	3.32	2.35	2.49	41.96	17.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.63	0.80	0.89	0.62	1.05	0.83
d, Delay for Lane Group [s/veh]	22.91	25.87	23.26	9.44	64.09	38.11
Lane Group LOS	C	C	C	A	F	D
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.99	3.69	5.30	4.00	11.03	5.90
50th-Percentile Queue Length [ft/ln]	74.67	92.23	132.56	100.08	275.78	147.43
95th-Percentile Queue Length [veh/ln]	5.38	6.64	9.08	7.21	16.90	9.88
95th-Percentile Queue Length [ft/ln]	134.40	166.01	226.96	180.14	422.42	247.00

Movement, Approach, & Intersection Results

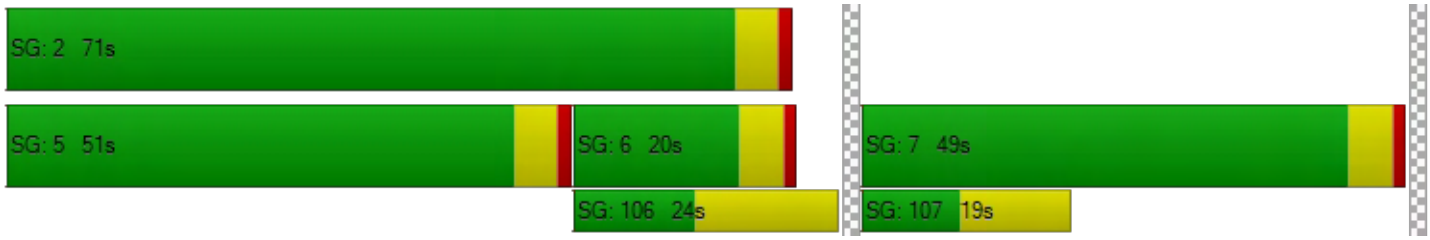
d_M, Delay for Movement [s/veh]	22.91	25.87	23.26	9.44	64.09	38.11
Movement LOS	C	C	C	A	F	D
d_A, Approach Delay [s/veh]	24.48		14.67		57.28	
Approach LOS	C		B		E	
d_I, Intersection Delay [s/veh]	35.24					
Intersection LOS	D					
Intersection V/C	0.864					

Other Modes

g_Walk,mi, Effective Walk Time [s]	15.0	13.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	16.91	18.44	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.261	3.015	0.000
Crosswalk LOS	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1465	200	499
d_b, Bicycle Delay [s]	2.15	24.34	16.91
I_b,int, Bicycle LOS Score for Intersection	1.560	3.480	2.659
Bicycle LOS	A	C	B

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Palm Ave (NS) at Oak Valley Pkwy (EW)

Control Type:	All-way stop	Delay (sec / veh):	93.3
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.260

Intersection Setup

Name	Palm Ave			Palm Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	90.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Ave			Palm Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Base Volume Input [veh/h]	63	147	27	83	89	75	63	319	61	33	432	145
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	0	0	0	0	3	2	110	2	0	149	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	181	33	101	109	95	79	501	77	40	678	177
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	48	9	27	29	25	21	132	20	11	178	47
Total Analysis Volume [veh/h]	84	191	35	106	115	100	83	527	81	42	714	186
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	336	363	315	329	351	364	375	471	471
Degree of Utilization, x	0.82	0.10	0.34	0.35	0.29	0.95	0.92	1.26	1.22

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	7.06	0.32	1.44	1.53	1.15	10.27	9.71	20.69	19.58
95th-Percentile Queue Length [ft]	176.62	7.95	36.12	38.19	28.87	256.78	242.71	517.23	489.53
Approach Delay [s/veh]	43.97		18.82			63.67		156.54	
Approach LOS	E		C			F		F	
Intersection Delay [s/veh]	93.25								
Intersection LOS	F								

Beaumont Village Project

Vistro File: G:\...\PM.vistro
Report File: G:\...\PM OY.pdf

Scenario 3 Opening Year (2025) Without Project
1/10/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Beaumont Ave (NS) at Brookside Ave (EW)	Signalized	HCM 7th Edition	NB Thru	0.701	226.4	F
2	Beaumont Ave (NS) at Cougar Way (EW)	Signalized	HCM 7th Edition	NB Left	0.600	14.6	B
3	Beaumont Ave (NS) at Project Dwy (EW)	Two-way stop	HCM 7th Edition	WB Left	0.609	82.0	F
4	Beaumont Ave (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	SB Right	0.854	62.3	E
5	Beaumont Ave (NS) at 12th St (EW)	All-way stop	HCM 7th Edition	NB Left	0.699	22.7	C
6	Beaumont Ave (NS) at 10th St (EW)	All-way stop	HCM 7th Edition	NB Left	0.640	19.1	C
7	Golf Club Dr (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	EB Thru	1.220	56.4	E
8	Oak View Dr (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	SB Right	0.864	17.9	B
9	Palm Ave (NS) at Oak Valley Pkwy (EW)	All-way stop	HCM 7th Edition	EB Left	0.932	40.1	E

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Beaumont Ave (NS) at Brookside Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	226.4
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.701

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Brookside Ave			Brookside Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	200.00	100.00	100.00	266.00	100.00	175.00	152.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			50.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			Brookside Ave			Brookside Ave		
Base Volume Input [veh/h]	75	285	88	106	354	18	33	64	75	65	52	84
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	26	46	7	0	43	19	12	54	19	7	49	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	118	395	115	130	477	41	52	132	111	86	112	102
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	104	30	34	126	11	14	35	29	23	29	27
Total Analysis Volume [veh/h]	124	416	121	137	502	43	55	139	117	91	118	107
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	5	2	0	1	6	0	7	4	4	3	8	0
Auxiliary Signal Groups									4,5			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	11	11	0	11	11	0	11	11	11	11	11	0
Maximum Green [s]	30	30	0	30	30	0	30	30	30	30	30	0
Amber [s]	4.3	4.3	0.0	4.3	4.3	0.0	4.1	4.1	4.1	4.1	4.1	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	14	28	0	9	23	0	9	73	73	10	74	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	7	0	7	0
Pedestrian Clearance [s]	0	16	0	0	16	0	0	16	16	0	16	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.3	3.3	0.0	3.3	3.3	0.0	3.1	3.1	3.1	3.1	3.1	0.0
Minimum Recall	No	No		No	No		No	No	No	No	No	
Maximum Recall	No	No		No	No		No	No	No	No	No	
Pedestrian Recall	No	No		No	No		No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	5.30	5.30	5.30	5.30	5.10	5.10	5.30	5.10	5.10
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.30	0.00	3.30	0.00	3.10	0.00	0.00	3.10
g_i, Effective Green Time [s]	25	10	25	10	25	11	26	25	13
g / C, Green / Cycle	0.42	0.16	0.42	0.17	0.41	0.18	0.43	0.41	0.21
(v / s)_i Volume / Saturation Flow Rate	0.13	0.30	0.10	0.30	0.04	0.07	0.07	0.06	0.13
s, saturation flow rate [veh/h]	986	1798	1351	1844	1404	1870	1589	1437	1725
c, Capacity [veh/h]	687	293	601	308	620	339	679	698	369
d1, Uniform Delay [s]	11.98	25.19	12.03	25.05	11.21	21.78	10.65	11.14	21.37
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.58	388.96	0.19	358.86	0.06	0.80	0.12	0.08	1.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.18	1.84	0.23	1.77	0.09	0.41	0.17	0.13	0.61
d, Delay for Lane Group [s/veh]	12.55	414.14	12.22	383.91	11.27	22.58	10.77	11.22	23.00
Lane Group LOS	B	F	B	F	B	C	B	B	C
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.96	35.32	0.91	34.45	0.38	1.63	0.81	0.64	2.70
50th-Percentile Queue Length [ft/ln]	24.04	883.10	22.82	861.24	9.50	40.65	20.23	16.01	67.45
95th-Percentile Queue Length [veh/ln]	1.73	55.73	1.64	54.22	0.68	2.93	1.46	1.15	4.86
95th-Percentile Queue Length [ft/ln]	43.28	1393.32	41.08	1355.48	17.10	73.17	36.42	28.83	121.40

Movement, Approach, & Intersection Results

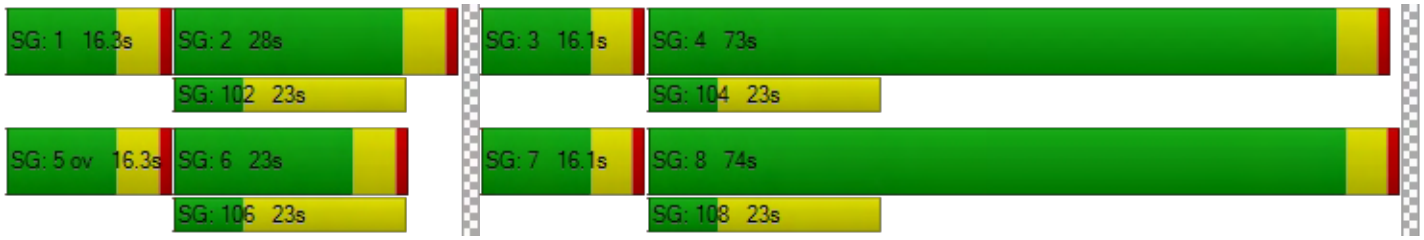
d_M, Delay for Movement [s/veh]	12.55	414.14	414.14	12.22	383.91	383.91	11.27	22.58	10.77	11.22	23.00	23.00
Movement LOS	B	F	F	B	F	F	B	C	B	B	C	C
d_A, Approach Delay [s/veh]	338.81			309.25			16.14			19.61		
Approach LOS	F			F			B			B		
d_I, Intersection Delay [s/veh]	226.43											
Intersection LOS	F											
Intersection V/C	0.701											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	20.05	20.05	20.05	20.05
l_p,int, Pedestrian LOS Score for Intersection	2.540	2.620	2.338	2.265
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	756	589	263	296
d_b, Bicycle Delay [s]	11.63	14.95	22.66	21.80
l_b,int, Bicycle LOS Score for Intersection	2.650	2.685	2.073	2.081
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Beaumont Ave (NS) at Cougar Way (EW)

Control Type:	Signalized	Delay (sec / veh):	14.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.600

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Cougar Way			Cougar Way		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	310.00	100.00	235.00	303.00	100.00	174.00	200.00	100.00	98.00	221.00	100.00	224.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Beaumont Ave			Beaumont Ave			Cougar Way			Cougar Way		
Base Volume Input [veh/h]	4	390	150	81	382	2	7	4	15	111	4	72
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	79	7	0	69	0	0	0	0	7	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	556	191	99	537	2	8	5	18	143	5	89
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	146	50	26	141	1	2	1	5	38	1	23
Total Analysis Volume [veh/h]	5	585	201	104	565	2	8	5	19	151	5	94
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	3	4	0	3	4	0	0	4	0	0	4	0
Maximum Green [s]	14	30	0	14	30	0	0	60	0	0	60	0
Amber [s]	3.0	4.2	0.0	3.0	4.2	0.0	0.0	4.2	0.0	0.0	4.2	0.0
All red [s]	2.0	1.5	0.0	2.0	1.5	0.0	0.0	1.4	0.0	0.0	1.4	0.0
Split [s]	10	29	0	20	39	0	0	11	0	0	11	0
Vehicle Extension [s]	3.0	4.2	0.0	3.0	4.2	0.0	0.0	4.2	0.0	0.0	4.2	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	20	0	0	16	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.7	0.0	3.0	3.7	0.0	0.0	3.6	0.0	0.0	3.6	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	5.00	5.70	5.70	5.00	5.70	5.70	5.60	5.60	5.60	5.60	5.60	5.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.70	3.70	3.00	3.70	3.70	3.60	3.60	3.60	3.60	3.60	3.60
g_i, Effective Green Time [s]	0	34	34	5	38	38	5	5	5	5	5	5
g / C, Green / Cycle	0.00	0.56	0.56	0.08	0.63	0.63	0.09	0.09	0.09	0.09	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.00	0.31	0.13	0.06	0.30	0.00	0.01	0.00	0.01	0.11	0.00	0.06
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1870	1589	1296	1870	1589	1387	1870	1589
c, Capacity [veh/h]	8	1047	890	138	1183	1006	199	171	146	205	171	146
d1, Uniform Delay [s]	29.87	8.47	6.66	27.18	5.81	4.06	26.64	24.87	25.10	29.02	24.87	26.36
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.17	0.17	0.17	0.17	0.17	0.17
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	59.66	2.15	0.59	8.14	1.38	0.00	0.12	0.10	0.61	7.63	0.10	7.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.62	0.56	0.23	0.76	0.48	0.00	0.04	0.03	0.13	0.74	0.03	0.65
d, Delay for Lane Group [s/veh]	89.53	10.62	7.25	35.32	7.19	4.06	26.77	24.98	25.72	36.64	24.98	33.49
Lane Group LOS	F	B	A	D	A	A	C	C	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.20	4.02	1.06	1.64	2.70	0.01	0.11	0.07	0.27	2.52	0.06	1.47
50th-Percentile Queue Length [ft/ln]	4.98	100.49	26.57	41.09	67.54	0.16	2.79	1.69	6.63	63.11	1.61	36.75
95th-Percentile Queue Length [veh/ln]	0.36	7.24	1.91	2.96	4.86	0.01	0.20	0.12	0.48	4.54	0.12	2.65
95th-Percentile Queue Length [ft/ln]	8.97	180.88	47.82	73.96	121.57	0.29	5.02	3.05	11.94	113.59	2.89	66.15

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	89.53	10.62	7.25	35.32	7.19	4.06	26.77	24.98	25.72	36.64	24.98	33.49
Movement LOS	F	B	A	D	A	A	C	C	C	D	C	C
d_A, Approach Delay [s/veh]	10.26			11.54			25.86			35.22		
Approach LOS	B			B			C			D		
d_I, Intersection Delay [s/veh]	14.62											
Intersection LOS	B											
Intersection V/C	0.600											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	776	1109	180	180
d_b, Bicycle Delay [s]	11.25	5.96	24.87	24.87
l_b,int, Bicycle LOS Score for Intersection	2.865	2.667	1.612	1.972
Bicycle LOS	C	B	A	A

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Beaumont Ave (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	82.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.609

Intersection Setup

Name	Beaumont Ave		Beaumont Ave		Project Dwy	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0
Entry Pocket Length [ft]	150.00	100.00	150.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Beaumont Ave		Beaumont Ave		Project Dwy	
Base Volume Input [veh/h]	455	81	125	426	50	42
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	105	0	0	108	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	662	99	153	629	61	52
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	174	26	40	166	16	14
Total Analysis Volume [veh/h]	697	104	161	662	64	55
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.20	0.01	0.61	0.09
d_M, Delay for Movement [s/veh]	0.00	0.00	10.48	0.00	82.05	11.61
Movement LOS	A	A	B	A	F	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.73	0.00	2.96	0.30
95th-Percentile Queue Length [ft/ln]	0.00	0.00	18.22	0.00	74.02	7.55
d_A, Approach Delay [s/veh]	0.00		2.05		49.49	
Approach LOS	A		A		E	
d_I, Intersection Delay [s/veh]	4.35					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 4: Beaumont Ave (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	62.3
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.854

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	102.00	100.00	100.00	145.00	100.00	100.00	125.00	100.00	100.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			45.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Base Volume Input [veh/h]	69	317	64	72	289	118	181	305	70	101	297	72
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	118	25	46	32	18	58	60	128	100	33	124	20
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	202	413	124	121	372	203	282	502	186	157	488	109
Peak Hour Factor	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	53	108	32	32	97	53	74	131	49	41	127	28
Total Analysis Volume [veh/h]	211	431	129	126	388	212	294	524	194	164	509	114
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	6	0	5	6	0	5	4	0	5	4	0
Maximum Green [s]	16	40	0	16	40	0	16	16	0	16	16	0
Amber [s]	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	30	0	12	29	0	25	42	0	12	29	0
Vehicle Extension [s]	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	17	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	2.5	0.0	2.5	2.5	0.0	2.5	2.5	0.0	2.5	2.5	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
g_i, Effective Green Time [s]	9	11	11	5	8	8	12	19	19	7	14	14
g / C, Green / Cycle	0.14	0.18	0.18	0.09	0.13	0.13	0.20	0.32	0.32	0.12	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.12	0.16	0.16	0.07	0.17	0.17	0.17	0.20	0.20	0.09	0.17	0.17
s, saturation flow rate [veh/h]	1781	1870	1724	1781	1870	1651	1781	1870	1700	1781	1870	1753
c, Capacity [veh/h]	252	331	305	162	236	209	348	591	538	207	443	415
d1, Uniform Delay [s]	25.11	24.10	24.12	26.70	26.25	26.25	23.28	17.58	17.58	25.86	21.14	21.15
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.15	0.15	0.04	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.81	26.59	28.68	2.99	179.83	186.92	2.17	1.62	1.78	2.62	3.23	3.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.88	0.88	0.78	1.34	1.35	0.84	0.64	0.64	0.79	0.73	0.73
d, Delay for Lane Group [s/veh]	27.92	50.70	52.79	29.69	206.07	213.16	25.46	19.20	19.36	28.48	24.37	24.61
Lane Group LOS	C	D	D	C	F	F	C	B	B	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.82	6.02	5.74	1.74	14.85	13.52	3.68	3.96	3.62	2.25	4.13	3.91
50th-Percentile Queue Length [ft/ln]	70.62	150.42	143.43	43.46	371.21	338.08	92.05	99.00	90.61	56.32	103.26	97.74
95th-Percentile Queue Length [veh/ln]	5.08	10.04	9.67	3.13	23.69	21.90	6.63	7.13	6.52	4.06	7.44	7.04
95th-Percentile Queue Length [ft/ln]	127.12	250.99	241.63	78.23	592.21	547.41	165.69	178.20	163.10	101.38	185.88	175.93

Movement, Approach, & Intersection Results

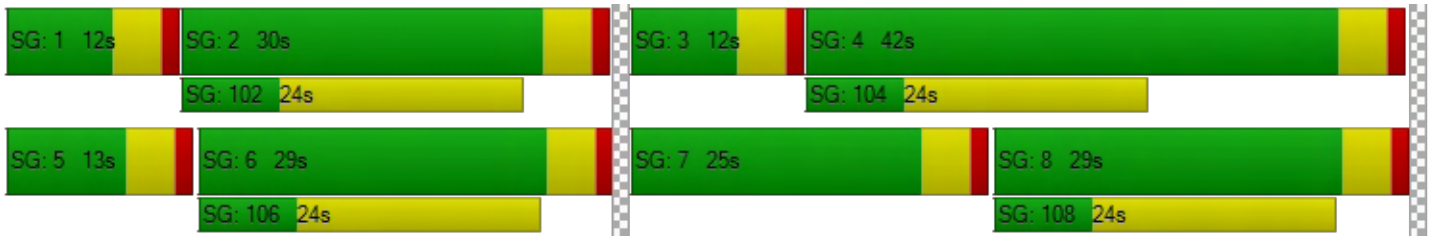
d_M, Delay for Movement [s/veh]	27.92	51.38	52.79	29.69	207.36	213.16	25.46	19.25	19.36	28.48	24.46	24.61
Movement LOS	C	D	D	C	F	F	C	B	B	C	C	C
d_A, Approach Delay [s/veh]	45.20			178.22			21.07			25.32		
Approach LOS	D			F			C			C		
d_I, Intersection Delay [s/veh]	62.34											
Intersection LOS	E											
Intersection V/C	0.854											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	20.03	20.03	20.03	20.03
l_p,int, Pedestrian LOS Score for Intersection	2.759	2.684	2.846	2.634
Crosswalk LOS	C	B	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	849	816	1249	816
d_b, Bicycle Delay [s]	9.94	10.52	4.23	10.52
l_b,int, Bicycle LOS Score for Intersection	2.196	2.159	2.395	2.209
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Beaumont Ave (NS) at 12th St (EW)

Control Type:	All-way stop	Delay (sec / veh):	22.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.699

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			12th St			12th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			12th St			12th St		
Base Volume Input [veh/h]	18	361	17	22	393	32	55	24	27	14	16	19
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	177	1	6	138	6	6	0	1	1	0	6
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	23	619	22	33	619	45	74	30	34	18	20	29
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	163	6	9	163	12	19	8	9	5	5	8
Total Analysis Volume [veh/h]	24	652	23	35	652	47	78	32	36	19	21	31
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	500	506	495	499	552	404	457	401	447
Degree of Utilization, x	0.70	0.69	0.69	0.69	0.09	0.27	0.08	0.10	0.07

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	5.42	5.29	5.31	5.23	0.28	1.09	0.25	0.33	0.22
95th-Percentile Queue Length [ft]	135.40	132.25	132.80	130.86	6.95	27.22	6.37	8.25	5.57
Approach Delay [s/veh]	24.63		23.69			13.99		12.10	
Approach LOS	C		C			B		B	
Intersection Delay [s/veh]	22.73								
Intersection LOS	C								

Intersection Level Of Service Report
Intersection 6: Beaumont Ave (NS) at 10th St (EW)

Control Type:	All-way stop	Delay (sec / veh):	19.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.640

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			10th St			10th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			10th St			10th St		
Base Volume Input [veh/h]	27	367	45	25	386	11	18	14	17	12	11	15
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	167	1	6	128	6	6	0	1	1	0	6
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	617	56	37	601	20	28	17	22	16	14	24
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	162	15	10	158	5	7	4	6	4	4	6
Total Analysis Volume [veh/h]	36	649	59	39	633	21	29	18	23	17	15	25
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	535	540	602	531	535	597	425	480	454
Degree of Utilization, x	0.64	0.64	0.10	0.63	0.63	0.04	0.11	0.05	0.13

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	4.50	4.43	0.32	4.39	4.32	0.11	0.37	0.15	0.43
95th-Percentile Queue Length [ft]	112.39	110.63	8.10	109.80	107.94	2.73	9.27	3.77	10.67
Approach Delay [s/veh]	19.56			19.96			11.69		12.06
Approach LOS	C			C			B		B
Intersection Delay [s/veh]	19.11								
Intersection LOS	C								

Intersection Level Of Service Report
Intersection 7: Golf Club Dr (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	56.4
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.220

Intersection Setup

Name	Golf Club Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0
Entry Pocket Length [ft]	172.00	100.00	197.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Golf Club Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Base Volume Input [veh/h]	36	85	143	600	473	12
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	0	0	897	783	6
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	105	175	1632	1363	21
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	28	46	429	359	6
Total Analysis Volume [veh/h]	53	111	184	1718	1435	22
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Overlap	Protected	Permissive	Permissive	Permissive
Signal Group	7	4	5	2	6	0
Auxiliary Signal Groups		4,5				
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	5	5	5	10	10	0
Maximum Green [s]	20	25	25	40	40	0
Amber [s]	4.3	3.0	3.0	4.3	4.3	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	26	26	74	94	20	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	4	0	0	4	4	0
Pedestrian Clearance [s]	20	0	0	22	22	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.3	2.0	2.0	3.3	3.3	0.0
Minimum Recall	No	No	No	No	No	
Maximum Recall	No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	5.30	4.00	4.00	5.30	5.30	5.30
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.30	0.00	2.00	3.30	3.30	3.30
g_i, Effective Green Time [s]	3	17	8	46	34	34
g / C, Green / Cycle	0.06	0.28	0.14	0.77	0.56	0.56
(v / s)_i Volume / Saturation Flow Rate	0.03	0.07	0.10	0.92	0.28	0.01
s, saturation flow rate [veh/h]	1781	1589	1781	1870	5094	1589
c, Capacity [veh/h]	101	453	249	1434	2856	891
d1, Uniform Delay [s]	27.58	16.54	24.82	7.01	8.08	5.89
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.14	0.28	4.26	96.08	0.63	0.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.52	0.25	0.74	1.20	0.50	0.02
d, Delay for Lane Group [s/veh]	31.72	16.82	29.09	103.09	8.72	5.94
Lane Group LOS	C	B	C	F	A	A
Critical Lane Group	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.83	1.15	2.51	40.22	2.66	0.10
50th-Percentile Queue Length [ft/ln]	20.79	28.64	62.81	1005.52	66.55	2.41
95th-Percentile Queue Length [veh/ln]	1.50	2.06	4.52	58.76	4.79	0.17
95th-Percentile Queue Length [ft/ln]	37.43	51.54	113.06	1469.00	119.79	4.33

