TRAFFIC IMPACT STUDY

For

Table Rock Homesteads
El Paso County, Colorado

January 2025

Prepared for:

8550 Kenosha Drive
Colorado Springs, Colorado 80908

Prepared by:

SM ROCHA, LLC
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Fred Lantz, PE

24-092250

Traffic Engineer's Statement

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

Fred Lantz, P.E. #23410

01/22/2025
Date

Developer's Statement

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

Ted Jarosz (Thaddeus)
8550 Kenosha Drive
Colorado Springs, Colorado 80908

1-23-2025
Date

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I. Introduction

Project Overview

This traffic impact study is provided as a planning document and addresses the capacity, geometric, and control requirements associated with the final plat application entitled Table Rock Homesteads.

This proposed residential development is located near the southwest corner of Black Forest Road and E Palmer Divide Avenue in El Paso County, Colorado.

Study Area Boundaries

The study area to be examined in this analysis encompasses the intersection of E Palmer Divide Avenue with Thunder Road.

Figure 1 illustrates location of the site and study intersections.

Site Description

Land for the development is currently vacant and surrounded by residential land uses.

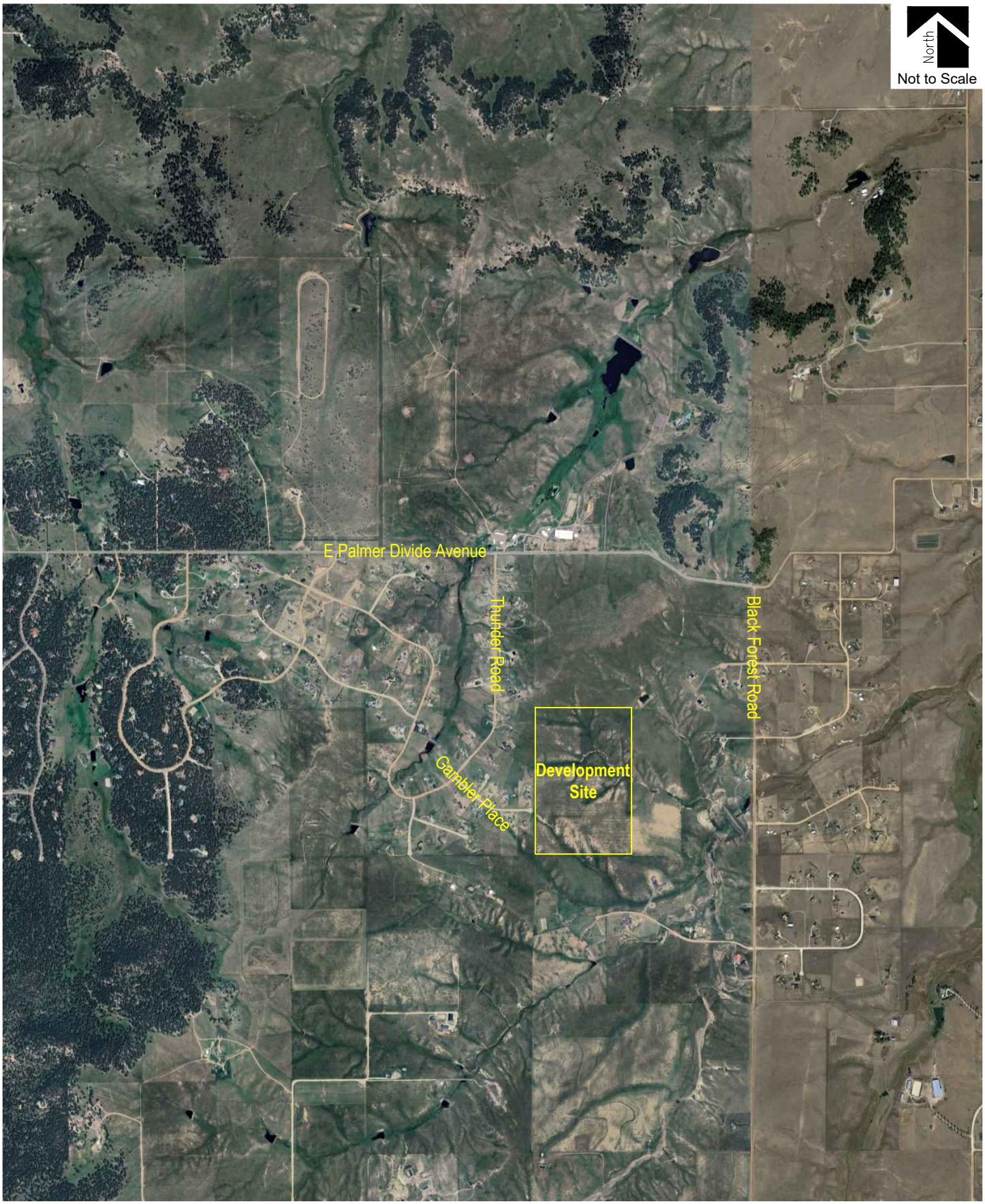
The proposed development is understood to entail the new construction of ten single-family detached homes.

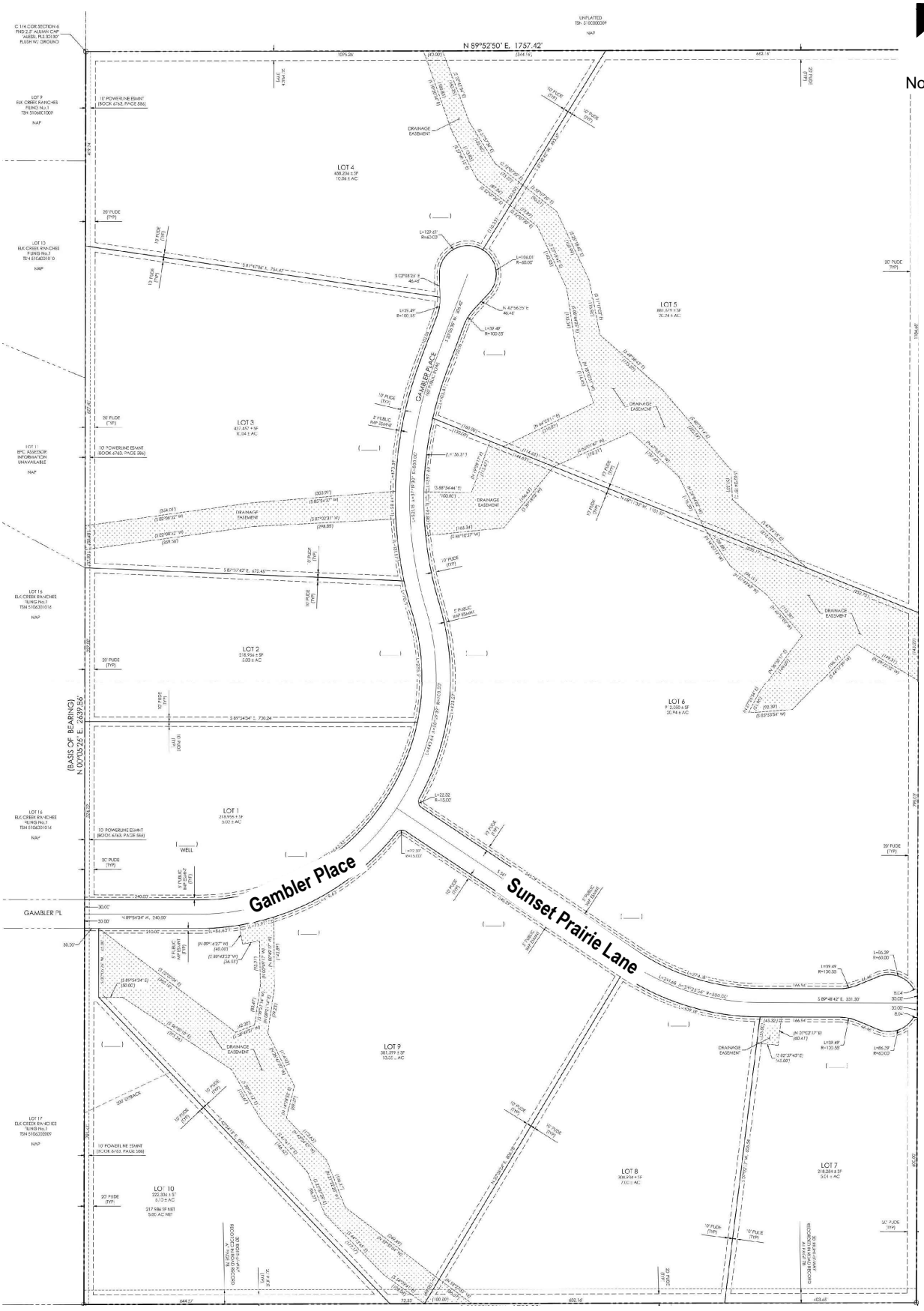
Existing access to the development is general, shared, and provided via one full-movement access onto E Palmer Divide Avenue via Thunder Road to Gambler Place.

