Traffic Impact Study

Parker and Pine

Parker, Colorado

Prepared for:

Eisenberg Company

Kimley»Horn

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

Parker and Pine

Parker, Colorado

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1.0 EXECUTIVE SUMMARY

A new mixed-use development, Parker and Pine, is proposed on the southwest corner of the Pine Lane and Parker Road (SH-83) intersection, in Parker, Colorado. For purposes of this traffic study, the project was assumed to include 175 multifamily residential units, a 13,000 square foot day care center, 17,000 square feet of retail, two 3,000 square foot fast-food restaurants, a 16-fueling position gas station with convenience market, and a 5,400 square foot automated car wash. It is expected that the project will be completed within the next few years. Analysis was therefore conducted for the 2022 short term horizon, as well as the 2040 long-term horizon per Town of Parker and State of Colorado Department of Transportation (CDOT) requirements.

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

- Pine Lane and Parker Road (SH-83)
- Pine Lane and Twenty Mile Road

In addition, the proposed right-in/right-out access along Parker Road, the proposed three-quarter movement access along Pine Lane, and the proposed full movement access along Twenty Mile Road were evaluated.

Regional access to the site will be provided by Parker Road (SH-83) and E-470. Primary access to the site will be provided by Parker Road and Pine Lane. Direct access to the project is proposed from one three-quarter access on Pine Lane, one right-in/right-out access on Parker Road, and one full access on Twenty Mile Road. The proposed driveway along Pine Lane is located approximately 550 feet west of Parker Road. The proposed access along Parker Road is located approximately 500 feet south of Pine Lane. The proposed driveway access along Twenty Mile Road is located approximately 500 feet south of Pine Lane. All access curb cuts have already been constructed in these locations.

The Parker and Pine Development is expected to generate approximately 8,244 daily external weekday trips. Of these, 664 trips are expected to occur during the weekday morning peak hour, while 710 trips are expected during the weekday afternoon peak hour. Since the project is a commercial development, pass-by trips are expected. These pass-by trips are vehicles already on the street network that will be attracted to the retail, gas station, and fast-food restaurants. With pass-by, expected net new trips (non pass-by) to the surrounding street network results in 7,322 weekday daily trips with 603 and 644 trips anticipated during the weekday morning and afternoon peak hours, respectively.

Distribution of site traffic on the street system was based on the area street system characteristics, existing traffic patterns, anticipated surrounding development areas, and the proposed access system for the project. Assignment of project traffic was based upon the trip generation described previously and the distributions developed.

Based on the analysis presented in this report, Kimley-Horn believes the proposed Parker and Pine project will be successfully incorporated into the existing roadway network. The proposed project development and expected traffic volumes resulted in the following recommendations:

- The threshold for requiring an access permit along 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 west leg of Pine Lane at Parker Road (SH-83) is anticipated to increase existing access traffic volumes by more than 20 percent during the peak hour; therefore, it is believed that an access permit for the west leg of Pine Lane at Parker Road (SH-83) will be required by CDOT in association with this project. In addition, an access permit will also be required for the proposed right-in/right-out driveway access along Parker Road.

- It is recommended that the project access along Pine Lane allow three-quarter turning movements and that the project access approach be stop controlled with installation of a R1-1 “STOP” sign for the northbound right turn to Pine Lane. A R3-2 No Left Turn sign is recommended to be installed under the “STOP” sign. A raised median island will be constructed within the driveway throat to direct traffic to eastbound Pine Lane. The project

access approach is recommended to provide a throat depth to accommodate two vehicles of storage (50 feet).

- It is recommended that the project access along Parker Road (SH-83) be restricted to right-in/right-out movements and that the project access be stop controlled with installation of a R1-1 “STOP” sign for this eastbound access approach to Parker Road. To identify the proposed access to right turn movements only, it is recommended that a with a R3-2 No Left Turn sign be placed underneath the “STOP” sign and a R6-1 (R) “ONE WAY” sign be located within the existing raised median directly in front of the driver’s view from the access to further identify the exiting movement at the driveway for right turns only. The project access approach is recommended to provide a minimum throat depth to accommodate one vehicle of storage (25 feet).

- It is recommended that the project access along Twenty Mile Road allow full turning movements and that the project access approach be stop controlled. A R1-1 “STOP” sign should be installed for the westbound approach to Twenty Mile Road. The project access approach is recommended to provide a minimum throat depth to accommodate one vehicle of storage (25 feet).

- With development of the project, it is recommended the westbound left turn lane at the Pine Lane and Twenty Mile Road intersection be restriped to include 200-foot dual left turn lanes. Likewise, a traffic signal modification may be needed for these dual left turn lanes.

- With development of the project, it is recommended the eastbound left turn lane length at the Pine Lane and Parker Road (SH-83) intersection be extended to its maximum possible length from the existing 175 feet to 250 feet if possible. This will require restriping of Pine Lane by modifying the existing median and turn bay taper.

- The Pine Lane and Parker Road (SH-83) intersection was found to have operational issues if future background traffic volumes are realized. Therefore, to provide the most optimal traffic lanes available, northbound dual left turn lanes may need. An area is striped out for these dual left turn lanes already (to shadow the southbound dual lefts) so implementation of northbound dual lefts is feasible. Further, and as identified in the Parker Road Corridor

Plan, Parker Road may need to provide four through lanes in each direction within the project limits. The existing northbound and southbound right turn lanes at the Pine Lane and Parker Road intersection would be converted to shared through/right turn lanes. The four southbound lanes will extend from the Eastbound E-470 Off Ramp to Lincoln Avenue while four northbound through lanes will extend from south of Lincoln Avenue to the Westbound E-470 On Ramp.

- All off-site and on-site improvements should be incorporated into the Civil Drawings, and conform to standards of the Town of Parker, CDOT, American Association of State Highway and Transportation Officials (AASHTO) Geometric Design of Highways and Streets, Institute of Transportation Engineers (ITE), and the Manual on Traffic Control Devices (MUTCD) – 2009 Edition.

2.0 INTRODUCTION

Kimley-Horn and Associates, Inc. (Kimley-Horn) has prepared this report to document the results of a Traffic Impact Study of future traffic conditions associated with the proposed Parker and Pine mixed-use development to be located on the southwest corner of the Pine Lane and Parker Road (SH-83) intersection in Parker, Colorado. A vicinity map illustrating the project site location is shown in **Figure 1**. The project is anticipated to develop with 175 multifamily residential units, a 13,000 square foot day care center, 17,000 square feet of retail, two 3,000 square foot fast-food restaurants, a 16-fueling position gas station with convenience market, and a 5,400 square foot automated car wash. It is expected that the project will be completed within the next few years. Analysis was therefore conducted for the 2022 short term horizon, as well as the 2040 long-term horizon per Town of Parker and State of Colorado Department of Transportation (CDOT) requirements. The conceptual site plan illustrating the development and access locations is shown in **Appendix G**.

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

- Pine Lane and Parker Road (SH-83)
- Pine Lane and Twenty Mile Road

In addition, the proposed right-in/right-out access along Parker Road, the proposed three-quarter movement access along Pine Lane, and the proposed full movement access along Twenty Mile Road were evaluated. The Town of Parker Traffic Impact Study Checklist is provided in **Appendix A**.

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PARKER AND PINE
PARKER ROAD & PINE LANE
VICINITY MAP

FIGURE 1

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3.0 EXISTING AND FUTURE CONDITIONS

3.1 Existing and Future Study Area

The existing site is comprised of vacant land. The surrounding area contains a mix of uses. Directly to the north exists a medical office building. Directly to the east across Parker Road is retail and a motel. Directly to the west is vacant land and the Baldwin Gulch Trail which also runs along the southern border of the site. Directly to the south are commercial uses. Further from these areas, a K-8 charter school exists to the southwest and residential areas exist to the west. The site area with surrounding uses are shown within the aerial of **Figure 2**.

3.2 Existing Roadway Network

Regional access to the site will be provided by Parker Road (SH-83) and E-470. Primary access to the site will be provided by Parker Road and Pine Lane. Direct access to the project is proposed from one three-quarter access on Pine Lane, one right-in/right-out access on Parker Road, and one full access on Twenty Mile Road. The driveway along Pine Lane is located approximately 550 feet west of Parker Road. The access along Parker Road is located approximately 500 feet south of Pine Lane. The access along Twenty Mile Road is located approximately 500 feet south of Pine Lane. All access curb cuts have already been constructed.

Parker Road provides three through lanes of travel each direction, northbound and southbound, and has a posted speed limit of 45 miles per hour. Parker Road has a fourth auxiliary lane northbound and southbound and is separated by a raised median through the project study area. Pine Lane provides two lanes of travel each direction, eastbound and westbound, and has a posted speed limit of 40 miles per hour. Twenty Mile Road provides two lanes of travel each direction, northbound and southbound, and has a posted speed limit of 40 miles per hour. Twenty Mile Road is separated by a raised median through the project study area.

The intersection of Pine Lane and Parker Road is signalized with protected only left turn phasing on all approaches. The eastbound and westbound approaches consist of dual left turn lanes, two through lanes, and channelized right turn lanes operating with free turning movements. The northbound approach consists of a left turn lane, three through lanes and a channelized right turn lane operating with yield control, while the southbound approach includes dual left turn lanes, three through lanes, and a channelized yield right turn lane.

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PARKER AND PINE
PARKER ROAD & PINE LANE
SITE AREA

FIGURE 2

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The intersection of Pine Lane and Twenty Mile Road is signalized with protected-permissive left turn phasing on all approaches. All four approaches of this intersection include a left turn lane, two through lanes, and a right turn lane. However, the eastbound and northbound approaches do not provide storage for the right turn movement. The intersection lane configuration and control for these study area key intersections are shown in **Figure 3**.

3.3 Existing Traffic Volumes

Existing peak hour turning movement counts were conducted at the key intersections on Tuesday, October 1, 2019. The counts were conducted in 15-minute intervals during the morning and afternoon peak hours of adjacent street traffic from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM on this count date. Existing turning movement counts are shown in **Figure 4** 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, the 20-year growth factor along Parker Road (SH-83) within the study area has a range of 1.25 to 1.27. This value equates to an annual growth rate of approximately 1.12 percent and 1.20 percent, respectively. According to the Douglas County 2030 Transportation Plan (2020 & 2030 peak hour traffic forecasts) Parker Road through the study area has an annual projected growth rate of 0.7 percent. Therefore, an annual traffic volume growth rate of 1.20 percent was used in this traffic analysis to be conservative. In addition, project traffic volumes from The Depot at Twenty Mile project proposed on the northwest corner were directly added to the street network as well as future traffic volumes anticipated with a connection from the E-470 Eastbound Off Ramp to southbound Twenty Mile Road as provided by Town of Parker staff. Traffic information from the CDOT Online Transportation Information System (OTIS) website, Douglas County 2030 Transportation Plan traffic forecast maps, and The Depot Traffic Study Traffic Assignment are included in **Appendix C**. All of this was used to estimate near term 2022 and long term 2040 traffic volume projections at the key intersections. Background traffic volumes for 2022 and 2040 are shown in **Figures 5** and **6**, respectively.

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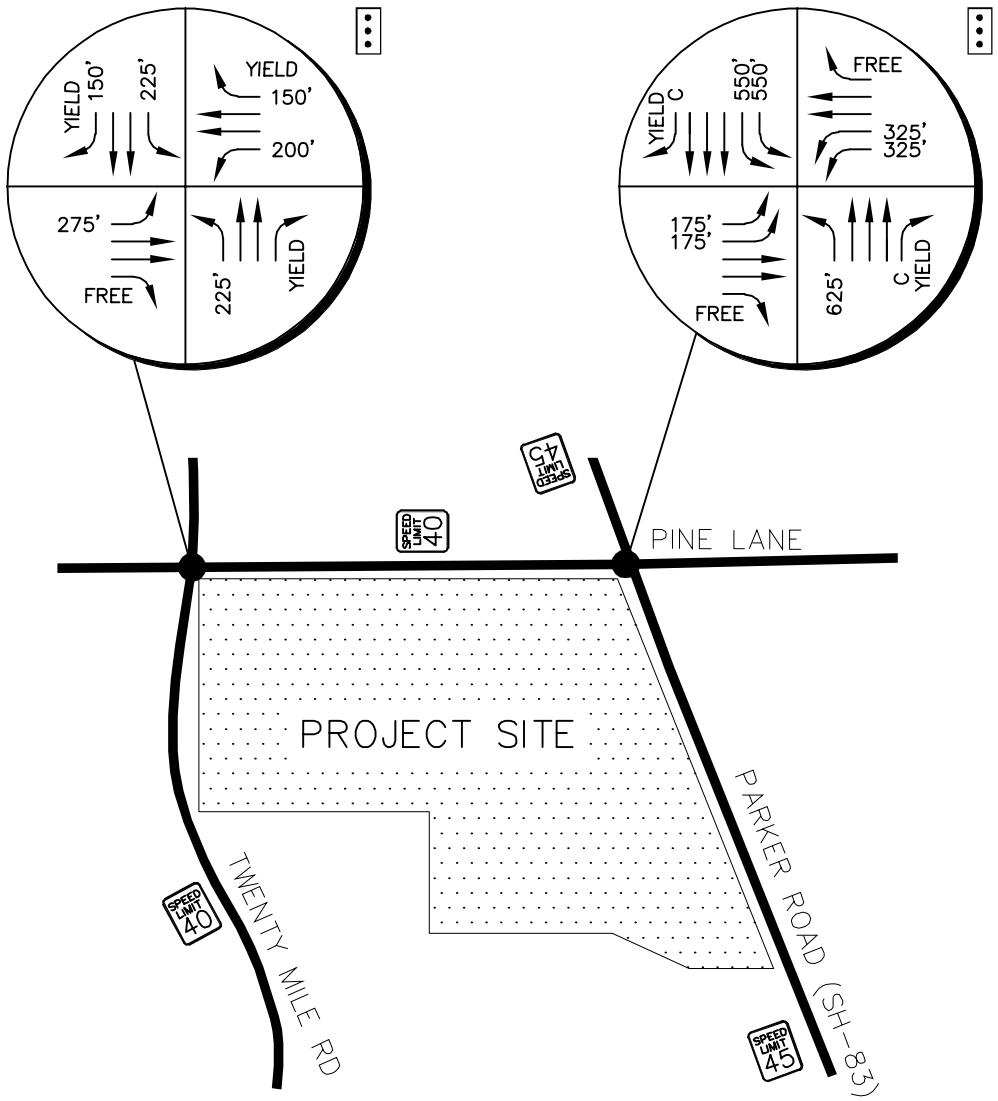

LEGEND
- Study Area Key Intersection
- Signalized Intersection
- STOP Stop Controlled Approach
- SPEED LIMIT XX Roadway Speed Limit
- 100' Turn Lane Length (feet)

PARKER AND PINE
PARKER ROAD & PINE LANE
EXISTING LANE CONFIGURATIONS

FIGURE 3

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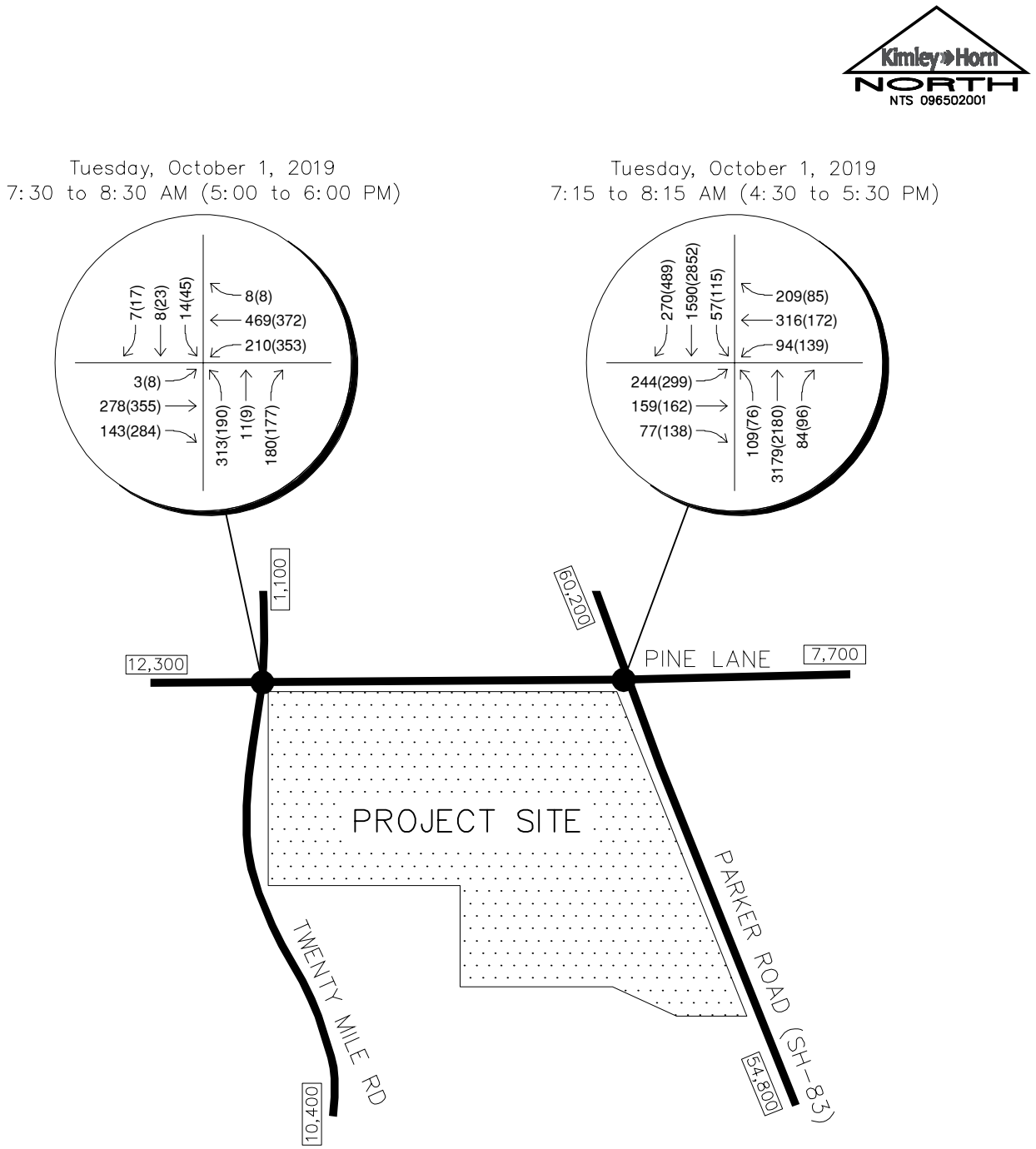
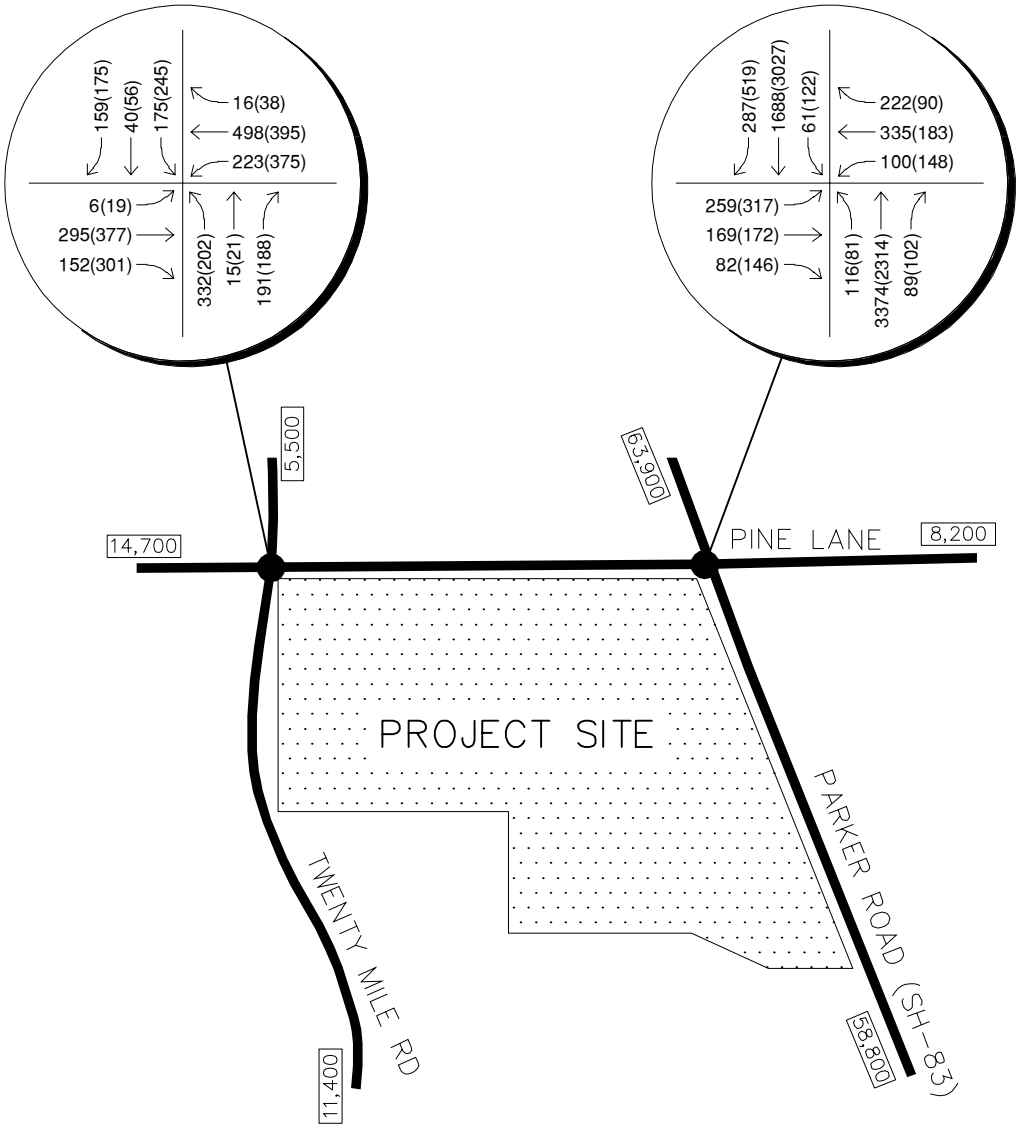


PARKER AND PINE
PARKER ROAD & PINE LANE
EXISTING TRAFFIC VOLUMES

FIGURE 4

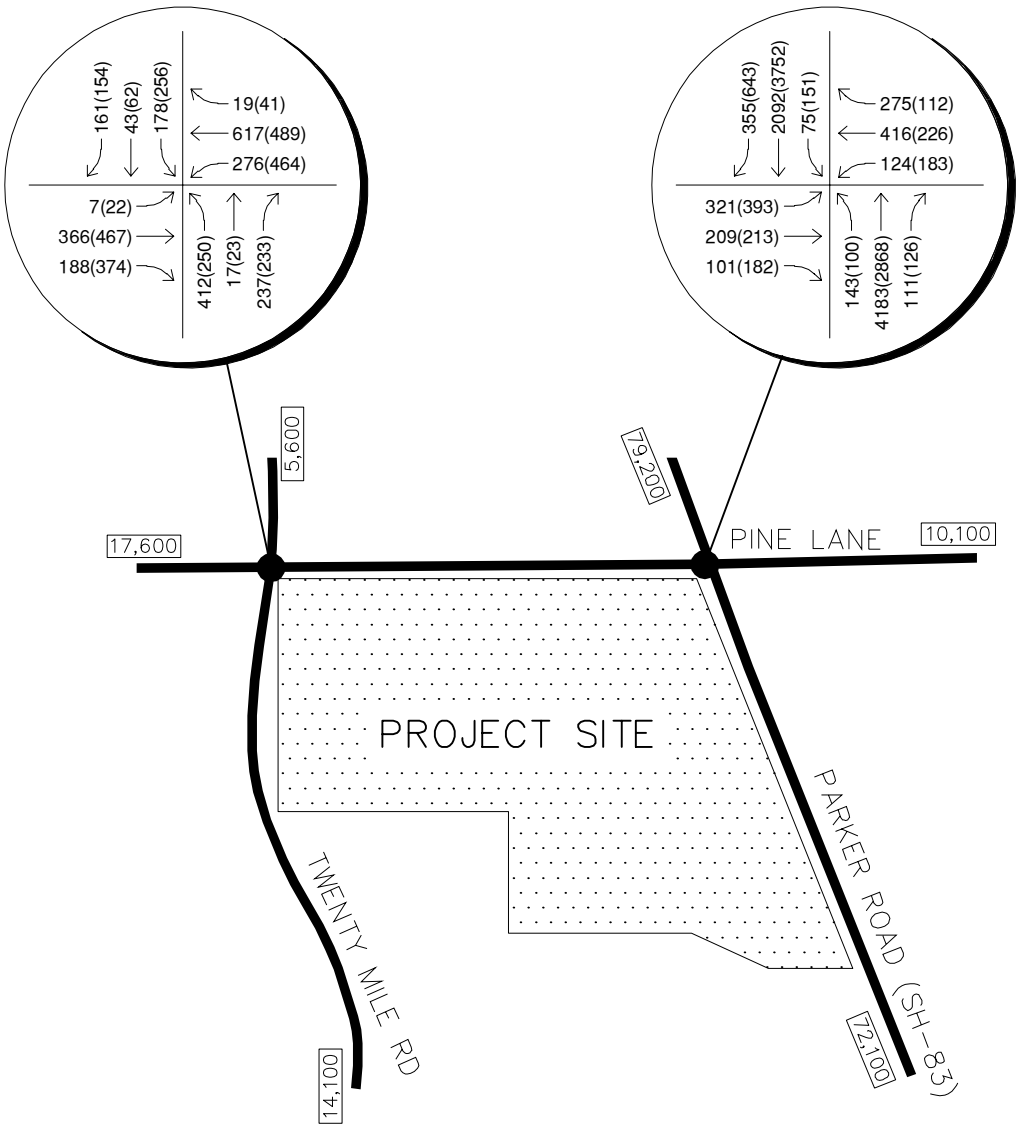


LEGEND

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

PARKER AND PINE
PARKER ROAD & PINE LANE
2022 BACKGROUND TRAFFIC VOLUMES

FIGURE 5



LEGEND

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

PARKER AND PINE
PARKER ROAD & PINE LANE
2040 BACKGROUND TRAFFIC VOLUMES

FIGURE 6

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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 uses 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 this study, Kimley-Horn used the ITE Trip Generation Report regression equations and average rates that apply to Mid-Rise Multifamily Housing (ITE Code 221), Day Care Center (ITE 565), Shopping Center (ITE 820), Fast Food Restaurant with Drive Through (ITE 934), Gasoline Station with Convenience Market (ITE 945), and Automated Car Wash (ITE 948) for traffic associated with the Parker and Pine development.

Since a mix of uses is proposed within the same development, it is anticipated that traffic will be shared between each use. This internal trip generation, or capture, is expected to occur between the various retail and residential uses. Based on Town of Parker internal capture requirements, this was limited to 10 percent of the total trips. Based on this, the proposed development is expected to generate approximately 8,244 daily external weekday trips. Of these, 664 trips are expected to occur during the weekday morning peak hour, while 710 trips are expected during the weekday afternoon peak hour.

Since the project is a commercial development, pass-by trips are expected. These pass-by trips are vehicles already on the street network that will be attracted to the retail, gas station, and fast-food restaurants. Since this project development area is located along Parker Road, with a gas station/convenience market and fast food restaurants proposed. Therefore, based on this project's location, a 15 percent pass-by trip identification of the trips after internal capture were calculated per request by the Town of Parker. Of note, pass-by traffic volumes were captured primarily from Parker Road, so this traffic is counted as new traffic along Pine Lane and Twenty Mile Road as well as the proposed accesses. With pass-by, expected net new trips (non pass-by) to the surrounding street network results in 7,322 weekday daily trips with 603 and 644 trips

[1] Institute of Transportation Engineers, *Trip Generation: An Information Report*, Ninth Edition, Washington DC, 2012.

anticipated during the weekday morning and afternoon peak hours, respectively. **Table 1** summarizes the estimated trip generation for the proposed Parker and Pine development. The trip generation worksheets are included in **Appendix D**.

Table 1 – Parker and Pine Traffic Generation

Land Use	Quantity	Daily Trips	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Total Trips								
Mid-Rise Multifamily Residential (ITE 221)	175 Units	952	15	44	59	46	30	76
Day Care Center (ITE 565)	13,000 SF	620	74	69	143	68	77	145
Shopping Center (ITE 820)	17,000 SF	642	10	6	16	31	34	65
Fast Food Restaurant w/ D.T. (ITE 934)	3,000 SF	1,414	62	59	121	51	47	98
Fast Food Restaurant w/ D.T. (ITE 934)	3,000 SF	1,414	62	59	121	51	47	98
Gas Station w/ Convenience (ITE 945)	16 Positions	3,286	102	98	200	114	110	224
Automated Car Wash (ITE 948)	5,400 SF	760	38	38	76	38	38	76
Total	-	9,088	363	373	736	399	383	782
Total Trips After Internal Capture (ITE Methodology)								
Mid-Rise Multifamily Residential (ITE 221)	175 Units	857	14	40	53	41	27	68
Day Care Center (ITE 565)	13,000 SF	558	67	62	129	61	69	131
Shopping Center (ITE 820)	17,000 SF	642	10	6	16	31	34	65
Fast Food Restaurant w/ D.T. (ITE 934)	3,000 SF	1,273	56	53	109	46	42	88
Fast Food Restaurant w/ D.T. (ITE 934)	3,000 SF	1,273	56	53	109	46	42	88
Gas Station w/ Convenience (ITE 945)	16 Positions	2,957	92	88	180	103	99	202
Automated Car Wash (ITE 948)	5,400 SF	684	34	34	68	34	34	68
Total	-	8,244	329	336	664	362	347	710
Non Pass-By Trips								
Mid-Rise Multifamily Residential (ITE 221)	175 Units	857	14	40	53	41	27	68
Day Care Center (ITE 565)	13,000 SF	558	67	62	129	61	69	131
Shopping Center (ITE 820)	17,000 SF	546	9	5	14	26	29	55
Fast Food Restaurant w/ D.T. (ITE 934)	3,000 SF	1,082	48	45	93	39	36	75
Fast Food Restaurant w/ D.T. (ITE 934)	3,000 SF	1,082	48	45	93	39	36	75
Gas Station w/ Convenience (ITE 945)	16 Positions	2,513	78	75	153	88	84	172
Automated Car Wash (ITE 948)	5,400 SF	684	34	34	68	34	34	68
Total	-	7,322	298	306	603	328	315	644
Pass-By Trips								
Shopping Center (ITE 820)	17,000 SF	96	0	0	0	5	5	10
Fast Food Restaurant w/ D.T. (ITE 934)	3,000 SF	191	8	8	16	7	6	13
Fast Food Restaurant w/ D.T. (ITE 934)	3,000 SF	191	8	8	16	7	6	13
Gas Station w/ Convenience (ITE 945)	16 Positions	444	14	13	27	15	15	30
Total	-	922	30	29	59	34	32	66

Note: ITE does not provide AM trip generation information for Automated Car Wash (ITE 948) although car washes are open in the morning. Therefore, the PM trip generation was duplicated for the AM trip generation.

4.2 Trip Distribution

Distribution of site traffic was based on the area street system characteristics, existing traffic patterns and volumes, existing demographic information, and the proposed access system for the project. The non-pass-by 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 direction. **Figure 7** illustrates the expected non pass-by trip distribution for the site.