Movement, Approach, & Intersection Results

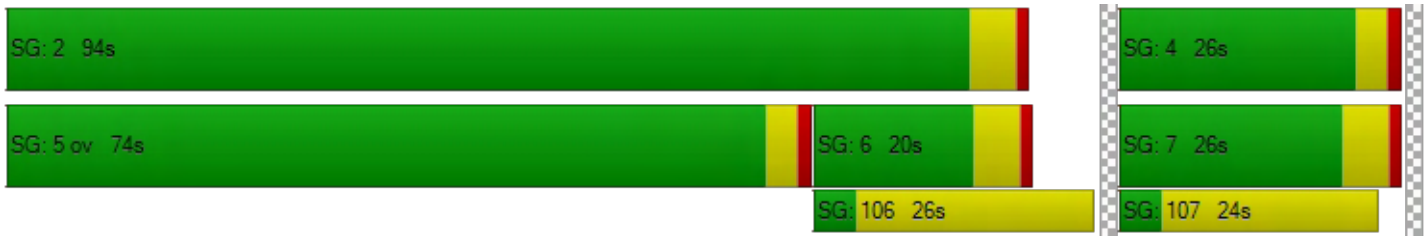
d_M, Delay for Movement [s/veh]	31.72	16.82	29.09	103.09	8.72	5.94
Movement LOS	C	B	C	F	A	A
d_A, Approach Delay [s/veh]	21.64		95.93		8.68	
Approach LOS	C		F		A	
d_I, Intersection Delay [s/veh]	56.39					
Intersection LOS	E					
Intersection V/C	1.220					

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	8.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.57	22.57	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.023	3.291	0.000
Crosswalk LOS	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	689	955	489
d_b, Bicycle Delay [s]	12.91	8.20	17.14
I_b,int, Bicycle LOS Score for Intersection	1.560	4.698	2.361
Bicycle LOS	A	E	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Oak View Dr (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	17.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.864

Intersection Setup

Name	Oak View Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	1
Entry Pocket Length [ft]	200.00	100.00	143.00	100.00	100.00	146.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Oak View Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Base Volume Input [veh/h]	112	153	262	476	334	134
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	6	6	461	298	1
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	138	193	327	1044	707	165
Peak Hour Factor	0.9830	0.9830	0.9830	0.9830	0.9830	0.9830
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	49	83	266	180	42
Total Analysis Volume [veh/h]	140	196	333	1062	719	168
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	40	0	36	45	45	0
Amber [s]	4.0	0.0	4.0	4.0	4.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	49	0	51	71	20	0
Vehicle Extension [s]	2.5	0.0	1.5	3.5	3.5	0.0
Walk [s]	9	0	0	11	11	0
Pedestrian Clearance [s]	10	0	0	13	13	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	0.0	3.0	3.0	3.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	10	10	13	40	22	22
g / C, Green / Cycle	0.16	0.16	0.22	0.67	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.08	0.12	0.19	0.57	0.20	0.11
s, saturation flow rate [veh/h]	1781	1589	1781	1870	3560	1589
c, Capacity [veh/h]	289	258	387	1255	1320	589
d1, Uniform Delay [s]	22.89	24.06	22.66	7.52	14.92	13.31
k, delay calibration	0.08	0.08	0.04	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.93	3.40	2.22	7.15	1.62	1.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.48	0.76	0.86	0.85	0.54	0.29
d, Delay for Lane Group [s/veh]	23.82	27.46	24.88	14.67	16.54	14.53
Lane Group LOS	C	C	C	B	B	B
Critical Lane Group	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.80	2.78	4.13	7.19	3.41	1.50
50th-Percentile Queue Length [ft/ln]	44.91	69.44	103.34	179.74	85.26	37.43
95th-Percentile Queue Length [veh/ln]	3.23	5.00	7.44	11.59	6.14	2.69
95th-Percentile Queue Length [ft/ln]	80.84	124.99	186.01	289.68	153.46	67.37

Movement, Approach, & Intersection Results

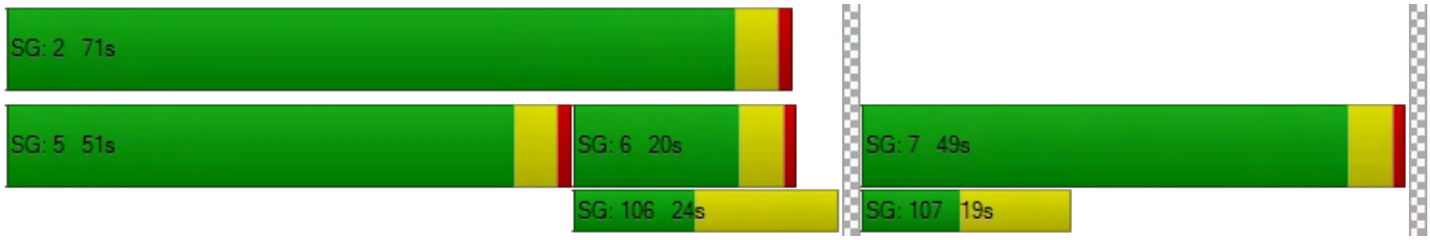
d_M, Delay for Movement [s/veh]	23.82	27.46	24.88	14.67	16.54	14.53
Movement LOS	C	C	C	B	B	B
d_A, Approach Delay [s/veh]	25.95		17.11		16.16	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	17.92					
Intersection LOS	B					
Intersection V/C	0.864					

Other Modes

g_Walk,mi, Effective Walk Time [s]	15.0	13.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	16.91	18.44	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.138	2.990	0.000
Crosswalk LOS	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1465	200	499
d_b, Bicycle Delay [s]	2.15	24.34	16.91
I_b,int, Bicycle LOS Score for Intersection	1.560	3.861	2.291
Bicycle LOS	A	D	B

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Palm Ave (NS) at Oak Valley Pkwy (EW)

Control Type:	All-way stop	Delay (sec / veh):	40.1
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.932

Intersection Setup

Name	Palm Ave			Palm Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	90.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Ave			Palm Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Base Volume Input [veh/h]	46	40	22	37	31	31	49	402	52	16	369	50
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	0	0	0	0	6	6	194	6	0	165	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	62	49	27	45	38	44	66	686	69	20	617	61
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	13	7	12	10	12	17	181	18	5	162	16
Total Analysis Volume [veh/h]	65	52	28	47	40	46	69	722	73	21	649	64
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	362	402	349	367	396	464	476	451	460
Degree of Utilization, x	0.32	0.07	0.13	0.11	0.12	0.93	0.91	0.81	0.80

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.38	0.22	0.46	0.36	0.39	10.91	10.29	7.60	7.29
95th-Percentile Queue Length [ft]	34.39	5.59	11.53	9.09	9.77	272.68	257.27	190.09	182.30
Approach Delay [s/veh]	16.40		13.77			51.60		36.08	
Approach LOS	C		B			F		E	
Intersection Delay [s/veh]	40.12								
Intersection LOS	E								

Opening Year (2025) With Project

Beaumont Village Project

Vistro File: G:\...\AM.vistro
Report File: G:\...\AM OYP.pdf

Scenario 4 Opening Year (2025) With Project
1/15/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Beaumont Ave (NS) at Brookside Ave (EW)	Signalized	HCM 7th Edition	WB Thru	0.978	88.4	F
2	Beaumont Ave (NS) at Cougar Way (EW)	Signalized	HCM 7th Edition	EB Left	0.839	30.0	C
3	Beaumont Ave (NS) at Project Dwy (EW)	Two-way stop	HCM 7th Edition	EB Left	5.145	2,266.1	F
4	Beaumont Ave (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	NB Right	1.855	1,206.4	F
5	Beaumont Ave (NS) at 12th St (EW)	All-way stop	HCM 7th Edition	NB Left	1.060	71.7	F
6	Beaumont Ave (NS) at 10th St (EW)	All-way stop	HCM 7th Edition	SB Left	0.811	29.4	D
7	Golf Club Dr (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	EB Left	0.893	11.4	B
8	Oak View Dr (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	WB Thru	0.872	38.6	D
9	Palm Ave (NS) at Oak Valley Pkwy (EW)	All-way stop	HCM 7th Edition	WB Left	1.354	118.9	F
10	Beaumont Ave (NS) at Project Dwy 2 (EW)	Two-way stop	HCM 7th Edition	EB Right	0.036	12.5	B
11	Project Dwy 3 (NS) at Oak Valley Pkwy (EW)	Two-way stop	HCM 7th Edition	SB Left	0.224	25.4	D
12	Project Dwy 4 (NS) at Oak Valley Pkwy (EW)	Two-way stop	HCM 7th Edition	SB Right	0.139	13.9	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Beaumont Ave (NS) at Brookside Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	88.4
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.978

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Brookside Ave			Brookside Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	200.00	100.00	100.00	266.00	100.00	175.00	152.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			50.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			Brookside Ave			Brookside Ave		
Base Volume Input [veh/h]	256	577	23	91	370	28	53	179	244	55	261	153
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	16	42	10	0	46	6	17	34	29	12	41	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	330	748	39	112	499	40	81	254	328	80	361	187
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	87	197	10	29	131	11	21	67	86	21	95	49
Total Analysis Volume [veh/h]	347	787	41	118	525	42	85	267	345	84	380	197
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	5	2	0	1	6	0	7	4	4	3	8	0
Auxiliary Signal Groups									4,5			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	11	11	0	11	11	0	11	11	11	11	11	0
Maximum Green [s]	30	30	0	30	30	0	30	30	30	30	30	0
Amber [s]	4.3	4.3	0.0	4.3	4.3	0.0	4.1	4.1	4.1	4.1	4.1	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	24	48	0	18	42	0	17	37	37	17	37	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	7	0	7	0
Pedestrian Clearance [s]	0	16	0	0	16	0	0	16	16	0	16	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.3	3.3	0.0	3.3	3.3	0.0	3.1	3.1	3.1	3.1	3.1	0.0
Minimum Recall	No	No		No	No		No	No	No	No	No	
Maximum Recall	No	No		No	No		No	No	No	No	No	
Pedestrian Recall	No	No		No	No		No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.30	5.30	5.30	5.30	5.10	5.10	5.30	5.10	5.10
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.30	0.00	3.30	0.00	3.10	0.00	0.00	3.10
g_i, Effective Green Time [s]	61	45	61	37	49	33	57	49	33
g / C, Green / Cycle	0.51	0.37	0.51	0.31	0.41	0.28	0.48	0.41	0.28
(v / s)_i Volume / Saturation Flow Rate	0.29	0.45	0.13	0.31	0.08	0.14	0.22	0.08	0.33
s, saturation flow rate [veh/h]	1183	1854	921	1846	1097	1870	1589	1078	1764
c, Capacity [veh/h]	436	692	308	568	306	518	756	426	489
d1, Uniform Delay [s]	31.39	37.60	24.66	41.54	27.18	36.57	21.08	23.28	43.38
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11	0.27	0.11	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.00	102.01	0.78	37.55	0.49	0.79	1.09	0.22	100.80
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	1.20	0.38	1.00	0.28	0.52	0.46	0.20	1.18
d, Delay for Lane Group [s/veh]	45.39	139.60	25.44	79.09	27.67	37.36	22.17	23.50	144.18
Lane Group LOS	D	F	C	E	C	D	C	C	F
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.34	39.03	1.67	21.73	1.51	6.57	6.45	1.48	27.70
50th-Percentile Queue Length [ft/ln]	183.58	975.72	41.65	543.26	37.72	164.26	161.25	36.90	692.39
95th-Percentile Queue Length [veh/ln]	11.79	55.45	3.00	29.38	2.72	10.77	10.61	2.66	40.05
95th-Percentile Queue Length [ft/ln]	294.69	1386.33	74.96	734.39	67.90	269.36	265.37	66.42	1001.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.39	139.60	139.60	25.44	79.09	79.09	27.67	37.36	22.17	23.50	144.18	144.18
Movement LOS	D	F	F	C	E	E	C	D	C	C	F	F
d_A, Approach Delay [s/veh]	111.78			69.85			28.66			128.85		
Approach LOS	F			E			C			F		
d_I, Intersection Delay [s/veh]	88.36											
Intersection LOS	F											
Intersection V/C	0.978											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.51	49.51	49.51	49.51
l_p,int, Pedestrian LOS Score for Intersection	2.912	2.940	2.781	2.490
Crosswalk LOS	C	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	712	612	532	532
d_b, Bicycle Delay [s]	24.90	28.91	32.34	32.34
l_b,int, Bicycle LOS Score for Intersection	3.498	2.690	2.710	2.650
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Beaumont Ave (NS) at Cougar Way (EW)

Control Type:	Signalized	Delay (sec / veh):	30.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.839

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Cougar Way			Cougar Way		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	310.00	100.00	235.00	303.00	100.00	174.00	200.00	100.00	98.00	221.00	100.00	224.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Beaumont Ave			Beaumont Ave			Cougar Way			Cougar Way		
Base Volume Input [veh/h]	197	616	146	63	354	140	117	119	201	95	157	164
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	68	10	0	87	0	0	0	0	12	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	242	823	188	77	521	171	144	146	246	128	192	201
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	217	49	20	137	45	38	38	65	34	51	53
Total Analysis Volume [veh/h]	255	866	198	81	548	180	152	154	259	135	202	212
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	3	4	0	3	4	0	0	4	0	0	4	0
Maximum Green [s]	14	30	0	14	30	0	0	60	0	0	60	0
Amber [s]	3.0	4.2	0.0	3.0	4.2	0.0	0.0	4.2	0.0	0.0	4.2	0.0
All red [s]	2.0	1.5	0.0	2.0	1.5	0.0	0.0	1.4	0.0	0.0	1.4	0.0
Split [s]	15	34	0	9	28	0	0	17	0	0	17	0
Vehicle Extension [s]	3.0	4.2	0.0	3.0	4.2	0.0	0.0	4.2	0.0	0.0	4.2	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	20	0	0	16	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.7	0.0	3.0	3.7	0.0	0.0	3.6	0.0	0.0	3.6	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	5.00	5.70	5.70	5.00	5.70	5.70	5.60	5.60	5.60	5.60	5.60	5.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.70	3.70	3.00	3.70	3.70	3.60	3.60	3.60	3.60	3.60	3.60
g_i, Effective Green Time [s]	10	29	29	4	22	22	11	11	11	11	11	11
g / C, Green / Cycle	0.17	0.48	0.48	0.06	0.37	0.37	0.19	0.19	0.19	0.19	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.14	0.46	0.12	0.05	0.29	0.11	0.16	0.08	0.16	0.14	0.11	0.13
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1870	1589	972	1870	1589	973	1870	1589
c, Capacity [veh/h]	296	893	759	106	693	589	188	360	306	213	360	306
d1, Uniform Delay [s]	24.43	15.32	9.40	27.90	16.87	13.45	29.17	21.41	23.47	28.13	22.02	22.67
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.17	0.17	0.17	0.17	0.17	0.17
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.64	23.69	0.84	10.73	8.95	1.34	11.80	1.23	9.46	4.72	2.09	4.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.86	0.97	0.26	0.76	0.79	0.31	0.81	0.43	0.85	0.63	0.56	0.69
d, Delay for Lane Group [s/veh]	32.08	39.01	10.23	38.63	25.82	14.79	40.96	22.64	32.92	32.85	24.12	26.93
Lane Group LOS	C	D	B	D	C	B	D	C	C	C	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	3.78	14.53	1.39	1.37	7.28	1.67	2.75	1.94	4.16	2.10	2.51	2.85
50th-Percentile Queue Length [ft/ln]	94.45	363.24	34.74	34.17	181.89	41.82	68.75	48.59	104.00	52.56	62.80	71.24
95th-Percentile Queue Length [veh/ln]	6.80	20.78	2.50	2.46	11.70	3.01	4.95	3.50	7.49	3.78	4.52	5.13
95th-Percentile Queue Length [ft/ln]	170.01	519.52	62.54	61.51	292.48	75.28	123.75	87.46	187.20	94.61	113.04	128.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.08	39.01	10.23	38.63	25.82	14.79	40.96	22.64	32.92	32.85	24.12	26.93
Movement LOS	C	D	B	D	C	B	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	33.35			24.65			32.28			27.35		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	29.98											
Intersection LOS	C											
Intersection V/C	0.839											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	941	742	379	379
d_b, Bicycle Delay [s]	8.42	11.89	19.74	19.74
l_b,int, Bicycle LOS Score for Intersection	3.736	2.894	2.492	2.465
Bicycle LOS	D	C	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Beaumont Ave (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	2,266.1
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	5.145

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Project Dwy			Project Dwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Beaumont Ave			Beaumont Ave			Project Dwy			Project Dwy		
Base Volume Input [veh/h]	0	992	23	90	635	0	0	0	0	13	0	22
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	63	74	0	0	81	27	32	0	48	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	62	-62	0	0	-26	26	62	0	26	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	125	1227	29	110	833	53	94	0	74	16	0	27
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	323	8	29	219	14	25	0	19	4	0	7
Total Analysis Volume [veh/h]	132	1292	31	116	877	56	99	0	78	17	0	28
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.18	0.01	0.00	0.22	0.01	0.00	5.14	0.00	0.14	1.35	0.00	0.07
d_M, Delay for Movement [s/veh]	11.02	0.00	0.00	13.94	0.00	0.00	2266.09	285.23	12.74	797.53	290.09	14.56
Movement LOS	B	A	A	B	A	A	F	F	B	F	F	B
95th-Percentile Queue Length [veh/ln]	0.66	0.00	0.00	0.85	0.00	0.00	12.86	0.50	0.50	2.82	0.22	0.22
95th-Percentile Queue Length [ft/ln]	16.43	0.00	0.00	21.28	0.00	0.00	321.43	12.48	12.48	70.46	5.55	5.55
d_A, Approach Delay [s/veh]	1.00			1.54			1273.09			310.35		
Approach LOS	A			A			F			F		
d_I, Intersection Delay [s/veh]	88.91											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 4: Beaumont Ave (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	1,206.4
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.855

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	102.00	100.00	100.00	145.00	100.00	100.00	125.00	100.00	100.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			45.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Base Volume Input [veh/h]	101	560	70	85	337	223	288	304	101	88	343	130
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	99	26	19	36	51	42	65	99	101	37	117	46
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	223	712	105	141	464	315	418	472	225	145	537	205
Peak Hour Factor	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	183	27	36	119	81	107	121	58	37	138	53
Total Analysis Volume [veh/h]	229	732	108	145	477	324	430	485	231	149	552	211
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	6	0	5	6	0	5	4	0	5	4	0
Maximum Green [s]	16	40	0	16	40	0	16	16	0	16	16	0
Amber [s]	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	17	33	0	13	29	0	28	43	0	14	29	0
Vehicle Extension [s]	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	17	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	2.5	0.0	2.5	2.5	0.0	2.5	2.5	0.0	2.5	2.5	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	67	67	67	67	67	67	67	67	67	67	67	67
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
g_i, Effective Green Time [s]	12	1	1	7	63	63	23	32	32	9	18	18
g / C, Green / Cycle	0.19	0.02	0.02	0.10	0.93	0.93	0.35	0.47	0.47	0.14	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.34	0.23	0.23	0.08	0.23	0.23	0.63	0.20	0.20	0.22	0.21	0.21
s, saturation flow rate [veh/h]	679	1870	1787	1781	1870	1621	679	1870	1669	679	1870	1696
c, Capacity [veh/h]	199	32	31	183	1747	1515	303	883	788	168	498	452
d1, Uniform Delay [s]	29.80	33.09	33.09	29.52	0.19	0.19	24.76	11.75	11.76	30.72	23.04	23.04
k, delay calibration	0.50	0.50	0.50	0.04	0.50	0.50	0.50	0.15	0.15	0.31	0.17	0.17
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	111.33	5603.91	5609.24	2.95	0.33	0.39	205.96	0.47	0.53	31.92	4.81	5.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.15	13.32	13.33	0.79	0.25	0.25	1.42	0.43	0.43	0.88	0.80	0.80
d, Delay for Lane Group [s/veh]	141.13	5636.99	5642.32	32.48	0.52	0.57	230.72	12.22	12.29	62.64	27.85	28.33
Lane Group LOS	F	F	F	C	A	A	F	B	B	E	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	9.19	50.68	48.48	2.27	0.16	0.16	21.96	3.10	2.79	3.89	6.07	5.57
50th-Percentile Queue Length [ft/ln]	229.79	1266.96	1211.90	56.86	4.06	4.06	548.97	77.43	69.72	97.22	151.80	139.24
95th-Percentile Queue Length [veh/ln]	15.10	71.26	68.42	4.09	0.29	0.29	35.56	5.58	5.02	7.00	10.11	9.44
95th-Percentile Queue Length [ft/ln]	377.62	1781.58	1710.42	102.34	7.32	7.32	889.12	139.38	125.49	175.00	252.83	235.99

Movement, Approach, & Intersection Results

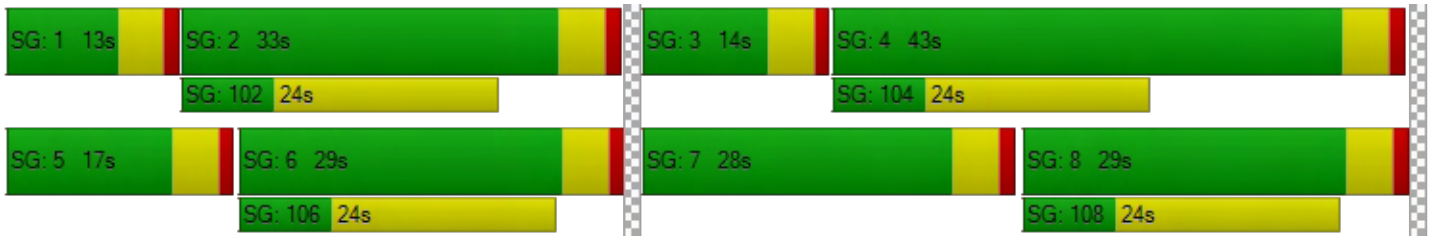
d_M, Delay for Movement [s/veh]	141.13	5639.20	5642.32	32.48	0.53	0.57	230.72	12.23	12.29	62.64	27.98	28.33
Movement LOS	F	F	F	C	A	A	F	B	B	E	C	C
d_A, Approach Delay [s/veh]	4461.72			5.44			94.22			33.72		
Approach LOS	F			A			F			C		
d_I, Intersection Delay [s/veh]	1206.35											
Intersection LOS	F											
Intersection V/C	1.855											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	23.58	23.58	23.58	23.58
l_p,int, Pedestrian LOS Score for Intersection	3.066	3.499	3.268	2.659
Crosswalk LOS	C	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	846	727	1143	727
d_b, Bicycle Delay [s]	11.21	13.63	6.18	13.63
l_b,int, Bicycle LOS Score for Intersection	2.442	2.340	2.505	2.312
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Beaumont Ave (NS) at 12th St (EW)

Control Type:	All-way stop	Delay (sec / veh):	71.7
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.060

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			12th St			12th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			12th St			12th St		
Base Volume Input [veh/h]	8	538	20	23	458	28	134	42	25	26	24	27
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	120	0	10	169	10	12	0	0	0	0	12
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	779	24	39	730	44	176	52	31	32	30	45
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	205	6	10	192	12	46	14	8	8	8	12
Total Analysis Volume [veh/h]	11	820	25	41	768	46	185	55	33	34	32	47
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	428	428	405	405	439	334	372	317	346
Degree of Utilization, x	1.06	1.05	1.01	1.00	0.10	0.72	0.09	0.21	0.14

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	14.26	14.10	12.47	12.33	0.35	5.27	0.29	0.77	0.47
95th-Percentile Queue Length [ft]	356.59	352.40	311.72	308.16	8.73	131.83	7.26	19.21	11.63
Approach Delay [s/veh]	90.53		72.41			33.81		16.04	
Approach LOS	F		F			D		C	
Intersection Delay [s/veh]	71.74								
Intersection LOS	F								

Intersection Level Of Service Report
Intersection 6: Beaumont Ave (NS) at 10th St (EW)

Control Type:	All-way stop	Delay (sec / veh):	29.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.811

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			10th St			10th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			10th St			10th St		
Base Volume Input [veh/h]	10	488	19	23	468	18	29	15	12	12	14	32
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	96	0	10	149	10	12	0	0	0	0	12
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	693	23	39	722	32	48	18	15	15	17	51
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	182	6	10	190	8	13	5	4	4	4	13
Total Analysis Volume [veh/h]	14	729	24	41	760	34	51	19	16	16	18	54
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	490	490	543	494	497	551	383	431	417
Degree of Utilization, x	0.76	0.76	0.04	0.81	0.81	0.06	0.18	0.04	0.21