For purposes of this study, it is anticipated that development construction would be completed by end of Year 2027.

General site and access locations are shown on Figure 1.

A final plat, as prepared by M.V.E. Inc., is shown on Figure 2. This plan is provided for illustrative purposes only.


North
Not to Scale
E Palmer Divide Avenue
Thunder Road
Black Forest Road
Gambler Place
Development Site


North
Not to Scale
N 89°52'50" E, 1757.42'
Gambler Place
Sunset Prairie Lane
GAMBLER PL
(BASIS OF BEARING)
N 00°10'32" E, 2639.26'
LOT 1
LOT 2
LOT 3
LOT 4
LOT 5
LOT 6
LOT 7
LOT 8
LOT 9
LOT 10
WELL
DRAINAGE EASEMENT
10' POWERLINE ESMNT
20' PUDE

Existing and Committed Surface Transportation Network

Within the study area, Thunder Road is the primary roadway that will accommodate traffic to and from the proposed development. The secondary roadway includes E Palmer Divide Avenue. A brief description of each roadway, based on El Paso County's Major Transportation Corridor Plan (MTCP)[1] and Engineering Criteria Manual (ECM)[2], as well as Douglas County 2040 Transportation Master Plan (TMP)[3] and Douglas County Roadway Design & Construction Standards (Roadway Standards)[4], is provided below:

> Thunder Road is a north south, unpaved, local roadway having two through lanes (one lane in each direction) with shared turn lanes at the intersection within the study area. Thunder Road provides a posted speed limit of 30 MPH.
>
> E Palmer Divide Avenue is an east-west roadway having two through lanes (one lane in each direction) with shared turn lanes at the intersection within the study area. E Palmer Divide Avenue (Douglas County Road 404) is the border between El Paso County and Douglas County but is unclassified in El Paso County's MTCP and Douglas County's TMP. However, per Section 2.3.2 of El Paso County's ECM, Section 4.2 Table 4-1 of Douglas County's Roadway Standards, the roadway's posted speed limit of 55 MPH, and its connection to State Highway 83, E Palmer Divide Avenue is assumed to be classified as a rural arterial roadway.

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

No regional or specific improvements for the above described roadways are known to be planned or committed at this time. The study area roadways appear to be built to their ultimate cross-sections.

[1] El Paso County Major Transportation Corridors Plan Update, Felsburg Holt & Ullevig, July 2024.
[2] El Paso County Engineering Criteria Manual, El Paso County, July 2023.
[3] 2040 Douglas County Transportation Plan, David Evans and Associates, Inc., September 2019.
[4] Douglas County Roadway Design and Construction Standards, Douglas County, June 2020.

II. Existing Traffic Conditions

Morning (AM) and afternoon (PM) peak hour traffic counts were collected at the intersection of E Palmer Divide Avenue and Thunder Road. Average daily traffic (ADT) volumes were collected over a 24-hour period on Thunder Road. Counts were collected on Wednesday, September 25, 2024, with AM peak hour counts being collected during the period of 7:00 a.m. to 9:00 a.m. and PM peak hour counts being collected during the period of 4:00 p.m. to 6:00 p.m.

Existing volumes and intersection geometry are shown on Figure 3. Traffic count data is included for reference in Appendix A.

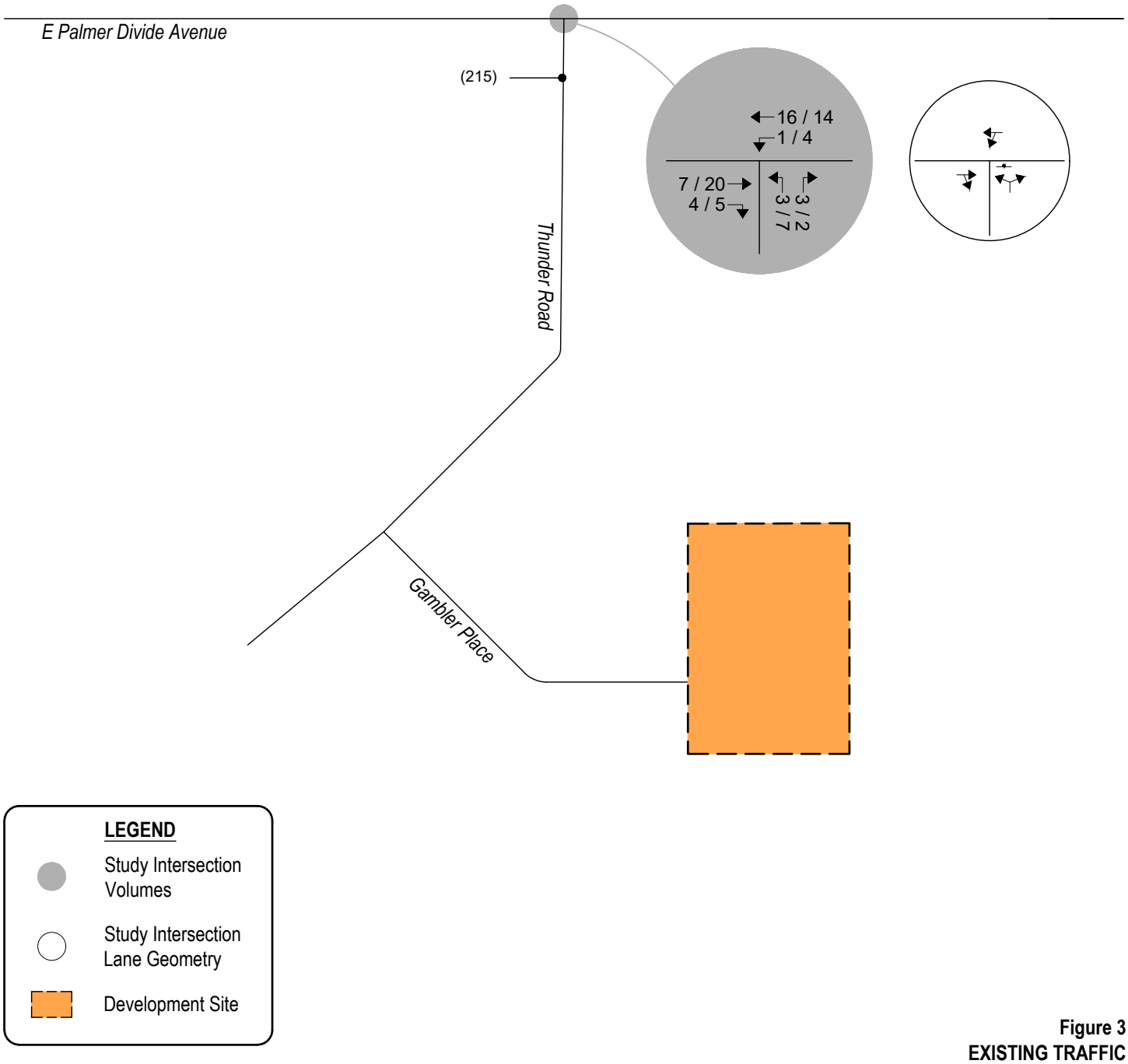


Figure 3
EXISTING TRAFFIC
Volumes & Intersection Geometry
AM / PM Peak Hour
(ADT) : Average Daily Traffic

Peak Hour Intersection Levels of Service – Existing Traffic

The Unsignalized Intersection Analysis technique, as published in the Highway Capacity Manual (HCM), 7th Edition, by the Transportation Research Board and as incorporated into the SYNCHRO computer program, was used to analyze the study intersection for existing and future traffic conditions. This nationally accepted technique allows for the determination of intersection level of service (LOS) based on the congestion and delay of each traffic movement.