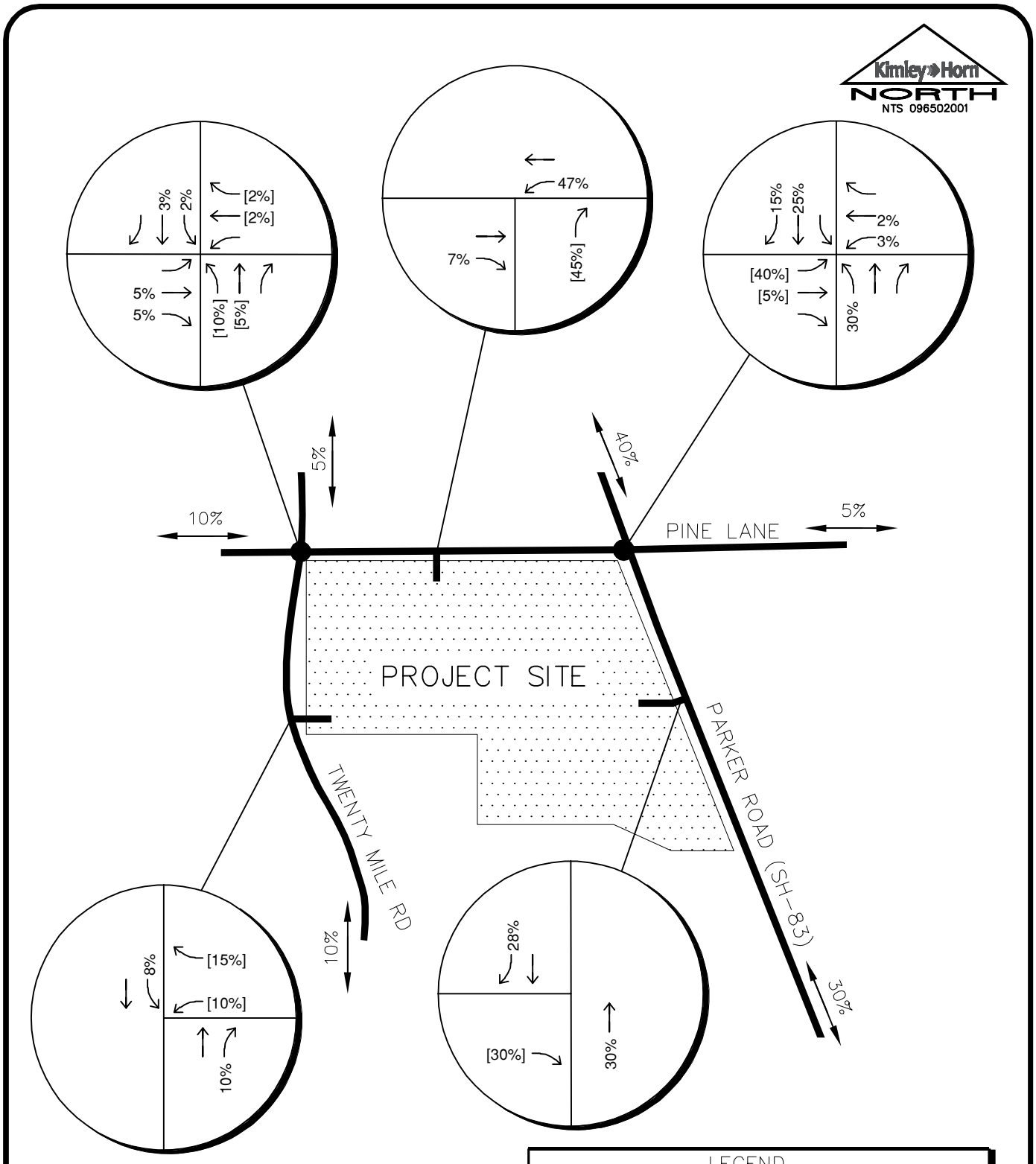
Due to the nature of the proposed uses, both new (non-pass-by) and pass-by trips are anticipated to be generated by this project. Pass-by distributions capture the route of the vehicle, which is a percentage of traffic driving by the site, arriving from a direction and then continuing in that original direction when leaving. Pass-by distributions are prepared directly based on existing traffic volume counts along the adjacent streets. **Figures 8** and **9**, illustrate the pass-by traffic, calculated separately for the morning and afternoon peak hours, respectively, due to the directional differences of traffic during these peak hours.

4.3 Traffic Assignment

Traffic assignment was obtained by applying the distributions from **Figures 7** through **9** to the estimated traffic generation of the project shown in **Table 1**. The non-pass-by traffic assignment is shown in **Figure 10**. Pass-by traffic assignment is shown in **Figure 11**.

4.4 Total (Background Plus Project) Traffic

The project traffic volumes were added to the background volumes to represent estimated traffic conditions for the short term 2022 project build out horizon and long term 2040 horizon. **Figure 12** illustrates the background plus project traffic volumes for the 2022 horizon at the study key intersections and the access intersections proposed with the project. The 2040 background plus project traffic volumes are shown in **Figure 13**.



PARKER AND PINE
PARKER ROAD & PINE LANE
NON PASS-BY TRIP DISTRIBUTION

FIGURE 7

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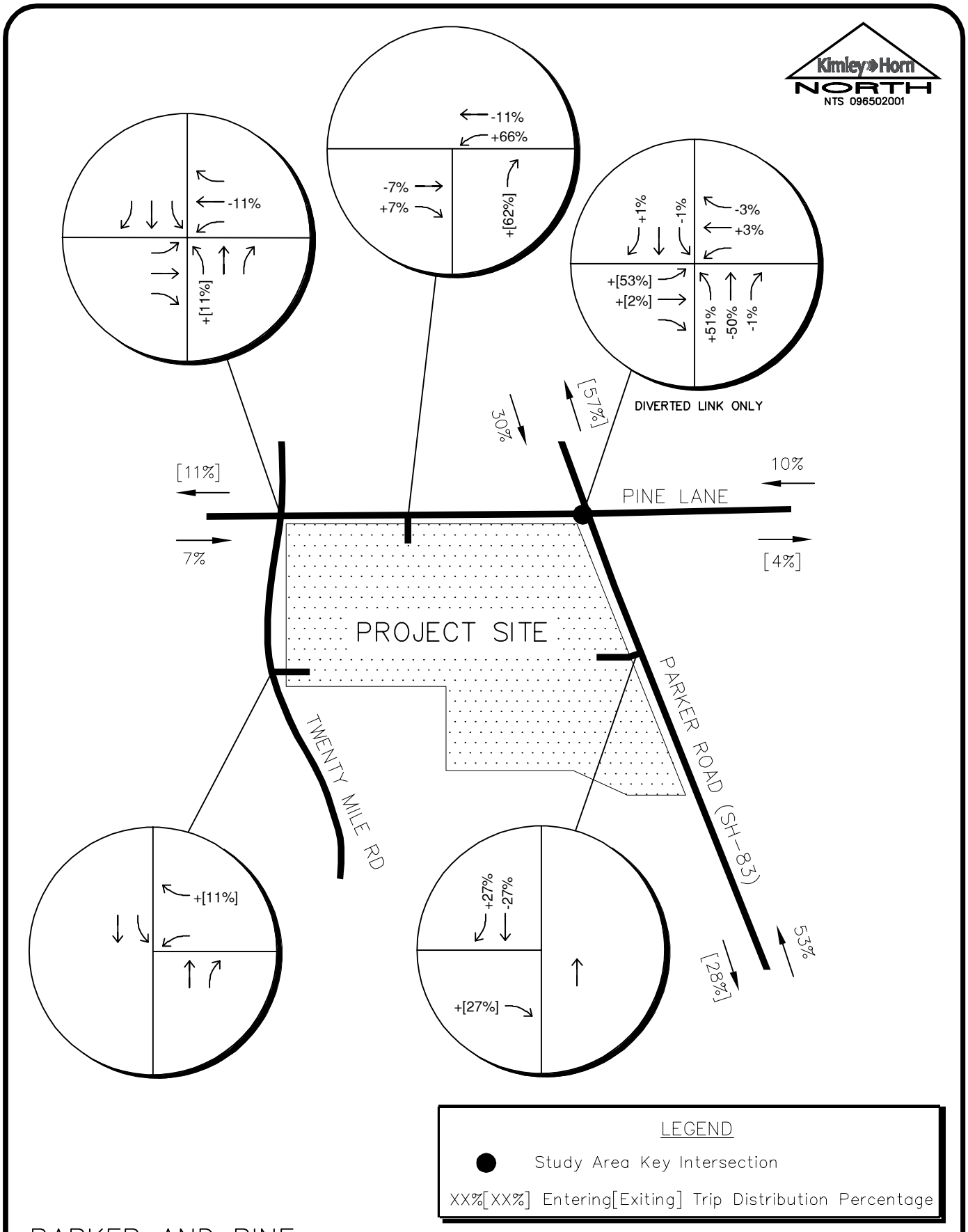

PARKER AND PINE
PARKER ROAD & PINE LANE
AM PEAK PASS-BY TRIP DISTRIBUTION

FIGURE 8

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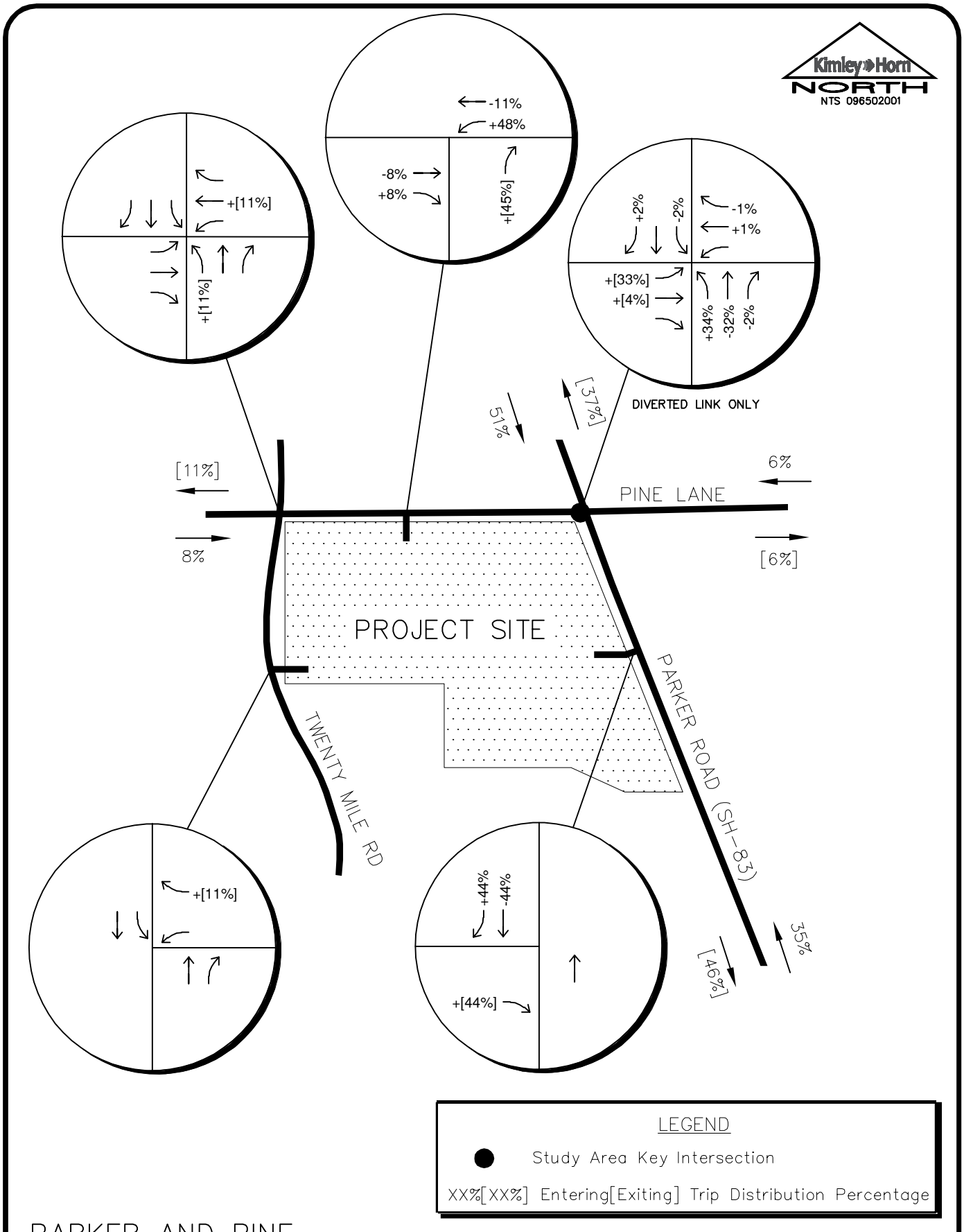

PARKER AND PINE
PARKER ROAD & PINE LANE
PM PEAK PASS-BY TRIP DISTRIBUTION

FIGURE 9

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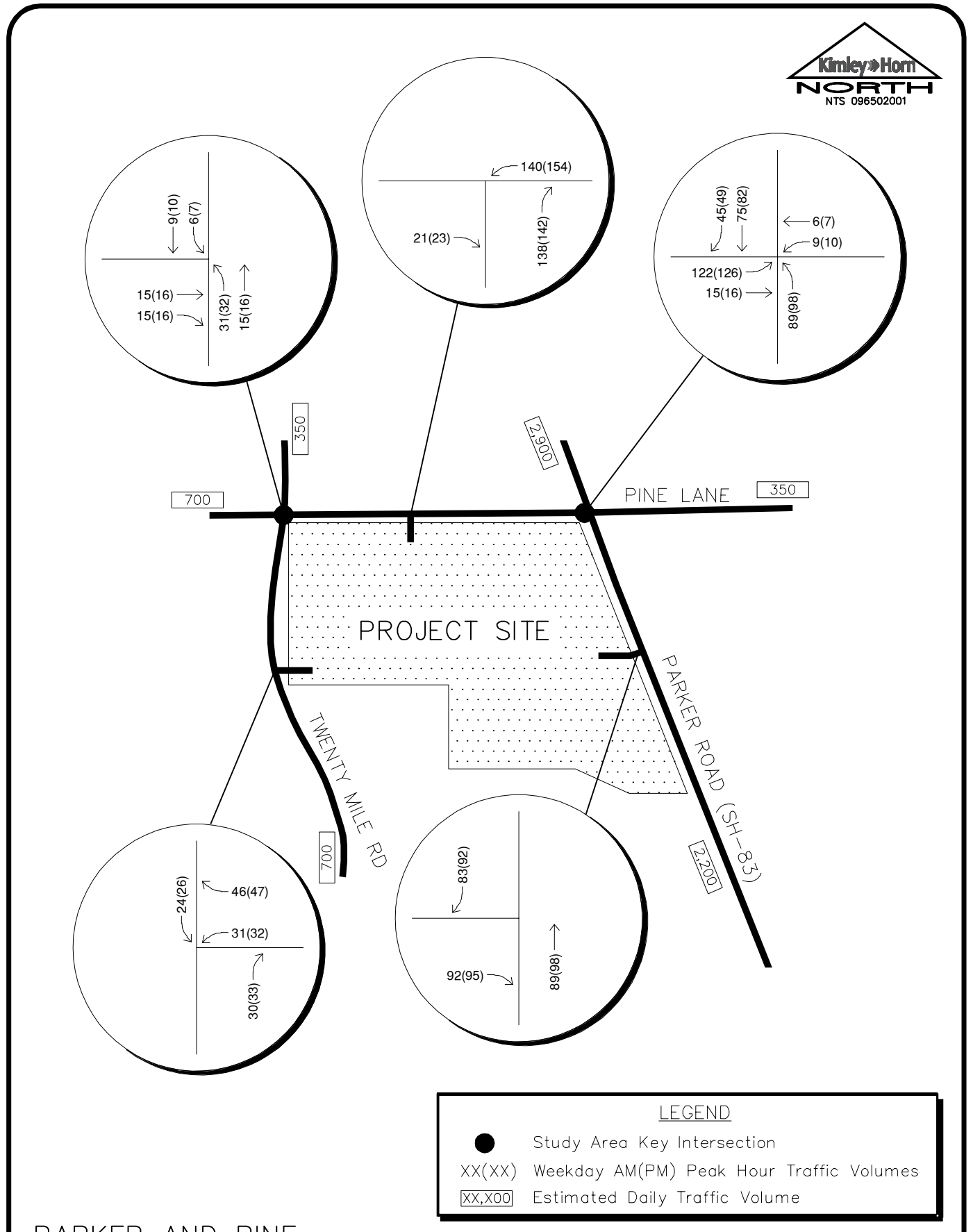

PARKER AND PINE
PARKER ROAD & PINE LANE
NON PASS-BY TRAFFIC ASSIGNMENT

FIGURE 10

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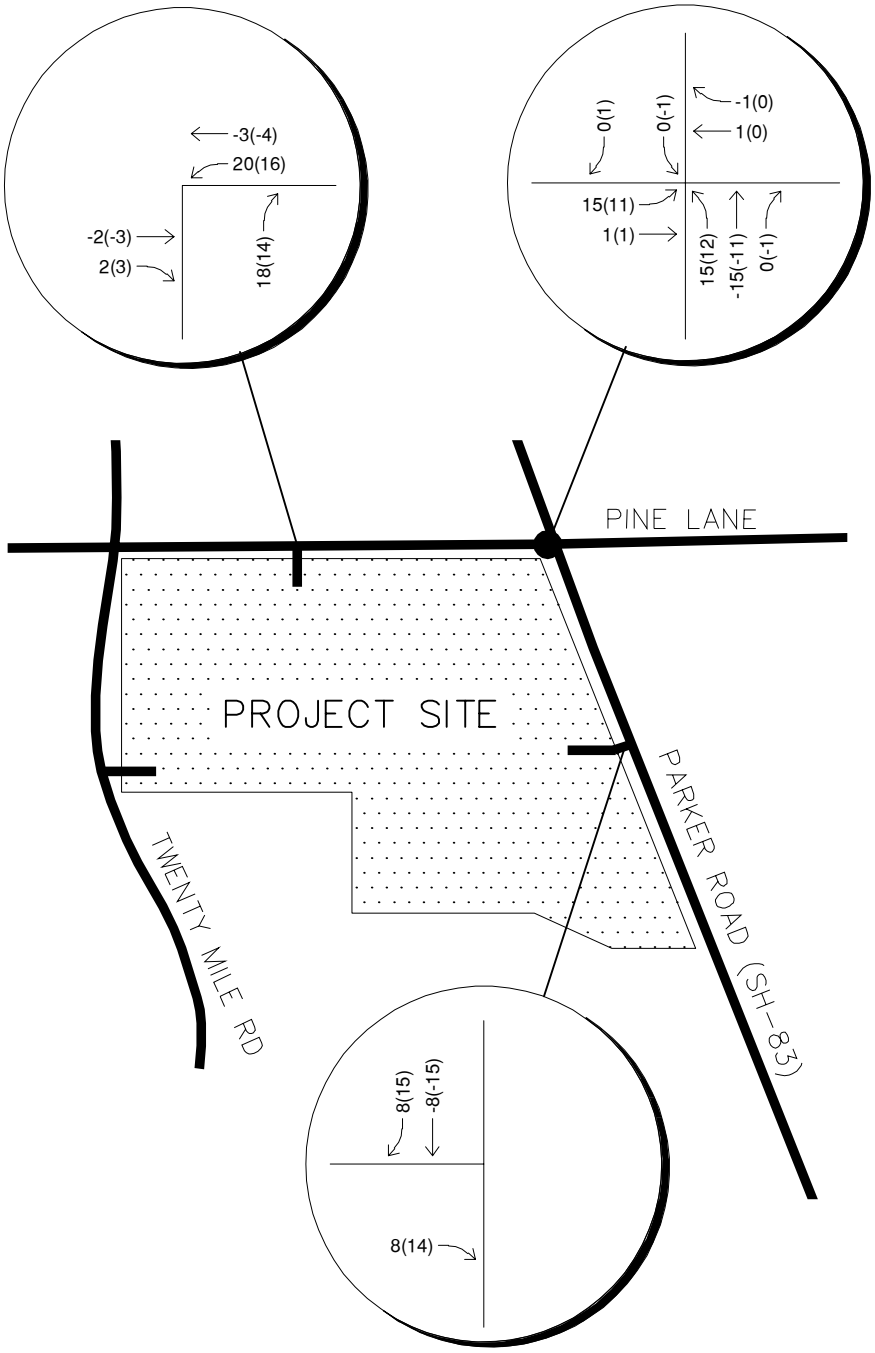

LEGEND

● Study Area Key Intersection

XX(XX) Weekday AM(PM) Peak Hour Traffic Volumes

PARKER AND PINE
PARKER ROAD & PINE LANE
PASS-BY TRAFFIC ASSIGNMENT

FIGURE 11

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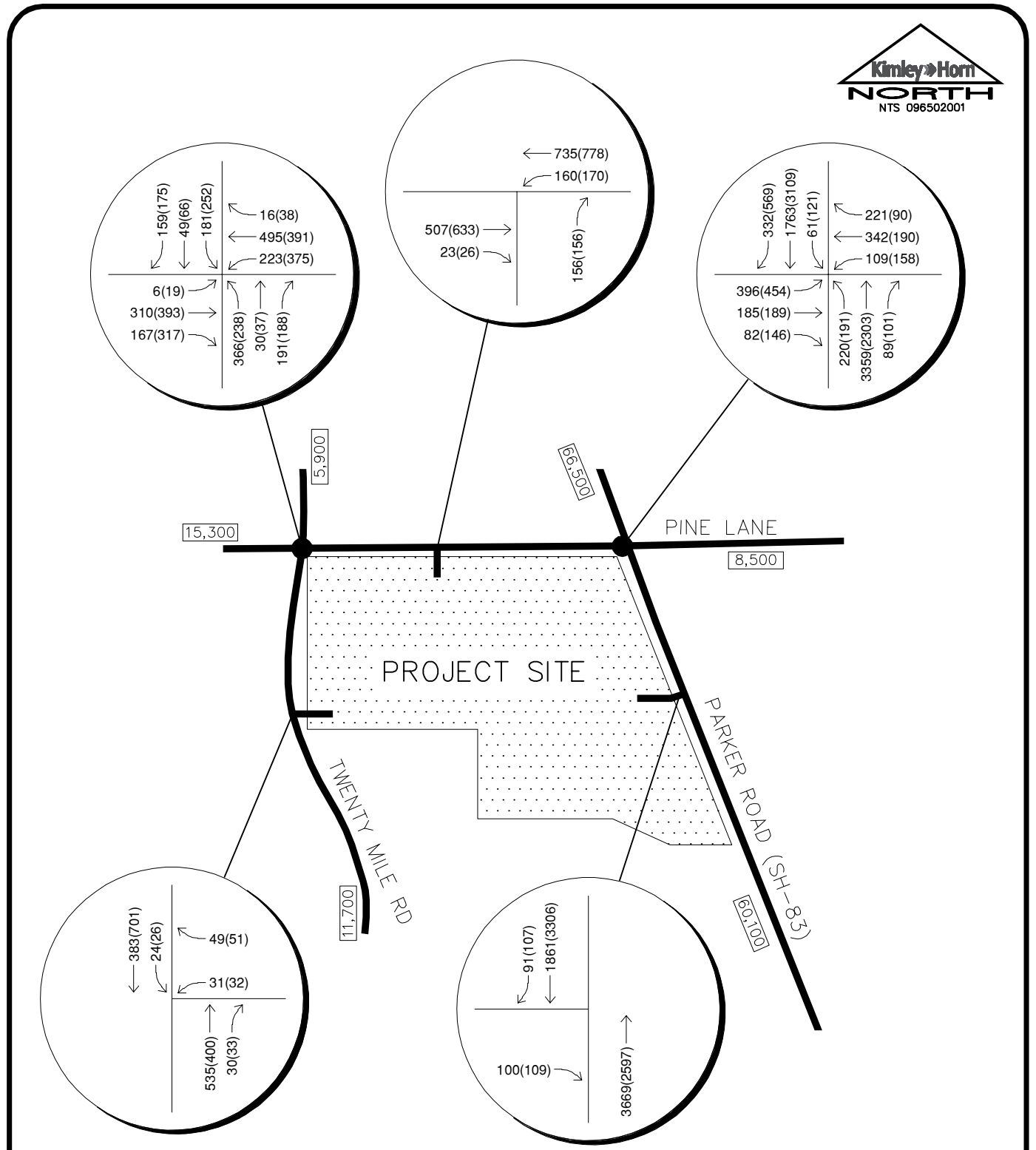

PARKER AND PINE
PARKER ROAD & PINE LANE
2022 BACKGROUND
PLUS PROJECT TRAFFIC VOLUMES

FIGURE 12

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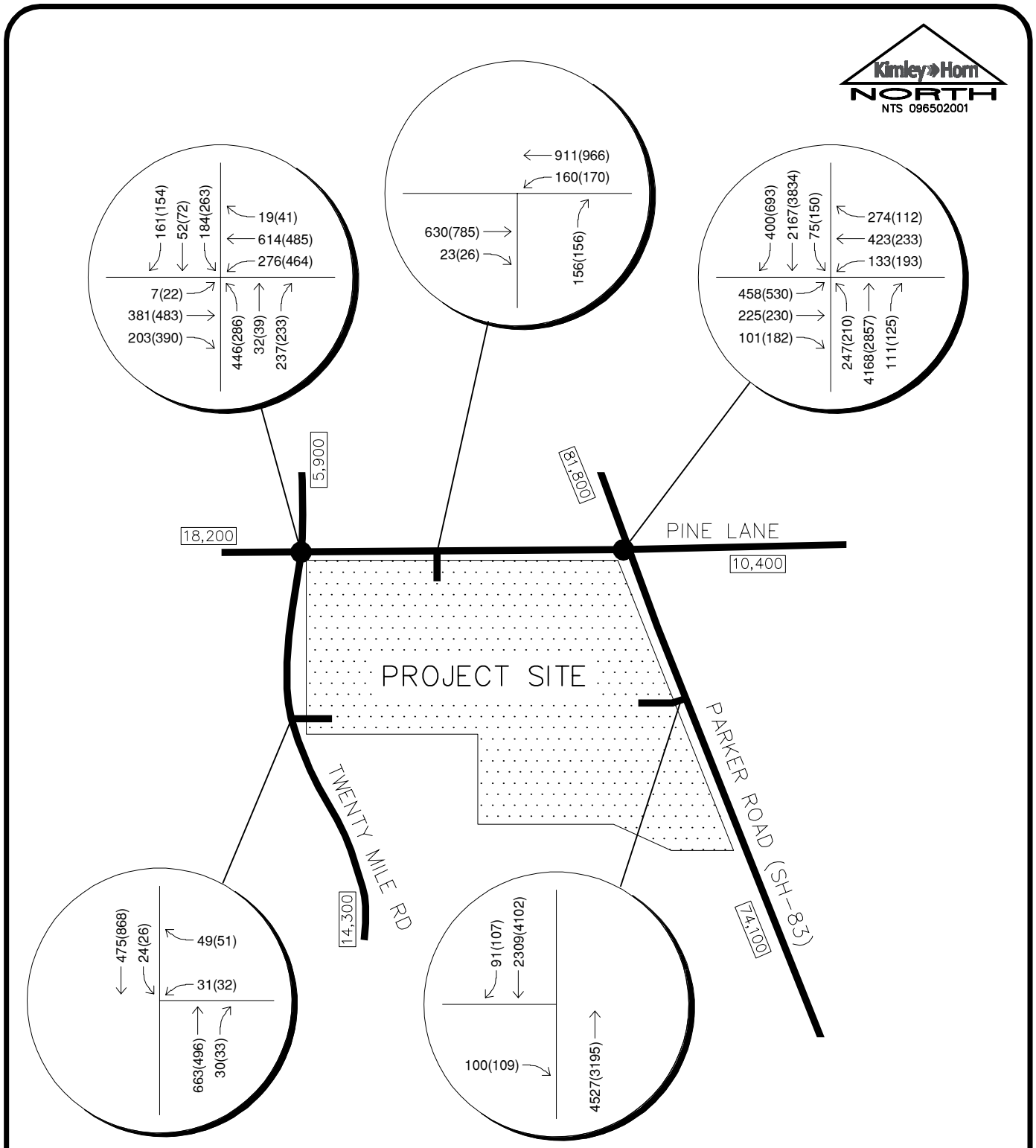

PARKER AND PINE
PARKER ROAD & PINE LANE
2040 BACKGROUND
PLUS PROJECT TRAFFIC VOLUMES

FIGURE 13

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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 2022 and 2040 development horizons at the identified key intersections and access driveways. The acknowledged source for determining overall capacity is the current edition of 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). For intersections and roadways in this study area, standard traffic engineering procedure identifies overall intersection LOS D and movement or approach LOS E as the minimum thresholds for acceptable operations. **Table 2** shows the definition of level of service for signalized and unsignalized intersections.

Table 2 – 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, Special Report 209, Transportation Research Board, 2016.

Study area intersections were analyzed based on average total delay analysis for signalized and unsignalized intersections. Under the unsignalized analysis, 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 and four-way stop controlled intersections are defined for each approach and for the overall intersection.

[2] Transportation Research Board, *Highway Capacity Manual*, Special Report 209, Washington DC, 2016.

5.2 Key Intersection Operational Analysis

Calculations for the level of service at the key intersections and project access driveways for the study area are provided in **Appendix E**. The signalized intersection analysis utilizes the observed cycle lengths for the morning and afternoon peak hours with existing phasing and optimized timing splits. The existing year analysis is based on the lane geometry and intersection control shown in **Figure 3.** LOS for the intersections was calculated using Synchro software presenting the HCM results.

Pine Lane and Parker Road (SH-83)

Pine Lane and Parker Road is a four-leg signalized intersection. With this existing configuration, the intersection currently operates at LOS D during the morning peak hour and LOS C during the afternoon peak hour. During the background condition in 2022, the intersection is anticipated to operate at LOS E during the morning peak hour and LOS D during the afternoon peak hour. With the addition of project trips the intersection operates at LOS F for the morning peak hour and LOS E for the afternoon peak hour. Due to the high delays, the intersection will likely need to be improved to include dual left turn lanes on the northbound approach and an eight-lane Parker Road with the absorption of the existing northbound and southbound right turn lanes to be converted to shared through/right turn lanes. The four southbound lanes will extend from the Eastbound E-470 Off Ramp to Lincoln Avenue while four northbound through lanes will extend from south of Lincoln Avenue to the Westbound E-470 On Ramp. It is understood that the Town desires this to be constructed soon with the grant application submitted to DRCOG for this improvement earlier this year. With these improvements, the intersection is anticipated to operate at LOS D during the morning peak hour and LOS C during the afternoon peak hour.

By 2040, this intersection is anticipated to operate poorly during the peak hours with or without project traffic if future traffic projections are realized. The roadway section was analyzed with the ultimate roadway configurations, and no other improvements are believed to be feasible at this intersection beyond the already recommended improvements. As such additional north/south roadway connections should be explored (it is understood that the Town of Parker and Douglas County are considering a Pine Drive extension to Aurora Parkway) to relieve traffic from Parker Road in the future. **Table 3** provides the results of the level of service at this intersection.

Table 3 – Pine Lane and Parker Road LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2019 Existing	43.7	D	22.6	C
2022 Background	62.7	E	35.7	D
2022 Background Plus Project	90.2	F	65.5	E
2022 Background Plus Project #	43.0	D	29.0	C
2040 Background #	81.9	F	41.1	D
2040 Background Plus Project #	99.0	F	60.4	E

= Includes Dual Northbound Left Turn Lanes and Four Northbound and Southbound Through Lanes

Pine Lane and Twenty Mile Road

Pine Lane and Twenty Mile Road is a four-leg signalized intersection. With this existing configuration, the intersection currently operates at LOS B during the morning peak and afternoon peak hours. With or without the addition of project traffic in 2022, the intersection is anticipated to continue to operate acceptably during the morning and afternoon peak hours. However, it is recommended that dual westbound left turn lanes be provided with the completion of this project for vehicle queuing purposes. The second westbound left turn lane is currently striped out and this improvement would only require restriping for dual left turn lanes along with a possible traffic signal modification. With or without the addition of the project traffic in 2040, the intersection is anticipated to operate acceptably with LOS D during both the morning and afternoon peak hour. **Table 4** provides the results of the level of service at this intersection.