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	6.56	6.52	0.14	7.75	7.62	0.20	0.66	0.12	0.79
95th-Percentile Queue Length [ft]	163.89	162.96	3.47	193.66	190.56	4.92	16.49	2.88	19.71
Approach Delay [s/veh]	29.00			32.97			13.66		13.94
Approach LOS	D			D			B		B
Intersection Delay [s/veh]	29.38								
Intersection LOS	D								

Intersection Level Of Service Report
Intersection 7: Golf Club Dr (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	11.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.893

Intersection Setup

Name	Golf Club Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0
Entry Pocket Length [ft]	172.00	100.00	197.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Golf Club Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Base Volume Input [veh/h]	79	41	37	627	706	50
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	0	0	388	510	10
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	109	51	45	1155	1375	71
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	13	12	304	362	19
Total Analysis Volume [veh/h]	115	54	47	1216	1447	75
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Overlap	Protected	Permissive	Permissive	Permissive
Signal Group	7	4	5	2	6	0
Auxiliary Signal Groups		4,5				
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	5	5	5	10	10	0
Maximum Green [s]	20	25	25	40	40	0
Amber [s]	4.3	3.0	3.0	4.3	4.3	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	26	26	74	94	20	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	4	0	0	4	4	0
Pedestrian Clearance [s]	20	0	0	22	22	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.3	2.0	2.0	3.3	3.3	0.0
Minimum Recall	No	No	No	No	No	
Maximum Recall	No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	5.30	4.00	4.00	5.30	5.30	5.30
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.30	0.00	2.00	3.30	3.30	3.30
g_i, Effective Green Time [s]	5	13	3	44	38	38
g / C, Green / Cycle	0.09	0.22	0.05	0.74	0.62	0.62
(v / s)_i Volume / Saturation Flow Rate	0.06	0.03	0.03	0.65	0.28	0.05
s, saturation flow rate [veh/h]	1781	1589	1781	1870	5094	1589
c, Capacity [veh/h]	156	354	84	1377	3172	990
d1, Uniform Delay [s]	26.78	18.81	28.05	5.98	5.98	4.50
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.67	0.20	5.69	8.50	0.48	0.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.15	0.56	0.88	0.46	0.08
d, Delay for Lane Group [s/veh]	33.45	19.01	33.74	14.48	6.46	4.64
Lane Group LOS	C	B	C	B	A	A
Critical Lane Group	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.84	0.60	0.73	6.11	1.96	0.25
50th-Percentile Queue Length [ft/ln]	45.90	14.94	18.23	152.75	49.06	6.35
95th-Percentile Queue Length [veh/ln]	3.31	1.08	1.31	10.16	3.53	0.46
95th-Percentile Queue Length [ft/ln]	82.63	26.90	32.82	254.09	88.31	11.43

Movement, Approach, & Intersection Results

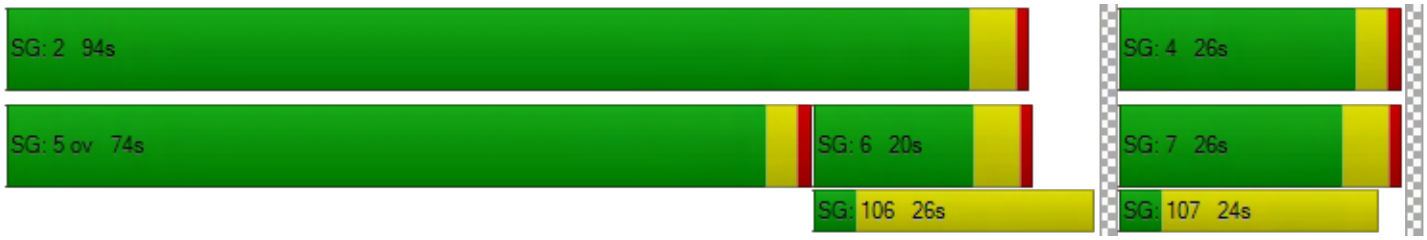
d_M, Delay for Movement [s/veh]	33.45	19.01	33.74	14.48	6.46	4.64
Movement LOS	C	B	C	B	A	A
d_A, Approach Delay [s/veh]	28.83		15.20		6.37	
Approach LOS	C		B		A	
d_I, Intersection Delay [s/veh]	11.43					
Intersection LOS	B					
Intersection V/C	0.893					

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	8.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.57	22.57	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.001	3.091	0.000
Crosswalk LOS	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	689	955	489
d_b, Bicycle Delay [s]	12.91	8.20	17.14
I_b,int, Bicycle LOS Score for Intersection	1.560	3.644	2.397
Bicycle LOS	A	D	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Oak View Dr (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	38.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.872

Intersection Setup

Name	Oak View Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	1
Entry Pocket Length [ft]	200.00	100.00	143.00	100.00	100.00	146.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Oak View Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Base Volume Input [veh/h]	188	211	350	459	473	279
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	3	2	175	407	11
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	248	262	431	737	987	353
Peak Hour Factor	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	63	67	110	188	252	90
Total Analysis Volume [veh/h]	253	267	440	752	1007	360
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	40	0	36	45	45	0
Amber [s]	4.0	0.0	4.0	4.0	4.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	49	0	51	71	20	0
Vehicle Extension [s]	2.5	0.0	1.5	3.5	3.5	0.0
Walk [s]	9	0	0	11	11	0
Pedestrian Clearance [s]	10	0	0	13	13	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	0.0	3.0	3.0	3.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	13	13	17	37	16	16
g / C, Green / Cycle	0.21	0.21	0.28	0.62	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.14	0.17	0.25	0.40	0.28	0.23
s, saturation flow rate [veh/h]	1781	1589	1781	1870	3560	1589
c, Capacity [veh/h]	375	335	492	1165	939	419
d1, Uniform Delay [s]	21.84	22.52	20.91	7.14	22.15	21.08
k, delay calibration	0.08	0.08	0.04	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.58	3.28	2.35	2.76	50.97	19.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.67	0.80	0.89	0.65	1.07	0.86
d, Delay for Lane Group [s/veh]	23.42	25.80	23.26	9.91	73.12	41.02
Lane Group LOS	C	C	C	A	F	D
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.27	3.68	5.30	4.31	12.19	6.37
50th-Percentile Queue Length [ft/ln]	81.73	92.09	132.56	107.67	304.72	159.24
95th-Percentile Queue Length [veh/ln]	5.88	6.63	9.08	7.71	18.64	10.51
95th-Percentile Queue Length [ft/ln]	147.12	165.77	226.96	192.76	465.89	262.71

Movement, Approach, & Intersection Results

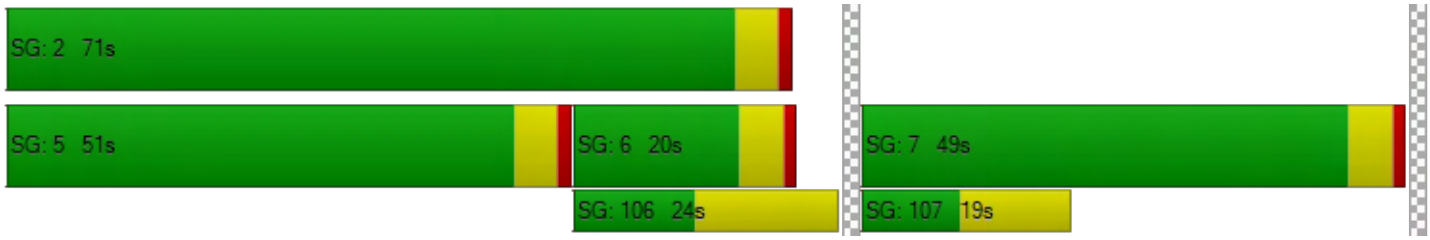
d_M, Delay for Movement [s/veh]	23.42	25.80	23.26	9.91	73.12	41.02
Movement LOS	C	C	C	A	F	D
d_A, Approach Delay [s/veh]	24.65		14.84		64.67	
Approach LOS	C		B		E	
d_I, Intersection Delay [s/veh]	38.62					
Intersection LOS	D					
Intersection V/C	0.872					

Other Modes

g_Walk,mi, Effective Walk Time [s]	15.0	13.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	16.91	18.44	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.268	3.028	0.000
Crosswalk LOS	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1465	200	499
d_b, Bicycle Delay [s]	2.15	24.34	16.91
I_b,int, Bicycle LOS Score for Intersection	1.560	3.526	2.687
Bicycle LOS	A	D	B

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Palm Ave (NS) at Oak Valley Pkwy (EW)

Control Type:	All-way stop	Delay (sec / veh):	118.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.354

Intersection Setup

Name	Palm Ave			Palm Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	90.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Ave			Palm Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Base Volume Input [veh/h]	63	147	27	83	89	75	63	319	61	33	432	145
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	21	0	0	0	0	12	10	126	18	0	167	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	98	181	33	101	109	104	87	517	93	40	696	177
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	48	9	27	29	27	23	136	24	11	183	47
Total Analysis Volume [veh/h]	103	191	35	106	115	109	92	544	98	42	733	186
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	316	342	303	316	337	367	367	481	481
Degree of Utilization, x	0.93	0.10	0.35	0.36	0.32	1.04	1.01	1.35	1.31

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	9.20	0.34	1.52	1.61	1.37	12.70	12.00	23.41	22.39
95th-Percentile Queue Length [ft]	230.08	8.48	37.96	40.24	34.21	317.56	300.02	585.27	559.84
Approach Delay [s/veh]	63.27		19.89			87.47		195.83	
Approach LOS	F		C			F		F	
Intersection Delay [s/veh]	118.85								
Intersection LOS	F								

Intersection Level Of Service Report
Intersection 10: Beaumont Ave (NS) at Project Dwy 2 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	12.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.036

Intersection Setup

Name	Beaumont Ave		Beaumont Ave		Project Dwy 2	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	49.21	0.00	0.00
Speed [mph]	40.00		40.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Beaumont Ave		Beaumont Ave		Project Dwy 2	
Base Volume Input [veh/h]	0	1015	725	0	0	0
Base Volume Adjustment Factor	1.0000	1.1601	1.1601	1.1601	1.0000	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0556	1.0556	1.0556	1.0000	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	106	100	9	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	-9	9	0	9
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1349	979	18	0	17
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	355	258	5	0	4
Total Analysis Volume [veh/h]	0	1420	1031	19	0	18
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	12.51
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.11
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	2.81
d_A, Approach Delay [s/veh]	0.00		0.00		12.51	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.09					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 11: Project Dwy 3 (NS) at Oak Valley Pkwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	25.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.224

Intersection Setup

Name	Project Dwy 3		Oak Valley Pkwy		Oak Valley Pkwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Dwy 3		Oak Valley Pkwy		Oak Valley Pkwy	
Base Volume Input [veh/h]	0	0	0	693	667	0
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	32	8	18	233	222	27
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	18	26	18	-18	-26	26
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	34	36	1064	1013	53
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	9	9	280	267	14
Total Analysis Volume [veh/h]	53	36	38	1120	1066	56
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.22	0.08	0.06	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	25.36	17.78	11.20	0.00	0.00	0.00
Movement LOS	D	C	B	A	A	A
95th-Percentile Queue Length [veh/ln]	1.23	1.23	0.20	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	30.76	30.76	4.90	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	22.29		0.37		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	1.02					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 12: Project Dwy 4 (NS) at Oak Valley Pkwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	13.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.139

Intersection Setup

Name	Project Dwy 4		Oak Valley Pkwy		Oak Valley Pkwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Dwy 4		Oak Valley Pkwy		Oak Valley Pkwy	
Base Volume Input [veh/h]	0	0	0	693	667	0
Base Volume Adjustment Factor	1.0000	1.1601	1.1080	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0556	1.0000	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	27	0	265	222	36
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	35	0	0	-35	35
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	62	0	1114	1004	71
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	16	0	293	264	19
Total Analysis Volume [veh/h]	0	65	0	1173	1057	75
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.14	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	13.94	0.00	0.00	0.00	0.00
Movement LOS		B		A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.48	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	12.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.94		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.38					
Intersection LOS	B					

Beaumont Village Project

Vistro File: G:\...\PM.vistro
Report File: G:\...\PM OYP.pdf

Scenario 4 Opening Year (2025) With Project
1/10/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Beaumont Ave (NS) at Brookside Ave (EW)	Signalized	HCM 7th Edition	NB Thru	0.714	257.9	F
2	Beaumont Ave (NS) at Cougar Way (EW)	Signalized	HCM 7th Edition	NB Left	0.625	14.9	B
3	Beaumont Ave (NS) at Project Dwy (EW)	Two-way stop	HCM 7th Edition	EB Left	2.273	771.8	F
4	Beaumont Ave (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	SB Right	0.936	124.8	F
5	Beaumont Ave (NS) at 12th St (EW)	All-way stop	HCM 7th Edition	SB Left	0.761	27.1	D
6	Beaumont Ave (NS) at 10th St (EW)	All-way stop	HCM 7th Edition	SB Left	0.677	21.1	C
7	Golf Club Dr (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	EB Thru	1.233	59.0	E
8	Oak View Dr (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	SB Right	0.785	23.7	C
9	Palm Ave (NS) at Oak Valley Pkwy (EW)	All-way stop	HCM 7th Edition	EB Left	1.009	50.8	F
10	Beaumont Ave (NS) at Project Dwy 2 (EW)	Two-way stop	HCM 7th Edition	EB Right	0.033	11.5	B
11	Project Dwy 3 (NS) at Oak Valley Pkwy (EW)	Two-way stop	HCM 7th Edition	SB Left	0.199	22.2	C
12	Project Dwy 4 (NS) at Oak Valley Pkwy (EW)	Two-way stop	HCM 7th Edition	SB Right	0.146	13.2	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Beaumont Ave (NS) at Brookside Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	257.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.714

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Brookside Ave			Brookside Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	200.00	100.00	100.00	266.00	100.00	175.00	152.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			50.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			Brookside Ave			Brookside Ave		
Base Volume Input [veh/h]	75	285	88	106	354	18	33	64	75	65	52	84
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	34	54	15	0	52	19	12	54	28	16	49	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	126	403	123	130	486	41	52	132	120	95	112	102
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	106	32	34	128	11	14	35	32	25	29	27
Total Analysis Volume [veh/h]	133	424	129	137	512	43	55	139	126	100	118	107
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	5	2	0	1	6	0	7	4	4	3	8	0
Auxiliary Signal Groups									4,5			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	11	11	0	11	11	0	11	11	11	11	11	0
Maximum Green [s]	30	30	0	30	30	0	30	30	30	30	30	0
Amber [s]	4.3	4.3	0.0	4.3	4.3	0.0	4.1	4.1	4.1	4.1	4.1	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	14	28	0	9	23	0	9	73	73	10	74	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	7	0	7	0
Pedestrian Clearance [s]	0	16	0	0	16	0	0	16	16	0	16	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.3	3.3	0.0	3.3	3.3	0.0	3.1	3.1	3.1	3.1	3.1	0.0
Minimum Recall	No	No		No	No		No	No	No	No	No	
Maximum Recall	No	No		No	No		No	No	No	No	No	
Pedestrian Recall	No	No		No	No		No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	5.30	5.30	5.30	5.30	5.10	5.10	5.30	5.10	5.10
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.30	0.00	3.30	0.00	3.10	0.00	0.00	3.10
g_i, Effective Green Time [s]	25	9	25	10	25	11	26	25	13
g / C, Green / Cycle	0.41	0.16	0.41	0.16	0.42	0.18	0.43	0.42	0.22
(v / s)_i Volume / Saturation Flow Rate	0.13	0.31	0.10	0.30	0.04	0.07	0.08	0.07	0.13
s, saturation flow rate [veh/h]	1019	1796	1352	1845	1401	1870	1589	1437	1725
c, Capacity [veh/h]	694	282	600	292	628	340	685	707	379
d1, Uniform Delay [s]	12.17	25.36	12.19	25.32	11.00	21.77	10.59	10.98	21.06
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.61	445.90	0.19	418.83	0.06	0.79	0.13	0.09	1.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.19	1.96	0.23	1.90	0.09	0.41	0.18	0.14	0.59
d, Delay for Lane Group [s/veh]	12.79	471.26	12.39	444.16	11.06	22.56	10.71	11.07	22.54
Lane Group LOS	B	F	B	F	B	C	B	B	C
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.05	38.48	0.93	37.48	0.37	1.62	0.87	0.70	2.66
50th-Percentile Queue Length [ft/ln]	26.28	961.98	23.19	937.12	9.36	40.62	21.72	17.43	66.54
95th-Percentile Queue Length [veh/ln]	1.89	60.73	1.67	59.06	0.67	2.92	1.56	1.25	4.79
95th-Percentile Queue Length [ft/ln]	47.30	1518.13	41.74	1476.51	16.84	73.12	39.10	31.37	119.78

Movement, Approach, & Intersection Results

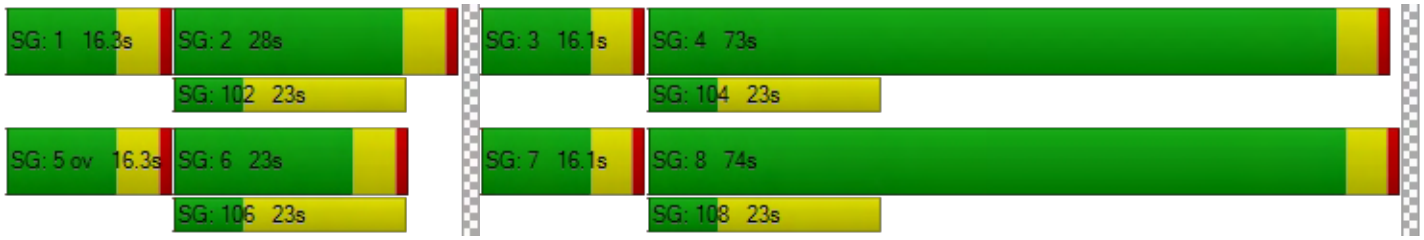
d_M, Delay for Movement [s/veh]	12.79	471.26	471.26	12.39	444.16	444.16	11.06	22.56	10.71	11.07	22.54	22.54
Movement LOS	B	F	F	B	F	F	B	C	B	B	C	C
d_A, Approach Delay [s/veh]	382.37			358.68			15.92			19.01		
Approach LOS	F			F			B			B		
d_I, Intersection Delay [s/veh]	257.93											
Intersection LOS	F											
Intersection V/C	0.714											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	20.05	20.05	20.05	20.05
l_p,int, Pedestrian LOS Score for Intersection	2.565	2.630	2.345	2.271
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	756	589	263	296
d_b, Bicycle Delay [s]	11.63	14.95	22.66	21.80
l_b,int, Bicycle LOS Score for Intersection	2.692	2.701	2.088	2.096
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Beaumont Ave (NS) at Cougar Way (EW)

Control Type:	Signalized	Delay (sec / veh):	14.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.625

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Cougar Way			Cougar Way		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	310.00	100.00	235.00	303.00	100.00	174.00	200.00	100.00	98.00	221.00	100.00	224.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Beaumont Ave			Beaumont Ave			Cougar Way			Cougar Way		
Base Volume Input [veh/h]	4	390	150	81	382	2	7	4	15	111	4	72
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	103	15	0	96	0	0	0	0	16	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	580	199	99	564	2	8	5	18	152	5	89
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	153	52	26	148	1	2	1	5	40	1	23
Total Analysis Volume [veh/h]	5	611	209	104	594	2	8	5	19	160	5	94
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	3	4	0	3	4	0	0	4	0	0	4	0
Maximum Green [s]	14	30	0	14	30	0	0	60	0	0	60	0
Amber [s]	3.0	4.2	0.0	3.0	4.2	0.0	0.0	4.2	0.0	0.0	4.2	0.0
All red [s]	2.0	1.5	0.0	2.0	1.5	0.0	0.0	1.4	0.0	0.0	1.4	0.0
Split [s]	10	28	0	21	39	0	0	11	0	0	11	0
Vehicle Extension [s]	3.0	4.2	0.0	3.0	4.2	0.0	0.0	4.2	0.0	0.0	4.2	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	20	0	0	16	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.7	0.0	3.0	3.7	0.0	0.0	3.6	0.0	0.0	3.6	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	5.00	5.70	5.70	5.00	5.70	5.70	5.60	5.60	5.60	5.60	5.60	5.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.70	3.70	3.00	3.70	3.70	3.60	3.60	3.60	3.60	3.60	3.60
g_i, Effective Green Time [s]	0	34	34	5	38	38	5	5	5	5	5	5
g / C, Green / Cycle	0.00	0.56	0.56	0.08	0.63	0.63	0.09	0.09	0.09	0.09	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.00	0.33	0.13	0.06	0.32	0.00	0.01	0.00	0.01	0.12	0.00	0.06
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1870	1589	1296	1870	1589	1387	1870	1589
c, Capacity [veh/h]	8	1047	890	138	1183	1006	199	171	146	205	171	146
d1, Uniform Delay [s]	29.87	8.65	6.70	27.17	5.94	4.06	26.64	24.87	25.10	29.08	24.87	26.36
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.17	0.17	0.17	0.17	0.17	0.17
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	59.66	2.38	0.62	8.09	1.52	0.00	0.12	0.10	0.61	9.42	0.10	7.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.62	0.58	0.23	0.75	0.50	0.00	0.04	0.03	0.13	0.78	0.03	0.65
d, Delay for Lane Group [s/veh]	89.53	11.03	7.32	35.26	7.46	4.06	26.77	24.98	25.72	38.50	24.98	33.49
Lane Group LOS	F	B	A	D	A	A	C	C	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.20	4.31	1.11	1.64	2.92	0.01	0.11	0.07	0.27	2.77	0.06	1.47
50th-Percentile Queue Length [ft/ln]	4.98	107.77	27.82	41.05	72.93	0.16	2.79	1.69	6.63	69.18	1.61	36.75
95th-Percentile Queue Length [veh/ln]	0.36	7.72	2.00	2.96	5.25	0.01	0.20	0.12	0.48	4.98	0.12	2.65
95th-Percentile Queue Length [ft/ln]	8.97	192.90	50.08	73.88	131.27	0.29	5.02	3.05	11.94	124.53	2.89	66.15

Movement, Approach, & Intersection Results

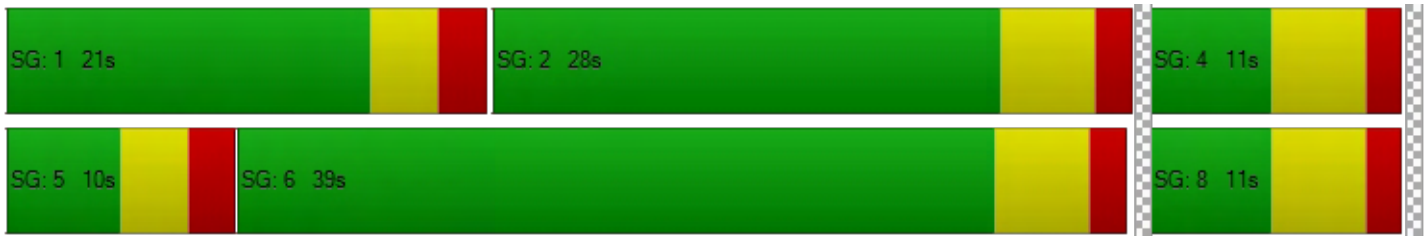
d_M, Delay for Movement [s/veh]	89.53	11.03	7.32	35.26	7.46	4.06	26.77	24.98	25.72	38.50	24.98	33.49
Movement LOS	F	B	A	D	A	A	C	C	C	D	C	C
d_A, Approach Delay [s/veh]	10.56			11.58			25.86			36.42		
Approach LOS	B			B			C			D		
d_I, Intersection Delay [s/veh]	14.91											
Intersection LOS	B											
Intersection V/C	0.625											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	743	1109	180	180
d_b, Bicycle Delay [s]	11.87	5.96	24.87	24.87
l_b,int, Bicycle LOS Score for Intersection	2.921	2.715	1.612	1.987
Bicycle LOS	C	B	A	A

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Beaumont Ave (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	771.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.273