Pursuant to Section B.4.1.A of the County's ECM, the design objective for each scenario of this study shall be level of service "D". Level of service is a method of measurement used by transportation professionals to quantify a driver's perception of travel conditions that include travel time, number of stops, and total amount of stopped delay experienced on a roadway network. The HCM categorizes level of service into a range from "A" which indicates little, if any, vehicle delay, to "F" which indicates a level of operation considered unacceptable to most drivers. These levels of service grades with brief descriptions of the operating condition, for unsignalized and signalized intersections, are included for reference in Appendix B and have been used throughout this study.

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

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

Table 1 – Intersection Capacity Analysis Summary – Existing Traffic

INTERSECTION	LEVEL OF SERVICE	
LANE GROUPS	AM PEAK HOUR	PM PEAK HOUR
E Palmer Divide Avenue / Thunder Road (Stop-Controlled)		
Westbound Left and Through	A	A
Northbound Left and Right	A	A

Key: Stop-Controlled Intersection: Level of Service

Existing Traffic Analysis Results

Under existing conditions, operational analysis shows that the unsignalized intersection of E Palmer Divide Avenue and Thunder Road has turning movement operations at LOS A during the morning and afternoon peak traffic hours.

III. Future Traffic Conditions Without Proposed Development

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

To account for projected increases in background traffic for Years 2027 and 2045, a compounded annual growth rate was determined using historical traffic data for the surrounding area provided by the Colorado Department of Transportation's (CDOT) Online Transportation Information System (OTIS) along the adjacent segment of State Highway 83 which anticipates a 20-year growth rate between one and two percent. Therefore, in order to provide for a conservative analysis, a growth rate of approximately two percent was applied to existing traffic volumes.

It is important to note that ingress and egress traffic volumes at the Thunder Road intersection with E Palmer Divide Avenue are not subject to annual growth patterns since this access drive does not provide connection to other roadways, therefore does not serve regional traffic.

Pursuant to the area roadway improvements discussed in Section I, Year 2027 and Year 2045 background traffic conditions assume no roadway improvements to accommodate regional transportation demands. This assumption provides for a conservative analysis.

Projected background traffic volumes and intersection geometry for Years 2027 and 2045 are shown on Figure 4 and Figure 5, respectively.

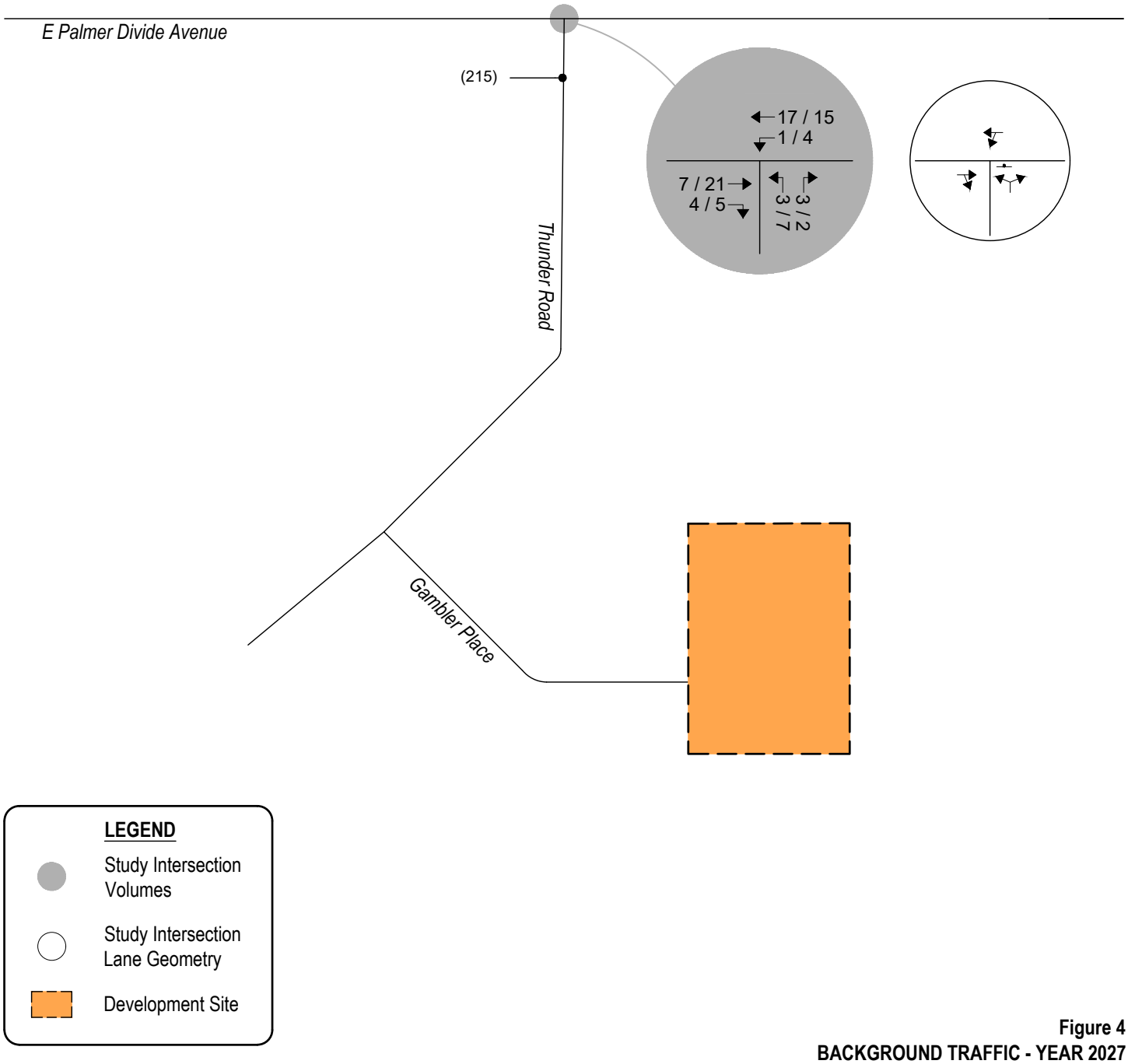


Figure 4
BACKGROUND TRAFFIC - YEAR 2027
Volumes & Intersection Geometry
AM / PM Peak Hour
(ADT) : Average Daily Traffic