Table 4 – Pine Lane and Twenty Mile Road LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2019 Existing	16.8	B	16.9	B
2022 Background	23.7	C	22.5	C
2022 Background Plus Project	27.4	C	32.9	C
2022 Background Plus Project #	33.0	C	35.2	D
2040 Background #	34.4	C	35.2	D
2040 Background Plus Project #	35.1	D	36.0	D

= Includes Dual WB Left Turn Lanes for Vehicle Queuing Purposes

Pine Lane Access

The proposed driveway along Pine Lane will allow three-quarter turning movements and is located approximately 550 feet west of Parker Road. It is recommended that the northbound project access approach be stop controlled. It is recommended that a R1-1 "STOP" sign be installed for this northbound approach to Pine Lane. A R3-2 No Left Turn sign is recommended to be installed under the "STOP" sign. A raised median island will be constructed within the driveway throat to direct traffic to eastbound Pine Lane. This access is anticipated to have all movements operating at LOS B or better during the morning and afternoon peak hours in 2022 and 2040. **Table 5** provides the results of the level of service at this access intersection.

Table 5 – Pine Lane Access LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2022 Background Plus Project				
Northbound Right	10.0	B	10.4	B
Westbound Left	8.2	A	8.5	A
2040 Background Plus Project				
Northbound Right	10.4	B	11.1	B
Westbound Left	8.4	A	8.8	A

Parker Road Access

The proposed driveway along Parker Road will be restricted to right turning movements only and is located approximately 500 feet south of Pine Lane. It is recommended that the project access be stop controlled with installation of a R1-1 "STOP" sign for the eastbound access approach to Parker Road. To further identify the proposed access to right turn movements only, it is recommended that a with a R3-2 No Left Turn sign be placed underneath the "STOP" sign and a R6-1 (R) "ONE WAY" sign be located within the existing raised median directly in front of the driver's view from the access to further identify the exiting movement at the driveway for right turns only. A continuous auxiliary lane exists along this segment of Parker Road for deceleration and acceleration. This access is anticipated to have the eastbound movement operating at LOS B or better during the peak hours in 2022 and 2040. **Table 6** provides the results of the level of service at this access intersection.

Table 6 – Parker Road Access LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2022 Background Plus Project				
Eastbound Right	10.6	B	14.6	B
2022 Background Plus Project #				
Eastbound Right	10.1	B	13.5	B
2040 Background Plus Project #				
Eastbound Right	11.1	B	14.2	B

= Includes Four Northbound and Southbound Through Lanes

Twenty Mile Road Access

The proposed driveway along Twenty Mile Road will allow full turning movements and is located approximately 500 feet south of Pine Lane. It is recommended that the project access approach be stop controlled with installation of a R1-1 "STOP" sign for this westbound approach to Twenty Mile Road. This access is anticipated to have all movements operating at LOS C or better during the AM and PM peak hours in 2022 and 2040. Although the westbound approach was analyzed with one shared lane, it is desirable to have separate turn lanes. **Table 7** provides the results of the level of service at this access intersection.

Table 7 – Twenty Mile Road Access LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2022 Background Plus Project				
Westbound Approach	14.7	B	14.6	B
Southbound Left	8.9	A	8.4	A
2040 Background Plus Project				
Westbound Approach	17.7	C	17.7	C
Southbound Left	9.4	A	8.7	A

5.3 Queuing Analysis

A left turn lane queuing analysis was conducted for the signalized and unsignalized study area intersections including Pine Lane/Parker Road and Pine Lane/Twenty Mile Road. In addition, the accesses along Pine Lane and Twenty Mile Road were studied. The access along Parker Road was not studied in 2022 because it operates right in/right out only with a free right turn movement into an auxiliary acceleration lane, but it is included for 2040 with absorption of the fourth auxiliary lane into a through lane. The queuing analysis was performed using the Synchro analysis software presenting the results of the 95th percentile queue length. Results are shown in the following **Table 8** with calculations provided within the level of service operational sheets of **Appendix E** for the unsignalized intersections and **Appendix F** for signalized intersections.

Table 8 – Left Turn Lane Queuing Analysis Results

Intersection Turn Lane	Existing Turn Lane Length (feet)	2022 Calculated Queue Length (feet)	2022 Recommended Turn Lane Length (feet)	2040 Calculated Queue Length (feet)	2040 Recommended Turn Lane Length (feet)
Pine Lane & Parker Road					
Eastbound Left	175' DL	**248'**	**250' DL #**	**295'**	250' DL #
Westbound Left	325' DL	111'	325' DL	127'	325' DL
Northbound Left	625'	134'	625'	140'	625' **DL**
Southbound Left	550' DL	86'	550' DL	107'	550' DL
Pine Lane & Twenty Mile Road					
Eastbound Left	275'	25'	275'	26'	275'
Westbound Left	200'	**153' DL**	200' **DL**	193'	200' DL
Northbound Left	225'	219'	225'	**267'**	225' #
Southbound Left	225'	217'	225'	223'	225'
Pine Lane Access					
Westbound Left	125'	25'	125'	25'	125'
Northbound Right	DNE	25'	**50'**	25'	50'
Parker Road Access					
Eastbound Right	DNE	Free	**25'**	25'	25'
Twenty Mile Road Access					
Westbound Approach	DNE	25'	**25'**	25'	25'
Southbound Left	100'	25'	100'	25'	100'

DL = Dual Left Turn Lanes; DNE = Does Not Exist; C = Continuous; # = Maximum Length Possible

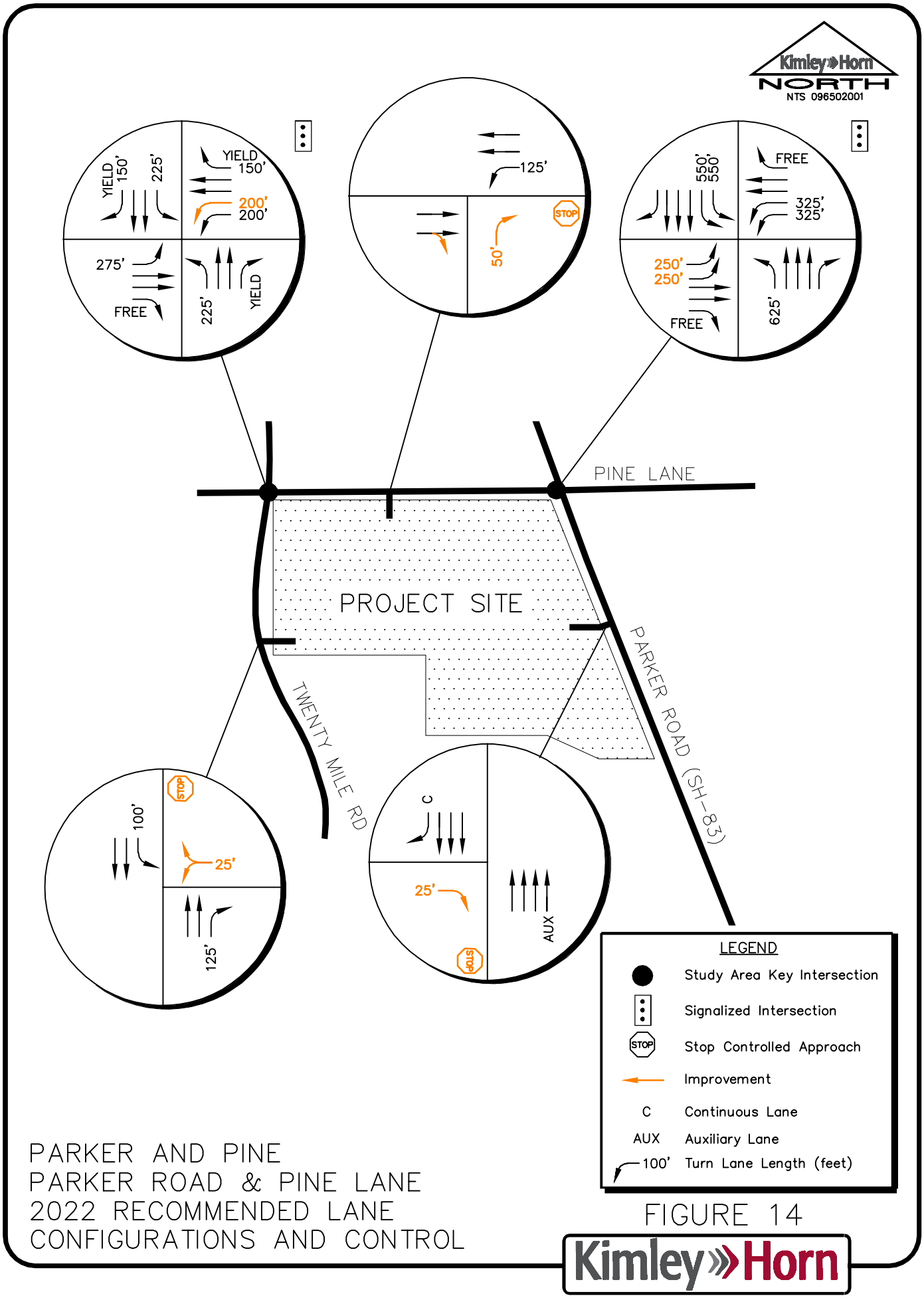
Based on the results shown above, it is recommended the eastbound dual left turn lanes at the Pine Lane and Parker Road intersection be extended to the maximum length possible from 175 feet to 250 feet and that dual northbound left turn lanes be designated. In addition, it is

recommended that the westbound left turn lane at the Pine Lane and Twenty Mile Road intersection be designated to include dual left turn lanes.

By 2040, the eastbound dual left turn lanes at Pine Lane and Parker Road may need to be further extended from 250 feet to 300 feet. However, this would end up blocking the access along the north side of Pine Lane for the existing commercial building which would convert that access to right-in/right-out movements only. Also, the 225-foot northbound left turn lane at the intersection of Pine Lane and Twenty Mile Road may exceeds the existing storage and require 275 feet of length; however, this lane cannot be extended due to the southbound left turn lane at the Twenty Mile Road access. By 2040, it is recommended that the northbound left turn lane at Pine Lane and Parker Road be designated to include dual left turn lanes for operational reasons. All other queues fall within existing storage lengths.

It is recommended that the project access approach to Pine Lane provide a throat depth to accommodate two vehicles of storage (50 feet) to accommodate the long term 2040 horizon traffic volumes. The project accesses approach to Twenty Mile Road and Parker Road are recommended to provide minimum throat depths to accommodate one vehicle of storage (25 feet).

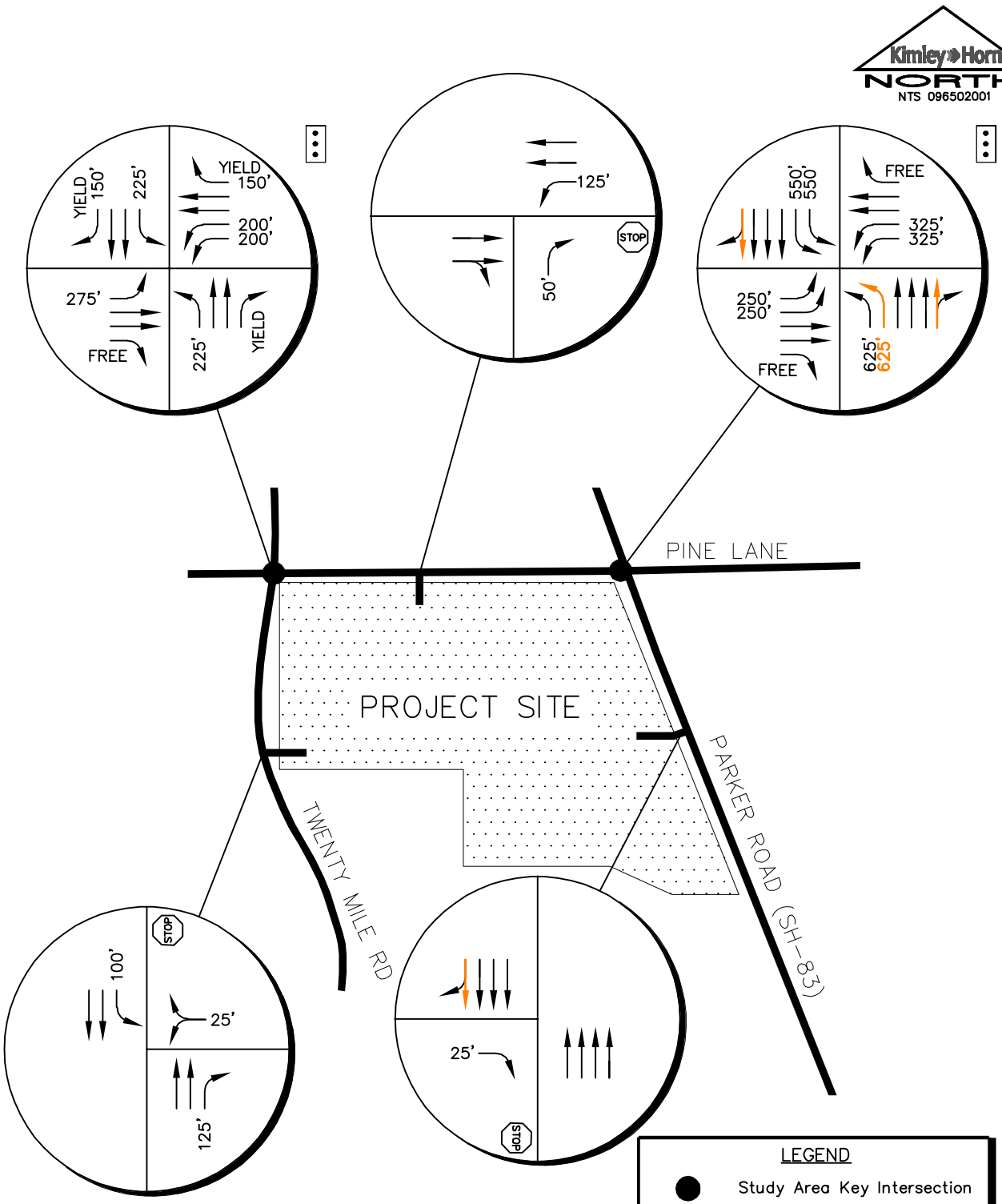
Based on the results of the level of service operational analysis and turn lane analysis, recommended lane configurations and control of the study area intersections are shown in **Figures 14** and **15** for the 2022 short term and 2040 long term horizon, respectively.



PARKER AND PINE
PARKER ROAD & PINE LANE
2022 RECOMMENDED LANE
CONFIGURATIONS AND CONTROL

FIGURE 14

Kimley»Horn



PARKER AND PINE
PARKER ROAD & PINE LANE
2040 RECOMMENDED
LANE CONFIGURATIONS AND CONTROL

FIGURE 15

Kimley»Horn

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis presented in this report, Kimley-Horn believes the proposed Parker and Pine project will be successfully incorporated into the existing roadway network. The proposed project development and expected traffic volumes resulted in the following recommendations:

- The threshold for requiring an access permit along 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 west leg of Pine Lane at Parker Road (SH-83) is anticipated to increase existing access traffic volumes by more than 20 percent during the peak hour; therefore, it is believed that an access permit for the west leg of Pine Lane at Parker Road (SH-83) will be required by CDOT in association with this project. In addition, an access permit will also be required for the proposed right-in/right-out driveway access along Parker Road.

- It is recommended that the project access along Pine Lane allow three-quarter turning movements and that the project access approach be stop controlled with installation of a R1-1 "STOP" sign for the northbound right turn to Pine Lane. A R3-2 No Left Turn sign is recommended to be installed under the "STOP" sign. A raised median island will be constructed within the driveway throat to direct traffic to eastbound Pine Lane. The project access approach is recommended to provide a throat depth to accommodate two vehicles of storage (50 feet).

- It is recommended that the project access along Parker Road (SH-83) be restricted to right-in/right-out movements and that the project access be stop controlled with installation of a R1-1 "STOP" sign for this eastbound access approach to Parker Road. To identify the proposed access to right turn movements only, it is recommended that a with a R3-2 No Left Turn sign be placed underneath the "STOP" sign and a R6-1 (R) "ONE WAY" sign be located within the existing raised median directly in front of the driver's view from the access to further identify the exiting movement at the driveway for right turns only. The project access approach is recommended to provide a minimum throat depth to accommodate one vehicle of storage (25 feet).

- It is recommended that the project access along Twenty Mile Road allow full turning movements and that the project access approach be stop controlled. A R1-1 “STOP” sign should be installed for the westbound approach to Twenty Mile Road. The project access approach is recommended to provide a minimum throat depth to accommodate one vehicle of storage (25 feet).

- With development of the project, it is recommended the westbound left turn lane at the Pine Lane and Twenty Mile Road intersection be restriped to include 200-foot dual left turn lanes. Likewise, a traffic signal modification may be needed for these dual left turn lanes.

- With development of the project, it is recommended the eastbound left turn lane length at the Pine Lane and Parker Road (SH-83) intersection be extended to its maximum possible length from the existing 175 feet to 250 feet if possible. This will require restriping of Pine Lane by modifying the existing median and turn bay taper.

- The Pine Lane and Parker Road (SH-83) intersection was found to have operational issues if future background traffic volumes are realized. Therefore, to provide the most optimal traffic lanes available, northbound dual left turn lanes may need. An area is striped out for these dual left turn lanes already (to shadow the southbound dual lefts) so implementation of northbound dual lefts is feasible. Further, and as identified in the Parker Road Corridor Plan, Parker Road may need to provide four through lanes in each direction within the project limits. The existing northbound and southbound right turn lanes at the Pine Lane and Parker Road intersection would be converted to shared through/right turn lanes. The four southbound lanes will extend from the Eastbound E-470 Off Ramp to Lincoln Avenue while four northbound through lanes will extend from south of Lincoln Avenue to the Westbound E-470 On Ramp.

- All off-site and on-site improvements should be incorporated into the Civil Drawings, and conform to standards of the Town of Parker, CDOT, American Association of State Highway and Transportation Officials (AASHTO) Geometric Design of Highways and Streets, Institute of Transportation Engineers (ITE), and the Manual on Traffic Control Devices (MUTCD) – 2009 Edition.

APPENDICES

APPENDIX A

Town of Parker Traffic Impact Study Checklist

Parker COLORADO

TIS Standard Checklist

Development: Parker and Pine
Filing:
Consultant: Kimley-Horn and Associates, Inc.

Date: ~~10/7/2019~~ 04/24/2020
Submittal Number:
Reviewed By:

Required Discussions - To be completed by the Transportation Consultant Engineer:

REPORT SECTION	COMPLETED	N/A	COMMENTS
GENERAL	☐	☐	
Original & Revision Dates	☑	☐	
Dated, Checked, Sealed & Signed by P.E.	☑	☐	
INTRODUCTION	☐	☐	
Vicinity Map	☑	☐	
Proposed Project Site Plan	☑	☐	
Proposed Development Phasing	☐	☑	
Existing & Proposed Land Uses Surrounding Site	☑	☐	
EXISTING CONDITIONS	☐	☐	
Roadway Counts < One Year Old	☑	☐	Estimated from intersection counts
Intersection Counts < Six Months Old	☑	☐	
Existing LOS Summary (Table)	☑	☐	
PROPOSED CONDITIONS	☐	☐	
Trip Generation Summary (Table)	☑	☐	
Internal Trip Reduction Justification (< 10%)	☑	☐	~~Based on ITE Procedures and Methodology~~
Pass-by Trip Reduction Justification (< 15%)	☑	☐	~~Based on ITE Procedures and Methodology~~
Trip Distribution Assumptions	☑	☐	
Site Trip Distribution (Figure)	☑	☐	
Projected Site Traffic Volumes (Figure) - Each Phase	☑	☐	

REPORT SECTION	COMPLETED	N/A	COMMENTS
FUTURE CONDITIONS	☐	☐	
Background Transportation Improvements	☑	☐	
Background Growth Method & Assumptions	☑	☐	
Background Traffic Volumes (Figure) - Each Phase	☑	☐	
Total Traffic Volumes (Figure) - Each Phase	☑	☐	
SITE CIRCULATION & DESIGN EVALUATION	☐	☐	
Level of Service Analysis - Each Phase (Figures/Table)	☑	☐	
Queuing Analysis - Vehicle Storage Lengths	☑	☐	
Traffic Signal Warrant Analysis	☐	☑	
Traffic Signal Progression	☐	☑	
Safety Analysis	☐	☑	
PROPOSED MITIGATION MEASURES	☐	☐	
Level of Service for Each Intersection Movement (Table)	☑	☐	
CONCLUSIONS/RECOMMENDATIONS	☐	☐	
Improvements/Lane Configurations (Figure)	☑	☐	
Recommended Construction Phasing	☐	☑	
APPENDIX	☐	☐	
Traffic Count Data	☑	☐	
Traffic Analysis Software Output Reports (All Periods)	☑	☐	
Time-space Diagrams	☐	☑	

"I have reviewed the attached report with this checklist and all required items have been included except as noted above."

Signature of Professional Engineer

APPENDIX B

Intersection Count Sheets

Ridgeview Data Collection

Parker, CO
Parker and Pine Retail
AM Peak
Pine Lane and Parker Road

File Name : Pine and Parker AM
Site Code : IPO 460
Start Date : 10/1/2019
Page No : 1

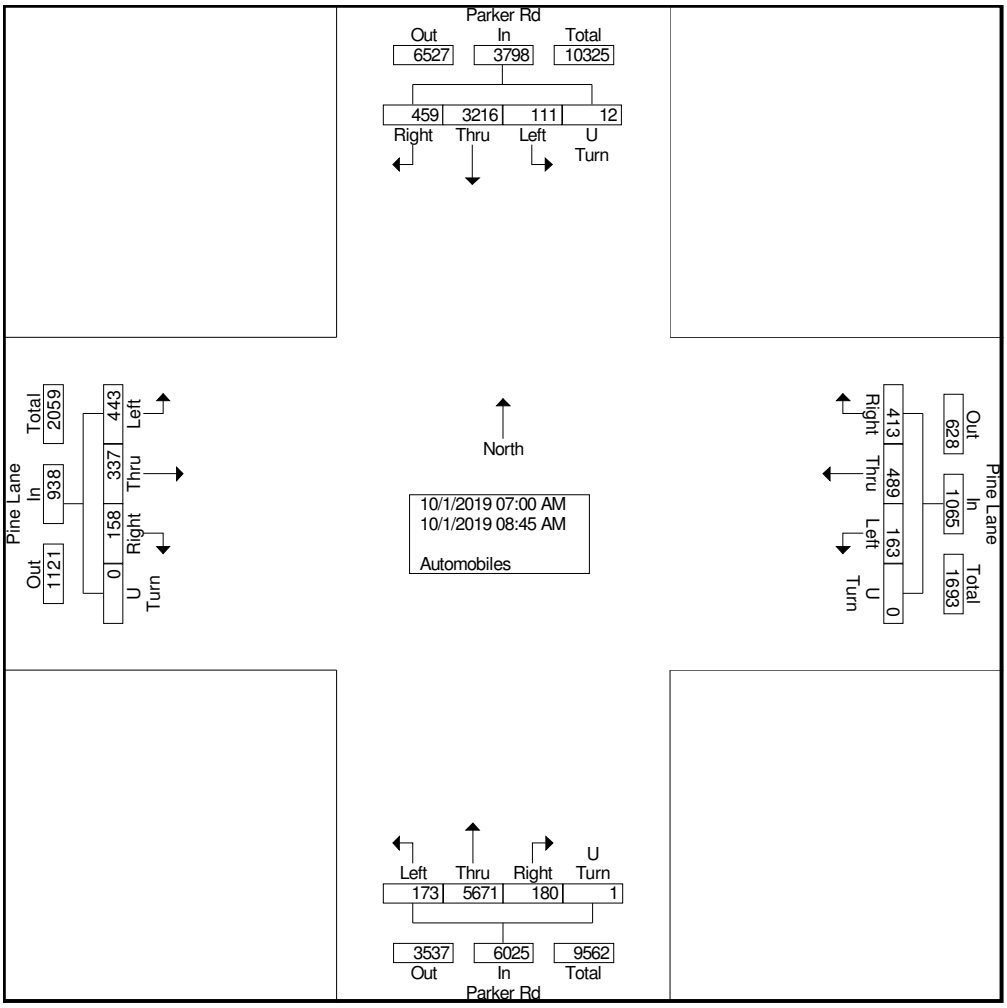
Groups Printed- Automobiles

	Pine Lane Eastbound					Pine Lane Westbound					Parker Rd Northbound					Parker Rd Southbound					
Start Time	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Int. Total
07:00 AM	47	91	8	0	146	17	81	44	0	142	14	726	34	0	774	21	317	51	0	389	1451
07:15 AM	66	57	25	0	148	43	100	46	0	189	25	824	36	0	885	12	371	36	2	421	1643
07:30 AM	42	28	19	0	89	24	84	62	0	170	23	848	10	0	881	7	406	73	3	489	1629
07:45 AM	62	40	18	0	120	12	74	44	0	130	33	784	18	0	835	16	416	84	1	517	1602
Total	217	216	70	0	503	96	339	196	0	631	95	3182	98	0	3375	56	1510	244	6	1816	6325
08:00 AM	74	34	15	0	123	15	58	57	0	130	28	723	20	1	772	14	397	77	2	490	1515
08:15 AM	49	24	33	0	106	12	36	57	0	105	16	665	15	0	696	19	429	47	0	495	1402
08:30 AM	48	29	12	0	89	13	29	51	0	93	17	592	21	0	630	11	379	44	3	437	1249
08:45 AM	55	34	28	0	117	27	27	52	0	106	17	509	26	0	552	11	501	47	1	560	1335
Total	226	121	88	0	435	67	150	217	0	434	78	2489	82	1	2650	55	1706	215	6	1982	5501
Grand Total	443	337	158	0	938	163	489	413	0	1065	173	5671	180	1	6025	111	3216	459	12	3798	11826
Apprch %	47.2	35.9	16.8	0		15.3	45.9	38.8	0		2.9	94.1	3	0		2.9	84.7	12.1	0.3		
Total %	3.7	2.8	1.3	0	7.9	1.4	4.1	3.5	0	9	1.5	48	1.5	0	50.9	0.9	27.2	3.9	0.1	32.1	

Ridgeview Data Collection

Parker, CO
Parker and Pine Retail
AM Peak
Pine Lane and Parker Road

File Name : Pine and Parker AM
Site Code : IPO 460
Start Date : 10/1/2019
Page No : 2

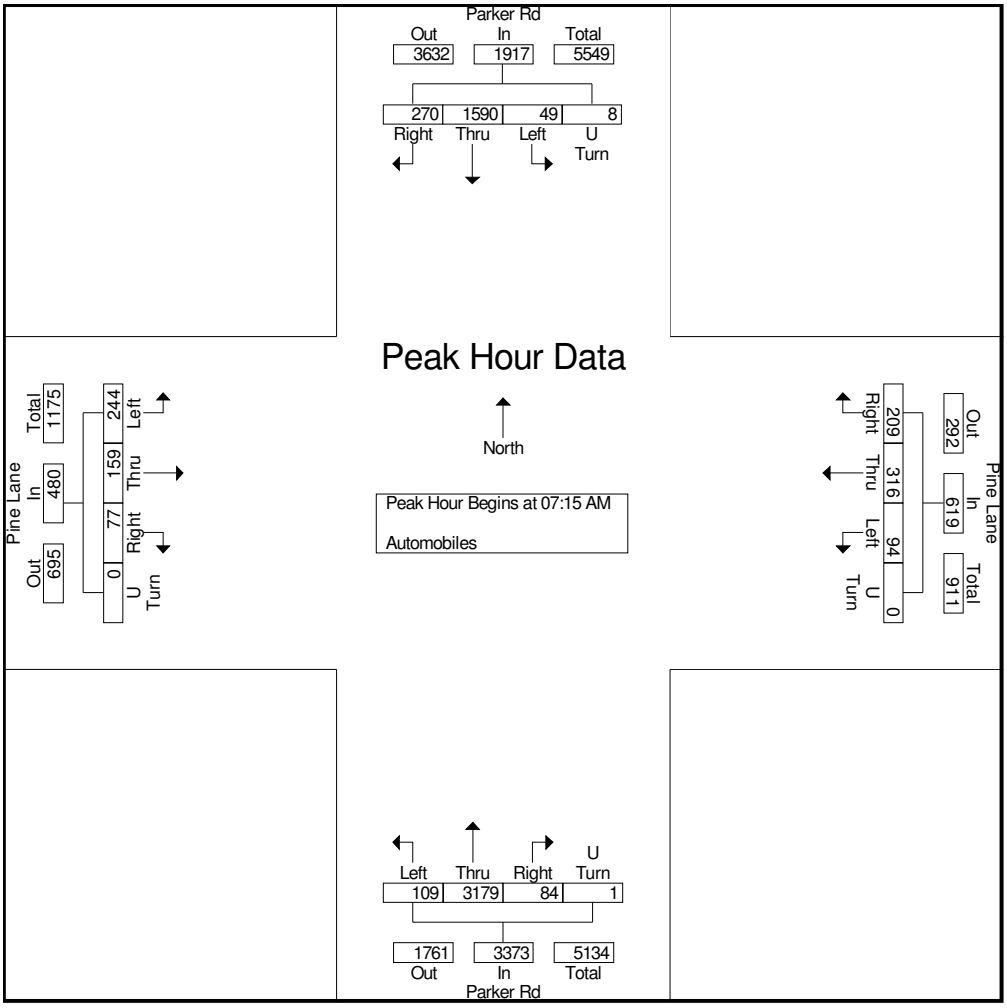


Ridgeview Data Collection

Parker, CO
Parker and Pine Retail
AM Peak
Pine Lane and Parker Road

File Name : Pine and Parker AM
Site Code : IPO 460
Start Date : 10/1/2019
Page No : 3

	Pine Lane Eastbound					Pine Lane Westbound					Parker Rd Northbound					Parker Rd Southbound					
Start Time	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	66	**57**	**25**	0	**148**	**43**	**100**	46	0	**189**	25	824	**36**	0	**885**	12	371	36	2	421	**1643**
07:30 AM	42	28	19	0	89	24	84	**62**	0	170	23	**848**	10	0	881	7	406	73	**3**	489	1629
07:45 AM	62	40	18	0	120	12	74	44	0	130	**33**	784	18	0	835	**16**	**416**	**84**	1	**517**	1602
08:00 AM	**74**	34	15	0	123	15	58	57	0	130	28	723	20	**1**	772	14	397	77	2	490	1515
Total Volume	244	159	77	0	480	94	316	209	0	619	109	3179	84	1	3373	49	1590	270	8	1917	6389
% App. Total	50.8	33.1	16	0		15.2	51.1	33.8	0		3.2	94.2	2.5	0		2.6	82.9	14.1	0.4		
PHF	.824	.697	.770	.000	.811	.547	.790	.843	.000	.819	.826	.937	.583	.250	.953	.766	.956	.804	.667	.927	.972



Ridgeview Data Collection

Parker, CO
Parker and Pine Retail
PM Peak
Pine Lane and Parker Road

File Name : Pine and Parker PM
Site Code : IPO 460
Start Date : 10/1/2019
Page No : 1

