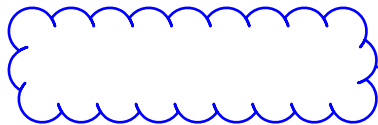


TRAFFIC IMPACT STUDY

Chick-fil-A Powers & Palmer Park El Paso County



PCD File PR2521

Prepared for:

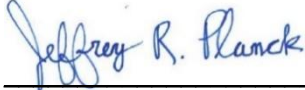
Merrick & Company

Kimley»Horn

T R A F F I C I M P A C T S T U D Y

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.



Jeffrey R. Planck, P.E., PE #53006

January 23, 2025

Date

Developer's Statement

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

Mr. Randy Kimoto
Chick-fil-A, Inc.
5200 Buffington Road
Atlanta, GA 30349

Date

Chick-fil-A Powers & Palmer Park

El Paso County

Prepared for Merrick & Company

5700 Greenwood Plaza Boulevard
Greenwood Village, Colorado 80111

Prepared by Kimley-Horn and Associates, Inc

2 North Nevada Avenue
Suite 900
Colorado Springs, Colorado 80903
(719) 453-0180

January 2025



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1.0 EXECUTIVE SUMMARY

The Chick-fil-A Powers & Palmer Park project is proposed within the existing retail center located on the southeast corner of the Palmer Park Boulevard and Powers Boulevard (SH-21) intersection in El Paso County. The project is proposed to include a ~~2,174~~ square foot fast-food restaurant with drive-through only and no indoor seating. It is expected that the project will be completed in the next several years; therefore, analysis was conducted for the 2028 short-term buildout horizon as well as the 2045 long-term twenty-year planning horizon. 2962sqft

The purpose of this traffic study is to identify project traffic generation characteristics to determine potential project traffic related impacts on the local street system and to develop the necessary mitigation measures required for the identified traffic impacts. The following intersections were incorporated into this traffic study in accordance with El Paso County and State of Colorado Department of Transportation standards and requirements:

- Palmer Park Boulevard and Powers Boulevard (SH-21)
- Omaha Boulevard and Powers Boulevard (SH-21)
- Palmer Park Boulevard Signalized Access
- Omaha Boulevard Full Movement Access

Regional and primary access to the site will be provided by Powers Boulevard (SH-21). Primary access will be provided by Palmer Park Boulevard and Omaha Boulevard. Direct access will be provided by the existing signalized intersection access along Palmer Park Boulevard and the existing full movement access along Omaha Boulevard. Both accesses are approximately 350 feet east of Powers Boulevard (SH-21).

Accounting for pass-by trips, new trips to the surrounding street network would result in approximately 1,298 weekday daily new trips, with 91 of these new trips occurring during the morning peak hour and 130 of these new trips occurring during the afternoon peak hour.

Based on the analysis presented in this report, Kimley-Horn believes Chick-fil-A Powers & Palmer Park will be successfully incorporated into the existing and future roadway network. Analysis of the existing street network, the proposed project development, and expected traffic volumes resulted in the following conclusions and recommendations:

- The study area key intersections and accesses are all expected to operate acceptably with existing lane configurations and control throughout the 2045 horizon. Further, vehicle queues are calculated to be contained within existing turn lane lengths through the long-term planning horizon. If 2045 traffic projections are realized, minor signal timings modifications could be needed during the afternoon peak hour in 2045 at the Palmer Park Boulevard and Powers Boulevard intersection. The green time on the eastbound approach may need to be increased by approximately three seconds to achieve overall level of service D during the PM peak hour in 2045.
- Based on traffic projections, the addition of project traffic on the east leg of Omaha Boulevard at SH-21 is anticipated to increase existing access traffic volumes by more than 20 percent; therefore, a CDOT access permit is anticipated to be required along Omaha Boulevard at SH-21 in association with this project.
- Any onsite or offsite improvements should be incorporated into the Civil Drawings and conform to standards of El Paso County and the Manual on Uniform Traffic Control Devices (MUTCD) – 11th Edition, 2023.

Address development of commercial area across from VASA and impact on LOS
Note the 2045 analysis does not seem to include the development of the adjacent commercial area.

Discuss movement of signalized intersection to Waynoka Rd

2.0 INTRODUCTION

Kimley-Horn has prepared this report to document the results of a Traffic Impact Study for Chick-fil-A Powers & Palmer Park proposed to be within the existing retail center located on the southeast corner of the Palmer Park Boulevard and Powers Boulevard (SH-21) intersection in El Paso County. A vicinity map illustrating the project development location is shown in **Figure 1**. The project is proposed to include a 2,174 square foot fast-food restaurant with drive-through only and no indoor seating. A conceptual site plan is attached in **Appendix A**. It is expected that the project will be completed in the next several years; therefore, analysis was conducted for the 2028 short-term buildout horizon as well as the 2045 long-term twenty-year planning horizon.

The purpose of this traffic study is to identify project traffic generation characteristics to determine potential project traffic related impacts on the local street system and to develop the necessary mitigation measures required for the identified traffic impacts. The following intersections were incorporated into this traffic study in accordance with El Paso County and CDOT standards and requirements:

- Palmer Park Boulevard and Powers Boulevard (SH-21)
- Omaha Boulevard and Powers Boulevard (SH-21)
- Palmer Park Boulevard and Signalized Access
- Omaha Boulevard and Full Movement Access

2962sqft per SDP

Regional and primary access to the site will be provided by Powers Boulevard (SH-21). Primary access will be provided by Palmer Park Boulevard and Omaha Boulevard. Direct access will be provided by the existing signalized intersection access along Palmer Park Boulevard and the existing full movement access along Omaha Boulevard. Both accesses are approximately 350 feet east of Powers Boulevard (SH-21).

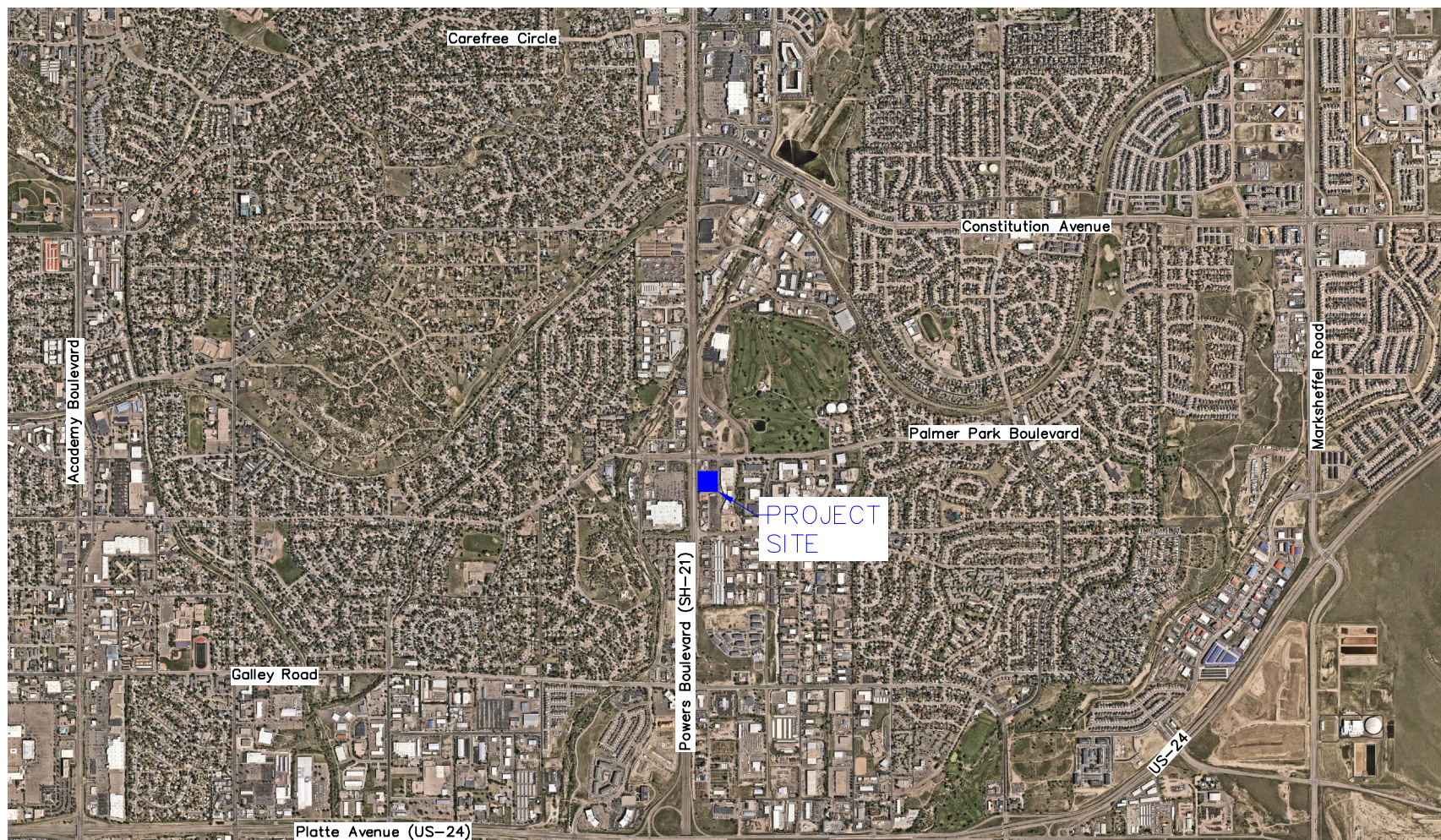


FIGURE 1
Chick-fil-A Powers & Palmer Park
El Paso County, Colorado
Vicinity Map

3.0 EXISTING AND FUTURE CONDITIONS

3.1 Existing Study Area

The site currently contains overflow parking for the existing retail center. Directly north is a 7-Eleven gas and convenience store and to the east is VASA Fitness. To the south are restaurant and retail uses. A retail center is also located to the west of Powers Boulevard while specialty retail uses are located the area east and south of the site. A golf course is located to the northeast of the site while single family residences are located in the extended area to the east and west. The extended site is directly east of Powers Boulevard (SH-21) which provides regional north-south connectivity through the east side of Colorado Springs.

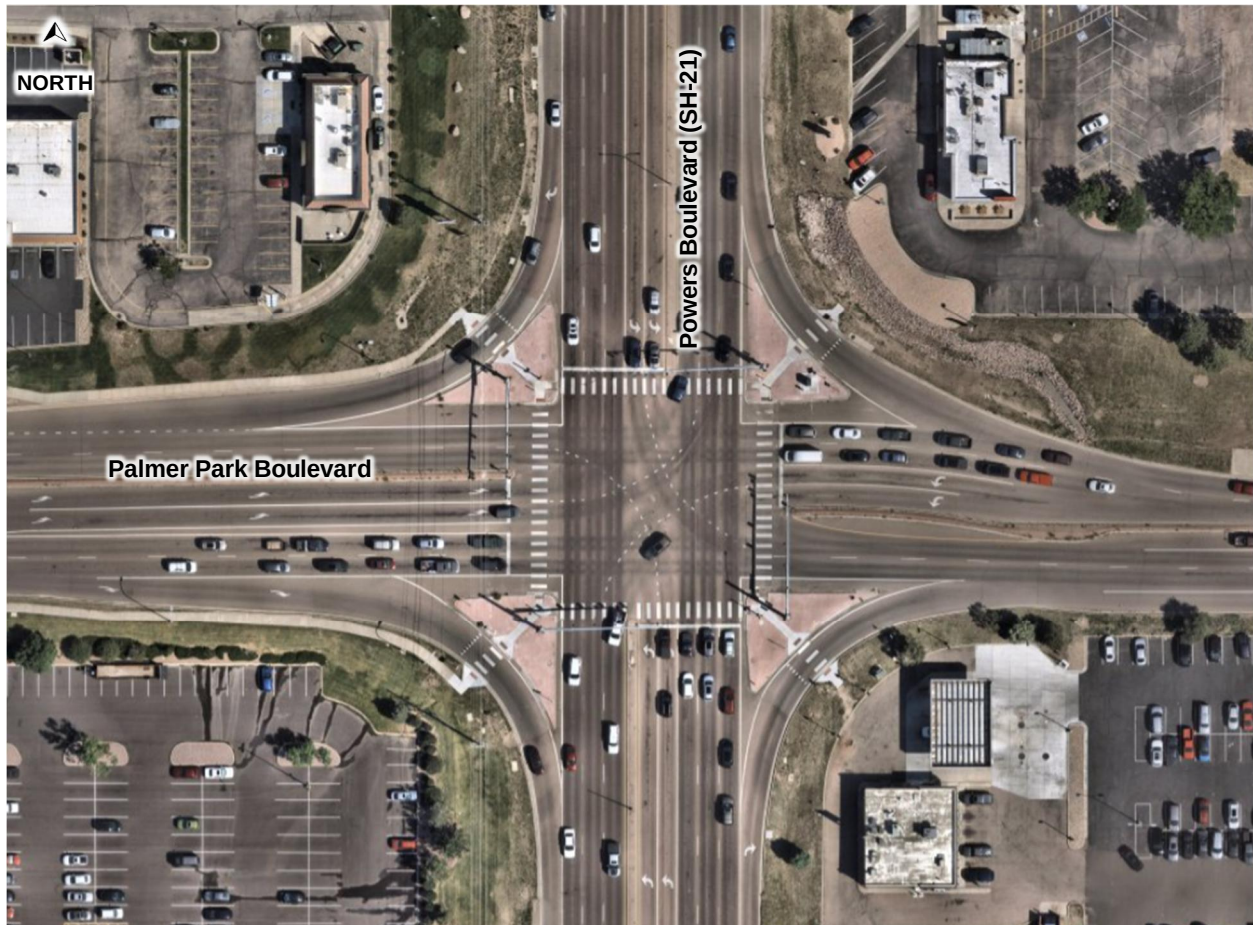
3.2 Existing Roadway Network

Powers Boulevard (SH-21) is a six-lane divided highway that extends primarily in the north-south direction. The posted speed limit along the roadway is 55 miles per hour near the study intersections. The Colorado Department of Transportation (CDOT) identifies this roadway as a *F-W, Interstate System, Freeway Facility*.

Palmer Park Boulevard extends as an east-west roadway with two through lanes provided in each direction with a mix of raised center median and two-way left turn lane median. The posted speed limit is 35 miles per hour. El Paso County identifies the roadway as a *Principal Arterial*.

Omaha Boulevard is a three-lane roadway with a center two-way left turn lane and one through lane both eastbound and westbound. The roadway extends for approximately 1.5 miles from Powers Boulevard (SH-21) to Mineola Street. The roadway is classified as a *Collector*. The posted speed limit is 40 miles per hour.

The signalized intersection of Palmer Park Boulevard and Powers Boulevard (SH-21) operates with protected-only left turn phasing on all four approaches. Additionally, the right turn movements for all approaches operate under free conditions with acceleration lanes provided. The northbound and southbound Powers Boulevard (SH-21) approaches both provide dual left turn lanes, three through lanes, and a right turn lane. The eastbound and westbound Palmer Park Boulevard approaches provide dual left turn lanes, two through lanes, and right turn lanes. An aerial photo of the existing intersection configuration is below (north is up - typical).



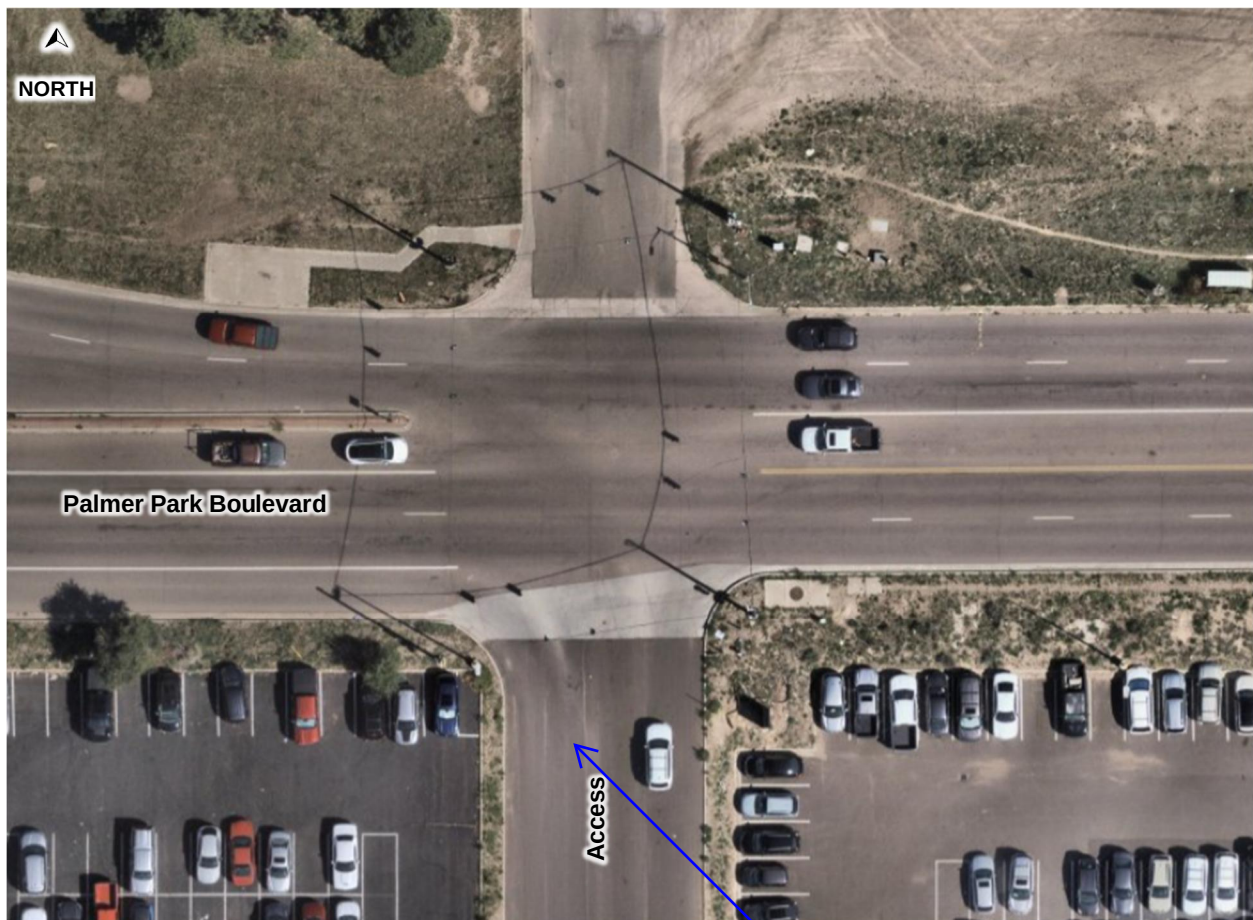
Palmer Park Boulevard & Powers Boulevard (SH-21)

The unsignalized T-intersection of Omaha Boulevard and Powers Boulevard (SH-21) operates with no control. The westbound approach of Omaha Boulevard provides a right turn-only lane with a westbound to northbound acceleration lane. Therefore, the westbound right movement operates under free conditions. Additionally, the northbound approach of Powers Boulevard (SH-21) provides three through lane and a separate right turn lane while the southbound approach provides three through lanes. An aerial photo of the existing intersection configuration is below.



Omaha Boulevard & Powers Boulevard (SH-21)

The existing access along Palmer Park Boulevard is signalized with permissive-only left turn phasing on all four approaches. The northbound and southbound approaches are not striped but provide adequate width to accommodate a separate left turn lane and a shared through/right turn lane. The eastbound approach of Palmer Park Boulevard provides a left turn lane, two through lane, and a right turn lane while the westbound approach provides a left turn lane and two through lanes with the outside through lane being a shared right. An aerial photo of the existing intersection configuration is below.



Palmer Park Boulevard & Signalized Access

This access is supposed to be striped with turn lanes with the approved VASA SDP. Note this improvement in the TIS refer to TIS under VASA PPR267

The existing access along Omaha Boulevard operates with stop control on the northbound and southbound access approaches. The north and south legs provide a single lane shared for all movements. The eastbound and westbound approaches of Omaha Boulevard provide a left turn lane and a shared through/right turn lane. The eastbound approach has a designated left turn lane while the westbound approach provides a two-way left turn center lane for left turn movements. An aerial photo of the existing intersection configuration is below.

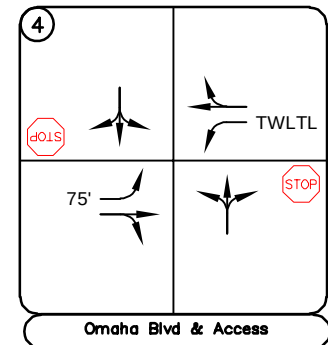
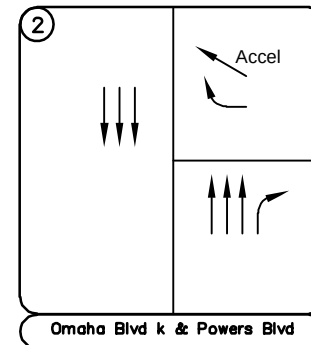
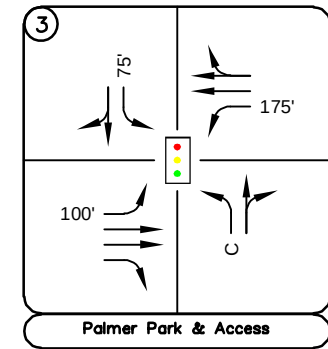
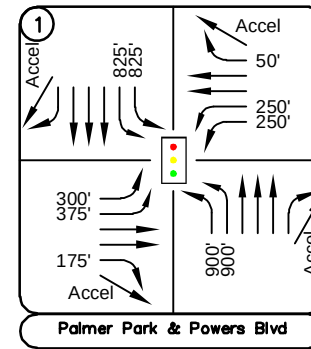


Omaha Boulevard & Full Movement Access

The intersection lane configuration and control for the study area intersections are shown in **Figure 2**.



FIGURE 2
Chick-fil-A Powers & Palmer Park
El Paso County, Colorado
Existing Geometry and Control



LEGEND

- Study Area Key Intersection
- Signalized Intersection
- Stop Controlled Approach
- Roadway Speed Limit
- TWLTL Two-Way Left Turn Lane
- ACCEL Acceleration Lane
- 100' Turn Lane Length (feet)

3.3 Existing Traffic Volumes

Existing turning movement counts were conducted at the study intersections on Thursday, January 9, 2025, during the weekday morning and afternoon peak hours. The counts were conducted during the morning and afternoon peak hours of adjacent street traffic in 15-minute intervals from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM on this count date. The existing intersection traffic volumes are shown in **Figure 3** with count sheets provided in **Appendix B**.

3.4 Unspecified Development Traffic Growth

According to information provided on the website for the Colorado Department of Transportation (CDOT), the 20-year growth factor along SH-21 (Powers Boulevard) in the vicinity of the site is 1.26. The 20-year growth factor equates to annual growth rate of 1.16 percent. Traffic information from the CDOT Online Transportation Information System (OTIS) website is included in **Appendix C**. This annual growth rate was used to estimate near-term 2028 and long-term 2045 traffic volume projections at the key intersections. Background traffic volumes for 2028 and 2045 are shown in **Figure 4** and **Figure 5**, respectively. There are not any known traffic studies from the previous five years for developments in the surrounding area.

Address a weekend SAT count

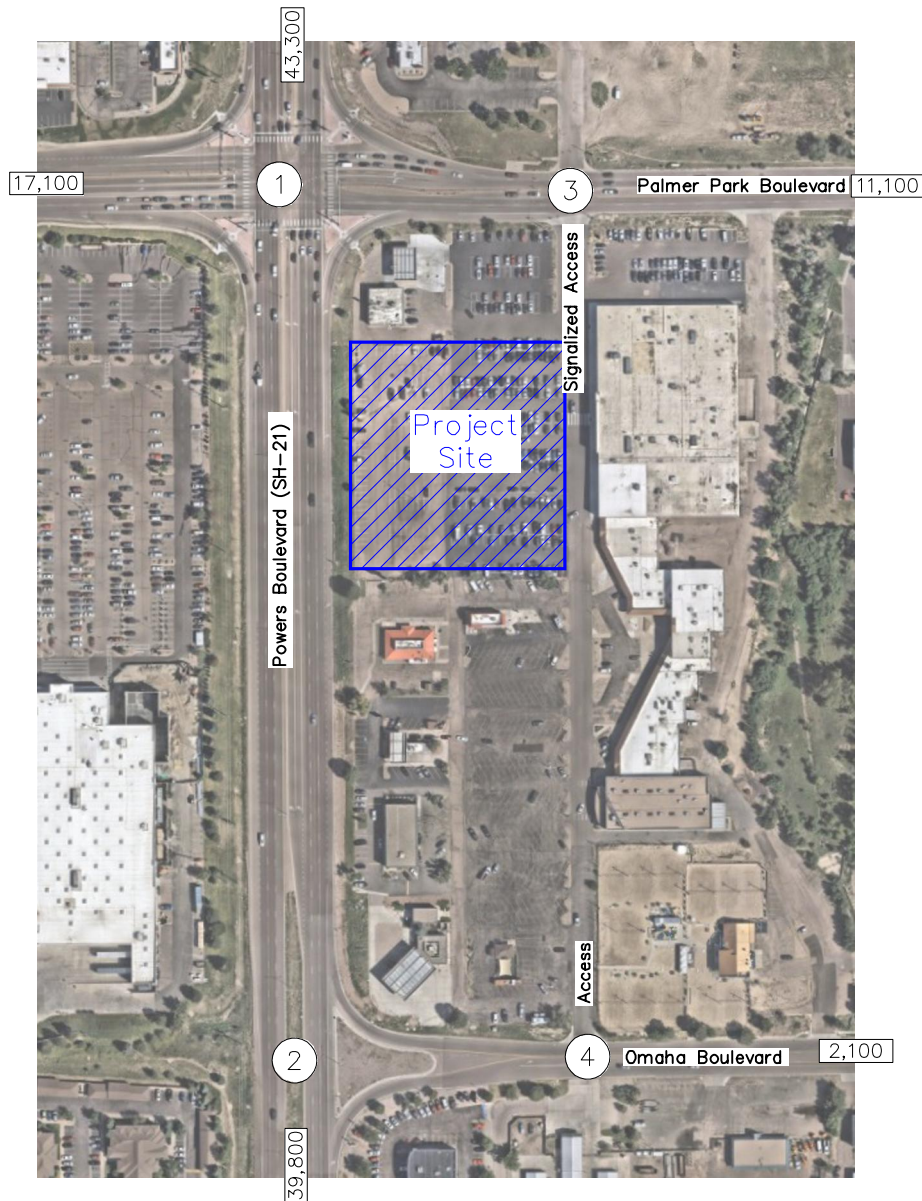
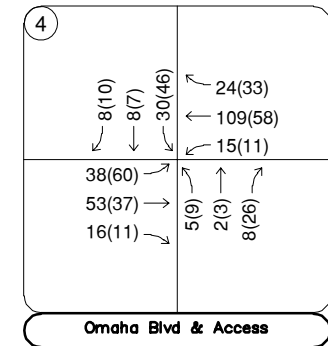
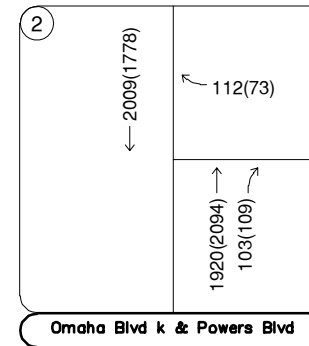
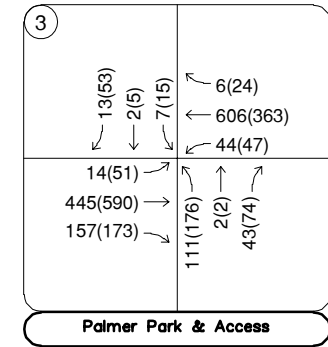
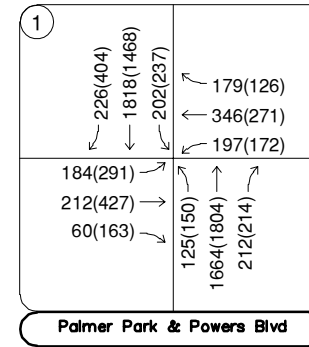


FIGURE 3
Chick-fil-A Powers & Palmer Park
El Paso County, Colorado
2025 Existing Traffic Volumes



LEGEND



Study Area Key Intersection

XXX(XXX)

Weekday AM(PM)

Peak Hour Traffic Volumes

XX,X00

Estimated Daily Traffic Volume

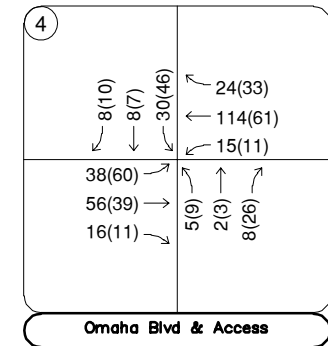
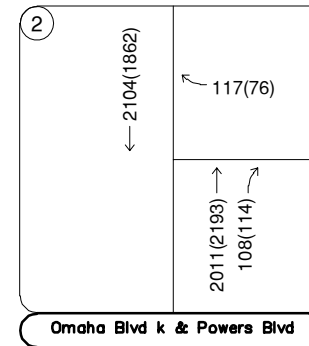
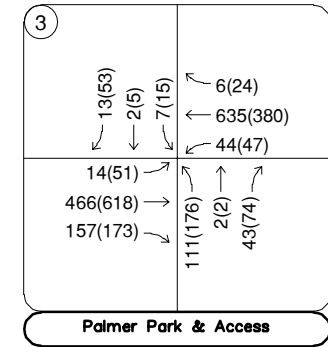
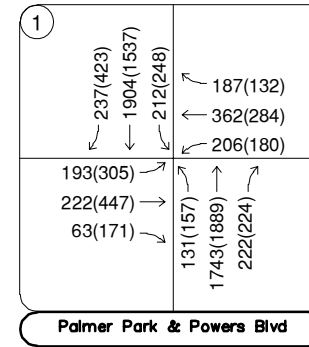
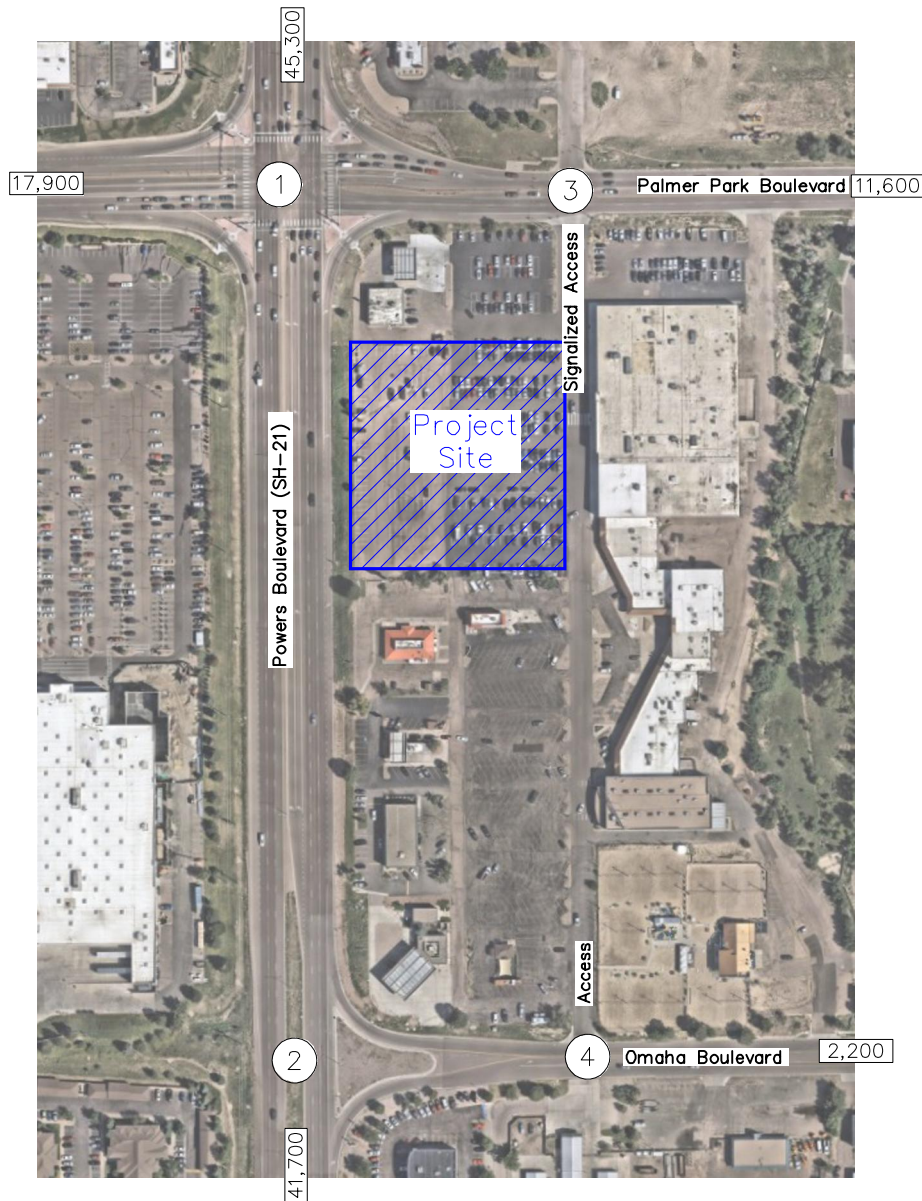
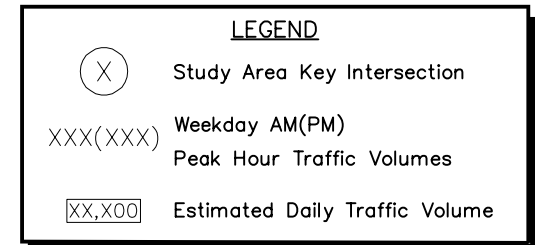


FIGURE 4
Chick-fil-A Powers & Palmer Park
El Paso County, Colorado
2028 Background Traffic Volumes



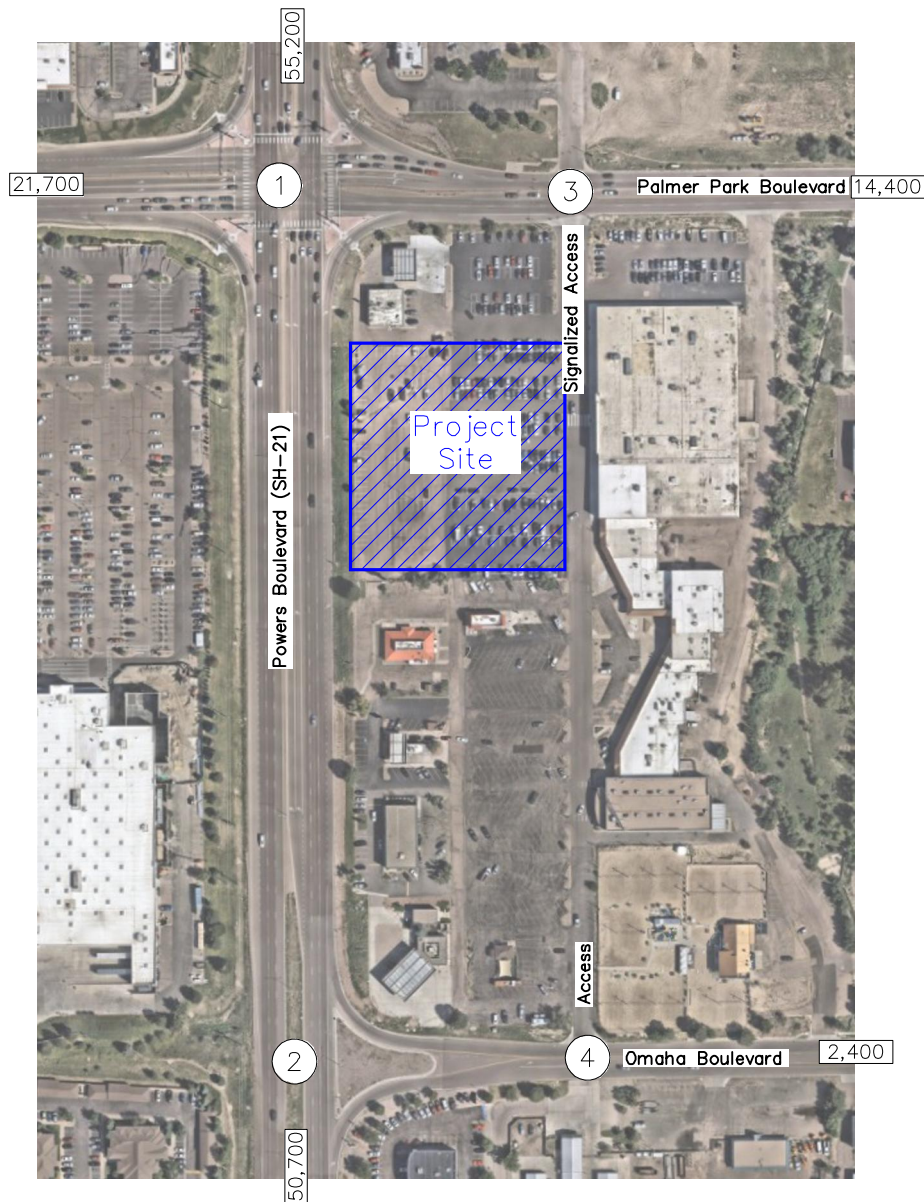
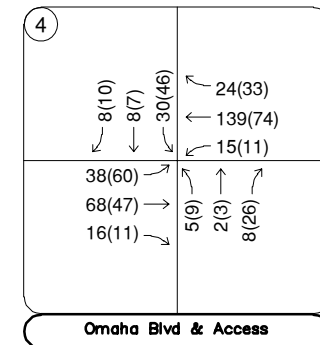
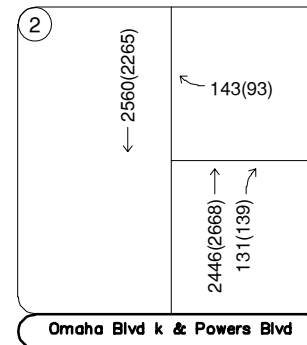
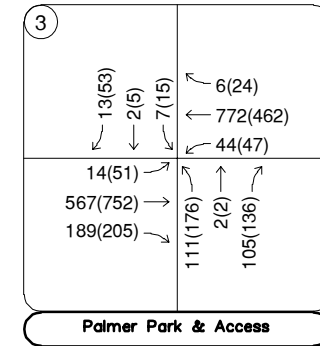
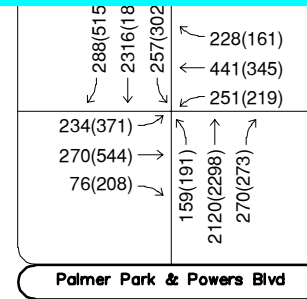


FIGURE 5
Chick-fil-A Powers & Palmer Park
El Paso County, Colorado
2045 Background Traffic Volumes

2045 to address
movements of the
intersection to Waynoka
and development of
adjacent commercial



LEGEND

- (X) Study Area Key Intersection
- XXX(XXX) Weekday AM(PM)
Peak Hour Traffic Volumes
- XX,X00 Estimated Daily Traffic Volume

4.0 PROJECT TRAFFIC CHARACTERISTICS

4.1 Trip Generation

Site-generated traffic estimates are determined through a process known as trip generation. Rates and equations are applied to the proposed land use to estimate traffic generated by the development during a specific time interval. The acknowledged source for trip generation rates is the *Trip Generation Manual*¹ published by the Institute of Transportation Engineers (ITE). ITE has established trip rates in nationwide studies of similar land uses. For comparison purposes, Kimley-Horn used the ITE Trip Generation Report average rates that apply to Fast-Food Restaurant with Drive-Through Window and With Indoor Seating (ITE Land Use Code 934) and Fast-Food Restaurant with Drive-Through Window and No Indoor Seating (ITE Land Use Code 935) for traffic associated with the development. Further, user specific trip generation data was utilized for sites without indoor seating. With the current application not having indoor seating, it is not applicable to utilize trip generation data for fast-food restaurants with indoor seating and the data was provided for informational purposes. However, the most applicable trip generation data, user-specific without indoor seating, resulted in the highest trip generation and was utilized in the analysis in this study.