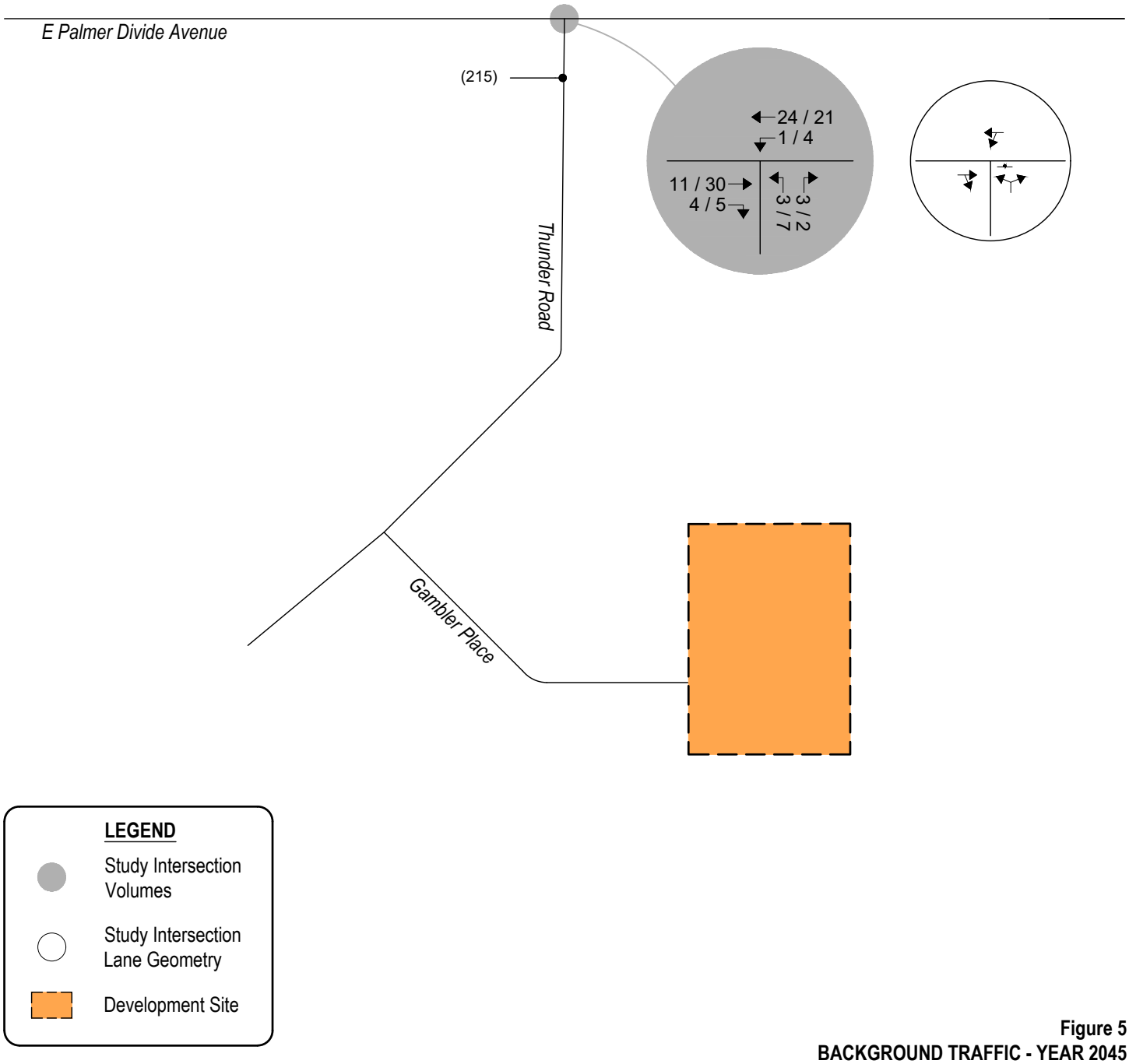


Figure 5
BACKGROUND TRAFFIC - YEAR 2045
Volumes & Intersection Geometry
AM / PM Peak Hour
(ADT) : Average Daily Traffic

Peak Hour Intersection Levels of Service – Background Traffic

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

Background traffic level of service analysis results for Year 2027 are listed in Table 2. Year 2045 operational results are summarized in Table 3.

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

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

INTERSECTION	LEVEL OF SERVICE	
LANE GROUPS	AM PEAK HOUR	PM PEAK HOUR
E Palmer Divide Avenue / Thunder Road (Stop-Controlled)		
Westbound Left and Through	A	A
Northbound Left and Right	A	A

Key: Stop-Controlled Intersection: Level of Service

Background Traffic Analysis Results – Year 2027

Year 2027 background traffic analysis indicates that the unsignalized intersection of E Palmer Divide Avenue and Thunder Road is projected to have turning movement operations at LOS A during the morning and afternoon peak traffic hours.

Table 3 – Intersection Capacity Analysis Summary – Background Traffic – Year 2045

INTERSECTION	LEVEL OF SERVICE	
LANE GROUPS	AM PEAK HOUR	PM PEAK HOUR
E Palmer Divide Avenue / Thunder Road (Stop-Controlled)		
Westbound Left and Through	A	A
Northbound Left and Right	A	A

Key: Stop-Controlled Intersection: Level of Service

Background Traffic Analysis Results – Year 2045

By Year 2045 and without the proposed development, the unsignalized intersection of E Palmer Divide Avenue and Thunder Road continues to expect turning movement operations at LOS A during the morning and afternoon peak traffic hours.

These intersection operations are similar to existing conditions.

IV. Proposed Project Traffic

Trip Generation

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

The ITE land use code 210 (Single-Family Detached Housing) was used for estimating trip generation because of its conservative rates and best fit to the proposed land use description.

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

Table 4 – Trip Generation Rates

			TRIP GENERATION RATES						
ITE			24	AM PEAK HOUR			PM PEAK HOUR		
CODE	LAND USE	UNIT	HOUR	ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
210	Single-Family Detached Housing	DU	9.43	0.18	0.53	0.70	0.59	0.35	0.94

Key: DU = Dwelling Units.
Note: All data and calculations above are subject to being rounded to nearest value.

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

Table 5 – Trip Generation Summary

			TOTAL TRIPS GENERATED						
ITE			24	AM PEAK HOUR			PM PEAK HOUR		
CODE	LAND USE	SIZE	HOUR	ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
210	Single-Family Detached Housing	10 DU	94	2	5	7	6	3	9
		Total:	*94*	*2*	*5*	*7*	*6*	*3*	*9*

Key: DU = Dwelling Units.
Note: All data and calculations above are subject to being rounded to nearest value.

Upon build-out, Table 5 illustrates that the proposed development has the potential to generate approximately 94 daily vehicle trips with 7 of those occurring during the morning peak hour and 9 during the afternoon peak hour.

Adjustments to Trip Generation Rates

A development of this type is not likely to attract trips from within area land uses nor pass-by or diverted link trips from the adjacent roadway system, therefore no trip reduction was taken in this analysis.

Trip Distribution

The overall directional distribution of site-generated traffic was determined based on the location of development site within the County, proposed and existing area land uses, allowed turning movements, available roadway network, and in reference to historical traffic count data provided by CDOT's Traffic Count Database System (TCDS)[5].

Overall trip distribution patterns for the development are shown on Figure 6.

Trip Assignment

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

Applying trip distribution patterns to site-generated traffic provides the overall site-generated trip assignments shown on Figure 6.

[5] Transportation Data Management System, MS2, 2021.