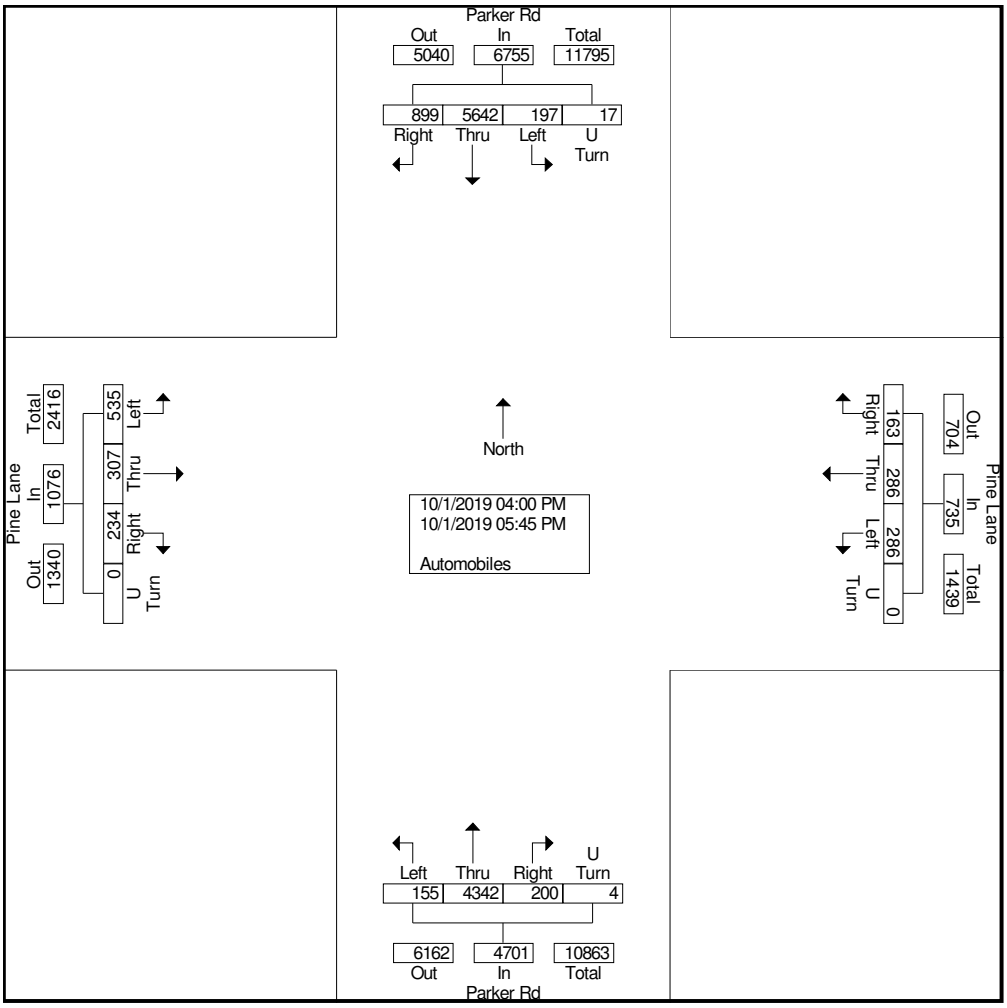
Groups Printed- Automobiles

	Pine Lane Eastbound					Pine Lane Westbound					Parker Rd Northbound					Parker Rd Southbound					
Start Time	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Int. Total
04:00 PM	71	34	22	0	127	25	30	16	0	71	19	561	41	0	621	19	692	81	0	792	1611
04:15 PM	59	38	20	0	117	39	22	14	0	75	12	547	23	1	583	26	724	114	2	866	1641
04:30 PM	60	47	33	0	140	34	48	25	0	107	20	540	33	0	593	20	672	127	1	820	1660
04:45 PM	78	38	28	0	144	38	52	22	0	112	22	525	21	1	569	25	723	113	4	865	1690
Total	268	157	103	0	528	136	152	77	0	365	73	2173	118	2	2366	90	2811	435	7	3343	6602
05:00 PM	76	39	46	0	161	32	36	17	0	85	15	576	23	1	615	29	734	130	6	899	1760
05:15 PM	85	38	31	0	154	35	36	21	0	92	19	539	19	0	577	28	723	119	2	872	1695
05:30 PM	54	41	32	0	127	46	24	20	0	90	22	534	21	0	577	32	720	109	2	863	1657
05:45 PM	52	32	22	0	106	37	38	28	0	103	26	520	19	1	566	18	654	106	0	778	1553
Total	267	150	131	0	548	150	134	86	0	370	82	2169	82	2	2335	107	2831	464	10	3412	6665
Grand Total	535	307	234	0	1076	286	286	163	0	735	155	4342	200	4	4701	197	5642	899	17	6755	13267
Apprch %	49.7	28.5	21.7	0		38.9	38.9	22.2	0		3.3	92.4	4.3	0.1		2.9	83.5	13.3	0.3		
Total %	4	2.3	1.8	0	8.1	2.2	2.2	1.2	0	5.5	1.2	32.7	1.5	0	35.4	1.5	42.5	6.8	0.1	50.9	

Ridgeview Data Collection

Parker, CO
Parker and Pine Retail
PM Peak
Pine Lane and Parker Road

File Name : Pine and Parker PM
Site Code : IPO 460
Start Date : 10/1/2019
Page No : 2

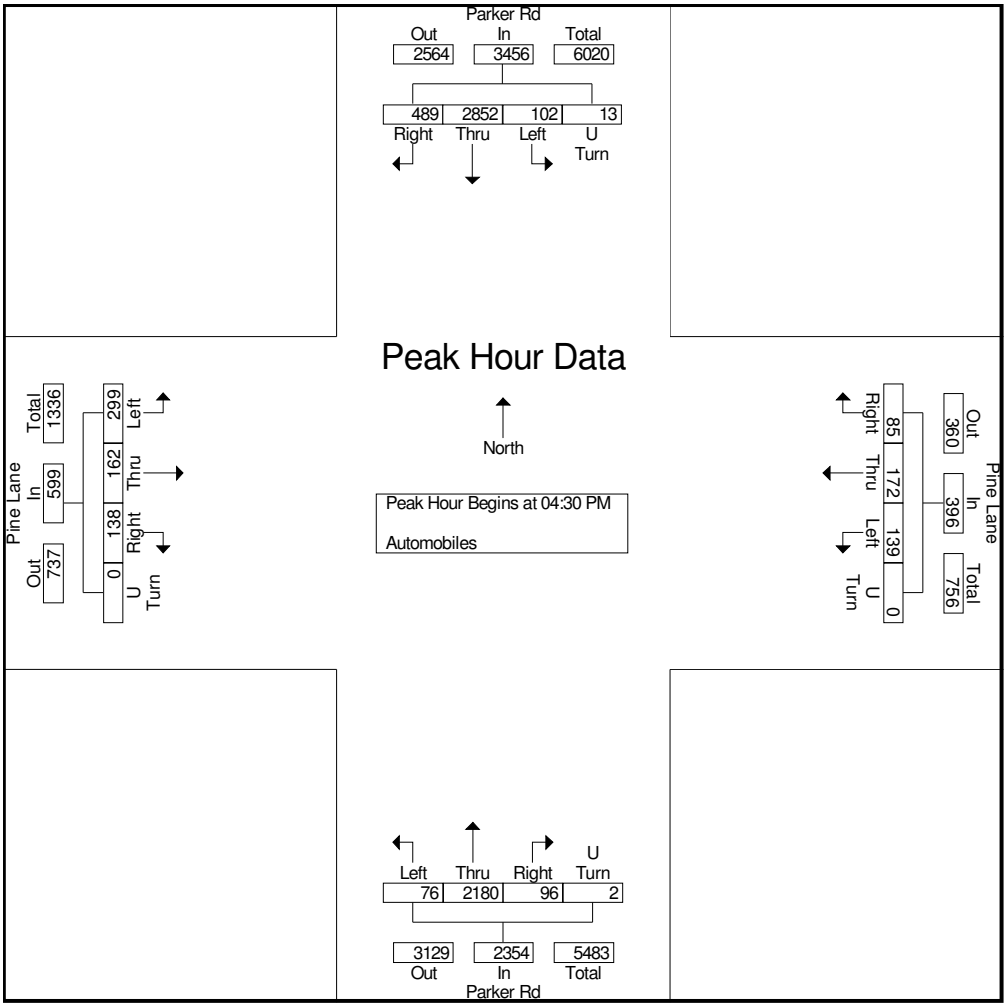


Ridgeview Data Collection

Parker, CO
Parker and Pine Retail
PM Peak
Pine Lane and Parker Road

File Name : Pine and Parker PM
Site Code : IPO 460
Start Date : 10/1/2019
Page No : 3

	Pine Lane Eastbound					Pine Lane Westbound					Parker Rd Northbound					Parker Rd Southbound					
Start Time	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	60	**47**	33	0	140	34	48	**25**	0	107	20	540	**33**	0	593	20	672	127	1	820	1660
04:45 PM	78	38	28	0	144	**38**	**52**	22	0	**112**	**22**	525	21	**1**	569	25	723	113	4	865	1690
05:00 PM	76	39	**46**	0	**161**	32	36	17	0	85	15	**576**	23	1	**615**	**29**	**734**	**130**	**6**	**899**	**1760**
05:15 PM	**85**	38	31	0	154	35	36	21	0	92	19	539	19	0	577	28	723	119	2	872	1695
Total Volume	299	162	138	0	599	139	172	85	0	396	76	2180	96	2	2354	102	2852	489	13	3456	6805
% App. Total	49.9	27	23	0		35.1	43.4	21.5	0		3.2	92.6	4.1	0.1		3	82.5	14.1	0.4		
PHF	.879	.862	.750	.000	.930	.914	.827	.850	.000	.884	.864	.946	.727	.500	.957	.879	.971	.940	.542	.961	.967



Ridgeview Data Collection

Parker, CO
Parker and Pine Retail
AM Peak
Pine Lane and Twenty Mile Road

File Name : Pine and Twenty Mile AM
Site Code : IPO 460
Start Date : 10/1/2019
Page No : 1

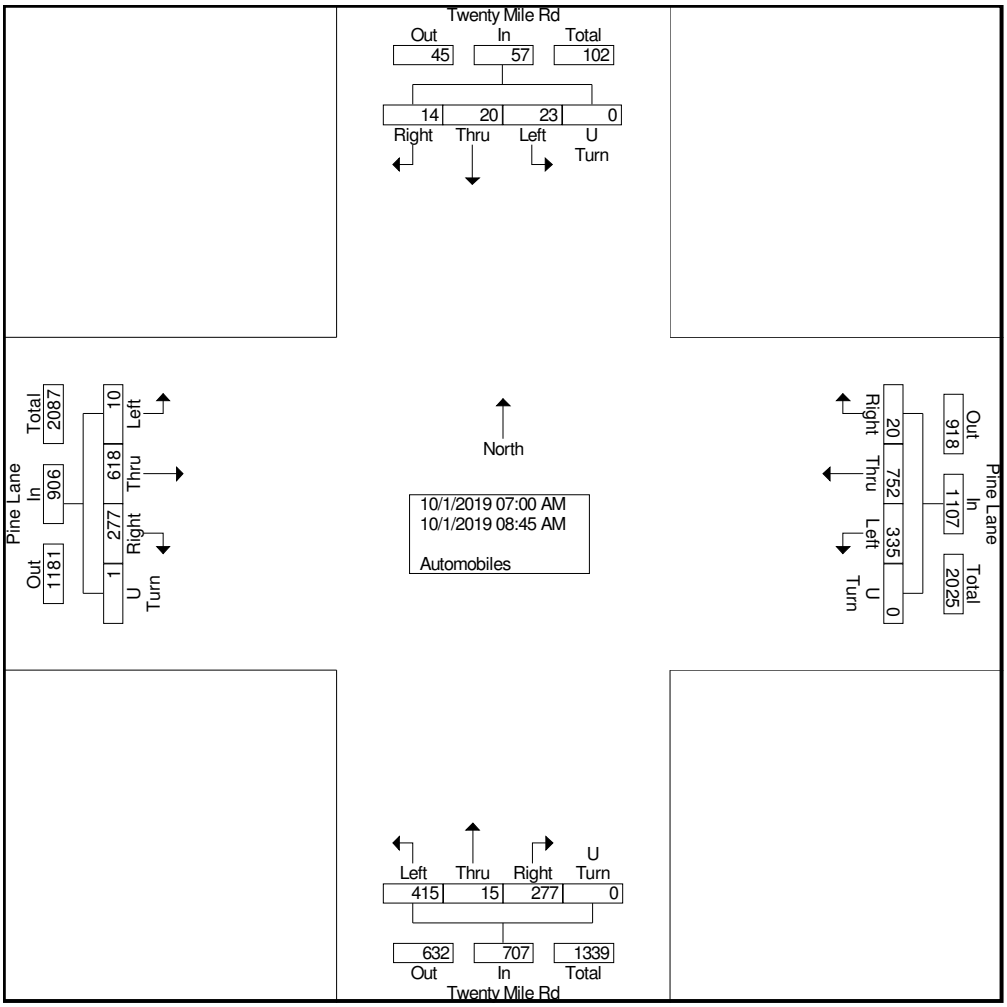
Groups Printed- Automobiles

	Pine Lane Eastbound					Pine Lane Westbound					Twenty Mile Rd Northbound					Twenty Mile Rd Southbound					
Start Time	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Int. Total
07:00 AM	1	105	18	0	124	40	98	4	0	142	32	0	37	0	69	0	4	2	0	6	341
07:15 AM	2	91	28	0	121	32	124	1	0	157	53	2	47	0	102	6	3	0	0	9	389
07:30 AM	1	56	43	1	101	50	119	4	0	173	87	2	26	0	115	3	1	1	0	5	394
07:45 AM	0	74	44	0	118	77	110	1	0	188	90	3	47	0	140	1	4	2	0	7	453
Total	4	326	133	1	464	199	451	10	0	660	262	7	157	0	426	10	12	5	0	27	1577
08:00 AM	0	57	28	0	85	51	116	2	0	169	83	4	60	0	147	4	0	4	0	8	409
08:15 AM	1	81	30	0	112	25	72	2	0	99	27	2	22	0	51	3	3	1	0	7	269
08:30 AM	4	69	39	0	112	24	61	4	0	89	24	0	20	0	44	2	4	2	0	8	253
08:45 AM	1	85	47	0	133	36	52	2	0	90	19	2	18	0	39	4	1	2	0	7	269
Total	6	292	144	0	442	136	301	10	0	447	153	8	120	0	281	13	8	9	0	30	1200
Grand Total	10	618	277	1	906	335	752	20	0	1107	415	15	277	0	707	23	20	14	0	57	2777
Apprch %	1.1	68.2	30.6	0.1		30.3	67.9	1.8	0		58.7	2.1	39.2	0		40.4	35.1	24.6	0		
Total %	0.4	22.3	10	0	32.6	12.1	27.1	0.7	0	39.9	14.9	0.5	10	0	25.5	0.8	0.7	0.5	0	2.1	

Ridgeview Data Collection

Parker, CO
Parker and Pine Retail
AM Peak
Pine Lane and Twenty Mile Road

File Name : Pine and Twenty Mile AM
Site Code : IPO 460
Start Date : 10/1/2019
Page No : 2

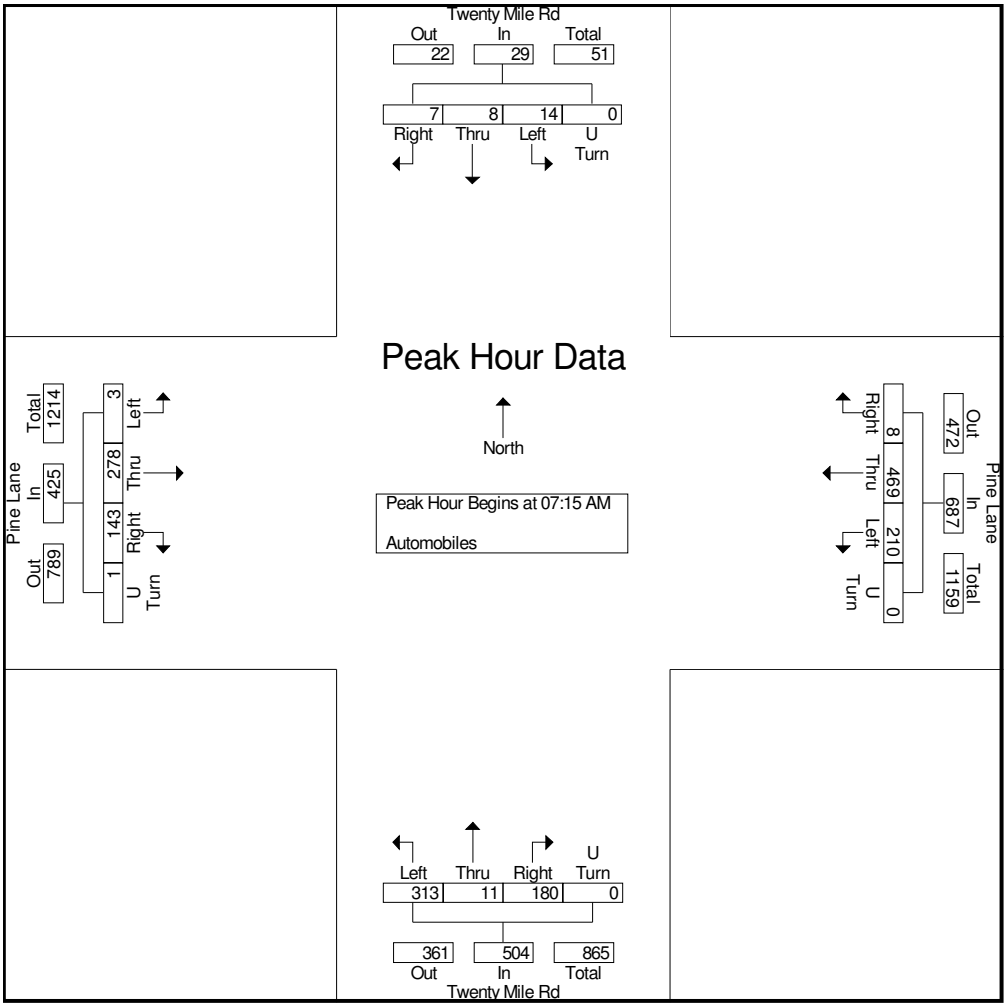


Ridgeview Data Collection

Parker, CO
Parker and Pine Retail
AM Peak
Pine Lane and Twenty Mile Road

File Name : Pine and Twenty Mile AM
Site Code : IPO 460
Start Date : 10/1/2019
Page No : 3

	Pine Lane Eastbound					Pine Lane Westbound					Twenty Mile Rd Northbound					Twenty Mile Rd Southbound					
Start Time	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	**2**	**91**	28	0	**121**	32	**124**	1	0	157	53	2	47	0	102	**6**	3	0	0	**9**	389
07:30 AM	1	56	43	**1**	101	50	119	**4**	0	173	87	2	26	0	115	3	1	1	0	5	394
07:45 AM	0	74	**44**	0	118	**77**	110	1	0	**188**	**90**	3	47	0	140	1	**4**	2	0	7	**453**
08:00 AM	0	57	28	0	85	51	116	2	0	169	83	**4**	**60**	0	**147**	4	0	**4**	0	8	409
Total Volume	3	278	143	1	425	210	469	8	0	687	313	11	180	0	504	14	8	7	0	29	1645
% App. Total	0.7	65.4	33.6	0.2		30.6	68.3	1.2	0		62.1	2.2	35.7	0		48.3	27.6	24.1	0		
PHF	.375	.764	.813	.250	.878	.682	.946	.500	.000	.914	.869	.688	.750	.000	.857	.583	.500	.438	.000	.806	.908



Ridgeview Data Collection

Parker, CO
Parker and Pine Retail
PM Peak
Pine Lane and Twenty Mile Road

File Name : Pine and Twenty Mile PM
Site Code : IPO 460
Start Date : 10/1/2019
Page No : 1

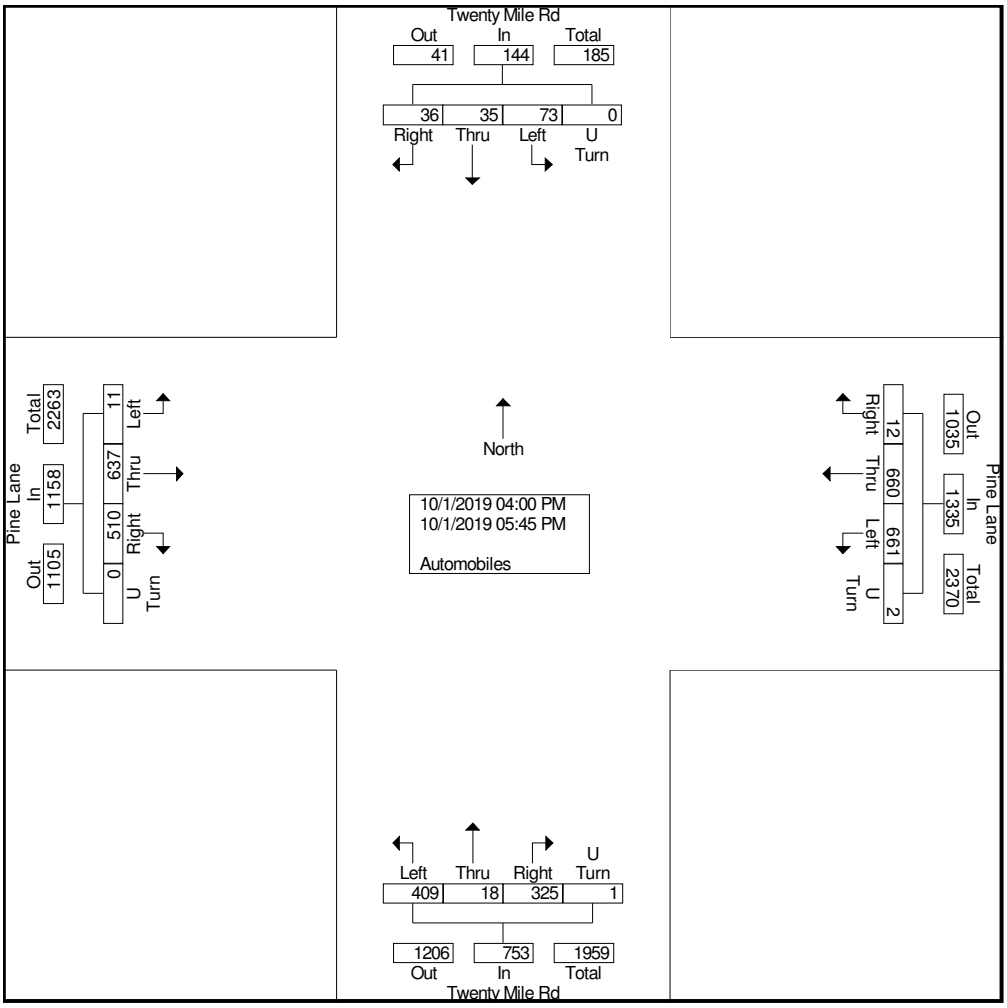
Groups Printed- Automobiles

	Pine Lane Eastbound					Pine Lane Westbound					Twenty Mile Rd Northbound					Twenty Mile Rd Southbound					
Start Time	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Int. Total
04:00 PM	1	74	50	0	125	65	70	1	0	136	69	4	53	0	126	9	5	5	0	19	406
04:15 PM	2	64	56	0	122	81	63	2	0	146	51	2	44	0	97	8	3	4	0	15	380
04:30 PM	1	71	53	0	125	91	101	2	0	194	48	1	47	0	96	12	7	4	0	23	438
04:45 PM	2	75	73	0	150	89	92	2	1	184	53	3	51	1	108	7	3	2	0	12	454
Total	6	284	232	0	522	326	326	7	1	660	221	10	195	1	427	36	18	15	0	69	1678
05:00 PM	2	110	76	0	188	82	92	1	0	175	43	1	41	0	85	15	7	5	0	27	475
05:15 PM	3	99	82	0	184	91	87	3	0	181	46	4	38	0	88	11	6	6	0	23	476
05:30 PM	0	78	70	0	148	71	80	1	1	153	49	1	27	0	77	5	3	5	0	13	391
05:45 PM	0	66	50	0	116	91	75	0	0	166	50	2	24	0	76	6	1	5	0	12	370
Total	5	353	278	0	636	335	334	5	1	675	188	8	130	0	326	37	17	21	0	75	1712
Grand Total	11	637	510	0	1158	661	660	12	2	1335	409	18	325	1	753	73	35	36	0	144	3390
Apprch %	0.9	55	44	0		49.5	49.4	0.9	0.1		54.3	2.4	43.2	0.1		50.7	24.3	25	0		
Total %	0.3	18.8	15	0	34.2	19.5	19.5	0.4	0.1	39.4	12.1	0.5	9.6	0	22.2	2.2	1	1.1	0	4.2	

Ridgeview Data Collection

Parker, CO
Parker and Pine Retail
PM Peak
Pine Lane and Twenty Mile Road

File Name : Pine and Twenty Mile PM
Site Code : IPO 460
Start Date : 10/1/2019
Page No : 2

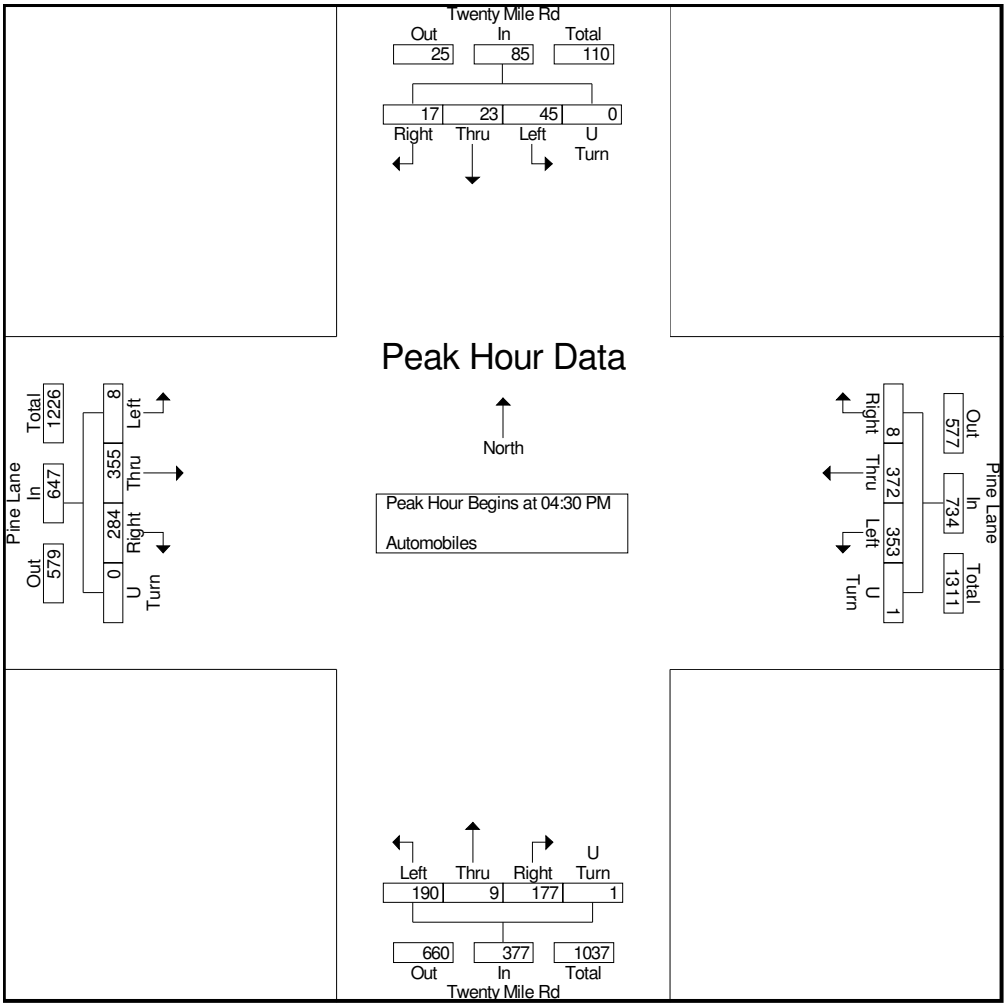


Ridgeview Data Collection

Parker, CO
Parker and Pine Retail
PM Peak
Pine Lane and Twenty Mile Road

File Name : Pine and Twenty Mile PM
Site Code : IPO 460
Start Date : 10/1/2019
Page No : 3

	Pine Lane Eastbound					Pine Lane Westbound					Twenty Mile Rd Northbound					Twenty Mile Rd Southbound					
Start Time	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Left	Thru	Right	U Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	1	71	53	0	125	**91**	**101**	2	0	**194**	48	1	47	0	96	12	**7**	4	0	23	438
04:45 PM	2	75	73	0	150	89	92	2	**1**	184	**53**	3	**51**	**1**	**108**	7	3	2	0	12	454
05:00 PM	2	**110**	76	0	**188**	82	92	1	0	175	43	1	41	0	85	**15**	7	5	0	**27**	475
05:15 PM	**3**	99	**82**	0	184	91	87	**3**	0	181	46	**4**	38	0	88	11	6	**6**	0	23	**476**
Total Volume	8	355	284	0	647	353	372	8	1	734	190	9	177	1	377	45	23	17	0	85	1843
% App. Total	1.2	54.9	43.9	0		48.1	50.7	1.1	0.1		50.4	2.4	46.9	0.3		52.9	27.1	20	0		
PHF	.667	.807	.866	.000	.860	.970	.921	.667	.250	.946	.896	.563	.868	.250	.873	.750	.821	.708	.000	.787	.968



APPENDIX C

CDOT Traffic Data

Douglas County Transportation Plan Maps

The Depot at Twenty Mile Traffic Assignment

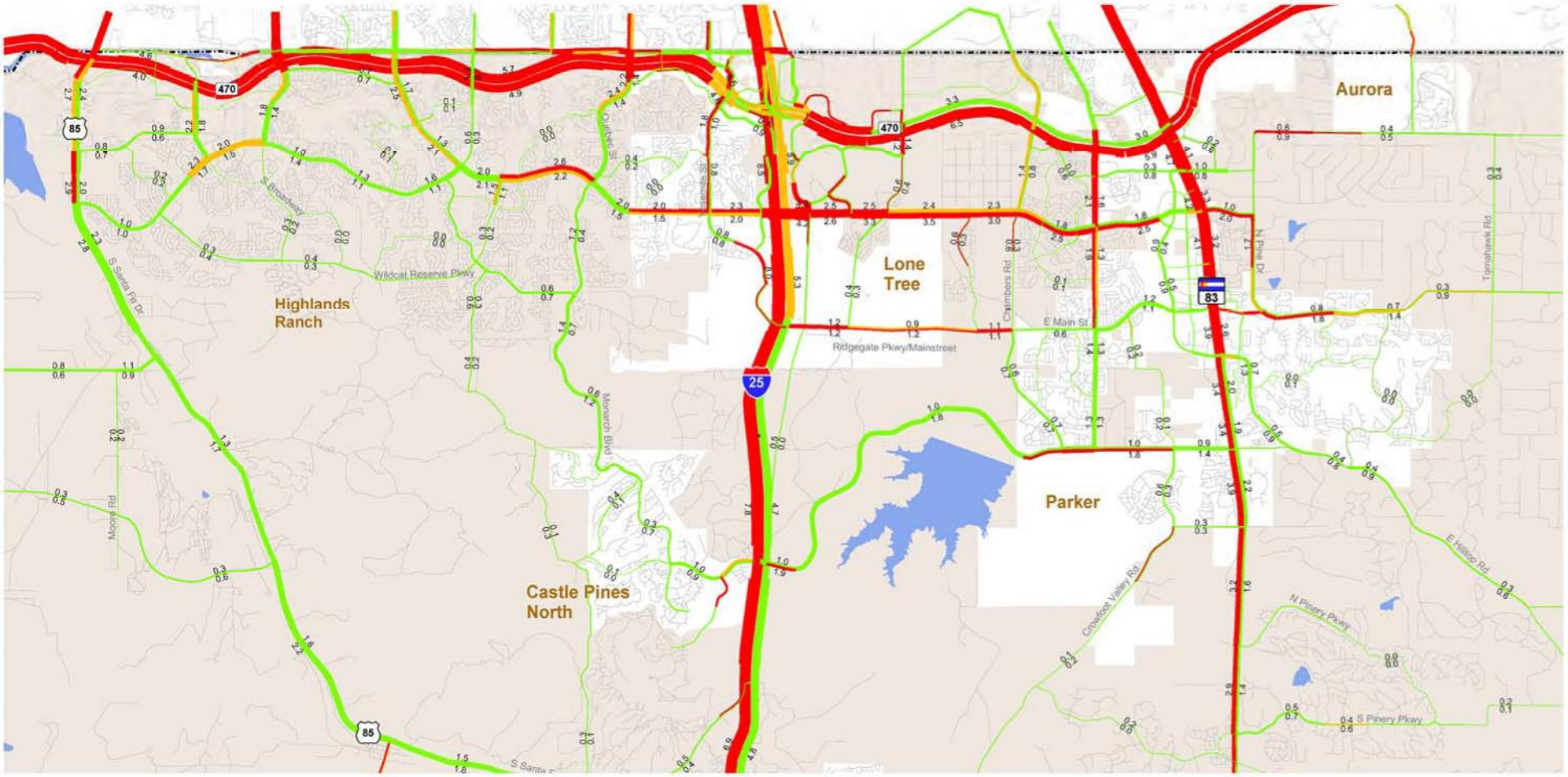
CDOT Traffic Projections

ROUTE	REFPT	ENDREFPT	AADT	AADTYR	YR20FACTOR	DHV	LOCATION
083A	60.914	61.448	56000	2018	1.27	9.5	ON SH-83 N/O LINCOLN AVE
083A	61.448	62.075	59000	2018	1.25	9.5	ON SH-83 S/O E-470