It is recognized that Chick-fil-A restaurants can generate more traffic than a typical fast-food restaurant with drive-through. In addition, because this proposed site is anticipated to be almost exclusively drive-through operations only, the traffic generation from this site will be unique to other typical Chick-fil-A restaurants as well as being different from other fast-food restaurants with no indoor seating. There are limited existing Chick-fil-A sites nationwide that operate in this nature. Data from two existing sites of a similar nature—one in Glendale, Wisconsin, and the other in Raleigh, North Carolina—were provided for use in this study. Each of these sites operate with a near-identical building size and these sites provide two drive-through lanes beginning prior to the order boards and continuing through the pickup area.

The proposed site at Palmer Park Boulevard and Powers Boulevard (SH-21) provides two continuous drive-through lanes. Based on the site-specific traffic generation rates for restaurants

¹ Institute of Transportation Engineers, *Trip Generation Manual*, Eleventh Edition

Please discuss how many sites nationwide have drive thru only. Of the two sites mentioned how do these compare to the existing location in Colorado Spring along Power Blvd (Dublin etc)

without indoor seating, Chick-fil-A Powers & Palmer Park is expected to generate approximately 1,880 weekday daily trips, with 132 of these trips occurring during the morning peak hour and 188 of these trips occurring during the afternoon peak hour. The user-specific traffic generation for restaurants without indoor seating is higher than ITE Trip Generation data for fast-food restaurants with (which is less applicable) and without indoor seating. As such, it is believed that use of the Chick-fil-A site-specific data for fast-food restaurants without indoor seating provides a conservative analysis of the expected traffic operations of the site and the surrounding intersections included in this study. **Table 1** summarizes the estimated trip generation for the site. The trip generation worksheets are included in **Appendix D**.

Table 1 – Chick-fil-A Powers & Palmer Park Traffic Generation

Land Use and Size	Weekday Vehicle Trips						
	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
ITE 934 – Fast Food w/ Indoor Seating & DT (informational purposes)							
2,714 Square Feet	1,270	62	59	121	47	43	90
ITE 935 – Fast Food w/o Indoor Seating & w/ DT (applicable use)							
2 Drive-Thru Lanes	1,190	40	46	86	61	58	119
User Specific - Fast Food w/o Indoor Seating & w/ DT (applicable use)							
2 Drive-Thru Lanes	1,880	61	71	132	90	98	188

Because Chick-fil-A Powers & Palmer Park is a fast-food restaurant, pass-by trips are expected to occur. These pass-by trips are vehicles already on the street network that will be attracted to the development on their way to a destination. Of note, pass-by trips do not reduce the number of trips entering and exiting the proposed site. Based on the ITE Trip Generation Manual for fast-food restaurants with a drive-through window and no indoor seating, the morning and afternoon peak hour pass-by percentages are 31 percent.

Accounting for pass-by trips, new trips to the surrounding street network would result in approximately 1,298 weekday daily new trips, with 91 of these new trips occurring during the morning peak hour and 130 of these new trips occurring during the afternoon peak hour. Table 2 summarizes the trip generation based on the site-specific data (without indoor seating) and pass-by percentages from ITE.

Discuss what
ADT and PH was
used for VASA

Table 2 – Chick-fil-A Powers & Palmer Park Non Pass-By & Pass-By

Land Use and Size	Weekday Vehicle Trips						
	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
User Specific - Fast Food w/o Indoor Seating & w/ DT							
Non Pass-By Trips	1,298	42	49	91	62	68	130
Pass-By Trips	582	19	22	41	28	30	58
Total Project Trips	1,880	61	71	132	90	98	188

4.2 Trip Distribution

Distribution of site traffic on the street system was based on the area street system characteristics, existing traffic patterns, existing and anticipated surrounding demographic information, and the proposed access system for the project. The directional distribution of traffic is a means to quantify the percentage of site-generated traffic that approaches the site from a given direction and departs the site back to the original source. The project trip distribution for the proposed development is illustrated in **Figure 6**.

Since the project is a commercial development, a certain amount of traffic attracted to the development will already be passing by the site. This pass-by distribution is a means to quantify the amount of traffic arriving to the site from a given direction and then leaving the site in the same original direction of travel, continuing the driver's trip. The expected weekday morning and afternoon peak hour pass-by trip distributions were calculated based on actual traffic volumes. Directional differences in the morning and afternoon peak hours were accounted for in the pass-by distributions as shown in **Figure 7** and **Figure 8**, respectively.

4.3 Traffic Assignment and Total Traffic (Background Plus Project)

The project's traffic assignment was obtained by applying the project trip distribution to the estimated traffic generation of the development shown in Table 1. Project non pass-by traffic assignment is shown in **Figure 9**, while **Figure 10** illustrates the expected pass-by traffic assignment for the project. Site traffic volumes were added to the background volumes to represent estimated traffic conditions for the short-term 2028 buildout horizon and long-term 2045 twenty-year planning horizon. These total traffic volumes for the study area are illustrated for the 2028 and 2045 horizon years in Figure 11 and Figure 12, respectively.

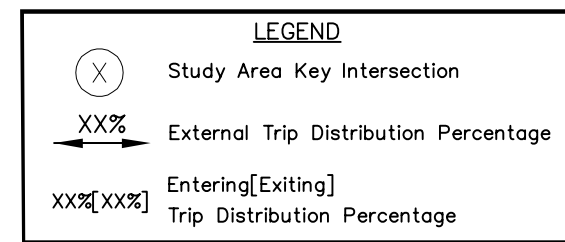
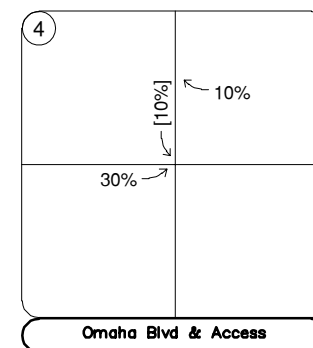
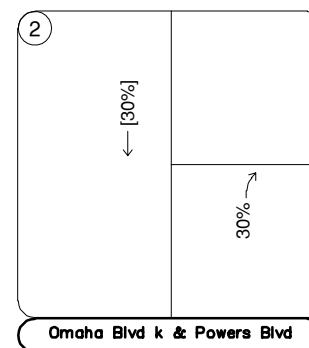
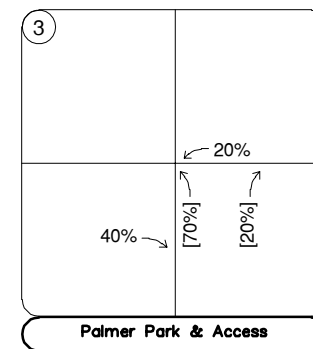
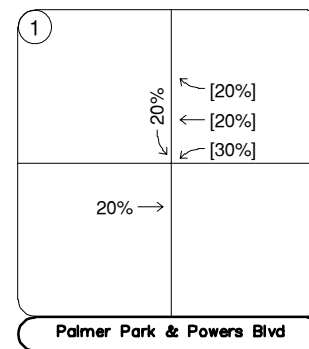
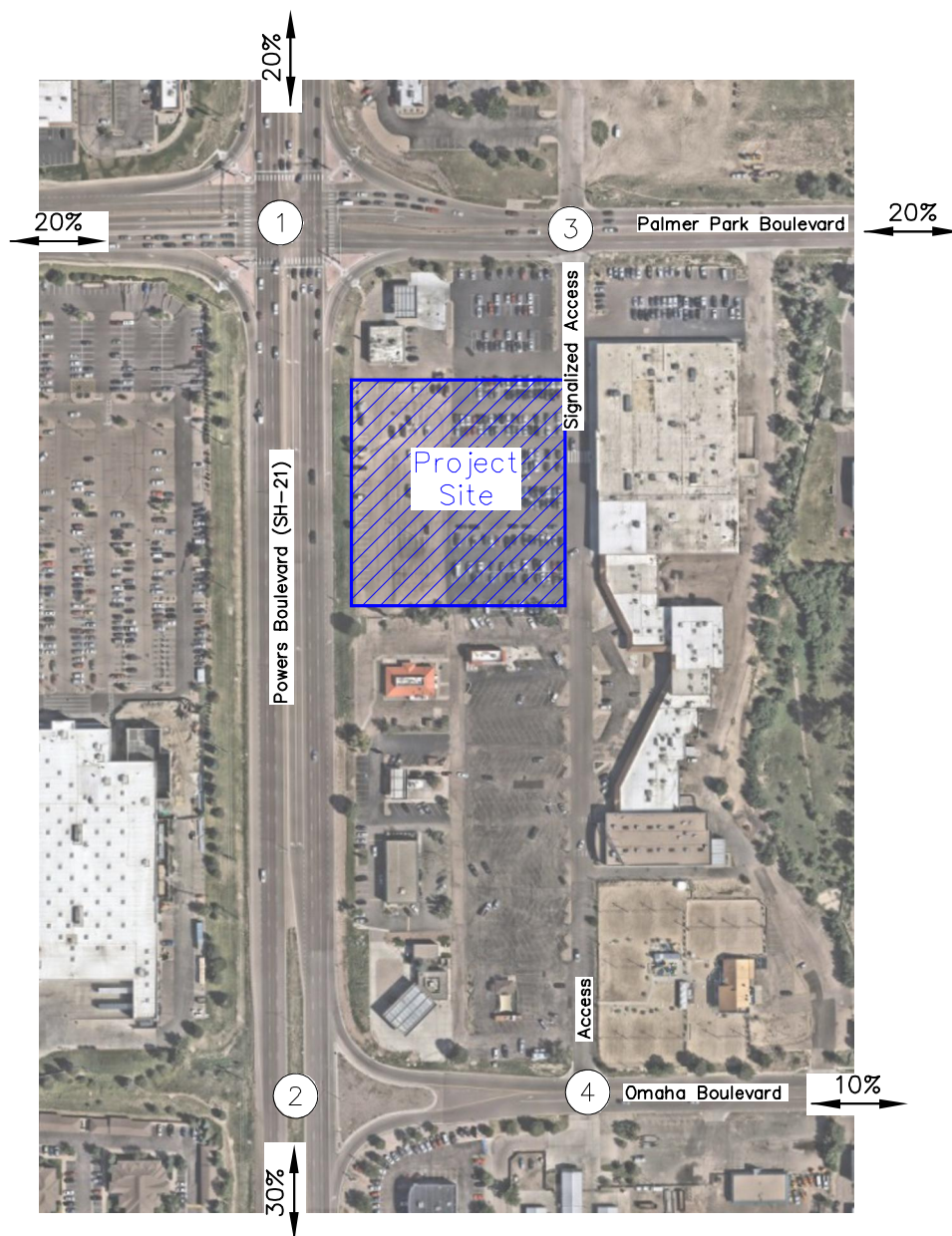


FIGURE 6
Chick-fil-A Powers & Palmer Park
El Paso County, Colorado
Non Pass-By Traffic Distribution

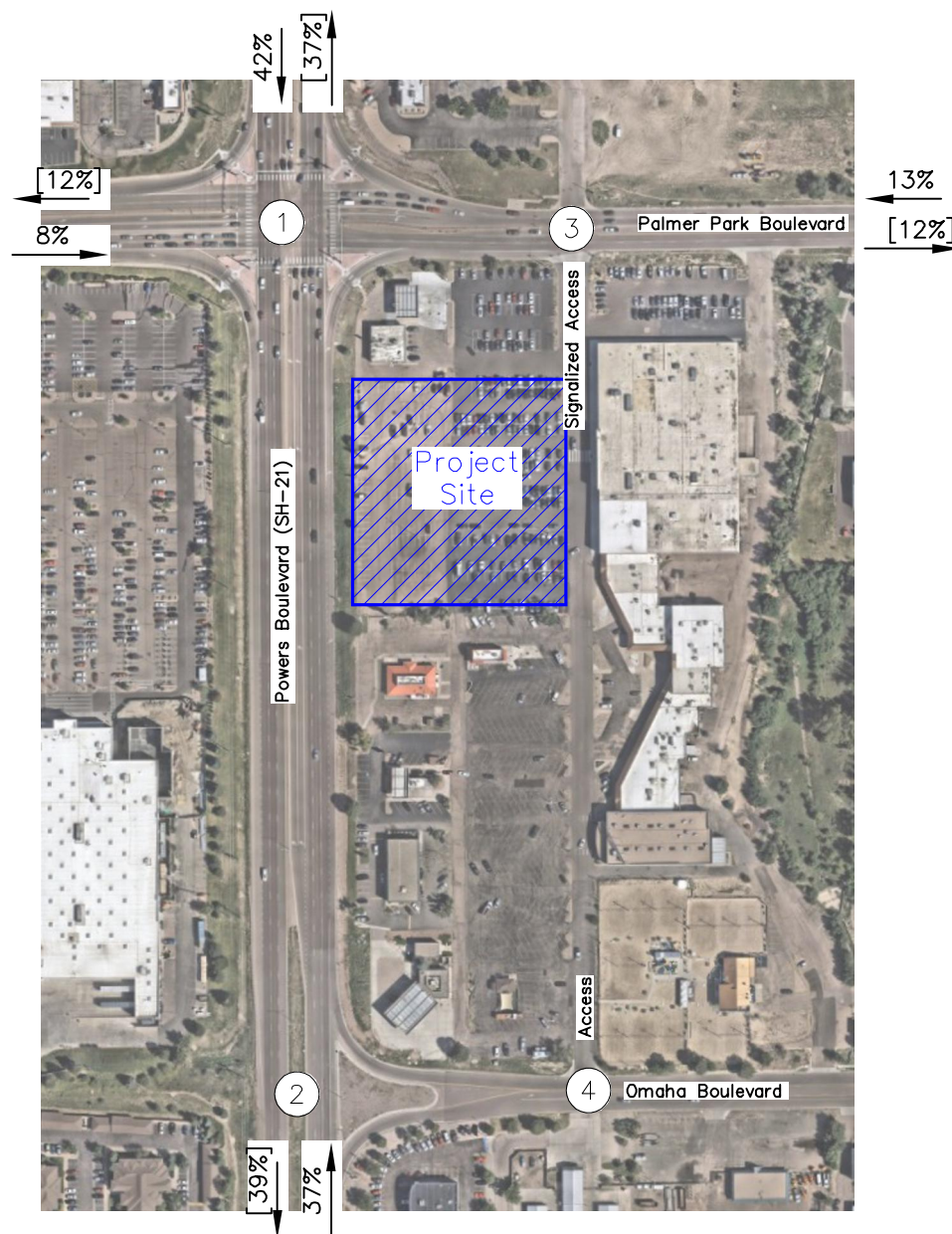
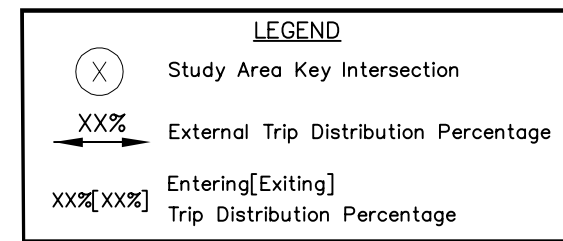
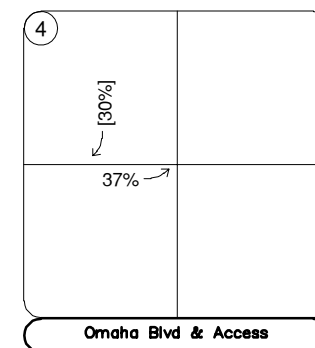
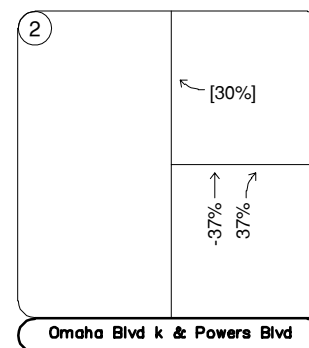
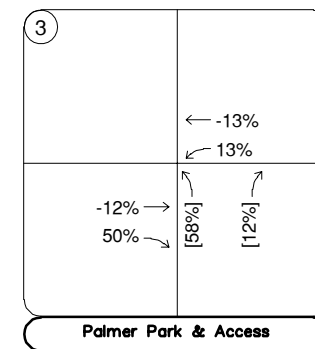
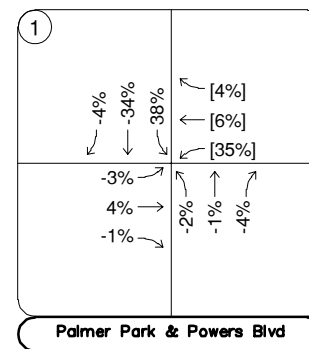


FIGURE 7
Chick-fil-A Powers & Palmer Park
El Paso County, Colorado
AM Pass-By Traffic Distribution



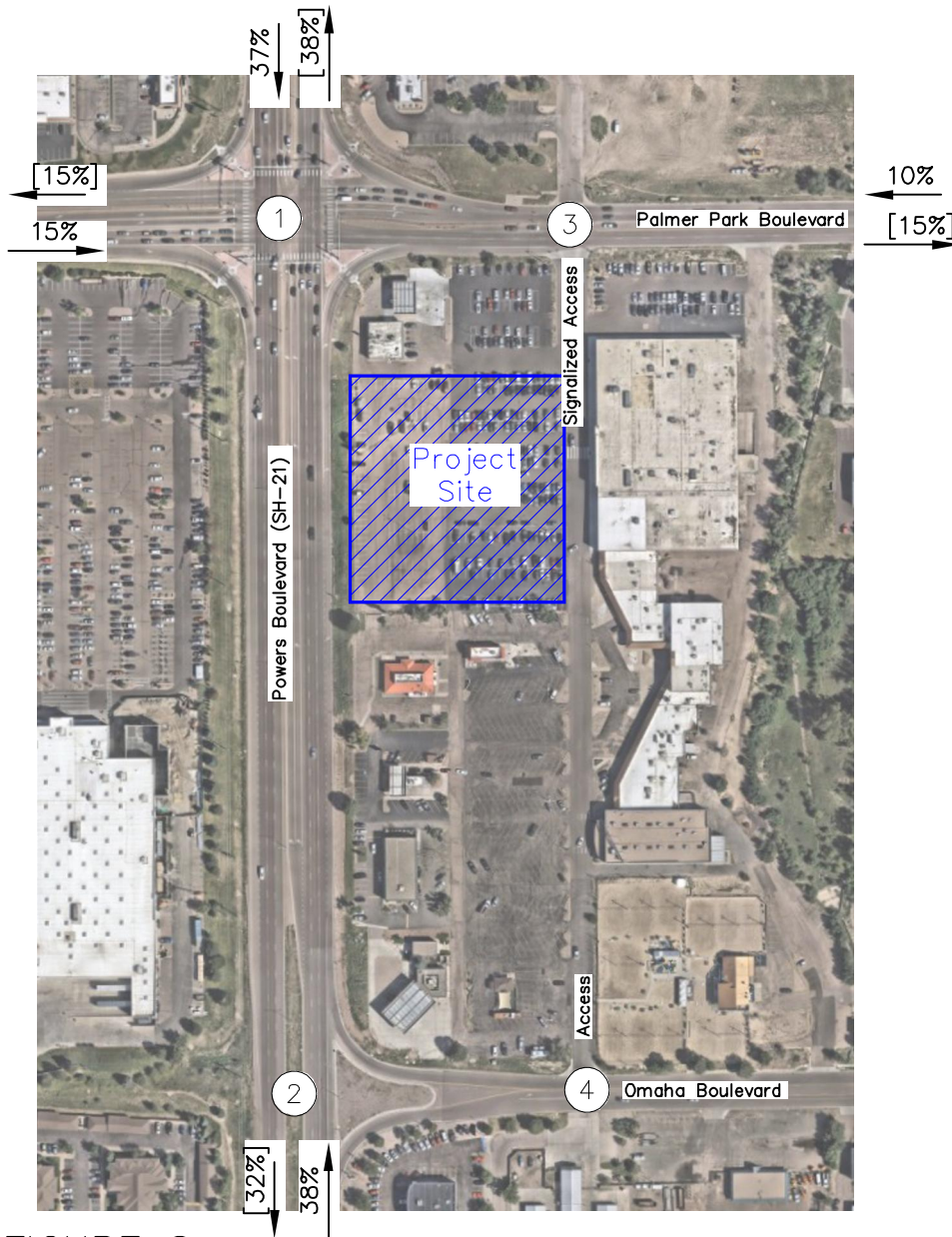
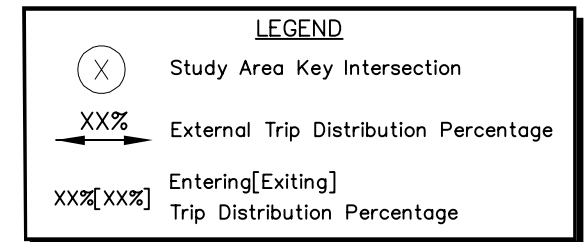
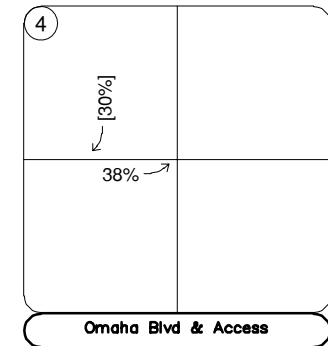
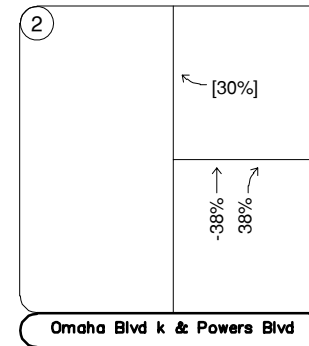
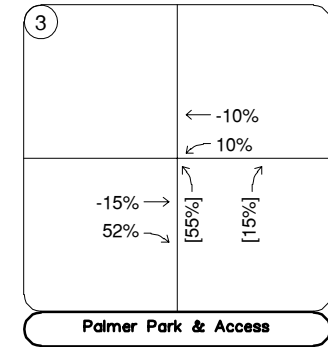
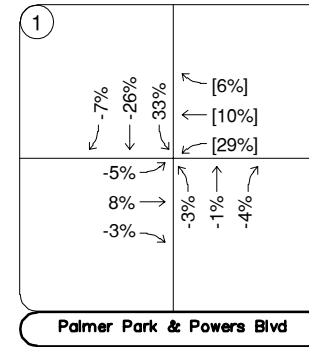


FIGURE 8
Chick-fil-A Powers & Palmer Park
El Paso County, Colorado
PM Pass-By Traffic Distribution



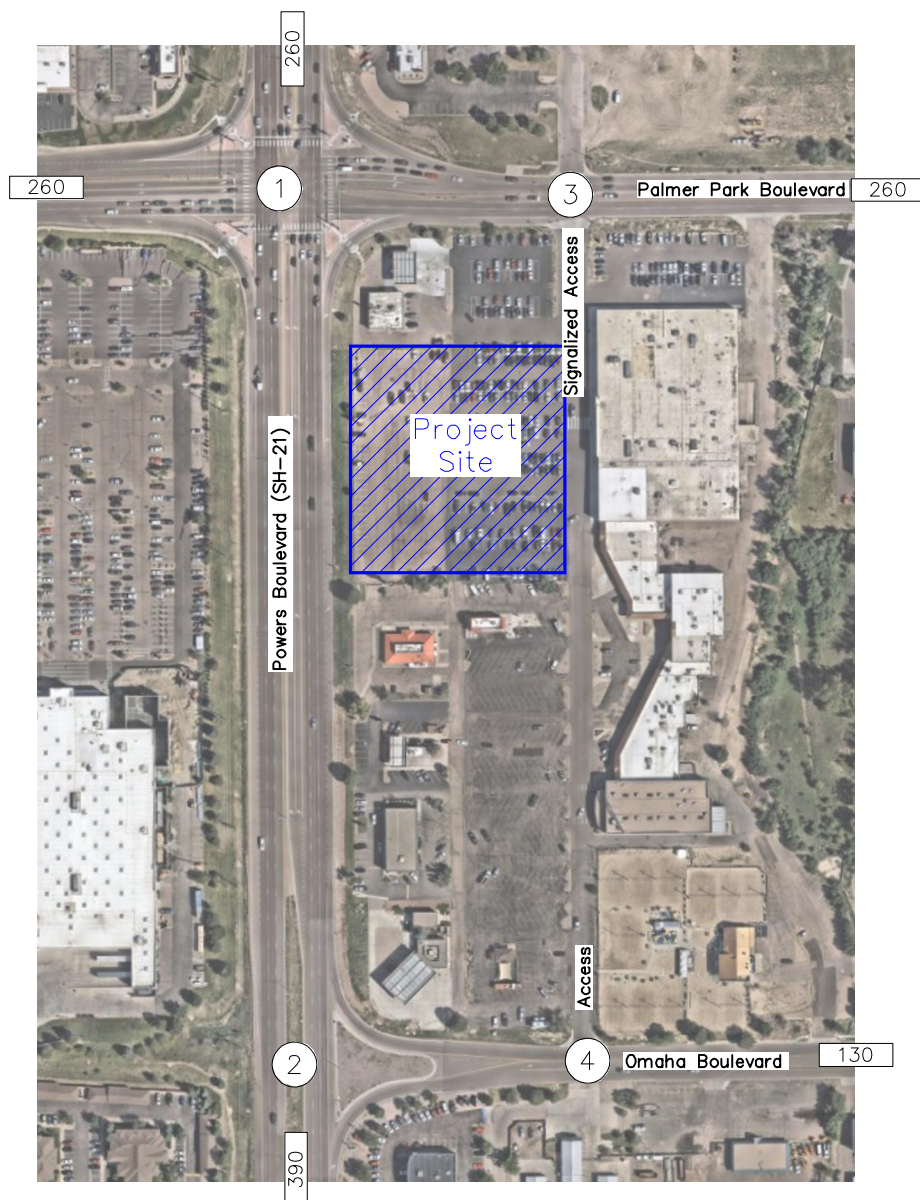
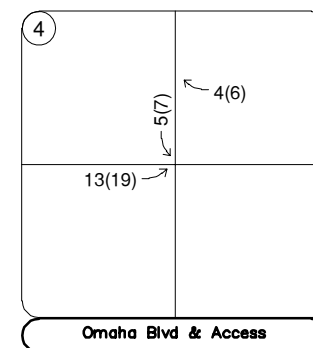
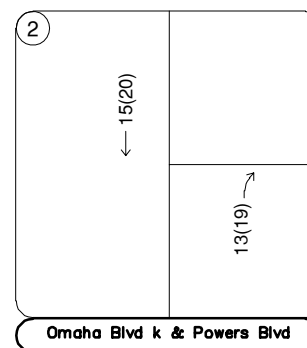
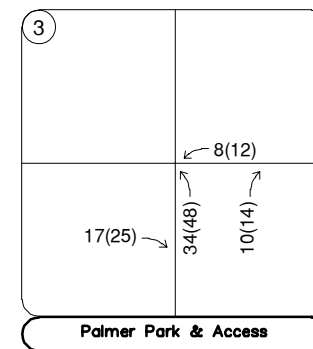
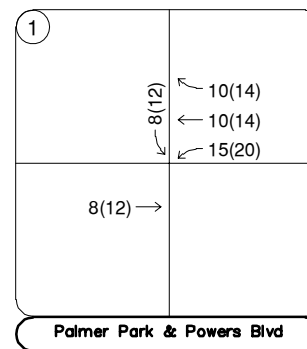


FIGURE 9
Chick-fil-A Powers & Palmer Park
El Paso County, Colorado
Non Pass-By Traffic Assignment



LEGEND



Study Area Key Intersection

XXX(XXX)

Weekday AM(PM)

Peak Hour Traffic Volumes

XX,X00

Estimated Daily Traffic Volume

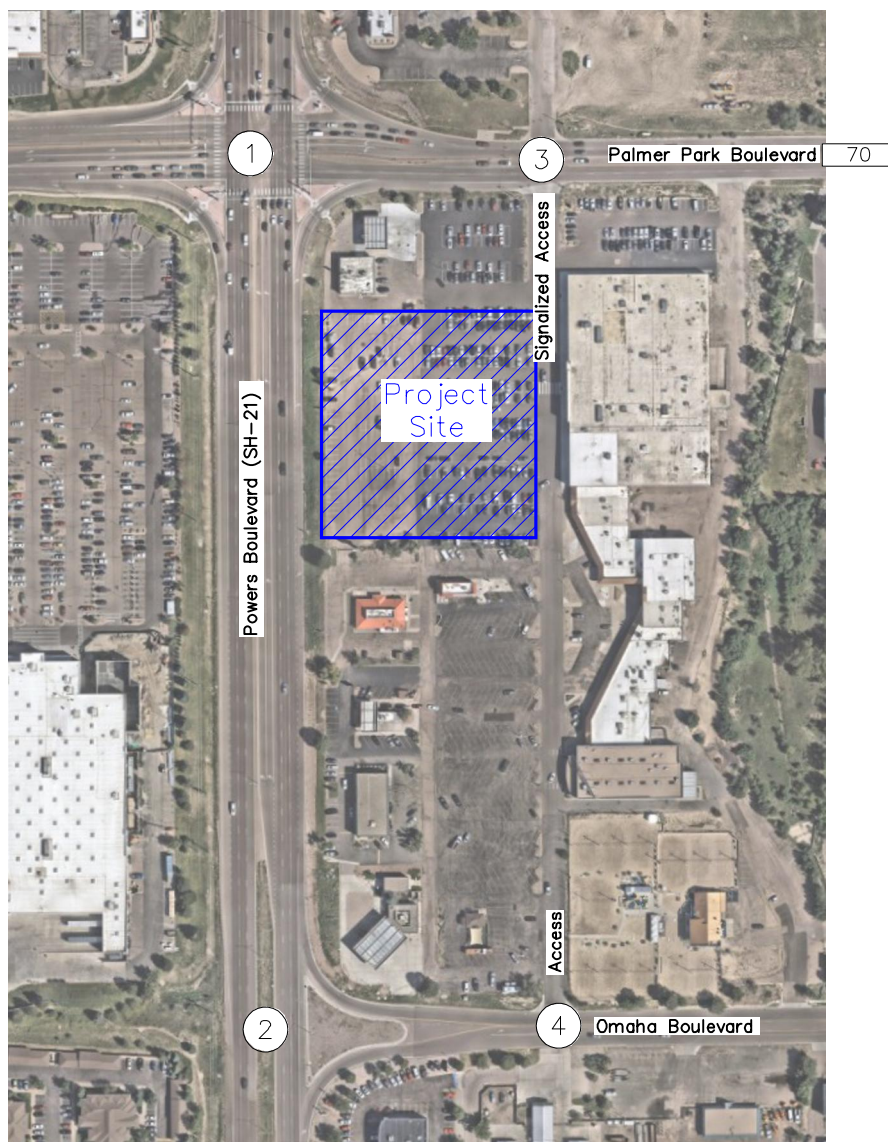
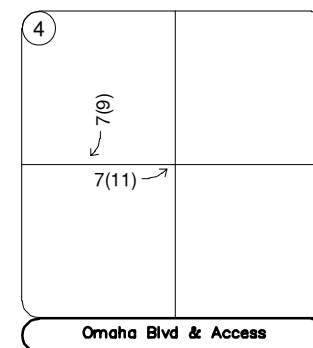
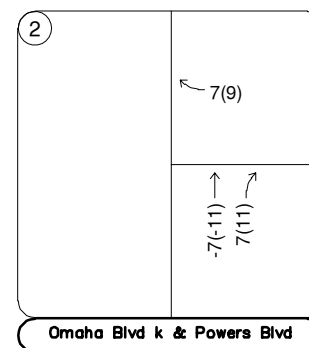
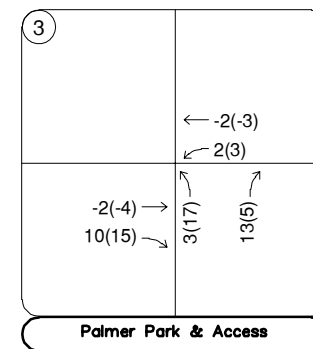
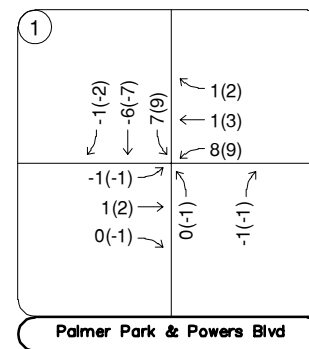


FIGURE 10
Chick-fil-A Powers & Palmer Park
El Paso County, Colorado
Pass-By Traffic Assignment



LEGEND



Study Area Key Intersection

XXX(XXX)

Weekday AM(PM)