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Project Dwy			Project Dwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Beaumont Ave			Beaumont Ave			Project Dwy			Project Dwy		
Base Volume Input [veh/h]	0	455	81	125	426	0	0	0	0	50	0	42
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	63	105	0	0	116	27	32	0	48	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	68	-68	0	0	-29	29	68	0	29	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	131	594	99	153	608	56	100	0	77	61	0	52
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	156	26	40	160	15	26	0	20	16	0	14
Total Analysis Volume [veh/h]	138	625	104	161	640	59	105	0	81	64	0	55
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.01	0.00	0.18	0.01	0.00	2.27	0.00	0.13	1.48	0.00	0.09
d_M, Delay for Movement [s/veh]	9.76	0.00	0.00	10.07	0.00	0.00	771.76	93.58	11.36	457.55	90.51	11.23
Movement LOS	A	A	A	B	A	A	F	F	B	F	F	B
95th-Percentile Queue Length [veh/ln]	0.54	0.00	0.00	0.68	0.00	0.00	10.95	0.43	0.43	6.38	0.28	0.28
95th-Percentile Queue Length [ft/ln]	13.62	0.00	0.00	16.89	0.00	0.00	273.71	10.68	10.68	159.38	7.12	7.12
d_A, Approach Delay [s/veh]	1.55			1.89			440.62			251.27		
Approach LOS	A			A			F			F		
d_I, Intersection Delay [s/veh]	56.51											
Intersection LOS	F											

Intersection Level Of Service Report

Intersection 4: Beaumont Ave (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	124.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.936

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	102.00	100.00	100.00	145.00	100.00	100.00	125.00	100.00	100.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			45.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Base Volume Input [veh/h]	69	317	64	72	289	118	181	305	70	101	297	72
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	154	43	46	56	50	58	87	144	116	33	151	38
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	238	431	124	145	404	203	309	518	202	157	515	127
Peak Hour Factor	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	62	112	32	38	105	53	81	135	53	41	134	33
Total Analysis Volume [veh/h]	248	450	129	151	422	212	323	541	211	164	538	133
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	6	0	5	6	0	5	4	0	5	4	0
Maximum Green [s]	16	40	0	16	40	0	16	16	0	16	16	0
Amber [s]	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	30	0	12	29	0	25	42	0	12	29	0
Vehicle Extension [s]	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	17	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	2.5	0.0	2.5	2.5	0.0	2.5	2.5	0.0	2.5	2.5	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
g_i, Effective Green Time [s]	9	8	8	6	6	6	13	21	21	7	15	15
g / C, Green / Cycle	0.14	0.13	0.13	0.11	0.10	0.10	0.21	0.35	0.35	0.12	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.14	0.16	0.16	0.08	0.18	0.18	0.18	0.21	0.21	0.09	0.19	0.19
s, saturation flow rate [veh/h]	1781	1870	1729	1781	1870	1662	1781	1870	1694	1781	1870	1744
c, Capacity [veh/h]	252	241	223	192	177	158	378	651	589	207	471	439
d1, Uniform Delay [s]	25.72	26.18	26.18	26.13	27.20	27.20	22.79	16.19	16.19	25.86	20.64	20.65
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.15	0.15	0.04	0.15	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.50	141.69	144.51	2.70	420.78	426.66	2.19	1.30	1.44	2.62	3.20	3.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.98	1.25	1.25	0.79	1.89	1.90	0.86	0.61	0.61	0.79	0.74	0.74
d, Delay for Lane Group [s/veh]	38.22	167.87	170.68	28.83	447.97	453.86	24.98	17.49	17.63	28.48	23.84	24.09
Lane Group LOS	D	F	F	C	F	F	C	B	B	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.04	12.56	11.79	2.05	23.02	20.72	4.01	3.89	3.55	2.25	4.41	4.15
50th-Percentile Queue Length [ft/ln]	100.99	314.03	294.64	51.24	575.62	518.05	100.31	97.34	88.84	56.32	110.31	103.75
95th-Percentile Queue Length [veh/ln]	7.27	20.07	19.02	3.69	36.85	33.57	7.22	7.01	6.40	4.06	7.86	7.47
95th-Percentile Queue Length [ft/ln]	181.78	501.77	475.46	92.24	921.28	839.14	180.56	175.22	159.91	101.38	196.43	186.75

Movement, Approach, & Intersection Results

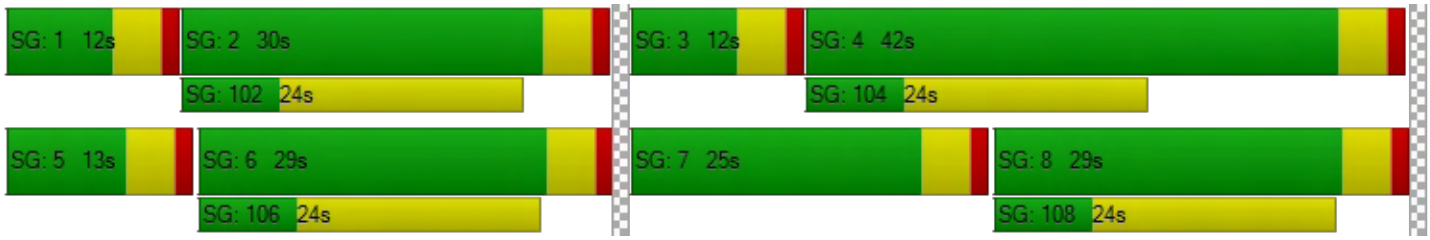
d_M, Delay for Movement [s/veh]	38.22	168.81	170.68	28.83	449.19	453.86	24.98	17.53	17.63	28.48	23.93	24.09
Movement LOS	D	F	F	C	F	F	C	B	B	C	C	C
d_A, Approach Delay [s/veh]	129.94			369.59			19.79			24.85		
Approach LOS	F			F			B			C		
d_I, Intersection Delay [s/veh]	124.82											
Intersection LOS	F											
Intersection V/C	0.936											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	20.03	20.03	20.03	20.03
l_p,int, Pedestrian LOS Score for Intersection	2.782	2.717	2.884	2.654
Crosswalk LOS	C	B	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	849	816	1249	816
d_b, Bicycle Delay [s]	9.94	10.52	4.23	10.52
l_b,int, Bicycle LOS Score for Intersection	2.242	2.207	2.446	2.248
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Beaumont Ave (NS) at 12th St (EW)

Control Type:	All-way stop	Delay (sec / veh):	27.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.761

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			12th St			12th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			12th St			12th St		
Base Volume Input [veh/h]	18	361	17	22	393	32	55	24	27	14	16	19
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	213	1	14	170	14	15	0	1	1	0	15
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	23	655	22	41	651	53	83	30	34	18	20	38
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	172	6	11	171	14	22	8	9	5	5	10
Total Analysis Volume [veh/h]	24	689	23	43	685	56	87	32	36	19	21	40
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	483	489	479	483	533	389	438	386	428
Degree of Utilization, x	0.76	0.75	0.76	0.75	0.10	0.31	0.08	0.10	0.09

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	6.56	6.42	6.52	6.41	0.35	1.28	0.27	0.34	0.31
95th-Percentile Queue Length [ft]	164.11	160.47	163.12	160.32	8.75	31.92	6.67	8.61	7.69
Approach Delay [s/veh]	29.68		28.50			15.00		12.55	
Approach LOS	D		D			B		B	
Intersection Delay [s/veh]	27.07								
Intersection LOS	D								

Intersection Level Of Service Report
Intersection 6: Beaumont Ave (NS) at 10th St (EW)

Control Type:	All-way stop	Delay (sec / veh):	21.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.677

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			10th St			10th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			10th St			10th St		
Base Volume Input [veh/h]	27	367	45	25	386	11	18	14	17	12	11	15
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	185	1	14	144	14	15	0	1	1	0	15
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	635	56	45	617	28	37	17	22	16	14	33
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	167	15	12	162	7	10	4	6	4	4	9
Total Analysis Volume [veh/h]	36	668	59	47	649	29	39	18	23	17	15	35
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	520	524	583	516	521	580	413	467	447
Degree of Utilization, x	0.68	0.67	0.10	0.67	0.67	0.05	0.14	0.05	0.15

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	5.07	4.99	0.34	5.02	4.92	0.16	0.48	0.16	0.52
95th-Percentile Queue Length [ft]	126.66	124.71	8.40	125.47	122.97	3.94	11.89	3.88	13.09
Approach Delay [s/veh]	21.70			22.15			12.24		12.48
Approach LOS	C			C			B		B
Intersection Delay [s/veh]	21.06								
Intersection LOS	C								

Intersection Level Of Service Report
Intersection 7: Golf Club Dr (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	59.0
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.233

Intersection Setup

Name	Golf Club Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0
Entry Pocket Length [ft]	172.00	100.00	197.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Golf Club Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Base Volume Input [veh/h]	36	85	143	600	473	12
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	0	0	915	799	14
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	59	105	175	1650	1379	29
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	28	46	434	363	8
Total Analysis Volume [veh/h]	62	111	184	1737	1452	31
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Overlap	Protected	Permissive	Permissive	Permissive
Signal Group	7	4	5	2	6	0
Auxiliary Signal Groups		4,5				
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	5	5	5	10	10	0
Maximum Green [s]	20	25	25	40	40	0
Amber [s]	4.3	3.0	3.0	4.3	4.3	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	26	26	74	94	20	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	4	0	0	4	4	0
Pedestrian Clearance [s]	20	0	0	22	22	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.3	2.0	2.0	3.3	3.3	0.0
Minimum Recall	No	No	No	No	No	
Maximum Recall	No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	5.30	4.00	4.00	5.30	5.30	5.30
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.30	0.00	2.00	3.30	3.30	3.30
g_i, Effective Green Time [s]	3	17	8	46	34	34
g / C, Green / Cycle	0.06	0.28	0.14	0.77	0.56	0.56
(v / s)_i Volume / Saturation Flow Rate	0.03	0.07	0.10	0.93	0.29	0.02
s, saturation flow rate [veh/h]	1781	1589	1781	1870	5094	1589
c, Capacity [veh/h]	101	453	249	1434	2856	891
d1, Uniform Delay [s]	27.72	16.54	24.82	7.01	8.12	5.92
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.86	0.28	4.26	101.74	0.65	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.61	0.25	0.74	1.21	0.51	0.03
d, Delay for Lane Group [s/veh]	33.58	16.82	29.09	108.76	8.77	6.00
Lane Group LOS	C	B	C	F	A	A
Critical Lane Group	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.01	1.15	2.51	42.48	2.71	0.14
50th-Percentile Queue Length [ft/ln]	25.15	28.64	62.81	1061.93	67.69	3.41
95th-Percentile Queue Length [veh/ln]	1.81	2.06	4.52	62.23	4.87	0.25
95th-Percentile Queue Length [ft/ln]	45.27	51.54	113.06	1555.63	121.84	6.14

Movement, Approach, & Intersection Results

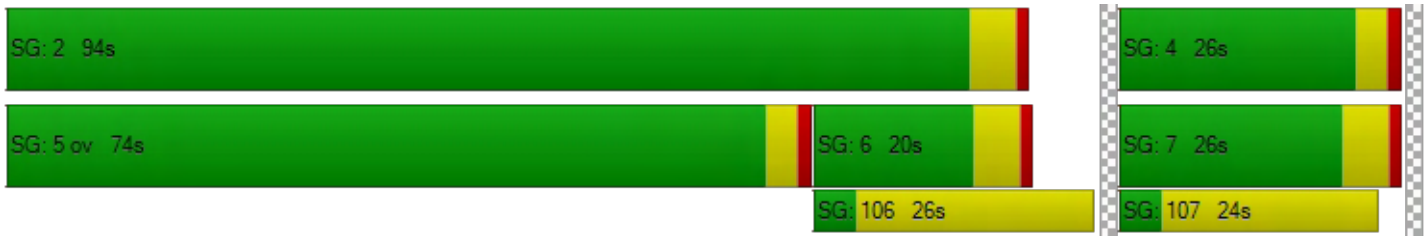
d_M, Delay for Movement [s/veh]	33.58	16.82	29.09	108.76	8.77	6.00
Movement LOS	C	B	C	F	A	A
d_A, Approach Delay [s/veh]	22.83		101.13		8.72	
Approach LOS	C		F		A	
d_I, Intersection Delay [s/veh]	59.03					
Intersection LOS	E					
Intersection V/C	1.233					

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	8.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.57	22.57	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.028	3.301	0.000
Crosswalk LOS	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	689	955	489
d_b, Bicycle Delay [s]	12.91	8.20	17.14
I_b,int, Bicycle LOS Score for Intersection	1.560	4.729	2.375
Bicycle LOS	A	E	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: Oak View Dr (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	23.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.785

Intersection Setup

Name	Oak View Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	1
Entry Pocket Length [ft]	200.00	100.00	143.00	100.00	100.00	146.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Oak View Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Base Volume Input [veh/h]	112	153	262	476	334	134
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	19	6	6	488	322	17
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	156	193	327	1071	731	181
Peak Hour Factor	0.9830	0.9830	0.9830	0.9830	0.9830	0.9830
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	49	83	272	186	46
Total Analysis Volume [veh/h]	159	196	333	1090	744	184
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	40	0	36	45	45	0
Amber [s]	4.0	0.0	4.0	4.0	4.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	49	0	51	71	20	0
Vehicle Extension [s]	2.5	0.0	1.5	3.5	3.5	0.0
Walk [s]	9	0	0	11	11	0
Pedestrian Clearance [s]	10	0	0	13	13	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	0.0	3.0	3.0	3.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	17	17	24	93	64	64
g / C, Green / Cycle	0.14	0.14	0.20	0.77	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.09	0.12	0.19	0.58	0.21	0.12
s, saturation flow rate [veh/h]	1781	1589	1781	1870	3560	1589
c, Capacity [veh/h]	255	227	360	1447	1887	843
d1, Uniform Delay [s]	48.41	50.29	47.03	7.37	16.76	14.99
k, delay calibration	0.08	0.08	0.04	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.86	7.12	4.42	3.68	0.62	0.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.62	0.86	0.93	0.75	0.39	0.22
d, Delay for Lane Group [s/veh]	50.27	57.41	51.44	11.05	17.38	15.59
Lane Group LOS	D	E	D	B	B	B
Critical Lane Group	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.66	6.25	9.88	11.86	5.85	2.66
50th-Percentile Queue Length [ft/ln]	116.44	156.13	247.05	296.54	146.19	66.38
95th-Percentile Queue Length [veh/ln]	8.20	10.34	15.04	17.51	9.81	4.78
95th-Percentile Queue Length [ft/ln]	204.92	258.60	375.93	437.74	245.34	119.48

Movement, Approach, & Intersection Results

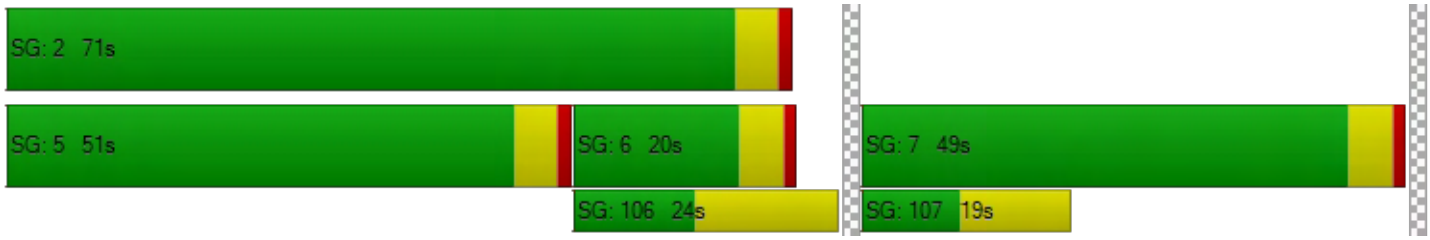
d_M, Delay for Movement [s/veh]	50.27	57.41	51.44	11.05	17.38	15.59
Movement LOS	D	E	D	B	B	B
d_A, Approach Delay [s/veh]	54.21		20.50		17.02	
Approach LOS	D		C		B	
d_I, Intersection Delay [s/veh]	23.73					
Intersection LOS	C					
Intersection V/C	0.785					

Other Modes

g_Walk,mi, Effective Walk Time [s]	15.0	13.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	45.95	47.72	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.187	3.041	0.000
Crosswalk LOS	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	733	1100	250
d_b, Bicycle Delay [s]	24.08	12.16	45.95
I_b,int, Bicycle LOS Score for Intersection	1.560	3.908	2.325
Bicycle LOS	A	D	B

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Palm Ave (NS) at Oak Valley Pkwy (EW)

Control Type:	All-way stop	Delay (sec / veh):	50.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.009

Intersection Setup

Name	Palm Ave			Palm Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	90.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Ave			Palm Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Base Volume Input [veh/h]	46	40	22	37	31	31	49	402	52	16	369	50
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	24	0	0	0	0	15	14	210	22	0	183	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	49	27	45	38	53	74	702	85	20	635	61
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	13	7	12	10	14	19	185	22	5	167	16
Total Analysis Volume [veh/h]	84	52	28	47	40	56	78	739	89	21	668	64
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	360	398	344	361	387	453	461	437	445
Degree of Utilization, x	0.38	0.07	0.14	0.11	0.14	1.01	0.98	0.86	0.85

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.72	0.23	0.47	0.37	0.50	13.29	12.50	8.68	8.35
95th-Percentile Queue Length [ft]	42.93	5.64	11.73	9.27	12.53	332.21	312.45	216.92	208.66
Approach Delay [s/veh]	17.59		14.08			69.09		42.89	
Approach LOS	C		B			F		E	
Intersection Delay [s/veh]	50.76								
Intersection LOS	F								

Intersection Level Of Service Report
Intersection 10: Beaumont Ave (NS) at Project Dwy 2 (EW)

Control Type:	Two-way stop	Delay (sec / veh):	11.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.033

Intersection Setup

Name	Beaumont Ave		Beaumont Ave		Project Dwy 2	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	49.21	0.00	0.00
Speed [mph]	40.00		40.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Beaumont Ave		Beaumont Ave		Project Dwy 2	
Base Volume Input [veh/h]	0	536	551	0	0	0
Base Volume Adjustment Factor	1.0000	1.1601	1.1601	1.1601	1.0000	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0556	1.0556	1.0556	1.0000	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	137	135	9	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	-10	10	0	10
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	794	800	19	0	18
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	209	211	5	0	5
Total Analysis Volume [veh/h]	0	836	842	20	0	19
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	11.50
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.10
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	2.57
d_A, Approach Delay [s/veh]	0.00		0.00		11.50	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.13					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 11: Project Dwy 3 (NS) at Oak Valley Pkwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	22.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.199

Intersection Setup

Name	Project Dwy 3		Oak Valley Pkwy		Oak Valley Pkwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Dwy 3		Oak Valley Pkwy		Oak Valley Pkwy	
Base Volume Input [veh/h]	0	0	0	556	484	0
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	32	8	18	314	332	27
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	19	29	19	-19	-29	29
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	51	37	37	976	895	56
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	10	10	257	236	15
Total Analysis Volume [veh/h]	54	39	39	1027	942	59
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.20	0.08	0.06	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	22.24	15.95	10.55	0.00	0.00	0.00
Movement LOS	C	C	B	A	A	A
95th-Percentile Queue Length [veh/ln]	1.10	1.10	0.18	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	27.41	27.41	4.50	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	19.60		0.39		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	1.03					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 12: Project Dwy 4 (NS) at Oak Valley Pkwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	13.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.146

Intersection Setup

Name	Project Dwy 4		Oak Valley Pkwy		Oak Valley Pkwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Dwy 4		Oak Valley Pkwy		Oak Valley Pkwy	
Base Volume Input [veh/h]	0	0	0	556	484	0
Base Volume Adjustment Factor	1.0000	1.1601	1.1080	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0556	1.0000	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	32	0	346	327	36
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	39	0	0	-39	39
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	71	0	1027	880	75
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	19	0	270	232	20
Total Analysis Volume [veh/h]	0	75	0	1081	926	79
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.15	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	13.19	0.00	0.00	0.00	0.00
Movement LOS		B		A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.51	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	12.69	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.19		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.46					
Intersection LOS	B					

Beaumont Village Project

Vistro File: G:\...\AM MIT.vistro
Report File: G:\...\AM OYP MIT.pdf

Scenario 4 Opening Year (2025) With Project
1/16/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Beaumont Ave (NS) at Brookside Ave (EW)	Signalized	HCM 7th Edition	NB Left	1.737	9.6	A
3	Beaumont Ave (NS) at Project Dwy (EW)	Signalized	HCM 7th Edition	EB Left	0.492	6.3	A
4	Beaumont Ave (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	EB Left	0.960	54.9	D
5	Beaumont Ave (NS) at 12th St (EW)	Signalized	HCM 7th Edition	EB Left	0.424	9.5	A
7	Golf Club Dr (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	EB Left	0.825	10.3	B
9	Palm Ave (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	EB Left	0.431	14.1	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Beaumont Ave (NS) at Brookside Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	9.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.737

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Brookside Ave			Brookside Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	200.00	100.00	100.00	266.00	100.00	175.00	152.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			50.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			Brookside Ave			Brookside Ave		
Base Volume Input [veh/h]	256	577	23	91	370	28	53	179	244	55	261	153
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	16	42	10	0	46	6	17	34	29	12	41	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	330	748	39	112	499	40	81	254	328	80	361	187
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	87	197	10	29	131	11	21	67	86	21	95	49
Total Analysis Volume [veh/h]	347	787	41	118	525	42	85	267	345	84	380	197
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	5	2	0	1	6	0	7	4	4	3	8	0
Auxiliary Signal Groups									4,5			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	11	11	0	11	11	0	11	11	11	11	11	0
Maximum Green [s]	30	30	0	30	30	0	30	30	30	30	30	0
Amber [s]	4.3	4.3	0.0	4.3	4.3	0.0	4.1	4.1	4.1	4.1	4.1	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	24	48	0	18	42	0	17	37	37	17	37	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	7	0	7	0
Pedestrian Clearance [s]	0	16	0	0	16	0	0	16	16	0	16	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.3	3.3	0.0	3.3	3.3	0.0	3.1	3.1	3.1	3.1	3.1	0.0
Minimum Recall	No	No		No	No		No	No	No	No	No	
Maximum Recall	No	No		No	No		No	No	No	No	No	
Pedestrian Recall	No	No		No	No		No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C
C, Cycle Length [s]	63	63	63	63	63	63	63	63	63
L, Total Lost Time per Cycle [s]	5.30	0.50	5.30	5.30	5.10	5.10	5.30	5.10	5.10
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	0.25	0.00	3.30	0.00	3.10	0.00	0.00	3.10
g_i, Effective Green Time [s]	18	63	78	58	38	24	44	38	24
g / C, Green / Cycle	0.28	1.00	1.23	0.92	0.60	0.39	0.70	0.60	0.39
(v / s)_i Volume / Saturation Flow Rate	0.23	0.45	0.31	0.31	0.38	0.14	0.22	0.39	0.33
s, saturation flow rate [veh/h]	1509	1854	381	1846	221	1870	1589	214	1764
c, Capacity [veh/h]	562	1847	515	1693	186	720	1110	227	678
d1, Uniform Delay [s]	23.17	0.00	3.47	0.31	9.78	13.96	3.68	5.84	17.82
k, delay calibration	0.50	0.50	0.18	0.50	0.22	0.11	0.11	0.30	0.14
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.02	0.79	0.37	0.53	3.47	0.32	0.16	2.82	4.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.62	0.45	0.23	0.33	0.46	0.37	0.31	0.37	0.85
d, Delay for Lane Group [s/veh]	28.19	0.79	3.84	0.85	13.25	14.28	3.84	8.66	21.90
Lane Group LOS	C	A	A	A	B	B	A	A	C
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.15	0.41	0.27	0.25	0.80	2.38	0.90	0.68	7.15
50th-Percentile Queue Length [ft/ln]	128.66	10.13	6.72	6.28	20.06	59.48	22.56	17.03	178.79
95th-Percentile Queue Length [veh/ln]	8.87	0.73	0.48	0.45	1.44	4.28	1.62	1.23	11.54
95th-Percentile Queue Length [ft/ln]	221.67	18.23	12.10	11.31	36.11	107.06	40.60	30.66	288.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.19	0.79	0.79	3.84	0.85	0.85	13.25	14.28	3.84	8.66	21.90	21.90
Movement LOS	C	A	A	A	A	A	B	B	A	A	C	C
d_A, Approach Delay [s/veh]	8.88			1.36			8.99			20.21		
Approach LOS	A			A			A			C		
d_I, Intersection Delay [s/veh]	9.63											
Intersection LOS	A											
Intersection V/C	1.737											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.55	21.55	21.55	21.55
l_p,int, Pedestrian LOS Score for Intersection	2.896	2.923	2.629	2.521
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1352	1162	1010	1010
d_b, Bicycle Delay [s]	3.32	5.55	7.74	7.74
l_b,int, Bicycle LOS Score for Intersection	3.498	2.690	2.710	2.650
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Beaumont Ave (NS) at Project Dwy (EW)