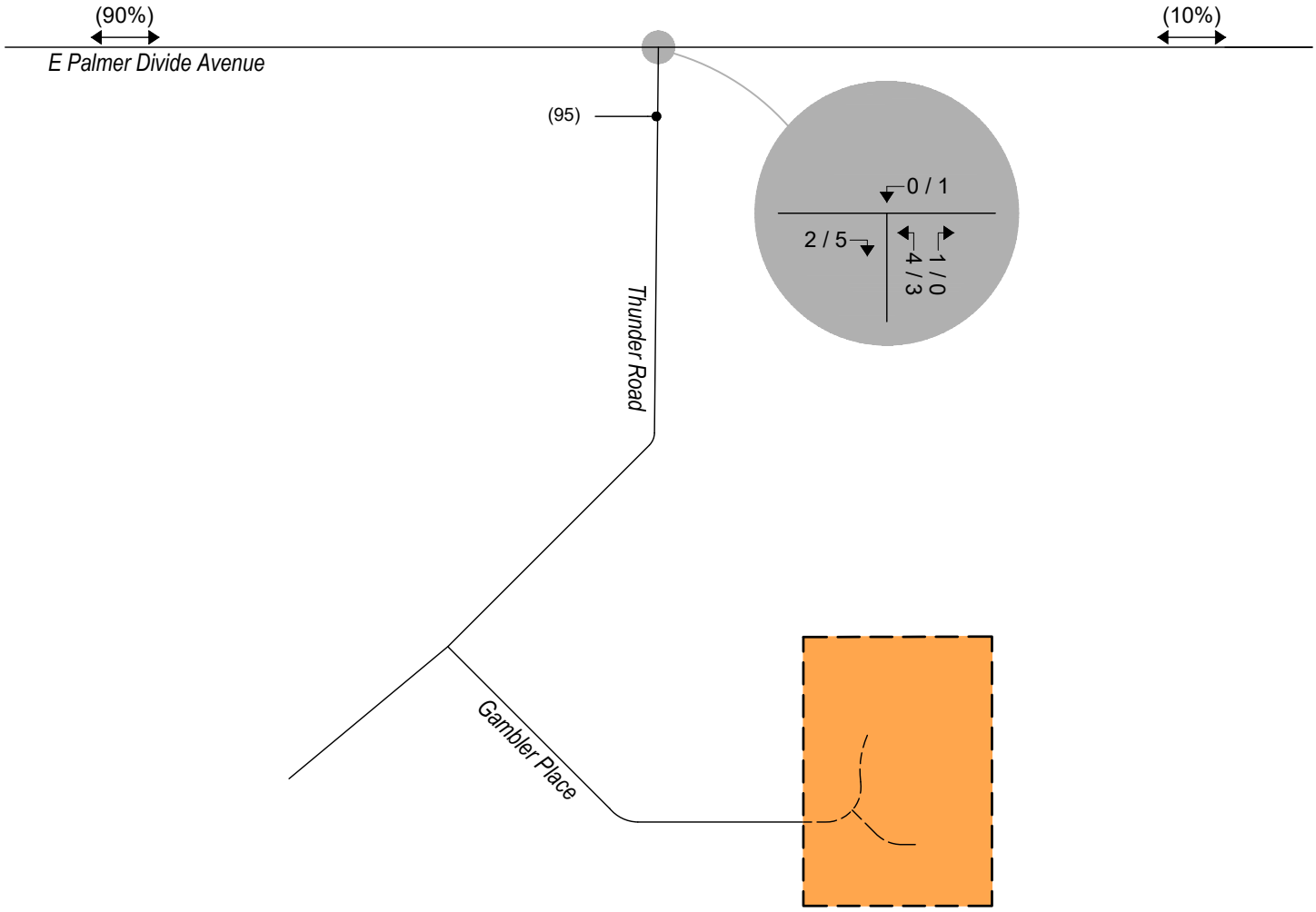


Figure 6
SITE DEVELOPMENT DISTRIBUTION
(%) : Overall
SITE-GENERATED TRIPS
AM / PM Peak Hour

V. Future Traffic Conditions With Proposed Developments

Total traffic is the traffic projected to be on area roadways with consideration of the proposed development. Total traffic includes background traffic projections for Years 2027 and 2045 with consideration of site-generated traffic. For analysis purposes, it was assumed that development construction would be completed by end of Year 2027.

Pursuant to area roadway improvement discussions provided in Section III, Year 2027 and Year 2045 total traffic conditions assume no roadway improvements to accommodate regional transportation demands. Roadway improvements associated with site development are expected to be limited to site access and frontage as required by the governing agency.

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

Figure 8 shows projected total traffic volumes and intersection geometry for Year 2045.

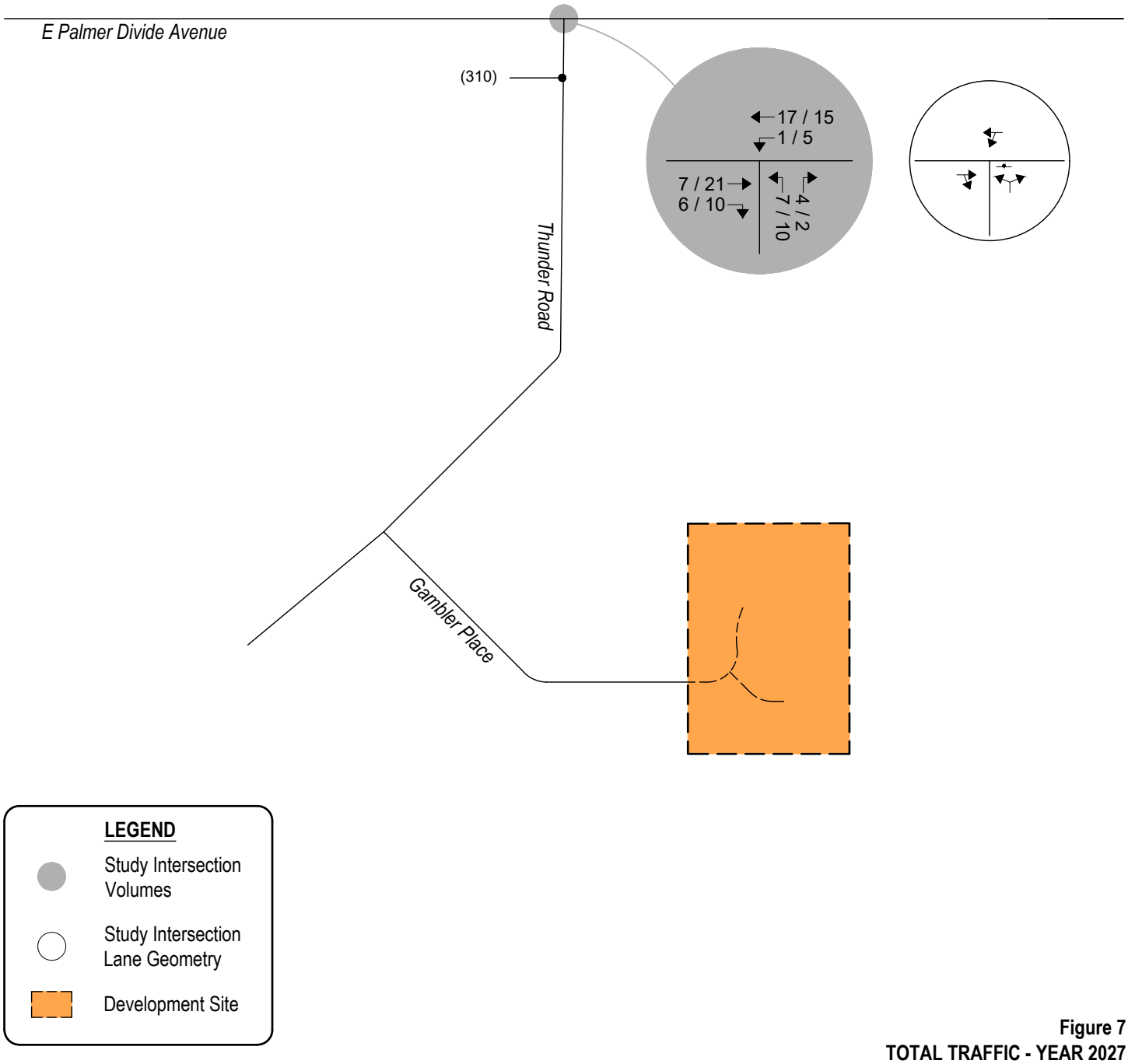


Figure 7
TOTAL TRAFFIC - YEAR 2027
Volumes & Intersection Geometry
AM / PM Peak Hour
(ADT) : Average Daily Traffic