Peak Hour Traffic Volumes

XX,X00

Estimated Daily Traffic Volume

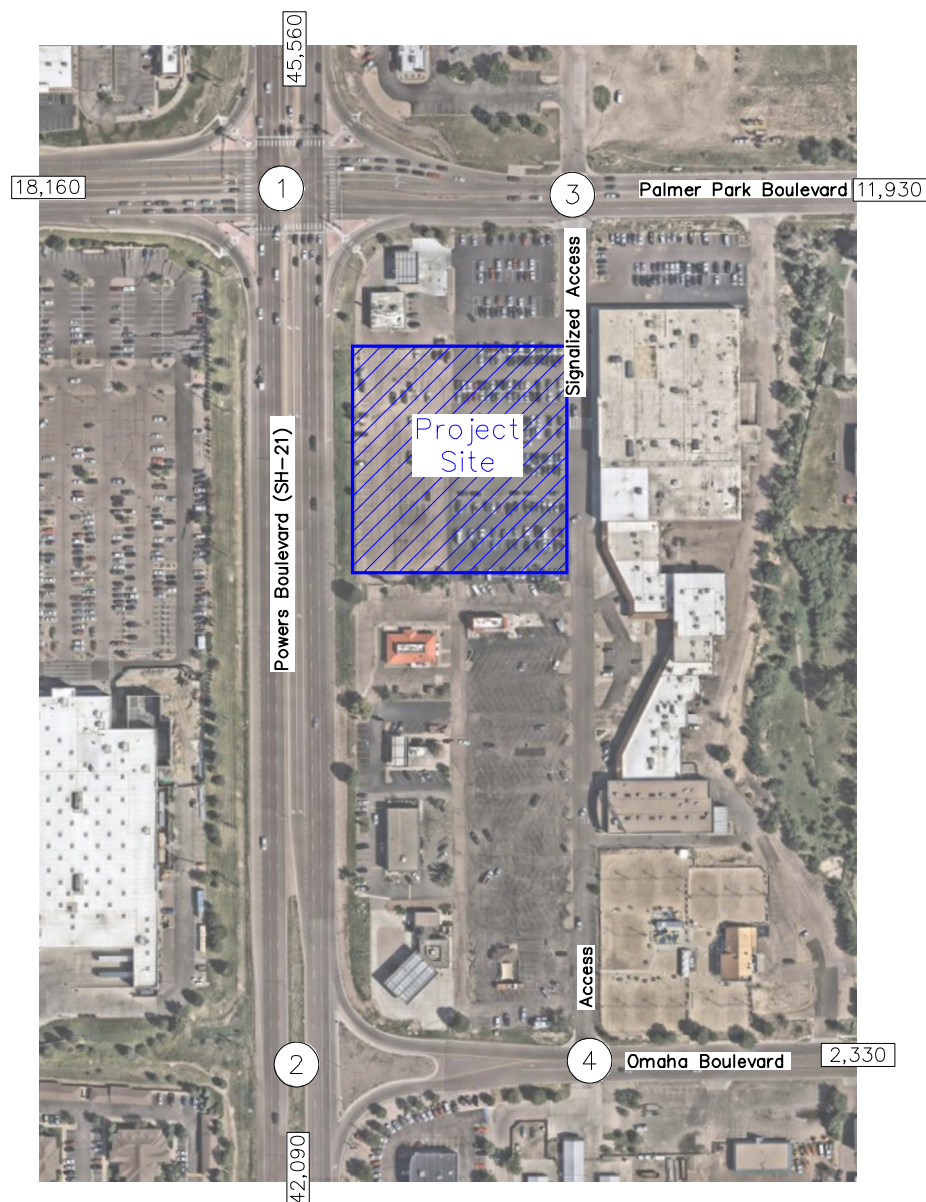
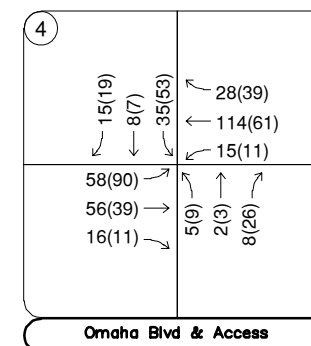
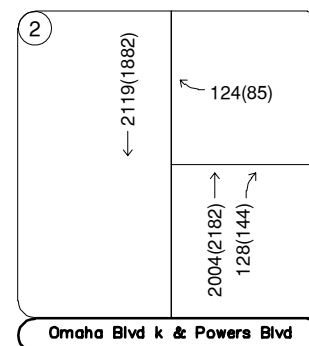
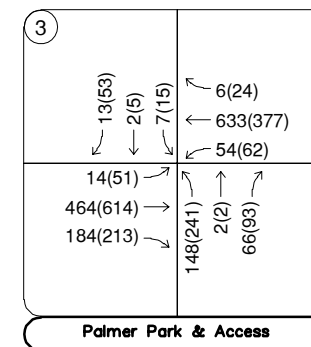
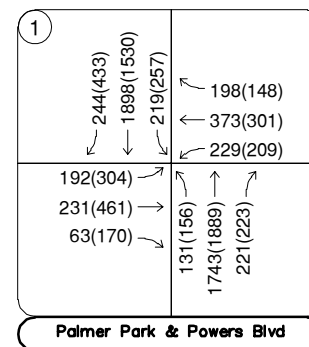


FIGURE 11
Chick-fil-A Powers & Palmer Park
El Paso County, Colorado
2028 Total Traffic Volumes



LEGEND



Study Area Key Intersection

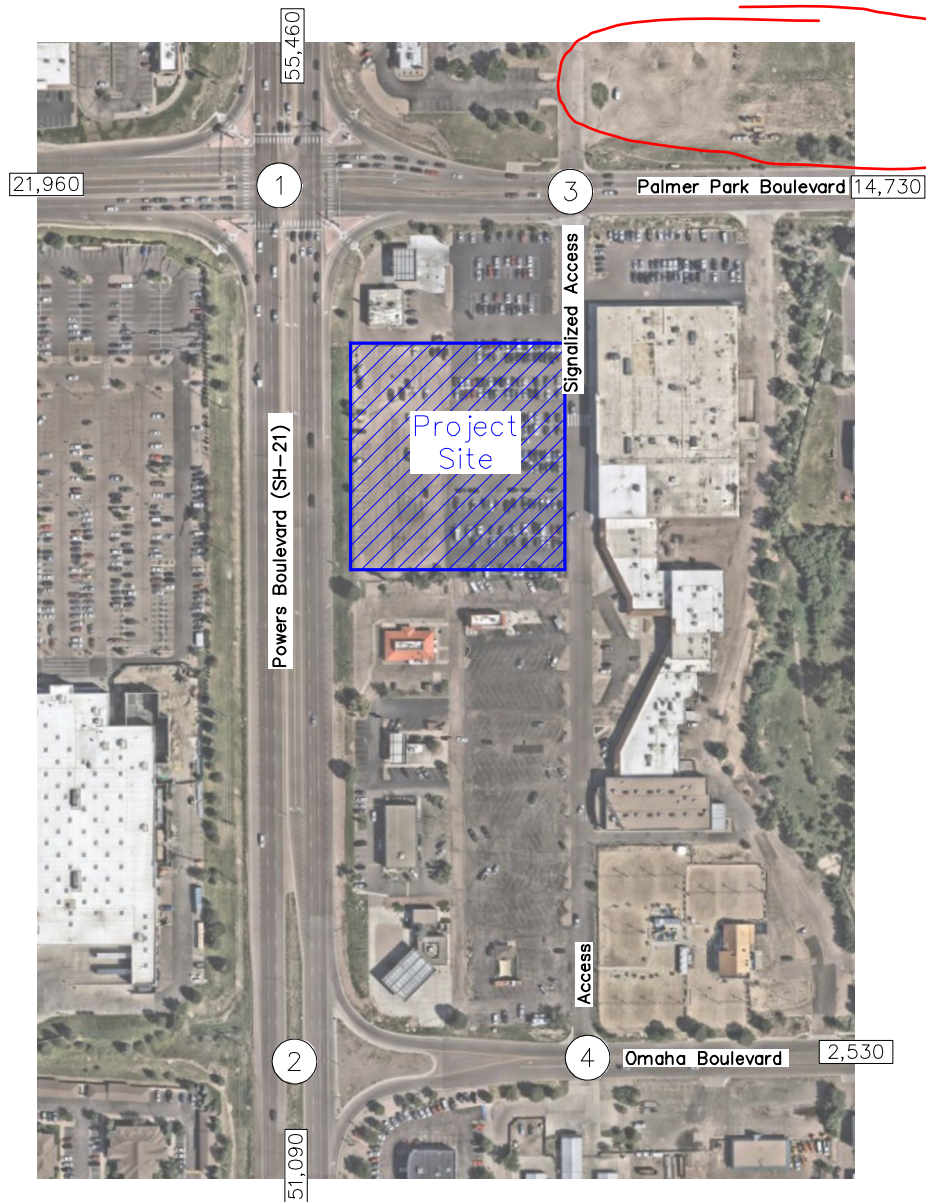
XXX(XXX)

Weekday AM(PM)

Peak Hour Traffic Volumes

XX,X00

Estimated Daily Traffic Volume



Adjacent development
must be included for
2045

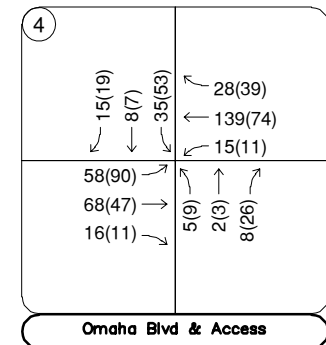
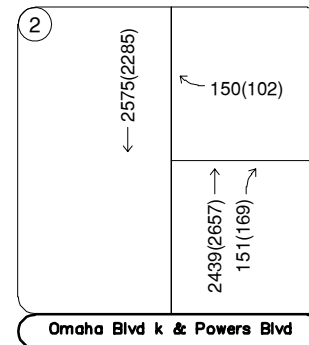
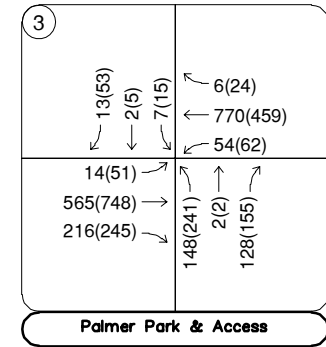
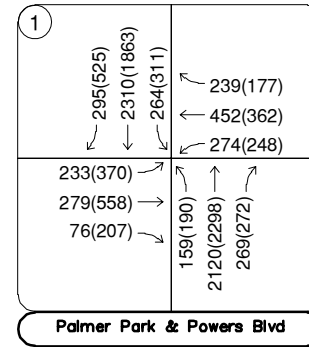


FIGURE 12
Chick-fil-A Powers & Palmer Park
El Paso County, Colorado
2045 Total Traffic Volumes

LEGEND	
(X)	Study Area Key Intersection
XXX(XXX)	Weekday AM(PM) Peak Hour Traffic Volumes
XX,X00	Estimated Daily Traffic Volume

5.0 TRAFFIC OPERATIONS ANALYSIS

Kimley-Horn's analysis of traffic operations in the site vicinity was conducted to determine potential capacity deficiencies in the 2028 and 2045 development horizons at the identified key intersections. The acknowledged source for determining overall capacity is the *Highway Capacity Manual (HCM)*².

5.1 Analysis Methodology

Capacity analysis results are listed in terms of Level of Service (LOS). LOS is a qualitative term describing operating conditions a driver will experience while traveling on a particular street or highway during a specific time interval. It ranges from A (very little delay) to F (long delays and congestion). Based on El Paso County standards, the threshold for acceptable LOS is not less than LOS D during peak hours. **Table 3** shows the definition of level of service for signalized and unsignalized intersections.

Table 3 – Level of Service Definitions

Level of Service	Signalized Intersection Average Total Delay (sec/veh)	Unsignalized Intersection Average Total Delay (sec/veh)
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

Definitions provided from the Highway Capacity Manual, Seventh Edition, Transportation Research Board, 2022.

Study area intersections were analyzed based on average total delay analysis for signalized and unsignalized intersections. Under the unsignalized analysis, the LOS for a two-way stop-controlled intersection is determined by the computed or measured control delay and is defined for each minor movement. LOS for a two-way stop-controlled intersection is not defined for the intersection as a whole. LOS for signalized, roundabout, and all-way stop controlled intersections are defined for each approach and for the overall intersection.

² Transportation Research Board, *Highway Capacity Manual*, Seventh Edition, Washington DC, 2022.

5.2 Key Intersection Operational Analysis

Calculations for the operational level of service at the key intersections for the study area are provided in **Appendix E**. The existing year analysis is based on the lane geometry and intersection control shown in **Figure 2**. Existing peak hour factors were utilized in the existing, 2028, and 2045 horizon analysis years. The existing heavy vehicle percentages obtained from the turning movement counts were also used in each horizon year. The signalized intersection analysis utilizes existing signal timing sheets. Synchro traffic analysis software was used to analyze the signalized and unsignalized key intersections for HCM level of service.

Palmer Park Boulevard & Powers Boulevard (#1)

The intersection of Palmer Park Boulevard and Powers Boulevard is signalized with protected left turn phasing on each approach. The intersection movement operates acceptably at LOS D or better during both peak hours under existing conditions. With project traffic, the intersection is anticipated to continue operating at an acceptable level of service throughout the 2045 horizon. However, if 2045 traffic projections are realized, minor signal timings modifications could be needed during the afternoon peak hour in 2045 at the Palmer Park Boulevard and Powers Boulevard intersection. The green time on the eastbound approach may need to be increased by approximately three seconds to achieve overall level of service D during the PM peak hour in 2045. Besides the signal timing alteration, no additional improvements or modifications are anticipated to be needed at this intersection based on the addition of project traffic and this operational level of service analysis. **Table 4** provides the results of the LOS analysis conducted at this intersection.

Table 4 – Palmer Park Boulevard & Powers Boulevard LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2025 Existing	39.0	D	40.7	D
2028 Background	41.3	D	42.4	D
2028 Background Plus Project	43.2	D	44.1	D
2045 Background	53.1	D	53.8	D
2045 Background Plus Project	53.4	D	54.5	D

Omaha Boulevard & Powers Boulevard (#2)

The intersection of Omaha Boulevard and Powers Boulevard is an unsignalized and uncontrolled right-in/right-out intersection. The Omaha Boulevard minor approach right-turn movement is uncontrolled due to the westbound to northbound right turn acceleration lane incorporated with this movement. Therefore, this intersection has no measurable vehicle delay. The intersection movements operate acceptably at LOS A during both peak hours under existing conditions and throughout the 2045 horizon. Therefore, no improvements or modifications are anticipated to be needed at this intersection based on the addition of project traffic and this operational level of service analysis. **Table 5** provides the results of the LOS analysis conducted at this intersection.

Table 5 – Omaha Boulevard & Powers Boulevard LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2025 Existing Westbound Right	0.0	A	0.0	A
2028 Background Westbound Right	0.0	A	0.0	A
2028 Background Plus Project Westbound Right	0.0	A	0.0	A
2045 Background Westbound Right	0.0	A	0.0	A
2045 Background Plus Project Westbound Right	0.0	A	0.0	A

Palmer Park Boulevard Access (#3)

The existing project access along Palmer Park Boulevard is signalized and operates with permitted left turn phasing on each approach. The intersection operates acceptably at LOS B or better during both peak hours under existing conditions. With project traffic, the intersection is anticipated to continue operating at an acceptable level of service throughout the 2045 horizon. Therefore, no improvements or modifications are anticipated to be needed at this intersection based on the addition of project traffic and this operational level of service analysis. Of note, the future traffic conditions can sometimes report less delays than the existing condition when background and project traffic assignment volumes are added to movements that have less delay than the average intersection delay. **Table 6** provides the results of the LOS analysis conducted at this intersection.

Table 6 – Palmer Park Boulevard & Access LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2025 Existing	10.2	B	18.5	B
2028 Background	10.0	A	18.3	B
2028 Background Plus Project	12.5	B	24.2	C
2045 Background	9.3	A	17.3	B
2045 Background Plus Project	11.7	B	22.7	C

Omaha Boulevard & Ainsworth Street/Access (#4)

The intersection of Omaha Boulevard and Ainsworth Street/Access is unsignalized with stop control on the northbound and southbound approaches. The intersection movements operate acceptably at LOS B or better during both peak hours under existing conditions. With project traffic, all movements are anticipated to continue operating at an acceptable level of service throughout the 2045 horizon. Therefore, no improvements or modifications are anticipated to be needed at this intersection based on the addition of project traffic and this operational level of service analysis. **Table 47** provides the results of the LOS analysis conducted at this intersection.

Table 7 – Omaha Boulevard & Ainsworth Street/Access LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2025 Existing				
Northbound Approach	9.9	A	9.4	A
Eastbound Left	7.6	A	7.5	A
Westbound Left	7.4	A	7.3	A
Southbound Approach	11.2	B	10.9	B
2028 Background				
Northbound Approach	10.0	A	9.4	A
Eastbound Left	7.6	A	7.5	A
Westbound Left	7.4	A	7.3	A
Southbound Approach	11.2	B	11.0	B
2028 Background Plus Project				
Northbound Approach	10.3	B	9.6	A
Eastbound Left	7.7	A	7.6	A
Westbound Left	7.4	A	7.3	A
Southbound Approach	11.7	B	11.6	B
2045 Background				
Northbound Approach	10.2	B	9.5	A
Eastbound Left	7.7	A	7.5	A
Westbound Left	7.4	A	7.3	A
Southbound Approach	11.7	B	11.2	B
2045 Background Plus Project				
Northbound Approach	10.5	B	9.7	A
Eastbound Left	7.8	A	7.6	A
Westbound Left	7.4	A	7.3	A
Southbound Approach	12.1	B	11.9	B

5.3 CDOT Turn Bay Length Analysis

The threshold for requiring an access permit along Colorado Department of Transportation (CDOT) roadways occurs when project traffic is anticipated to increase the existing access traffic volumes by more than 20 percent. Based on traffic projections, the addition of project traffic on the leg of Palmer Park Boulevard at SH-21 is not anticipated to increase existing access traffic volumes by more than 20 percent, with the maximum expected increase at 6.6 percent during the afternoon peak hour on the east leg (96 / 1,447). Based on traffic projections, the addition of project traffic on the east leg of Omaha Boulevard at SH-21 is anticipated to increase existing access traffic volumes by more than 20 percent, with the expected increase at 21.4 percent during the afternoon peak hour on the east leg (39 / 182). Therefore, a CDOT access permit is anticipated to be required along Omaha Boulevard at SH-21 in association with this project.

5.4 Vehicle Queuing Analysis

A vehicle queuing analysis was conducted for the study area intersections. The queuing analysis was performed using Synchro presenting the results of the 95th percentile queue lengths. Results are shown in the following **Table 8** with calculations provided within the level of service operational sheets of **Appendix E** for unsignalized intersections and **Appendix F** for signalized intersections.

Table 8 – Turn Lane Queuing Analysis Results

Intersection Turn Lane	Existing Turn Lane Length	2028 Calculated Queue (AM/PM)	2028 Recommended Length	2045 Calculated Queue (AM/PM)	2045 Recommended Length
Palmer Park and Powers (#1)					
Eastbound Left	300'	144'/201'	300'	183'/252'	300'
Eastbound Right	175'	0'/0'	175'	0'/0'	175'
Westbound Left	250'	169'/150'	250'	222'/234'	250'
Westbound Right	50'	0'/0'	50'	0'/0'	50'
Northbound Left	900'	105'/117'	900'	124'/138'	900'
Northbound Right	C	70'/73'	C	109'/111'	C
Southbound Left	825'	160'/213'	825'	190'/276'	825'
Southbound Right	C	0'/0'	C	0'/0'	C
Palmer Park Blvd Access (#3)					
Eastbound Left	100'	11'/29'	100'	11'/30'	100'
Eastbound Right	C	22'/23'	C	23'/25'	C
Westbound Left	175'	30'/36'	175'	30'/38'	175'
Northbound Left	C	212'/425'	C	212'/425'	C
Southbound Left	75'	20'/35'	75'	20'/35'	75'
Omaha Blvd Access (#4)					
Eastbound Left	75'	25'/25'	75'	25'/25'	75'
Westbound Left	TWLTL	0'/0'	TWLTL	0'/0'	TWLTL

TWLTL = Two Way Left Turn Lane; C = Continuous Lane

All queues are anticipated to remain within the existing or recommended turn lane lengths through 2045. It should be noted that long vehicle queues are reported with exiting northbound left turn movement at the signalized access along Palmer Park Boulevard. Protective-permissive left turn phasing could be considered to reduce vehicle queues with this movement.

5.5 Roadway Classifications and Access Spacing Requirements

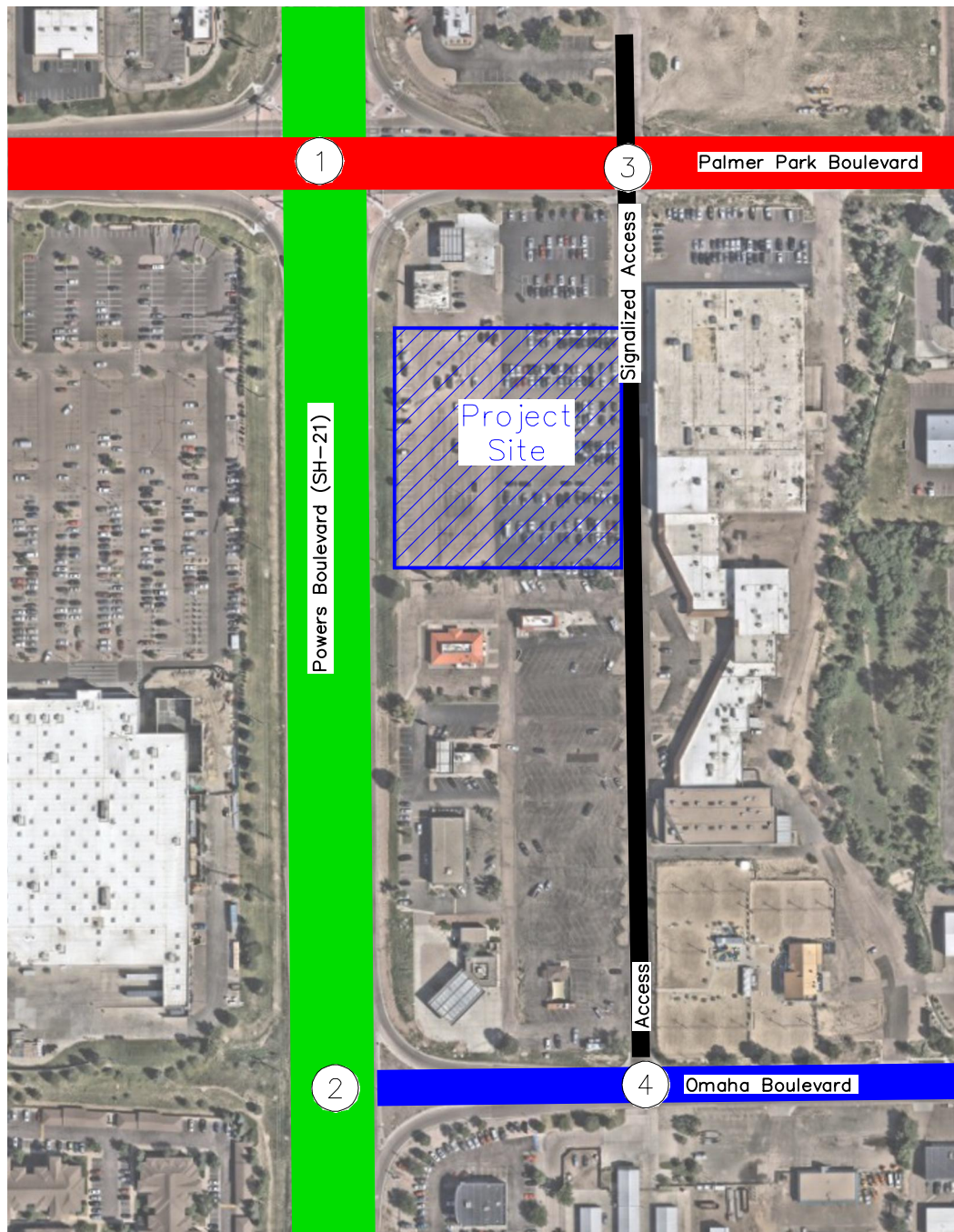
According to El Paso County 2016 Major Transportation Corridors Plan Update, Powers Boulevard is classified as a Freeway, Palmer Park Boulevard is classified as a Principal Arterial, and Omaha Boulevard is classified as a Collector. The accesses for the project are existing for the current retail center; therefore, no modifications are recommended for the placement of accesses for the existing retail center. Figure 13 illustrates the road classifications.

5.6 Sight Distance Evaluation

It is recommended that sight triangles be provided at all site access points to give drivers exiting the site a clear view of oncoming traffic. Landscaping and objects within sight triangles must not obstruct drivers' views of the adjacent travel lanes. The El Paso County Engineering Criteria Manual (ECM) design intersection/driveway sight distances for left and right turn from stop were evaluated at the existing access along Omaha Boulevard. The other intersections within the study area are either signalized or uncontrolled and do not require sight distances for entering from minor approach. The following identifies sight distance requirements for the applicable access intersection associated with the project:

Omaha Boulevard Access

According to Table 2-35 from the ECM and a posted speed of 40 miles per hour along Omaha Boulevard, the intersection sight distance for a vehicle entering the major street (Omaha Boulevard) from a driveway is 400 feet for passenger vehicles. Therefore, all obstructions for left and right turning vehicles from stop should be clear to the left and right within the triangle created with a vertex point located 10 feet from the edge of the major road traveled way and a line-of-sight distance of 400 feet located in the middle of both the eastbound (for left turning only) and westbound (for both left and right turning) through lanes along Omaha Boulevard. It is believed that the existing access along Omaha Boulevard currently provides the necessary sight distances.



LEGEND

	Freeway
	Principal Arterial
	Collector
	Private

FIGURE 13
 Chick-fil-A Powers & Palmer Park
 El Paso County, Colorado
 Road Classification Map

5.7 Bicycle and Pedestrian Access

Refer to approved
VASA SDP for new
sidewalk to be added

Sidewalks are not present on either side Powers Boulevard or Omaha Boulevard within the study limits. Sidewalks are provided along Palmer Park Boulevard west of Powers Boulevard but are not provided east of Powers Boulevard within the project limits. Pedestrian crosswalks are provided on each leg of the Palmer Park Boulevard and Powers Boulevard intersection. There are not any designated bike lanes along the studied roadways within the project limits.

5.8 Road Impact Fees

Road impact fees were evaluated based on the El Paso County Road Impact Fee Schedule. Based on these fee schedule guidelines, the fee per 1,000 square feet of fast-food restaurant use is \$13,694. Therefore, the road impact fee for the proposed 2,714 square foot is expected to be \$37,165.52. Road impact fee calculations are shown in **Table 9**. The project team will determine if the impact fees are paid up front or if the property will be included in one of the available public improvement districts with reduced upfront costs.

Table 9 – Road Impact Fees

Use	SF	Fee / 1,000sf	Total Fee
Fast Food Restaurant	2,714	\$13,694	\$37,165.52

2962sqft per SDP
submitted pleas
update

5.9 Improvement Summary

The study area key intersections and accesses are all expected to operate acceptably with existing lane configurations and control throughout the 2045 horizon. Further, vehicle queues are calculated to be contained within existing turn lane lengths through the long-term planning horizon. If 2045 traffic projections are realized, minor signal timings modifications could be needed during the afternoon peak hour in 2045 at the Palmer Park Boulevard and Powers Boulevard intersection. The green time on the eastbound approach may need to be increased by approximately three seconds to achieve overall level of service D during the PM peak hour in 2045.

Discuss movement of signalized
intersection to Waynoka Rd

6.0 CONCLUSIONS AND RECOMMENDATIONS

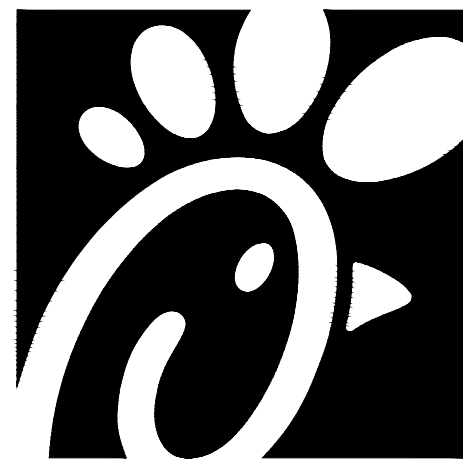
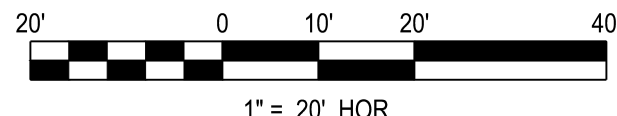
Based on the analysis presented in this report, Kimley-Horn believes Chick-fil-A Powers & Palmer Park will be successfully incorporated into the existing and future roadway network. Analysis of the existing street network, the proposed project development, and expected traffic volumes resulted in the following conclusions and recommendations:

- The study area key intersections and accesses are all expected to operate acceptably with existing lane configurations and control throughout the 2045 horizon. Further, vehicle queues are calculated to be contained within existing turn lane lengths through the long-term planning horizon. If 2045 traffic projections are realized, minor signal timings modifications could be needed during the afternoon peak hour in 2045 at the Palmer Park Boulevard and Powers Boulevard intersection. The green time on the eastbound approach may need to be increased by approximately three seconds to achieve overall level of service D during the PM peak hour in 2045.
- Based on traffic projections, the addition of project traffic on the east leg of Omaha Boulevard at SH-21 is anticipated to increase existing access traffic volumes by more than 20 percent; therefore, a CDOT access permit is anticipated to be required along Omaha Boulevard at SH-21 in association with this project.
- Any onsite or offsite improvements should be incorporated into the Civil Drawings and conform to standards of El Paso County and the Manual on Uniform Traffic Control Devices (MUTCD) – 11th Edition, 2023.

Appendix A: Conceptual Site Plan



PROJECT DATA TABLE		
ITEM	REQUIRED	PROPOSED
PROPERTY AREA		
GROSS SF		66,046
GROSS AC		1.52
BUILDING SF		2,714
PARKING		
CALCULATION	2714 S.F. / 150 S.F. PER STALL	
STANDARD STALLS	18	38
ACCESSIBLE STALLS	2	2
TOTAL	20	40
BICYCLE	N/A	4
BUILDING SET BACK (FT)		
NORTH	15	15
SOUTH	15	15
EAST	20	20
WEST	25	25
LANDSCAPE SET BACK (FT)		
NORTH	10	10
SOUTH	10	10
EAST	10	10
WEST	25	25



Chick-fil-A
5200 Buffington Road
Atlanta, Georgia 30349-
2998



FOR AND ON BEHALF OF
MERRICK AND COMPANY

CHICK-FIL-A
POWERS & PALMER PARK
SEC OF POWERS BLVD & PALMER PARK,
COLORADO SPRINGS, CO

FSR#05934

BUILDING TYPE / SIZE: P12 LS LRG
RELEASE: vX.YY.MM

REVISION SCHEDULE		
<u>NO.</u>	<u>DATE</u>	<u>DESCRIPTION</u>

CONSULTANT PROJECT #

PRINTED FOR

DATE XX/XX/20

DRAWN BY _____ BI _____

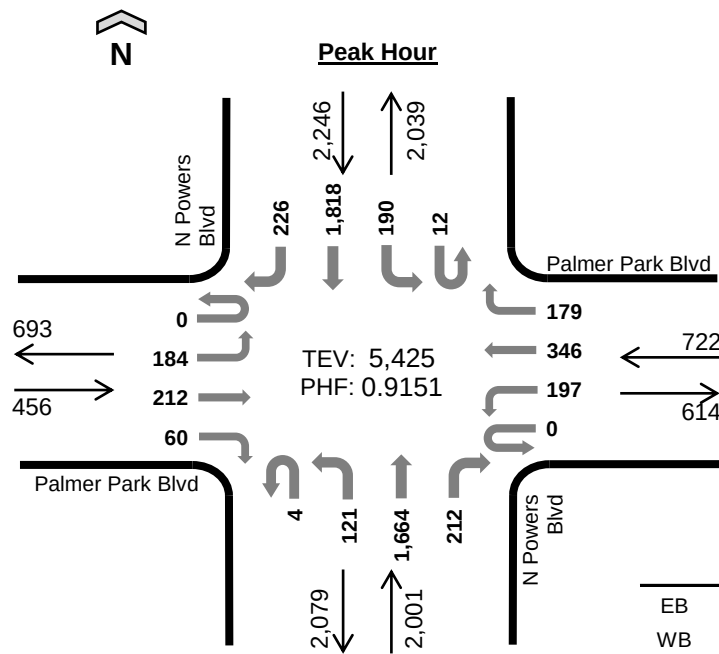
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ESD

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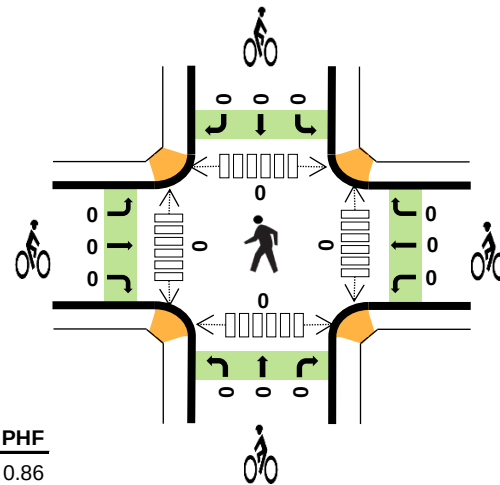


Appendix B: Intersection Count Sheets

N Powers Blvd Palmer Park Blvd



	HV%	PHF
EB	2%	0.86
WB	2%	0.95
NB	4%	0.87
SB	2%	0.86
TOTAL	3%	0.92



Peak Hour Count Summaries

Peak Hour Interval Start		Palmer Park Blvd				Palmer Park Blvd				N Powers Blvd				N Powers Blvd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:15 AM		0	37	57	12	0	53	93	44	1	26	406	51	1	37	479	53	1,350	0
7:30 AM		0	55	48	12	0	55	88	44	0	38	482	55	2	31	369	43	1,322	0
7:45 AM		0	51	59	22	0	44	74	49	2	35	432	58	5	60	514	77	1,482	0
8:00 AM		0	41	48	14	0	45	91	42	1	22	344	48	4	62	456	53	1,271	5,425
Pk Hr	All	0	184	212	60	0	197	346	179	4	121	1,664	212	12	190	1,818	226	5,425	
	HV	0	4	4	2	0	5	1	12	0	3	75	8	0	4	42	5	165	
	HV%	-	2%	2%	3%	-	3%	0%	7%	0%	2%	5%	4%	0%	2%	2%	2%	3%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:15 AM	1	5	24	15	45	0	0	0	0	0	0	0	0	0	0
7:30 AM	3	6	23	11	43	0	0	0	0	0	0	0	0	0	0
7:45 AM	5	3	23	12	43	0	0	0	0	0	0	0	0	0	0
8:00 AM	1	4	16	13	34	0	0	0	0	0	0	0	0	0	0
Peak Hour	10	18	86	51	165	0	0	0	0	0	0	0	0	0	0

Count Summaries - All Vehicles

Interval Start		Palmer Park Blvd				Palmer Park Blvd				N Powers Blvd				N Powers Blvd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	72	43	9	0	69	41	38	0	10	383	52	0	41	423	40	1,221	0
7:15 AM		0	37	57	12	0	53	93	44	1	26	406	51	1	37	479	53	1,350	0
7:30 AM		0	55	48	12	0	55	88	44	0	38	482	55	2	31	369	43	1,322	0
7:45 AM		0	51	59	22	0	44	74	49	2	35	432	58	5	60	514	77	1,482	5,375
8:00 AM		0	41	48	14	0	45	91	42	1	22	344	48	4	62	456	53	1,271	5,425
8:15 AM		0	30	51	13	0	37	64	30	0	38	408	34	8	48	362	68	1,191	5,266
8:30 AM		0	60	53	14	1	43	46	30	0	36	345	29	10	42	421	71	1,201	5,145
8:45 AM		0	45	53	16	0	37	55	27	0	30	349	30	2	58	340	54	1,096	4,759
Count Total		0	391	412	112	1	383	552	304	4	235	3,149	357	32	379	3,364	459	10,134	
Pk Hr	All	0	184	212	60	0	197	346	179	4	121	1,664	212	12	190	1,818	226	5,425	
	HV	0	4	4	2	0	5	1	12	0	3	75	8	0	4	42	5	165	
	HV%	-	2%	2%	3%	-	3%	0%	7%	0%	2%	5%	4%	0%	2%	2%	2%	3%	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	3	2	11	8	24	0	0	0	0	0	0	0	0	0	0
7:15 AM	1	5	24	15	45	0	0	0	0	0	0	0	0	0	0
7:30 AM	3	6	23	11	43	0	0	0	0	0	0	0	0	0	0
7:45 AM	5	3	23	12	43	0	0	0	0	0	0	0	0	0	0
8:00 AM	1	4	16	13	34	0	0	0	0	0	0	0	0	0	0
8:15 AM	2	7	20	10	39	0	0	0	0	0	0	0	0	0	0
8:30 AM	6	5	15	24	50	0	0	0	0	0	0	0	0	1	1
8:45 AM	5	7	14	22	48	0	0	0	0	0	1	0	1	0	2
Count Total	26	39	146	115	326	0	0	0	0	0	1	0	1	1	3
Peak Hour	10	18	86	51	165	0	0	0	0	0	0	0	0	0	0