Annual Growth: 1.20%

1.12%

FIGURE 23: 2020 PM PEAK HOUR TRAFFIC FORECASTS AND CONGESTION LEVELS – NORTH CENTRAL DOUGLAS COUNTY



Legend

Directional PM Peak Hour Level of Service
- Uncongested (A - C)
- Congesting (D)
- Congested (E - F)

Directional PM Peak Hour Traffic Volumes

7,500 3,750 1,875

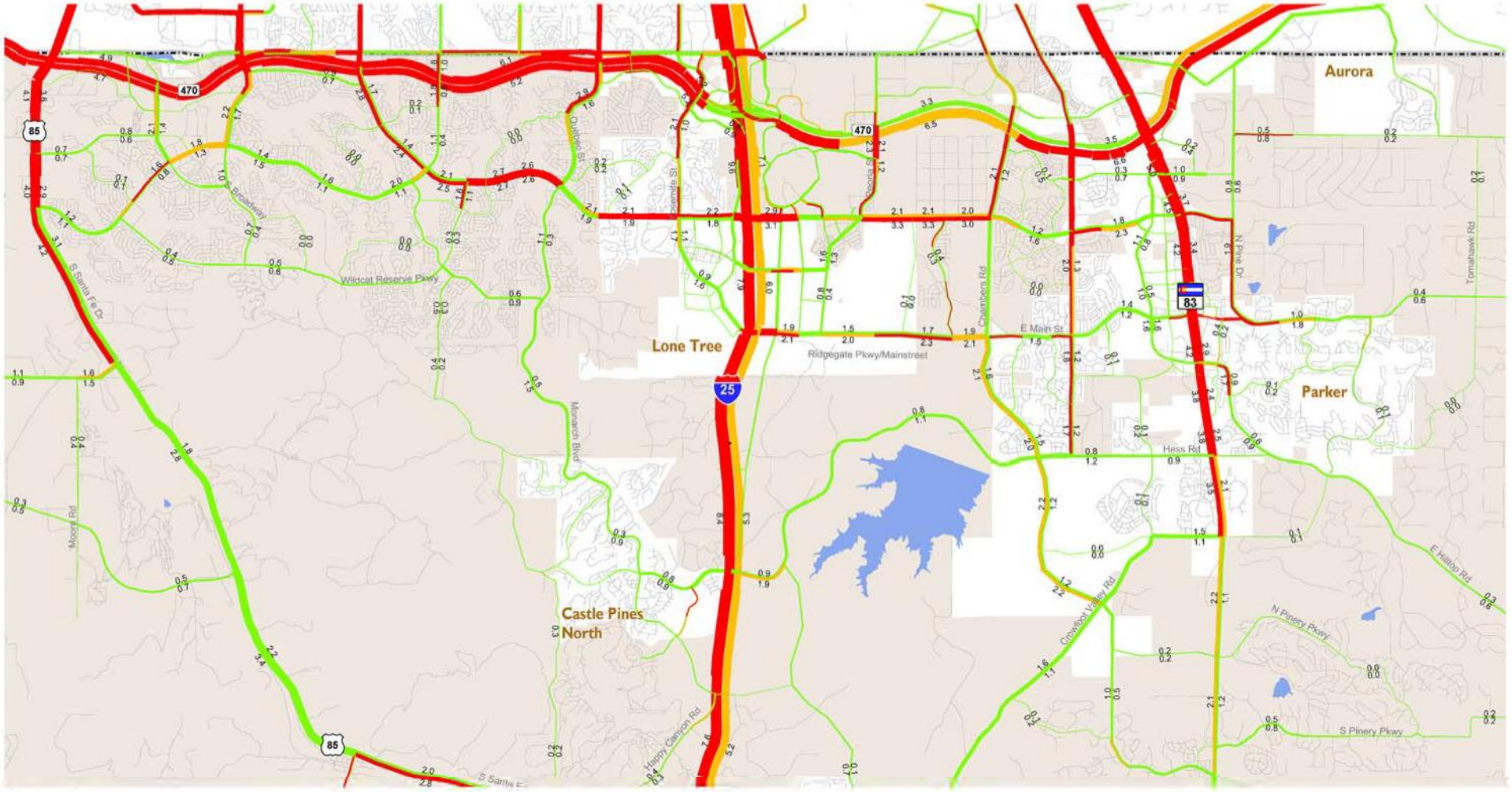
X.X: Directional PM Peak Hour Traffic Volume in thousands

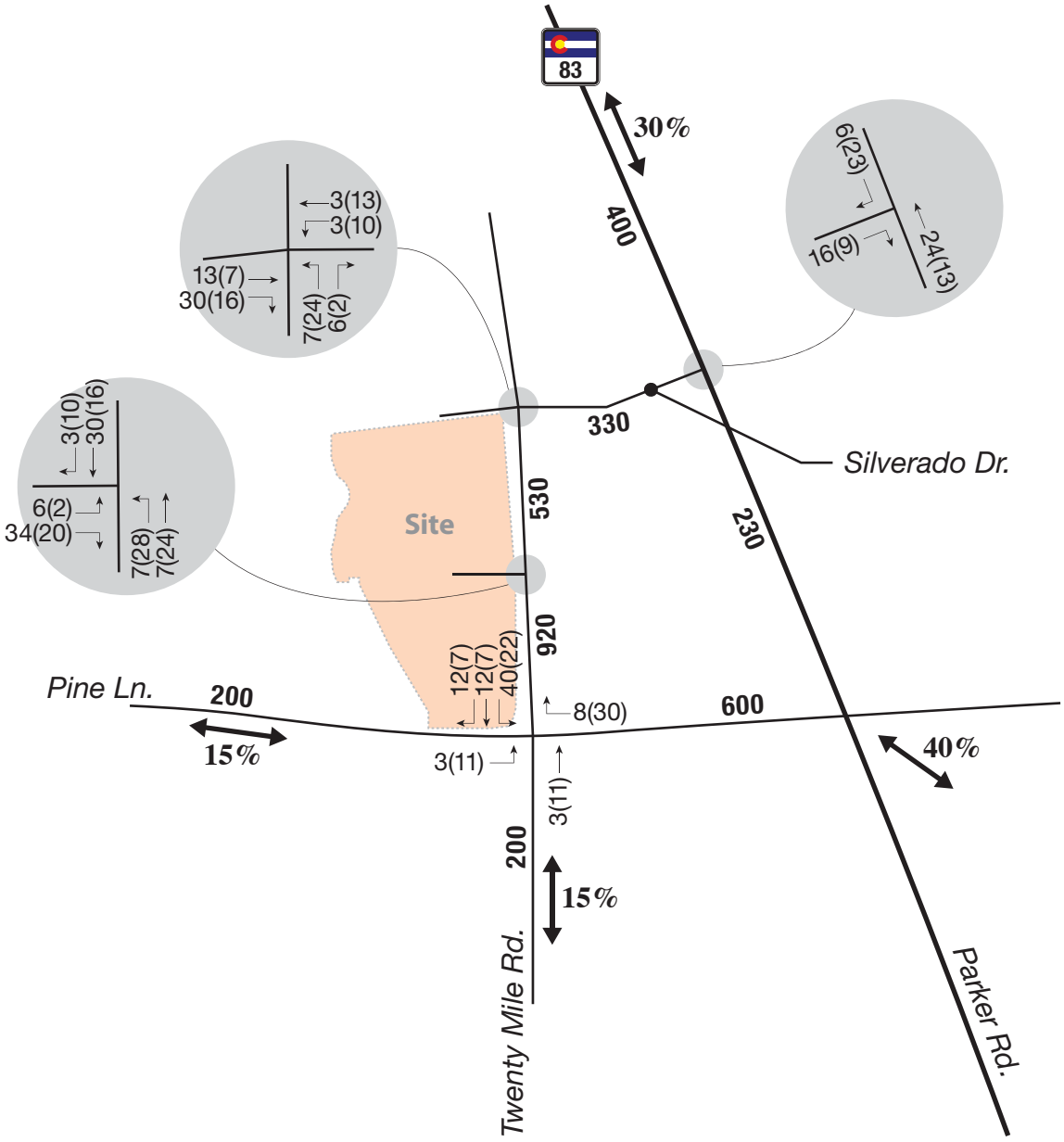
- County Boundary
- Lakes
- Incorporated Areas

0 1.25 2.5
Miles

N

FIGURE 27: 2030 PM PEAK HOUR TRAFFIC FORECASTS AND CONGESTION LEVELS – NORTH CENTRAL DOUGLAS COUNTY





LEGEND

XXX(XXX)	=	AM(PM) Peak Hour Site Generated Traffic Volumes
XXXX	=	Daily Traffic Volumes
XX%	=	Site Trip Distribution

Figure 4
Site Generated Traffic and Trip Distribution

APPENDIX D

Trip Generation Worksheets

Parker and Pine Trip Generation Summary - 2019 Study

Land Use	Quantity	Daily Trips	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Total Trips								
Mid-Rise Multifamily Residential (ITE 221)	175 Units	952	15	44	59	46	30	76
Day Care Center (ITE 565)	13,000 SF	620	74	69	143	68	77	145
Shopping Center (ITE 820)	17,000 SF	642	10	6	16	31	34	65
Fast Food Restaurant w/ D.T. (ITE 934)	3,000 SF	1,414	62	59	121	51	47	98
Fast Food Restaurant w/ D.T. (ITE 934)	3,000 SF	1,414	62	59	121	51	47	98
Gas Station w/ Convenience (ITE 945)	16 Positions	3,286	102	98	200	114	110	224
Automated Car Wash (ITE 948)	5,400 SF	760	38	38	76	38	38	76
Total	-	9,088	363	373	736	399	383	782
Total Trips After Internal Capture (ITE Methodology)								
Mid-Rise Multifamily Residential (ITE 221)	175 Units	857	14	40	53	41	27	68
Day Care Center (ITE 565)	13,000 SF	558	67	62	129	61	69	131
Shopping Center (ITE 820)	17,000 SF	642	10	6	16	31	34	65
Fast Food Restaurant w/ D.T. (ITE 934)	3,000 SF	1,273	56	53	109	46	42	88
Fast Food Restaurant w/ D.T. (ITE 934)	3,000 SF	1,273	56	53	109	46	42	88
Gas Station w/ Convenience (ITE 945)	16 Positions	2,957	92	88	180	103	99	202
Automated Car Wash (ITE 948)	5,400 SF	684	34	34	68	34	34	68
Total	-	8,244	329	336	664	362	347	710
Non Pass-By Trips								
Mid-Rise Multifamily Residential (ITE 221)	175 Units	857	14	40	53	41	27	68
Day Care Center (ITE 565)	13,000 SF	558	67	62	129	61	69	131
Shopping Center (ITE 820)	17,000 SF	546	9	5	14	26	29	55
Fast Food Restaurant w/ D.T. (ITE 934)	3,000 SF	1,082	48	45	93	39	36	75
Fast Food Restaurant w/ D.T. (ITE 934)	3,000 SF	1,082	48	45	93	39	36	75
Gas Station w/ Convenience (ITE 945)	16 Positions	2,513	78	75	153	88	84	172
Automated Car Wash (ITE 948)	5,400 SF	684	34	34	68	34	34	68
Total	-	7,322	298	306	603	328	315	644
Pass-By Trips								
Shopping Center (ITE 820)	17,000 SF	96	0	0	0	5	5	10
Fast Food Restaurant w/ D.T. (ITE 934)	3,000 SF	191	8	8	16	7	6	13
Fast Food Restaurant w/ D.T. (ITE 934)	3,000 SF	191	8	8	16	7	6	13
Gas Station w/ Convenience (ITE 945)	16 Positions	444	14	13	27	15	15	30
Total	-	922	30	29	59	34	32	66

Kimley»Horn

Project	Parker and Pine				
Subject	Trip Generation for Multifamily Housing (Mid-Rise)				
Designed by	JRP	*Date*	October 07, 2019	*Job No.*	096502001
Checked by		*Date*		*Sheet No.*	1 *of* 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Fitted Curve Equations

Land Use Code - Multifamily Housing (Mid-Rise) (221)

Independant Variable - Dwelling Units (X)

X = 175
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (Series 200 Page 74)

Directional Distribution: 26% ent. 74% exit.

Ln(T) = 0.98 Ln(X) - 0.98
Ln(T) = 0.98 * Ln(175.0) - 0.98

T = 59 Average Vehicle Trip Ends
15 entering 44 exiting

15 + 44 = 59

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (Series 200 Page 75)

Directional Distribution: 61% ent. 39% exit.

Ln(T) = 0.96 Ln(X) - 0.63
Ln(T) = 0.96 * Ln(175.0) - 0.63

T = 76 Average Vehicle Trip Ends
46 entering 30 exiting

46 + 30 = 76

Weekday (Series 200 Page 73)

Directional Distribution: 50% ent. 50% exit.

(T) = 5.45*(X) - 1.75
(T) = 5.45 * 175 - 1.75

T = 952 Average Vehicle Trip Ends
476 entering 476 exiting

476 + 476 = 952

Peak Hour of Generator, Saturday (Series 200 Page 79)

Directional Distribution: 49% ent. 51% exit.

(T) = 0.42*(X) + 6.73
(T) = 0.42 * 175 + 6.73

T = 80 Average Vehicle Trip Ends
39 entering 41 exiting

39 + 41 = 80

Kimley»Horn

Project	Parker and Pine				
Subject	Trip Generation for Day Care Center				
Designed by	JRP	*Date*	October 07, 2019	*Job No.*	096502001
Checked by		*Date*		*Sheet No.*	1 of 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rate Equations

Land Use Code - Day Care Center (565)

Independant Variable - 1000 Square Feet Gross Floor Area (X)
Gross Floor Area = 13,000 Square Feet
X = 13.000
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (500 Series page 226)

Average Weekday
T = 11.00 (X)
T = 11.00 * 13.000

Directional Distribution: 53% ent. 47% exit.
T = 143 Average Vehicle Trip Ends
76 entering 67 exiting

76 + 67 = 143

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (500 Series page 227)

Average Weekday
T = 11.12 (X)
T = 11.12 * 13.000

Directional Distribution: 47% ent. 53% exit.
T = 145 Average Vehicle Trip Ends
68 entering 77 exiting

68 + 77 = 145

Weekday (500 Series page 225)

Average Weekday
T = 47.62 (X)
T = 47.62 * 13.000

Directional Distribution: 50% entering, 50% exiting
T = 620 Average Vehicle Trip Ends
310 entering 310 exiting

310 + 310 = 620

Kimley»Horn

Project	Parker and Pine				
Subject	Trip Generation for Shopping Center				
Designed by	JRP	*Date*	October 07, 2019	*Job No.*	096502001
Checked by		*Date*		*Sheet No.*	1 *of* 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rate Equations

Land Use Code - Shopping Center (820)

Independant Variable - 1000 Square Feet Gross Leasable Area (X)

Gross Leasable Area = 17,000 Square Feet
X = 17.000
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (800 Series Page 139)

Average Weekday — Directional Distribution: 62% ent. 38% exit.
T = 0.94 * (X) — T = 16 Average Vehicle Trip Ends
T = 0.94 * 17 — 10 entering 6 exiting

10 + 6 = 16

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (800 Series page 140)

Average Weekday — Directional Distribution: 48% ent. 52% exit.
T = 3.81 * (X) — T = 65 Average Vehicle Trip Ends
T = 3.81 * 17 — 31 entering 34 exiting

31 + 34 = 65

Weekday (800 Series page 138)

Average Weekday — Directional Distribution: 50% entering, 50% exiting
T = 37.75 * (X) — T = 642 Average Vehicle Trip Ends
T = 37.75 * 17 — 321 entering 321 exiting

321 + 321 = 642

Non Pass-By Trip Volumes (Per ITE Trip Generation Handbook, 3rd Edition September 2017-Page 190)

AM Peak Hour = 66% Non-Pass By — PM Peak Hour = 66% Non-Pass By

	IN	Out	Total
AM Peak	7	4	11
PM Peak	20	22	43
Daily	212	212	424

PM Peak Hour Rate Applied to Daily

Pass-By Trip Volumes (Per ITE Trip Generation Handbook, 3rd Edition September 2017 -Page 190)

AM Peak Hour = 34% Pass By — PM Peak Hour = 34% Pass By

	IN	Out	Total
AM Peak	3	2	6
PM Peak	11	12	22
Daily	109	109	218

PM Peak Hour Rate Applied to Daily

Kimley»Horn

Project	Parker and Pine				
Subject	Trip Generation for Fast-Food Restaurant with Drive-Through Window				
Designed by	JRP	*Date*	October 07, 2019	*Job No.*	096502001
Checked by		*Date*		*Sheet No.*	1 *of* 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rate Equations

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

Independant Variable - 1000 Square Feet Gross Floor Area (X)
Gross Floor Area = 3,000 Square Feet
X = 3.000
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (900 Series page 158)

Average Weekday — Directional Distribution: 51% ent. 49% exit.
T = 40.19 (X) — T = 121 Average Vehicle Trip Ends
T = 40.19 * 3.000 — 62 entering 59 exiting

62 + 59 (*) = 121

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (900 Series page 159)

Average Weekday — Directional Distribution: 52% ent. 48% exit.
T = 32.67 (X) — T = 98 Average Vehicle Trip Ends
T = 32.67 * 3.000 — 51 entering 47 exiting

51 + 47 = 98

Weekday (900 Series page 157)

Average Weekday — Directional Distribution: 50% entering, 50% exiting
T = 470.95 (X) — T = 1414 Average Vehicle Trip Ends
T = 470.95 * 3.000 — 707 entering 707 exiting

707 + 707 = 1414

Saturday Peak Hour of Generator (900 Series page 163)

Directional Distribution: 51% ent. 49% exit.
T = 54.86 (X) — T = 165 Average Vehicle Trip Ends
T = 54.86 * 3.000 — 84 entering 81 exiting

84 + 81 = 165

Non Pass-By Trip Volumes (Per ITE Trip Generation Handbook, 3rd Edition September 2017)

AM Peak Hour = 51% Non-Pass By — PM Peak Hour = 50% Non-Pass By

	IN	Out	Total	
AM Peak	32	30	62	
PM Peak	26	24	49	
Daily	354	354	708	PM Peak Hour Rate Applied to Daily

Pass-By Trip Volumes (Per ITE Trip Generation Handbook, 3rd Edition September 2017)

AM Peak Hour = 49% Pass By — PM Peak Hour = 50% Pass By

	IN	Out	Total	
AM Peak	30	29	59	
PM Peak	26	24	49	
Daily	353	353	706	PM Peak Hour Rate Applied to Daily

Kimley»Horn

Project	Parker and Pine				
Subject	Trip Generation for Fast-Food Restaurant with Drive-Through Window				
Designed by	JRP	*Date*	October 07, 2019	*Job No.*	096502001
Checked by		*Date*		*Sheet No.*	1 *of* 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rate Equations

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

Independant Variable - 1000 Square Feet Gross Floor Area (X)
Gross Floor Area = 3,000 Square Feet
X = 3.000
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (900 Series page 158)

Average Weekday — Directional Distribution: 51% ent. 49% exit.
T = 40.19 (X) — T = 121 Average Vehicle Trip Ends
T = 40.19 * 3.000 — 62 entering 59 exiting

62 + 59 (*) = 121

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (900 Series page 159)

Average Weekday — Directional Distribution: 52% ent. 48% exit.
T = 32.67 (X) — T = 98 Average Vehicle Trip Ends
T = 32.67 * 3.000 — 51 entering 47 exiting

51 + 47 = 98

Weekday (900 Series page 157)

Average Weekday — Directional Distribution: 50% entering, 50% exiting
T = 470.95 (X) — T = 1414 Average Vehicle Trip Ends
T = 470.95 * 3.000 — 707 entering 707 exiting

707 + 707 = 1414

Saturday Peak Hour of Generator (900 Series page 163)

Directional Distribution: 51% ent. 49% exit.
T = 54.86 (X) — T = 165 Average Vehicle Trip Ends
T = 54.86 * 3.000 — 84 entering 81 exiting

84 + 81 = 165

Non Pass-By Trip Volumes (Per ITE Trip Generation Handbook, 3rd Edition September 2017)

AM Peak Hour = 51% Non-Pass By — PM Peak Hour = 50% Non-Pass By

	IN	Out	Total	
AM Peak	32	30	62	
PM Peak	26	24	49	
Daily	354	354	708	PM Peak Hour Rate Applied to Daily

Pass-By Trip Volumes (Per ITE Trip Generation Handbook, 3rd Edition September 2017)

AM Peak Hour = 49% Pass By — PM Peak Hour = 50% Pass By

	IN	Out	Total	
AM Peak	30	29	59	
PM Peak	26	24	49	
Daily	353	353	706	PM Peak Hour Rate Applied to Daily

Kimley»Horn

Project	Parker and Pine				
Subject	Trip Generation for Gasoline/Service Station with Convenience Market				
Designed by	JRP	*Date*	October 07, 2019	*Job No.*	096502001
Checked by		*Date*		*Sheet No.*	1 *of* 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rate Equations

Land Use Code - Gasoline/Service Station with Convenience Market (945)

Independant Variable - Vehicle Fueling Positions (X)

Vehicle Fueling Positions= 16 Positions
X = 16
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (900 Series page 369)

Average Weekday
T = 12.47 (X)
T = 12.47 * 16

Directional Distribution: 51% ent. 49% exit.
T = 200 Average Vehicle Trip Ends
102 entering 98 exiting

102 + 98 = 200

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (900 Series page 370)

Average Weekday
T = 13.99 (X)
T = 13.99 * 16.000

Directional Distribution: 51% ent. 49% exit.
T = 224 Average Vehicle Trip Ends
114 entering 110 exiting

114 + 110 = 224

Weekday (900 Series page 368)

Average Weekday
T = 205.36 (X)
T = 205.36 * 16.000

Directional Distribution: 50% entering, 50% exiting
T = 3286 Average Vehicle Trip Ends
1643 entering 1643 exiting

1643 + 1643 = 3286

Non Pass-By Trip Volumes (Per ITE Trip Generation Handbook, 3rd Edition September 2017)

PM Peak Hour = 44% Non-Pass By AM Peak Hour = 38% Non-Pass By

	IN	Out	Total	
AM Peak	39	37	76	
PM Peak	50	48	99	
Daily	723	723	1446	PM Peak Hour Rate Applied to Daily

Pass-By Trip Volumes (Per ITE Trip Generation Handbook, 3rd Edition September 2017)

PM Peak Hour = 56% Pass By AM Peak Hour = 62% Pass By

	IN	Out	Total	
AM Peak	63	61	124	
PM Peak	64	62	125	
Daily	920	920	1840	PM Peak Hour Rate Applied to Daily

Kimley»Horn

Project	Parker and Pine						
Subject	Trip Generation for Automated Car Wash						
Designed by	JRP	*Date*	October 07, 2019	*Job No.*	096502001		
Checked by		*Date*		*Sheet No.*	1	*of*	1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rate Equations

Land Use Code - Automated Car Wash (948)

Independent Variable - 1000 Square Feet Gross Floor Feet (X)

Gross Floor Area = 5,400

X = 5.4

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (Utilized PM Peak Hour Rates)

Directional Distribution: 50% ent. 50% exit.

T = 14.20(X) T = 76 Average Vehicle Trip Ends

T = 14.20 * 5.4 38 entering 38 exiting

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (900 Series Page 382)

Directional Distribution: 50% ent. 50% exit.

T = 14.20(X) T = 76 Average Vehicle Trip Ends

T = 14.20 * 5.4 38 entering 38 exiting

Weekday (10% K-Factor from PM Peak Hour)

Average Weekday

Directional Distribution: 50% entering, 50% exiting

T = 760 Average Vehicle Trip Ends

(T) = PM Peak Total / K Factor 0.1 380 entering 380 exiting

380 + 380 = 760

APPENDIX E

Intersection Analysis Worksheets

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	244	159	77	94	316	209	109	3179	84	57	1590	270
Future Volume (vph)	244	159	77	94	316	209	109	3179	84	57	1590	270
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases			Free			Free			2			6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5	9.5	9.5	22.5	9.5
Total Split (s)	13.0	23.7		12.8	23.5		20.7	84.0	12.8	9.5	72.8	13.0
Total Split (%)	10.0%	18.2%		9.8%	18.1%		15.9%	64.6%	9.8%	7.3%	56.0%	10.0%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max	None	None	C-Max	None
Act Effct Green (s)	8.5	17.6	130.0	8.0	17.0	130.0	13.3	82.8	95.2	5.8	73.1	86.1
Actuated g/C Ratio	0.07	0.14	1.00	0.06	0.13	1.00	0.10	0.64	0.73	0.04	0.56	0.66
v/c Ratio	1.18	0.36	0.05	0.49	0.74	0.14	0.65	1.07	0.08	0.41	0.60	0.27
Control Delay	166.8	61.1	0.1	68.0	79.8	0.2	59.3	59.5	3.3	68.6	18.5	4.6
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	166.8	61.1	0.1	68.0	79.8	0.2	59.3	59.5	3.3	68.6	18.5	4.6
LOS	F	E	A	E	E	A	E	E	A	E	B	A
Approach Delay		105.0			51.1			58.1			18.0	
Approach LOS		F			D			E			B	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.18	
Intersection Signal Delay: 48.9	Intersection LOS: D
Intersection Capacity Utilization 96.3%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 1: Parker Road & Pine Lane

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	244	159	77	94	316	209	109	3179	84	57	1590	270
Future Volume (veh/h)	244	159	77	94	316	209	109	3179	84	57	1590	270
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	265	173	0	102	343	0	118	3455	0	62	1728	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	2	2	2	2	2	2
Cap, veh/h	226	494		152	419		143	3288		119	3053	
Arrive On Green	0.02	0.05	0.00	0.01	0.04	0.00	0.08	0.64	0.00	0.07	1.00	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	1781	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	265	173	0	102	343	0	118	3455	0	62	1728	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1781	1702	1585	1728	1702	1585
Q Serve(g_s), s	8.5	6.1	0.0	3.8	12.5	0.0	8.5	83.7	0.0	2.3	0.0	0.0
Cycle Q Clear(g_c), s	8.5	6.1	0.0	3.8	12.5	0.0	8.5	83.7	0.0	2.3	0.0	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	226	494		152	419		143	3288		119	3053	
V/C Ratio(X)	1.17	0.35		0.67	0.82		0.82	1.05		0.52	0.57	
Avail Cap(c_a), veh/h	226	525		221	519		222	3288		133	3053	
HCM Platoon Ratio	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.98	0.98	0.00	0.96	0.96	0.00	0.42	0.42	0.00	0.97	0.97	0.00
Uniform Delay (d), s/veh	63.6	56.3	0.0	63.1	61.1	0.0	58.9	23.1	0.0	59.5	0.0	0.0
Incr Delay (d2), s/veh	113.9	0.4	0.0	4.8	8.0	0.0	6.1	26.9	0.0	3.4	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	7.5	2.9	0.0	1.8	6.4	0.0	4.1	38.9	0.0	1.0	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	177.5	56.7	0.0	67.9	69.1	0.0	65.0	50.0	0.0	62.9	0.7	0.0
LnGrp LOS	F	E		E	E		E	F		E	A	
Approach Vol, veh/h		438	A		445	A		3573	A		1790	A
Approach Delay, s/veh		129.8			68.8			50.5			2.9	
Approach LOS		F			E			D			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	88.2	10.2	22.6	15.0	82.2	13.0	19.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	79.5	8.3	19.2	16.2	68.3	8.5	19.0
Max Q Clear Time (g_c+I1), s	4.3	85.7	5.8	8.1	10.5	2.0	10.5	14.5
Green Ext Time (p_c), s	0.0	0.0	0.1	0.7	0.1	23.3	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	43.7
HCM 6th 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.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	299	162	138	139	172	85	76	2180	96	115	2852	489
Future Volume (vph)	299	162	138	139	172	85	76	2180	96	115	2852	489
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases			Free			Free			2			6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5	9.5	9.5	22.5	9.5
Total Split (s)	15.5	23.5		14.5	22.5		12.0	80.4	14.5	11.6	80.0	15.5
Total Split (%)	11.9%	18.1%		11.2%	17.3%		9.2%	61.8%	11.2%	8.9%	61.5%	11.9%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max	None	None	C-Max	None
Act Effct Green (s)	11.0	13.6	130.0	9.6	12.2	130.0	10.7	79.3	93.4	9.5	78.1	93.6
Actuated g/C Ratio	0.08	0.10	1.00	0.07	0.09	1.00	0.08	0.61	0.72	0.07	0.60	0.72
v/c Ratio	1.12	0.48	0.09	0.60	0.56	0.06	0.57	0.76	0.09	0.50	1.02	0.45
Control Delay	143.5	70.7	0.1	76.1	80.2	0.1	70.0	15.3	0.8	59.8	39.1	4.6
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	143.5	70.7	0.1	76.1	80.2	0.1	70.0	15.3	0.8	59.8	39.1	4.6
LOS	F	E	A	E	F	A	E	B	A	E	D	A
Approach Delay		90.8			61.6			16.5			34.9	
Approach LOS		F			E			B			C	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.12	
Intersection Signal Delay: 35.0	Intersection LOS: D
Intersection Capacity Utilization 87.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 1: Parker Road & Pine Lane