Control Type:	Signalized	Delay (sec / veh):	6.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.492

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Project Dwy			Project Dwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Beaumont Ave			Beaumont Ave			Project Dwy			Project Dwy		
Base Volume Input [veh/h]	0	992	23	90	635	0	0	0	0	13	0	22
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	63	74	0	0	81	27	32	0	48	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	62	-62	0	0	-26	26	62	0	26	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	125	1227	29	110	833	53	94	0	74	16	0	27
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	323	8	29	219	14	25	0	19	4	0	7
Total Analysis Volume [veh/h]	132	1292	31	116	877	56	99	0	78	17	0	28
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	61
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	38	0	0	38	0	0	23	0	0	23	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	61	61	61	61	61	61	61	61	61	61
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	46	46	46	46	46	46	8	8	8	8
g / C, Green / Cycle	0.75	0.75	0.75	0.75	0.75	0.75	0.12	0.12	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.22	0.35	0.36	0.28	0.25	0.25	0.07	0.05	0.01	0.02
s, saturation flow rate [veh/h]	600	1870	1855	415	1870	1831	1382	1589	1321	1589
c, Capacity [veh/h]	470	1395	1383	334	1395	1366	258	196	216	196
d1, Uniform Delay [s]	6.66	3.06	3.07	9.71	2.64	2.64	26.61	24.73	26.55	23.94
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.49	1.17	1.18	2.84	0.66	0.67	0.93	1.30	0.15	0.33
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.28	0.48	0.48	0.35	0.34	0.34	0.38	0.40	0.08	0.14
d, Delay for Lane Group [s/veh]	8.14	4.23	4.25	12.55	3.30	3.31	27.54	26.04	26.70	24.27
Lane Group LOS	A	A	A	B	A	A	C	C	C	C
Critical Lane Group	No	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.81	1.45	1.45	1.03	0.87	0.86	1.41	1.07	0.23	0.37
50th-Percentile Queue Length [ft/ln]	20.32	36.32	36.24	25.84	21.71	21.39	35.26	26.85	5.85	9.16
95th-Percentile Queue Length [veh/ln]	1.46	2.62	2.61	1.86	1.56	1.54	2.54	1.93	0.42	0.66
95th-Percentile Queue Length [ft/ln]	36.58	65.38	65.23	46.50	39.08	38.50	63.47	48.33	10.53	16.49

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.14	4.24	4.25	12.55	3.31	3.31	27.54	26.04	26.04	26.70	24.27	24.27
Movement LOS	A	A	A	B	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	4.59			4.33			26.88			25.19		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	6.28											
Intersection LOS	A											
Intersection V/C	0.492											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1113	1113	622	622
d_b, Bicycle Delay [s]	6.01	6.01	14.51	14.51
l_b,int, Bicycle LOS Score for Intersection	2.760	2.425	1.852	1.634
Bicycle LOS	C	B	A	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Beaumont Ave (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	54.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.960

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	102.00	100.00	100.00	145.00	100.00	100.00	125.00	100.00	100.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			45.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Base Volume Input [veh/h]	101	560	70	85	337	223	288	304	101	88	343	130
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	99	26	19	36	51	42	65	99	101	37	117	46
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	223	712	105	141	464	315	418	472	225	145	537	205
Peak Hour Factor	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	183	27	36	119	81	107	121	58	37	138	53
Total Analysis Volume [veh/h]	229	732	108	145	477	324	430	485	231	149	552	211
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	7	0	5	7	0	5	7	0	5	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	17	36	0	13	32	0	28	32	0	24	28	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	21	0	0	21	0	0	17	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	32	32	9	28	28	24	37	37	11	24	24
g / C, Green / Cycle	0.12	0.31	0.31	0.09	0.27	0.27	0.23	0.35	0.35	0.10	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.13	0.23	0.23	0.08	0.23	0.23	0.24	0.20	0.20	0.08	0.21	0.21
s, saturation flow rate [veh/h]	1781	1870	1787	1781	1870	1621	1781	1870	1669	1781	1870	1696
c, Capacity [veh/h]	221	571	546	153	500	434	407	662	591	182	426	386
d1, Uniform Delay [s]	46.01	32.89	32.89	47.77	36.57	36.57	40.52	27.46	27.49	46.23	39.87	39.88
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.34	0.14	0.14	0.11	0.27	0.27
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	38.03	8.83	9.23	22.91	17.10	19.24	52.45	1.01	1.15	8.80	20.24	21.72
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.04	0.75	0.75	0.95	0.86	0.86	1.06	0.57	0.57	0.82	0.94	0.94
d, Delay for Lane Group [s/veh]	84.04	41.72	42.12	70.68	53.67	55.81	92.97	28.47	28.64	55.03	60.11	61.60
Lane Group LOS	F	D	D	E	D	E	F	C	C	E	E	E
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.94	10.84	10.43	4.66	12.42	11.03	15.92	7.41	6.66	4.20	12.27	11.29
50th-Percentile Queue Length [ft/ln]	198.46	271.03	260.63	116.46	310.59	275.66	398.10	185.21	166.56	104.98	306.78	282.33
95th-Percentile Queue Length [veh/ln]	12.75	16.24	15.72	8.20	18.20	16.47	23.17	11.87	10.90	7.56	18.02	16.80
95th-Percentile Queue Length [ft/ln]	318.72	406.03	393.01	204.95	455.10	411.80	579.34	296.81	272.39	188.97	450.40	420.11

Movement, Approach, & Intersection Results

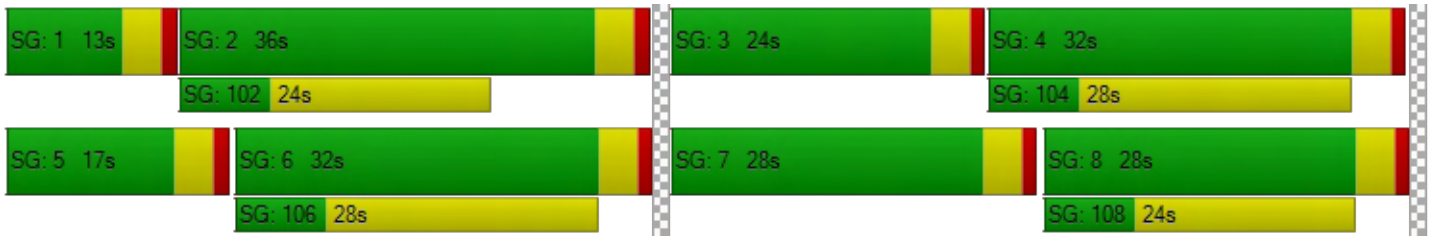
d_M, Delay for Movement [s/veh]	84.04	41.88	42.12	70.68	53.89	55.81	92.97	28.51	28.64	55.03	60.52	61.60
Movement LOS	F	D	D	E	D	E	F	C	C	E	E	E
d_A, Approach Delay [s/veh]	50.94			57.12			52.72			59.87		
Approach LOS	D			E			D			E		
d_I, Intersection Delay [s/veh]	54.88											
Intersection LOS	D											
Intersection V/C	0.960											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	42.09	42.09	42.09	42.09
l_p,int, Pedestrian LOS Score for Intersection	2.808	2.910	2.966	2.683
Crosswalk LOS	C	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	609	533	533	457
d_b, Bicycle Delay [s]	25.39	28.25	28.25	31.26
l_b,int, Bicycle LOS Score for Intersection	2.442	2.340	2.505	2.312
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Beaumont Ave (NS) at 12th St (EW)

Control Type:	Signalized	Delay (sec / veh):	9.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.424

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			12th St			12th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			12th St			12th St		
Base Volume Input [veh/h]	8	538	20	23	458	28	134	42	25	26	24	27
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	120	0	10	169	10	12	0	0	0	0	12
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	779	24	39	730	44	176	52	31	32	30	45
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	205	6	10	192	12	46	14	8	8	8	12
Total Analysis Volume [veh/h]	11	820	25	41	768	46	185	55	33	34	32	47
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	21	0	0	21	0	0	39	0	0	39	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	9	0	0	9	0	0	18	0	0	15	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	37	37	37	37	37	37	15	15	15	15
g / C, Green / Cycle	0.61	0.61	0.61	0.61	0.61	0.61	0.25	0.25	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.02	0.23	0.23	0.06	0.22	0.22	0.14	0.05	0.03	0.05
s, saturation flow rate [veh/h]	671	1870	1851	652	1870	1833	1320	1754	1309	1692
c, Capacity [veh/h]	443	1148	1136	431	1148	1126	352	443	347	428
d1, Uniform Delay [s]	8.19	5.78	5.78	8.75	5.73	5.73	23.69	17.64	21.06	17.58
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.10	0.92	0.93	0.44	0.87	0.89	1.21	0.22	0.12	0.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.02	0.37	0.37	0.10	0.36	0.36	0.53	0.20	0.10	0.18
d, Delay for Lane Group [s/veh]	8.30	6.70	6.71	9.19	6.60	6.62	24.90	17.86	21.18	17.79
Lane Group LOS	A	A	A	A	A	A	C	B	C	B
Critical Lane Group	No	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.07	1.99	1.97	0.29	1.91	1.88	2.50	0.94	0.40	0.84
50th-Percentile Queue Length [ft/ln]	1.80	49.78	49.35	7.19	47.66	46.88	62.57	23.38	10.01	20.92
95th-Percentile Queue Length [veh/ln]	0.13	3.58	3.55	0.52	3.43	3.38	4.51	1.68	0.72	1.51
95th-Percentile Queue Length [ft/ln]	3.24	89.61	88.83	12.94	85.80	84.38	112.63	42.08	18.01	37.66

Movement, Approach, & Intersection Results

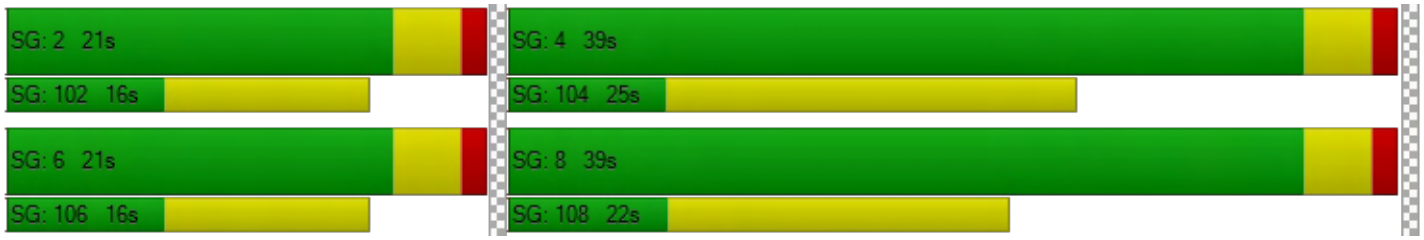
d_M, Delay for Movement [s/veh]	8.30	6.71	6.71	9.19	6.61	6.62	24.90	17.86	17.86	21.18	17.79	17.79
Movement LOS	A	A	A	A	A	A	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	6.73			6.73			22.63			18.81		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	9.45											
Intersection LOS	A											
Intersection V/C	0.424											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	20.01	20.01	20.01	20.01
l_p,int, Pedestrian LOS Score for Intersection	2.845	3.036	2.031	2.039
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	567	567	1167	1167
d_b, Bicycle Delay [s]	15.41	15.41	5.21	5.21
l_b,int, Bicycle LOS Score for Intersection	2.266	2.265	2.010	1.746
Bicycle LOS	B	B	B	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Golf Club Dr (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	10.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.825

Intersection Setup

Name	Golf Club Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0
Entry Pocket Length [ft]	172.00	100.00	197.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Golf Club Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Base Volume Input [veh/h]	79	41	37	627	706	50
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	0	0	388	510	10
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	109	51	45	1155	1375	71
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	13	12	304	362	19
Total Analysis Volume [veh/h]	115	54	47	1216	1447	75
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Overlap	Protected	Permissive	Permissive	Permissive
Signal Group	7	4	5	2	6	0
Auxiliary Signal Groups		4,5				
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	5	5	5	10	10	0
Maximum Green [s]	20	25	25	40	40	0
Amber [s]	4.3	3.0	3.0	4.3	4.3	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	30	30	10	60	50	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	4	0	0	4	4	0
Pedestrian Clearance [s]	20	0	0	22	22	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.3	2.0	2.0	3.3	3.3	0.0
Minimum Recall	No	No	No	No	No	
Maximum Recall	No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	5.30	4.00	4.00	5.30	5.30	5.30
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.30	0.00	2.00	3.30	3.30	3.30
g_i, Effective Green Time [s]	7	16	4	72	64	64
g / C, Green / Cycle	0.08	0.18	0.04	0.80	0.72	0.72
(v / s)_i Volume / Saturation Flow Rate	0.06	0.03	0.03	0.65	0.28	0.05
s, saturation flow rate [veh/h]	1781	1589	1781	1870	5094	1589
c, Capacity [veh/h]	149	289	70	1494	3643	1137
d1, Uniform Delay [s]	40.44	31.22	42.67	5.21	5.10	3.84
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.31	0.31	10.51	4.98	0.33	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.19	0.67	0.81	0.40	0.07
d, Delay for Lane Group [s/veh]	48.75	31.53	53.18	10.18	5.43	3.95
Lane Group LOS	D	C	D	B	A	A
Critical Lane Group	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.83	1.02	1.19	7.13	2.50	0.31
50th-Percentile Queue Length [ft/ln]	70.87	25.53	29.82	178.25	62.38	7.85
95th-Percentile Queue Length [veh/ln]	5.10	1.84	2.15	11.51	4.49	0.57
95th-Percentile Queue Length [ft/ln]	127.57	45.96	53.68	287.73	112.28	14.13

Movement, Approach, & Intersection Results

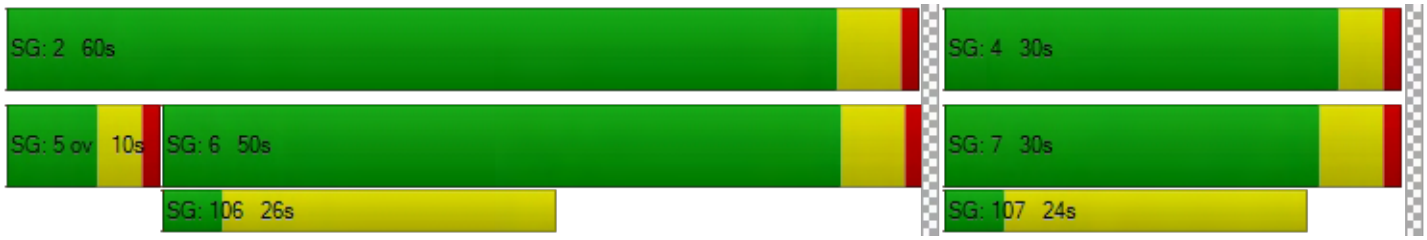
d_M, Delay for Movement [s/veh]	48.75	31.53	53.18	10.18	5.43	3.95
Movement LOS	D	C	D	B	A	A
d_A, Approach Delay [s/veh]	43.25		11.78		5.36	
Approach LOS	D		B		A	
d_I, Intersection Delay [s/veh]	10.27					
Intersection LOS	B					
Intersection V/C	0.825					

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	8.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	37.37	37.37	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.022	3.111	0.000
Crosswalk LOS	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	549	1215	993
d_b, Bicycle Delay [s]	23.70	6.93	11.41
I_b,int, Bicycle LOS Score for Intersection	1.560	3.644	2.397
Bicycle LOS	A	D	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Palm Ave (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	14.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.431

Intersection Setup

Name	Palm Ave			Palm Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	90.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Ave			Palm Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Base Volume Input [veh/h]	63	147	27	83	89	75	63	319	61	33	432	145
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	21	0	0	0	0	12	10	126	18	0	167	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	98	181	33	101	109	104	87	517	93	40	696	177
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	48	9	27	29	27	23	136	24	11	183	47
Total Analysis Volume [veh/h]	103	191	35	106	115	109	92	544	98	42	733	186
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	66
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	23	0	0	23	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	9	0	0	12	0	0	9	0	0	12	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	66	66	66	66	66	66	66	66	66	66	66
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	29	29	29	29	29	29	29	29	29	29	29
g / C, Green / Cycle	0.43	0.43	0.43	0.43	0.43	0.45	0.45	0.45	0.45	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.09	0.12	0.09	0.06	0.07	0.15	0.18	0.18	0.05	0.25	0.25
s, saturation flow rate [veh/h]	1157	1820	1154	1870	1589	608	1870	1772	787	1870	1741
c, Capacity [veh/h]	555	789	507	810	689	229	833	789	323	833	776
d1, Uniform Delay [s]	13.69	12.10	15.61	11.29	11.38	25.07	12.32	12.33	18.48	13.61	13.61
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.74	0.91	0.94	0.37	0.49	1.14	0.30	0.32	0.18	0.62	0.67
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.19	0.29	0.21	0.14	0.16	0.40	0.40	0.40	0.13	0.57	0.57
d, Delay for Lane Group [s/veh]	14.43	13.02	16.55	11.66	11.87	26.21	12.62	12.65	18.66	14.23	14.28
Lane Group LOS	B	B	B	B	B	C	B	B	B	B	B
Critical Lane Group	No	Yes	No	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.01	2.02	1.15	0.95	0.92	1.33	2.89	2.75	0.47	4.64	4.33
50th-Percentile Queue Length [ft/ln]	25.29	50.55	28.64	23.69	23.00	33.26	72.16	68.74	11.75	116.10	108.34
95th-Percentile Queue Length [veh/ln]	1.82	3.64	2.06	1.71	1.66	2.39	5.20	4.95	0.85	8.18	7.75
95th-Percentile Queue Length [ft/ln]	45.53	90.98	51.55	42.64	41.40	59.86	129.89	123.73	21.15	204.45	193.69

Movement, Approach, & Intersection Results

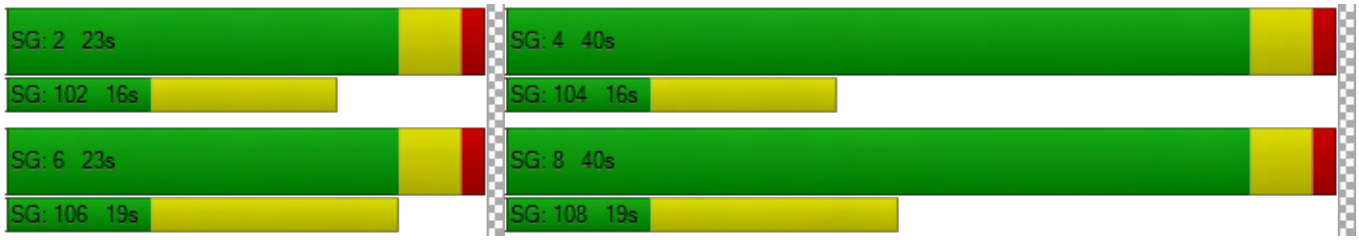
d_M, Delay for Movement [s/veh]	14.43	13.02	13.02	16.55	11.66	11.87	26.21	12.63	12.65	18.66	14.25	14.28
Movement LOS	B	B	B	B	B	B	C	B	B	B	B	B
d_A, Approach Delay [s/veh]	13.46			13.30			14.34			14.45		
Approach LOS	B			B			B			B		
d_I, Intersection Delay [s/veh]	14.11											
Intersection LOS	B											
Intersection V/C	0.431											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.92	22.92	22.92	22.92
l_p,int, Pedestrian LOS Score for Intersection	2.236	2.505	2.811	2.808
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	576	576	1091	1091
d_b, Bicycle Delay [s]	16.74	16.74	6.82	6.82
l_b,int, Bicycle LOS Score for Intersection	2.102	2.104	2.165	2.352
Bicycle LOS	B	B	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Beaumont Village Project

Vistro File: G:\...\PM MIT.vistro
Report File: G:\...\PM OYP MIT.pdf

Scenario 4 Opening Year (2025) With Project
1/16/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Beaumont Ave (NS) at Brookside Ave (EW)	Signalized	HCM 7th Edition	WB Thru	0.600	28.6	C
3	Beaumont Ave (NS) at Project Dwy (EW)	Signalized	HCM 6th Edition	EB Left	0.343	7.5	A
4	Beaumont Ave (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	NB Left	0.813	46.1	D
5	Beaumont Ave (NS) at 12th St (EW)	Signalized	HCM 6th Edition	EB Left	0.307	6.5	A
7	Golf Club Dr (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	EB Thru	1.099	39.1	D
9	Palm Ave (NS) at Oak Valley Pkwy (EW)	Signalized	HCM 7th Edition	EB Left	0.334	16.5	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Beaumont Ave (NS) at Brookside Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	28.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.600

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Brookside Ave			Brookside Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	200.00	100.00	100.00	266.00	100.00	175.00	152.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			50.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			Brookside Ave			Brookside Ave		
Base Volume Input [veh/h]	75	285	88	106	354	18	33	64	75	65	52	84
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	34	54	15	0	52	19	12	54	28	16	49	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	126	403	123	130	486	41	52	132	120	95	112	102
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	106	32	34	128	11	14	35	32	25	29	27
Total Analysis Volume [veh/h]	133	424	129	137	512	43	55	139	126	100	118	107
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	101
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	5	2	0	1	6	0	7	4	4	3	8	0
Auxiliary Signal Groups									4,5			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	11	11	0	11	11	0	11	11	11	11	11	0
Maximum Green [s]	30	30	0	30	30	0	30	30	30	30	30	0
Amber [s]	4.3	4.3	0.0	4.3	4.3	0.0	4.1	4.1	4.1	4.1	4.1	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	17	29	0	17	29	0	17	37	37	18	38	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	7	0	7	0
Pedestrian Clearance [s]	0	16	0	0	16	0	0	16	16	0	16	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.3	3.3	0.0	3.3	3.3	0.0	3.1	3.1	3.1	3.1	3.1	0.0
Minimum Recall	No	No		No	No		No	No	No	No	No	
Maximum Recall	No	No		No	No		No	No	No	No	No	
Pedestrian Recall	No	No		No	No		No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C
C, Cycle Length [s]	101	101	101	101	101	101	101	101	101
L, Total Lost Time per Cycle [s]	5.30	5.30	5.30	5.30	5.10	5.10	5.30	5.10	5.10
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.30	0.00	3.30	0.00	3.10	0.00	0.00	3.10
g_i, Effective Green Time [s]	61	45	61	45	29	14	30	29	16
g / C, Green / Cycle	0.61	0.45	0.61	0.45	0.29	0.14	0.29	0.29	0.15
(v / s)_i Volume / Saturation Flow Rate	0.12	0.31	0.13	0.30	0.04	0.07	0.08	0.07	0.13
s, saturation flow rate [veh/h]	1067	1796	1069	1845	1407	1870	1589	1420	1725
c, Capacity [veh/h]	541	801	534	823	373	258	470	447	267
d1, Uniform Delay [s]	12.20	22.44	12.49	22.19	27.01	40.59	27.26	27.13	41.58
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.08	4.85	0.25	4.40	0.18	1.74	0.30	0.25	7.16
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.25	0.69	0.26	0.67	0.15	0.54	0.27	0.22	0.84
d, Delay for Lane Group [s/veh]	13.28	27.28	12.74	26.59	27.19	42.33	27.57	27.38	48.74
Lane Group LOS	B	C	B	C	C	D	C	C	D
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.27	10.82	1.11	10.31	0.96	3.26	2.29	1.79	5.81
50th-Percentile Queue Length [ft/ln]	31.79	270.43	27.87	257.83	23.99	81.50	57.32	44.68	145.30
95th-Percentile Queue Length [veh/ln]	2.29	16.21	2.01	15.58	1.73	5.87	4.13	3.22	9.77
95th-Percentile Queue Length [ft/ln]	57.21	405.27	50.16	389.50	43.17	146.69	103.18	80.43	244.14