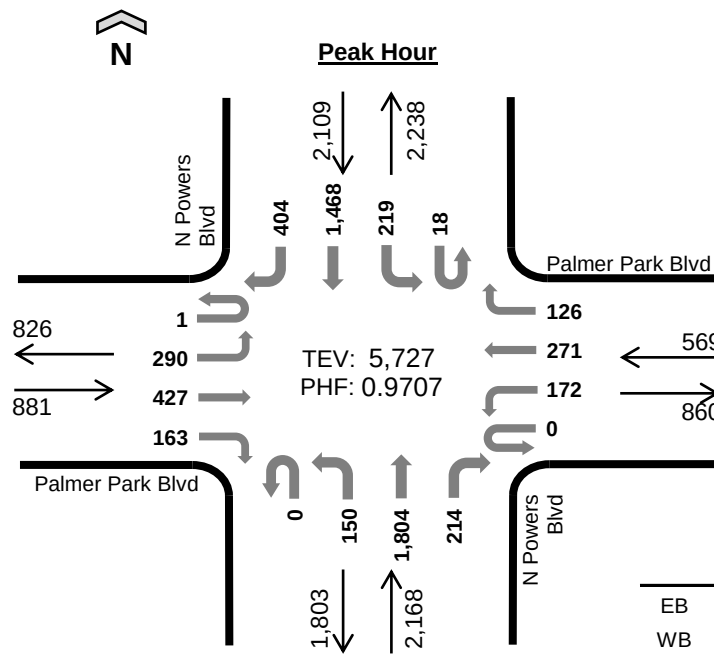
Count Summaries - Heavy Vehicles

Interval Start	Palmer Park Blvd				Palmer Park Blvd				N Powers Blvd				N Powers Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	1	2	0	0	1	0	1	0	0	11	0	0	4	4	0	24	0
7:15 AM	0	0	1	0	0	2	0	3	0	1	21	2	0	1	12	2	45	0
7:30 AM	0	1	0	2	0	2	1	3	0	1	21	1	0	2	7	2	43	0
7:45 AM	0	2	3	0	0	1	0	2	0	0	21	2	0	1	11	0	43	155
8:00 AM	0	1	0	0	0	0	0	4	0	1	12	3	0	0	12	1	34	165
8:15 AM	0	1	1	0	0	3	1	3	0	2	17	1	0	3	6	1	39	159
8:30 AM	0	3	1	2	0	3	2	0	0	2	13	0	2	0	19	3	50	166
8:45 AM	0	0	3	2	0	2	3	2	0	0	14	0	0	1	21	0	48	171
Count Total	0	9	11	6	0	14	7	18	0	7	130	9	2	12	92	9	326	
Pk Hr Heavy	0	4	4	2	0	5	1	12	0	3	75	8	0	4	42	5	165	

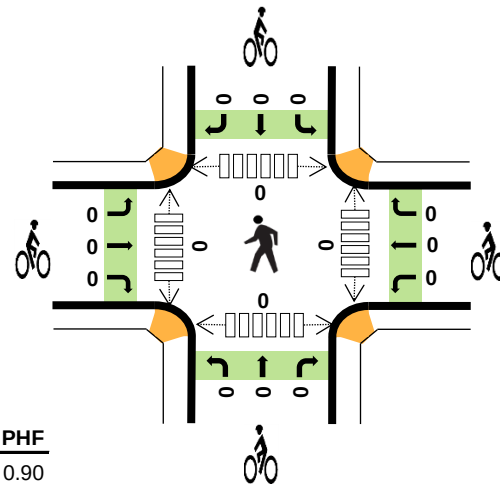
Count Summaries - Bikes

Interval Start	Palmer Park Blvd				Palmer Park Blvd				N Powers Blvd				N Powers Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

N Powers Blvd Palmer Park Blvd



	HV%	PHF
EB	1%	0.90
WB	2%	0.93
NB	1%	0.96
SB	1%	0.95
TOTAL	1%	0.97



Date: 1/9/2025
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM

Peak Hour Count Summaries

Peak Hour Interval Start		Palmer Park Blvd				Palmer Park Blvd				N Powers Blvd				N Powers Blvd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	68	106	45	0	37	83	27	0	39	464	61	5	55	359	108	1,457	0
4:15 PM		0	72	135	37	0	52	51	30	0	44	445	48	3	63	400	90	1,470	0
4:30 PM		1	88	91	40	0	38	74	41	0	35	475	52	3	45	385	107	1,475	0
4:45 PM		0	62	95	41	0	45	63	28	0	32	420	53	7	56	324	99	1,325	5,727
PkJr	All	1	290	427	163	0	172	271	126	0	150	1,804	214	18	219	1,468	404	5,727	
	HV	0	4	9	0	0	9	1	2	0	3	10	6	0	2	24	1	71	
	HV%	0%	1%	2%	0%	-	5%	0%	2%	-	2%	1%	3%	0%	1%	2%	0%	1%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	1	4	9	8	22	0	0	0	0	0	0	0	0	0	0
4:15 PM	5	4	4	4	17	0	0	0	0	0	0	0	0	0	0
4:30 PM	3	1	4	10	18	0	0	0	0	0	0	0	0	0	0
4:45 PM	4	3	2	5	14	0	0	0	0	0	0	0	0	0	0
Peak Hour	13	12	19	27	71	0	0	0	0	0	0	0	0	0	0

Count Summaries - All Vehicles																			
Interval Start		Palmer Park Blvd				Palmer Park Blvd				N Powers Blvd				N Powers Blvd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	68	106	45	0	37	83	27	0	39	464	61	5	55	359	108	1,457	0
4:15 PM		0	72	135	37	0	52	51	30	0	44	445	48	3	63	400	90	1,470	0
4:30 PM		1	88	91	40	0	38	74	41	0	35	475	52	3	45	385	107	1,475	0
4:45 PM		0	62	95	41	0	45	63	28	0	32	420	53	7	56	324	99	1,325	5,727
5:00 PM		0	71	95	18	0	39	74	41	0	40	404	54	2	64	269	68	1,239	5,509
5:15 PM		0	62	117	16	0	32	69	52	0	31	380	38	1	56	326	87	1,267	5,306
5:30 PM		0	78	106	13	0	11	81	31	0	31	272	35	0	40	318	71	1,087	4,918
5:45 PM		0	54	90	28	0	22	52	34	0	20	302	29	0	36	303	73	1,043	4,636
Count Total		1	555	835	238	0	276	547	284	0	272	3,162	370	21	415	2,684	703	10,363	
Pk Hr	All	1	290	427	163	0	172	271	126	0	150	1,804	214	18	219	1,468	404	5,727	
	HV	0	4	9	0	0	9	1	2	0	3	10	6	0	2	24	1	71	
	HV%	0%	1%	2%	0%	-	5%	0%	2%	-	2%	1%	3%	0%	1%	2%	0%	1%	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	1	4	9	8	22	0	0	0	0	0	0	0	0	0	0
4:15 PM	5	4	4	4	17	0	0	0	0	0	0	0	0	0	0
4:30 PM	3	1	4	10	18	0	0	0	0	0	0	0	0	0	0
4:45 PM	4	3	2	5	14	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	1	8	7	16	0	0	0	0	0	0	0	0	0	0
5:15 PM	1	1	3	5	10	0	0	0	0	0	0	0	0	0	0
5:30 PM	1	0	2	2	5	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	1	1	1	3	0	0	0	0	0	0	0	0	0	0
Count Total	15	15	33	42	105	0	0	0	0	0	0	0	0	0	0
Peak Hour	13	12	19	27	71	0	0	0	0	0	0	0	0	0	0

Count Summaries - Heavy Vehicles

Interval Start	Palmer Park Blvd				Palmer Park Blvd				N Powers Blvd				N Powers Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	3	0	1	0	0	5	4	0	0	8	0	22	0
4:15 PM	0	0	5	0	0	3	1	0	0	1	3	0	0	0	3	1	17	0
4:30 PM	0	2	1	0	0	1	0	0	0	1	2	1	0	1	9	0	18	0
4:45 PM	0	2	2	0	0	2	0	1	0	1	0	1	0	1	4	0	14	71
5:00 PM	0	0	0	0	0	1	0	0	0	0	5	3	0	1	5	1	16	65
5:15 PM	0	0	1	0	0	0	1	0	0	0	3	0	0	0	4	1	10	58
5:30 PM	0	1	0	0	0	0	0	0	0	1	0	1	0	0	1	1	5	45
5:45 PM	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0	3	34
Count Total	0	5	10	0	0	11	2	2	0	4	19	10	0	4	34	4	105	
Pk Hr Heavy	0	4	9	0	0	9	1	2	0	3	10	6	0	2	24	1	71	

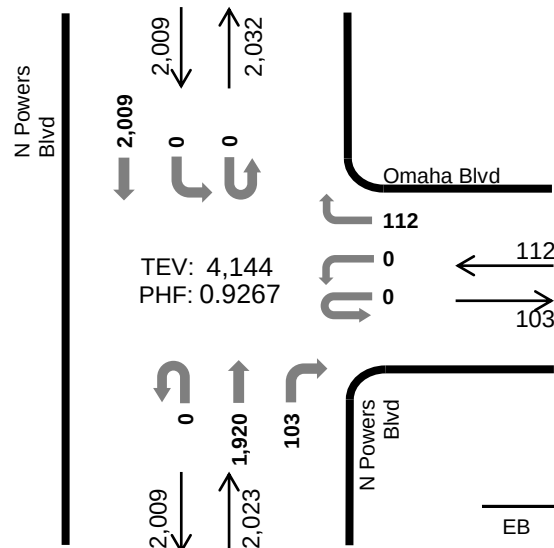
Count Summaries - Bikes

Interval Start	Palmer Park Blvd				Palmer Park Blvd				N Powers Blvd				N Powers Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

N Powers Blvd Omaha Blvd

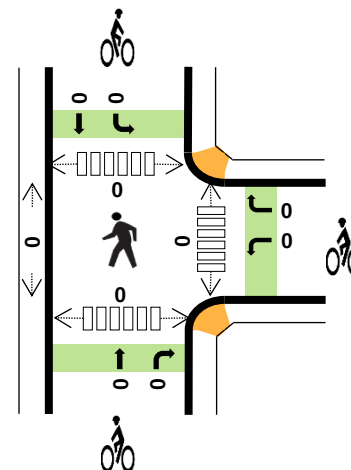


Peak Hour



	HV%	PHF
EB	--	--
WB	7%	0.88
NB	4%	0.87
SB	2%	0.90
TOTAL	3%	0.93

Date: 1/9/2025
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM



Peak Hour Count Summaries

Peak Hour Interval Start		n/a				Omaha Blvd				N Powers Blvd				N Powers Blvd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	0	0	0	0	0	23	0	0	422	20	0	0	492	0	957	0
7:15 AM		0	0	0	0	0	0	0	30	0	0	454	18	0	0	533	0	1,035	0
7:30 AM		0	0	0	0	0	0	0	27	0	0	549	34	0	0	424	0	1,034	0
7:45 AM		0	0	0	0	0	0	0	32	0	0	495	31	0	0	560	0	1,118	4,144
P k Hr	All	0	0	0	0	0	0	0	112	0	0	1,920	103	0	0	2,009	0	4,144	
	HV	0	0	0	0	0	0	0	8	0	0	74	5	0	0	40	0	127	
	HV%	-	-	-	-	-	-	-	7%	-	-	4%	5%	-	-	2%	-	3%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	0	2	10	5	17	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	2	24	14	40	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	3	23	9	35	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	1	22	12	35	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	8	79	40	127	0	0	0	0	0	0	0	0	0	0

Count Summaries - All Vehicles																			
Interval Start		n/a				Omaha Blvd				N Powers Blvd				N Powers Blvd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	0	0	0	0	0	23	0	0	422	20	0	0	492	0	957	0
7:15 AM		0	0	0	0	0	0	0	30	0	0	454	18	0	0	533	0	1,035	0
7:30 AM		0	0	0	0	0	0	0	27	0	0	549	34	0	0	424	0	1,034	0
7:45 AM		0	0	0	0	0	0	0	32	0	0	495	31	0	0	560	0	1,118	4,144
8:00 AM		0	0	0	0	0	0	0	24	0	0	391	23	0	0	502	0	940	4,127
8:15 AM		0	0	0	0	0	0	0	34	0	0	446	19	0	0	399	0	898	3,990
8:30 AM		0	0	0	0	0	0	0	29	0	0	381	33	0	0	465	0	908	3,864
8:45 AM		0	0	0	0	0	0	0	31	0	0	378	33	0	0	377	0	819	3,565
Count Total		0	0	0	0	0	0	0	230	0	0	3,516	211	0	0	3,752	0	7,709	
Pk Hr	All	0	0	0	0	0	0	0	112	0	0	1,920	103	0	0	2,009	0	4,144	
	HV	0	0	0	0	0	0	0	8	0	0	74	5	0	0	40	0	127	
	HV%	-	-	-	-	-	-	-	7%	-	-	4%	5%	-	-	2%	-	3%	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	0	2	10	5	17	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	2	24	14	40	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	3	23	9	35	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	1	22	12	35	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	4	16	12	32	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	2	18	9	29	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	1	15	22	38	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	17	23	40	0	0	0	0	0	0	0	0	0	0
Count Total	0	15	145	106	266	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	8	79	40	127	0	0	0	0	0	0	0	0	0	0

Count Summaries - Heavy Vehicles

Interval Start	n/a				Omaha Blvd				N Powers Blvd				N Powers Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	2	0	0	9	1	0	0	5	0	17	0
7:15 AM	0	0	0	0	0	0	0	2	0	0	22	2	0	0	14	0	40	0
7:30 AM	0	0	0	0	0	0	0	3	0	0	21	2	0	0	9	0	35	0
7:45 AM	0	0	0	0	0	0	0	1	0	0	22	0	0	0	12	0	35	127
8:00 AM	0	0	0	0	0	0	0	4	0	0	12	4	0	0	12	0	32	142
8:15 AM	0	0	0	0	0	0	0	2	0	0	18	0	0	0	9	0	29	131
8:30 AM	0	0	0	0	0	0	0	1	0	0	14	1	0	0	22	0	38	134
8:45 AM	0	0	0	0	0	0	0	0	0	0	14	3	0	0	23	0	40	139
Count Total	0	0	0	0	0	0	0	15	0	0	132	13	0	0	106	0	266	
Pk Hr Heavy	0	0	0	0	0	0	0	8	0	0	74	5	0	0	40	0	127	

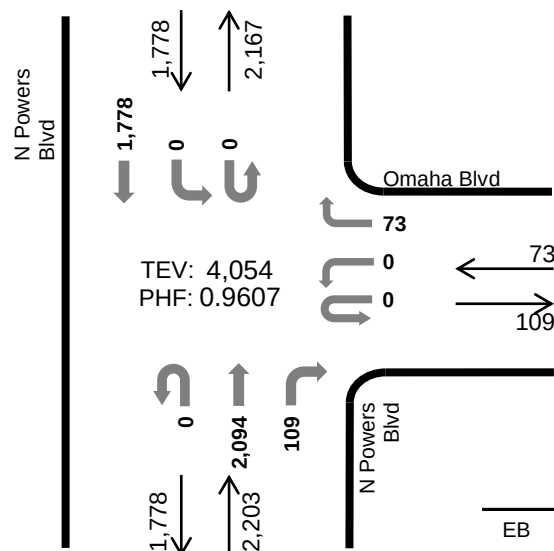
Count Summaries - Bikes

Interval Start	n/a				Omaha Blvd				N Powers Blvd				N Powers Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

N Powers Blvd Omaha Blvd

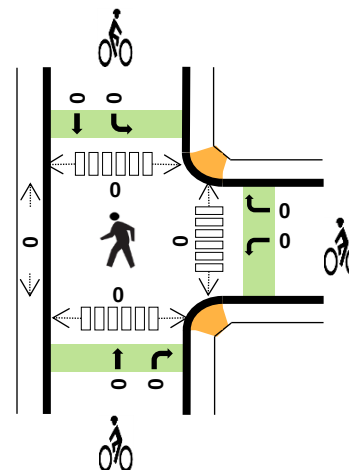


Peak Hour



	HV%	PHF
EB	--	--
WB	0%	0.87
NB	1%	0.95
SB	2%	0.91
TOTAL	1%	0.96

Date: 1/9/2025
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM



Peak Hour Count Summaries

Peak Hour Interval Start		n/a				Omaha Blvd				N Powers Blvd				N Powers Blvd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	0	0	0	0	0	11	0	0	552	27	0	0	436	0	1,026	0
4:15 PM		0	0	0	0	0	0	0	21	0	0	516	31	0	0	487	0	1,055	0
4:30 PM		0	0	0	0	0	0	0	20	0	0	542	27	0	0	454	0	1,043	0
4:45 PM		0	0	0	0	0	0	0	21	0	0	484	24	0	0	401	0	930	4,054
Pk Hr	All	0	0	0	0	0	0	0	73	0	0	2,094	109	0	0	1,778	0	4,054	
	HV	0	0	0	0	0	0	0	0	0	0	18	3	0	0	33	0	54	
	HV%	-	-	-	-	-	-	-	0%	-	-	1%	3%	-	-	2%	-	1%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	0	0	10	11	21	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	4	6	10	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	5	10	15	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	2	6	8	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	21	33	54	0	0	0	0	0	0	0	0	0	0

Count Summaries - All Vehicles																			
Interval Start		n/a				Omaha Blvd				N Powers Blvd				N Powers Blvd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	0	0	0	0	0	11	0	0	552	27	0	0	436	0	1,026	0
4:15 PM		0	0	0	0	0	0	0	21	0	0	516	31	0	0	487	0	1,055	0
4:30 PM		0	0	0	0	0	0	0	20	0	0	542	27	0	0	454	0	1,043	0
4:45 PM		0	0	0	0	0	0	0	21	0	0	484	24	0	0	401	0	930	4,054
5:00 PM		0	0	0	0	0	0	0	31	0	0	468	19	0	0	331	0	849	3,877
5:15 PM		0	0	0	0	0	0	0	24	0	0	425	22	0	0	375	0	846	3,668
5:30 PM		0	0	0	0	0	0	0	19	0	0	318	14	0	0	343	0	694	3,319
5:45 PM		0	0	0	0	0	0	0	14	0	0	337	23	0	0	354	0	728	3,117
Count Total		0	0	0	0	0	0	0	161	0	0	3,642	187	0	0	3,181	0	7,171	
Pk Hr	All	0	0	0	0	0	0	0	73	0	0	2,094	109	0	0	1,778	0	4,054	
	HV	0	0	0	0	0	0	0	0	0	0	18	3	0	0	33	0	54	
	HV%	-	-	-	-	-	-	-	0%	-	-	1%	3%	-	-	2%	-	1%	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	0	0	10	11	21	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	4	6	10	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	5	10	15	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	2	6	8	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	8	6	14	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	4	4	8	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	35	44	79	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	21	33	54	0	0	0	0	0	0	0	0	0	0

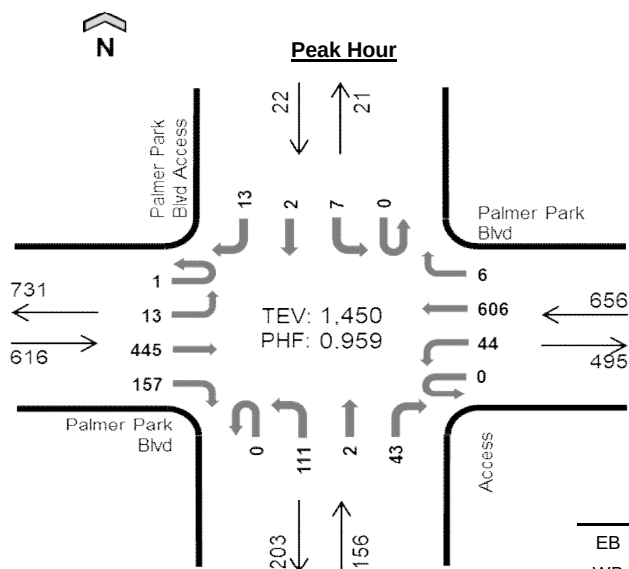
Count Summaries - Heavy Vehicles

Interval Start	n/a				Omaha Blvd				N Powers Blvd				N Powers Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	8	2	0	0	11	0	21	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	6	0	10	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	4	1	0	0	10	0	15	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	6	0	8	54
5:00 PM	0	0	0	0	0	0	0	0	0	0	8	0	0	0	6	0	14	47
5:15 PM	0	0	0	0	0	0	0	0	0	0	3	1	0	0	4	0	8	45
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	32
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	25
Count Total	0	0	0	0	0	0	0	0	0	0	31	4	0	0	44	0	79	
Pk Hr Heavy	0	0	0	0	0	0	0	0	0	0	18	3	0	0	33	0	54	

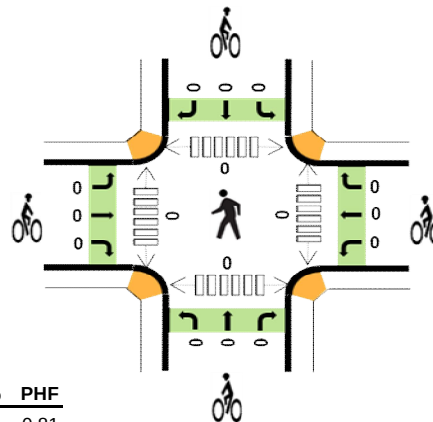
Count Summaries - Bikes

Interval Start	n/a				Omaha Blvd				N Powers Blvd				N Powers Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Access Palmer Park Blvd



Date: 1/9/2025
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM



	HV%	PHF
EB	3%	0.81
WB	2%	0.92
NB	6%	0.89
SB	9%	0.79
TOTAL	3%	0.96

Peak Hour Count Summaries

Peak Hour Interval Start	Palmer Park Blvd				Palmer Park Blvd				Palmer Park Blvd Access				Palmer Park Blvd Access				15-min Total	Rolling Hour Total	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:15 AM	0	2	94	45	0	11	165	3	0	22	0	9	0	1	1	4	357	0	
7:30 AM	0	5	101	26	0	7	168	0	0	26	1	14	0	0	0	5	353	0	
7:45 AM	1	1	148	40	0	10	134	0	0	30	0	10	0	4	0	0	378	0	
8:00 AM	0	5	102	46	0	16	139	3	0	33	1	10	0	2	1	4	362	1,450	
P _k Hr	All	1	13	445	157	0	44	606	6	0	111	2	43	0	7	2	13	1,450	
	HV	0	0	14	3	0	1	13	1	0	8	0	2	0	2	0	0	44	
	HV%	0%	0%	3%	2%	-	2%	2%	17%	-	7%	0%	5%	-	29%	0%	0%	3%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:15 AM	4	10	2	0	16	0	0	0	0	0	0	0	0	0	0
7:30 AM	3	3	4	0	10	0	0	0	0	0	0	0	0	0	0
7:45 AM	6	0	4	0	10	0	0	0	0	0	0	0	0	0	0
8:00 AM	4	2	0	2	8	0	0	0	0	0	0	0	0	0	0
Peak Hour	17	15	10	2	44	0	0	0	0	0	0	0	0	0	0

Count Summaries - All Vehicles

Interval Start	Palmer Park Blvd				Palmer Park Blvd				Palmer Park Blvd Access				Palmer Park Blvd Access				15-min Total	Rolling Hour Total	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	1	2	104	28	0	4	133	3	0	19	0	16	0	2	1	2	315	0	
7:15 AM	0	2	94	45	0	11	165	3	0	22	0	9	0	1	1	4	357	0	
7:30 AM	0	5	101	26	0	7	168	0	0	26	1	14	0	0	0	5	353	0	
7:45 AM	1	1	148	40	0	10	134	0	0	30	0	10	0	4	0	0	378	1,403	
8:00 AM	0	5	102	46	0	16	139	3	0	33	1	10	0	2	1	4	362	1,450	
8:15 AM	1	3	89	40	0	13	91	0	0	24	2	9	0	2	1	2	277	1,370	
8:30 AM	1	7	86	33	0	11	94	1	0	26	0	9	0	2	1	1	272	1,289	
8:45 AM	0	5	83	52	0	19	81	2	0	30	0	11	0	1	0	2	286	1,197	
Count Total	4	30	807	310	0	91	1,005	12	0	210	4	88	0	14	5	20	2,600		
Peak Hr	All	1	13	445	157	0	44	606	6	0	111	2	43	0	7	2	13	1,450	
	HV	0	0	14	3	0	1	13	1	0	8	0	2	0	2	0	0	44	
	HV%	0%	0%	3%	2%	-	2%	2%	17%	-	7%	0%	5%	-	29%	0%	0%	3%	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	5	2	1	0	8	0	0	0	0	0	0	0	0	0	0
7:15 AM	4	10	2	0	16	0	0	0	0	0	0	0	0	0	0
7:30 AM	3	3	4	0	10	0	0	0	0	0	0	0	0	0	0
7:45 AM	6	0	4	0	10	0	0	0	0	0	0	0	0	0	0
8:00 AM	4	2	0	2	8	0	0	0	0	0	0	0	0	0	0
8:15 AM	6	7	0	1	14	0	0	0	0	0	0	0	0	0	0
8:30 AM	1	6	0	0	7	0	0	0	0	0	0	0	0	0	0
8:45 AM	4	6	1	1	12	0	0	0	0	0	0	0	0	0	0
Count Total	33	36	12	4	85	0	0	0	0	0	0	0	0	0	0
Peak Hour	17	15	10	2	44	0	0	0	0	0	0	0	0	0	0

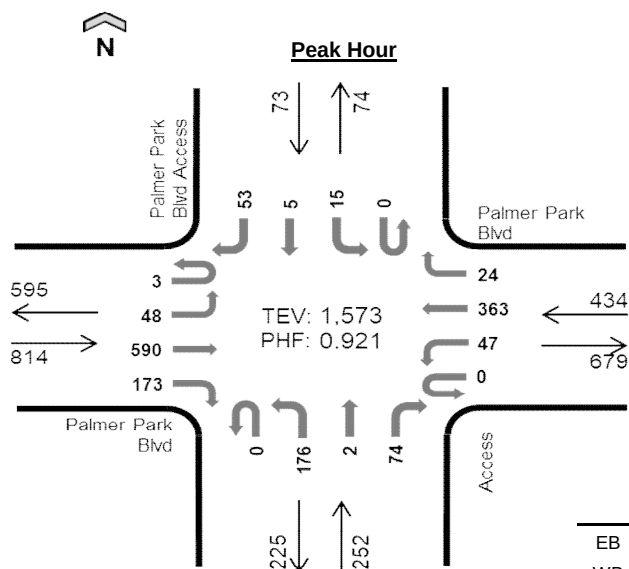
Count Summaries - Heavy Vehicles

Interval Start	Palmer Park Blvd				Palmer Park Blvd				Palmer Park Blvd Access				Palmer Park Blvd Access				15-min Total	Rolling Hour Total	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	4	1	0	0	1	1	0	1	0	0	0	0	0	0	0	8	0
7:15 AM	0	0	2	2	0	0	9	1	0	1	0	1	0	0	0	0	0	16	0
7:30 AM	0	0	3	0	0	1	2	0	0	3	0	1	0	0	0	0	0	10	0
7:45 AM	0	0	5	1	0	0	0	0	0	4	0	0	0	0	0	0	0	10	44
8:00 AM	0	0	4	0	0	0	2	0	0	0	0	0	0	0	2	0	0	8	44
8:15 AM	0	1	5	0	0	0	7	0	0	0	0	0	0	0	0	0	1	14	42
8:30 AM	0	0	1	0	0	1	5	0	0	0	0	0	0	0	0	0	0	7	39
8:45 AM	0	1	3	0	0	1	5	0	0	1	0	0	0	0	0	0	1	12	41
Count Total	0	2	27	4	0	3	31	2	0	10	0	2	0	2	0	2	0	85	
Pk Hr Heavy	0	0	14	3	0	1	13	1	0	8	0	2	0	2	0	0	0	44	

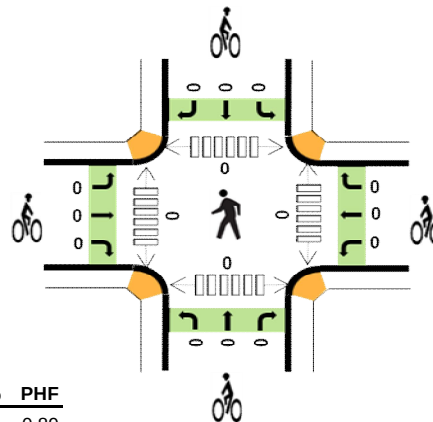
Count Summaries - Bikes

Interval Start	Palmer Park Blvd				Palmer Park Blvd				Palmer Park Blvd Access				Palmer Park Blvd Access				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Access Palmer Park Blvd



Date: 1/9/2025
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV%	PHF
EB	1%	0.89
WB	1%	0.93
NB	0%	0.93
SB	1%	0.79
TOTAL	1%	0.92

Peak Hour Count Summaries

Peak Hour Interval Start	Palmer Park Blvd				Palmer Park Blvd				Palmer Park Blvd Access				Palmer Park Blvd Access				15-min Total	Rolling Hour Total	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:30 PM	1	9	139	38	0	7	95	2	0	47	0	20	0	5	1	10	374	0	
4:45 PM	0	14	144	41	0	14	81	6	0	41	1	17	0	2	0	13	374	0	
5:00 PM	0	14	137	49	0	11	96	10	0	43	1	14	0	5	2	16	398	0	
5:15 PM	2	11	170	45	0	15	91	6	0	45	0	23	0	3	2	14	427	1,573	
Pk Hr	All	3	48	590	173	0	47	363	24	0	176	2	74	0	15	5	53	1,573	
	HV	0	1	11	0	0	0	4	0	0	0	0	0	0	0	0	1	17	
	HV%	0%	2%	2%	0%	-	0%	1%	0%	-	0%	0%	0%	-	0%	0%	2%	1%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:30 PM	3	0	0	1	4	0	0	0	0	0	0	0	0	0	0
4:45 PM	4	2	0	0	6	0	0	0	0	0	0	0	0	0	0
5:00 PM	4	1	0	0	5	0	0	0	0	0	0	0	0	0	0
5:15 PM	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0
Peak Hour	12	4	0	1	17	0	0	0	0	0	0	0	0	0	0

Count Summaries - All Vehicles

Interval Start	Palmer Park Blvd				Palmer Park Blvd				Palmer Park Blvd Access				Palmer Park Blvd Access				15-min Total	Rolling Hour Total	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	16	162	44	0	4	95	1	0	36	0	15	0	7	0	16	396	0	
4:15 PM	2	18	170	56	0	9	97	1	0	25	1	15	0	4	3	9	410	0	
4:30 PM	1	9	139	38	0	7	95	2	0	47	0	20	0	5	1	10	374	0	
4:45 PM	0	14	144	41	0	14	81	6	0	41	1	17	0	2	0	13	374	1,554	
5:00 PM	0	14	137	49	0	11	96	10	0	43	1	14	0	5	2	16	398	1,556	
5:15 PM	2	11	170	45	0	15	91	6	0	45	0	23	0	3	2	14	427	1,573	
5:30 PM	1	15	126	39	0	11	77	1	0	39	0	20	0	2	0	6	337	1,536	
5:45 PM	0	14	98	43	0	3	64	0	0	33	1	10	0	6	0	11	283	1,445	
Count Total	6	111	1,146	355	0	74	696	27	0	309	4	134	0	34	8	95	2,999		
Peak Hr	All	3	48	590	173	0	47	363	24	0	176	2	74	0	15	5	53	1,573	
	HV	0	1	11	0	0	0	4	0	0	0	0	0	0	0	1	17		
	HV%	0%	2%	2%	0%	-	0%	1%	0%	-	0%	0%	0%	-	0%	0%	2%	1%	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	5	4	0	0	9	0	0	0	0	0	0	0	0	0	0
4:15 PM	5	3	0	1	9	0	0	0	0	0	0	0	0	0	0
4:30 PM	3	0	0	1	4	0	0	0	0	0	0	0	0	0	0
4:45 PM	4	2	0	0	6	0	0	0	0	0	0	0	0	0	0
5:00 PM	4	1	0	0	5	0	0	0	0	0	0	0	0	0	0
5:15 PM	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0
5:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
5:45 PM	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0
Count Total	24	12	0	2	38	0	0	0	0	0	0	0	0	0	0
Peak Hour	12	4	0	1	17	0	0	0	0	0	0	0	0	0	0

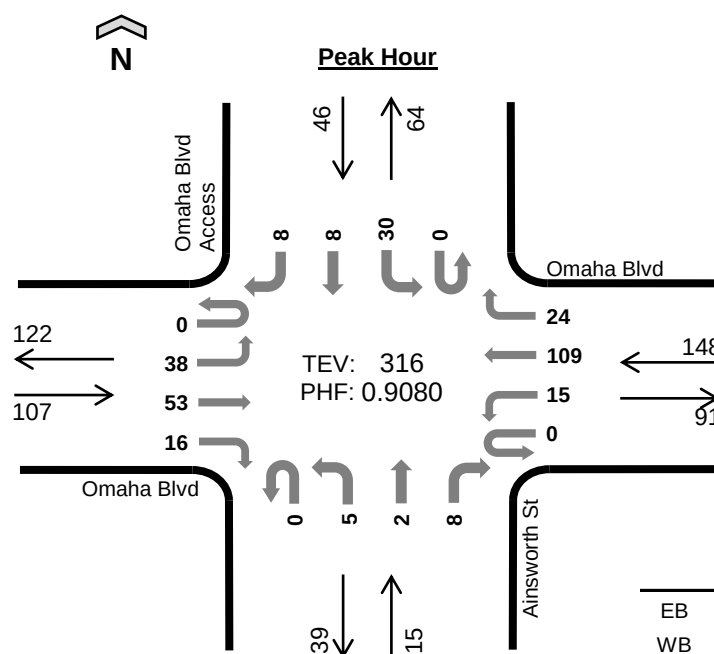
Count Summaries - Heavy Vehicles

Interval Start	Palmer Park Blvd				Palmer Park Blvd				Palmer Park Blvd Access				Palmer Park Blvd Access				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	5	0	0	0	4	0	0	0	0	0	0	0	0	0	9	0
4:15 PM	0	0	5	0	0	0	3	0	0	0	0	0	0	0	0	1	9	0
4:30 PM	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0
4:45 PM	0	0	4	0	0	0	2	0	0	0	0	0	0	0	0	0	6	28
5:00 PM	0	0	4	0	0	0	1	0	0	0	0	0	0	0	0	0	5	24
5:15 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	17
5:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	14
5:45 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	10
Count Total	0	1	23	0	0	0	12	0	0	0	0	0	0	0	0	2	38	
Pk Hr Heavy	0	1	11	0	0	0	4	0	0	0	0	0	0	0	0	1	17	

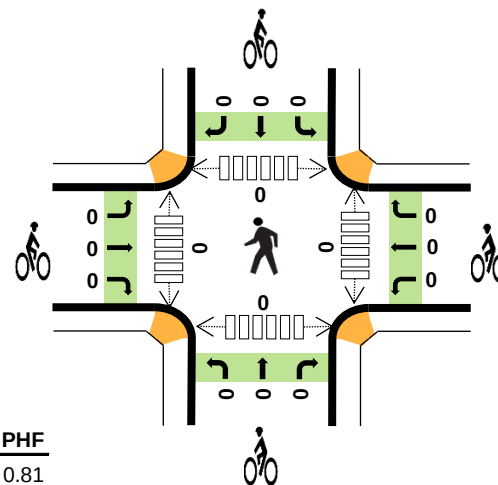
Count Summaries - Bikes

Interval Start	Palmer Park Blvd				Palmer Park Blvd				Palmer Park Blvd Access				Palmer Park Blvd Access				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

Ainsworth St Omaha Blvd



Date: 1/9/2025
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM



	HV%	PHF
EB	6%	0.81
WB	3%	0.90
NB	7%	0.42
SB	4%	0.77
TOTAL	4%	0.91

Peak Hour Count Summaries

Peak Hour Interval Start		Omaha Blvd				Omaha Blvd				Ainsworth St				Omaha Blvd Access				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:45 AM		0	8	19	3	0	4	29	6	0	2	0	1	0	9	3	3	87	0
8:00 AM		0	7	12	5	0	4	27	10	0	0	0	1	0	11	2	0	79	0
8:15 AM		0	10	7	3	0	3	31	3	0	0	1	1	0	7	2	1	69	0
8:30 AM		0	13	15	5	0	4	22	5	0	3	1	5	0	3	1	4	81	316
Pk Hr	All	0	38	53	16	0	15	109	24	0	5	2	8	0	30	8	8	316	
	HV	0	0	4	2	0	0	5	0	0	0	0	1	0	2	0	0	14	
	HV%	-	0%	8%	13%	-	0%	5%	0%	-	0%	0%	13%	-	7%	0%	0%	4%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
8:00 AM	4	4	0	2	10	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0
Peak Hour	6	5	1	2	14	0	0	0	0	0	0	0	0	0	0

Count Summaries - All Vehicles																			
Interval Start		Omaha Blvd				Omaha Blvd				Ainsworth St				Omaha Blvd Access				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	9	12	0	0	0	22	2	0	0	0	0	0	8	0	1	54	0
7:15 AM		0	4	15	1	0	0	29	5	0	0	0	0	0	6	1	2	63	0
7:30 AM		0	6	22	3	0	0	24	5	0	0	1	0	0	1	0	1	63	0
7:45 AM		0	8	19	3	0	4	29	6	0	2	0	1	0	9	3	3	87	267
8:00 AM		0	7	12	5	0	4	27	10	0	0	0	1	0	11	2	0	79	292
8:15 AM		0	10	7	3	0	3	31	3	0	0	1	1	0	7	2	1	69	298
8:30 AM		0	13	15	5	0	4	22	5	0	3	1	5	0	3	1	4	81	316
8:45 AM		0	11	15	5	0	4	29	6	0	2	0	6	0	7	1	0	86	315
Count Total		0	68	117	25	0	19	213	42	0	7	3	14	0	52	10	12	582	
Pk Hr	All	0	38	53	16	0	15	109	24	0	5	2	8	0	30	8	8	316	
	HV	0	0	4	2	0	0	5	0	0	0	0	1	0	2	0	0	14	
	HV%	-	0%	8%	13%	-	0%	5%	0%	-	0%	0%	13%	-	7%	0%	0%	4%	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0
7:15 AM	1	5	0	0	6	0	0	0	0	0	0	0	0	0	0
7:30 AM	2	2	0	1	5	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
8:00 AM	4	4	0	2	10	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	1	1	1	3	0	0	0	0	0	0	0	0	0	0
Count Total	10	15	2	4	31	0	0	0	0	0	0	0	0	0	0
Peak Hour	6	5	1	2	14	0	0	0	0	0	0	0	0	0	0