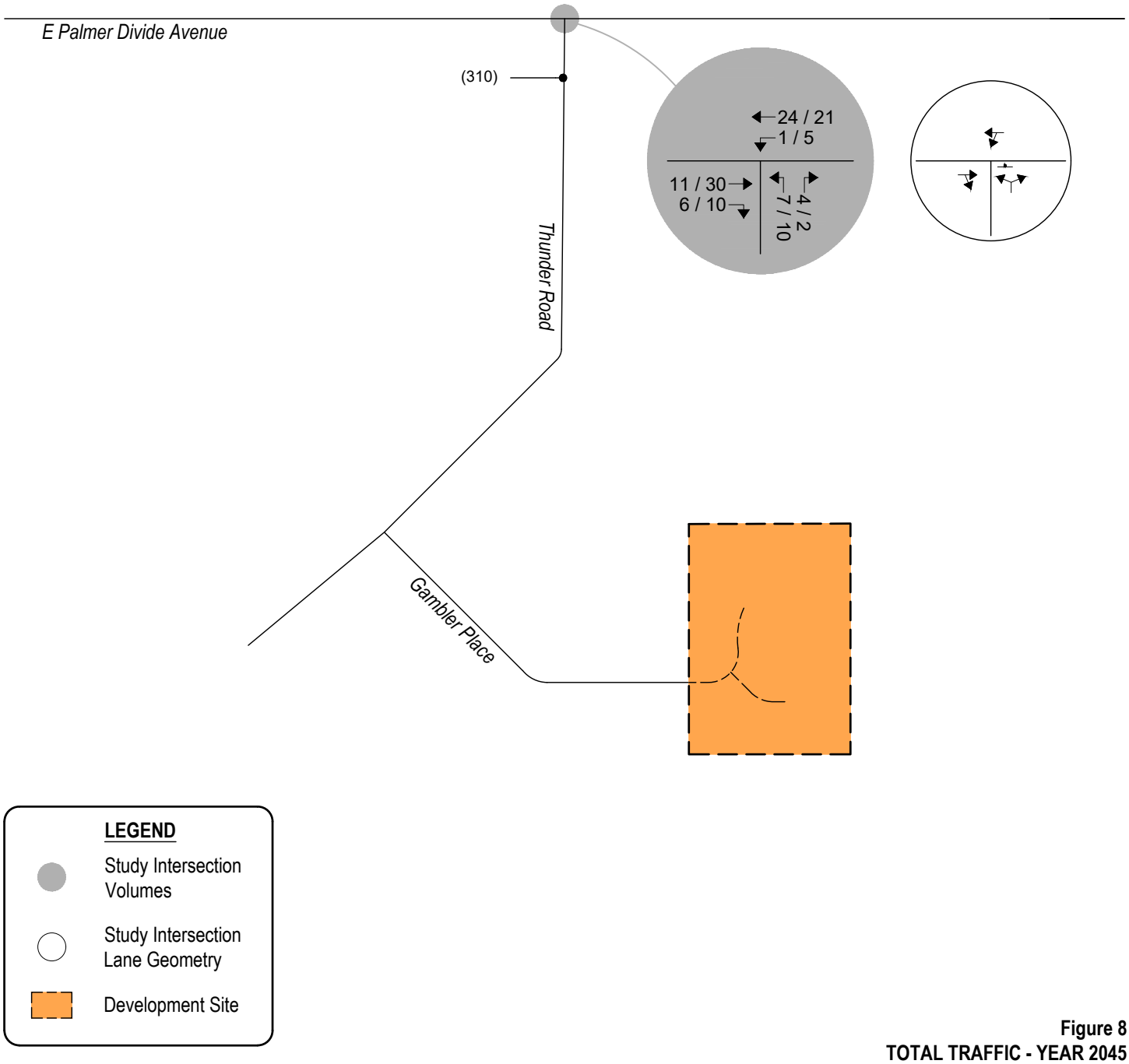


Figure 8
TOTAL TRAFFIC - YEAR 2045
Volumes & Intersection Geometry
AM / PM Peak Hour
(ADT) : Average Daily Traffic

VI. Project Impacts

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

Total Traffic Auxiliary Lane Analysis

Auxiliary lanes for the intersection of E Palmer Divide Avenue and Thunder Road are to be based on CDOT's State Highway Access Code (SHAC)[6] as stated within Section 4.13 of Douglas County's Roadway Standards. E Palmer Divide Avenue is assumed to provide a R-B (Rural Highway) CDOT Access Category.

Considering development build-out, an evaluation of auxiliary lane requirements, pursuant to Section 3.9(8) of CDOT's SHAC reveals that an eastbound right turn deceleration lane along E Palmer Divide Avenue at Thunder Road is not required since the right turn ingress volumes are less than the 25 vehicles per hour (VPH) threshold. Additionally, a westbound left turn deceleration lane along E Palmer Divide Avenue at Thunder Road is not required since projected left turn ingress volumes are less than the 10 VPH threshold.

Peak Hour Intersection Levels of Service – Total Traffic

As with background traffic, the operations of the study intersections were analyzed under projected total traffic conditions using the SYNCHRO computer program. Total traffic level of service analysis results for Years 2027 and 2045 are summarized in Table 6 and Table 7, respectively.

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

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

INTERSECTION	LEVEL OF SERVICE	
LANE GROUPS	AM PEAK HOUR	PM PEAK HOUR
E Palmer Divide Avenue / Thunder Road (Stop-Controlled)		
Westbound Left and Through	A	A
Northbound Left and Right	A	A

Key: Stop-Controlled Intersection: Level of Service

[6] State Highway Access Code, The Transportation Commission of Colorado, March 2002.

Table 7 – Intersection Capacity Analysis Summary – Total Traffic – Year 2045

INTERSECTION	LEVEL OF SERVICE	
LANE GROUPS	AM PEAK HOUR	PM PEAK HOUR
E Palmer Divide Avenue / Thunder Road (Stop-Controlled)		
Westbound Left and Through	A	A
Northbound Left and Right	A	A

Key: Stop-Controlled Intersection: Level of Service

Total Traffic Analysis Results Upon Development Build-Out

Table 7 illustrates how, by Year 2045 and upon development build-out, the unsignalized intersection of E Palmer Divide Avenue and Thunder Road continues to anticipate turning movement operations at LOS A during the morning and afternoon peak traffic hours.

These intersection operations are similar to existing and background conditions.

Queue Length Analysis

Queue lengths for the existing intersection of E Palmer Divide Avenue and Thunder Road were analyzed using Year 2045 total traffic conditions. The analysis yields estimate of 95th percentile queue lengths, which have only a five percent probability of being exceeded during the analysis time period.

No vehicle queues at the intersection of E Palmer Divide Avenue and Thunder Road were indicated during either peak traffic hour.

Queue lengths were modeled and are included with the Synchro worksheets in Appendix C.

Recommended Improvements

Considering the study intersection is expected to have long term LOS operations at LOS A, have no significant queues, and that no turn lanes are warranted, no public improvements associated with this development are recommended.

VII. Conclusion

This traffic impact study addressed the capacity, geometric, and control requirements associated with the development entitled Table Rock Homesteads. This proposed residential development entails the new construction of ten single-family detached homes. The development is located near the southwest corner of Black Forest Road and E Palmer Divide Avenue in El Paso County, Colorado.

The study area examined in this analysis encompassed the intersection of E Palmer Divide Avenue with Thunder Road.

Analysis was conducted for critical AM Peak Hour and PM Peak Hour traffic operations for existing traffic conditions, Year 2027 and Year 2045 background traffic conditions, and Year 2027 and Year 2045 total traffic conditions.

Analysis of existing traffic conditions indicates that the unsignalized intersection of E Palmer Divide Avenue and Thunder Road has turning movement operations at LOS A during the morning and afternoon peak traffic hours.

Without the proposed development, Year 2027 background operational analysis shows that the unsignalized intersection of E Palmer Divide Avenue and Thunder Road is projected to have turning movement operations at LOS A during the morning and afternoon peak traffic hours.

By Year 2045 and without the proposed development, the unsignalized intersection of E Palmer Divide Avenue and Thunder Road continues to anticipate turning movement operations at LOS A during the morning and afternoon peak traffic hour.