Movement, Approach, & Intersection Results

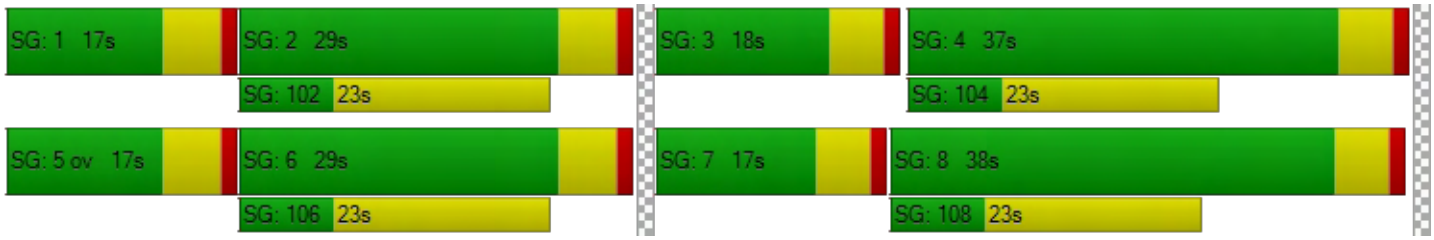
d_M, Delay for Movement [s/veh]	13.28	27.28	27.28	12.74	26.59	26.59	27.19	42.33	27.57	27.38	48.74	48.74
Movement LOS	B	C	C	B	C	C	C	D	C	C	D	D
d_A, Approach Delay [s/veh]	24.57			23.85			33.91			42.17		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	28.63											
Intersection LOS	C											
Intersection V/C	0.600											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	40.14	40.14	40.14	40.14
l_p,int, Pedestrian LOS Score for Intersection	2.585	2.651	2.424	2.353
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	469	469	631	651
d_b, Bicycle Delay [s]	29.62	29.62	23.67	22.99
l_b,int, Bicycle LOS Score for Intersection	2.692	2.701	2.088	2.096
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Beaumont Ave (NS) at Project Dwy (EW)

Control Type:	Signalized	Delay (sec / veh):	7.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.343

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Project Dwy			Project Dwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Beaumont Ave			Beaumont Ave			Project Dwy			Project Dwy		
Base Volume Input [veh/h]	0	455	81	125	426	0	0	0	0	50	0	42
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	63	105	0	0	116	27	32	0	49	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	68	-68	0	0	-29	29	68	0	29	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	131	594	99	153	608	56	100	0	78	61	0	52
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	156	26	40	160	15	26	0	21	16	0	14
Total Analysis Volume [veh/h]	138	625	104	161	640	59	105	0	82	64	0	55
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	63
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	40	0	0	40	0	0	20	0	0	20	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	63	63	63	63	63	63	63	63	63	63
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	46	46	46	46	46	46	9	9	9	9
g / C, Green / Cycle	0.73	0.73	0.73	0.73	0.73	0.73	0.14	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.18	0.20	0.20	0.22	0.19	0.19	0.08	0.05	0.05	0.03
s, saturation flow rate [veh/h]	747	1870	1778	726	1870	1815	1349	1589	1316	1589
c, Capacity [veh/h]	561	1365	1298	546	1365	1325	260	228	237	228
d1, Uniform Delay [s]	6.22	2.88	2.88	6.68	2.84	2.84	27.24	24.43	27.30	24.00
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.04	0.50	0.52	1.38	0.46	0.48	1.01	0.96	0.61	0.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.25	0.27	0.27	0.30	0.26	0.26	0.40	0.36	0.27	0.24
d, Delay for Lane Group [s/veh]	7.26	3.38	3.40	8.05	3.31	3.32	28.25	25.38	27.91	24.54
Lane Group LOS	A	A	A	A	A	A	C	C	C	C
Critical Lane Group	No	No	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.78	0.83	0.80	0.99	0.78	0.76	1.55	1.13	0.93	0.74
50th-Percentile Queue Length [ft/ln]	19.58	20.76	19.98	24.63	19.43	19.00	38.80	28.26	23.29	18.48
95th-Percentile Queue Length [veh/ln]	1.41	1.49	1.44	1.77	1.40	1.37	2.79	2.03	1.68	1.33
95th-Percentile Queue Length [ft/ln]	35.25	37.36	35.97	44.33	34.97	34.20	69.85	50.86	41.92	33.26

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.26	3.39	3.40	8.05	3.31	3.32	28.25	25.38	25.38	27.91	24.54	24.54
Movement LOS	A	A	A	A	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	4.00			4.20			26.99			26.35		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	7.51											
Intersection LOS	A											
Intersection V/C	0.343											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1141	1141	507	507
d_b, Bicycle Delay [s]	5.81	5.81	17.57	17.57
l_b,int, Bicycle LOS Score for Intersection	2.275	2.269	1.868	1.756
Bicycle LOS	B	B	A	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Beaumont Ave (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	46.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.813

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	102.00	100.00	100.00	145.00	100.00	100.00	125.00	100.00	100.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			45.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Base Volume Input [veh/h]	69	317	64	72	289	118	181	305	70	101	297	72
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	154	43	46	57	50	58	87	145	117	33	151	38
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	238	431	124	146	404	203	309	519	203	157	515	127
Peak Hour Factor	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	62	112	32	38	105	53	81	135	53	41	134	33
Total Analysis Volume [veh/h]	248	450	129	152	422	212	323	542	212	164	538	133
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	103
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	6	0	5	6	0	5	4	0	5	4	0
Maximum Green [s]	16	40	0	16	40	0	16	16	0	16	16	0
Amber [s]	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	20	35	0	14	29	0	25	33	0	21	29	0
Vehicle Extension [s]	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	17	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	2.5	0.0	2.5	2.5	0.0	2.5	2.5	0.0	2.5	2.5	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	103	103	103	103	103	103	103	103	103	103	103	103
L, Total Lost Time per Cycle [s]	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
g_i, Effective Green Time [s]	16	33	33	10	27	27	20	31	31	11	22	22
g / C, Green / Cycle	0.15	0.32	0.32	0.09	0.27	0.27	0.20	0.30	0.30	0.11	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.14	0.16	0.16	0.09	0.18	0.18	0.18	0.21	0.21	0.09	0.19	0.19
s, saturation flow rate [veh/h]	1781	1870	1729	1781	1870	1662	1781	1870	1693	1781	1870	1744
c, Capacity [veh/h]	268	605	559	166	498	443	351	558	506	196	395	369
d1, Uniform Delay [s]	43.20	28.09	28.10	46.32	33.79	33.82	40.57	32.15	32.15	44.96	39.34	39.36
k, delay calibration	0.29	0.50	0.50	0.04	0.50	0.50	0.33	0.23	0.23	0.04	0.29	0.29
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	27.07	2.90	3.14	7.86	7.09	8.03	23.39	3.44	3.81	3.63	15.10	16.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.93	0.50	0.50	0.92	0.67	0.68	0.92	0.71	0.71	0.84	0.88	0.88
d, Delay for Lane Group [s/veh]	70.27	30.99	31.24	54.18	40.88	41.85	63.96	35.59	35.97	48.59	54.44	55.49
Lane Group LOS	E	C	C	D	D	D	E	D	D	D	D	E
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	8.06	6.22	5.80	4.12	8.19	7.43	9.94	8.81	8.04	4.24	9.95	9.40
50th-Percentile Queue Length [ft/ln]	201.45	155.55	145.01	103.06	204.74	185.65	248.47	220.21	200.95	105.95	248.72	234.90
95th-Percentile Queue Length [veh/ln]	12.71	10.31	9.75	7.42	12.88	11.90	15.11	13.68	12.69	7.61	15.12	14.42
95th-Percentile Queue Length [ft/ln]	317.84	257.82	243.75	185.51	322.07	297.38	377.72	341.89	317.20	190.35	378.05	360.58

Movement, Approach, & Intersection Results

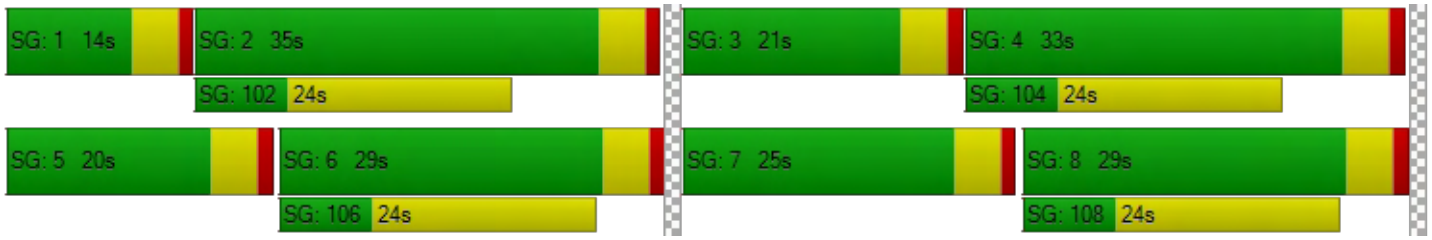
d_M, Delay for Movement [s/veh]	70.27	31.07	31.24	54.18	41.08	41.85	63.96	35.69	35.97	48.59	54.82	55.49
Movement LOS	E	C	C	D	D	D	E	D	D	D	D	E
d_A, Approach Delay [s/veh]	42.85			43.82			44.22			53.70		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	46.06											
Intersection LOS	D											
Intersection V/C	0.813											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.10	41.10	41.10	41.10
l_p,int, Pedestrian LOS Score for Intersection	2.729	2.746	2.913	2.683
Crosswalk LOS	B	B	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	592	476	553	476
d_b, Bicycle Delay [s]	25.53	29.92	26.95	29.92
l_b,int, Bicycle LOS Score for Intersection	2.242	2.208	2.448	2.248
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Beaumont Ave (NS) at 12th St (EW)

Control Type:	Signalized	Delay (sec / veh):	6.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.307

Intersection Setup

Name	Beaumont Ave			Beaumont Ave			12th St			12th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Beaumont Ave			Beaumont Ave			12th St			12th St		
Base Volume Input [veh/h]	18	361	17	22	393	32	55	24	27	14	16	19
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	213	1	14	171	14	15	0	1	1	0	15
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	23	655	22	41	652	53	83	30	34	18	20	38
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	172	6	11	172	14	22	8	9	5	5	10
Total Analysis Volume [veh/h]	24	689	23	43	686	56	87	32	36	19	21	40
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	20	0	0	20	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	9	0	0	9	0	0	18	0	0	15	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	43	43	43	43	43	43	10	10	10	10
g / C, Green / Cycle	0.71	0.71	0.71	0.71	0.71	0.71	0.16	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.03	0.19	0.19	0.06	0.20	0.20	0.06	0.04	0.01	0.04
s, saturation flow rate [veh/h]	717	1870	1849	738	1870	1821	1341	1710	1333	1676
c, Capacity [veh/h]	557	1326	1311	573	1326	1292	237	269	232	264
d1, Uniform Delay [s]	4.73	3.14	3.14	4.75	3.17	3.17	26.72	22.19	25.52	22.11
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.15	0.50	0.51	0.25	0.54	0.55	0.95	0.49	0.15	0.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.04	0.27	0.27	0.08	0.28	0.28	0.37	0.25	0.08	0.23
d, Delay for Lane Group [s/veh]	4.88	3.64	3.64	5.01	3.71	3.72	27.67	22.67	25.67	22.55
Lane Group LOS	A	A	A	A	A	A	C	C	C	C
Critical Lane Group	No	No	No	No	No	Yes	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.10	0.86	0.85	0.18	0.91	0.90	1.23	0.84	0.25	0.75
50th-Percentile Queue Length [ft/ln]	2.54	21.47	21.30	4.57	22.84	22.40	30.72	21.04	6.31	18.81
95th-Percentile Queue Length [veh/ln]	0.18	1.55	1.53	0.33	1.64	1.61	2.21	1.52	0.45	1.35
95th-Percentile Queue Length [ft/ln]	4.57	38.65	38.34	8.23	41.12	40.32	55.29	37.88	11.35	33.85

Movement, Approach, & Intersection Results

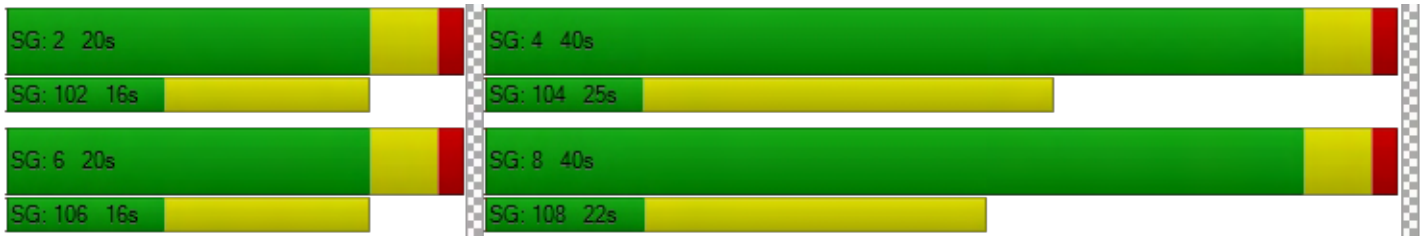
d_M, Delay for Movement [s/veh]	4.88	3.64	3.64	5.01	3.72	3.72	27.67	22.67	22.67	25.67	22.55	22.55
Movement LOS	A	A	A	A	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	3.68			3.79			25.48			23.29		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	6.54											
Intersection LOS	A											
Intersection V/C	0.307											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	20.01	20.01	20.01	20.01
l_p,int, Pedestrian LOS Score for Intersection	2.777	2.817	2.021	2.027
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	533	533	1200	1200
d_b, Bicycle Delay [s]	16.14	16.14	4.80	4.80
l_b,int, Bicycle LOS Score for Intersection	2.167	2.207	1.815	1.692
Bicycle LOS	B	B	A	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Golf Club Dr (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	39.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.099

Intersection Setup

Name	Golf Club Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0
Entry Pocket Length [ft]	172.00	100.00	197.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Golf Club Dr		Oak Valley Pkwy		Oak Valley Pkwy	
Base Volume Input [veh/h]	36	85	143	600	473	12
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	0	0	915	800	14
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	59	105	175	1650	1380	29
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	28	46	434	363	8
Total Analysis Volume [veh/h]	62	111	184	1737	1453	31
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Overlap	Protected	Permissive	Permissive	Permissive
Signal Group	7	4	5	2	6	0
Auxiliary Signal Groups		4,5				
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	5	5	5	10	10	0
Maximum Green [s]	20	25	25	40	40	0
Amber [s]	4.3	3.0	3.0	4.3	4.3	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	30	30	50	90	40	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	4	0	0	4	4	0
Pedestrian Clearance [s]	20	0	0	22	22	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.3	2.0	2.0	3.3	3.3	0.0
Minimum Recall	No	No	No	No	No	
Maximum Recall	No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.30	4.00	4.00	5.30	5.30	5.30
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.30	0.00	2.00	3.30	3.30	3.30
g_i, Effective Green Time [s]	8	28	15	102	83	83
g / C, Green / Cycle	0.06	0.23	0.12	0.85	0.69	0.69
(v / s)_i Volume / Saturation Flow Rate	0.03	0.07	0.10	0.93	0.29	0.02
s, saturation flow rate [veh/h]	1781	1589	1781	1870	5094	1589
c, Capacity [veh/h]	113	367	219	1586	3523	1099
d1, Uniform Delay [s]	54.48	38.14	51.42	9.11	7.98	5.82
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.08	0.46	8.30	53.37	0.36	0.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.55	0.30	0.84	1.10	0.41	0.03
d, Delay for Lane Group [s/veh]	58.57	38.60	59.72	62.48	8.34	5.86
Lane Group LOS	E	D	E	F	A	A
Critical Lane Group	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.96	2.79	5.77	39.12	4.67	0.23
50th-Percentile Queue Length [ft/ln]	49.06	69.70	144.24	978.04	116.63	5.67
95th-Percentile Queue Length [veh/ln]	3.53	5.02	9.71	53.72	8.21	0.41
95th-Percentile Queue Length [ft/ln]	88.30	125.47	242.72	1343.09	205.18	10.20

Movement, Approach, & Intersection Results

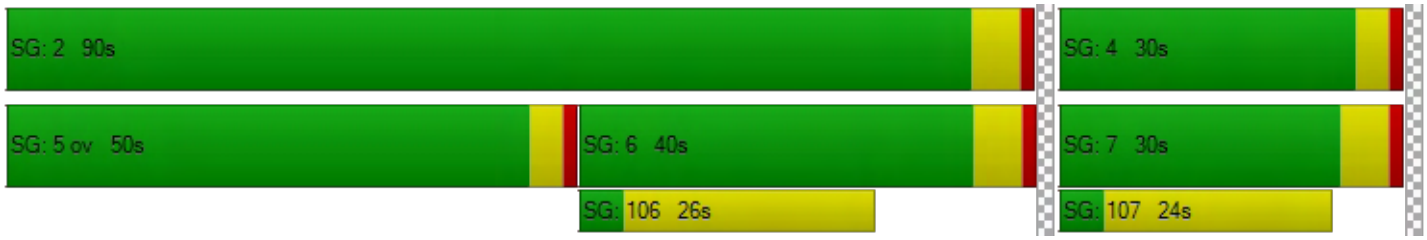
d_M, Delay for Movement [s/veh]	58.57	38.60	59.72	62.48	8.34	5.86
Movement LOS	E	D	E	F	A	A
d_A, Approach Delay [s/veh]	45.75		62.21		8.29	
Approach LOS	D		E		A	
d_I, Intersection Delay [s/veh]	39.05					
Intersection LOS	D					
Intersection V/C	1.099					

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	8.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	52.25	52.25	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.061	3.335	0.000
Crosswalk LOS	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	412	1412	578
d_b, Bicycle Delay [s]	37.83	5.18	30.30
I_b,int, Bicycle LOS Score for Intersection	1.560	4.729	2.376
Bicycle LOS	A	E	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Palm Ave (NS) at Oak Valley Pkwy (EW)

Control Type:	Signalized	Delay (sec / veh):	16.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.334

Intersection Setup

Name	Palm Ave			Palm Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	90.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Ave			Palm Ave			Oak Valley Pkwy			Oak Valley Pkwy		
Base Volume Input [veh/h]	46	40	22	37	31	31	49	402	52	16	369	50
Base Volume Adjustment Factor	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601	1.1601
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556	1.0556
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	24	0	0	0	0	15	14	211	23	0	183	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	49	27	45	38	53	74	703	86	20	635	61
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	13	7	12	10	14	19	185	23	5	167	16
Total Analysis Volume [veh/h]	84	52	28	47	40	56	78	740	91	21	668	64
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	63
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	23	0	0	23	0	0	37	0	0	37	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	9	0	0	12	0	0	9	0	0	12	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	63	63	63	63	63	63	63	63	63	63	63
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	33	33	33	33	33	22	22	22	22	22	22
g / C, Green / Cycle	0.52	0.52	0.52	0.52	0.52	0.36	0.36	0.36	0.36	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.06	0.05	0.04	0.02	0.04	0.11	0.23	0.23	0.03	0.20	0.20
s, saturation flow rate [veh/h]	1299	1761	1318	1870	1589	724	1870	1799	660	1870	1813
c, Capacity [veh/h]	726	910	718	966	821	237	667	641	208	667	647
d1, Uniform Delay [s]	9.43	7.72	9.59	7.53	7.63	24.33	16.86	16.86	23.98	16.27	16.28
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.32	0.19	0.18	0.08	0.16	0.80	1.01	1.05	0.21	0.73	0.76
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.12	0.09	0.07	0.04	0.07	0.33	0.64	0.64	0.10	0.56	0.56
d, Delay for Lane Group [s/veh]	9.75	7.91	9.76	7.61	7.79	25.13	17.87	17.91	24.19	17.00	17.04
Lane Group LOS	A	A	A	A	A	C	B	B	C	B	B
Critical Lane Group	Yes	No	No	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.60	0.48	0.33	0.23	0.33	1.05	4.66	4.49	0.27	3.92	3.81
50th-Percentile Queue Length [ft/ln]	14.88	11.90	8.33	5.75	8.32	26.32	116.52	112.30	6.78	98.04	95.36
95th-Percentile Queue Length [veh/ln]	1.07	0.86	0.60	0.41	0.60	1.90	8.20	7.97	0.49	7.06	6.87
95th-Percentile Queue Length [ft/ln]	26.78	21.41	15.00	10.36	14.97	47.38	205.03	199.20	12.20	176.48	171.65

Movement, Approach, & Intersection Results

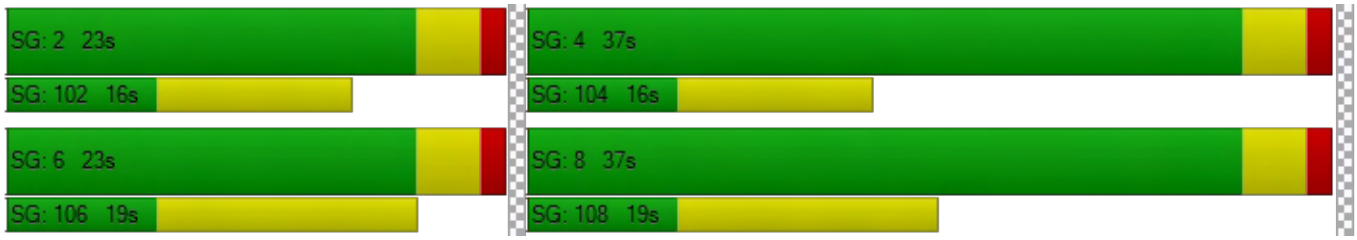
d_M, Delay for Movement [s/veh]	9.75	7.91	7.91	9.76	7.61	7.79	25.13	17.89	17.91	24.19	17.02	17.04
Movement LOS	A	A	A	A	A	A	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	8.85			8.39			18.51			17.22		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	16.48											
Intersection LOS	B											
Intersection V/C	0.334											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.46	21.46	21.46	21.46
l_p,int, Pedestrian LOS Score for Intersection	2.087	2.332	2.790	2.704
Crosswalk LOS	B	B	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	603	603	1048	1048
d_b, Bicycle Delay [s]	15.37	15.37	7.14	7.14
l_b,int, Bicycle LOS Score for Intersection	1.830	1.796	2.310	2.181
Bicycle LOS	A	A	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



APPENDIX E

TRAFFIC SIGNAL WARRANT ANALYSIS

PEAK HOUR VOLUME WARRANT
(Rural Areas)