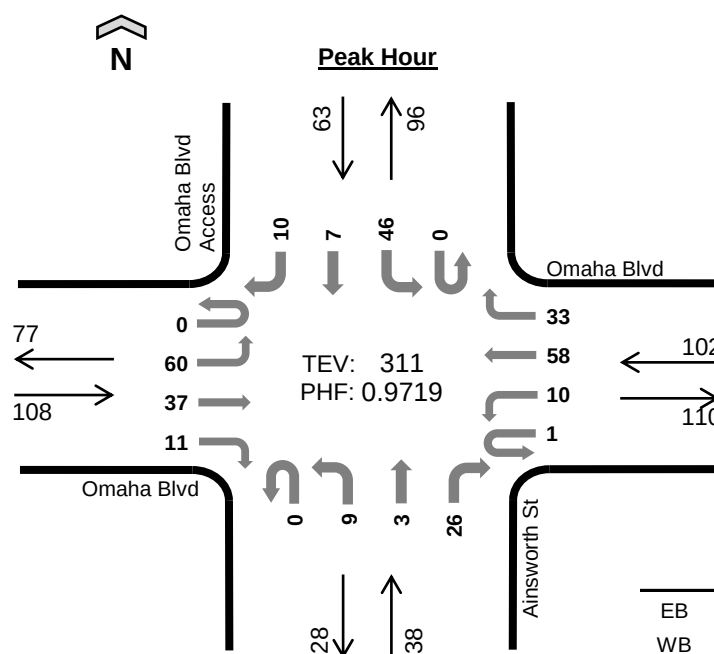
Count Summaries - Heavy Vehicles

Interval Start	Omaha Blvd				Omaha Blvd				Ainsworth St				Omaha Blvd Access				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	0
7:15 AM	0	1	0	0	0	0	3	2	0	0	0	0	0	0	0	0	6	0
7:30 AM	0	0	2	0	0	0	1	1	0	0	0	0	0	0	0	1	5	0
7:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	15
8:00 AM	0	0	2	2	0	0	4	0	0	0	0	0	0	2	0	0	10	22
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
8:30 AM	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	3	14
8:45 AM	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	3	16
Count Total	0	1	7	2	0	1	11	3	0	0	0	2	0	3	0	1	31	
Pk Hr Heavy	0	0	4	2	0	0	5	0	0	0	0	1	0	2	0	0	14	

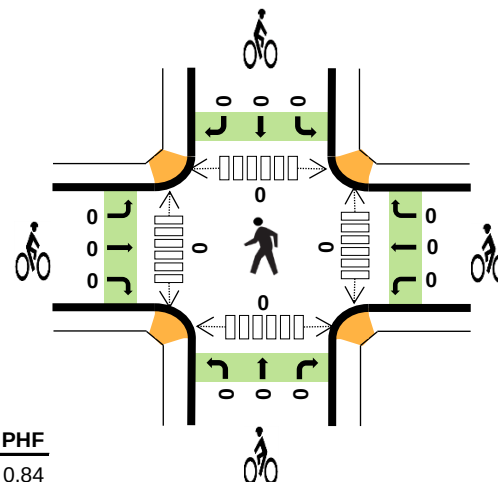
Count Summaries - Bikes

Interval Start	Omaha Blvd				Omaha Blvd				Ainsworth St				Omaha Blvd Access				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Ainsworth St Omaha Blvd



Date: 1/9/2025
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM



	HV%	PHF
EB	2%	0.84
WB	1%	0.88
NB	0%	0.86
SB	0%	0.79
TOTAL	1%	0.97

Peak Hour Count Summaries

Peak Hour Interval Start		Omaha Blvd				Omaha Blvd				Ainsworth St				Omaha Blvd Access				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	14	8	3	0	6	12	11	0	1	1	7	0	10	0	2	75	0
4:15 PM		0	11	16	5	0	1	17	7	0	3	0	6	0	12	1	0	79	0
4:30 PM		0	20	6	2	0	2	13	10	0	3	1	5	0	10	3	5	80	0
4:45 PM		0	15	7	1	1	1	16	5	0	2	1	8	0	14	3	3	77	311
Pk Hr	All	0	60	37	11	1	10	58	33	0	9	3	26	0	46	7	10	311	
	HV	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	
	HV%	-	0%	5%	0%	0%	0%	2%	0%	-	0%	0%	0%	-	0%	0%	0%	1%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0

Count Summaries - All Vehicles

Interval Start		Omaha Blvd				Omaha Blvd				Ainsworth St				Omaha Blvd Access				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	14	8	3	0	6	12	11	0	1	1	7	0	10	0	2	75	0
4:15 PM		0	11	16	5	0	1	17	7	0	3	0	6	0	12	1	0	79	0
4:30 PM		0	20	6	2	0	2	13	10	0	3	1	5	0	10	3	5	80	0
4:45 PM		0	15	7	1	1	1	16	5	0	2	1	8	0	14	3	3	77	311
5:00 PM		0	12	4	3	0	2	20	9	0	1	1	5	1	8	0	9	75	311
5:15 PM		0	18	4	0	0	0	17	5	0	4	2	0	0	12	1	3	66	298
5:30 PM		0	8	5	1	0	1	15	9	0	2	1	4	0	17	0	1	64	282
5:45 PM		0	19	6	1	0	0	11	6	0	0	1	2	0	9	1	3	59	264
Count Total		0	117	56	16	1	13	121	62	0	16	8	37	1	92	9	26	575	
Pk Hr	All	0	60	37	11	1	10	58	33	0	9	3	26	0	46	7	10	311	
	HV	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	
	HV%	-	0%	5%	0%	0%	0%	2%	0%	-	0%	0%	0%	-	0%	0%	0%	1%	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	3	1	0	0	4	0	0	0	0	0	0	0	0	0	0
Peak Hour	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0

Count Summaries - Heavy Vehicles

Interval Start	Omaha Blvd				Omaha Blvd				Ainsworth St				Omaha Blvd Access				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	4	
Pk Hr Heavy	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	

Count Summaries - Bikes

Interval Start	Omaha Blvd				Omaha Blvd				Ainsworth St				Omaha Blvd Access				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	



Appendix C: Future Traffic Projections

CDOT OTIS Traffic Projections

ROUTE	REFPT	ENDREFPT	LENGTH	UPDATEYR	AADT	OFFPKTRK	YR20FACTOR	ANNUAL GROWTH RATE	DHV	DD	LOCATION
021B	142.734	142.983	0.254	2023	59000	5.7	1.26	1.16%	8.5	56	ON POWERS BLVD N/O SH 24 PLATTE AVE COLO SPGS



Appendix D: Trip Generation Worksheets

Project Chick-fil-A - Powers & Palmer Park (Informational)
 Subject Trip Generation for Fast-Food Restaurant with Drive-Through Window
 Designed by MAG Date December 31, 2024 Job No. 096206022
 Checked by _____ Date _____ Sheet No. _____ of _____

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Average Rates

Land Use Code - Fast-Food Restaurant with Drive-Through Window (934)

Independent Variable - 1000 Square Feet (X)

SF = 2,714

X = 2.714

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (900 Series Page 726)

Directional Distribution: 51% ent. 49% exit.
 (T) = 44.61 (X)
 T = 121 Average Vehicle Trip Ends
 (T) = 44.61 * (2.7) 62 entering 59 exiting
 62 + 59 = 121

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (900 Series Page 727)

Directional Distribution: 52% ent. 48% exit.
 (T) = 33.03 (X)
 T = 90 Average Vehicle Trip Ends
 (T) = 33.03 * (2.7) 47 entering 43 exiting
 47 + 43 = 90

Weekday (900 Series Page 725)

Directional Distribution: 50% ent. 50% exit.
 (T) = 467.48 (X)
 T = 1270 Average Vehicle Trip Ends
 (T) = 467.48 * (2.7) 635 entering 635 exiting
 635 + 635 = 1270

Non Pass-By Trip Volumes (Per ITE Trip Generation Manual, 11th Edition)

AM Peak Hour =	50%	Non-Pass By	PM Peak Hour =	45%	Non-Pass By
	IN	Out	Total		
AM Peak	31	30	61		
PM Peak	21	19	40		
Daily	286	286	572	PM Peak Hour Rate Applied to Daily	

Pass-By Trip Volumes (Per Trip Generation Manual, 11th Edition)

AM Peak Hour =	50%	Pass By	PM Peak Hour =	55%	Pass By
	IN	Out	Total		
AM Peak	31	30	61		
PM Peak	26	23	49		
Daily	349	349	698	PM Peak Hour Rate Applied to Daily	

Project Chick-fil-A - Powers & Palmer Park (Informational)
 Subject Trip Generation for Fast-Food Restaurant with Drive-Through Window and No Indoor Seating
 Designed by MAG Date December 31, 2024 Job No. 096206022
 Checked by _____ Date _____ Sheet No. _____ of _____

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Average Rates

Land Use Code - Fast-Food Restaurant with Drive-Through Window and No Indoor Seating (935)

Independent Variable - Number of Drive Through Lanes (X)

Lanes = 2.0

X = 2.0

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (Page 761)

Directional Distribution: 47% ent. 53% exit.
 T = 86 Average Vehicle Trip Ends
 (T) = 43.0 (X)
 (T) = 43.0 * (2.0)
 40 entering 46 exiting
 40 + 46 = 86

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (Page 762)

Directional Distribution: 51% ent. 49% exit.
 T = 119 Average Vehicle Trip Ends
 (T) = 59.5 (X)
 (T) = 59.5 * (2.0)
 61 entering 58 exiting
 61 + 58 = 119

Weekday Daily (No Data - 10% K-Factor)

Directional Distribution: 50% ent. 50% exit.
 T = 1190 Average Vehicle Trip Ends
 (T) = 10% K-Factor
 (T) = (2.0)
 595 entering 595 exiting
 595 + 595 = 1190

Non Pass-By Trip Volumes (Per ITE Trip Generation Manual, 11th Edition)

AM Peak Hour =	69%	Non-Pass By	PM Peak Hour =	69%	Non-Pass By
	IN	Out	Total		
AM Peak	28	32	59		
PM Peak	42	40	82		
Daily	411	411	822	PM Peak Hour Rate Applied to Daily	

Pass-By Trip Volumes (Per Trip Generation Manual, 11th Edition)

AM Peak Hour =	31%	Pass By	PM Peak Hour =	31%	Pass By
	IN	Out	Total		
AM Peak	12	14	27		
PM Peak	19	18	37		
Daily	184	184	368	PM Peak Hour Rate Applied to Daily	

Project Chick-fil-A - Powers & Palmer Park - Site-Specific Data from Drive-Through Only Chick-fil-A Sites
 Subject Trip Generation for Fast-Food Restaurant with Drive-Through Window and No Indoor Seating
 Designed by MAG Date December 31, 2024 Job No. 096206022
 Checked by _____ Date _____ Sheet No. _____ of _____

TRIP GENERATION MANUAL TECHNIQUES

Site-Specific Chick-fil-A Drive-Through Only Existing Sites

*Collected in February and March 2023 in Raleigh, NC and Glendale, WI

Fast-Food Restaurant with Drive-Through Window and No Indoor Seating (935)

Independent Variable - Number of Drive Through Lanes (X)

Lanes = 2.0

X = 2.0

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.

(T) = 66.0 (X)		Directional Distribution:	46%	ent.	54%	exit.
(T) = 66.0 *	(2.0)	T =	132	Average Vehicle Trip Ends		
		61	entering	71	exiting	
		61	+	71	=	132

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.

(T) = 94.0 (X)		Directional Distribution:	48%	ent.	52%	exit.
(T) = 94.0 *	(2.0)	T =	188	Average Vehicle Trip Ends		
		90	entering	98	exiting	
		90	+	98	=	188

Weekday Daily (No Data - 10% K-Factor from PM)

(T) = 10% K-Factor		Directional Distribution:	50%	ent.	50%	exit.
(T) =	(2.0)	T =	1880	Average Vehicle Trip Ends		
		940	entering	940	exiting	
		940	+	940	=	1880

Non Pass-By Trip Volumes (Per ITE Trip Generation Manual, 11th Edition)

AM Peak Hour =	69%	Non-Pass By	PM Peak Hour =	69%	Non-Pass By
	IN	Out	Total		
AM Peak	42	49	91		
PM Peak	62	68	130		
Daily	649	649	1298	PM Peak Hour Rate Applied to Daily	

Pass-By Trip Volumes (Per Trip Generation Manual, 11th Edition)

AM Peak Hour =	31%	Pass By	PM Peak Hour =	31%	Pass By
	IN	Out	Total		
AM Peak	19	22	41		
PM Peak	28	30	58		
Daily	291	291	582	PM Peak Hour Rate Applied to Daily	



Appendix E: Intersection Analysis Worksheets

Timings

2025 Existing AM

1: Powers Boulevard & Palmer Park Boulevard

01/20/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	184	212	60	197	346	179	125	1664	212	202	1818	226
Future Volume (vph)	184	212	60	197	346	179	125	1664	212	202	1818	226
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			2			Free
Detector Phase	7	4		3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	20.0	20.0	4.0	20.0	
Minimum Split (s)	9.5	40.5		10.5	40.5		9.5	41.5	41.5	11.5	41.5	
Total Split (s)	19.0	20.0		20.0	21.0		17.0	82.0	82.0	24.0	89.0	
Total Split (%)	13.0%	13.7%		13.7%	14.4%		11.6%	56.2%	56.2%	16.4%	61.0%	
Yellow Time (s)	3.0	4.5		3.0	4.5		3.0	5.5	5.5	5.5	5.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.5		5.0	6.5		5.0	7.5	7.5	7.5	7.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Act Effect Green (s)	12.8	15.0	146.0	13.5	15.7	146.0	10.7	76.8	76.8	14.2	82.8	146.0
Actuated g/C Ratio	0.09	0.10	1.00	0.09	0.11	1.00	0.07	0.53	0.53	0.10	0.57	1.00
v/c Ratio	0.66	0.64	0.04	0.67	0.99	0.12	0.56	0.69	0.25	0.66	0.68	0.16
Control Delay (s/veh)	75.5	72.0	0.1	74.9	107.3	0.2	74.0	27.7	4.8	73.2	24.1	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	75.5	72.0	0.1	74.9	107.3	0.2	74.0	27.7	4.8	73.2	24.1	0.2
LOS	E	E	A	E	F	A	E	C	A	E	C	A
Approach Delay (s/veh)		64.0			71.8			28.2			26.1	
Approach LOS		E			E			C			C	

Intersection Summary

Cycle Length: 146

Actuated Cycle Length: 146

Offset: 126 (86%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay (s/veh): 36.1

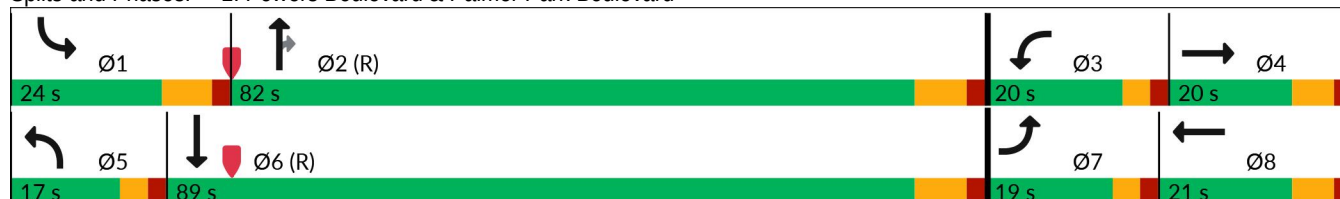
Intersection LOS: D

Intersection Capacity Utilization 74.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Powers Boulevard & Palmer Park Boulevard



HCM 7th Signalized Intersection Summary

1: Powers Boulevard & Palmer Park Boulevard

2025 Existing AM
01/20/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	184	212	60	197	346	179	125	1664	212	202	1818	226
Future Volume (veh/h)	184	212	60	197	346	179	125	1664	212	202	1818	226
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1841	1841	1841	1870	1870	1870
Adj Flow Rate, veh/h	200	230	0	214	376	0	136	1809	0	220	1976	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	4	4	4	2	2	2
Cap, veh/h	249	338		264	353		183	2857		271	3117	
Arrive On Green	0.07	0.10	0.00	0.08	0.10	0.00	0.05	0.57	0.00	0.08	0.61	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3401	5025	1560	3456	5106	1585
Grp Volume(v), veh/h	200	230	0	214	376	0	136	1809	0	220	1976	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1700	1675	1560	1728	1702	1585
Q Serve(g_s), s	8.3	9.1	0.0	8.9	14.5	0.0	5.8	35.4	0.0	9.1	35.9	0.0
Cycle Q Clear(g_c), s	8.3	9.1	0.0	8.9	14.5	0.0	5.8	35.4	0.0	9.1	35.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	249	338		264	353		183	2857		271	3117	
V/C Ratio(X)	0.80	0.68		0.81	1.07		0.74	0.63		0.81	0.63	
Avail Cap(c_a), veh/h	331	338		355	353		280	2857		391	3117	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.96	0.96	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	66.7	63.9	0.0	66.4	65.8	0.0	68.1	21.2	0.0	66.2	18.1	0.0
Incr Delay (d2), s/veh	10.0	5.5	0.0	9.5	65.3	0.0	5.9	1.1	0.0	8.2	1.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	4.4	0.0	4.3	9.7	0.0	2.6	13.0	0.0	4.2	13.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	76.7	69.4	0.0	75.9	131.1	0.0	74.0	22.3	0.0	74.4	19.1	0.0
LnGrp LOS	E	E		E	F		E	C		E	B	
Approach Vol, veh/h	430			590			1945			2196		
Approach Delay, s/veh	72.8			111.1			25.9			24.6		
Approach LOS	E			F			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.0	90.5	16.2	20.4	12.9	96.6	15.5	21.0				
Change Period (Y+Rc), s	7.5	7.5	5.0	6.5	5.0	7.5	5.0	6.5				
Max Green Setting (Gmax), s	16.5	74.5	15.0	13.5	12.0	81.5	14.0	14.5				
Max Q Clear Time (g_c+I1), s	11.1	37.4	10.9	11.1	7.8	37.9	10.3	16.5				
Green Ext Time (p_c), s	0.3	16.6	0.3	0.3	0.1	20.4	0.2	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh				39.0								
HCM 7th LOS				D								
Notes												
User approved pedestrian interval to be less than phase max green.												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

Timings

2025 Existing PM

1: Powers Boulevard & Palmer Park Boulevard

01/20/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	291	427	163	172	271	126	150	1804	214	237	1468	404
Future Volume (vph)	291	427	163	172	271	126	150	1804	214	237	1468	404
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			2			Free
Detector Phase	7	4		3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	20.0	20.0	4.0	20.0	
Minimum Split (s)	9.5	40.5		10.5	40.5		9.5	41.5	41.5	11.5	41.5	
Total Split (s)	25.0	27.0		18.0	20.0		18.0	81.0	81.0	20.0	83.0	
Total Split (%)	17.1%	18.5%		12.3%	13.7%		12.3%	55.5%	55.5%	13.7%	56.8%	
Yellow Time (s)	3.0	4.5		3.0	4.5		3.0	5.5	5.5	5.5	5.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.5		5.0	6.5		5.0	7.5	7.5	7.5	7.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Act Effect Green (s)	17.4	20.4	146.0	11.9	15.0	146.0	11.4	74.7	74.7	12.4	78.3	146.0
Actuated g/C Ratio	0.12	0.14	1.00	0.08	0.10	1.00	0.08	0.51	0.51	0.08	0.54	1.00
v/c Ratio	0.73	0.88	0.11	0.63	0.77	0.08	0.57	0.71	0.24	0.83	0.55	0.26
Control Delay (s/veh)	72.6	81.0	0.1	75.4	78.5	0.1	73.4	29.4	5.4	88.3	23.6	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	72.6	81.0	0.1	75.4	78.5	0.1	73.4	29.4	5.4	88.3	23.6	0.4
LOS	E	F	A	E	E	A	E	C	A	F	C	A
Approach Delay (s/veh)		63.3			60.2			30.1			26.4	
Approach LOS		E			E			C			C	

Intersection Summary

Cycle Length: 146

Actuated Cycle Length: 146

Offset: 74 (51%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay (s/veh): 36.8

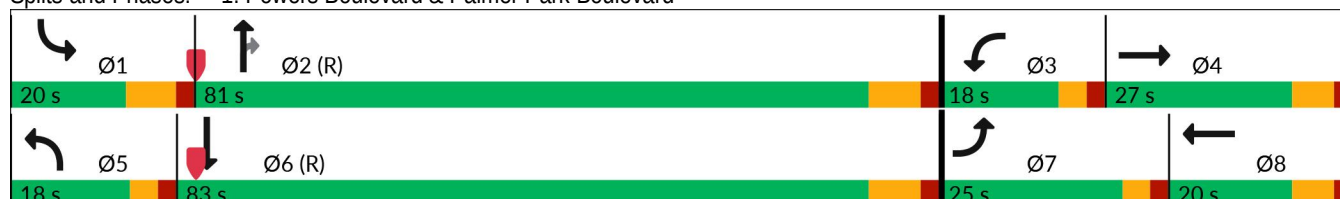
Intersection LOS: D

Intersection Capacity Utilization 80.4%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Powers Boulevard & Palmer Park Boulevard



HCM 7th Signalized Intersection Summary

1: Powers Boulevard & Palmer Park Boulevard

2025 Existing PM

01/20/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	291	427	163	172	271	126	150	1804	214	237	1468	404
Future Volume (veh/h)	291	427	163	172	271	126	150	1804	214	237	1468	404
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	300	440	0	177	279	0	155	1860	0	244	1513	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	2	2	2	1	1	1	1	1	1
Cap, veh/h	355	488		226	355		204	2748		289	2961	
Arrive On Green	0.10	0.14	0.00	0.07	0.10	0.00	0.06	0.53	0.00	0.08	0.58	0.00
Sat Flow, veh/h	3483	3582	1598	3456	3554	1585	3483	5147	1598	3483	5147	1598
Grp Volume(v), veh/h	300	440	0	177	279	0	155	1860	0	244	1513	0
Grp Sat Flow(s),veh/h/ln	1742	1791	1598	1728	1777	1585	1742	1716	1598	1742	1716	1598
Q Serve(g_s), s	12.4	17.7	0.0	7.4	11.2	0.0	6.4	38.5	0.0	10.1	25.8	0.0
Cycle Q Clear(g_c), s	12.4	17.7	0.0	7.4	11.2	0.0	6.4	38.5	0.0	10.1	25.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	355	488		226	355		204	2748		289	2961	
V/C Ratio(X)	0.85	0.90		0.78	0.79		0.76	0.68		0.84	0.51	
Avail Cap(c_a), veh/h	477	503		308	355		310	2748		298	2961	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.95	0.95	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	64.4	62.1	0.0	67.2	64.2	0.0	67.7	24.8	0.0	66.0	18.6	0.0
Incr Delay (d2), s/veh	10.2	18.9	0.0	8.5	10.7	0.0	5.7	1.4	0.0	19.0	0.6	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	9.3	0.0	3.5	5.6	0.0	2.9	14.8	0.0	5.1	9.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	74.6	81.0	0.0	75.7	74.9	0.0	73.4	26.2	0.0	85.0	19.3	0.0
LnGrp LOS	E	F		E	E		E	C		F	B	
Approach Vol, veh/h	740			456			2015			1757		
Approach Delay, s/veh	78.4			75.2			29.8			28.4		
Approach LOS	E			E			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.6	85.4	14.5	26.4	13.6	91.5	19.9	21.1				
Change Period (Y+Rc), s	7.5	7.5	5.0	6.5	5.0	7.5	5.0	6.5				
Max Green Setting (Gmax), s	12.5	73.5	13.0	20.5	13.0	75.5	20.0	13.5				
Max Q Clear Time (g_c+I1), s	12.1	40.5	9.4	19.7	8.4	27.8	14.4	13.2				
Green Ext Time (p_c), s	0.0	16.3	0.2	0.2	0.2	13.4	0.5	0.1				
Intersection Summary												
HCM 7th Control Delay, s/veh				40.7								
HCM 7th LOS				D								
Notes												
User approved pedestrian interval to be less than phase max green.												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

Timings

2028 Background AM

1: Powers Boulevard & Palmer Park Boulevard

01/20/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	193	222	63	206	362	187	131	1743	222	212	1904	237
Future Volume (vph)	193	222	63	206	362	187	131	1743	222	212	1904	237
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			2			Free
Detector Phase	7	4		3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	20.0	20.0	4.0	20.0	
Minimum Split (s)	9.5	40.5		10.5	40.5		9.5	41.5	41.5	11.5	41.5	
Total Split (s)	19.0	20.0		20.0	21.0		17.0	82.0	82.0	24.0	89.0	
Total Split (%)	13.0%	13.7%		13.7%	14.4%		11.6%	56.2%	56.2%	16.4%	61.0%	
Yellow Time (s)	3.0	4.5		3.0	4.5		3.0	5.5	5.5	5.5	5.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.5		5.0	6.5		5.0	7.5	7.5	7.5	7.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Act Effect Green (s)	13.0	14.7	146.0	13.8	15.5	146.0	10.8	76.5	76.5	14.5	82.7	146.0
Actuated g/C Ratio	0.09	0.10	1.00	0.09	0.11	1.00	0.07	0.52	0.52	0.10	0.57	1.00
v/c Ratio	0.69	0.68	0.04	0.69	1.05	0.13	0.57	0.72	0.27	0.68	0.72	0.16
Control Delay (s/veh)	76.5	73.8	0.0	75.7	120.4	0.2	74.5	29.0	5.3	73.7	25.1	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	76.5	73.8	0.0	75.7	120.4	0.2	74.5	29.0	5.3	73.7	25.1	0.2
LOS	E	E	A	E	F	A	E	C	A	E	C	A
Approach Delay (s/veh)		65.2			78.4			29.3			27.0	
Approach LOS		E			E			C			C	

Intersection Summary

Cycle Length: 146

Actuated Cycle Length: 146

Offset: 126 (86%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.05

Intersection Signal Delay (s/veh): 37.9

Intersection LOS: D

Intersection Capacity Utilization 77.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Powers Boulevard & Palmer Park Boulevard



HCM 7th Signalized Intersection Summary

1: Powers Boulevard & Palmer Park Boulevard

2028 Background AM

01/20/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	193	222	63	206	362	187	131	1743	222	212	1904	237
Future Volume (veh/h)	193	222	63	206	362	187	131	1743	222	212	1904	237
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1841	1841	1841	1870	1870	1870
Adj Flow Rate, veh/h	210	241	0	224	393	0	142	1895	0	230	2070	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	4	4	4	2	2	2
Cap, veh/h	259	338		274	353		189	2829		281	3093	
Arrive On Green	0.07	0.10	0.00	0.08	0.10	0.00	0.06	0.56	0.00	0.08	0.61	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3401	5025	1560	3456	5106	1585
Grp Volume(v), veh/h	210	241	0	224	393	0	142	1895	0	230	2070	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1700	1675	1560	1728	1702	1585
Q Serve(g_s), s	8.7	9.6	0.0	9.3	14.5	0.0	6.0	38.6	0.0	9.6	39.2	0.0
Cycle Q Clear(g_c), s	8.7	9.6	0.0	9.3	14.5	0.0	6.0	38.6	0.0	9.6	39.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	259	338		274	353		189	2829		281	3093	
V/C Ratio(X)	0.81	0.71		0.82	1.11		0.75	0.67		0.82	0.67	
Avail Cap(c_a), veh/h	331	338		355	353		280	2829		391	3093	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.96	0.96	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	66.5	64.1	0.0	66.2	65.8	0.0	68.0	22.4	0.0	66.0	19.1	0.0
Incr Delay (d2), s/veh	11.2	6.9	0.0	10.6	81.3	0.0	6.2	1.3	0.0	9.2	1.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	4.7	0.0	4.5	10.5	0.0	2.7	14.2	0.0	4.5	14.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	77.7	71.1	0.0	76.8	147.0	0.0	74.2	23.7	0.0	75.3	20.2	0.0
LnGrp LOS	E	E		E	F		E	C		E	C	
Approach Vol, veh/h		451			617			2037			2300	
Approach Delay, s/veh		74.2			121.5			27.2			25.7	
Approach LOS		E			F			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.4	89.7	16.6	20.4	13.1	95.9	15.9	21.0				
Change Period (Y+Rc), s	7.5	7.5	5.0	6.5	5.0	7.5	5.0	6.5				
Max Green Setting (Gmax), s	16.5	74.5	15.0	13.5	12.0	81.5	14.0	14.5				
Max Q Clear Time (g_c+I1), s	11.6	40.6	11.3	11.6	8.0	41.2	10.7	16.5				
Green Ext Time (p_c), s	0.3	17.1	0.2	0.2	0.1	21.1	0.2	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh			41.3									
HCM 7th LOS			D									
Notes												
User approved pedestrian interval to be less than phase max green.												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

Timings

2028 Background PM

1: Powers Boulevard & Palmer Park Boulevard

01/20/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	305	447	171	180	284	132	157	1889	224	248	1537	423
Future Volume (vph)	305	447	171	180	284	132	157	1889	224	248	1537	423
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			2			Free
Detector Phase	7	4		3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	20.0	20.0	4.0	20.0	
Minimum Split (s)	9.5	40.5		10.5	40.5		9.5	41.5	41.5	11.5	41.5	
Total Split (s)	25.0	27.0		18.0	20.0		18.0	81.0	81.0	20.0	83.0	
Total Split (%)	17.1%	18.5%		12.3%	13.7%		12.3%	55.5%	55.5%	13.7%	56.8%	
Yellow Time (s)	3.0	4.5		3.0	4.5		3.0	5.5	5.5	5.5	5.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.5		5.0	6.5		5.0	7.5	7.5	7.5	7.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Act Effect Green (s)	17.7	20.7	146.0	12.1	15.0	146.0	11.5	74.2	74.2	12.5	77.7	146.0
Actuated g/C Ratio	0.12	0.14	1.00	0.08	0.10	1.00	0.08	0.51	0.51	0.09	0.53	1.00
v/c Ratio	0.75	0.91	0.11	0.66	0.81	0.09	0.59	0.75	0.26	0.86	0.58	0.27
Control Delay (s/veh)	73.2	84.8	0.1	76.3	81.3	0.1	73.9	30.8	6.0	92.1	24.5	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	73.2	84.8	0.1	76.3	81.3	0.1	73.9	30.8	6.0	92.1	24.5	0.4
LOS	E	F	A	E	F	A	E	C	A	F	C	A
Approach Delay (s/veh)		65.3			61.8			31.3			27.5	
Approach LOS		E			E			C			C	

Intersection Summary

Cycle Length: 146

Actuated Cycle Length: 146

Offset: 74 (51%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 135

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay (s/veh): 38.2

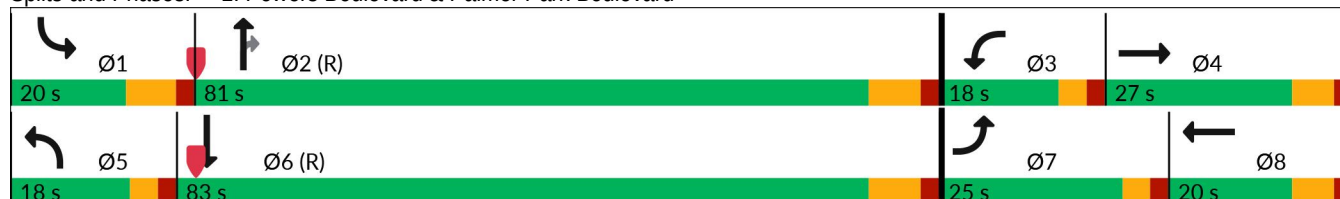
Intersection LOS: D

Intersection Capacity Utilization 83.1%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 1: Powers Boulevard & Palmer Park Boulevard



HCM 7th Signalized Intersection Summary

1: Powers Boulevard & Palmer Park Boulevard

2028 Background PM

01/20/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	305	447	171	180	284	132	157	1889	224	248	1537	423
Future Volume (veh/h)	305	447	171	180	284	132	157	1889	224	248	1537	423
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	314	461	0	186	293	0	162	1947	0	256	1585	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	2	2	2	1	1	1	1	1	1
Cap, veh/h	368	503		234	364		211	2700		298	2917	
Arrive On Green	0.11	0.14	0.00	0.07	0.10	0.00	0.06	0.52	0.00	0.09	0.57	0.00
Sat Flow, veh/h	3483	3582	1598	3456	3554	1585	3483	5147	1598	3483	5147	1598
Grp Volume(v), veh/h	314	461	0	186	293	0	162	1947	0	256	1585	0
Grp Sat Flow(s),veh/h/ln	1742	1791	1598	1728	1777	1585	1742	1716	1598	1742	1716	1598
Q Serve(g_s), s	12.9	18.5	0.0	7.7	11.8	0.0	6.7	42.2	0.0	10.6	28.1	0.0
Cycle Q Clear(g_c), s	12.9	18.5	0.0	7.7	11.8	0.0	6.7	42.2	0.0	10.6	28.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	368	503		234	364		211	2700		298	2917	
V/C Ratio(X)	0.85	0.92		0.79	0.80		0.77	0.72		0.86	0.54	
Avail Cap(c_a), veh/h	477	503		308	364		310	2700		298	2917	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.95	0.95	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	64.2	61.9	0.0	67.0	64.1	0.0	67.6	26.5	0.0	65.9	19.8	0.0
Incr Delay (d2), s/veh	11.2	21.7	0.0	9.6	11.8	0.0	6.7	1.7	0.0	21.3	0.7	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	9.9	0.0	3.7	5.9	0.0	3.1	16.4	0.0	5.5	10.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	75.4	83.6	0.0	76.7	75.8	0.0	74.2	28.2	0.0	87.2	20.5	0.0
LnGrp LOS	E	F		E	E		E	C		F	C	
Approach Vol, veh/h	775			479			2109			1841		
Approach Delay, s/veh	80.3			76.2			31.8			29.8		
Approach LOS	F			E			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	84.1	14.9	27.0	13.8	90.2	20.4	21.5				
Change Period (Y+Rc), s	7.5	7.5	5.0	6.5	5.0	7.5	5.0	6.5				
Max Green Setting (Gmax), s	12.5	73.5	13.0	20.5	13.0	75.5	20.0	13.5				
Max Q Clear Time (g_c+I1), s	12.6	44.2	9.7	20.5	8.7	30.1	14.9	13.8				
Green Ext Time (p_c), s	0.0	16.3	0.2	0.0	0.2	14.3	0.5	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh	42.4											
HCM 7th LOS	D											
Notes												
User approved pedestrian interval to be less than phase max green.												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

Timings

2028 Total AM

1: Powers Boulevard & Palmer Park Boulevard

01/20/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	192	231	63	229	373	198	131	1743	221	219	1898	244
Future Volume (vph)	192	231	63	229	373	198	131	1743	221	219	1898	244
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			2			Free
Detector Phase	7	4		3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	20.0	20.0	4.0	20.0	
Minimum Split (s)	9.5	40.5		10.5	40.5		9.5	41.5	41.5	11.5	41.5	
Total Split (s)	19.0	20.0		20.0	21.0		17.0	82.0	82.0	24.0	89.0	
Total Split (%)	13.0%	13.7%		13.7%	14.4%		11.6%	56.2%	56.2%	16.4%	61.0%	
Yellow Time (s)	3.0	4.5		3.0	4.5		3.0	5.5	5.5	5.5	5.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.5		5.0	6.5		5.0	7.5	7.5	7.5	7.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Act Effect Green (s)	13.0	14.3	146.0	14.2	15.5	146.0	10.8	76.3	76.3	14.7	82.7	146.0
Actuated g/C Ratio	0.09	0.10	1.00	0.10	0.11	1.00	0.07	0.52	0.52	0.10	0.57	1.00
v/c Ratio	0.69	0.72	0.04	0.75	1.08	0.14	0.57	0.73	0.27	0.69	0.72	0.17
Control Delay (s/veh)	76.4	76.6	0.0	78.6	128.0	0.2	74.5	29.1	5.3	74.1	25.0	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	76.4	76.6	0.0	78.6	128.0	0.2	74.5	29.1	5.3	74.1	25.0	0.2
LOS	E	E	A	E	F	A	E	C	A	E	C	A
Approach Delay (s/veh)		66.7			82.2			29.4			27.0	
Approach LOS		E			F			C			C	