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	299	162	138	139	172	85	76	2180	96	115	2852	489
Future Volume (veh/h)	299	162	138	139	172	85	76	2180	96	115	2852	489
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	325	176	0	151	187	0	83	2370	0	125	3100	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	2	2	2	2	2	2
Cap, veh/h	292	348		203	256		103	3341		174	3304	
Arrive On Green	0.03	0.03	0.00	0.06	0.07	0.00	0.08	0.87	0.00	0.07	0.86	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	1781	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	325	176	0	151	187	0	83	2370	0	125	3100	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1781	1702	1585	1728	1702	1585
Q Serve(g_s), s	11.0	6.3	0.0	5.6	6.7	0.0	6.0	20.4	0.0	4.6	57.1	0.0
Cycle Q Clear(g_c), s	11.0	6.3	0.0	5.6	6.7	0.0	6.0	20.4	0.0	4.6	57.1	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	292	348		203	256		103	3341		174	3304	
V/C Ratio(X)	1.11	0.51		0.74	0.73		0.81	0.71		0.72	0.94	
Avail Cap(c_a), veh/h	292	519		266	492		103	3341		189	3304	
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	0.98	0.98	0.00	0.98	0.98	0.00	0.78	0.78	0.00	0.72	0.72	0.00
Uniform Delay (d), s/veh	63.2	59.8	0.0	60.2	59.1	0.0	59.3	4.2	0.0	59.7	7.2	0.0
Incr Delay (d2), s/veh	85.5	1.1	0.0	7.6	3.9	0.0	29.8	1.0	0.0	8.4	5.0	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	8.6	3.0	0.0	2.7	3.2	0.0	3.5	3.8	0.0	2.2	7.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	148.6	60.9	0.0	67.8	63.0	0.0	89.1	5.3	0.0	68.1	12.2	0.0
LnGrp LOS	F	E		E	E		F	A		E	B	
Approach Vol, veh/h		501	A		338	A		2453	A		3225	A
Approach Delay, s/veh		117.8			65.1			8.1			14.4	
Approach LOS		F			E			A			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	89.6	12.2	17.2	12.0	88.6	15.5	13.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.1	75.9	10.0	19.0	7.5	75.5	11.0	18.0
Max Q Clear Time (g_c+I1), s	6.6	22.4	7.6	8.3	8.0	59.1	13.0	8.7
Green Ext Time (p_c), s	0.0	36.1	0.1	0.7	0.0	15.8	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	22.6
HCM 6th LOS	C

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.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	259	169	82	100	335	222	116	3374	89	61	1688	287
Future Volume (vph)	259	169	82	100	335	222	116	3374	89	61	1688	287
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases			Free			Free			2			6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5	9.5	9.5	22.5	9.5
Total Split (s)	12.0	23.4		13.1	24.5		21.9	84.0	13.1	9.5	71.6	12.0
Total Split (%)	9.2%	18.0%		10.1%	18.8%		16.8%	64.6%	10.1%	7.3%	55.1%	9.2%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max	None	None	C-Max	None
Act Effct Green (s)	7.5	17.1	130.0	8.2	17.8	130.0	14.0	82.9	95.6	5.9	72.7	84.7
Actuated g/C Ratio	0.06	0.13	1.00	0.06	0.14	1.00	0.11	0.64	0.74	0.05	0.56	0.65
v/c Ratio	1.42	0.40	0.06	0.50	0.75	0.15	0.66	1.13	0.08	0.43	0.65	0.29
Control Delay	257.3	55.8	0.1	67.6	77.7	0.2	59.8	86.8	3.4	68.8	19.6	5.2
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	257.3	55.8	0.1	67.6	77.7	0.2	59.8	86.8	3.4	68.8	19.6	5.2
LOS	F	E	A	E	E	A	E	F	A	E	B	A
Approach Delay		149.2			50.0			83.8			19.0	
Approach LOS		F			D			F			B	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.42	
Intersection Signal Delay: 66.0	Intersection LOS: E
Intersection Capacity Utilization 101.0%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 1: Parker Road & Pine Lane

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	259	169	82	100	335	222	116	3374	89	61	1688	287
Future Volume (veh/h)	259	169	82	100	335	222	116	3374	89	61	1688	287
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	282	184	0	109	364	0	126	3667	0	66	1835	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	2	2	2	2	2	2
Cap, veh/h	199	483		160	442		152	3291		121	3034	
Arrive On Green	0.02	0.04	0.00	0.02	0.04	0.00	0.09	0.64	0.00	0.07	1.00	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	1781	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	282	184	0	109	364	0	126	3667	0	66	1835	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1781	1702	1585	1728	1702	1585
Q Serve(g_s), s	7.5	6.5	0.0	4.1	13.2	0.0	9.1	83.8	0.0	2.4	0.0	0.0
Cycle Q Clear(g_c), s	7.5	6.5	0.0	4.1	13.2	0.0	9.1	83.8	0.0	2.4	0.0	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	199	483		160	442		152	3291		121	3034	
V/C Ratio(X)	1.41	0.38		0.68	0.82		0.83	1.11		0.55	0.60	
Avail Cap(c_a), veh/h	199	517		229	547		238	3291		133	3034	
HCM Platoon Ratio	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.97	0.97	0.00	0.96	0.96	0.00	0.42	0.42	0.00	0.97	0.97	0.00
Uniform Delay (d), s/veh	63.8	56.8	0.0	63.1	60.9	0.0	58.5	23.1	0.0	59.5	0.0	0.0
Incr Delay (d2), s/veh	212.7	0.5	0.0	4.8	7.9	0.0	5.9	53.6	0.0	3.7	0.9	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	9.3	3.1	0.0	1.9	6.8	0.0	4.3	47.1	0.0	1.1	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	276.5	57.3	0.0	67.9	68.8	0.0	64.4	76.7	0.0	63.2	0.9	0.0
LnGrp LOS	F	E		E	E		E	F		E	A	
Approach Vol, veh/h		466	A		473	A		3793	A		1901	A
Approach Delay, s/veh		189.9			68.6			76.3			3.0	
Approach LOS		F			E			E			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	88.3	10.5	22.2	15.6	81.7	12.0	20.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	79.5	8.6	18.9	17.4	67.1	7.5	20.0
Max Q Clear Time (g_c+I1), s	4.4	85.8	6.1	8.5	11.1	2.0	9.5	15.2
Green Ext Time (p_c), s	0.0	0.0	0.1	0.7	0.1	25.9	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	62.7
HCM 6th LOS	E

Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	317	172	146	148	183	90	81	2314	102	122	3027	519
Future Volume (vph)	317	172	146	148	183	90	81	2314	102	122	3027	519
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases			Free			Free			2			6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5	9.5	9.5	22.5	9.5
Total Split (s)	15.7	22.5		15.7	22.5		12.0	80.0	15.7	11.8	79.8	15.7
Total Split (%)	12.1%	17.3%		12.1%	17.3%		9.2%	61.5%	12.1%	9.1%	61.4%	12.1%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max	None	None	C-Max	None
Act Effct Green (s)	11.2	13.4	130.0	10.4	12.6	130.0	10.9	78.6	93.4	9.6	77.3	93.0
Actuated g/C Ratio	0.09	0.10	1.00	0.08	0.10	1.00	0.08	0.60	0.72	0.07	0.59	0.72
v/c Ratio	1.17	0.51	0.10	0.59	0.58	0.06	0.59	0.82	0.10	0.52	1.09	0.48
Control Delay	153.2	62.4	0.1	74.5	78.6	0.1	71.1	17.2	0.8	61.0	67.1	5.4
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	153.2	62.4	0.1	74.5	78.6	0.1	71.1	17.2	0.8	61.0	67.1	5.4
LOS	F	E	A	E	E	A	E	B	A	E	E	A
Approach Delay		93.4			60.4			18.3			58.2	
Approach LOS		F			E			B			E	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.17	
Intersection Signal Delay: 47.6	Intersection LOS: D
Intersection Capacity Utilization 92.1%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 1: Parker Road & Pine Lane

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	317	172	146	148	183	90	81	2314	102	122	3027	519
Future Volume (veh/h)	317	172	146	148	183	90	81	2314	102	122	3027	519
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	345	187	0	161	199	0	88	2515	0	133	3290	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	2	2	2	2	2	2
Cap, veh/h	298	354		214	268		103	3304		183	3280	
Arrive On Green	0.03	0.03	0.00	0.08	0.10	0.00	0.08	0.86	0.00	0.05	0.64	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	1781	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	345	187	0	161	199	0	88	2515	0	133	3290	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1781	1702	1585	1728	1702	1585
Q Serve(g_s), s	11.2	6.7	0.0	5.9	7.1	0.0	6.3	25.9	0.0	4.9	83.5	0.0
Cycle Q Clear(g_c), s	11.2	6.7	0.0	5.9	7.1	0.0	6.3	25.9	0.0	4.9	83.5	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	298	354		214	268		103	3304		183	3280	
V/C Ratio(X)	1.16	0.53		0.75	0.74		0.86	0.76		0.73	1.00	
Avail Cap(c_a), veh/h	298	492		298	492		103	3304		194	3280	
HCM Platoon Ratio	0.33	0.33	0.33	1.33	1.33	1.33	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	0.00	0.98	0.98	0.00	0.78	0.78	0.00	0.72	0.72	0.00
Uniform Delay (d), s/veh	63.2	59.9	0.0	58.7	57.3	0.0	59.5	5.0	0.0	60.6	23.2	0.0
Incr Delay (d2), s/veh	100.8	1.2	0.0	6.6	4.0	0.0	39.2	1.3	0.0	8.9	14.1	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	9.4	3.2	0.0	2.8	3.3	0.0	3.9	4.5	0.0	2.4	34.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	164.0	61.0	0.0	65.3	61.3	0.0	98.7	6.3	0.0	69.5	37.3	0.0
LnGrp LOS	F	E		E	E		F	A		E	F	
Approach Vol, veh/h		532	A		360	A		2603	A		3423	A
Approach Delay, s/veh		127.8			63.1			9.5			38.6	
Approach LOS		F			E			A			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.4	88.6	12.5	17.4	12.0	88.0	15.7	14.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.3	75.5	11.2	18.0	7.5	75.3	11.2	18.0
Max Q Clear Time (g_c+I1), s	6.9	27.9	7.9	8.7	8.3	85.5	13.2	9.1
Green Ext Time (p_c), s	0.0	35.9	0.1	0.7	0.0	0.0	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	35.7
HCM 6th LOS	D

Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	396	185	82	109	342	221	220	3359	89	61	1763	332
Future Volume (vph)	396	185	82	109	342	221	220	3359	89	61	1763	332
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases			Free			Free			2			6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5	9.5	9.5	22.5	9.5
Total Split (s)	14.0	27.1		13.4	26.5		26.7	80.0	13.4	9.5	62.8	14.0
Total Split (%)	10.8%	20.8%		10.3%	20.4%		20.5%	61.5%	10.3%	7.3%	48.3%	10.8%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max	None	None	C-Max	None
Act Effct Green (s)	9.5	19.6	130.0	8.5	18.6	130.0	21.0	79.6	92.6	6.4	62.9	76.9
Actuated g/C Ratio	0.07	0.15	1.00	0.07	0.14	1.00	0.16	0.61	0.71	0.05	0.48	0.59
v/c Ratio	1.72	0.38	0.06	0.53	0.74	0.15	0.84	1.17	0.08	0.39	0.78	0.37
Control Delay	374.0	50.1	0.1	65.3	72.1	0.2	64.7	108.5	4.8	66.4	28.3	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	374.0	50.1	0.1	65.3	72.1	0.2	64.7	108.5	4.8	66.4	28.3	10.3
LOS	F	D	A	E	E	A	E	F	A	E	C	B
Approach Delay		237.3			47.3			103.4			26.6	
Approach LOS		F			D			F			C	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.72	
Intersection Signal Delay: 87.4	Intersection LOS: F
Intersection Capacity Utilization 104.8%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 1: Parker Road & Pine Lane

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	396	185	82	109	342	221	220	3359	89	61	1763	332
Future Volume (veh/h)	396	185	82	109	342	221	220	3359	89	61	1763	332
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	430	201	0	118	372	0	239	3651	0	66	1916	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	2	2	2	2	2	2
Cap, veh/h	253	543		170	458		265	3190		121	2608	
Arrive On Green	0.02	0.05	0.00	0.02	0.04	0.00	0.15	0.62	0.00	0.03	0.51	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	1781	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	430	201	0	118	372	0	239	3651	0	66	1916	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1781	1702	1585	1728	1702	1585
Q Serve(g_s), s	9.5	7.1	0.0	4.4	13.5	0.0	17.1	81.2	0.0	2.4	38.2	0.0
Cycle Q Clear(g_c), s	9.5	7.1	0.0	4.4	13.5	0.0	17.1	81.2	0.0	2.4	38.2	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	253	543		170	458		265	3190		121	2608	
V/C Ratio(X)	1.70	0.37		0.69	0.81		0.90	1.14		0.55	0.73	
Avail Cap(c_a), veh/h	253	618		237	601		304	3190		133	2608	
HCM Platoon Ratio	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.96	0.96	0.00	1.00	1.00	0.00	0.97	0.97	0.00
Uniform Delay (d), s/veh	63.4	55.7	0.0	63.0	60.7	0.0	54.4	24.4	0.0	61.7	24.9	0.0
Incr Delay (d2), s/veh	332.7	0.4	0.0	4.8	6.1	0.0	26.0	69.2	0.0	3.7	1.8	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	16.1	3.4	0.0	2.1	6.9	0.0	9.6	50.7	0.0	1.1	15.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	396.1	56.1	0.0	67.8	66.8	0.0	80.4	93.6	0.0	65.4	26.7	0.0
LnGrp LOS	F	E		E	E		F	F		E	C	
Approach Vol, veh/h		631	A		490	A		3890	A		1982	A
Approach Delay, s/veh		287.8			67.1			92.8			28.0	
Approach LOS		F			E			F			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	85.7	10.9	24.3	23.8	70.9	14.0	21.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	75.5	8.9	22.6	22.2	58.3	9.5	22.0
Max Q Clear Time (g_c+I1), s	4.4	83.2	6.4	9.1	19.1	40.2	11.5	15.5
Green Ext Time (p_c), s	0.0	0.0	0.1	0.9	0.2	13.2	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	90.2
HCM 6th LOS	F

Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	454	189	146	158	190	90	191	2303	101	121	3109	569
Future Volume (vph)	454	189	146	158	190	90	191	2303	101	121	3109	569
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases			Free			Free			2			6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5	9.5	9.5	22.5	9.5
Total Split (s)	17.7	23.5		16.7	22.5		13.0	76.8	16.7	13.0	76.8	17.7
Total Split (%)	13.6%	18.1%		12.8%	17.3%		10.0%	59.1%	12.8%	10.0%	59.1%	13.6%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max	None	None	C-Max	None
Act Effct Green (s)	13.2	15.0	130.0	11.1	12.9	130.0	13.6	76.2	91.8	9.7	72.3	90.0
Actuated g/C Ratio	0.10	0.12	1.00	0.09	0.10	1.00	0.10	0.59	0.71	0.07	0.56	0.69
v/c Ratio	1.42	0.50	0.10	0.59	0.59	0.06	1.12	0.84	0.10	0.52	1.19	0.55
Control Delay	241.7	62.4	0.1	71.5	78.8	0.1	150.9	19.4	1.0	60.9	115.5	7.5
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	241.7	62.4	0.1	71.5	78.8	0.1	150.9	19.4	1.0	60.9	115.5	7.5
LOS	F	E	A	E	E	A	F	B	A	E	F	A
Approach Delay		154.0			60.0			28.4			97.6	
Approach LOS		F			E			C			F	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.42	
Intersection Signal Delay: 77.7	Intersection LOS: E
Intersection Capacity Utilization 103.9%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 1: Parker Road & Pine Lane

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	454	189	146	158	190	90	191	2303	101	121	3109	569
Future Volume (veh/h)	454	189	146	158	190	90	191	2303	101	121	3109	569
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	493	205	0	172	207	0	208	2503	0	132	3379	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	2	2	2	2	2	2
Cap, veh/h	351	405		227	277		116	3212		183	3148	
Arrive On Green	0.17	0.19	0.00	0.07	0.08	0.00	0.13	1.00	0.00	0.05	0.62	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	1781	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	493	205	0	172	207	0	208	2503	0	132	3379	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1781	1702	1585	1728	1702	1585
Q Serve(g_s), s	13.2	6.7	0.0	6.4	7.4	0.0	8.5	0.0	0.0	4.9	80.2	0.0
Cycle Q Clear(g_c), s	13.2	6.7	0.0	6.4	7.4	0.0	8.5	0.0	0.0	4.9	80.2	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	351	405		227	277		116	3212		183	3148	
V/C Ratio(X)	1.41	0.51		0.76	0.75		1.79	0.78		0.72	1.07	
Avail Cap(c_a), veh/h	351	519		324	492		116	3212		226	3148	
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.98	0.98	0.00	1.00	1.00	0.00	0.72	0.72	0.00
Uniform Delay (d), s/veh	54.0	49.3	0.0	59.7	58.7	0.0	56.5	0.0	0.0	60.6	24.9	0.0
Incr Delay (d2), s/veh	198.6	1.0	0.0	6.1	3.9	0.0	385.8	1.9	0.0	6.1	38.2	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	15.0	2.9	0.0	3.0	3.5	0.0	16.0	0.6	0.0	2.3	41.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	252.6	50.3	0.0	65.9	62.6	0.0	442.3	1.9	0.0	66.7	63.1	0.0
LnGrp LOS	F	D		E	E		F	A		E	F	
Approach Vol, veh/h		698	A		379	A		2711	A		3511	A
Approach Delay, s/veh		193.2			64.1			35.7			63.2	
Approach LOS		F			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.4	86.3	13.0	19.3	13.0	84.7	17.7	14.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	72.3	12.2	19.0	8.5	72.3	13.2	18.0
Max Q Clear Time (g_c+I1), s	6.9	2.0	8.4	8.7	10.5	82.2	15.2	9.4
Green Ext Time (p_c), s	0.1	46.9	0.2	0.8	0.0	0.0	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	65.5
HCM 6th LOS	E

Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	396	185	82	109	342	221	220	3359	61	1763
Future Volume (vph)	396	185	82	109	342	221	220	3359	61	1763
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			Free			Free				
Detector Phase	7	4		3	8		5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5	9.5	22.5
Total Split (s)	18.3	30.5		11.7	23.9		19.8	78.2	9.6	68.0
Total Split (%)	14.1%	23.5%		9.0%	18.4%		15.2%	60.2%	7.4%	52.3%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max	None	C-Max
Act Effct Green (s)	13.8	24.4	130.0	7.2	17.7	130.0	13.6	76.8	5.8	66.8
Actuated g/C Ratio	0.11	0.19	1.00	0.06	0.14	1.00	0.10	0.59	0.04	0.51
v/c Ratio	1.18	0.30	0.06	0.62	0.77	0.15	0.67	0.99	0.43	0.70
Control Delay	152.7	48.2	0.1	74.9	80.2	0.2	55.9	39.5	69.7	22.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	152.7	48.2	0.1	74.9	80.2	0.2	55.9	39.5	69.7	22.8
LOS	F	D	A	E	F	A	E	D	E	C
Approach Delay		104.6			53.0			40.5		24.1
Approach LOS		F			D			D		C

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.18	
Intersection Signal Delay: 42.7	Intersection LOS: D
Intersection Capacity Utilization 90.1%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 1: Parker Road & Pine Lane

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	396	185	82	109	342	221	220	3359	89	61	1763	332
Future Volume (veh/h)	396	185	82	109	342	221	220	3359	89	61	1763	332
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	430	201	0	118	372	0	239	3651	0	66	1916	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	2	2	2	2	2	2
Cap, veh/h	367	650		169	447		298	3827		121	3497	
Arrive On Green	0.04	0.06	0.00	0.02	0.04	0.00	0.06	0.40	0.00	0.07	1.00	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	6696	0	3456	6696	0
Grp Volume(v), veh/h	430	201	0	118	372	0	239	3651	0	66	1916	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1609	0	1728	1609	0
Q Serve(g_s), s	13.8	7.0	0.0	4.4	13.5	0.0	8.9	71.6	0.0	2.4	0.0	0.0
Cycle Q Clear(g_c), s	13.8	7.0	0.0	4.4	13.5	0.0	8.9	71.6	0.0	2.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	367	650		169	447		298	3827		121	3497	
V/C Ratio(X)	1.17	0.31		0.70	0.83		0.80	0.95		0.55	0.55	
Avail Cap(c_a), veh/h	367	711		191	530		407	3827		136	3497	
HCM Platoon Ratio	0.33	0.33	0.33	0.33	0.33	0.33	0.67	0.67	0.67	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	0.96	0.96	0.00	1.00	1.00	0.00	0.97	0.97	0.00
Uniform Delay (d), s/veh	62.7	53.2	0.0	63.0	60.9	0.0	60.2	37.4	0.0	59.5	0.0	0.0
Incr Delay (d2), s/veh	102.7	0.3	0.0	8.9	9.1	0.0	8.0	7.2	0.0	3.7	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	11.7	3.3	0.0	2.2	7.1	0.0	4.3	31.1	0.0	1.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	165.4	53.5	0.0	71.9	70.1	0.0	68.1	44.6	0.0	63.2	0.6	0.0
LnGrp LOS	F	D		E	E		E	D		E	A	
Approach Vol, veh/h		631	A		490	A		3890	A		1982	A
Approach Delay, s/veh		129.8			70.5			46.1			2.7	
Approach LOS		F			E			D			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	81.8	10.8	28.3	15.7	75.2	18.3	20.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.1	73.7	7.2	26.0	15.3	63.5	13.8	19.4
Max Q Clear Time (g_c+I1), s	4.4	73.6	6.4	9.0	10.9	2.0	15.8	15.5
Green Ext Time (p_c), s	0.0	0.1	0.0	1.1	0.3	27.5	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	43.0
HCM 6th LOS	D

Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	454	189	146	158	190	90	191	2303	121	3109
Future Volume (vph)	454	189	146	158	190	90	191	2303	121	3109
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			Free			Free				
Detector Phase	7	4		3	8		5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5	9.5	22.5
Total Split (s)	24.5	27.5		19.5	22.5		12.0	71.0	12.0	71.0
Total Split (%)	18.8%	21.2%		15.0%	17.3%		9.2%	54.6%	9.2%	54.6%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max	None	C-Max
Act Effct Green (s)	20.0	21.1	130.0	11.8	12.9	130.0	12.3	69.6	9.5	66.8
Actuated g/C Ratio	0.15	0.16	1.00	0.09	0.10	1.00	0.09	0.54	0.07	0.51
v/c Ratio	0.93	0.36	0.10	0.55	0.59	0.06	0.64	0.77	0.53	1.23
Control Delay	75.3	50.3	0.1	65.6	77.3	0.1	63.8	20.3	61.5	134.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.3	50.3	0.1	65.6	77.3	0.1	63.8	20.3	61.5	134.2
LOS	E	D	A	E	E	A	E	C	E	F
Approach Delay		55.4			57.2			23.5		131.9
Approach LOS		E			E			C		F

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.23	
Intersection Signal Delay: 82.8	Intersection LOS: F
Intersection Capacity Utilization 93.2%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 1: Parker Road & Pine Lane

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	454	189	146	158	190	90	191	2303	101	121	3109	569
Future Volume (veh/h)	454	189	146	158	190	90	191	2303	101	121	3109	569
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	493	205	0	172	207	0	208	2503	0	132	3379	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	2	2	2	2	2	2
Cap, veh/h	532	588		228	276		199	3714		182	3682	
Arrive On Green	0.05	0.05	0.00	0.09	0.10	0.00	0.12	1.00	0.00	0.05	0.57	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	6696	0	3456	6696	0
Grp Volume(v), veh/h	493	205	0	172	207	0	208	2503	0	132	3379	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1609	0	1728	1609	0
Q Serve(g_s), s	18.5	7.2	0.0	6.3	7.4	0.0	7.5	0.0	0.0	4.9	61.5	0.0
Cycle Q Clear(g_c), s	18.5	7.2	0.0	6.3	7.4	0.0	7.5	0.0	0.0	4.9	61.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	532	588		228	276		199	3714		182	3682	
V/C Ratio(X)	0.93	0.35		0.75	0.75		1.04	0.67		0.72	0.92	
Avail Cap(c_a), veh/h	532	629		399	492		199	3714		199	3682	
HCM Platoon Ratio	0.33	0.33	0.33	1.33	1.33	1.33	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.98	0.98	0.00	1.00	1.00	0.00	0.72	0.72	0.00
Uniform Delay (d), s/veh	61.0	54.7	0.0	58.3	57.1	0.0	57.5	0.0	0.0	60.6	25.0	0.0
Incr Delay (d2), s/veh	22.6	0.4	0.0	4.9	4.0	0.0	75.6	1.0	0.0	8.2	3.6	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	10.3	3.4	0.0	2.9	3.4	0.0	5.2	0.3	0.0	2.4	23.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.6	55.0	0.0	63.2	61.1	0.0	133.1	1.0	0.0	68.9	28.6	0.0
LnGrp LOS	F	E		E	E		F	A		E	C	
Approach Vol, veh/h		698	A		379	A		2711	A		3511	A
Approach Delay, s/veh		75.2			62.0			11.1			30.1	
Approach LOS		E			E			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.4	79.6	13.1	26.0	12.0	78.9	24.5	14.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	66.5	15.0	23.0	7.5	66.5	20.0	18.0
Max Q Clear Time (g_c+I1), s	6.9	2.0	8.3	9.2	9.5	63.5	20.5	9.4
Green Ext Time (p_c), s	0.0	44.3	0.3	1.0	0.0	3.0	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	29.0
HCM 6th LOS	C

Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	321	209	101	124	416	275	143	4183	75	2092
Future Volume (vph)	321	209	101	124	416	275	143	4183	75	2092
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			Free			Free				
Detector Phase	7	4		3	8		5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5	9.5	22.5
Total Split (s)	12.4	22.6		13.4	23.6		14.0	84.5	9.5	80.0
Total Split (%)	9.5%	17.4%		10.3%	18.2%		10.8%	65.0%	7.3%	61.5%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max	None	C-Max
Act Effct Green (s)	7.9	18.0	130.0	8.6	18.8	130.0	9.2	80.1	5.3	76.1
Actuated g/C Ratio	0.06	0.14	1.00	0.07	0.14	1.00	0.07	0.62	0.04	0.59
v/c Ratio	1.68	0.46	0.07	0.59	0.89	0.19	0.64	1.19	0.59	0.72
Control Delay	358.9	59.1	0.1	74.5	82.5	0.3	63.6	109.9	79.0	18.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	358.9	59.1	0.1	74.5	82.5	0.3	63.6	109.9	79.0	18.3
LOS	F	E	A	E	F	A	E	F	E	B
Approach Delay		202.2			53.5			108.4		20.1
Approach LOS		F			D			F		C

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.68	
Intersection Signal Delay: 83.7	Intersection LOS: F
Intersection Capacity Utilization 94.4%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 1: Parker Road & Pine Lane

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	321	209	101	124	416	275	143	4183	111	75	2092	355
Future Volume (veh/h)	321	209	101	124	416	275	143	4183	111	75	2092	355
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	349	227	0	135	452	0	155	4547	0	82	2274	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	2	2	2	2	2	2
Cap, veh/h	210	530		186	506		208	4001		126	3849	
Arrive On Green	0.02	0.05	0.00	0.05	0.14	0.00	0.04	0.42	0.00	0.07	1.00	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	6696	0	3456	6696	0
Grp Volume(v), veh/h	349	227	0	135	452	0	155	4547	0	82	2274	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1609	0	1728	1609	0
Q Serve(g_s), s	7.9	8.1	0.0	5.0	16.2	0.0	5.8	80.8	0.0	3.0	0.0	0.0
Cycle Q Clear(g_c), s	7.9	8.1	0.0	5.0	16.2	0.0	5.8	80.8	0.0	3.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	210	530		186	506		208	4001		126	3849	
V/C Ratio(X)	1.66	0.43		0.72	0.89		0.75	1.14		0.65	0.59	
Avail Cap(c_a), veh/h	210	530		237	522		253	4001		133	3849	
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	0.67	0.67	0.67	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	0.96	0.96	0.00	1.00	1.00	0.00	0.97	0.97	0.00
Uniform Delay (d), s/veh	63.7	56.4	0.0	60.5	54.8	0.0	61.4	37.9	0.0	59.4	0.0	0.0
Incr Delay (d2), s/veh	318.0	0.5	0.0	7.5	16.7	0.0	9.3	64.9	0.0	9.7	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	12.9	3.8	0.0	2.4	8.4	0.0	2.8	50.9	0.0	1.5	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	381.7	57.0	0.0	68.0	71.5	0.0	70.7	102.8	0.0	69.1	0.7	0.0
LnGrp LOS	F	E		E	E		E	F		E	A	
Approach Vol, veh/h		576	A		587	A		4702	A		2356	A
Approach Delay, s/veh		253.7			70.7			101.8			3.0	
Approach LOS		F			E			F			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	85.3	11.5	23.9	12.3	82.3	12.4	23.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	80.0	8.9	18.1	9.5	75.5	7.9	19.1
Max Q Clear Time (g_c+I1), s	5.0	82.8	7.0	10.1	7.8	2.0	9.9	18.2
Green Ext Time (p_c), s	0.0	0.0	0.1	0.8	0.1	40.8	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	81.9
HCM 6th LOS	F

Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	393	213	182	183	226	112	100	2868	151	3752
Future Volume (vph)	393	213	182	183	226	112	100	2868	151	3752
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			Free			Free				
Detector Phase	7	4		3	8		5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5	9.5	22.5
Total Split (s)	18.0	23.5		17.0	22.5		9.5	76.7	12.8	80.0
Total Split (%)	13.8%	18.1%		13.1%	17.3%		7.3%	59.0%	9.8%	61.5%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max	None	C-Max
Act Effct Green (s)	13.5	16.1	130.0	11.6	14.3	130.0	7.5	74.3	9.9	76.7
Actuated g/C Ratio	0.10	0.12	1.00	0.09	0.11	1.00	0.06	0.57	0.08	0.59
v/c Ratio	1.20	0.53	0.13	0.65	0.63	0.08	0.55	0.89	0.63	1.28
Control Delay	156.4	57.8	0.1	72.5	74.0	0.1	69.2	22.9	65.8	153.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	156.4	57.8	0.1	72.5	74.0	0.1	69.2	22.9	65.8	153.3
LOS	F	E	A	E	E	A	E	C	E	F
Approach Delay		93.6			57.6			24.4		150.4
Approach LOS		F			E			C		F

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.28	
Intersection Signal Delay: 96.4	Intersection LOS: F
Intersection Capacity Utilization 93.8%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 1: Parker Road & Pine Lane

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	393	213	182	183	226	112	100	2868	126	151	3752	643
Future Volume (veh/h)	393	213	182	183	226	112	100	2868	126	151	3752	643
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	427	232	0	199	246	0	109	3117	0	164	4078	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	2	2	2	2	2	2
Cap, veh/h	359	426		254	317		133	3900		215	4053	
Arrive On Green	0.03	0.04	0.00	0.07	0.09	0.00	0.08	1.00	0.00	0.04	0.42	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	6696	0	3456	6696	0
Grp Volume(v), veh/h	427	232	0	199	246	0	109	3117	0	164	4078	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1609	0	1728	1609	0
Q Serve(g_s), s	13.5	8.3	0.0	7.4	8.8	0.0	4.0	0.0	0.0	6.1	81.9	0.0
Cycle Q Clear(g_c), s	13.5	8.3	0.0	7.4	8.8	0.0	4.0	0.0	0.0	6.1	81.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	359	426		254	317		133	3900		215	4053	
V/C Ratio(X)	1.19	0.55		0.78	0.78		0.82	0.80		0.76	1.01	
Avail Cap(c_a), veh/h	359	519		332	492		133	3900		221	4053	
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	2.00	2.00	2.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	1.00	0.00	0.98	0.98	0.00	1.00	1.00	0.00	0.72	0.72	0.00
Uniform Delay (d), s/veh	62.8	59.0	0.0	59.2	57.9	0.0	59.6	0.0	0.0	61.3	37.6	0.0
Incr Delay (d2), s/veh	109.9	1.1	0.0	8.6	4.0	0.0	31.8	1.8	0.0	10.5	13.5	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	11.8	4.0	0.0	3.5	4.1	0.0	2.3	0.5	0.0	3.0	37.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	172.7	60.0	0.0	67.9	61.9	0.0	91.4	1.8	0.0	71.8	51.1	0.0
LnGrp LOS	F	E		E	E		F	A		E	F	
Approach Vol, veh/h		659	A		445	A		3226	A		4242	A
Approach Delay, s/veh		133.0			64.6			4.8			51.9	
Approach LOS		F			E			A			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.6	83.3	14.0	20.1	9.5	86.4	18.0	16.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.3	72.2	12.5	19.0	5.0	75.5	13.5	18.0
Max Q Clear Time (g_c+I1), s	8.1	2.0	9.4	10.3	6.0	83.9	15.5	10.8
Green Ext Time (p_c), s	0.0	61.5	0.2	0.9	0.0	0.0	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	41.1
HCM 6th LOS	D

Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	458	225	101	133	423	274	247	4168	75	2167
Future Volume (vph)	458	225	101	133	423	274	247	4168	75	2167
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			Free			Free				
Detector Phase	7	4		3	8		5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5	9.5	22.5
Total Split (s)	16.0	25.5		13.0	22.5		18.0	82.0	9.5	73.5
Total Split (%)	12.3%	19.6%		10.0%	17.3%		13.8%	63.1%	7.3%	56.5%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max	None	C-Max
Act Effct Green (s)	11.5	21.1	130.0	8.4	18.0	130.0	13.1	77.5	5.0	69.4
Actuated g/C Ratio	0.09	0.16	1.00	0.06	0.14	1.00	0.10	0.60	0.04	0.53
v/c Ratio	1.64	0.43	0.07	0.66	0.94	0.19	0.78	1.22	0.62	0.83
Control Delay	338.2	53.2	0.1	75.3	96.1	0.3	65.3	127.7	81.7	25.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	338.2	53.2	0.1	75.3	96.1	0.3	65.3	127.7	81.7	25.3
LOS	F	D	A	E	F	A	E	F	F	C
Approach Delay		212.8			61.1			124.3		26.9
Approach LOS		F			E			F		C

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.64	
Intersection Signal Delay: 97.0	Intersection LOS: F
Intersection Capacity Utilization 106.2%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 1: Parker Road & Pine Lane

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	458	225	101	133	423	274	247	4168	111	75	2167	400
Future Volume (veh/h)	458	225	101	133	423	274	247	4168	111	75	2167	400
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	498	245	0	145	460	0	268	4530	0	82	2355	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	2	2	2	2	2	2
Cap, veh/h	306	604		197	492		322	3847		127	3483	
Arrive On Green	0.03	0.06	0.00	0.04	0.09	0.00	0.06	0.40	0.00	0.05	0.72	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	6696	0	3456	6696	0
Grp Volume(v), veh/h	498	245	0	145	460	0	268	4530	0	82	2355	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1609	0	1728	1609	0
Q Serve(g_s), s	11.5	8.7	0.0	5.4	16.7	0.0	10.0	77.7	0.0	3.0	26.0	0.0
Cycle Q Clear(g_c), s	11.5	8.7	0.0	5.4	16.7	0.0	10.0	77.7	0.0	3.0	26.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	306	604		197	492		322	3847		127	3483	
V/C Ratio(X)	1.63	0.41		0.74	0.93		0.83	1.18		0.65	0.68	
Avail Cap(c_a), veh/h	306	604		226	492		359	3847		133	3483	
HCM Platoon Ratio	0.33	0.33	0.33	0.67	0.67	0.67	0.67	0.67	0.67	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	0.00	0.96	0.96	0.00	1.00	1.00	0.00	0.97	0.97	0.00
Uniform Delay (d), s/veh	63.1	55.0	0.0	61.6	58.4	0.0	59.9	39.0	0.0	61.0	12.0	0.0
Incr Delay (d2), s/veh	297.6	0.4	0.0	9.9	24.6	0.0	14.1	82.9	0.0	9.5	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	18.0	4.1	0.0	2.7	9.4	0.0	5.1	53.8	0.0	1.5	7.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	360.7	55.4	0.0	71.5	83.0	0.0	74.0	121.8	0.0	70.5	13.0	0.0
LnGrp LOS	F	E		E	F		E	F		E	B	
Approach Vol, veh/h		743	A		605	A		4798	A		2437	A
Approach Delay, s/veh		260.0			80.2			119.2			15.0	
Approach LOS		F			F			F			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	82.2	11.9	26.6	16.6	74.9	16.0	22.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	77.5	8.5	21.0	13.5	69.0	11.5	18.0
Max Q Clear Time (g_c+I1), s	5.0	79.7	7.4	10.7	12.0	28.0	13.5	18.7
Green Ext Time (p_c), s	0.0	0.0	0.0	1.0	0.1	29.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	99.0
HCM 6th LOS	F

Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	530	230	182	193	233	112	210	2857	150	3834
Future Volume (vph)	530	230	182	193	233	112	210	2857	150	3834
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			Free			Free				
Detector Phase	7	4		3	8		5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5	9.5	22.5
Total Split (s)	20.0	24.9		17.6	22.5		12.0	75.5	12.0	75.5
Total Split (%)	15.4%	19.2%		13.5%	17.3%		9.2%	58.1%	9.2%	58.1%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max	None	C-Max
Act Effct Green (s)	15.5	17.9	130.0	12.1	14.5	130.0	11.0	72.5	9.5	71.0
Actuated g/C Ratio	0.12	0.14	1.00	0.09	0.11	1.00	0.08	0.56	0.07	0.55
v/c Ratio	1.41	0.51	0.13	0.66	0.64	0.08	0.78	0.91	0.65	1.43
Control Delay	236.0	57.0	0.2	71.8	72.0	0.1	75.2	25.2	68.2	219.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	236.0	57.0	0.2	71.8	72.0	0.1	75.2	25.2	68.2	219.3
LOS	F	E	A	E	E	A	E	C	E	F
Approach Delay		146.7			56.9			28.5		214.5
Approach LOS		F			E			C		F

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.43	
Intersection Signal Delay: 135.1	Intersection LOS: F
Intersection Capacity Utilization 109.7%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 1: Parker Road & Pine Lane

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	530	230	182	193	233	112	210	2857	125	150	3834	693
Future Volume (veh/h)	530	230	182	193	233	112	210	2857	125	150	3834	693
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	576	250	0	210	253	0	228	3105	0	163	4167	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	2	2	2	2	2	2
Cap, veh/h	412	475		263	321		199	3824		199	3824	
Arrive On Green	0.04	0.04	0.00	0.13	0.15	0.00	0.12	1.00	0.00	0.06	0.59	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	6696	0	3456	6696	0
Grp Volume(v), veh/h	576	250	0	210	253	0	228	3105	0	163	4167	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1609	0	1728	1609	0
Q Serve(g_s), s	15.5	9.0	0.0	7.7	8.9	0.0	7.5	0.0	0.0	6.1	77.3	0.0
Cycle Q Clear(g_c), s	15.5	9.0	0.0	7.7	8.9	0.0	7.5	0.0	0.0	6.1	77.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	412	475		263	321		199	3824		199	3824	
V/C Ratio(X)	1.40	0.53		0.80	0.79		1.14	0.81		0.82	1.09	
Avail Cap(c_a), veh/h	412	558		348	492		199	3824		199	3824	
HCM Platoon Ratio	0.33	0.33	0.33	1.67	1.67	1.67	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.98	0.98	0.00	1.00	1.00	0.00	0.72	0.72	0.00
Uniform Delay (d), s/veh	62.4	58.1	0.0	55.8	54.0	0.0	57.5	0.0	0.0	60.6	26.4	0.0
Incr Delay (d2), s/veh	193.3	0.9	0.0	9.2	4.6	0.0	107.7	2.0	0.0	17.2	44.2	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	18.3	4.3	0.0	3.5	4.0	0.0	6.1	0.5	0.0	3.1	39.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	255.7	59.0	0.0	64.9	58.6	0.0	165.2	2.0	0.0	77.8	70.6	0.0
LnGrp LOS	F	E		E	E		F	A		E	F	
Approach Vol, veh/h		826	A		463	A		3333	A		4330	A
Approach Delay, s/veh		196.2			61.5			13.2			70.8	
Approach LOS		F			E			B			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	81.8	14.4	21.9	12.0	81.8	20.0	16.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	71.0	13.1	20.4	7.5	71.0	15.5	18.0
Max Q Clear Time (g_c+I1), s	8.1	2.0	9.7	11.0	9.5	79.3	17.5	10.9
Green Ext Time (p_c), s	0.0	60.4	0.2	1.0	0.0	0.0	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	60.4
HCM 6th LOS	E

Notes

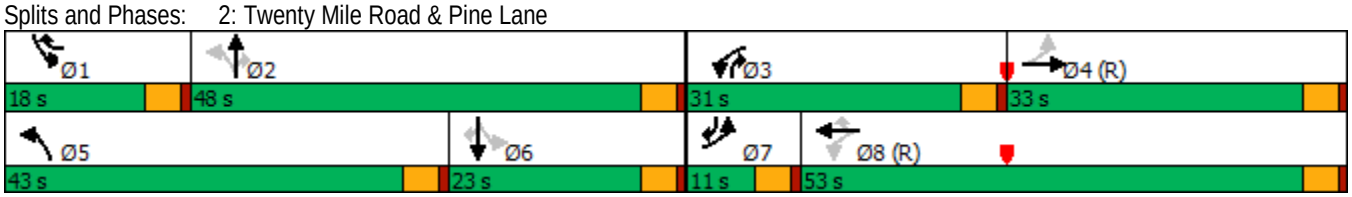
User approved pedestrian interval to be less than phase max green.

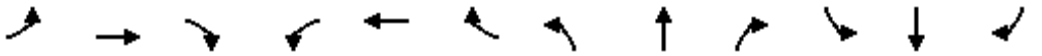
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	278	143	210	469	8	313	11	180	14	8	7
Future Volume (vph)	3	278	143	210	469	8	313	11	180	14	8	7
Turn Type	pm+pt	NA	Free	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases	4		Free	8		8	2		2	6		6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	9.5	9.5	22.5	9.5	9.5	22.5	9.5
Total Split (s)	11.0	33.0		31.0	53.0	18.0	43.0	48.0	31.0	18.0	23.0	11.0
Total Split (%)	8.5%	25.4%		23.8%	40.8%	13.8%	33.1%	36.9%	23.8%	13.8%	17.7%	8.5%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max	None	None	Max	None	None	Max	None
Act Effct Green (s)	44.7	39.0	130.0	59.5	55.3	66.0	61.5	54.9	75.4	41.1	35.0	45.2
Actuated g/C Ratio	0.34	0.30	1.00	0.46	0.43	0.51	0.47	0.42	0.58	0.32	0.27	0.35
v/c Ratio	0.01	0.28	0.10	0.46	0.34	0.01	0.50	0.01	0.20	0.03	0.01	0.01
Control Delay	20.7	36.6	0.1	11.8	11.7	0.0	25.4	24.5	2.1	20.8	38.6	0.0
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	20.7	36.6	0.1	11.8	11.7	0.0	25.4	24.5	2.1	20.8	38.6	0.0
LOS	C	D	A	B	B	A	C	C	A	C	D	A
Approach Delay		24.2			11.6			17.0			20.6	
Approach LOS		C			B			B			C	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.50	
Intersection Signal Delay: 16.7	Intersection LOS: B
Intersection Capacity Utilization 54.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: Twenty Mile Road & Pine Lane





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	278	143	210	469	8	313	11	180	14	8	7
Future Volume (veh/h)	3	278	143	210	469	8	313	11	180	14	8	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	302	0	228	510	0	340	12	0	15	9	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	2	2	2	2	2	2
Cap, veh/h	434	1486		613	1801		610	1189		334	634	
Arrive On Green	0.00	0.42	0.00	0.19	1.00	0.00	0.17	0.33	0.00	0.02	0.18	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	3	302	0	228	510	0	340	12	0	15	9	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.1	7.0	0.0	9.5	0.0	0.0	19.4	0.3	0.0	0.9	0.3	0.0
Cycle Q Clear(g_c), s	0.1	7.0	0.0	9.5	0.0	0.0	19.4	0.3	0.0	0.9	0.3	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	434	1486		613	1801		610	1189		334	634	
V/C Ratio(X)	0.01	0.20		0.37	0.28		0.56	0.01		0.04	0.01	
Avail Cap(c_a), veh/h	516	1486		811	1801		831	1189		491	634	
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.82	0.82	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.8	24.1	0.0	15.5	0.0	0.0	32.3	28.9	0.0	42.5	44.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.3	0.3	0.0	0.8	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.1	0.0	3.3	0.1	0.0	8.5	0.1	0.0	0.4	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.8	24.4	0.0	15.8	0.3	0.0	33.1	28.9	0.0	42.6	44.0	0.0
LnGrp LOS	C	C		B	A		C	C		D	D	
Approach Vol, veh/h		305	A		738	A		352	A		24	A
Approach Delay, s/veh		24.3			5.1			33.0			43.1	
Approach LOS		C			A			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	48.0	16.6	58.8	26.9	27.7	5.0	70.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	43.5	26.5	28.5	38.5	18.5	6.5	48.5
Max Q Clear Time (g_c+I1), s	2.9	2.3	11.5	9.0	21.4	2.3	2.1	2.0
Green Ext Time (p_c), s	0.0	0.0	0.6	1.8	0.9	0.0	0.0	3.9

Intersection Summary	
HCM 6th Ctrl Delay	16.8
HCM 6th LOS	B

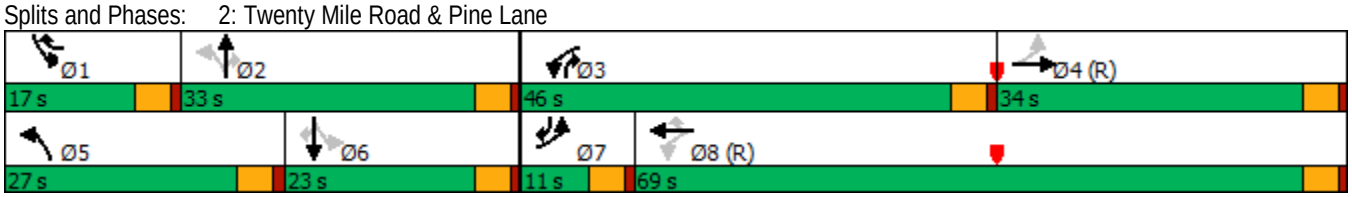
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	355	284	353	372	8	190	9	177	45	23	17
Future Volume (vph)	8	355	284	353	372	8	190	9	177	45	23	17
Turn Type	pm+pt	NA	Free	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases	4		Free	8		8	2		2	6		6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	9.5	9.5	22.5	9.5	9.5	22.5	9.5
Total Split (s)	11.0	34.0		46.0	69.0	17.0	27.0	33.0	46.0	17.0	23.0	11.0
Total Split (%)	8.5%	26.2%		35.4%	53.1%	13.1%	20.8%	25.4%	35.4%	13.1%	17.7%	8.5%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max	None	None	Max	None	None	Max	None
Act Effct Green (s)	55.8	50.0	130.0	75.5	69.2	81.6	45.5	35.1	60.7	32.2	24.3	34.6
Actuated g/C Ratio	0.43	0.38	1.00	0.58	0.53	0.63	0.35	0.27	0.47	0.25	0.19	0.27
v/c Ratio	0.02	0.28	0.20	0.62	0.21	0.01	0.43	0.01	0.23	0.13	0.04	0.04
Control Delay	14.0	29.4	0.3	15.6	12.2	0.0	34.3	37.4	3.1	30.2	46.2	0.1
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	14.0	29.4	0.3	15.6	12.2	0.0	34.3	37.4	3.1	30.2	46.2	0.1
LOS	B	C	A	B	B	A	C	D	A	C	D	A
Approach Delay		16.4			13.7			19.7			28.7	
Approach LOS		B			B			B			C	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 16.6	Intersection LOS: B
Intersection Capacity Utilization 57.8%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 2: Twenty Mile Road & Pine Lane



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	355	284	353	372	8	190	9	177	45	23	17
Future Volume (veh/h)	8	355	284	353	372	8	190	9	177	45	23	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	386	0	384	404	0	207	10	0	49	25	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	2	2	2	2	2	2
Cap, veh/h	527	1640		707	2114		447	795		313	506	
Arrive On Green	0.01	0.46	0.00	0.29	1.00	0.00	0.11	0.22	0.00	0.03	0.14	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	9	386	0	384	404	0	207	10	0	49	25	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.3	8.5	0.0	15.5	0.0	0.0	12.5	0.3	0.0	3.0	0.8	0.0
Cycle Q Clear(g_c), s	0.3	8.5	0.0	15.5	0.0	0.0	12.5	0.3	0.0	3.0	0.8	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	527	1640		707	2114		447	795		313	506	
V/C Ratio(X)	0.02	0.24		0.54	0.19		0.46	0.01		0.16	0.05	
Avail Cap(c_a), veh/h	597	1640		1019	2114		552	795		427	506	
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.87	0.87	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.2	21.2	0.0	10.7	0.0	0.0	39.1	39.3	0.0	45.5	48.2	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.6	0.2	0.0	0.7	0.0	0.0	0.2	0.2	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	0.1	3.7	0.0	4.3	0.1	0.0	5.6	0.1	0.0	1.4	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.2	21.5	0.0	11.3	0.2	0.0	39.8	39.3	0.0	45.8	48.3	0.0
LnGrp LOS	B	C		B	A		D	D		D	D	
Approach Vol, veh/h		395	A		788	A		217	A		74	A
Approach Delay, s/veh		21.4			5.6			39.8			46.6	
Approach LOS		C			A			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	33.6	23.2	64.5	19.3	23.0	5.9	81.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	12.5	28.5	41.5	29.5	22.5	18.5	6.5	64.5
Max Q Clear Time (g_c+I1), s	5.0	2.3	17.5	10.5	14.5	2.8	2.3	2.0
Green Ext Time (p_c), s	0.0	0.0	1.2	2.4	0.3	0.1	0.0	3.0

Intersection Summary	
HCM 6th Ctrl Delay	16.9
HCM 6th LOS	B

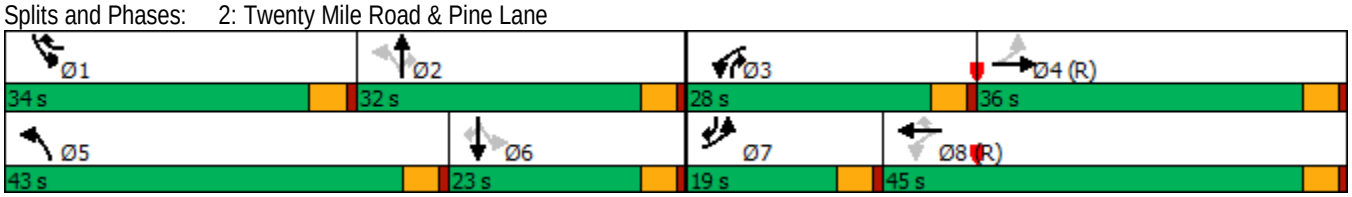
Notes

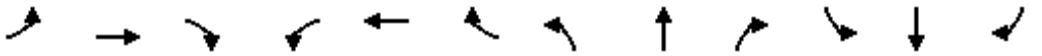
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	295	152	223	498	16	332	15	191	175	40	159
Future Volume (vph)	6	295	152	223	498	16	332	15	191	175	40	159
Turn Type	pm+pt	NA	Free	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases	4		Free	8		8	2		2	6		6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	9.5	9.5	22.5	9.5	9.5	22.5	9.5
Total Split (s)	19.0	36.0		28.0	45.0	34.0	43.0	32.0	28.0	34.0	23.0	19.0
Total Split (%)	14.6%	27.7%		21.5%	34.6%	26.2%	33.1%	24.6%	21.5%	26.2%	17.7%	14.6%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max	None	None	Max	None	None	Max	None
Act Effct Green (s)	44.0	38.2	130.0	59.5	49.2	67.5	61.5	43.2	64.5	47.5	33.7	44.0
Actuated g/C Ratio	0.34	0.29	1.00	0.46	0.38	0.52	0.47	0.33	0.50	0.37	0.26	0.34
v/c Ratio	0.02	0.31	0.10	0.49	0.40	0.02	0.54	0.01	0.23	0.35	0.05	0.27
Control Delay	20.8	37.6	0.1	11.2	15.4	0.2	26.2	31.1	2.9	23.3	39.4	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.8	37.6	0.1	11.2	15.4	0.2	26.2	31.1	2.9	23.3	39.4	6.0
LOS	C	D	A	B	B	A	C	C	A	C	D	A
Approach Delay		24.8			13.8			18.0			17.6	
Approach LOS		C			B			B			B	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.54	
Intersection Signal Delay: 18.0	Intersection LOS: B
Intersection Capacity Utilization 56.8%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 2: Twenty Mile Road & Pine Lane





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	295	152	223	498	16	332	15	191	175	40	159
Future Volume (veh/h)	6	295	152	223	498	16	332	15	191	175	40	159
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	321	0	242	541	0	361	16	0	190	43	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	2	2	2	2	2	2
Cap, veh/h	449	1556		624	1854		572	793		447	506	
Arrive On Green	0.01	0.44	0.00	0.12	0.69	0.00	0.19	0.22	0.00	0.11	0.14	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	7	321	0	242	541	0	361	16	0	190	43	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.3	7.3	0.0	9.5	7.6	0.0	21.6	0.5	0.0	11.6	1.4	0.0
Cycle Q Clear(g_c), s	0.3	7.3	0.0	9.5	7.6	0.0	21.6	0.5	0.0	11.6	1.4	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	449	1556		624	1854		572	793		447	506	
V/C Ratio(X)	0.02	0.21		0.39	0.29		0.63	0.02		0.43	0.09	
Avail Cap(c_a), veh/h	633	1556		782	1854		763	793		658	506	
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.81	0.81	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	20.0	22.6	0.0	15.5	10.7	0.0	34.9	39.4	0.0	40.9	48.4	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.3	0.3	0.0	1.2	0.0	0.0	0.6	0.3	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	0.1	3.1	0.0	3.7	2.8	0.0	9.5	0.2	0.0	5.2	0.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.0	22.9	0.0	15.8	11.0	0.0	36.0	39.5	0.0	41.5	48.7	0.0
LnGrp LOS	C	C		B	B		D	D		D	D	
Approach Vol, veh/h		328	A		783	A		377	A		233	A
Approach Delay, s/veh		22.8			12.5			36.2			42.8	
Approach LOS		C			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.6	33.5	16.5	61.4	29.1	23.0	5.6	72.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	29.5	27.5	23.5	31.5	38.5	18.5	14.5	40.5
Max Q Clear Time (g_c+I1), s	13.6	2.5	11.5	9.3	23.6	3.4	2.3	9.6
Green Ext Time (p_c), s	0.4	0.0	0.5	2.0	1.0	0.1	0.0	4.0

Intersection Summary	
HCM 6th Ctrl Delay	23.7
HCM 6th LOS	C

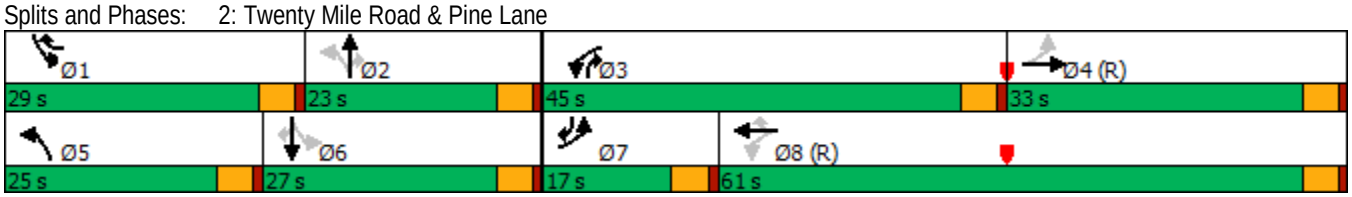
Notes

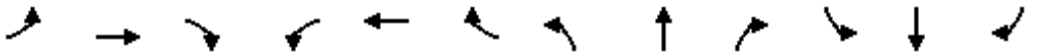
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	377	301	375	395	38	202	21	188	245	56	175
Future Volume (vph)	19	377	301	375	395	38	202	21	188	245	56	175
Turn Type	pm+pt	NA	Free	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases	4		Free	8		8	2		2	6		6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	9.5	9.5	22.5	9.5	9.5	22.5	9.5
Total Split (s)	17.0	33.0		45.0	61.0	29.0	25.0	23.0	45.0	29.0	27.0	17.0
Total Split (%)	13.1%	25.4%		34.6%	46.9%	22.3%	19.2%	17.7%	34.6%	22.3%	20.8%	13.1%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max	None	None	Max	None	None	Max	None
Act Effct Green (s)	52.3	46.1	130.0	73.5	62.8	86.9	40.1	23.4	50.8	45.9	26.3	37.0
Actuated g/C Ratio	0.40	0.35	1.00	0.57	0.48	0.67	0.31	0.18	0.39	0.35	0.20	0.28
v/c Ratio	0.05	0.33	0.21	0.68	0.25	0.04	0.47	0.04	0.28	0.52	0.09	0.32
Control Delay	15.4	32.7	0.3	19.8	15.9	1.4	34.0	46.9	4.2	35.0	44.2	6.6
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	15.4	32.7	0.3	19.8	15.9	1.4	34.0	46.9	4.2	35.0	44.2	6.6
LOS	B	C	A	B	B	A	C	D	A	C	D	A
Approach Delay		18.2			17.1			21.1			25.6	
Approach LOS		B			B			C			C	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 19.8	Intersection LOS: B
Intersection Capacity Utilization 62.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 2: Twenty Mile Road & Pine Lane





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	377	301	375	395	38	202	21	188	245	56	175
Future Volume (veh/h)	19	377	301	375	395	38	202	21	188	245	56	175
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	410	0	408	429	0	220	23	0	266	61	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	2	2	2	2	2	2
Cap, veh/h	484	1452		663	1947		472	537		511	615	
Arrive On Green	0.02	0.41	0.00	0.27	0.91	0.00	0.12	0.15	0.00	0.14	0.17	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	21	410	0	408	429	0	220	23	0	266	61	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.9	10.0	0.0	17.5	1.7	0.0	13.4	0.7	0.0	16.1	1.9	0.0
Cycle Q Clear(g_c), s	0.9	10.0	0.0	17.5	1.7	0.0	13.4	0.7	0.0	16.1	1.9	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	484	1452		663	1947		472	537		511	615	
V/C Ratio(X)	0.04	0.28		0.62	0.22		0.47	0.04		0.52	0.10	
Avail Cap(c_a), veh/h	618	1452		934	1947		539	537		593	615	
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.85	0.85	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.4	25.7	0.0	13.8	2.6	0.0	39.4	47.2	0.0	37.9	45.2	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.8	0.2	0.0	0.7	0.2	0.0	0.8	0.3	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	0.4	4.4	0.0	5.6	0.6	0.0	6.0	0.3	0.0	7.2	0.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.5	26.2	0.0	14.6	2.8	0.0	40.1	47.3	0.0	38.7	45.5	0.0
LnGrp LOS	C	C		B	A		D	D		D	D	
Approach Vol, veh/h		431	A		837	A		243	A		327	A
Approach Delay, s/veh		26.0			8.5			40.8			40.0	
Approach LOS		C			A			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.0	24.1	25.3	57.6	20.1	27.0	7.2	75.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	24.5	18.5	40.5	28.5	20.5	22.5	12.5	56.5
Max Q Clear Time (g_c+I1), s	18.1	2.7	19.5	12.0	15.4	3.9	2.9	3.7
Green Ext Time (p_c), s	0.4	0.0	1.2	2.4	0.3	0.2	0.0	3.2

Intersection Summary	
HCM 6th Ctrl Delay	22.5
HCM 6th LOS	C

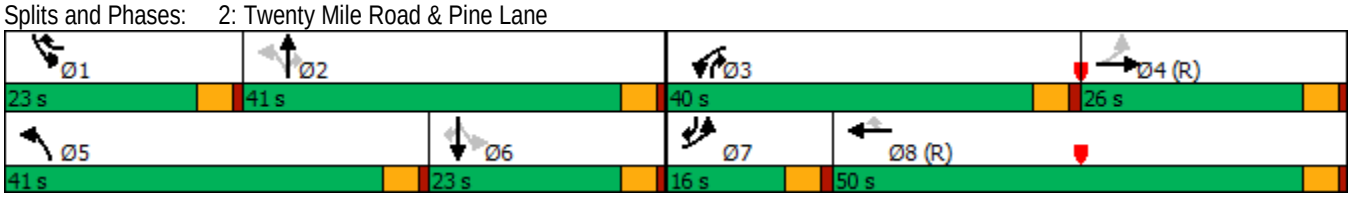
Notes

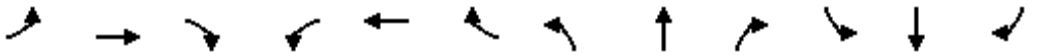
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	310	167	223	495	16	366	30	191	181	49	159
Future Volume (vph)	6	310	167	223	495	16	366	30	191	181	49	159
Turn Type	pm+pt	NA	Free	Prot	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases	4		Free			8	2		2	6		6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	9.5	9.5	22.5	9.5	9.5	22.5	9.5
Total Split (s)	16.0	26.0		40.0	50.0	23.0	41.0	41.0	40.0	23.0	23.0	16.0
Total Split (%)	12.3%	20.0%		30.8%	38.5%	17.7%	31.5%	31.5%	30.8%	17.7%	17.7%	12.3%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max	None	None	Max	None	None	Max	None
Act Effct Green (s)	39.7	33.9	130.0	23.1	51.2	69.9	59.5	40.7	68.3	42.9	28.7	39.0
Actuated g/C Ratio	0.31	0.26	1.00	0.18	0.39	0.54	0.46	0.31	0.53	0.33	0.22	0.30
v/c Ratio	0.02	0.37	0.11	0.77	0.39	0.02	0.61	0.03	0.22	0.40	0.07	0.29
Control Delay	21.2	42.0	0.1	58.3	17.6	0.1	29.3	32.7	2.4	25.7	43.8	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.2	42.0	0.1	58.3	17.6	0.1	29.3	32.7	2.4	25.7	43.8	6.9
LOS	C	D	A	E	B	A	C	C	A	C	D	A
Approach Delay		27.2			29.6			20.7			20.3	
Approach LOS		C			C			C			C	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 25.0	Intersection LOS: C
Intersection Capacity Utilization 59.1%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 2: Twenty Mile Road & Pine Lane





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	310	167	223	495	16	366	30	191	181	49	159
Future Volume (veh/h)	6	310	167	223	495	16	366	30	191	181	49	159
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	337	0	242	538	0	398	33	0	197	53	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	2	2	2	2	2	2
Cap, veh/h	353	1157		268	1661		644	998		503	675	
Arrive On Green	0.01	0.33	0.00	0.30	0.93	0.00	0.20	0.28	0.00	0.10	0.19	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	7	337	0	242	538	0	398	33	0	197	53	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.3	9.2	0.0	17.0	1.8	0.0	22.4	0.9	0.0	11.4	1.6	0.0
Cycle Q Clear(g_c), s	0.3	9.2	0.0	17.0	1.8	0.0	22.4	0.9	0.0	11.4	1.6	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	353	1157		268	1661		644	998		503	675	
V/C Ratio(X)	0.02	0.29		0.90	0.32		0.62	0.03		0.39	0.08	
Avail Cap(c_a), veh/h	495	1157		486	1661		796	998		570	675	
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.9	32.7	0.0	44.5	2.3	0.0	30.1	33.9	0.0	36.3	43.3	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	10.8	0.5	0.0	1.0	0.1	0.0	0.5	0.2	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	0.2	4.1	0.0	7.3	0.7	0.0	9.8	0.4	0.0	5.1	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.0	33.3	0.0	55.3	2.8	0.0	31.1	34.0	0.0	36.8	43.5	0.0
LnGrp LOS	C	C		E	A		C	C		D	D	
Approach Vol, veh/h		344	A		780	A		431	A		250	A
Approach Delay, s/veh		33.2			19.1			31.3			38.3	
Approach LOS		C			B			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.1	41.0	24.1	46.8	29.9	29.2	5.6	65.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.5	36.5	35.5	21.5	36.5	18.5	11.5	45.5
Max Q Clear Time (g_c+I1), s	13.4	2.9	19.0	11.2	24.4	3.6	2.3	3.8
Green Ext Time (p_c), s	0.2	0.1	0.6	1.5	1.0	0.2	0.0	4.1