Existing AM

Major Street Name = Beaumont Avenue

Total of Both Approaches (VPH) = 2019

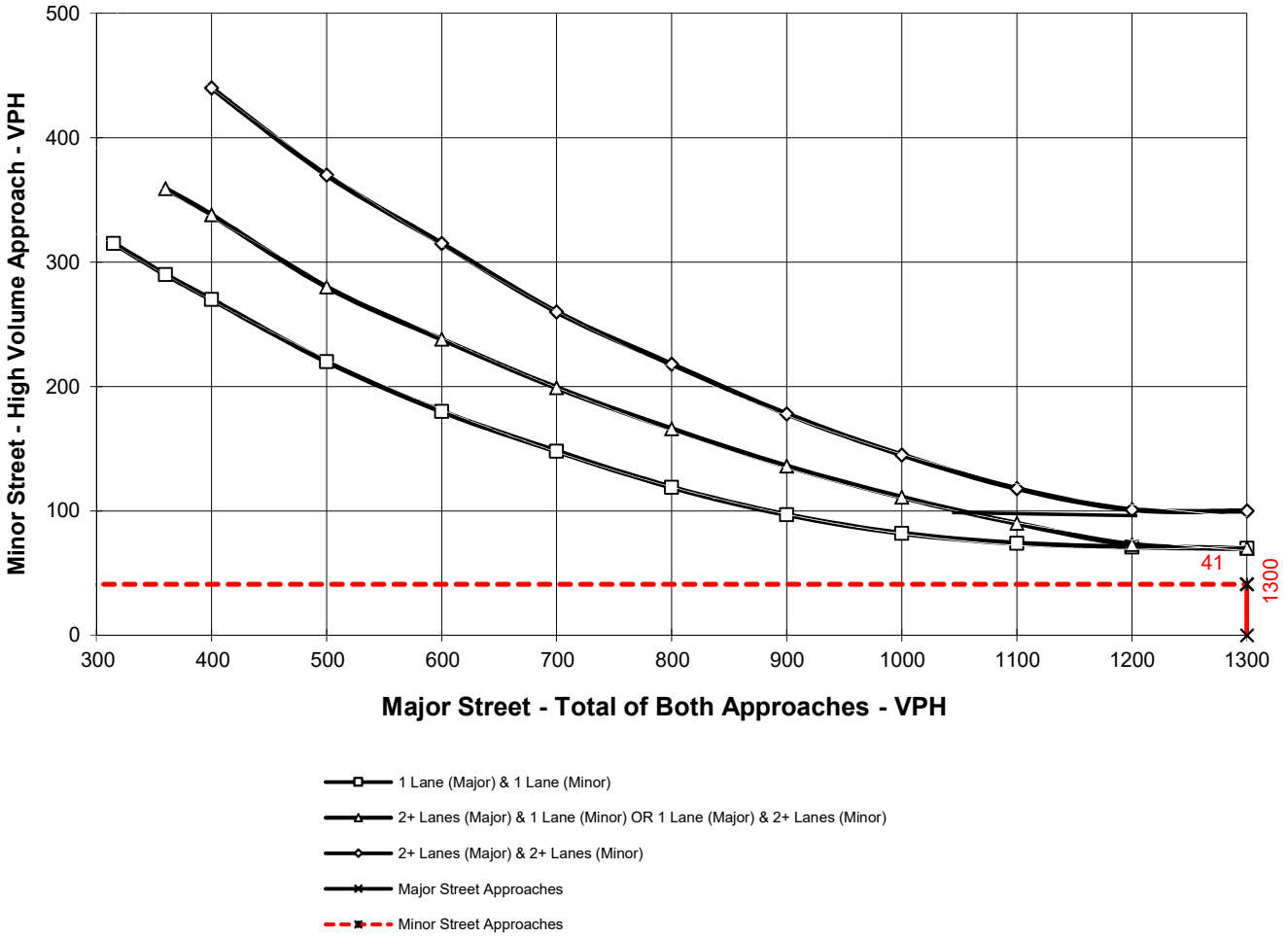
Number of Approach Lanes Major Street = 2

Minor Street Name = Commercial Driveway

High Volume Approach (VPH) = 41

Number of Approach Lanes Minor Street = 1

SIGNAL WARRANT NOT SATISFIED



** NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

PEAK HOUR VOLUME WARRANT
(Rural Areas)

Existing PM

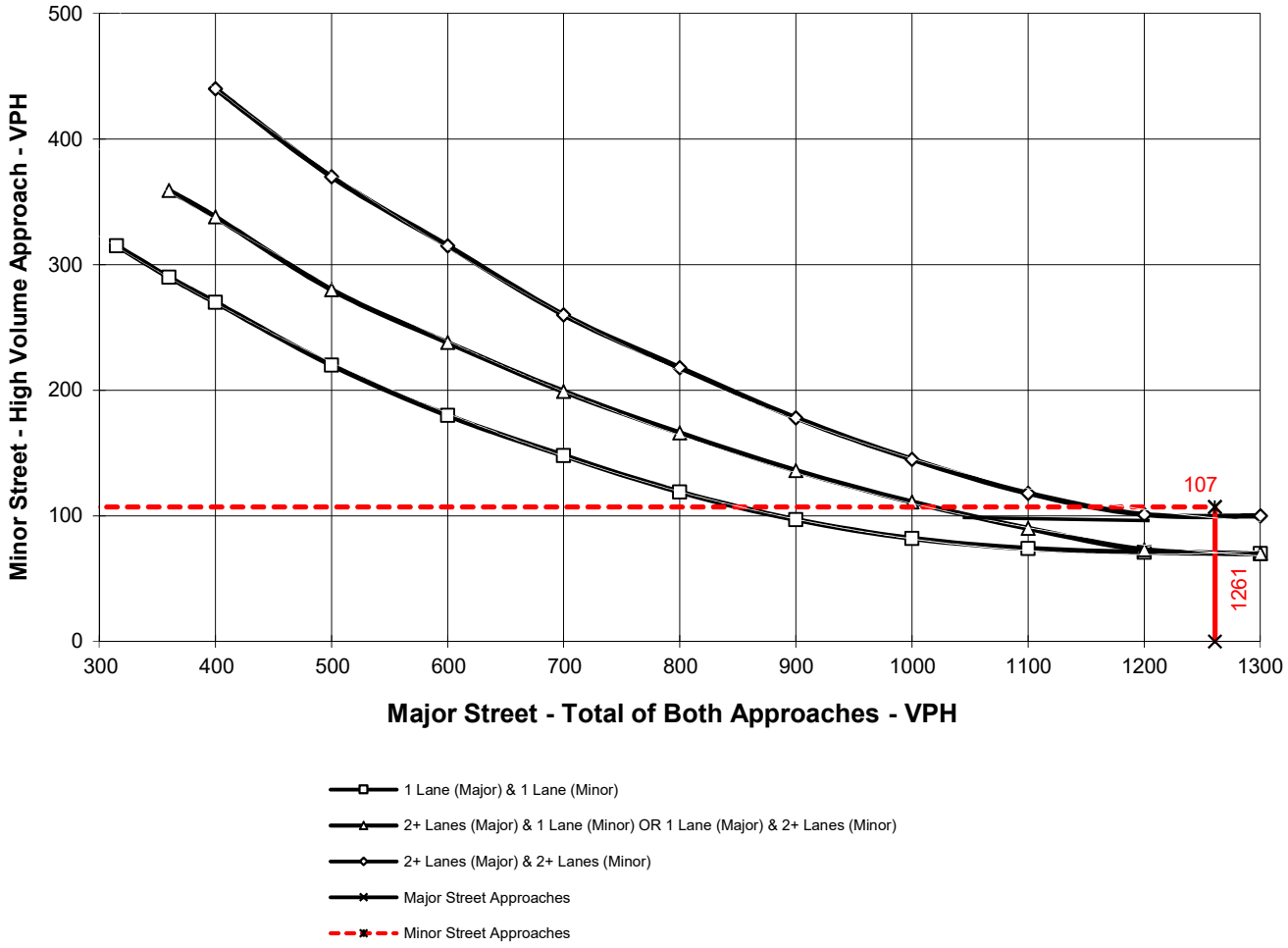
Major Street Name = Beaumont Avenue

Total of Both Approaches (VPH) = 1261
Number of Approach Lanes Major Street = 2

Minor Street Name = Commercial Driveway

High Volume Approach (VPH) = 107
Number of Approach Lanes Minor Street = 1

WARRANTED FOR A SIGNAL



** NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

PEAK HOUR VOLUME WARRANT
(Rural Areas)

Existing AM

Major Street Name = Oak Valley Parkway

Total of Both Approaches (VPH) = 1221

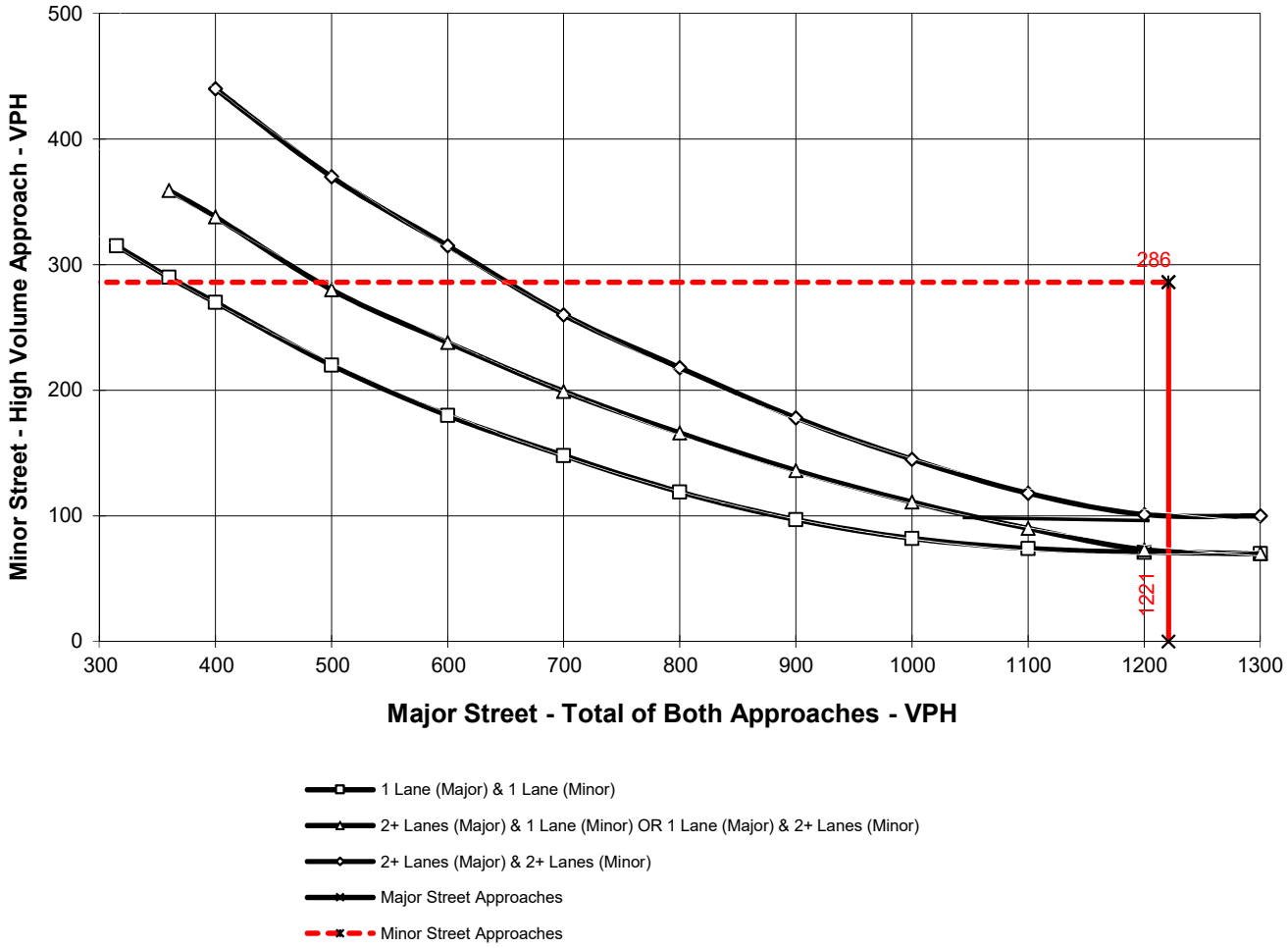
Number of Approach Lanes Major Street = 1

Minor Street Name = Palm Avenue

High Volume Approach (VPH) = 286

Number of Approach Lanes Minor Street = 1

WARRANTED FOR A SIGNAL



** NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

PEAK HOUR VOLUME WARRANT
(Rural Areas)

Existing PM

Major Street Name = Oak Valley Parkway

Total of Both Approaches (VPH) = 1088

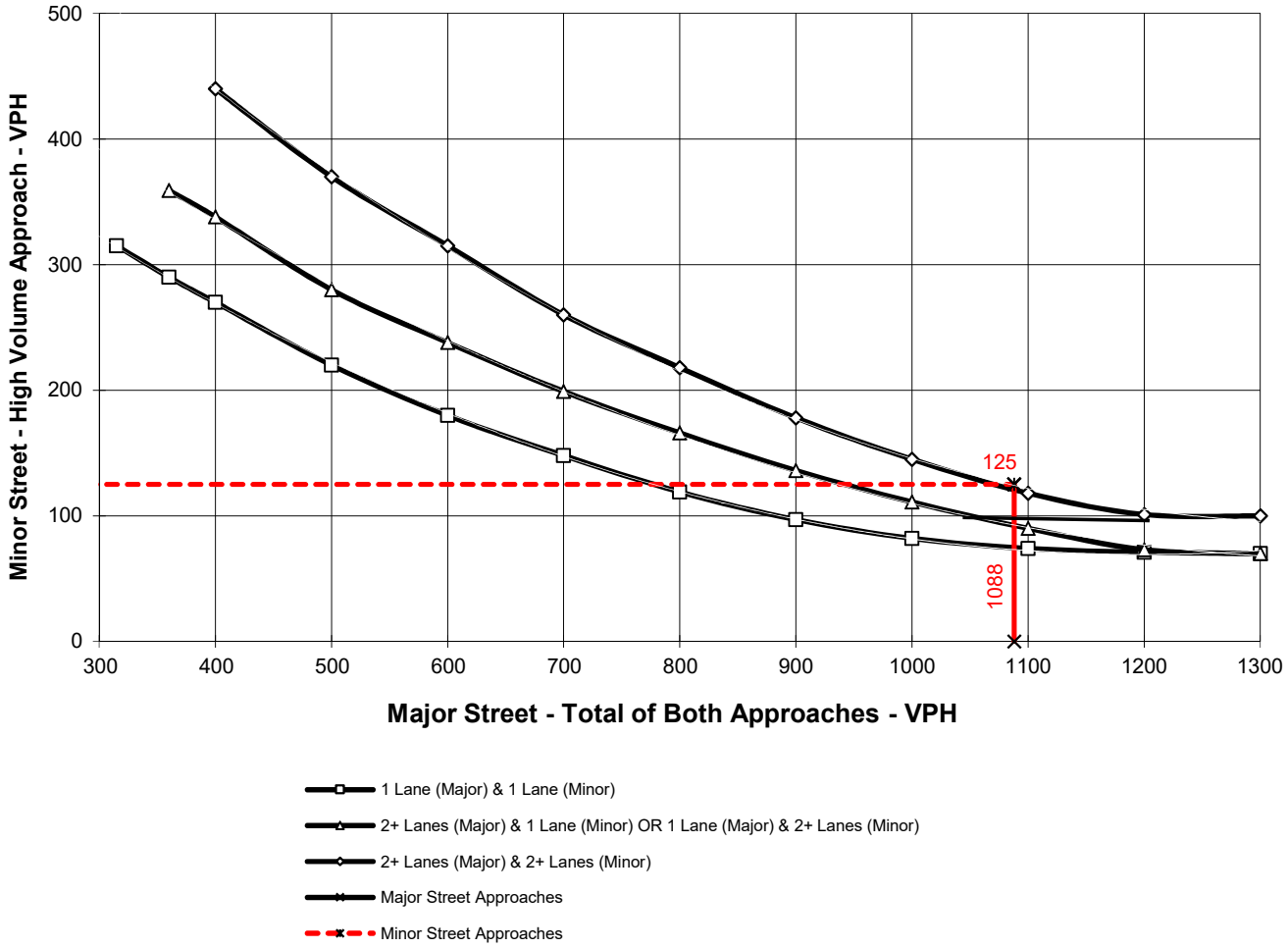
Number of Approach Lanes Major Street = 1

Minor Street Name = Palm Avenue

High Volume Approach (VPH) = 125

Number of Approach Lanes Minor Street = 1

WARRANTED FOR A SIGNAL



** NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

PEAK HOUR VOLUME WARRANT
(Rural Areas)

Existing Plus Project AM

Major Street Name = Beaumont Avenue

Total of Both Approaches (VPH) = 2117

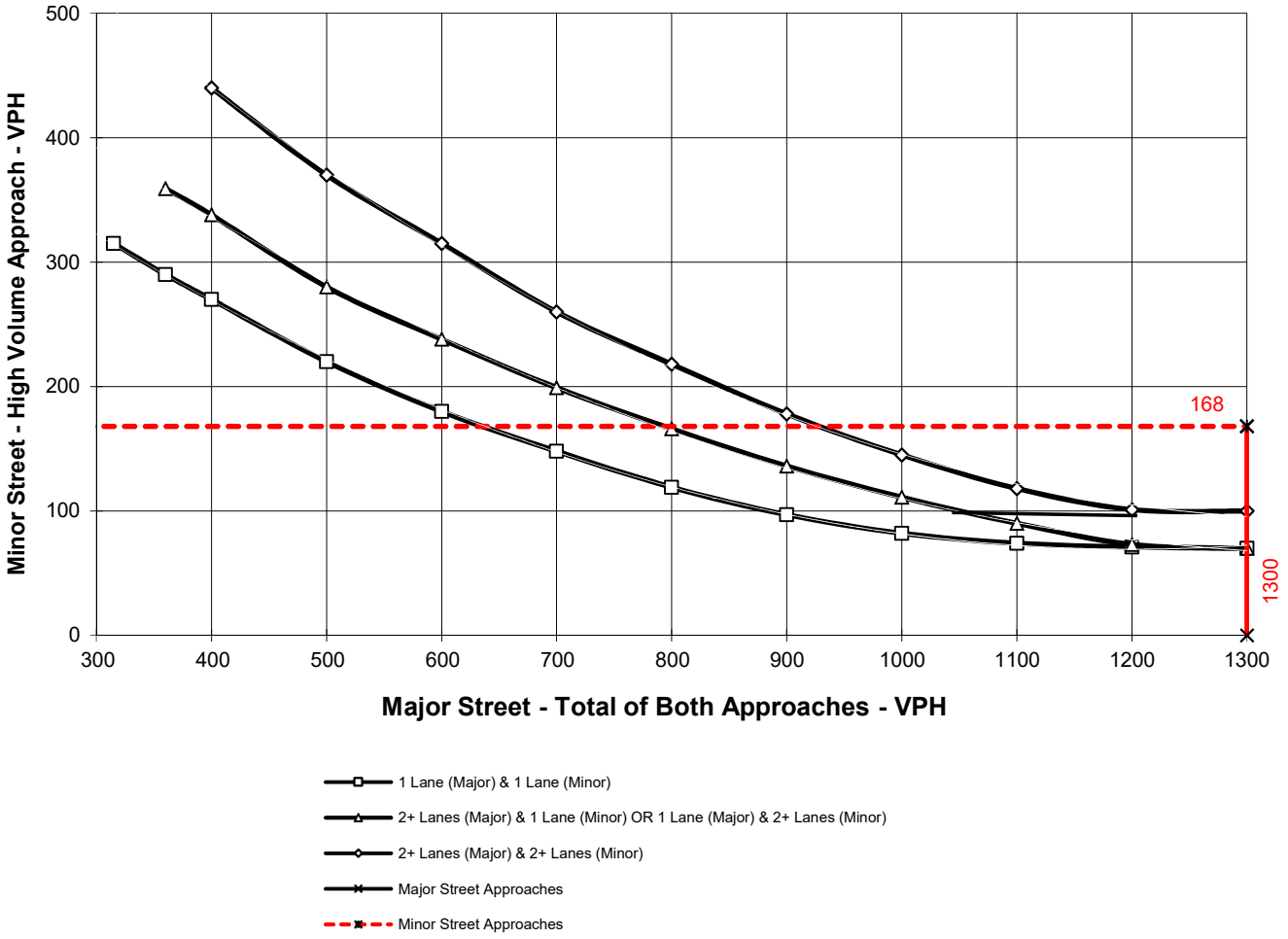
Number of Approach Lanes Major Street = 2

Minor Street Name = Project Driveway 1

High Volume Approach (VPH) = 168

Number of Approach Lanes Minor Street = 1

WARRANTED FOR A SIGNAL



** NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

PEAK HOUR VOLUME WARRANT
(Rural Areas)

Existing Plus Project PM

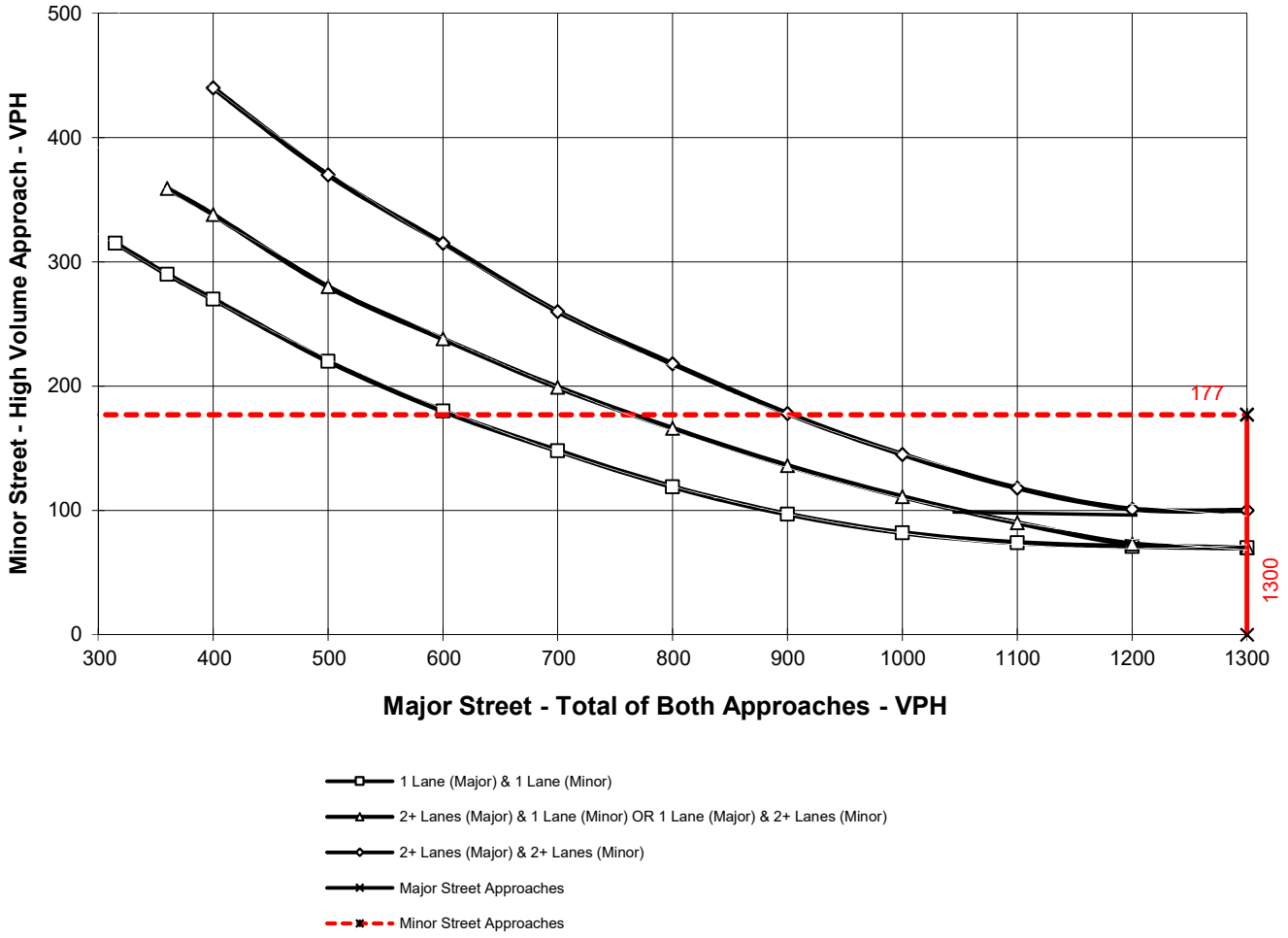
Major Street Name = Beaumont Avenue

Total of Both Approaches (VPH) = 1359
Number of Approach Lanes Major Street = 2

Minor Street Name = Project Driveway 1

High Volume Approach (VPH) = 177
Number of Approach Lanes Minor Street = 1

WARRANTED FOR A SIGNAL



** NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

PEAK HOUR VOLUME WARRANT
(Rural Areas)