Intersection Summary

Cycle Length: 146

Actuated Cycle Length: 146

Offset: 126 (86%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.08

Intersection Signal Delay (s/veh): 38.9

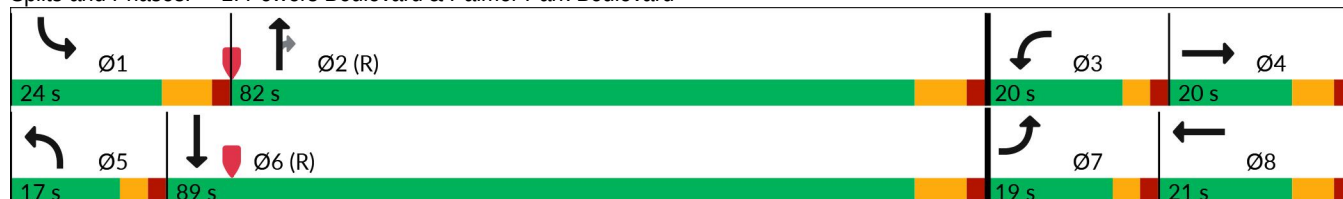
Intersection LOS: D

Intersection Capacity Utilization 77.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Powers Boulevard & Palmer Park Boulevard



HCM 7th Signalized Intersection Summary

1: Powers Boulevard & Palmer Park Boulevard

2028 Total AM
01/20/2025

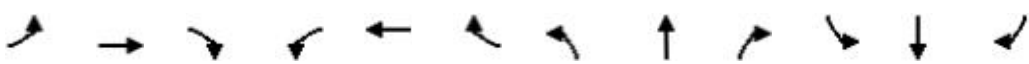
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	192	231	63	229	373	198	131	1743	221	219	1898	244
Future Volume (veh/h)	192	231	63	229	373	198	131	1743	221	219	1898	244
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1841	1841	1841	1870	1870	1870
Adj Flow Rate, veh/h	209	251	0	249	405	0	142	1895	0	238	2063	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	4	4	4	2	2	2
Cap, veh/h	258	312		298	353		189	2819		289	3095	
Arrive On Green	0.07	0.09	0.00	0.09	0.10	0.00	0.06	0.56	0.00	0.08	0.61	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3401	5025	1560	3456	5106	1585
Grp Volume(v), veh/h	209	251	0	249	405	0	142	1895	0	238	2063	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1700	1675	1560	1728	1702	1585
Q Serve(g_s), s	8.7	10.1	0.0	10.4	14.5	0.0	6.0	38.8	0.0	9.9	39.0	0.0
Cycle Q Clear(g_c), s	8.7	10.1	0.0	10.4	14.5	0.0	6.0	38.8	0.0	9.9	39.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	258	312		298	353		189	2819		289	3095	
V/C Ratio(X)	0.81	0.80		0.84	1.15		0.75	0.67		0.82	0.67	
Avail Cap(c_a), veh/h	331	329		355	353		280	2819		391	3095	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.95	0.95	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	66.5	65.4	0.0	65.7	65.8	0.0	68.0	22.6	0.0	65.8	19.0	0.0
Incr Delay (d2), s/veh	11.1	13.0	0.0	13.2	93.2	0.0	6.2	1.3	0.0	10.1	1.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	5.1	0.0	5.1	11.1	0.0	2.7	14.3	0.0	4.6	14.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	77.6	78.4	0.0	78.9	159.0	0.0	74.2	23.9	0.0	75.9	20.2	0.0
LnGrp LOS	E	E		E	F		E	C		E	C	
Approach Vol, veh/h	460			654			2037			2301		
Approach Delay, s/veh	78.0			128.5			27.4			25.9		
Approach LOS	E			F			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.7	89.4	17.6	19.3	13.1	96.0	15.9	21.0				
Change Period (Y+Rc), s	7.5	7.5	5.0	6.5	5.0	7.5	5.0	6.5				
Max Green Setting (Gmax), s	16.5	74.5	15.0	13.5	12.0	81.5	14.0	14.5				
Max Q Clear Time (g_c+I1), s	11.9	40.8	12.4	12.1	8.0	41.0	10.7	16.5				
Green Ext Time (p_c), s	0.3	17.0	0.2	0.2	0.1	21.1	0.2	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh	43.2											
HCM 7th LOS	D											
Notes												
User approved pedestrian interval to be less than phase max green.												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

Timings

2028 Total PM

1: Powers Boulevard & Palmer Park Boulevard

01/20/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↕	↗	↔↔	↕↕	↗	↔↔	↕↕	↗	↔↔	↕↕	↗
Traffic Volume (vph)	304	461	170	209	301	148	156	1889	223	257	1530	433
Future Volume (vph)	304	461	170	209	301	148	156	1889	223	257	1530	433
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			2			Free
Detector Phase	7	4		3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	20.0	20.0	4.0	20.0	
Minimum Split (s)	9.5	40.5		10.5	40.5		9.5	41.5	41.5	11.5	41.5	
Total Split (s)	25.0	27.0		18.0	20.0		18.0	81.0	81.0	20.0	83.0	
Total Split (%)	17.1%	18.5%		12.3%	13.7%		12.3%	55.5%	55.5%	13.7%	56.8%	
Yellow Time (s)	3.0	4.5		3.0	4.5		3.0	5.5	5.5	5.5	5.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.5		5.0	6.5		5.0	7.5	7.5	7.5	7.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Act Effect Green (s)	17.7	20.7	146.0	12.5	15.5	146.0	11.5	73.7	73.7	12.7	77.3	146.0
Actuated g/C Ratio	0.12	0.14	1.00	0.09	0.11	1.00	0.08	0.50	0.50	0.09	0.53	1.00
v/c Ratio	0.75	0.94	0.11	0.73	0.83	0.10	0.59	0.75	0.26	0.88	0.58	0.28
Control Delay (s/veh)	73.2	89.1	0.1	80.2	82.2	0.1	73.8	31.2	6.0	94.8	24.6	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	73.2	89.1	0.1	80.2	82.2	0.1	73.8	31.2	6.0	94.8	24.6	0.4
LOS	E	F	A	F	F	A	E	C	A	F	C	A
Approach Delay (s/veh)		67.7			63.1			31.7			28.0	
Approach LOS		E			E			C			C	

Intersection Summary

Cycle Length: 146

Actuated Cycle Length: 146

Offset: 74 (51%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 135

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay (s/veh): 39.3

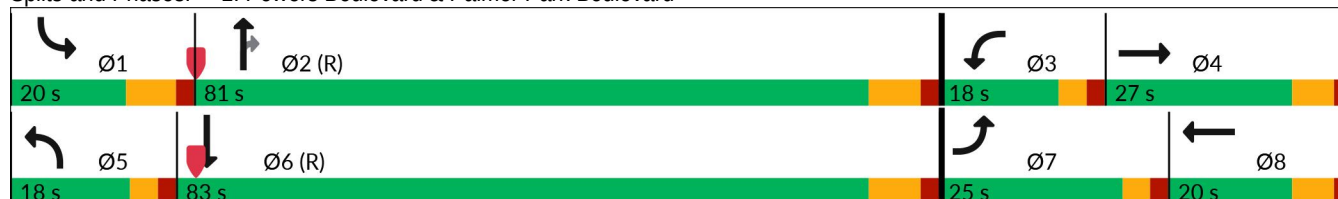
Intersection LOS: D

Intersection Capacity Utilization 84.6%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 1: Powers Boulevard & Palmer Park Boulevard



HCM 7th Signalized Intersection Summary

1: Powers Boulevard & Palmer Park Boulevard

2028 Total PM
01/20/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	304	461	170	209	301	148	156	1889	223	257	1530	433
Future Volume (veh/h)	304	461	170	209	301	148	156	1889	223	257	1530	433
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	313	475	0	215	310	0	161	1947	0	265	1577	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	2	2	2	1	1	1	1	1	1
Cap, veh/h	367	503		262	394		210	2658		298	2877	
Arrive On Green	0.11	0.14	0.00	0.08	0.11	0.00	0.06	0.52	0.00	0.09	0.56	0.00
Sat Flow, veh/h	3483	3582	1598	3456	3554	1585	3483	5147	1598	3483	5147	1598
Grp Volume(v), veh/h	313	475	0	215	310	0	161	1947	0	265	1577	0
Grp Sat Flow(s),veh/h/ln	1742	1791	1598	1728	1777	1585	1742	1716	1598	1742	1716	1598
Q Serve(g_s), s	12.9	19.2	0.0	9.0	12.4	0.0	6.6	43.0	0.0	11.0	28.4	0.0
Cycle Q Clear(g_c), s	12.9	19.2	0.0	9.0	12.4	0.0	6.6	43.0	0.0	11.0	28.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	367	503		262	394		210	2658		298	2877	
V/C Ratio(X)	0.85	0.94		0.82	0.79		0.77	0.73		0.89	0.55	
Avail Cap(c_a), veh/h	477	503		308	394		310	2658		298	2877	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.89	0.89	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	64.2	62.2	0.0	66.5	63.2	0.0	67.6	27.4	0.0	66.1	20.5	0.0
Incr Delay (d2), s/veh	11.1	26.8	0.0	12.6	9.1	0.0	6.5	1.8	0.0	26.1	0.8	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	10.6	0.0	4.4	6.1	0.0	3.1	16.7	0.0	5.8	10.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	75.3	89.0	0.0	79.1	72.3	0.0	74.1	29.3	0.0	92.2	21.2	0.0
LnGrp LOS	E	F		E	E		E	C		F	C	
Approach Vol, veh/h	788			525			2108			1842		
Approach Delay, s/veh	83.6			75.1			32.7			31.4		
Approach LOS	F			E			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	82.9	16.1	27.0	13.8	89.1	20.4	22.7				
Change Period (Y+Rc), s	7.5	7.5	5.0	6.5	5.0	7.5	5.0	6.5				
Max Green Setting (Gmax), s	12.5	73.5	13.0	20.5	13.0	75.5	20.0	13.5				
Max Q Clear Time (g_c+I1), s	13.0	45.0	11.0	21.2	8.6	30.4	14.9	14.4				
Green Ext Time (p_c), s	0.0	16.1	0.1	0.0	0.2	14.2	0.5	0.0				

Intersection Summary

HCM 7th Control Delay, s/veh 44.1
HCM 7th LOS D

Notes

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

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Timings

2045 Background AM

1: Powers Boulevard & Palmer Park Boulevard

01/20/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	234	270	76	251	441	228	159	2120	270	257	2316	288
Future Volume (vph)	234	270	76	251	441	228	159	2120	270	257	2316	288
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			2			Free
Detector Phase	7	4		3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	20.0	20.0	4.0	20.0	
Minimum Split (s)	9.5	40.5		10.5	40.5		9.5	41.5	41.5	11.5	41.5	
Total Split (s)	19.0	20.0		20.0	21.0		17.0	82.0	82.0	24.0	89.0	
Total Split (%)	13.0%	13.7%		13.7%	14.4%		11.6%	56.2%	56.2%	16.4%	61.0%	
Yellow Time (s)	3.0	4.5		3.0	4.5		3.0	5.5	5.5	5.5	5.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.5		5.0	6.5		5.0	7.5	7.5	7.5	7.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Act Effect Green (s)	13.6	14.0	146.0	14.5	14.9	146.0	11.3	75.5	75.5	15.5	82.2	146.0
Actuated g/C Ratio	0.09	0.10	1.00	0.10	0.10	1.00	0.08	0.52	0.52	0.11	0.56	1.00
v/c Ratio	0.79	0.87	0.05	0.80	1.33	0.16	0.67	0.89	0.33	0.77	0.88	0.20
Control Delay (s/veh)	82.9	89.4	0.1	81.9	214.4	0.2	78.2	37.4	7.9	77.9	32.4	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	82.9	89.4	0.1	81.9	214.4	0.2	78.2	37.4	7.9	77.9	32.4	0.3
LOS	F	F	A	F	F	A	E	D	A	E	C	A
Approach Delay (s/veh)		75.0			125.1			36.8			33.3	
Approach LOS		E			F			D			C	

Intersection Summary

Cycle Length: 146

Actuated Cycle Length: 146

Offset: 126 (86%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.33

Intersection Signal Delay (s/veh): 50.3

Intersection LOS: D

Intersection Capacity Utilization 89.2%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 1: Powers Boulevard & Palmer Park Boulevard



HCM 7th Signalized Intersection Summary

1: Powers Boulevard & Palmer Park Boulevard

2045 Background AM

01/20/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	234	270	76	251	441	228	159	2120	270	257	2316	288
Future Volume (veh/h)	234	270	76	251	441	228	159	2120	270	257	2316	288
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1841	1841	1841	1870	1870	1870
Adj Flow Rate, veh/h	254	293	0	273	479	0	173	2304	0	279	2517	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	4	4	4	2	2	2
Cap, veh/h	301	333		320	353		220	2700		328	2985	
Arrive On Green	0.09	0.09	0.00	0.09	0.10	0.00	0.06	0.54	0.00	0.09	0.58	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3401	5025	1560	3456	5106	1585
Grp Volume(v), veh/h	254	293	0	273	479	0	173	2304	0	279	2517	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1700	1675	1560	1728	1702	1585
Q Serve(g_s), s	10.6	11.9	0.0	11.4	14.5	0.0	7.3	57.2	0.0	11.6	58.9	0.0
Cycle Q Clear(g_c), s	10.6	11.9	0.0	11.4	14.5	0.0	7.3	57.2	0.0	11.6	58.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	301	333		320	353		220	2700		328	2985	
V/C Ratio(X)	0.84	0.88		0.85	1.36		0.79	0.85		0.85	0.84	
Avail Cap(c_a), veh/h	331	333		355	353		280	2700		391	2985	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.95	0.95	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	65.7	65.4	0.0	65.3	65.8	0.0	67.3	28.9	0.0	65.0	24.8	0.0
Incr Delay (d2), s/veh	16.7	22.7	0.0	15.9	177.4	0.0	10.9	3.7	0.0	14.2	3.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	6.4	0.0	5.7	15.2	0.0	3.4	21.9	0.0	5.6	22.1	0.0
Unsig. Movement Delay, s/veh			1.00			1.00						
LnGrp Delay(d), s/veh	82.4	88.0	1.0	81.2	243.2	1.0	78.2	32.5	0.0	79.2	27.9	0.0
LnGrp LOS	F	F	A	F	F	A	E	C		E	C	
Approach Vol, veh/h	630				1000		2477				2796	
Approach Delay, s/veh	74.3				138.9		35.7				33.1	
Approach LOS	E				F		D				C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.4	85.9	18.5	20.2	14.4	92.9	17.7	21.0				
Change Period (Y+Rc), s	7.5	7.5	5.0	6.5	5.0	7.5	5.0	6.5				
Max Green Setting (Gmax), s	16.5	74.5	15.0	13.5	12.0	81.5	14.0	14.5				
Max Q Clear Time (g_c+I1), s	13.6	59.2	13.4	13.9	9.3	60.9	12.6	16.5				
Green Ext Time (p_c), s	0.3	12.2	0.2	0.0	0.1	16.7	0.1	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh			53.1									
HCM 7th LOS			D									
Notes												
User approved pedestrian interval to be less than phase max green.												
Unsignalized Delay for [EBR, WBR] is included in calculations of the approach delay and intersection delay.												

Timings

2045 Background PM

1: Powers Boulevard & Palmer Park Boulevard

01/20/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	371	544	208	219	345	161	191	2298	273	302	1870	515
Future Volume (vph)	371	544	208	219	345	161	191	2298	273	302	1870	515
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			2			Free
Detector Phase	7	4		3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	20.0	20.0	4.0	20.0	
Minimum Split (s)	9.5	40.5		10.5	40.5		9.5	41.5	41.5	11.5	41.5	
Total Split (s)	25.0	27.0		18.0	20.0		18.0	79.0	79.0	22.0	83.0	
Total Split (%)	17.1%	18.5%		12.3%	13.7%		12.3%	54.1%	54.1%	15.1%	56.8%	
Yellow Time (s)	3.0	4.5		3.0	4.5		3.0	5.5	5.5	5.5	5.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.5		5.0	6.5		5.0	7.5	7.5	7.5	7.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Act Effect Green (s)	19.2	20.9	146.0	12.6	14.3	146.0	12.2	71.5	71.5	14.5	76.3	146.0
Actuated g/C Ratio	0.13	0.14	1.00	0.09	0.10	1.00	0.08	0.49	0.49	0.10	0.52	1.00
v/c Ratio	0.84	1.10	0.13	0.76	1.03	0.10	0.68	0.94	0.32	0.90	0.72	0.33
Control Delay (s/veh)	78.7	125.6	0.2	82.3	118.1	0.1	77.3	44.2	9.3	93.9	28.7	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	78.7	125.6	0.2	82.3	118.1	0.1	77.3	44.2	9.3	93.9	28.7	0.6
LOS	E	F	A	F	F	A	E	D	A	F	C	A
Approach Delay (s/veh)		86.9			81.1			43.0			30.6	
Approach LOS		F			F			D			C	

Intersection Summary

Cycle Length: 146

Actuated Cycle Length: 146

Offset: 74 (51%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.10

Intersection Signal Delay (s/veh): 49.0

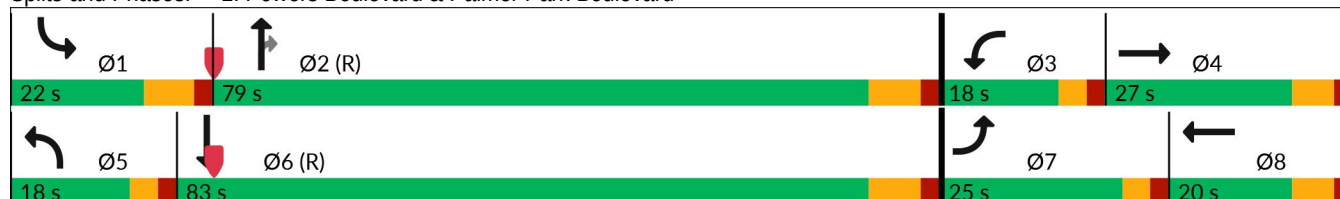
Intersection LOS: D

Intersection Capacity Utilization 96.4%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 1: Powers Boulevard & Palmer Park Boulevard



HCM 7th Signalized Intersection Summary

1: Powers Boulevard & Palmer Park Boulevard

2045 Background PM

01/20/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	371	544	208	219	345	161	191	2298	273	302	1870	515
Future Volume (veh/h)	371	544	208	219	345	161	191	2298	273	302	1870	515
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	382	561	0	226	356	0	197	2369	0	311	1928	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	2	2	2	1	1	1	1	1	1
Cap, veh/h	432	503		273	339		245	2572		346	2809	
Arrive On Green	0.12	0.14	0.00	0.08	0.10	0.00	0.07	0.50	0.00	0.10	0.55	0.00
Sat Flow, veh/h	3483	3582	1598	3456	3554	1585	3483	5147	1598	3483	5147	1598
Grp Volume(v), veh/h	382	561	0	226	356	0	197	2369	0	311	1928	0
Grp Sat Flow(s),veh/h/ln	1742	1791	1598	1728	1777	1585	1742	1716	1598	1742	1716	1598
Q Serve(g_s), s	15.8	20.5	0.0	9.4	13.9	0.0	8.1	62.3	0.0	12.9	39.7	0.0
Cycle Q Clear(g_c), s	15.8	20.5	0.0	9.4	13.9	0.0	8.1	62.3	0.0	12.9	39.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	432	503		273	339		245	2572		346	2809	
V/C Ratio(X)	0.89	1.12		0.83	1.05		0.80	0.92		0.90	0.69	
Avail Cap(c_a), veh/h	477	503		308	339		310	2572		346	2809	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.95	0.95	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	62.9	62.8	0.0	66.3	66.0	0.0	66.9	33.8	0.0	65.0	24.1	0.0
Incr Delay (d2), s/veh	16.7	75.7	0.0	14.8	61.1	0.0	11.3	6.8	0.0	25.1	1.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	14.6	0.0	4.7	9.2	0.0	3.9	25.5	0.0	6.8	15.2	0.0
Unsig. Movement Delay, s/veh	1.00			1.00								
LnGrp Delay(d), s/veh	79.6	138.4	1.0	81.1	127.2	1.0	78.2	40.7	0.0	90.1	25.5	0.0
LnGrp LOS	E	F	A	F	F	A	E	D		F	C	
Approach Vol, veh/h	1157			748			2566			2239		
Approach Delay, s/veh	93.6			85.2			43.6			34.5		
Approach LOS	F			F			D			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.0	80.5	16.5	27.0	15.3	87.2	23.1	20.4				
Change Period (Y+Rc), s	7.5	7.5	5.0	6.5	5.0	7.5	5.0	6.5				
Max Green Setting (Gmax), s	14.5	71.5	13.0	20.5	13.0	75.5	20.0	13.5				
Max Q Clear Time (g_c+I1), s	14.9	64.3	11.4	22.5	10.1	41.7	17.8	15.9				
Green Ext Time (p_c), s	0.0	6.4	0.1	0.0	0.2	17.4	0.3	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh	53.8											
HCM 7th LOS	D											
Notes												
User approved pedestrian interval to be less than phase max green.												
Unsignalized Delay for [EBR, WBR] is included in calculations of the approach delay and intersection delay.												

Timings

2045 Total AM

1: Powers Boulevard & Palmer Park Boulevard

01/20/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	233	279	76	274	452	239	159	2120	269	264	2310	295
Future Volume (vph)	233	279	76	274	452	239	159	2120	269	264	2310	295
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			2			Free
Detector Phase	7	4		3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	20.0	20.0	4.0	20.0	
Minimum Split (s)	9.5	40.5		10.5	40.5		9.5	41.5	41.5	11.5	41.5	
Total Split (s)	19.0	20.0		20.0	21.0		17.0	82.0	82.0	24.0	89.0	
Total Split (%)	13.0%	13.7%		13.7%	14.4%		11.6%	56.2%	56.2%	16.4%	61.0%	
Yellow Time (s)	3.0	4.5		3.0	4.5		3.0	5.5	5.5	5.5	5.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.5		5.0	6.5		5.0	7.5	7.5	7.5	7.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Act Effect Green (s)	13.6	13.7	146.0	14.8	14.9	146.0	11.3	75.4	75.4	15.6	82.2	146.0
Actuated g/C Ratio	0.09	0.09	1.00	0.10	0.10	1.00	0.08	0.52	0.52	0.11	0.56	1.00
v/c Ratio	0.79	0.91	0.05	0.86	1.36	0.16	0.67	0.90	0.33	0.78	0.88	0.20
Control Delay (s/veh)	82.6	96.5	0.1	87.3	227.2	0.2	78.2	37.6	7.8	78.8	32.3	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	82.6	96.5	0.1	87.3	227.2	0.2	78.2	37.6	7.8	78.8	32.3	0.3
LOS	F	F	A	F	F	A	E	D	A	E	C	A
Approach Delay (s/veh)		78.5			131.2			37.0			33.3	
Approach LOS		E			F			D			C	

Intersection Summary

Cycle Length: 146

Actuated Cycle Length: 146

Offset: 126 (86%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.36

Intersection Signal Delay (s/veh): 52.0

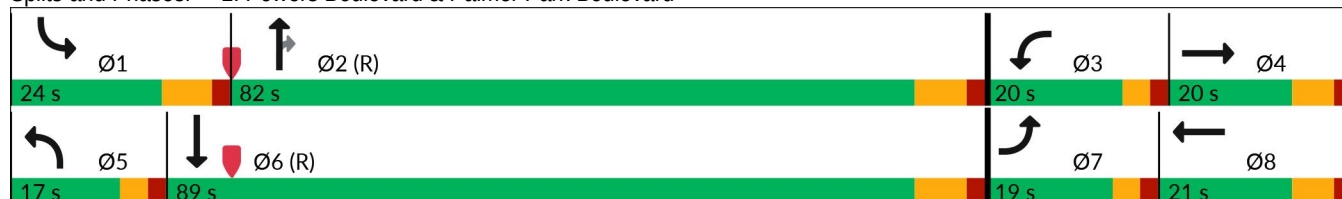
Intersection LOS: D

Intersection Capacity Utilization 89.7%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 1: Powers Boulevard & Palmer Park Boulevard



HCM 7th Signalized Intersection Summary

1: Powers Boulevard & Palmer Park Boulevard

2045 Total AM
01/20/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	233	279	76	274	452	239	159	2120	269	264	2310	295
Future Volume (veh/h)	233	279	76	274	452	239	159	2120	269	264	2310	295
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1841	1841	1841	1870	1870	1870
Adj Flow Rate, veh/h	253	303	0	298	491	0	173	2304	0	287	2511	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	4	4	4	2	2	2
Cap, veh/h	300	329		343	373		220	2662		336	2958	
Arrive On Green	0.09	0.09	0.00	0.10	0.10	0.00	0.06	0.53	0.00	0.10	0.58	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3401	5025	1560	3456	5106	1585
Grp Volume(v), veh/h	253	303	0	298	491	0	173	2304	0	287	2511	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1700	1675	1560	1728	1702	1585
Q Serve(g_s), s	10.5	12.4	0.0	12.4	15.3	0.0	7.3	58.1	0.0	11.9	59.4	0.0
Cycle Q Clear(g_c), s	10.5	12.4	0.0	12.4	15.3	0.0	7.3	58.1	0.0	11.9	59.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	300	329		343	373		220	2662		336	2958	
V/C Ratio(X)	0.84	0.92		0.87	1.32		0.79	0.87		0.86	0.85	
Avail Cap(c_a), veh/h	331	329		355	373		280	2662		391	2958	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.93	0.93	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	65.7	65.7	0.0	64.8	65.3	0.0	67.3	29.8	0.0	64.9	25.4	0.0
Incr Delay (d2), s/veh	16.6	30.5	0.0	18.5	159.3	0.0	10.9	4.1	0.0	15.0	3.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	7.0	0.0	6.3	15.2	0.0	3.4	22.4	0.0	5.8	22.4	0.0
Unsig. Movement Delay, s/veh			1.00			1.00						
LnGrp Delay(d), s/veh	82.3	96.2	1.0	83.3	224.7	1.0	78.2	33.9	0.0	79.9	28.7	0.0
LnGrp LOS	F	F	A	F	F	A	E	C		E	C	
Approach Vol, veh/h	639				1049		2477				2798	
Approach Delay, s/veh	78.3				129.1		37.0				33.9	
Approach LOS	E				F		D				C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.7	84.8	19.5	20.0	14.4	92.1	17.7	21.8				
Change Period (Y+Rc), s	7.5	7.5	5.0	6.5	5.0	7.5	5.0	6.5				
Max Green Setting (Gmax), s	16.5	74.5	15.0	13.5	12.0	81.5	14.0	14.5				
Max Q Clear Time (g_c+I1), s	13.9	60.1	14.4	14.4	9.3	61.4	12.5	17.3				
Green Ext Time (p_c), s	0.2	11.6	0.1	0.0	0.1	16.3	0.1	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh			53.4									
HCM 7th LOS			D									
Notes												
User approved pedestrian interval to be less than phase max green.												
Unsignalized Delay for [EBR, WBR] is included in calculations of the approach delay and intersection delay.												

Timings

2045 Total PM

1: Powers Boulevard & Palmer Park Boulevard

01/20/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	370	558	207	248	362	177	190	2298	272	311	1863	525
Future Volume (vph)	370	558	207	248	362	177	190	2298	272	311	1863	525
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			2			Free
Detector Phase	7	4		3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	20.0	20.0	4.0	20.0	
Minimum Split (s)	9.5	40.5		10.5	40.5		9.5	41.5	41.5	11.5	41.5	
Total Split (s)	25.0	30.0		15.0	20.0		18.0	81.0	81.0	20.0	83.0	
Total Split (%)	17.1%	20.5%		10.3%	13.7%		12.3%	55.5%	55.5%	13.7%	56.8%	
Yellow Time (s)	3.0	4.5		3.0	4.5		3.0	5.5	5.5	5.5	5.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.5		5.0	6.5		5.0	7.5	7.5	7.5	7.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Act Effect Green (s)	19.2	23.5	146.0	10.0	14.3	146.0	12.2	73.5	73.5	12.5	76.3	146.0
Actuated g/C Ratio	0.13	0.16	1.00	0.07	0.10	1.00	0.08	0.50	0.50	0.09	0.52	1.00
v/c Ratio	0.84	1.00	0.13	1.09	1.07	0.11	0.68	0.92	0.31	1.08	0.72	0.34
Control Delay (s/veh)	78.6	98.0	0.2	145.5	129.4	0.1	77.1	40.2	8.5	137.0	28.6	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	78.6	98.0	0.2	145.5	129.4	0.1	77.1	40.2	8.5	137.0	28.6	0.6
LOS	E	F	A	F	F	A	E	D	A	F	C	A
Approach Delay (s/veh)		73.8			105.5			39.6			35.7	
Approach LOS		E			F			D			D	

Intersection Summary

Cycle Length: 146

Actuated Cycle Length: 146

Offset: 74 (51%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.09

Intersection Signal Delay (s/veh): 50.5

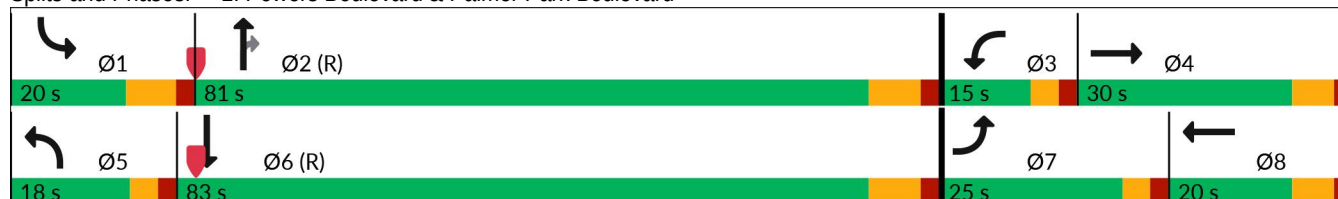
Intersection LOS: D

Intersection Capacity Utilization 97.9%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 1: Powers Boulevard & Palmer Park Boulevard



HCM 7th Signalized Intersection Summary

1: Powers Boulevard & Palmer Park Boulevard

2045 Total PM
01/20/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	370	558	207	248	362	177	190	2298	272	311	1863	525
Future Volume (veh/h)	370	558	207	248	362	177	190	2298	272	311	1863	525
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	381	575	0	256	373	0	196	2369	0	321	1921	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	2	2	2	1	1	1	1	1	1
Cap, veh/h	431	577		237	376		244	2591		298	2758	
Arrive On Green	0.12	0.16	0.00	0.07	0.11	0.00	0.07	0.50	0.00	0.09	0.54	0.00
Sat Flow, veh/h	3483	3582	1598	3456	3554	1585	3483	5147	1598	3483	5147	1598
Grp Volume(v), veh/h	381	575	0	256	373	0	196	2369	0	321	1921	0
Grp Sat Flow(s),veh/h/ln	1742	1791	1598	1728	1777	1585	1742	1716	1598	1742	1716	1598
Q Serve(g_s), s	15.7	23.4	0.0	10.0	15.3	0.0	8.1	61.8	0.0	12.5	40.3	0.0
Cycle Q Clear(g_c), s	15.7	23.4	0.0	10.0	15.3	0.0	8.1	61.8	0.0	12.5	40.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	431	577		237	376		244	2591		298	2758	
V/C Ratio(X)	0.88	1.00		1.08	0.99		0.80	0.91		1.08	0.70	
Avail Cap(c_a), veh/h	477	577		237	376		310	2591		298	2758	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.89	0.89	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	62.9	61.2	0.0	68.0	65.2	0.0	66.9	33.4	0.0	66.8	25.1	0.0
Incr Delay (d2), s/veh	16.6	36.8	0.0	78.6	41.6	0.0	11.2	6.4	0.0	73.9	1.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	13.5	0.0	7.0	9.1	0.0	3.9	25.1	0.0	8.5	15.5	0.0
Unsig. Movement Delay, s/veh	1.00			1.00								
LnGrp Delay(d), s/veh	79.6	98.0	1.0	146.6	106.8	1.0	78.1	39.7	0.0	140.7	26.6	0.0
LnGrp LOS	E	F	A	F	F	A	E	D		F	C	
Approach Vol, veh/h	1169			811			2565			2242		
Approach Delay, s/veh	74.3			95.6			42.6			42.9		
Approach LOS	E			F			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	81.0	15.0	30.0	15.2	85.8	23.1	21.9				
Change Period (Y+Rc), s	7.5	7.5	5.0	6.5	5.0	7.5	5.0	6.5				
Max Green Setting (Gmax), s	12.5	73.5	10.0	23.5	13.0	75.5	20.0	13.5				
Max Q Clear Time (g_c+I1), s	14.5	63.8	12.0	25.4	10.1	42.3	17.7	17.3				
Green Ext Time (p_c), s	0.0	8.3	0.0	0.0	0.2	17.2	0.3	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh	54.5											
HCM 7th LOS	D											
Notes												
User approved pedestrian interval to be less than phase max green.												
User approved changes to right turn type.												