Analysis of future traffic conditions indicates that the addition of site-generated traffic is expected to create no negative impact to traffic operations for the existing and surrounding roadway system upon roadway and intersection control improvements assumed within this analysis. With all conservative assumptions defined in this analysis, the study intersection is projected to operate at future levels of service comparable to Year 2045 background traffic conditions. Proposed site access has long-term operations at LOS A during peak traffic periods and upon build-out.

This site is subject to the El Paso County Road Impact Fee Program (Resolution 19-471), as amended. An option for payment will be selected at the final land use approval stage.

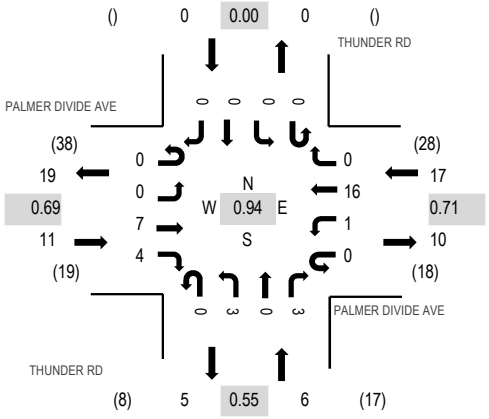
APPENDIX A

Traffic Count Data

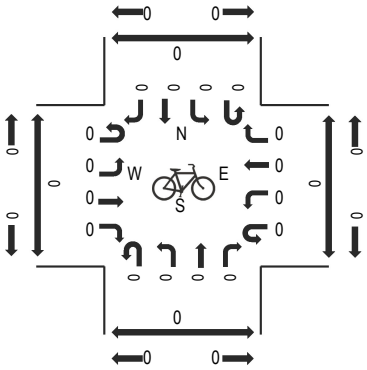
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 THUNDER RD & PALMER DIVIDE AVE AM
Date: Wednesday, September 25, 2024
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:00 AM - 08:15 AM

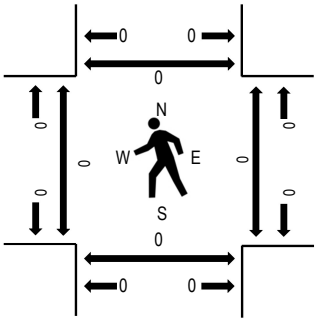
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

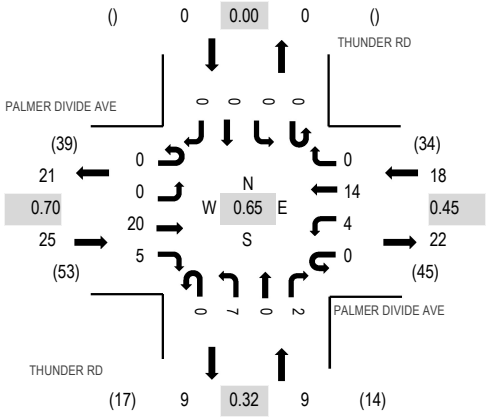
Traffic Counts - Motorized Vehicles

Interval Start Time	PALMER DIVIDE AVE Eastbound				PALMER DIVIDE AVE Westbound				THUNDER RD Northbound				THUNDER RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	2	0	0	0	5	0	0	2	0	0	0	0	0	0	9	30	0	0	0	0
7:15 AM	0	0	0	2	0	0	2	0	0	0	0	1	0	0	0	0	5	30	0	0	0	0
7:30 AM	0	0	3	0	0	1	2	0	0	5	0	0	0	0	0	0	11	33	0	0	0	0
7:45 AM	0	0	1	0	0	0	1	0	0	2	0	1	0	0	0	0	5	30	0	0	0	0
8:00 AM	0	0	2	0	0	0	6	0	0	0	0	1	0	0	0	0	9	34	0	0	0	0
8:15 AM	0	0	0	1	0	1	5	0	0	0	0	1	0	0	0	0	8		0	0	0	0
8:30 AM	0	0	2	2	0	0	2	0	0	2	0	0	0	0	0	0	8		0	0	0	0
8:45 AM	0	0	3	1	0	0	3	0	0	1	0	1	0	0	0	0	9		0	0	0	0
Count Total	0	0	13	6	0	2	26	0	0	12	0	5	0	0	0	0	64		0	0	0	0
Peak Hour	0	0	7	4	0	1	16	0	0	3	0	3	0	0	0	0	34		0	0	0	0

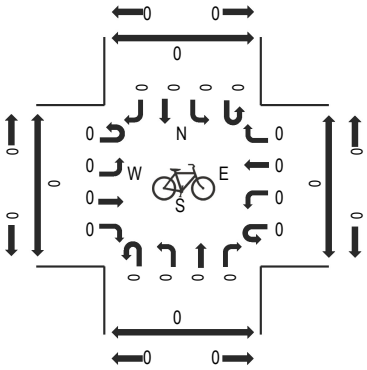
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 THUNDER RD & PALMER DIVIDE AVE PM
Date: Wednesday, September 25, 2024
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:00 PM - 04:15 PM

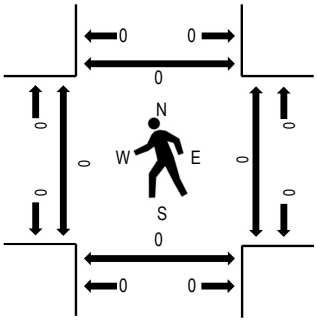
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	PALMER DIVIDE AVE Eastbound				PALMER DIVIDE AVE Westbound				THUNDER RD Northbound				THUNDER RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	7	1	0	2	8	0	0	2	0	0	0	0	0	0	20	52	0	0	0	0
4:15 PM	0	0	4	1	0	2	3	0	0	5	0	2	0	0	0	0	17	46	0	0	0	0
4:30 PM	0	0	6	1	0	0	2	0	0	0	0	0	0	0	0	0	9	36	0	0	0	0
4:45 PM	0	0	3	2	0	0	1	0	0	0	0	0	0	0	0	0	6	43	0	0	0	0
5:00 PM	0	0	6	1	0	1	6	0	0	0	0	0	0	0	0	0	14	49	0	0	0	0
5:15 PM	0	0	4	0	0	0	1	0	0	2	0	0	0	0	0	0	7		0	0	0	0
5:30 PM	0	0	6	1	0	2	6	0	0	1	0	0	0	0	0	0	16		0	0	0	0
5:45 PM	0	0	7	3	0	0	0	0	0	2	0	0	0	0	0	0	12		0	0	0	0
Count Total	0	0	43	10	0	7	27	0	0	12	0	2	0	0	0	0	101		0	0	0	0
Peak Hour	0	0	20	5	0	4	14	0	0	7	0	2	0	0	0	0	52		0	0	0	0

All Traffic Data Services

12200 W 52ND Ave
Wheat Ridge, CO 80033

Site Code: 2
Station ID: 2
THUNDER RD S.O. PALMER DIVIDE AVE

Start Time	25-Sep-24 Wed	NB	SB							Total
12:00 AM		0	0							0
01:00		0	0							0
02:00		1	0							1
03:00		2	1							3
04:00		0	0							0
05:00		7	1							8
06:00		10	0							10
07:00		11	3							14
08:00		6	5							11
09:00		**12**	**8**							**20**
10:00		8	4							12
11:00		6	4							10
12:00 PM		4	4							8
01:00		7	6							13
02:00		5	4							9
03:00		5	11							16
04:00		**9**	9							18
05:00		5	8							13
06:00		6	**15**							**21**
07:00		0	5							5
08:00		1	7							8
09:00		6	7							13
10:00		1	3							4
11:00		0	0							0
Total		112	105							217
Percent		51.6%	48.4%							
AM Peak	-	09:00	09:00	-	-	-	-	-	-	09:00
Vol.	-	12	8	-	-	-	-	-	-	20
PM Peak	-	16:00	18:00	-	-	-	-	-	-	18:00
Vol.	-	9	15	-	-	-	-	-	-	21
Grand Total		112	105							217
Percent		51.6%	48.4%							
ADT		ADT 217		AADT 217						

APPENDIX B

Level of Service Definitions

The following information is referenced from the Highway Capacity Manual: A Guide for Multimodal Mobility Analysis, 7th Edition, Transportation Research Board, 2022: Chapter 19 – Signalized Intersections.