Opening Year Without Project AM

Major Street Name = Beaumont Avenue

Total of Both Approaches (VPH) = 1542

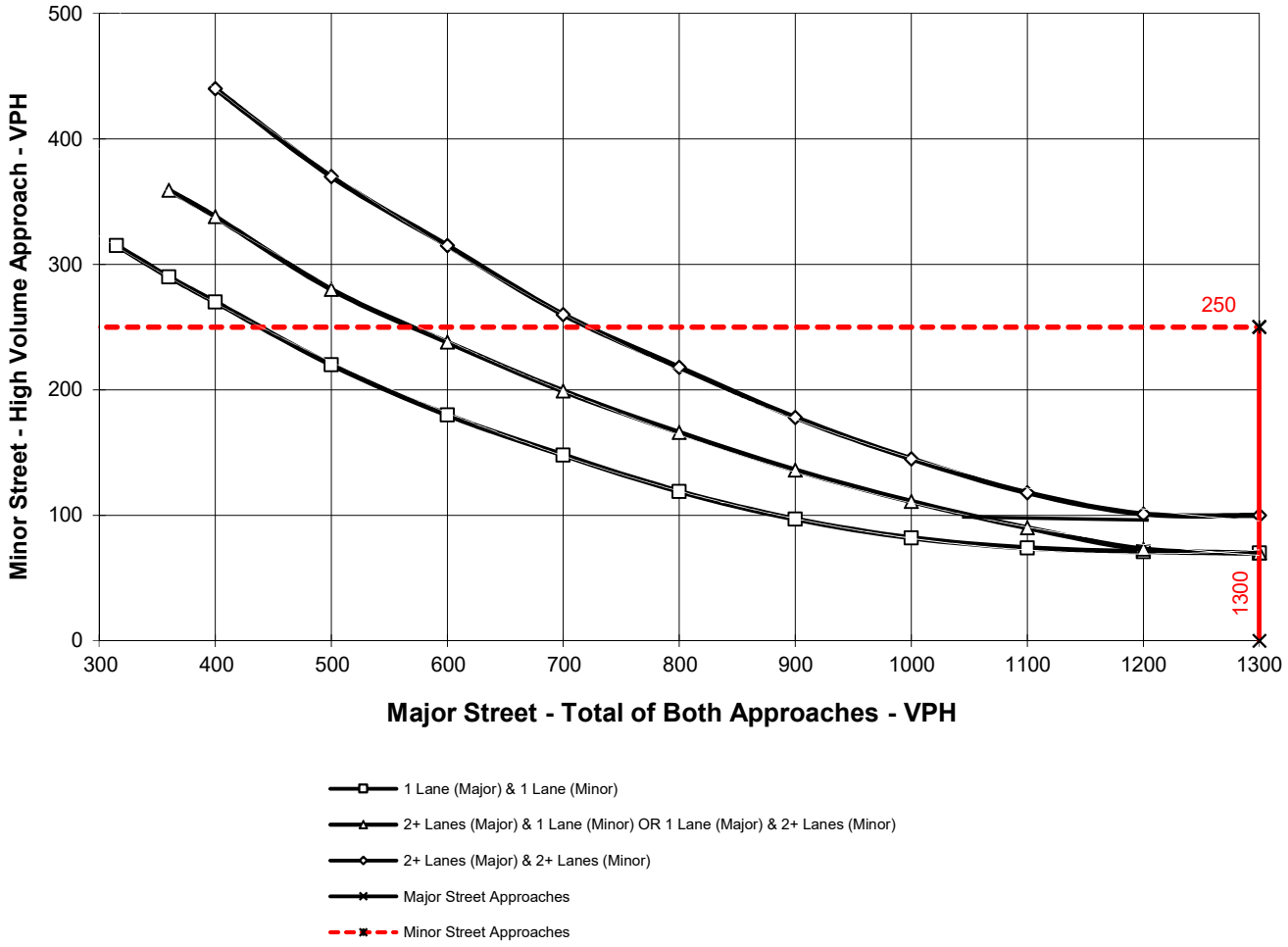
Number of Approach Lanes Major Street = 2

Minor Street Name = 12th Street

High Volume Approach (VPH) = 250

Number of Approach Lanes Minor Street = 1

WARRANTED FOR A SIGNAL



** NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

PEAK HOUR VOLUME WARRANT
(Rural Areas)

Opening Year Without Project PM

Major Street Name = Beaumont Avenue

Total of Both Approaches (VPH) = 1361

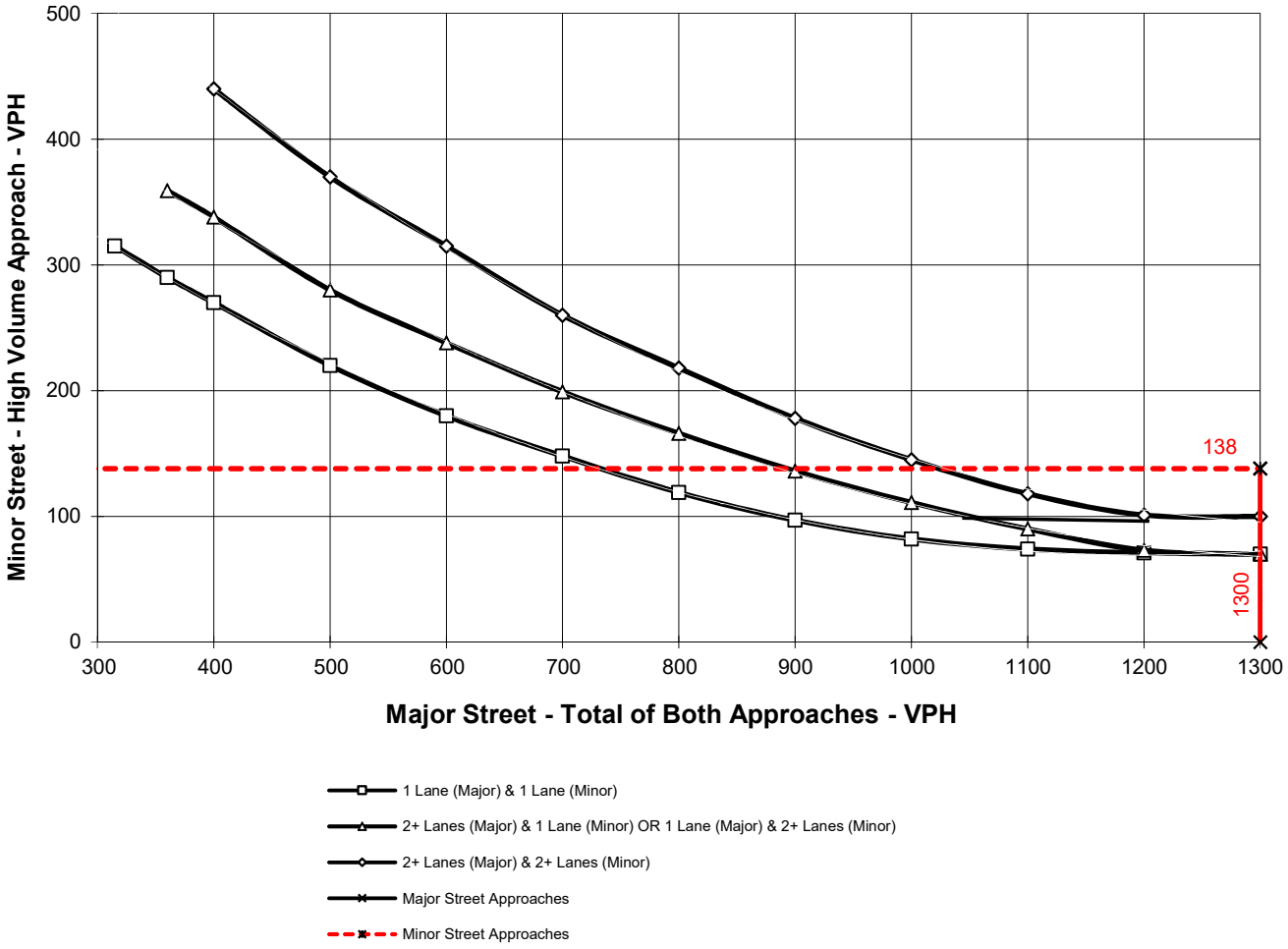
Number of Approach Lanes Major Street = 2

Minor Street Name = 12th Street

High Volume Approach (VPH) = 138

Number of Approach Lanes Minor Street = 1

WARRANTED FOR A SIGNAL

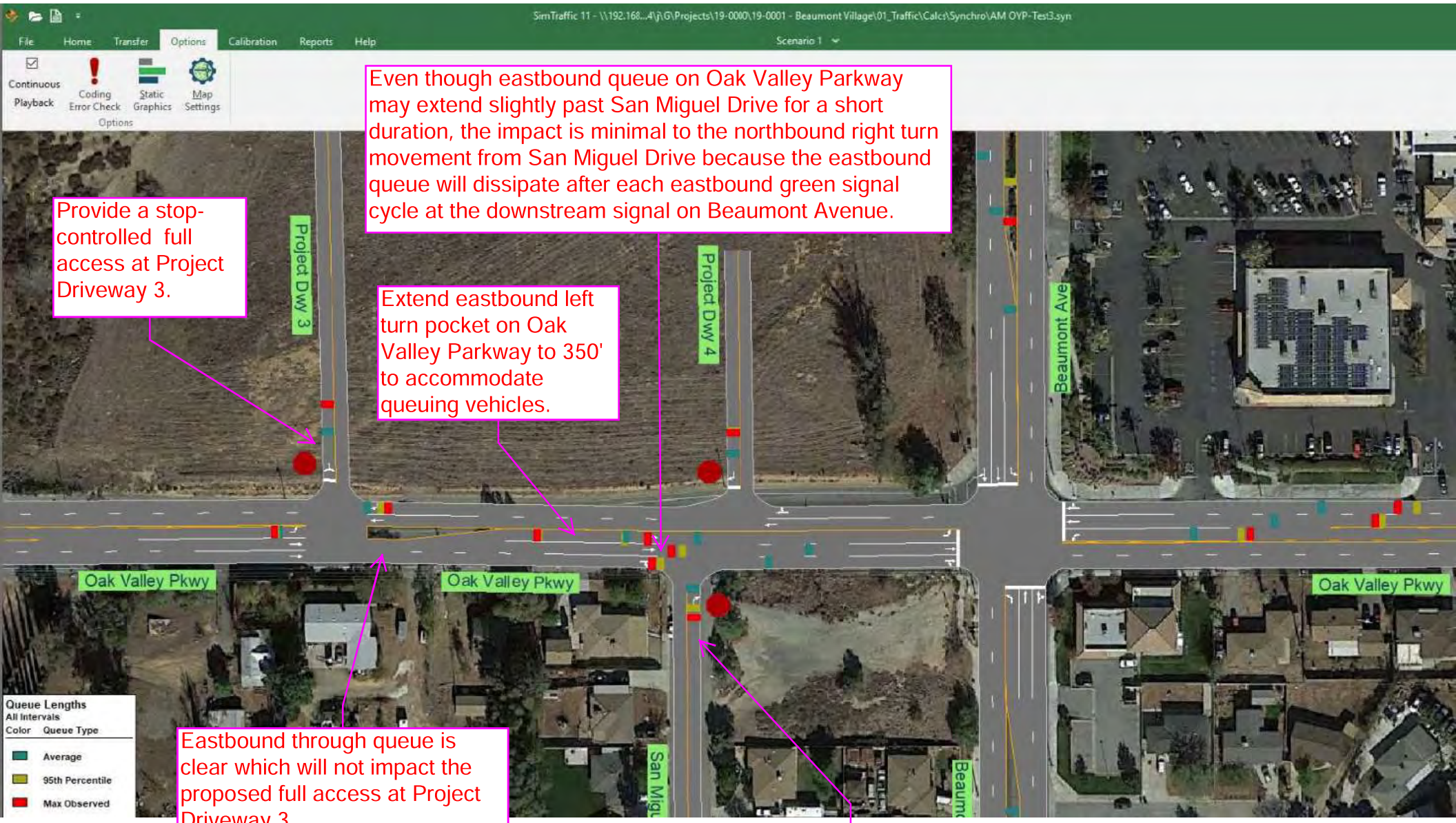


** NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

APPENDIX F

INTERSECTION QUEUING ANALYSIS

Opening Year (2025) With Project AM Peak Hour Queue Lengths



Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	7:55	7:55	7:55	7:55	7:55	7:55
End Time	8:15	8:15	8:15	8:15	8:15	8:15
Total Time (min)	20	20	20	20	20	20
Time Recorded (min)	15	15	15	15	15	15
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1134	1086	1079	1037	1074	1081
Vehs Exited	1068	1050	1044	1004	1051	1043
Starting Vehs	125	137	108	107	115	117
Ending Vehs	191	173	143	140	138	154
Travel Distance (mi)	574	563	563	533	562	559
Travel Time (hr)	38.9	36.8	34.6	32.4	31.3	34.8
Total Delay (hr)	23.1	21.3	19.4	17.7	15.9	19.5
Total Stops	1241	1053	1113	1054	1007	1092
Fuel Used (gal)	24.3	23.6	23.0	21.9	22.3	23.0

Interval #0 Information Seeding

Start Time	7:55
End Time	8:00
Total Time (min)	5

Volumes adjusted by PHF, Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	8:00
End Time	8:15
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1134	1086	1079	1037	1074	1081
Vehs Exited	1068	1050	1044	1004	1051	1043
Starting Vehs	125	137	108	107	115	117
Ending Vehs	191	173	143	140	138	154
Travel Distance (mi)	574	563	563	533	562	559
Travel Time (hr)	38.9	36.8	34.6	32.4	31.3	34.8
Total Delay (hr)	23.1	21.3	19.4	17.7	15.9	19.5
Total Stops	1241	1053	1113	1054	1007	1092
Fuel Used (gal)	24.3	23.6	23.0	21.9	22.3	23.0

Intersection: 4: Beaumont Ave & Oak Valley Pkwy

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	284	263	280	172	285	305	240	573	528	239	410	463
Average Queue (ft)	240	140	175	121	194	236	206	360	342	160	249	299
95th Queue (ft)	305	254	273	164	291	323	310	596	527	275	382	427
Link Distance (ft)	164	164	164		1529	1529		899	899		1082	1082
Upstream Blk Time (%)	35	9	11									
Queuing Penalty (veh)	138	33	43									
Storage Bay Dist (ft)				150			100			150		
Storage Blk Time (%)				1	29		36	41		1	33	
Queuing Penalty (veh)				3	44		133	97		3	49	

Intersection: 11: Oak Valley Pkwy & Project Dwy 3

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	31	22	72
Average Queue (ft)	27	3	47
95th Queue (ft)	30	16	72
Link Distance (ft)		260	314
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	150		
Storage Blk Time (%)			
Queuing Penalty (veh)			

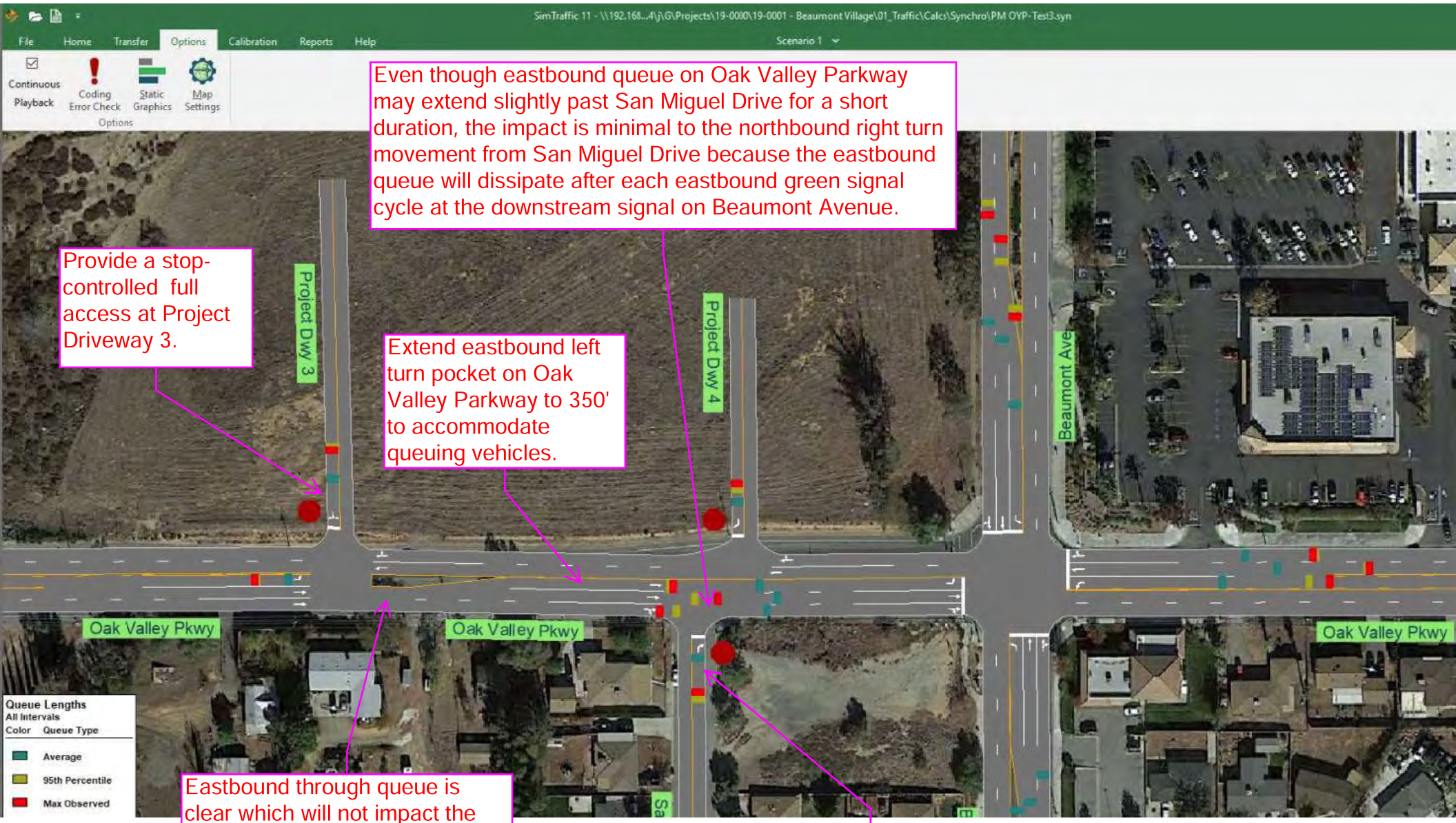
Intersection: 13: San Miguel Dr/Project Dwy 4 & Oak Valley Pkwy

Movement	EB	NB	SB
Directions Served	T	R	R
Maximum Queue (ft)	110	31	53
Average Queue (ft)	30	4	35
95th Queue (ft)	108	22	54
Link Distance (ft)		900	210
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	135		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 543

Opening Year (2025) With Project PM Peak Hour Queue Lengths



Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:55	4:55	4:55	4:55	4:55	4:55
End Time	5:15	5:15	5:15	5:15	5:15	5:15
Total Time (min)	20	20	20	20	20	20
Time Recorded (min)	15	15	15	15	15	15
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	982	944	932	909	900	933
Vehs Exited	975	924	917	896	905	925
Starting Vehs	102	92	97	87	84	91
Ending Vehs	109	112	112	100	79	104
Travel Distance (mi)	527	501	491	485	482	497
Travel Time (hr)	29.7	24.8	25.9	24.8	22.8	25.6
Total Delay (hr)	15.4	11.3	12.5	11.7	9.8	12.1
Total Stops	917	767	811	733	711	787
Fuel Used (gal)	21.3	19.3	19.1	18.8	18.3	19.4

Interval #0 Information Seeding

Start Time	4:55
End Time	5:00
Total Time (min)	5

Volumes adjusted by PHF, Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	982	944	932	909	900	933
Vehs Exited	975	924	917	896	905	925
Starting Vehs	102	92	97	87	84	91
Ending Vehs	109	112	112	100	79	104
Travel Distance (mi)	527	501	491	485	482	497
Travel Time (hr)	29.7	24.8	25.9	24.8	22.8	25.6
Total Delay (hr)	15.4	11.3	12.5	11.7	9.8	12.1
Total Stops	917	767	811	733	711	787
Fuel Used (gal)	21.3	19.3	19.1	18.8	18.3	19.4

Intersection: 4: Beaumont Ave & Oak Valley Pkwy

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	266	226	277	240	276	224	239	255	222	196	266	288
Average Queue (ft)	187	172	181	143	193	164	162	155	130	118	176	192
95th Queue (ft)	268	246	263	221	273	227	244	245	230	204	246	299
Link Distance (ft)	164	164	164		1529	1529		899	899		1082	1082
Upstream Blk Time (%)	16	14	14									
Queuing Penalty (veh)	56	51	50									
Storage Bay Dist (ft)				150			100			150		
Storage Blk Time (%)				4	14		13	7		5	13	
Queuing Penalty (veh)				12	24		30	17		11	20	

Intersection: 11: Oak Valley Pkwy & Project Dwy 3

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	53	74
Average Queue (ft)	23	48
95th Queue (ft)	51	76
Link Distance (ft)		314
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	150	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: San Miguel Dr/Project Dwy 4 & Oak Valley Pkwy

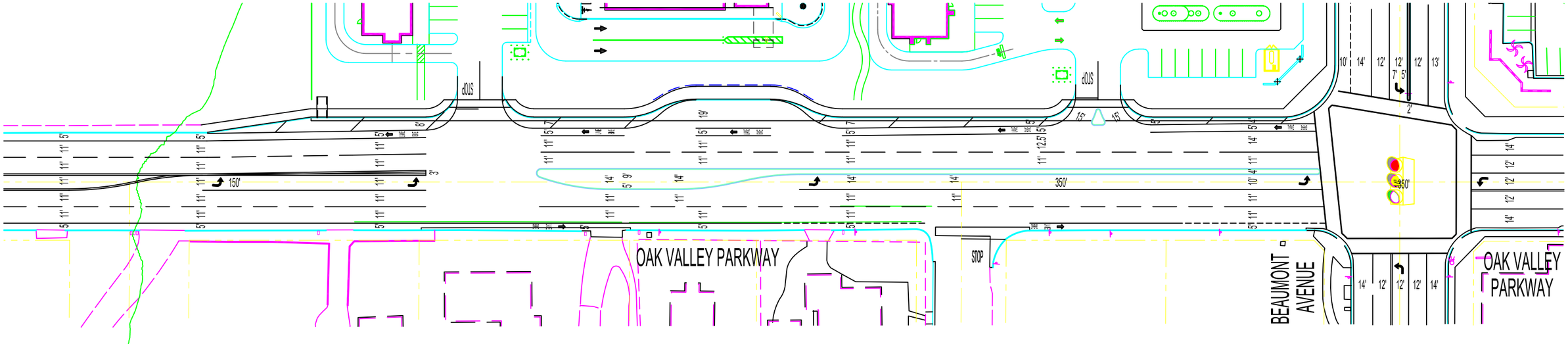
Movement	NB	SB
Directions Served	R	R
Maximum Queue (ft)	54	50
Average Queue (ft)	24	34
95th Queue (ft)	61	45
Link Distance (ft)	900	210
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

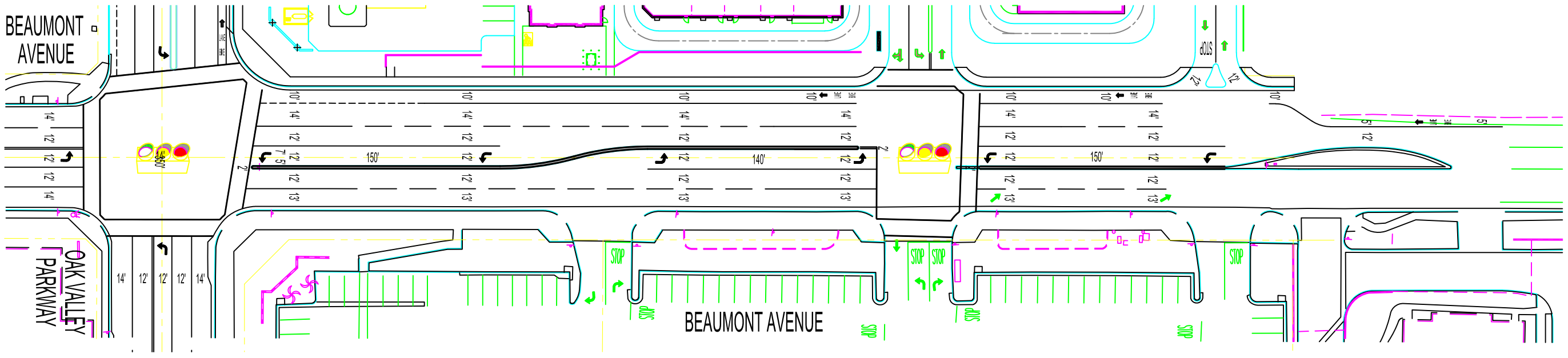
Network Summary

Network wide Queuing Penalty: 270

APPENDIX G

CONCEPT STRIPING PLAN


STOP
STOP
STOP
150'
350'
350'
OAK VALLEY PARKWAY
BEAUMONT AVENUE
OAK VALLEY PARKWAY


BEAUMONT AVENUE
OAK VALLEY PARKWAY
BEAUMONT AVENUE
STOP
150'
140'
150'

GANDDINI GROUP INC.

714.795.3100 | ganddini.com