HCM 7th TWSC
2: Powers Boulevard & Omaha Boulevard

2025 Existing AM
01/20/2025

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗↗↗	↗		↗↗↗
Traffic Vol, veh/h	0	112	1920	103	0	2009
Future Vol, veh/h	0	112	1920	103	0	2009
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	-	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	7	7	4	4	2	2
Mvmt Flow	0	120	2065	111	0	2160
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	-	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	-	0	0	-
Stage 1	0	0	-	0	0	-
Stage 2	0	0	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s/v	0		0		0	
HCM LOS	A					
Minor Lane/Major Mvmt	NBTWBLn1		SBT			
Capacity (veh/h)	-		-			
HCM Lane V/C Ratio	-		-			
HCM Control Delay (s/veh)	-		0			
HCM Lane LOS	-		A			
HCM 95th %tile Q(veh)	-		-			

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗↗↗	↗		↗↗↗
Traffic Vol, veh/h	0	73	2094	109	0	1778
Future Vol, veh/h	0	73	2094	109	0	1778
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	-	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	1	1	2	2
Mvmt Flow	0	76	2181	114	0	1852
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	-	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	-	0	0	-
Stage 1	0	0	-	0	0	-
Stage 2	0	0	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s/v	0		0		0	
HCM LOS	A					
Minor Lane/Major Mvmt	NBTWBLn1		SBT			
Capacity (veh/h)	-		-			
HCM Lane V/C Ratio	-		-			
HCM Control Delay (s/veh)	-		0			
HCM Lane LOS	-		A			
HCM 95th %tile Q(veh)	-		-			

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗↗↗	↗		↗↗↗
Traffic Vol, veh/h	0	117	2011	108	0	2104
Future Vol, veh/h	0	117	2011	108	0	2104
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	-	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	7	7	4	4	2	2
Mvmt Flow	0	126	2162	116	0	2262

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

Approach	WB	NB	SB
HCM Control Delay, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBTWBLn1	SBT
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s/veh)	-	0
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	-

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗↗↗	↗		↗↗↗
Traffic Vol, veh/h	0	76	2193	114	0	1862
Future Vol, veh/h	0	76	2193	114	0	1862
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	-	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	1	1	2	2
Mvmt Flow	0	79	2284	119	0	1940
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	-	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	-	0	0	-
Stage 1	0	0	-	0	0	-
Stage 2	0	0	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s/v	0		0		0	
HCM LOS	A					
Minor Lane/Major Mvmt	NBTWBLn1		SBT			
Capacity (veh/h)	-		-			
HCM Lane V/C Ratio	-		-			
HCM Control Delay (s/veh)	-		0			
HCM Lane LOS	-		A			
HCM 95th %tile Q(veh)	-		-			

HCM 7th TWSC
2: Powers Boulevard & Omaha Boulevard

2028 Total AM
01/20/2025

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗↗↗	↗		↗↗↗
Traffic Vol, veh/h	0	124	2004	128	0	2119
Future Vol, veh/h	0	124	2004	128	0	2119
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	-	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	7	7	4	4	2	2
Mvmt Flow	0	133	2155	138	0	2278
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	-	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	-	0	0	-
Stage 1	0	0	-	0	0	-
Stage 2	0	0	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s/v	0		0		0	
HCM LOS	A					
Minor Lane/Major Mvmt	NBTWBLn1		SBT			
Capacity (veh/h)	-		-			
HCM Lane V/C Ratio	-		-			
HCM Control Delay (s/veh)	-		0			
HCM Lane LOS	-		A			
HCM 95th %tile Q(veh)	-		-			

HCM 7th TWSC
2: Powers Boulevard & Omaha Boulevard

2028 Total PM
01/20/2025

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗↗↗	↗		↗↗↗
Traffic Vol, veh/h	0	85	2182	144	0	1882
Future Vol, veh/h	0	85	2182	144	0	1882
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	-	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	1	1	2	2
Mvmt Flow	0	89	2273	150	0	1960
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	-	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	-	0	0	-
Stage 1	0	0	-	0	0	-
Stage 2	0	0	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s/v	0		0		0	
HCM LOS	A					
Minor Lane/Major Mvmt	NBTWBLn1		SBT			
Capacity (veh/h)	-		-			
HCM Lane V/C Ratio	-		-			
HCM Control Delay (s/veh)	-		0			
HCM Lane LOS	-		A			
HCM 95th %tile Q(veh)	-		-			

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	143	2446	131	0	2560
Future Vol, veh/h	0	143	2446	131	0	2560
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	-	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	7	7	4	4	2	2
Mvmt Flow	0	154	2630	141	0	2753

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

Approach	WB	NB	SB
HCM Control Delay, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBTWBLn1	SBT
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s/veh)	-	0
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	-

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗↗↗	↗		↗↗↗
Traffic Vol, veh/h	0	93	2668	139	0	2265
Future Vol, veh/h	0	93	2668	139	0	2265
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	-	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	1	1	2	2
Mvmt Flow	0	97	2779	145	0	2359
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	-	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	-	0	0	-
Stage 1	0	0	-	0	0	-
Stage 2	0	0	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s/v	0		0		0	
HCM LOS	A					
Minor Lane/Major Mvmt	NBTWBLn1		SBT			
Capacity (veh/h)	-		-			
HCM Lane V/C Ratio	-		-			
HCM Control Delay (s/veh)	-		0			
HCM Lane LOS	-		A			
HCM 95th %tile Q(veh)	-		-			

HCM 7th TWSC
2: Powers Boulevard & Omaha Boulevard

2045 Total AM
01/20/2025

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗↗↗	↗		↗↗↗
Traffic Vol, veh/h	0	150	2439	151	0	2575
Future Vol, veh/h	0	150	2439	151	0	2575
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	-	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	7	7	4	4	2	2
Mvmt Flow	0	161	2623	162	0	2769
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	-	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	-	0	0	-
Stage 1	0	0	-	0	0	-
Stage 2	0	0	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s/v	0		0		0	
HCM LOS	A					
Minor Lane/Major Mvmt	NBTWBLn1		SBT			
Capacity (veh/h)	-		-			
HCM Lane V/C Ratio	-		-			
HCM Control Delay (s/veh)	-		0			
HCM Lane LOS	-		A			
HCM 95th %tile Q(veh)	-		-			

HCM 7th TWSC
2: Powers Boulevard & Omaha Boulevard

2045 Total PM
01/20/2025

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗↗↗	↗		↗↗↗
Traffic Vol, veh/h	0	102	2657	169	0	2285
Future Vol, veh/h	0	102	2657	169	0	2285
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	-	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	1	1	2	2
Mvmt Flow	0	106	2768	176	0	2380
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	-	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	-	0	0	-
Stage 1	0	0	-	0	0	-
Stage 2	0	0	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s/v	0		0		0	
HCM LOS	A					
Minor Lane/Major Mvmt	NBTWBLn1		SBT			
Capacity (veh/h)	-		-			
HCM Lane V/C Ratio	-		-			
HCM Control Delay (s/veh)	-		0			
HCM Lane LOS	-		A			
HCM 95th %tile Q(veh)	-		-			

Timings

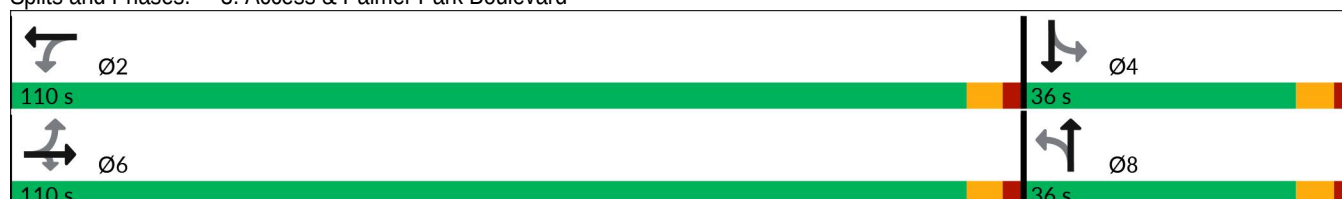
3: Access & Palmer Park Boulevard

2025 Existing AM

01/20/2025

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	14	445	157	44	606	111	2	7	2
Future Volume (vph)	14	445	157	44	606	111	2	7	2
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	NA
Protected Phases		6			2		8		4
Permitted Phases	6		6	2		8		4	
Detector Phase	6	6	6	2	2	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	110.0	110.0	110.0	110.0	110.0	36.0	36.0	36.0	36.0
Total Split (%)	75.3%	75.3%	75.3%	75.3%	75.3%	24.7%	24.7%	24.7%	24.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	Max	None	None	None	None
Act Effct Green (s)	104.2	104.2	104.2	104.2	104.2	16.7	16.7	16.7	16.7
Actuated g/C Ratio	0.78	0.78	0.78	0.78	0.78	0.13	0.13	0.13	0.13
v/c Ratio	0.03	0.17	0.13	0.07	0.23	0.69	0.20	0.04	0.08
Control Delay (s/veh)	4.3	4.1	0.9	4.3	4.4	76.3	16.9	50.1	24.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	4.3	4.1	0.9	4.3	4.4	76.3	16.9	50.1	24.3
LOS	A	A	A	A	A	E	B	D	C
Approach Delay (s/veh)		3.3			4.4		59.2		32.1
Approach LOS		A			A		E		C
Intersection Summary									
Cycle Length: 146									
Actuated Cycle Length: 132.9									
Natural Cycle: 50									
Control Type: Semi Act-Uncoord									
Maximum v/c Ratio: 0.69									
Intersection Signal Delay (s/veh): 10.2					Intersection LOS: B				
Intersection Capacity Utilization 48.9%					ICU Level of Service A				
Analysis Period (min) 15									

Splits and Phases: 3: Access & Palmer Park Boulevard



HCM 7th Signalized Intersection Summary

3: Access & Palmer Park Boulevard

2025 Existing AM

01/20/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	445	157	44	606	6	111	2	43	7	2	13
Future Volume (veh/h)	14	445	157	44	606	6	111	2	43	7	2	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1870	1870	1870	1811	1811	1811	1767	1767	1767
Adj Flow Rate, veh/h	15	464	164	46	631	6	116	2	45	7	2	14
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	2	2	2	6	6	6	9	9	9
Cap, veh/h	646	2805	1251	665	2870	27	195	7	166	164	21	150
Arrive On Green	0.80	0.80	0.80	0.80	0.80	0.80	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	785	3526	1572	798	3607	34	1353	66	1479	1283	191	1335
Grp Volume(v), veh/h	15	464	164	46	311	326	116	0	47	7	0	16
Grp Sat Flow(s),veh/h/ln	785	1763	1572	798	1777	1864	1353	0	1545	1283	0	1526
Q Serve(g_s), s	0.6	4.0	3.1	1.9	5.7	5.7	11.0	0.0	3.6	0.7	0.0	1.2
Cycle Q Clear(g_c), s	6.3	4.0	3.1	5.9	5.7	5.7	12.2	0.0	3.6	4.3	0.0	1.2
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.96	1.00		0.88
Lane Grp Cap(c), veh/h	646	2805	1251	665	1414	1483	195	0	174	164	0	172
V/C Ratio(X)	0.02	0.17	0.13	0.07	0.22	0.22	0.60	0.00	0.27	0.04	0.00	0.09
Avail Cap(c_a), veh/h	646	2805	1251	665	1414	1483	353	0	355	314	0	350
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.1	3.1	3.0	3.8	3.3	3.3	57.5	0.0	53.1	55.1	0.0	52.0
Incr Delay (d2), s/veh	0.1	0.1	0.2	0.2	0.4	0.3	2.9	0.0	0.8	0.1	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.2	0.9	0.3	1.8	1.9	4.0	0.0	1.5	0.2	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	4.2	3.3	3.3	4.0	3.7	3.6	60.4	0.0	53.9	55.2	0.0	52.3
LnGrp LOS	A	A	A	A	A	A	E		D	E		D
Approach Vol, veh/h	643			683			163			23		
Approach Delay, s/veh	3.3			3.7			58.5			53.1		
Approach LOS	A			A			E			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	110.0			20.7			110.0			20.7		
Change Period (Y+Rc), s	6.0			6.0			6.0			6.0		
Max Green Setting (Gmax), s	104.0			30.0			104.0			30.0		
Max Q Clear Time (g_c+I1), s	7.9			6.3			8.3			14.2		
Green Ext Time (p_c), s	4.6			0.1			4.1			0.5		
Intersection Summary												
HCM 7th Control Delay, s/veh	10.2											
HCM 7th LOS	B											

Timings

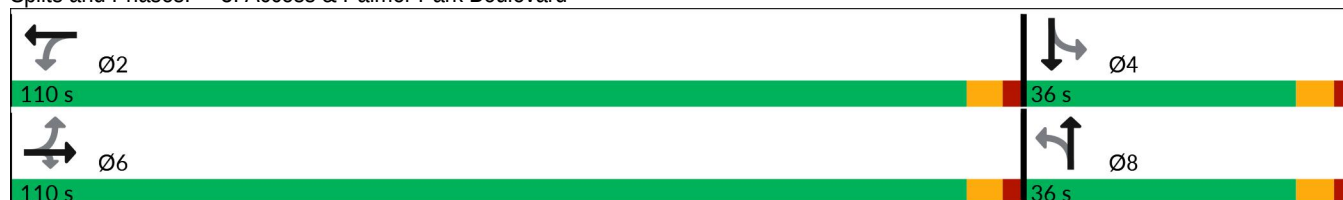
3: Access & Palmer Park Boulevard

2025 Existing PM

01/20/2025

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	51	590	173	47	363	176	2	15	5
Future Volume (vph)	51	590	173	47	363	176	2	15	5
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	NA
Protected Phases		6			2		8		4
Permitted Phases	6		6	2		8		4	
Detector Phase	6	6	6	2	2	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	110.0	110.0	110.0	110.0	110.0	36.0	36.0	36.0	36.0
Total Split (%)	75.3%	75.3%	75.3%	75.3%	75.3%	24.7%	24.7%	24.7%	24.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	104.0	104.0	104.0	104.0	104.0	30.0	30.0	30.0	30.0
Actuated g/C Ratio	0.71	0.71	0.71	0.71	0.71	0.21	0.21	0.21	0.21
v/c Ratio	0.08	0.25	0.16	0.10	0.17	0.68	0.21	0.06	0.17
Control Delay (s/veh)	6.8	7.6	1.1	7.0	6.8	67.5	11.4	47.5	14.0
Queue Delay	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	6.8	8.4	1.1	7.0	6.8	67.5	11.4	47.5	14.0
LOS	A	A	A	A	A	E	B	D	B
Approach Delay (s/veh)		6.7			6.9		50.6		20.8
Approach LOS		A			A		D		C
Intersection Summary									
Cycle Length: 146									
Actuated Cycle Length: 146									
Natural Cycle: 50									
Control Type: Semi Act-Uncoord									
Maximum v/c Ratio: 0.68									
Intersection Signal Delay (s/veh): 14.4					Intersection LOS: B				
Intersection Capacity Utilization 51.9%					ICU Level of Service A				
Analysis Period (min) 15									

Splits and Phases: 3: Access & Palmer Park Boulevard



HCM 7th Signalized Intersection Summary

3: Access & Palmer Park Boulevard

2025 Existing PM

01/20/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	590	173	47	363	24	176	2	74	15	5	53
Future Volume (veh/h)	51	590	173	47	363	24	176	2	74	15	5	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1900	1900	1900	1885	1885	1885
Adj Flow Rate, veh/h	55	641	188	51	395	26	191	2	80	16	5	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	1	1	1
Cap, veh/h	706	2551	1138	482	2430	159	285	8	324	266	26	306
Arrive On Green	0.71	0.71	0.71	0.71	0.71	0.71	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	974	3582	1598	667	3412	224	1360	39	1577	1327	128	1489
Grp Volume(v), veh/h	55	641	188	51	207	214	191	0	82	16	0	63
Grp Sat Flow(s),veh/h/ln	974	1791	1598	667	1791	1845	1360	0	1616	1327	0	1617
Q Serve(g_s), s	2.8	9.2	5.6	4.2	5.5	5.5	19.7	0.0	6.2	1.5	0.0	4.7
Cycle Q Clear(g_c), s	8.4	9.2	5.6	13.4	5.5	5.5	24.4	0.0	6.2	7.7	0.0	4.7
Prop In Lane	1.00		1.00	1.00		0.12	1.00		0.98	1.00		0.92
Lane Grp Cap(c), veh/h	706	2551	1138	482	1276	1314	285	0	332	266	0	332
V/C Ratio(X)	0.08	0.25	0.17	0.11	0.16	0.16	0.67	0.00	0.25	0.06	0.00	0.19
Avail Cap(c_a), veh/h	706	2551	1138	482	1276	1314	285	0	332	266	0	332
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.2	7.4	6.8	9.7	6.8	6.8	58.0	0.0	48.5	51.8	0.0	48.0
Incr Delay (d2), s/veh	0.2	0.2	0.3	0.4	0.3	0.3	11.9	0.0	1.8	0.4	0.0	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.4	1.9	0.7	2.1	2.2	7.8	0.0	2.7	0.5	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.4	7.6	7.2	10.1	7.1	7.1	69.9	0.0	50.3	52.2	0.0	49.2
LnGrp LOS	A	A	A	B	A	A	E		D	D		D
Approach Vol, veh/h	884			472			273			79		
Approach Delay, s/veh	7.6			7.4			64.0			49.8		
Approach LOS	A			A			E			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	110.0			36.0			110.0			36.0		
Change Period (Y+Rc), s	6.0			6.0			6.0			6.0		
Max Green Setting (Gmax), s	104.0			30.0			104.0			30.0		
Max Q Clear Time (g_c+I1), s	15.4			9.7			11.2			26.4		
Green Ext Time (p_c), s	3.2			0.3			6.1			0.4		
Intersection Summary												
HCM 7th Control Delay, s/veh	18.5											
HCM 7th LOS	B											

Timings

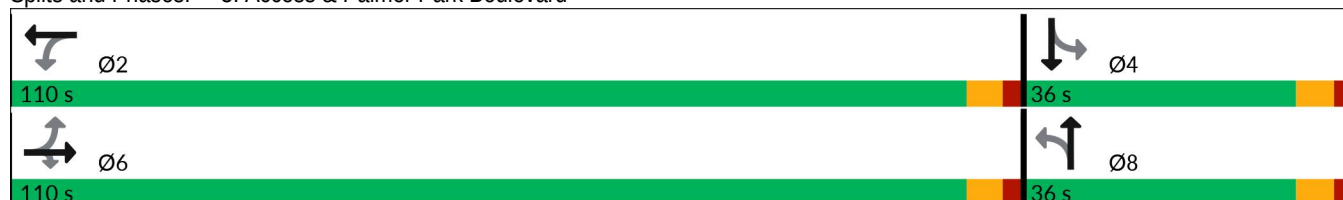
2028 Background AM

3: Access & Palmer Park Boulevard

01/20/2025

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	14	466	157	44	635	111	2	7	2
Future Volume (vph)	14	466	157	44	635	111	2	7	2
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	NA
Protected Phases		6			2		8		4
Permitted Phases	6		6	2		8		4	
Detector Phase	6	6	6	2	2	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	110.0	110.0	110.0	110.0	110.0	36.0	36.0	36.0	36.0
Total Split (%)	75.3%	75.3%	75.3%	75.3%	75.3%	24.7%	24.7%	24.7%	24.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	Max	None	None	None	None
Act Effct Green (s)	104.2	104.2	104.2	104.2	104.2	16.7	16.7	16.7	16.7
Actuated g/C Ratio	0.78	0.78	0.78	0.78	0.78	0.13	0.13	0.13	0.13
v/c Ratio	0.03	0.18	0.13	0.07	0.24	0.69	0.20	0.04	0.08
Control Delay (s/veh)	4.3	4.1	0.9	4.4	4.4	76.3	16.9	50.1	24.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	4.3	4.1	0.9	4.4	4.4	76.3	16.9	50.1	24.3
LOS	A	A	A	A	A	E	B	D	C
Approach Delay (s/veh)		3.3			4.4		59.2		32.1
Approach LOS		A			A		E		C
Intersection Summary									
Cycle Length: 146									
Actuated Cycle Length: 132.9									
Natural Cycle: 50									
Control Type: Semi Act-Uncoord									
Maximum v/c Ratio: 0.69									
Intersection Signal Delay (s/veh): 10.1					Intersection LOS: B				
Intersection Capacity Utilization 49.7%					ICU Level of Service A				
Analysis Period (min) 15									

Splits and Phases: 3: Access & Palmer Park Boulevard



HCM 7th Signalized Intersection Summary

3: Access & Palmer Park Boulevard

2028 Background AM

01/20/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	466	157	44	635	6	111	2	43	7	2	13
Future Volume (veh/h)	14	466	157	44	635	6	111	2	43	7	2	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1870	1870	1870	1811	1811	1811	1767	1767	1767
Adj Flow Rate, veh/h	15	485	164	46	661	6	116	2	45	7	2	14
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	2	2	2	6	6	6	9	9	9
Cap, veh/h	627	2805	1251	652	2871	26	195	7	166	164	21	150
Arrive On Green	0.80	0.80	0.80	0.80	0.80	0.80	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	763	3526	1572	782	3609	33	1353	66	1479	1283	191	1335
Grp Volume(v), veh/h	15	485	164	46	325	342	116	0	47	7	0	16
Grp Sat Flow(s),veh/h/ln	763	1763	1572	782	1777	1864	1353	0	1545	1283	0	1526
Q Serve(g_s), s	0.7	4.3	3.1	1.9	6.0	6.0	11.0	0.0	3.6	0.7	0.0	1.2
Cycle Q Clear(g_c), s	6.6	4.3	3.1	6.2	6.0	6.0	12.2	0.0	3.6	4.3	0.0	1.2
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.96	1.00		0.88
Lane Grp Cap(c), veh/h	627	2805	1251	652	1414	1483	195	0	174	164	0	172
V/C Ratio(X)	0.02	0.17	0.13	0.07	0.23	0.23	0.60	0.00	0.27	0.04	0.00	0.09
Avail Cap(c_a), veh/h	627	2805	1251	652	1414	1483	353	0	355	314	0	350
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.2	3.2	3.0	3.9	3.3	3.3	57.5	0.0	53.1	55.1	0.0	52.0
Incr Delay (d2), s/veh	0.1	0.1	0.2	0.2	0.4	0.4	2.9	0.0	0.8	0.1	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.3	0.9	0.3	1.9	2.0	4.0	0.0	1.5	0.2	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	4.2	3.3	3.3	4.1	3.7	3.7	60.4	0.0	53.9	55.2	0.0	52.3
LnGrp LOS	A	A	A	A	A	A	E		D	E		D
Approach Vol, veh/h	664			713			163			23		
Approach Delay, s/veh	3.3			3.7			58.5			53.1		
Approach LOS	A			A			E			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	110.0			20.7			110.0			20.7		
Change Period (Y+Rc), s	6.0			6.0			6.0			6.0		
Max Green Setting (Gmax), s	104.0			30.0			104.0			30.0		
Max Q Clear Time (g_c+I1), s	8.2			6.3			8.6			14.2		
Green Ext Time (p_c), s	4.9			0.1			4.3			0.5		
Intersection Summary												
HCM 7th Control Delay, s/veh	10.0											
HCM 7th LOS	A											

Timings

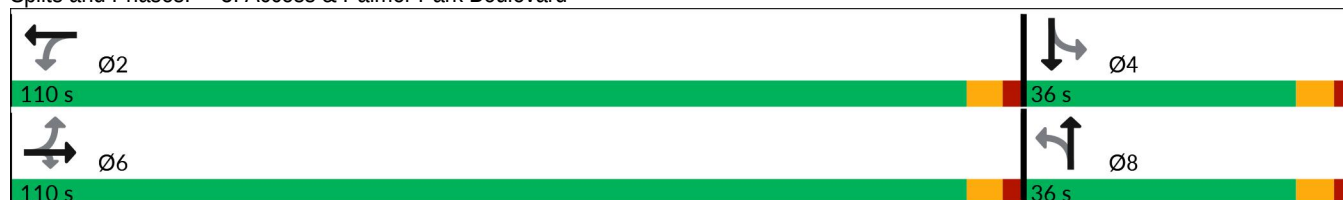
2028 Background PM

3: Access & Palmer Park Boulevard

01/20/2025

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	51	618	173	47	380	176	2	15	5
Future Volume (vph)	51	618	173	47	380	176	2	15	5
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	NA
Protected Phases		6			2		8		4
Permitted Phases	6		6	2		8		4	
Detector Phase	6	6	6	2	2	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	110.0	110.0	110.0	110.0	110.0	36.0	36.0	36.0	36.0
Total Split (%)	75.3%	75.3%	75.3%	75.3%	75.3%	24.7%	24.7%	24.7%	24.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	104.0	104.0	104.0	104.0	104.0	30.0	30.0	30.0	30.0
Actuated g/C Ratio	0.71	0.71	0.71	0.71	0.71	0.21	0.21	0.21	0.21
v/c Ratio	0.08	0.26	0.16	0.10	0.17	0.68	0.21	0.06	0.17
Control Delay (s/veh)	6.8	7.7	1.1	7.1	6.9	67.5	11.4	47.5	14.0
Queue Delay	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	6.8	8.5	1.1	7.1	6.9	67.5	11.4	47.5	14.0
LOS	A	A	A	A	A	E	B	D	B
Approach Delay (s/veh)		6.9			6.9		50.6		20.8
Approach LOS		A			A		D		C
Intersection Summary									
Cycle Length: 146									
Actuated Cycle Length: 146									
Natural Cycle: 50									
Control Type: Semi Act-Uncoord									
Maximum v/c Ratio: 0.68									
Intersection Signal Delay (s/veh): 14.3					Intersection LOS: B				
Intersection Capacity Utilization 52.7%					ICU Level of Service A				
Analysis Period (min) 15									

Splits and Phases: 3: Access & Palmer Park Boulevard



HCM 7th Signalized Intersection Summary

3: Access & Palmer Park Boulevard

2028 Background PM

01/20/2025

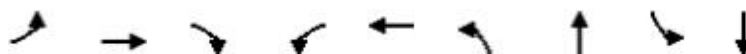
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	618	173	47	380	24	176	2	74	15	5	53
Future Volume (veh/h)	51	618	173	47	380	24	176	2	74	15	5	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1900	1900	1900	1885	1885	1885
Adj Flow Rate, veh/h	55	672	188	51	413	26	191	2	80	16	5	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	1	1	1
Cap, veh/h	693	2551	1138	468	2438	153	285	8	324	266	26	306
Arrive On Green	0.71	0.71	0.71	0.71	0.71	0.71	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	958	3582	1598	648	3423	215	1360	39	1577	1327	128	1489
Grp Volume(v), veh/h	55	672	188	51	215	224	191	0	82	16	0	63
Grp Sat Flow(s),veh/h/ln	958	1791	1598	648	1791	1847	1360	0	1616	1327	0	1617
Q Serve(g_s), s	2.9	9.7	5.6	4.4	5.7	5.8	19.7	0.0	6.2	1.5	0.0	4.7
Cycle Q Clear(g_c), s	8.7	9.7	5.6	14.1	5.7	5.8	24.4	0.0	6.2	7.7	0.0	4.7
Prop In Lane	1.00		1.00	1.00		0.12	1.00		0.98	1.00		0.92
Lane Grp Cap(c), veh/h	693	2551	1138	468	1276	1315	285	0	332	266	0	332
V/C Ratio(X)	0.08	0.26	0.17	0.11	0.17	0.17	0.67	0.00	0.25	0.06	0.00	0.19
Avail Cap(c_a), veh/h	693	2551	1138	468	1276	1315	285	0	332	266	0	332
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.3	7.4	6.8	9.9	6.9	6.9	58.0	0.0	48.5	51.8	0.0	48.0
Incr Delay (d2), s/veh	0.2	0.3	0.3	0.5	0.3	0.3	11.9	0.0	1.8	0.4	0.0	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.6	1.9	0.7	2.2	2.3	7.8	0.0	2.7	0.5	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.5	7.7	7.2	10.4	7.2	7.2	69.9	0.0	50.3	52.2	0.0	49.2
LnGrp LOS	A	A	A	B	A	A	E		D	D		D
Approach Vol, veh/h	915			490			273			79		
Approach Delay, s/veh	7.6			7.5			64.0			49.8		
Approach LOS	A			A			E			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	110.0			36.0			110.0			36.0		
Change Period (Y+Rc), s	6.0			6.0			6.0			6.0		
Max Green Setting (Gmax), s	104.0			30.0			104.0			30.0		
Max Q Clear Time (g_c+I1), s	16.1			9.7			11.7			26.4		
Green Ext Time (p_c), s	3.3			0.3			6.4			0.4		
Intersection Summary												
HCM 7th Control Delay, s/veh	18.3											
HCM 7th LOS	B											

Timings

3: Access & Palmer Park Boulevard

2028 Total AM

01/20/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	14	464	184	54	633	148	2	7	2
Future Volume (vph)	14	464	184	54	633	148	2	7	2
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	NA
Protected Phases		6			2		8		4
Permitted Phases	6		6	2		8		4	
Detector Phase	6	6	6	2	2	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	110.0	110.0	110.0	110.0	110.0	36.0	36.0	36.0	36.0
Total Split (%)	75.3%	75.3%	75.3%	75.3%	75.3%	24.7%	24.7%	24.7%	24.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	Max	None	None	None	None
Act Effect Green (s)	104.2	104.2	104.2	104.2	104.2	20.8	20.8	20.8	20.8
Actuated g/C Ratio	0.76	0.76	0.76	0.76	0.76	0.15	0.15	0.15	0.15
v/c Ratio	0.03	0.18	0.16	0.08	0.25	0.76	0.24	0.04	0.07
Control Delay (s/veh)	5.4	5.2	1.1	5.6	5.6	78.5	13.2	48.1	22.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	5.4	5.2	1.1	5.6	5.6	78.5	13.2	48.1	22.9
LOS	A	A	A	A	A	E	B	D	C
Approach Delay (s/veh)		4.1			5.6		57.9		30.6
Approach LOS		A			A		E		C

Intersection Summary

Cycle Length: 146

Actuated Cycle Length: 137.1

Natural Cycle: 50

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.76

Intersection Signal Delay (s/veh): 12.4

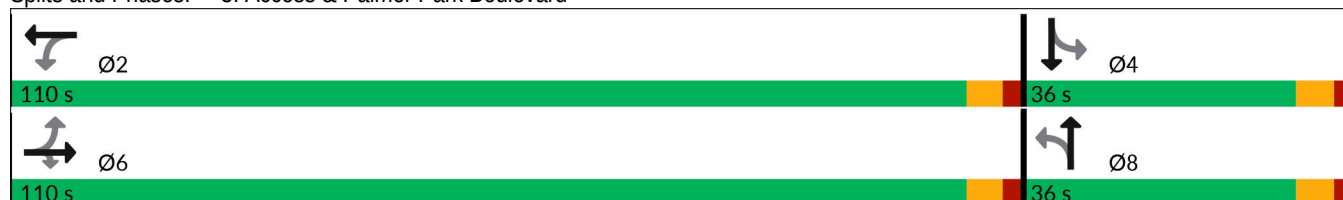
Intersection LOS: B

Intersection Capacity Utilization 51.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Access & Palmer Park Boulevard



HCM 7th Signalized Intersection Summary

3: Access & Palmer Park Boulevard

2028 Total AM
01/20/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	464	184	54	633	6	148	2	66	7	2	13
Future Volume (veh/h)	14	464	184	54	633	6	148	2	66	7	2	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1870	1870	1870	1811	1811	1811	1767	1767	1767
Adj Flow Rate, veh/h	15	483	192	56	659	6	154	2	69	7	2	14
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	2	2	2	6	6	6	9	9	9
Cap, veh/h	604	2717	1212	614	2781	25	231	6	210	178	27	188
Arrive On Green	0.77	0.77	0.77	0.77	0.77	0.77	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	765	3526	1572	764	3608	33	1353	43	1498	1256	191	1335
Grp Volume(v), veh/h	15	483	192	56	324	341	154	0	71	7	0	16
Grp Sat Flow(s),veh/h/ln	765	1763	1572	764	1777	1864	1353	0	1541	1256	0	1526
Q Serve(g_s), s	0.8	4.9	4.3	2.8	6.9	6.9	15.1	0.0	5.6	0.7	0.0	1.2
Cycle Q Clear(g_c), s	7.7	4.9	4.3	7.8	6.9	6.9	16.3	0.0	5.6	6.3	0.0	1.2
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.97	1.00		0.88
Lane Grp Cap(c), veh/h	604	2717	1212	614	1369	1437	231	0	216	178	0	214
V/C Ratio(X)	0.02	0.18	0.16	0.09	0.24	0.24	0.67	0.00	0.33	0.04	0.00	0.07
Avail Cap(c_a), veh/h	604	2717	1212	614	1369	1437	342	0	343	280	0	339
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	5.4	4.1	4.0	5.1	4.3	4.3	57.5	0.0	52.3	55.1	0.0	50.4
Incr Delay (d2), s/veh	0.1	0.1	0.3	0.3	0.4	0.4	3.3	0.0	0.9	0.1	0.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.6	1.3	0.5	2.3	2.4	5.4	0.0	2.3	0.2	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	5.5	4.3	4.3	5.4	4.7	4.7	60.8	0.0	53.1	55.2	0.0	50.5
LnGrp LOS	A	A	A	A	A	A	E		D	E		D
Approach Vol, veh/h	690			721			225			23		
Approach Delay, s/veh	4.3			4.8			58.4			51.9		
Approach LOS	A			A			E			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	110.0			24.9			110.0			24.9		
Change Period (Y+Rc), s	6.0			6.0			6.0			6.0		
Max Green Setting (Gmax), s	104.0			30.0			104.0			30.0		
Max Q Clear Time (g_c+I1), s	9.8			8.3			9.7			18.3		
Green Ext Time (p_c), s	5.0			0.1			4.4			0.7		
Intersection Summary												
HCM 7th Control Delay, s/veh	12.5											
HCM 7th LOS	B											

Timings

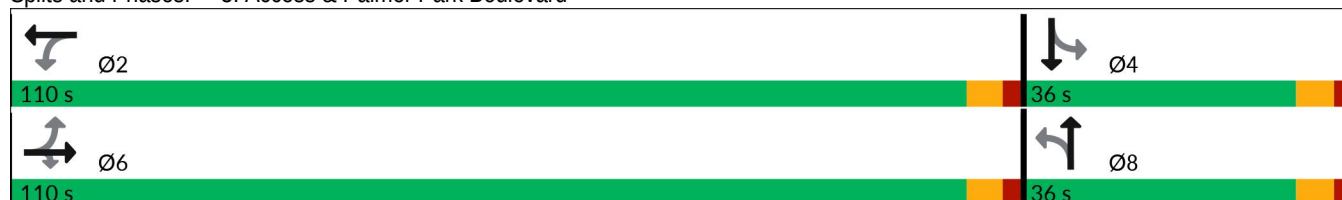
3: Access & Palmer Park Boulevard

2028 Total PM

01/20/2025

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	51	614	213	62	377	241	2	15	5
Future Volume (vph)	51	614	213	62	377	241	2	15	5
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	NA
Protected Phases		6			2		8		4
Permitted Phases	6		6	2		8		4	
Detector Phase	6	6	6	2	2	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	110.0	110.0	110.0	110.0	110.0	36.0	36.0	36.0	36.0
Total Split (%)	75.3%	75.3%	75.3%	75.3%	75.3%	24.7%	24.7%	24.7%	24.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	104.0	104.0	104.0	104.0	104.0	30.0	30.0	30.0	30.0
Actuated g/C Ratio	0.71	0.71	0.71	0.71	0.71	0.21	0.21	0.21	0.21
v/c Ratio	0.08	0.26	0.19	0.13	0.17	0.94	0.25	0.06	0.17
Control Delay (s/veh)	6.8	7.7	1.1	7.4	6.9	97.0	10.4	47.7	14.0
Queue Delay	0.0	0.8	0.6	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	6.8	8.5	1.7	7.4	6.9	97.0	10.4	47.7	14.0
LOS	A	A	A	A	A	F	B	D	B
Approach Delay (s/veh)		6.8			6.9		72.6		20.8
Approach LOS		A			A		E		C
Intersection Summary									
Cycle Length: 146									
Actuated Cycle Length: 146									
Natural Cycle: 50									
Control Type: Semi Act-Uncoord									
Maximum v/c Ratio: 0.94									
Intersection Signal Delay (s/veh): 20.0					Intersection LOS: C				
Intersection Capacity Utilization 56.2%					ICU Level of Service B				
Analysis Period (min) 15									

Splits and Phases: 3: Access & Palmer Park Boulevard



HCM 7th Signalized Intersection Summary

3: Access & Palmer Park Boulevard

2028 Total PM
01/20/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	614	213	62	377	24	241	2	93	15	5	53
Future Volume (veh/h)	51	614	213	62	377	24	241	2	93	15	5	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1900	1900	1900	1885	1885	1885
Adj Flow Rate, veh/h	55	667	232	67	410	26	262	2	101	16	5	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	1	1	1
Cap, veh/h	696	2551	1138	453	2437	154	285	6	325	246	26	306
Arrive On Green	0.71	0.71	0.71	0.71	0.71	0.71	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	960	3582	1598	624	3421	216	1360	31	1584	1302	128	1489
Grp Volume(v), veh/h	55	667	232	67	214	222	262	0	103	16	0	63
Grp Sat Flow(s),veh/h/ln	960	1791	1598	624	1791	1846	1360	0	1615	1302	0	1617
Q Serve(g_s), s	2.9	9.6	7.1	6.2	5.7	5.7	25.3	0.0	7.9	1.5	0.0	4.7
Cycle Q Clear(g_c), s	8.6	9.6	7.1	15.8	5.7	5.7	30.0	0.0	7.9	9.4	0.0	4.7
Prop In Lane	1.00		1.00	1.00		0.12	1.00		0.98	1.00		0.92
Lane Grp Cap(c), veh/h	696	2551	1138	453	1276	1315	285	0	332	246	0	332
V/C Ratio(X)	0.08	0.26	0.20	0.15	0.17	0.17	0.92	0.00	0.31	0.06	0.00	0.19
Avail Cap(c_a), veh/h	696	2551	1138	453	1276	1315	285	0	332	246	0	332
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.3	7.4	7.1	10.2	6.9	6.9	61.6	0.0	49.2	53.2	0.0	48.0
Incr Delay (d2), s/veh	0.2	0.2	0.4	0.7	0.3	0.3	36.1	0.0	2.4	0.5	0.0	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.6	2.4	0.9	2.2	2.3	12.8	0.0	3.5	0.5	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.5	7.7	7.5	10.9	7.1	7.1	97.7	0.0	51.6	53.7	0.0	49.2
LnGrp LOS	A	A	A	B	A	A	F		D	D		D
Approach Vol, veh/h	954			503			365			79		
Approach Delay, s/veh	7.7			7.6			84.7			50.1		
Approach LOS	A			A			F			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	110.0			36.0			110.0			36.0		
Change Period (Y+Rc), s	6.0			6.0			6.0			6.0		
Max Green Setting (Gmax), s	104.0			30.0			104.0			30.0		
Max Q Clear Time (g_c+I1), s	17.8			11.4			11.6			32.0		
Green Ext Time (p_c), s	3.5			0.3			6.6			0.0		
Intersection Summary												
HCM 7th Control Delay, s/veh	24.2											
HCM 7th LOS	C											

Timings

2045 Background AM

3: Access & Palmer Park Boulevard

01/23/2025

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	14	567	157	44	772	111	2	7	2
Future Volume (vph)	14	567	157	44	772	111	2	7	2
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	NA
Protected Phases		6			2		8		4
Permitted Phases	6		6	2		8		4	
Detector Phase	6	6	6	2	2	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	110.0	110.0	110.0	110.0	110.0	36.0	36.0	36.0	36.0
Total Split (%)	75.3%	75.3%	75.3%	75.3%	75.3%	24.7%	24.7%	24.7%	24.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	Max	None	None	None	None

Intersection Summary

Cycle Length: 146

Actuated Cycle Length: 132.9

Natural Cycle: 50

Control Type: Semi Act-Uncoord

Splits and Phases: 3: Access & Palmer Park Boulevard

	Ø2			Ø4
110 s			36 s	
	Ø6			Ø8
110 s			36 s	

HCM 7th Signalized Intersection Summary

3: Access & Palmer Park Boulevard

2045 Background AM

01/23/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	567	157	44	772	6	111	2	43	7	2	13
Future Volume (veh/h)	14	567	157	44	772	6	111	2	43	7	2	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1870	1870	1870	1811	1811	1811	1767	1767	1767
Adj Flow Rate, veh/h	15	591	164	46	804	6	116	2	45	7	2	14
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	2	2	2	6	6	6	9	9	9
Cap, veh/h	548	2805	1251	590	2877	21	195	7	166	164	21	150
Arrive On Green	0.80	0.80	0.80	0.80	0.80	0.80	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	668	3526	1572	709	3615	27	1353	66	1479	1283	191	1335
Grp Volume(v), veh/h	15	591	164	46	395	415	116	0	47	7	0	16
Grp Sat Flow(s),veh/h/ln	668	1763	1572	709	1777	1866	1353	0	1545	1283	0	1526
Q Serve(g_s), s	0.8	5.4	3.1	2.2	7.6	7.6	11.0	0.0	3.6	0.7	0.0	1.2
Cycle Q Clear(g_c), s	8.4	5.4	3.1	7.6	7.6	7.6	12.2	0.0	3.6	4.3	0.0	1.2
Prop In Lane	1.00		1.00	1.00		0.01	1.00		0.96	1.00		0.88
Lane Grp Cap(c), veh/h	548	2805	1251	590	1414	1484	195	0	174	164	0	172
V/C Ratio(X)	0.03	0.21	0.13	0.08	0.28	0.28	0.60	0.00	0.27	0.04	0.00	0.09
Avail Cap(c_a), veh/h	548	2805	1251	590	1414	1484	353	0	355	314	0	350
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.6	3.3	3.0	4.2	3.5	3.5	57.5	0.0	53.1	55.1	0.0	52.0
Incr Delay (d2), s/veh	0.1	0.2	0.2	0.3	0.5	0.5	2.9	0.0	0.8	0.1	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.6	0.9	0.3	2.4	2.5	4.0	0.0	1.5	0.2	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	4.7	3.4	3.3	4.5	4.0	4.0	60.4	0.0	53.9	55.2	0.0	52.3
LnGrp LOS	A	A	A	A	A	A	E		D	E		D
Approach Vol, veh/h	770			856			163			23		
Approach Delay, s/veh	3.4			4.0			58.5			53.1		
Approach LOS	A			A			E			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	110.0			20.7			110.0			20.7		
Change Period (Y+Rc), s	6.0			6.0			6.0			6.0		
Max Green Setting (Gmax), s	104.0			30.0			104.0			30.0		
Max Q Clear Time (g_c+I1), s	9.6			6.3			10.4			14.2		
Green Ext Time (p_c), s	6.3			0.1			5.3			0.5		
Intersection Summary												
HCM 7th Control Delay, s/veh				9.3								
HCM 7th LOS				A								