Motorized Vehicle Level of Service (LOS) for Signalized Intersections

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

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

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

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

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

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

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

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio[a]	
	$v/c \leq 1.0$	$v/c > 1.0$
≤ 10	A	F
> 10 – 20	B	F
> 20 – 35	C	F
> 35 – 55	D	F
> 55 – 80	E	F
> 80	F	F

Note: [a] For approach-based and intersectionwide assessments, LOS is defined solely by control delay.

The following information is referenced from the Highway Capacity Manual: A Guide for Multimodal Mobility Analysis, 7th Edition, Transportation Research Board, 2022: Chapter 20 – Two-Way Stop-Controlled Intersections, Chapter 21 – All-Way Stop-Controlled Intersections, and Chapter 22 - Roundabouts.

Motorized Vehicle Level of Service (LOS) for Unsignalized & Roundabout Intersections

LOS is a quantitative stratification of performance measure(s) representing quality of service. Quality of service describes how well a transportation facility or service operates from a traveler's perspective. LOS is measured on an A – F scale, with LOS A representing the best operating conditions from a traveler's perspective.

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio[a]	
	$v/c \leq 1.0$	$v/c > 1.0$
0 – 10	A	F
> 10 – 15	B	F
> 15 – 25	C	F
> 25 – 35	D	F
> 35 – 50	E	F
> 50	F	F

Note: The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-street approaches or for the intersection as a whole.

[a] For approaches and intersectionwide assessment, LOS is defined solely by control delay.

APPENDIX C

Capacity Worksheets

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	7	4	1	16	3	3
Future Vol, veh/h	7	4	1	16	3	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	4	1	17	3	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	12	0	29	10
Stage 1	-	-	-	-	10	-
Stage 2	-	-	-	-	20	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1607	-	985	1072
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	1003	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1607	-	984	1072
Mov Cap-2 Maneuver	-	-	-	-	984	-
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	1002	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.43	8.53
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1026	-	-	106	-
HCM Lane V/C Ratio	0.006	-	-	0.001	-
HCM Control Delay (s/veh)	8.5	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	20	5	4	14	7	2
Future Vol, veh/h	20	5	4	14	7	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	5	4	15	8	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	27	0	48	24
Stage 1	-	-	-	-	24	-
Stage 2	-	-	-	-	24	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1587	-	961	1052
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	999	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1587	-	958	1052
Mov Cap-2 Maneuver	-	-	-	-	958	-
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	996	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	1.62	8.72
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	978	-	-	400	-
HCM Lane V/C Ratio	0.01	-	-	0.003	-
HCM Control Delay (s/veh)	8.7	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	7	4	1	17	3	3
Future Vol, veh/h	7	4	1	17	3	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	4	1	18	3	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	12	0	30	10
Stage 1	-	-	-	-	10	-
Stage 2	-	-	-	-	21	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1607	-	984	1072
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	1002	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1607	-	983	1072
Mov Cap-2 Maneuver	-	-	-	-	983	-
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	1001	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.4	8.53
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1025	-	-	100	-
HCM Lane V/C Ratio	0.006	-	-	0.001	-
HCM Control Delay (s/veh)	8.5	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	21	5	4	15	7	2
Future Vol, veh/h	21	5	4	15	7	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	5	4	16	8	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	28	0	51	26
Stage 1	-	-	-	-	26	-
Stage 2	-	-	-	-	25	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1585	-	958	1050
Stage 1	-	-	-	-	997	-
Stage 2	-	-	-	-	998	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1585	-	956	1050
Mov Cap-2 Maneuver	-	-	-	-	956	-
Stage 1	-	-	-	-	997	-
Stage 2	-	-	-	-	995	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	1.53	8.73
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	975	-	-	379	-
HCM Lane V/C Ratio	0.01	-	-	0.003	-
HCM Control Delay (s/veh)	8.7	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	11	4	1	24	3	3
Future Vol, veh/h	11	4	1	24	3	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	4	1	26	3	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	16	0	42	14
Stage 1	-	-	-	-	14	-
Stage 2	-	-	-	-	28	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1601	-	969	1066
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	994	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1601	-	968	1066
Mov Cap-2 Maneuver	-	-	-	-	968	-
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	994	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.29	8.57
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1014	-	-	72	-
HCM Lane V/C Ratio	0.006	-	-	0.001	-
HCM Control Delay (s/veh)	8.6	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	30	5	4	21	7	2
Future Vol, veh/h	30	5	4	21	7	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	5	4	23	8	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	38	0	67	35
Stage 1	-	-	-	-	35	-
Stage 2	-	-	-	-	32	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1572	-	938	1037
Stage 1	-	-	-	-	987	-
Stage 2	-	-	-	-	991	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1572	-	936	1037
Mov Cap-2 Maneuver	-	-	-	-	936	-
Stage 1	-	-	-	-	987	-
Stage 2	-	-	-	-	988	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	1.17	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	957	-	-	288	-
HCM Lane V/C Ratio	0.01	-	-	0.003	-
HCM Control Delay (s/veh)	8.8	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	7	6	1	17	7	4
Future Vol, veh/h	7	6	1	17	7	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	7	1	18	8	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	14	0	32	11
Stage 1	-	-	-	-	11	-
Stage 2	-	-	-	-	21	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1604	-	982	1070
Stage 1	-	-	-	-	1012	-
Stage 2	-	-	-	-	1002	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1604	-	982	1070
Mov Cap-2 Maneuver	-	-	-	-	982	-
Stage 1	-	-	-	-	1012	-
Stage 2	-	-	-	-	1001	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.4	8.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1012	-	-	100	-
HCM Lane V/C Ratio	0.012	-	-	0.001	-
HCM Control Delay (s/veh)	8.6	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	21	10	5	15	10	2
Future Vol, veh/h	21	10	5	15	10	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	11	5	16	11	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	34	0	55	28
Stage 1	-	-	-	-	28	-
Stage 2	-	-	-	-	27	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1578	-	952	1047
Stage 1	-	-	-	-	994	-
Stage 2	-	-	-	-	995	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1578	-	949	1047
Mov Cap-2 Maneuver	-	-	-	-	949	-
Stage 1	-	-	-	-	994	-
Stage 2	-	-	-	-	992	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	1.82	8.79
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	964	-	-	450	-
HCM Lane V/C Ratio	0.014	-	-	0.003	-
HCM Control Delay (s/veh)	8.8	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	11	6	1	24	7	4
Future Vol, veh/h	11	6	1	24	7	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	7	1	26	8	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	18	0	43	15
Stage 1	-	-	-	-	15	-
Stage 2	-	-	-	-	28	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1598	-	967	1064
Stage 1	-	-	-	-	1008	-
Stage 2	-	-	-	-	994	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1598	-	967	1064
Mov Cap-2 Maneuver	-	-	-	-	967	-
Stage 1	-	-	-	-	1008	-
Stage 2	-	-	-	-	994	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.29	8.64
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1000	-	-	72	-
HCM Lane V/C Ratio	0.012	-	-	0.001	-
HCM Control Delay (s/veh)	8.6	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	30	10	5	21	10	2
Future Vol, veh/h	30	10	5	21	10	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	11	5	23	11	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	43	0	72	38
Stage 1	-	-	-	-	38	-
Stage 2	-	-	-	-	34	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1565	-	932	1034
Stage 1	-	-	-	-	984	-
Stage 2	-	-	-	-	989	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1565	-	929	1034
Mov Cap-2 Maneuver	-	-	-	-	929	-
Stage 1	-	-	-	-	984	-
Stage 2	-	-	-	-	985	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	1.41	8.86
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	945	-	-	346	-
HCM Lane V/C Ratio	0.014	-	-	0.003	-
HCM Control Delay (s/veh)	8.9	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-