Timings

2045 Background PM

3: Access & Palmer Park Boulevard

01/23/2025

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	51	752	173	47	462	176	2	15	5
Future Volume (vph)	51	752	173	47	462	176	2	15	5
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	NA
Protected Phases		6			2		8		4
Permitted Phases	6		6	2		8		4	
Detector Phase	6	6	6	2	2	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	110.0	110.0	110.0	110.0	110.0	36.0	36.0	36.0	36.0
Total Split (%)	75.3%	75.3%	75.3%	75.3%	75.3%	24.7%	24.7%	24.7%	24.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 146

Actuated Cycle Length: 146

Natural Cycle: 50

Control Type: Semi Act-Uncoord

Splits and Phases: 3: Access & Palmer Park Boulevard

	Ø2			Ø4
110 s			36 s	
	Ø6			Ø8
110 s			36 s	

HCM 7th Signalized Intersection Summary

3: Access & Palmer Park Boulevard

2045 Background PM

01/23/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	752	173	47	462	24	176	2	74	15	5	53
Future Volume (veh/h)	51	752	173	47	462	24	176	2	74	15	5	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1900	1900	1900	1885	1885	1885
Adj Flow Rate, veh/h	55	817	188	51	502	26	191	2	80	16	5	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	1	1	1
Cap, veh/h	635	2551	1138	404	2468	128	285	8	324	266	26	306
Arrive On Green	0.71	0.71	0.71	0.71	0.71	0.71	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	882	3582	1598	565	3465	179	1360	39	1577	1327	128	1489
Grp Volume(v), veh/h	55	817	188	51	259	269	191	0	82	16	0	63
Grp Sat Flow(s),veh/h/ln	882	1791	1598	565	1791	1853	1360	0	1616	1327	0	1617
Q Serve(g_s), s	3.3	12.4	5.6	5.4	7.1	7.1	19.7	0.0	6.2	1.5	0.0	4.7
Cycle Q Clear(g_c), s	10.4	12.4	5.6	17.8	7.1	7.1	24.4	0.0	6.2	7.7	0.0	4.7
Prop In Lane	1.00		1.00	1.00		0.10	1.00		0.98	1.00		0.92
Lane Grp Cap(c), veh/h	635	2551	1138	404	1276	1320	285	0	332	266	0	332
V/C Ratio(X)	0.09	0.32	0.17	0.13	0.20	0.20	0.67	0.00	0.25	0.06	0.00	0.19
Avail Cap(c_a), veh/h	635	2551	1138	404	1276	1320	285	0	332	266	0	332
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.8	7.8	6.8	11.1	7.1	7.1	58.0	0.0	48.5	51.8	0.0	48.0
Incr Delay (d2), s/veh	0.3	0.3	0.3	0.6	0.4	0.3	11.9	0.0	1.8	0.4	0.0	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	4.6	1.9	0.7	2.7	2.8	7.8	0.0	2.7	0.5	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	9.1	8.2	7.2	11.8	7.4	7.4	69.9	0.0	50.3	52.2	0.0	49.2
LnGrp LOS	A	A	A	B	A	A	E		D	D		D
Approach Vol, veh/h	1060			579			273			79		
Approach Delay, s/veh	8.0			7.8			64.0			49.8		
Approach LOS	A			A			E			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	110.0			36.0			110.0			36.0		
Change Period (Y+Rc), s	6.0			6.0			6.0			6.0		
Max Green Setting (Gmax), s	104.0			30.0			104.0			30.0		
Max Q Clear Time (g_c+I1), s	19.8			9.7			14.4			26.4		
Green Ext Time (p_c), s	4.1			0.3			8.2			0.4		
Intersection Summary												
HCM 7th Control Delay, s/veh	17.3											
HCM 7th LOS	B											

Timings

3: Access & Palmer Park Boulevard

2045 Total AM

01/23/2025

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	14	565	184	54	770	148	2	7	2
Future Volume (vph)	14	565	184	54	770	148	2	7	2
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	NA
Protected Phases		6			2		8		4
Permitted Phases	6		6	2		8		4	
Detector Phase	6	6	6	2	2	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	110.0	110.0	110.0	110.0	110.0	36.0	36.0	36.0	36.0
Total Split (%)	75.3%	75.3%	75.3%	75.3%	75.3%	24.7%	24.7%	24.7%	24.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	Max	None	None	None	None

Intersection Summary

Cycle Length: 146

Actuated Cycle Length: 137.1

Natural Cycle: 50

Control Type: Semi Act-Uncoord

Splits and Phases: 3: Access & Palmer Park Boulevard

 Ø2		 Ø4
110 s		36 s
 Ø6		 Ø8
110 s		36 s

HCM 7th Signalized Intersection Summary

3: Access & Palmer Park Boulevard

2045 Total AM
01/23/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	565	184	54	770	6	148	2	66	7	2	13
Future Volume (veh/h)	14	565	184	54	770	6	148	2	66	7	2	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1870	1870	1870	1811	1811	1811	1767	1767	1767
Adj Flow Rate, veh/h	15	589	192	56	802	6	154	2	69	7	2	14
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	2	2	2	6	6	6	9	9	9
Cap, veh/h	525	2717	1212	555	2786	21	231	6	210	178	27	188
Arrive On Green	0.77	0.77	0.77	0.77	0.77	0.77	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	669	3526	1572	692	3615	27	1353	43	1498	1256	191	1335
Grp Volume(v), veh/h	15	589	192	56	394	414	154	0	71	7	0	16
Grp Sat Flow(s),veh/h/ln	669	1763	1572	692	1777	1865	1353	0	1541	1256	0	1526
Q Serve(g_s), s	0.9	6.2	4.3	3.3	8.8	8.8	15.1	0.0	5.6	0.7	0.0	1.2
Cycle Q Clear(g_c), s	9.7	6.2	4.3	9.5	8.8	8.8	16.3	0.0	5.6	6.3	0.0	1.2
Prop In Lane	1.00		1.00	1.00		0.01	1.00		0.97	1.00		0.88
Lane Grp Cap(c), veh/h	525	2717	1212	555	1369	1438	231	0	216	178	0	214
V/C Ratio(X)	0.03	0.22	0.16	0.10	0.29	0.29	0.67	0.00	0.33	0.04	0.00	0.07
Avail Cap(c_a), veh/h	525	2717	1212	555	1369	1438	342	0	343	280	0	339
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.0	4.3	4.0	5.6	4.6	4.6	57.5	0.0	52.3	55.1	0.0	50.4
Incr Delay (d2), s/veh	0.1	0.2	0.3	0.4	0.5	0.5	3.3	0.0	0.9	0.1	0.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.0	1.3	0.5	3.0	3.1	5.4	0.0	2.3	0.2	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.1	4.4	4.3	5.9	5.1	5.1	60.8	0.0	53.1	55.2	0.0	50.5
LnGrp LOS	A	A	A	A	A	A	E		D	E		D
Approach Vol, veh/h	796			864			225			23		
Approach Delay, s/veh	4.4			5.1			58.4			51.9		
Approach LOS	A			A			E			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	110.0			24.9			110.0			24.9		
Change Period (Y+Rc), s	6.0			6.0			6.0			6.0		
Max Green Setting (Gmax), s	104.0			30.0			104.0			30.0		
Max Q Clear Time (g_c+I1), s	11.5			8.3			11.7			18.3		
Green Ext Time (p_c), s	6.4			0.1			5.4			0.7		
Intersection Summary												
HCM 7th Control Delay, s/veh	11.7											
HCM 7th LOS	B											

Timings

3: Access & Palmer Park Boulevard

2045 Total PM

01/23/2025

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	51	748	213	62	459	241	2	15	5
Future Volume (vph)	51	748	213	62	459	241	2	15	5
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	NA
Protected Phases		6			2		8		4
Permitted Phases	6		6	2		8		4	
Detector Phase	6	6	6	2	2	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	110.0	110.0	110.0	110.0	110.0	36.0	36.0	36.0	36.0
Total Split (%)	75.3%	75.3%	75.3%	75.3%	75.3%	24.7%	24.7%	24.7%	24.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 146

Actuated Cycle Length: 146

Natural Cycle: 50

Control Type: Semi Act-Uncoord

Splits and Phases: 3: Access & Palmer Park Boulevard

	Ø2			Ø4
110 s			36 s	
	Ø6			Ø8
110 s			36 s	

HCM 7th Signalized Intersection Summary

3: Access & Palmer Park Boulevard

2045 Total PM
01/23/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	748	213	62	459	24	241	2	93	15	5	53
Future Volume (veh/h)	51	748	213	62	459	24	241	2	93	15	5	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1900	1900	1900	1885	1885	1885
Adj Flow Rate, veh/h	55	813	232	67	499	26	262	2	101	16	5	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	1	1	1
Cap, veh/h	636	2551	1138	391	2467	128	285	6	325	246	26	306
Arrive On Green	0.71	0.71	0.71	0.71	0.71	0.71	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	885	3582	1598	544	3464	180	1360	31	1584	1302	128	1489
Grp Volume(v), veh/h	55	813	232	67	258	267	262	0	103	16	0	63
Grp Sat Flow(s),veh/h/ln	885	1791	1598	544	1791	1853	1360	0	1615	1302	0	1617
Q Serve(g_s), s	3.3	12.3	7.1	7.6	7.1	7.1	25.3	0.0	7.9	1.5	0.0	4.7
Cycle Q Clear(g_c), s	10.3	12.3	7.1	20.0	7.1	7.1	30.0	0.0	7.9	9.4	0.0	4.7
Prop In Lane	1.00		1.00	1.00		0.10	1.00		0.98	1.00		0.92
Lane Grp Cap(c), veh/h	636	2551	1138	391	1276	1320	285	0	332	246	0	332
V/C Ratio(X)	0.09	0.32	0.20	0.17	0.20	0.20	0.92	0.00	0.31	0.06	0.00	0.19
Avail Cap(c_a), veh/h	636	2551	1138	391	1276	1320	285	0	332	246	0	332
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.8	7.8	7.1	11.5	7.1	7.1	61.6	0.0	49.2	53.2	0.0	48.0
Incr Delay (d2), s/veh	0.3	0.3	0.4	0.9	0.4	0.3	36.1	0.0	2.4	0.5	0.0	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	4.6	2.4	1.0	2.7	2.8	12.8	0.0	3.5	0.5	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	9.1	8.1	7.5	12.5	7.4	7.4	97.7	0.0	51.6	53.7	0.0	49.2
LnGrp LOS	A	A	A	B	A	A	F		D	D		D
Approach Vol, veh/h	1100			592			365			79		
Approach Delay, s/veh	8.0			8.0			84.7			50.1		
Approach LOS	A			A			F			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	110.0			36.0			110.0			36.0		
Change Period (Y+Rc), s	6.0			6.0			6.0			6.0		
Max Green Setting (Gmax), s	104.0			30.0			104.0			30.0		
Max Q Clear Time (g_c+I1), s	22.0			11.4			14.3			32.0		
Green Ext Time (p_c), s	4.4			0.3			8.4			0.0		
Intersection Summary												
HCM 7th Control Delay, s/veh	22.7											
HCM 7th LOS	C											

HCM 7th TWSC
4: Ainsworth Street/Access & Omaha Boulevard

2025 Existing AM
01/20/2025

Intersection												
Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	53	16	15	109	24	5	2	8	30	8	8
Future Vol, veh/h	38	53	16	15	109	24	5	2	8	30	8	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	6	6	6	3	3	3	7	7	7	4	4	4
Mvmt Flow	42	58	18	16	120	26	5	2	9	33	9	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	146	0	0	76	0	0	308	330	67	309	325	133
Stage 1	-	-	-	-	-	-	151	151	-	166	166	-
Stage 2	-	-	-	-	-	-	157	179	-	143	159	-
Critical Hdwy	4.16	-	-	4.13	-	-	7.17	6.57	6.27	7.14	6.54	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.17	5.57	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.17	5.57	-	6.14	5.54	-
Follow-up Hdwy	2.254	-	-	2.227	-	-	3.563	4.063	3.363	3.536	4.036	3.336
Pot Cap-1 Maneuver	1412	-	-	1517	-	-	635	581	983	640	590	911
Stage 1	-	-	-	-	-	-	840	763	-	831	757	-
Stage 2	-	-	-	-	-	-	833	742	-	855	762	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1412	-	-	1517	-	-	594	557	983	606	565	911
Mov Cap-2 Maneuver	-	-	-	-	-	-	594	557	-	606	565	-
Stage 1	-	-	-	-	-	-	815	741	-	822	748	-
Stage 2	-	-	-	-	-	-	806	733	-	820	740	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	2.71			0.75			9.94			11.16		
HCM LOS							A			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	745	1412	-	-	1517	-	-	635
HCM Lane V/C Ratio	0.022	0.03	-	-	0.011	-	-	0.08
HCM Control Delay (s/veh)	9.9	7.6	-	-	7.4	-	-	11.2
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.3

HCM 7th TWSC
4: Ainsworth Street/Access & Omaha Boulevard

2025 Existing PM
01/20/2025

Intersection												
Int Delay, s/veh	5.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	37	11	11	58	33	9	3	26	46	7	10
Future Vol, veh/h	60	37	11	11	58	33	9	3	26	46	7	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	1	1	1	0	0	0	0	0	0
Mvmt Flow	62	38	11	11	60	34	9	3	27	47	7	10
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	94	0	0	49	0	0	254	284	44	263	273	77
Stage 1	-	-	-	-	-	-	168	168	-	99	99	-
Stage 2	-	-	-	-	-	-	86	116	-	163	173	-
Critical Hdwy	4.12	-	-	4.11	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.218	-	-	2.209	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1500	-	-	1564	-	-	704	628	1032	694	638	990
Stage 1	-	-	-	-	-	-	839	764	-	912	817	-
Stage 2	-	-	-	-	-	-	927	803	-	843	759	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1500	-	-	1564	-	-	655	598	1032	640	607	990
Mov Cap-2 Maneuver	-	-	-	-	-	-	655	598	-	640	607	-
Stage 1	-	-	-	-	-	-	805	732	-	905	810	-
Stage 2	-	-	-	-	-	-	902	797	-	784	728	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	4.17			0.79			9.36			10.91		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	865	1500	-	-	1564	-	-	674				
HCM Lane V/C Ratio	0.045	0.041	-	-	0.007	-	-	0.096				
HCM Control Delay (s/veh)	9.4	7.5	-	-	7.3	-	-	10.9				
HCM Lane LOS	A	A	-	-	A	-	-	B				
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.3				

Intersection												
Int Delay, s/veh	3.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	56	16	15	114	24	5	2	8	30	8	8
Future Vol, veh/h	38	56	16	15	114	24	5	2	8	30	8	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	6	6	6	3	3	3	7	7	7	4	4	4
Mvmt Flow	42	62	18	16	125	26	5	2	9	33	9	9
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	152	0	0	79	0	0	316	338	70	318	334	138
Stage 1	-	-	-	-	-	-	154	154	-	171	171	-
Stage 2	-	-	-	-	-	-	163	185	-	146	163	-
Critical Hdwy	4.16	-	-	4.13	-	-	7.17	6.57	6.27	7.14	6.54	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.17	5.57	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.17	5.57	-	6.14	5.54	-
Follow-up Hdwy	2.254	-	-	2.227	-	-	3.563	4.063	3.363	3.536	4.036	3.336
Pot Cap-1 Maneuver	1405	-	-	1513	-	-	627	575	979	631	583	905
Stage 1	-	-	-	-	-	-	837	761	-	826	753	-
Stage 2	-	-	-	-	-	-	828	738	-	852	760	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1405	-	-	1513	-	-	586	551	979	597	559	905
Mov Cap-2 Maneuver	-	-	-	-	-	-	586	551	-	597	559	-
Stage 1	-	-	-	-	-	-	812	738	-	816	744	-
Stage 2	-	-	-	-	-	-	800	729	-	817	737	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	2.64			0.73			9.99			11.25		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	737	1405	-	-	1513	-	-	627				
HCM Lane V/C Ratio	0.022	0.03	-	-	0.011	-	-	0.081				
HCM Control Delay (s/veh)	10	7.6	-	-	7.4	-	-	11.2				
HCM Lane LOS	A	A	-	-	A	-	-	B				
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.3				

Intersection												
Int Delay, s/veh	5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	39	11	11	61	33	9	3	26	46	7	10
Future Vol, veh/h	60	39	11	11	61	33	9	3	26	46	7	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	1	1	1	0	0	0	0	0	0
Mvmt Flow	62	40	11	11	63	34	9	3	27	47	7	10
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	97	0	0	52	0	0	259	289	46	268	278	80
Stage 1	-	-	-	-	-	-	170	170	-	103	103	-
Stage 2	-	-	-	-	-	-	89	120	-	165	175	-
Critical Hdwy	4.12	-	-	4.11	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.218	-	-	2.209	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1496	-	-	1561	-	-	698	624	1029	689	633	986
Stage 1	-	-	-	-	-	-	837	762	-	908	814	-
Stage 2	-	-	-	-	-	-	923	801	-	841	758	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1496	-	-	1561	-	-	650	594	1029	635	603	986
Mov Cap-2 Maneuver	-	-	-	-	-	-	650	594	-	635	603	-
Stage 1	-	-	-	-	-	-	802	731	-	901	808	-
Stage 2	-	-	-	-	-	-	898	794	-	782	726	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	4.1			0.77			9.38			10.96		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	861	1496	-	-	1561	-	-	669				
HCM Lane V/C Ratio	0.046	0.041	-	-	0.007	-	-	0.097				
HCM Control Delay (s/veh)	9.4	7.5	-	-	7.3	-	-	11				
HCM Lane LOS	A	A	-	-	A	-	-	B				
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.3				

HCM 7th TWSC
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Intersection												
Int Delay, s/veh	3.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	58	56	16	15	114	28	5	2	8	35	8	15
Future Vol, veh/h	58	56	16	15	114	28	5	2	8	35	8	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	6	6	6	3	3	3	7	7	7	4	4	4
Mvmt Flow	64	62	18	16	125	31	5	2	9	38	9	16
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	156	0	0	79	0	0	360	387	70	364	380	141
Stage 1	-	-	-	-	-	-	198	198	-	174	174	-
Stage 2	-	-	-	-	-	-	163	189	-	190	207	-
Critical Hdwy	4.16	-	-	4.13	-	-	7.17	6.57	6.27	7.14	6.54	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.17	5.57	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.17	5.57	-	6.14	5.54	-
Follow-up Hdwy	2.254	-	-	2.227	-	-	3.563	4.063	3.363	3.536	4.036	3.336
Pot Cap-1 Maneuver	1400	-	-	1513	-	-	586	540	979	589	549	902
Stage 1	-	-	-	-	-	-	793	728	-	824	751	-
Stage 2	-	-	-	-	-	-	828	734	-	807	727	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1400	-	-	1513	-	-	534	509	979	548	518	902
Mov Cap-2 Maneuver	-	-	-	-	-	-	534	509	-	548	518	-
Stage 1	-	-	-	-	-	-	757	695	-	814	742	-
Stage 2	-	-	-	-	-	-	793	726	-	761	694	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	3.43			0.71			10.28			11.66		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	699	1400	-	-	1513	-	-	604				
HCM Lane V/C Ratio	0.024	0.046	-	-	0.011	-	-	0.105				
HCM Control Delay (s/veh)	10.3	7.7	-	-	7.4	-	-	11.7				
HCM Lane LOS	B	A	-	-	A	-	-	B				
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.4				

HCM 7th TWSC
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Intersection												
Int Delay, s/veh	5.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	90	39	11	11	61	39	9	3	26	53	7	19
Future Vol, veh/h	90	39	11	11	61	39	9	3	26	53	7	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	1	1	1	0	0	0	0	0	0
Mvmt Flow	93	40	11	11	63	40	9	3	27	55	7	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	103	0	0	52	0	0	321	357	46	333	343	83
Stage 1	-	-	-	-	-	-	231	231	-	106	106	-
Stage 2	-	-	-	-	-	-	89	126	-	227	237	-
Critical Hdwy	4.12	-	-	4.11	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.218	-	-	2.209	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1489	-	-	1561	-	-	636	572	1029	624	583	982
Stage 1	-	-	-	-	-	-	776	717	-	905	812	-
Stage 2	-	-	-	-	-	-	923	796	-	780	713	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1489	-	-	1561	-	-	573	532	1029	563	542	982
Mov Cap-2 Maneuver	-	-	-	-	-	-	573	532	-	563	542	-
Stage 1	-	-	-	-	-	-	728	672	-	898	805	-
Stage 2	-	-	-	-	-	-	890	790	-	709	668	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	4.87			0.73			9.64			11.62		
HCM LOS							A			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	815	1489	-	-	1561	-	-	625
HCM Lane V/C Ratio	0.048	0.062	-	-	0.007	-	-	0.13
HCM Control Delay (s/veh)	9.6	7.6	-	-	7.3	-	-	11.6
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0	-	-	0.4

HCM 7th TWSC
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Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	68	16	15	139	24	5	2	8	30	8	8
Future Vol, veh/h	38	68	16	15	139	24	5	2	8	30	8	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	6	6	6	3	3	3	7	7	7	4	4	4
Mvmt Flow	42	75	18	16	153	26	5	2	9	33	9	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	179	0	0	92	0	0	357	379	84	358	375	166
Stage 1	-	-	-	-	-	-	167	167	-	199	199	-
Stage 2	-	-	-	-	-	-	190	212	-	159	176	-
Critical Hdwy	4.16	-	-	4.13	-	-	7.17	6.57	6.27	7.14	6.54	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.17	5.57	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.17	5.57	-	6.14	5.54	-
Follow-up Hdwy	2.254	-	-	2.227	-	-	3.563	4.063	3.363	3.536	4.036	3.336
Pot Cap-1 Maneuver	1373	-	-	1496	-	-	589	545	962	593	553	873
Stage 1	-	-	-	-	-	-	823	751	-	798	733	-
Stage 2	-	-	-	-	-	-	800	718	-	838	750	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1373	-	-	1496	-	-	549	522	962	561	530	873
Mov Cap-2 Maneuver	-	-	-	-	-	-	549	522	-	561	530	-
Stage 1	-	-	-	-	-	-	798	728	-	789	724	-
Stage 2	-	-	-	-	-	-	773	709	-	803	727	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	2.4			0.63			10.22			11.65		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	706	1373	-	-	1496	-	-	592
HCM Lane V/C Ratio	0.023	0.03	-	-	0.011	-	-	0.085
HCM Control Delay (s/veh)	10.2	7.7	-	-	7.4	-	-	11.7
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.3

Intersection												
Int Delay, s/veh	4.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	47	11	11	74	33	9	3	26	46	7	10
Future Vol, veh/h	60	47	11	11	74	33	9	3	26	46	7	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	1	1	1	0	0	0	0	0	0
Mvmt Flow	62	48	11	11	76	34	9	3	27	47	7	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	110	0	0	60	0	0	280	311	54	290	299	93
Stage 1	-	-	-	-	-	-	178	178	-	116	116	-
Stage 2	-	-	-	-	-	-	103	133	-	174	184	-
Critical Hdwy	4.12	-	-	4.11	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.218	-	-	2.209	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1480	-	-	1550	-	-	676	607	1019	667	616	969
Stage 1	-	-	-	-	-	-	829	756	-	894	803	-
Stage 2	-	-	-	-	-	-	908	790	-	833	752	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1480	-	-	1550	-	-	628	577	1019	614	586	969
Mov Cap-2 Maneuver	-	-	-	-	-	-	628	577	-	614	586	-
Stage 1	-	-	-	-	-	-	794	724	-	887	797	-
Stage 2	-	-	-	-	-	-	884	784	-	774	720	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	3.83			0.68			9.48			11.17		
HCM LOS							A			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	844	1480	-	-	1550	-	-	648
HCM Lane V/C Ratio	0.046	0.042	-	-	0.007	-	-	0.1
HCM Control Delay (s/veh)	9.5	7.5	-	-	7.3	-	-	11.2
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.3

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Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	58	68	16	15	139	28	5	2	8	35	8	15
Future Vol, veh/h	58	68	16	15	139	28	5	2	8	35	8	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	6	6	6	3	3	3	7	7	7	4	4	4
Mvmt Flow	64	75	18	16	153	31	5	2	9	38	9	16
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	184	0	0	92	0	0	401	427	84	404	421	168
Stage 1	-	-	-	-	-	-	211	211	-	201	201	-
Stage 2	-	-	-	-	-	-	190	216	-	203	220	-
Critical Hdwy	4.16	-	-	4.13	-	-	7.17	6.57	6.27	7.14	6.54	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.17	5.57	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.17	5.57	-	6.14	5.54	-
Follow-up Hdwy	2.254	-	-	2.227	-	-	3.563	4.063	3.363	3.536	4.036	3.336
Pot Cap-1 Maneuver	1368	-	-	1496	-	-	551	512	962	553	521	871
Stage 1	-	-	-	-	-	-	780	718	-	796	731	-
Stage 2	-	-	-	-	-	-	800	714	-	794	718	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1368	-	-	1496	-	-	500	482	962	514	490	871
Mov Cap-2 Maneuver	-	-	-	-	-	-	500	482	-	514	490	-
Stage 1	-	-	-	-	-	-	743	685	-	786	722	-
Stage 2	-	-	-	-	-	-	766	706	-	748	684	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	3.17			0.61			10.53			12.1		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	668	1368	-	-	1496	-	-	571				
HCM Lane V/C Ratio	0.025	0.047	-	-	0.011	-	-	0.112				
HCM Control Delay (s/veh)	10.5	7.8	-	-	7.4	-	-	12.1				
HCM Lane LOS	B	A	-	-	A	-	-	B				
HCM 95th %tile O(veh)	0.1	0.1	-	-	0	-	-	0.4				

HCM 7th TWSC
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Intersection												
Int Delay, s/veh	5.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	90	47	11	11	74	39	9	3	26	53	7	19
Future Vol, veh/h	90	47	11	11	74	39	9	3	26	53	7	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	1	1	1	0	0	0	0	0	0
Mvmt Flow	93	48	11	11	76	40	9	3	27	55	7	20
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	116	0	0	60	0	0	342	379	54	355	364	96
Stage 1	-	-	-	-	-	-	240	240	-	119	119	-
Stage 2	-	-	-	-	-	-	103	139	-	236	245	-
Critical Hdwy	4.12	-	-	4.11	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.218	-	-	2.209	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1472	-	-	1550	-	-	616	556	1019	604	567	965
Stage 1	-	-	-	-	-	-	768	711	-	890	801	-
Stage 2	-	-	-	-	-	-	908	785	-	772	707	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1472	-	-	1550	-	-	554	517	1019	544	527	965
Mov Cap-2 Maneuver	-	-	-	-	-	-	554	517	-	544	527	-
Stage 1	-	-	-	-	-	-	720	666	-	883	795	-
Stage 2	-	-	-	-	-	-	875	779	-	701	662	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	4.63			0.65			9.74			11.86		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	799	1472	-	-	1550	-	-	606				
HCM Lane V/C Ratio	0.049	0.063	-	-	0.007	-	-	0.134				
HCM Control Delay (s/veh)	9.7	7.6	-	-	7.3	-	-	11.9				
HCM Lane LOS	A	A	-	-	A	-	-	B				
HCM 95th %tile O(veh)	0.2	0.2	-	-	0	-	-	0.5				



Appendix F: Queue Analysis Worksheets

Queues

2028 Total AM

1: Powers Boulevard & Palmer Park Boulevard

01/20/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	209	251	68	249	405	215	142	1895	240	238	2063	265
v/c Ratio	0.69	0.72	0.04	0.75	1.08	0.14	0.57	0.73	0.27	0.69	0.72	0.17
Control Delay (s/veh)	76.4	76.6	0.0	78.6	128.0	0.2	74.5	29.1	5.3	74.1	25.0	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	76.4	76.6	0.0	78.6	128.0	0.2	74.5	29.1	5.3	74.1	25.0	0.2
Queue Length 50th (ft)	100	124	0	120	~237	0	68	501	22	113	512	0
Queue Length 95th (ft)	144	#185	0	169	#348	0	105	569	70	160	573	0
Internal Link Dist (ft)		344			365			832			1195	
Turn Bay Length (ft)	300		175	130		50	900			825		
Base Capacity (vph)	329	347	1583	352	376	1583	276	2607	903	387	2880	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.72	0.04	0.71	1.08	0.14	0.51	0.73	0.27	0.61	0.72	0.17

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Queues

2028 Total PM

1: Powers Boulevard & Palmer Park Boulevard

01/20/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	313	475	175	215	310	153	161	1947	230	265	1577	446
v/c Ratio	0.75	0.94	0.11	0.73	0.83	0.10	0.59	0.75	0.26	0.88	0.58	0.28
Control Delay (s/veh)	73.2	89.1	0.1	80.2	82.2	0.1	73.8	31.2	6.0	94.8	24.6	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	73.2	89.1	0.1	80.2	82.2	0.1	73.8	31.2	6.0	94.8	24.6	0.4
Queue Length 50th (ft)	149	239	0	104	155	0	77	530	26	130	368	0
Queue Length 95th (ft)	201	#350	0	150	#254	0	117	589	73	#213	421	0
Internal Link Dist (ft)		344			365			832			1195	
Turn Bay Length (ft)	300		175	130		50	900			825		
Base Capacity (vph)	474	506	1599	305	375	1583	308	2591	894	300	2718	1599
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.94	0.11	0.70	0.83	0.10	0.52	0.75	0.26	0.88	0.58	0.28

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

2045 Total AM

1: Powers Boulevard & Palmer Park Boulevard

01/20/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	253	303	83	298	491	260	173	2304	292	287	2511	321
v/c Ratio	0.79	0.91	0.05	0.86	1.36	0.16	0.67	0.90	0.33	0.78	0.88	0.20
Control Delay (s/veh)	82.6	96.5	0.1	87.3	227.2	0.2	78.2	37.6	7.8	78.8	32.3	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	82.6	96.5	0.1	87.3	227.2	0.2	78.2	37.6	7.8	78.8	32.3	0.3
Queue Length 50th (ft)	123	153	0	145	~327	0	83	713	49	138	738	0
Queue Length 95th (ft)	#183	#246	0	#222	#445	0	124	787	109	190	809	0
Internal Link Dist (ft)		344			365			832			1195	
Turn Bay Length (ft)	300		175	130		50	900			825		
Base Capacity (vph)	329	332	1583	352	360	1583	276	2574	894	387	2862	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.91	0.05	0.85	1.36	0.16	0.63	0.90	0.33	0.74	0.88	0.20

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Queues

2045 Total PM

1: Powers Boulevard & Palmer Park Boulevard

01/20/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	381	575	213	256	373	182	196	2369	280	321	1921	541
v/c Ratio	0.84	1.00	0.13	1.09	1.07	0.11	0.68	0.92	0.31	1.08	0.72	0.34
Control Delay (s/veh)	78.6	98.0	0.2	145.5	129.4	0.1	77.1	40.2	8.5	137.0	28.6	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	78.6	98.0	0.2	145.5	129.4	0.1	77.1	40.2	8.5	137.0	28.6	0.6
Queue Length 50th (ft)	184	291	0	~140	~217	0	94	743	51	~175	504	0
Queue Length 95th (ft)	#252	#422	0	#234	#326	0	138	817	111	#276	560	0
Internal Link Dist (ft)		344			365			832			1195	
Turn Bay Length (ft)	300		175	130		50	900			825		
Base Capacity (vph)	474	575	1599	235	347	1583	308	2585	892	296	2683	1599
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	1.00	0.13	1.09	1.07	0.11	0.64	0.92	0.31	1.08	0.72	0.34

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

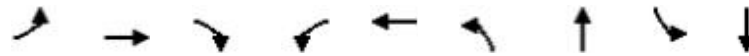
Queue shown is maximum after two cycles.

Queues

2028 Total AM

3: Access & Palmer Park Boulevard

01/20/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	15	483	192	56	665	154	71	7	16
v/c Ratio	0.03	0.18	0.16	0.08	0.25	0.76	0.24	0.04	0.07
Control Delay (s/veh)	5.4	5.2	1.1	5.6	5.6	78.5	13.2	48.1	22.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	5.4	5.2	1.1	5.6	5.6	78.5	13.2	48.1	22.9
Queue Length 50th (ft)	3	55	0	11	80	133	2	5	2
Queue Length 95th (ft)	11	94	22	30	133	212	45	20	23
Internal Link Dist (ft)		365			230		1246		204
Turn Bay Length (ft)	100			175		75		75	
Base Capacity (vph)	549	2664	1238	674	2688	293	389	271	343
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.18	0.16	0.08	0.25	0.53	0.18	0.03	0.05

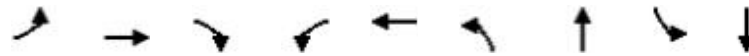
Intersection Summary

Queues

2028 Total PM

3: Access & Palmer Park Boulevard

01/20/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	55	667	232	67	436	262	103	16	63
v/c Ratio	0.08	0.26	0.19	0.13	0.17	0.94	0.25	0.06	0.17
Control Delay (s/veh)	6.8	7.7	1.1	7.4	6.9	97.0	10.4	47.7	14.0
Queue Delay	0.0	0.8	0.6	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	6.8	8.5	1.7	7.4	6.9	97.0	10.4	47.7	14.0
Queue Length 50th (ft)	15	107	0	19	63	248	2	12	4
Queue Length 95th (ft)	29	133	23	36	83	#425	53	35	45
Internal Link Dist (ft)		365			230		1246		204
Turn Bay Length (ft)	100			175		75		75	
Base Capacity (vph)	667	2545	1205	512	2526	279	413	257	379
Starvation Cap Reductn	0	1480	662	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.63	0.43	0.13	0.17	0.94	0.25	0.06	0.17

Intersection Summary

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

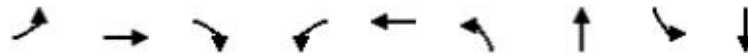
Queue shown is maximum after two cycles.

Queues

2045 Total AM

3: Access & Palmer Park Boulevard

01/23/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	15	589	192	56	808	154	71	7	16
v/c Ratio	0.03	0.22	0.16	0.09	0.30	0.76	0.24	0.04	0.07
Control Delay (s/veh)	5.6	5.4	1.1	5.7	5.9	78.5	13.2	48.1	22.9
Queue Delay	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	5.6	5.9	1.1	5.7	5.9	78.5	13.2	48.1	22.9
Queue Length 50th (ft)	3	69	0	11	103	133	2	5	2
Queue Length 95th (ft)	11	116	22	30	167	212	45	20	23
Internal Link Dist (ft)		365			230		1246		204
Turn Bay Length (ft)	100			175		75		75	
Base Capacity (vph)	466	2664	1238	603	2688	293	389	271	343
Starvation Cap Reductn	0	1542	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.52	0.16	0.09	0.30	0.53	0.18	0.03	0.05

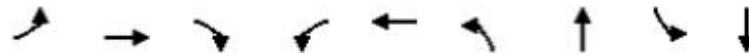
Intersection Summary

Queues

2045 Total PM

3: Access & Palmer Park Boulevard

01/23/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	55	813	232	67	525	262	103	16	63
v/c Ratio	0.09	0.32	0.19	0.16	0.21	0.94	0.25	0.06	0.17
Control Delay (s/veh)	6.9	8.2	1.1	7.8	7.2	97.0	10.4	47.7	14.0
Queue Delay	0.0	1.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	6.9	9.3	1.7	7.8	7.2	97.0	10.4	47.7	14.0
Queue Length 50th (ft)	15	138	0	19	79	248	2	12	4
Queue Length 95th (ft)	30	168	23	38	101	#425	53	35	45
Internal Link Dist (ft)		365			230		1246		204
Turn Bay Length (ft)	100			175		75		75	
Base Capacity (vph)	603	2545	1205	430	2530	279	413	257	379
Starvation Cap Reductn	0	1401	662	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.71	0.43	0.16	0.21	0.94	0.25	0.06	0.17

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.