Intersection Summary	
HCM 6th Ctrl Delay	27.4
HCM 6th LOS	C

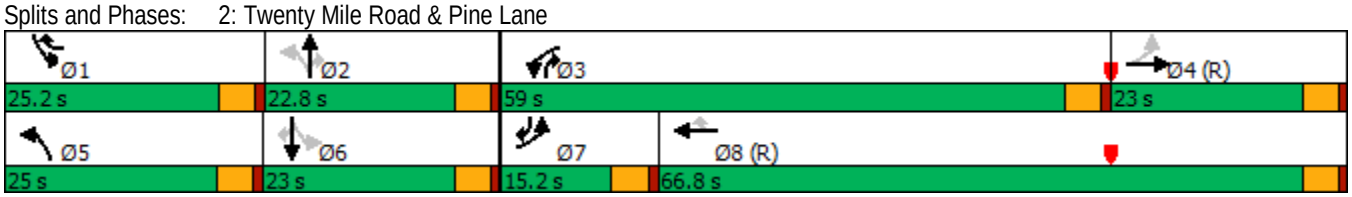
Notes

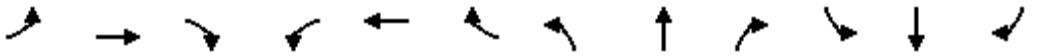
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	393	317	375	391	38	238	37	188	252	66	175
Future Volume (vph)	19	393	317	375	391	38	238	37	188	252	66	175
Turn Type	pm+pt	NA	Free	Prot	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases	4		Free			8	2		2	6		6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	9.5	9.5	22.5	9.5	9.5	22.5	9.5
Total Split (s)	15.2	23.0		59.0	66.8	25.2	25.0	22.8	59.0	25.2	23.0	15.2
Total Split (%)	11.7%	17.7%		45.4%	51.4%	19.4%	19.2%	17.5%	45.4%	19.4%	17.7%	11.7%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max	None	None	Max	None	None	Max	None
Act Effct Green (s)	42.7	36.5	130.0	36.5	66.8	90.2	38.5	20.1	61.1	39.5	20.6	31.2
Actuated g/C Ratio	0.33	0.28	1.00	0.28	0.51	0.69	0.30	0.15	0.47	0.30	0.16	0.24
v/c Ratio	0.06	0.43	0.22	0.82	0.23	0.04	0.57	0.07	0.25	0.59	0.13	0.36
Control Delay	17.7	41.6	0.3	64.1	14.9	0.6	39.6	48.8	5.3	40.2	48.9	7.6
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	17.7	41.6	0.3	64.1	14.9	0.6	39.6	48.8	5.3	40.2	48.9	7.6
LOS	B	D	A	E	B	A	D	D	A	D	D	A
Approach Delay		23.0			37.2			26.4			29.8	
Approach LOS		C			D			C			C	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 29.6	Intersection LOS: C
Intersection Capacity Utilization 63.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 2: Twenty Mile Road & Pine Lane





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	393	317	375	391	38	238	37	188	252	66	175
Future Volume (veh/h)	19	393	317	375	391	38	238	37	188	252	66	175
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	427	0	408	425	0	259	40	0	274	72	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	2	2	2	2	2	2
Cap, veh/h	409	1172		436	1969		476	500		495	525	
Arrive On Green	0.02	0.33	0.00	0.41	0.93	0.00	0.14	0.14	0.00	0.15	0.15	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	21	427	0	408	425	0	259	40	0	274	72	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.0	11.9	0.0	28.5	1.5	0.0	15.9	1.3	0.0	16.8	2.3	0.0
Cycle Q Clear(g_c), s	1.0	11.9	0.0	28.5	1.5	0.0	15.9	1.3	0.0	16.8	2.3	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	409	1172		436	1969		476	500		495	525	
V/C Ratio(X)	0.05	0.36		0.94	0.22		0.54	0.08		0.55	0.14	
Avail Cap(c_a), veh/h	520	1172		747	1969		509	500		518	525	
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.8	33.2	0.0	37.5	2.2	0.0	39.4	48.5	0.0	39.1	48.2	0.0
Incr Delay (d2), s/veh	0.1	0.9	0.0	12.3	0.3	0.0	1.0	0.3	0.0	1.2	0.5	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	0.4	5.3	0.0	12.4	0.5	0.0	7.1	0.6	0.0	7.6	1.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.8	34.0	0.0	49.8	2.5	0.0	40.5	48.8	0.0	40.2	48.7	0.0
LnGrp LOS	C	C		D	A		D	D		D	D	
Approach Vol, veh/h		448	A		833	A		299	A		346	A
Approach Delay, s/veh		33.8			25.6			41.6			42.0	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.5	22.8	36.3	47.4	22.6	23.7	7.2	76.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	20.7	18.3	54.5	18.5	20.5	18.5	10.7	62.3
Max Q Clear Time (g_c+I1), s	18.8	3.3	30.5	13.9	17.9	4.3	3.0	3.5
Green Ext Time (p_c), s	0.2	0.1	1.3	1.1	0.2	0.2	0.0	3.2

Intersection Summary	
HCM 6th Ctrl Delay	32.9
HCM 6th LOS	C

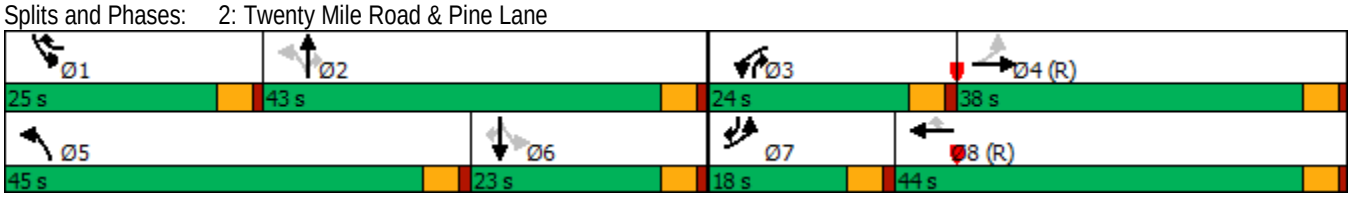
Notes

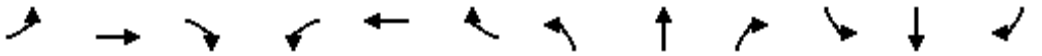
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	310	167	223	495	16	366	30	191	181	49	159
Future Volume (vph)	6	310	167	223	495	16	366	30	191	181	49	159
Turn Type	pm+pt	NA	Free	Prot	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases	4		Free			8	2		2	6		6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	9.5	9.5	22.5	9.5	9.5	22.5	9.5
Total Split (s)	18.0	38.0		24.0	44.0	25.0	45.0	43.0	24.0	25.0	23.0	18.0
Total Split (%)	13.8%	29.2%		18.5%	33.8%	19.2%	34.6%	33.1%	18.5%	19.2%	17.7%	13.8%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max	None	None	Max	None	None	Max	None
Act Effct Green (s)	44.4	38.6	130.0	14.4	47.2	65.6	63.5	45.1	64.0	47.8	33.9	44.2
Actuated g/C Ratio	0.34	0.30	1.00	0.11	0.36	0.50	0.49	0.35	0.49	0.37	0.26	0.34
v/c Ratio	0.02	0.32	0.11	0.64	0.42	0.02	0.58	0.03	0.24	0.36	0.06	0.27
Control Delay	21.5	37.2	0.1	62.2	21.2	0.1	25.8	29.7	3.0	22.6	39.3	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.5	37.2	0.1	62.2	21.2	0.1	25.8	29.7	3.0	22.6	39.3	6.0
LOS	C	D	A	E	C	A	C	C	A	C	D	A
Approach Delay		24.2			33.2			18.6			17.9	
Approach LOS		C			C			B			B	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 24.6	Intersection LOS: C
Intersection Capacity Utilization 56.0%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 2: Twenty Mile Road & Pine Lane





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	310	167	223	495	16	366	30	191	181	49	159
Future Volume (veh/h)	6	310	167	223	495	16	366	30	191	181	49	159
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	337	0	242	538	0	398	33	0	197	53	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	2	2	2	2	2	2
Cap, veh/h	379	1329		304	1611		662	1052		524	736	
Arrive On Green	0.01	0.37	0.00	0.09	0.45	0.00	0.19	0.30	0.00	0.10	0.21	0.00
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	7	337	0	242	538	0	398	33	0	197	53	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.3	8.5	0.0	8.9	12.7	0.0	21.9	0.9	0.0	11.1	1.6	0.0
Cycle Q Clear(g_c), s	0.3	8.5	0.0	8.9	12.7	0.0	21.9	0.9	0.0	11.1	1.6	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	379	1329		304	1611		662	1052		524	736	
V/C Ratio(X)	0.02	0.25		0.80	0.33		0.60	0.03		0.38	0.07	
Avail Cap(c_a), veh/h	549	1329		518	1611		874	1052		621	736	
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	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.9	28.1	0.0	58.1	22.9	0.0	28.7	32.5	0.0	34.7	41.5	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.0	4.7	0.6	0.0	0.9	0.1	0.0	0.4	0.2	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	0.1	3.8	0.0	4.1	5.5	0.0	9.5	0.4	0.0	4.9	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.9	28.6	0.0	62.9	23.4	0.0	29.6	32.6	0.0	35.2	41.7	0.0
LnGrp LOS	C	C		E	C		C	C		D	D	
Approach Vol, veh/h		344	A		780	A		431	A		250	A
Approach Delay, s/veh		28.5			35.7			29.8			36.6	
Approach LOS		C			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.9	43.0	15.9	53.1	29.5	31.4	5.6	63.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	20.5	38.5	19.5	33.5	40.5	18.5	13.5	39.5
Max Q Clear Time (g_c+I1), s	13.1	2.9	10.9	10.5	23.9	3.6	2.3	14.7
Green Ext Time (p_c), s	0.3	0.1	0.5	2.2	1.1	0.2	0.0	3.8

Intersection Summary	
HCM 6th Ctrl Delay	33.0
HCM 6th LOS	C

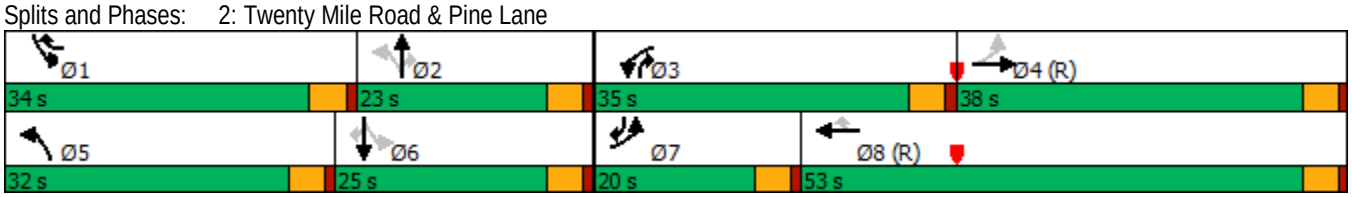
Notes

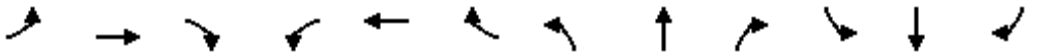
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	393	317	375	391	38	238	37	188	252	66	175
Future Volume (vph)	19	393	317	375	391	38	238	37	188	252	66	175
Turn Type	pm+pt	NA	Free	Prot	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases	4		Free			8	2		2	6		6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	9.5	9.5	22.5	9.5	9.5	22.5	9.5
Total Split (s)	20.0	38.0		35.0	53.0	34.0	32.0	23.0	35.0	34.0	25.0	20.0
Total Split (%)	15.4%	29.2%		26.9%	40.8%	26.2%	24.6%	17.7%	26.9%	26.2%	19.2%	15.4%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max	None	None	Max	None	None	Max	None
Act Effct Green (s)	49.4	43.1	130.0	20.9	57.7	82.1	47.1	28.1	53.5	48.9	29.0	39.8
Actuated g/C Ratio	0.38	0.33	1.00	0.16	0.44	0.63	0.36	0.22	0.41	0.38	0.22	0.31
v/c Ratio	0.05	0.36	0.22	0.74	0.27	0.04	0.48	0.05	0.26	0.48	0.09	0.31
Control Delay	17.0	34.9	0.3	70.2	24.3	1.4	30.6	43.5	4.1	30.8	42.5	6.4
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	17.0	34.9	0.3	70.2	24.3	1.4	30.6	43.5	4.1	30.8	42.5	6.4
LOS	B	C	A	E	C	A	C	D	A	C	D	A
Approach Delay		19.4			44.6			20.9			23.7	
Approach LOS		B			D			C			C	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 28.7	Intersection LOS: C
Intersection Capacity Utilization 53.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: Twenty Mile Road & Pine Lane





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	393	317	375	391	38	238	37	188	252	66	175
Future Volume (veh/h)	19	393	317	375	391	38	238	37	188	252	66	175
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	427	0	408	425	0	259	40	0	274	72	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	2	2	2	2	2	2
Cap, veh/h	499	1505		484	1930		491	534		511	560	
Arrive On Green	0.02	0.42	0.00	0.14	0.54	0.00	0.14	0.15	0.00	0.15	0.16	0.00
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	21	427	0	408	425	0	259	40	0	274	72	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.9	10.2	0.0	15.0	8.1	0.0	15.7	1.3	0.0	16.6	2.3	0.0
Cycle Q Clear(g_c), s	0.9	10.2	0.0	15.0	8.1	0.0	15.7	1.3	0.0	16.6	2.3	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	499	1505		484	1930		491	534		511	560	
V/C Ratio(X)	0.04	0.28		0.84	0.22		0.53	0.07		0.54	0.13	
Avail Cap(c_a), veh/h	675	1505		811	1930		619	534		652	560	
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	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	20.3	24.5	0.0	54.5	15.4	0.0	38.3	47.5	0.0	37.9	47.1	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.0	4.2	0.3	0.0	0.9	0.3	0.0	0.9	0.5	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	0.4	4.5	0.0	6.8	3.4	0.0	7.0	0.6	0.0	7.4	1.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.4	25.0	0.0	58.7	15.7	0.0	39.2	47.7	0.0	38.8	47.5	0.0
LnGrp LOS	C	C		E	B		D	D		D	D	
Approach Vol, veh/h		448	A		833	A		299	A		346	A
Approach Delay, s/veh		24.8			36.7			40.3			40.6	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.7	24.0	22.7	59.6	22.7	25.0	7.2	75.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	29.5	18.5	30.5	33.5	27.5	20.5	15.5	48.5
Max Q Clear Time (g_c+I1), s	18.6	3.3	17.0	12.2	17.7	4.3	2.9	10.1
Green Ext Time (p_c), s	0.6	0.1	1.2	2.8	0.5	0.3	0.0	3.1

Intersection Summary	
HCM 6th Ctrl Delay	35.2
HCM 6th LOS	D

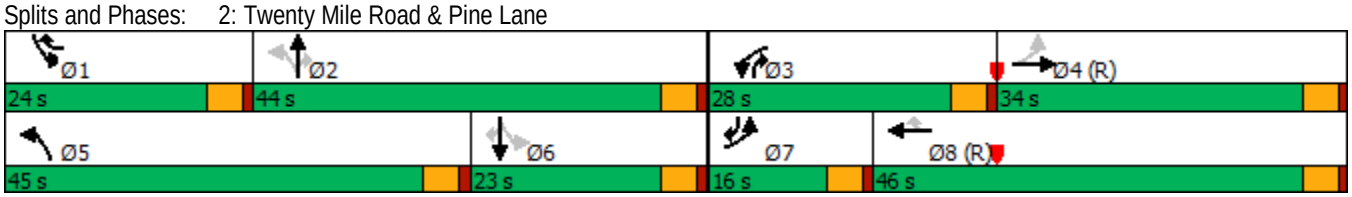
Notes

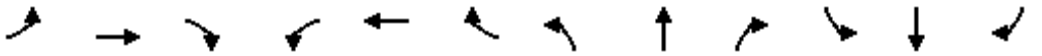
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	366	188	276	617	19	412	17	237	178	43	161
Future Volume (vph)	7	366	188	276	617	19	412	17	237	178	43	161
Turn Type	pm+pt	NA	Free	Prot	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases	4		Free			8	2		2	6		6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	9.5	9.5	22.5	9.5	9.5	22.5	9.5
Total Split (s)	16.0	34.0		28.0	46.0	24.0	45.0	44.0	28.0	24.0	23.0	16.0
Total Split (%)	12.3%	26.2%		21.5%	35.4%	18.5%	34.6%	33.8%	21.5%	18.5%	17.7%	12.3%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max	None	None	Max	None	None	Max	None
Act Effct Green (s)	42.1	36.2	130.0	16.8	47.1	65.3	63.5	45.3	66.6	44.2	30.5	40.9
Actuated g/C Ratio	0.32	0.28	1.00	0.13	0.36	0.50	0.49	0.35	0.51	0.34	0.23	0.31
v/c Ratio	0.03	0.40	0.13	0.68	0.52	0.03	0.64	0.01	0.28	0.38	0.06	0.28
Control Delay	22.0	40.4	0.2	79.2	22.5	0.1	27.6	29.6	3.7	23.5	42.6	7.0
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	22.0	40.4	0.2	79.2	22.5	0.1	27.6	29.6	3.7	23.5	42.6	7.0
LOS	C	D	A	E	C	A	C	C	A	C	D	A
Approach Delay		26.7			39.2			19.1			18.7	
Approach LOS		C			D			B			B	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 28.0	Intersection LOS: C
Intersection Capacity Utilization 62.0%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 2: Twenty Mile Road & Pine Lane





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	366	188	276	617	19	412	17	237	178	43	161
Future Volume (veh/h)	7	366	188	276	617	19	412	17	237	178	43	161
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	398	0	300	671	0	448	18	0	193	47	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	2	2	2	2	2	2
Cap, veh/h	314	1237		367	1580		686	1080		502	669	
Arrive On Green	0.01	0.35	0.00	0.11	0.44	0.00	0.22	0.30	0.00	0.10	0.19	0.00
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	8	398	0	300	671	0	448	18	0	193	47	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.4	10.7	0.0	11.0	16.8	0.0	25.2	0.5	0.0	11.2	1.4	0.0
Cycle Q Clear(g_c), s	0.4	10.7	0.0	11.0	16.8	0.0	25.2	0.5	0.0	11.2	1.4	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	314	1237		367	1580		686	1080		502	669	
V/C Ratio(X)	0.03	0.32		0.82	0.42		0.65	0.02		0.38	0.07	
Avail Cap(c_a), veh/h	455	1237		625	1580		851	1080		585	669	
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	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.0	31.1	0.0	56.9	24.7	0.0	29.0	31.7	0.0	36.6	43.4	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	4.5	0.8	0.0	1.3	0.0	0.0	0.5	0.2	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	0.2	4.7	0.0	5.1	7.3	0.0	11.0	0.2	0.0	5.0	0.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.0	31.8	0.0	61.4	25.6	0.0	30.3	31.7	0.0	37.0	43.6	0.0
LnGrp LOS	C	C		E	C		C	C		D	D	
Approach Vol, veh/h		406	A		971	A		466	A		240	A
Approach Delay, s/veh		31.7			36.6			30.3			38.3	
Approach LOS		C			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.9	44.0	18.3	49.7	33.0	29.0	5.8	62.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	19.5	39.5	23.5	29.5	40.5	18.5	11.5	41.5
Max Q Clear Time (g_c+I1), s	13.2	2.5	13.0	12.7	27.2	3.4	2.4	18.8
Green Ext Time (p_c), s	0.3	0.1	0.8	2.4	1.2	0.1	0.0	4.8

Intersection Summary	
HCM 6th Ctrl Delay	34.4
HCM 6th LOS	C

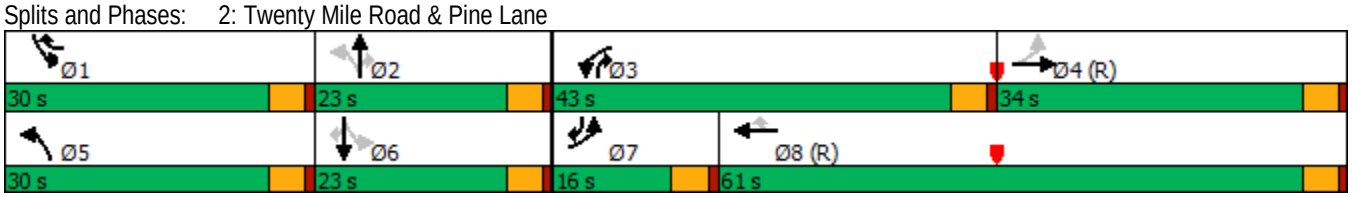
Notes

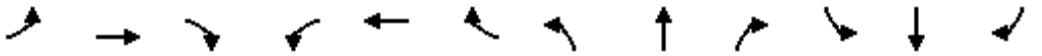
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	467	374	464	489	41	250	23	233	256	62	154
Future Volume (vph)	22	467	374	464	489	41	250	23	233	256	62	154
Turn Type	pm+pt	NA	Free	Prot	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases	4		Free			8	2		2	6		6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	9.5	9.5	22.5	9.5	9.5	22.5	9.5
Total Split (s)	16.0	34.0		43.0	61.0	30.0	30.0	23.0	43.0	30.0	23.0	16.0
Total Split (%)	12.3%	26.2%		33.1%	46.9%	23.1%	23.1%	17.7%	33.1%	23.1%	17.7%	12.3%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max	None	None	Max	None	None	Max	None
Act Effct Green (s)	49.2	42.8	130.0	25.2	61.7	86.5	43.7	23.7	53.4	44.3	24.0	34.8
Actuated g/C Ratio	0.38	0.33	1.00	0.19	0.47	0.67	0.34	0.18	0.41	0.34	0.18	0.27
v/c Ratio	0.07	0.44	0.26	0.76	0.32	0.04	0.53	0.04	0.33	0.53	0.10	0.31
Control Delay	16.2	36.5	0.4	61.2	23.5	2.1	34.7	46.7	8.6	34.6	46.7	7.3
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	16.2	36.5	0.4	61.2	23.5	2.1	34.7	46.7	8.6	34.6	46.7	7.3
LOS	B	D	A	E	C	A	C	D	A	C	D	A
Approach Delay		20.3			40.2			23.2			27.3	
Approach LOS		C			D			C			C	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 29.0	Intersection LOS: C
Intersection Capacity Utilization 58.2%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 2: Twenty Mile Road & Pine Lane





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	467	374	464	489	41	250	23	233	256	62	154
Future Volume (veh/h)	22	467	374	464	489	41	250	23	233	256	62	154
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	508	0	504	532	0	272	25	0	278	67	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	2	2	2	2	2	2
Cap, veh/h	443	1418		589	1944		489	506		511	516	
Arrive On Green	0.02	0.40	0.00	0.17	0.55	0.00	0.15	0.14	0.00	0.15	0.15	0.00
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	24	508	0	504	532	0	272	25	0	278	67	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.0	13.0	0.0	18.4	10.4	0.0	16.7	0.8	0.0	17.0	2.1	0.0
Cycle Q Clear(g_c), s	1.0	13.0	0.0	18.4	10.4	0.0	16.7	0.8	0.0	17.0	2.1	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	443	1418		589	1944		489	506		511	516	
V/C Ratio(X)	0.05	0.36		0.86	0.27		0.56	0.05		0.54	0.13	
Avail Cap(c_a), veh/h	561	1418		1023	1944		576	506		594	516	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	22.1	27.4	0.0	52.4	15.7	0.0	38.8	48.2	0.0	38.6	48.4	0.0
Incr Delay (d2), s/veh	0.1	0.7	0.0	3.7	0.3	0.0	1.0	0.2	0.0	0.9	0.5	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	0.4	5.7	0.0	8.3	4.3	0.0	7.4	0.4	0.0	7.6	1.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.1	28.1	0.0	56.1	16.0	0.0	39.8	48.3	0.0	39.5	48.9	0.0
LnGrp LOS	C	C		E	B		D	D		D	D	
Approach Vol, veh/h		532	A		1036	A		297	A		345	A
Approach Delay, s/veh		27.8			35.5			40.5			41.3	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.0	23.0	26.7	56.4	23.6	23.4	7.4	75.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	25.5	18.5	38.5	29.5	25.5	18.5	11.5	56.5
Max Q Clear Time (g_c+I1), s	19.0	2.8	20.4	15.0	18.7	4.1	3.0	12.4
Green Ext Time (p_c), s	0.5	0.1	1.7	2.9	0.5	0.2	0.0	4.1

Intersection Summary	
HCM 6th Ctrl Delay	35.2
HCM 6th LOS	D

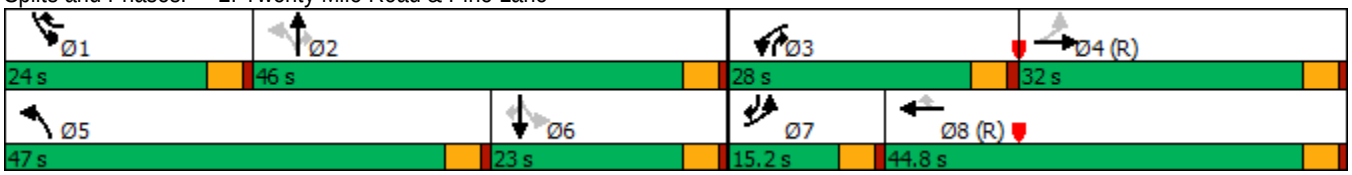
Notes

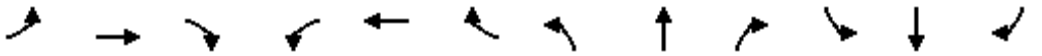
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	381	203	276	614	19	446	32	237	184	52	161
Future Volume (vph)	7	381	203	276	614	19	446	32	237	184	52	161
Turn Type	pm+pt	NA	Free	Prot	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases	4		Free			8	2		2	6		6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	9.5	9.5	22.5	9.5	9.5	22.5	9.5
Total Split (s)	15.2	32.0		28.0	44.8	24.0	47.0	46.0	28.0	24.0	23.0	15.2
Total Split (%)	11.7%	24.6%		21.5%	34.5%	18.5%	36.2%	35.4%	21.5%	18.5%	17.7%	11.7%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max	None	None	Max	None	None	Max	None
Act Effct Green (s)	40.1	34.2	130.0	16.8	45.1	63.4	65.5	47.2	68.5	44.4	30.6	41.0
Actuated g/C Ratio	0.31	0.26	1.00	0.13	0.35	0.49	0.50	0.36	0.53	0.34	0.24	0.32
v/c Ratio	0.03	0.44	0.14	0.68	0.54	0.03	0.67	0.03	0.28	0.39	0.07	0.29
Control Delay	23.1	42.5	0.2	72.2	24.0	0.1	27.3	28.2	4.2	23.0	42.6	8.0
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	23.1	42.5	0.2	72.2	24.0	0.1	27.3	28.2	4.2	23.0	42.6	8.0
LOS	C	D	A	E	C	A	C	C	A	C	D	A
Approach Delay		27.7			38.1			19.7			19.5	
Approach LOS		C			D			B			B	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 27.9	Intersection LOS: C
Intersection Capacity Utilization 63.8%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 2: Twenty Mile Road & Pine Lane





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	381	203	276	614	19	446	32	237	184	52	161
Future Volume (veh/h)	7	381	203	276	614	19	446	32	237	184	52	161
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	414	0	300	667	0	485	35	0	200	57	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	2	2	2	2	2	2
Cap, veh/h	299	1172		367	1515		713	1134		506	677	
Arrive On Green	0.01	0.33	0.00	0.11	0.43	0.00	0.24	0.32	0.00	0.11	0.19	0.00
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	8	414	0	300	667	0	485	35	0	200	57	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.4	11.5	0.0	11.0	17.2	0.0	27.2	0.9	0.0	11.6	1.7	0.0
Cycle Q Clear(g_c), s	0.4	11.5	0.0	11.0	17.2	0.0	27.2	0.9	0.0	11.6	1.7	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	299	1172		367	1515		713	1134		506	677	
V/C Ratio(X)	0.03	0.35		0.82	0.44		0.68	0.03		0.39	0.08	
Avail Cap(c_a), veh/h	428	1172		625	1515		876	1134		584	677	
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	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.6	33.0	0.0	56.9	26.3	0.0	28.0	30.4	0.0	36.2	43.3	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.0	4.5	0.9	0.0	1.6	0.1	0.0	0.5	0.2	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	0.2	5.1	0.0	5.1	7.5	0.0	11.8	0.4	0.0	5.1	0.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.6	33.9	0.0	61.4	27.3	0.0	29.6	30.5	0.0	36.7	43.5	0.0
LnGrp LOS	C	C		E	C		C	C		D	D	
Approach Vol, veh/h		422	A		967	A		520	A		257	A
Approach Delay, s/veh		33.8			37.8			29.7			38.2	
Approach LOS		C			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.3	46.0	18.3	47.4	35.1	29.3	5.8	59.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	19.5	41.5	23.5	27.5	42.5	18.5	10.7	40.3
Max Q Clear Time (g_c+I1), s	13.6	2.9	13.0	13.5	29.2	3.7	2.4	19.2
Green Ext Time (p_c), s	0.3	0.2	0.8	2.3	1.4	0.2	0.0	4.6

Intersection Summary	
HCM 6th Ctrl Delay	35.1
HCM 6th LOS	D

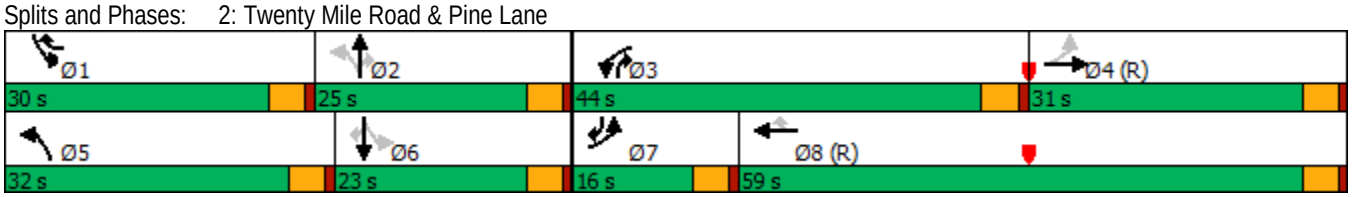
Notes

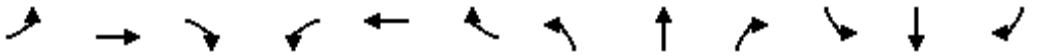
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	483	390	464	485	41	286	39	233	263	72	154
Future Volume (vph)	22	483	390	464	485	41	286	39	233	263	72	154
Turn Type	pm+pt	NA	Free	Prot	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases	4		Free			8	2		2	6		6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	9.5	9.5	22.5	9.5	9.5	22.5	9.5
Total Split (s)	16.0	31.0		44.0	59.0	30.0	32.0	25.0	44.0	30.0	23.0	16.0
Total Split (%)	12.3%	23.8%		33.8%	45.4%	23.1%	24.6%	19.2%	33.8%	23.1%	17.7%	12.3%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max	None	None	Max	None	None	Max	None
Act Effct Green (s)	47.2	40.8	130.0	25.2	59.6	84.6	47.6	25.6	55.3	44.4	24.0	34.9
Actuated g/C Ratio	0.36	0.31	1.00	0.19	0.46	0.65	0.37	0.20	0.43	0.34	0.18	0.27
v/c Ratio	0.07	0.47	0.27	0.76	0.32	0.04	0.57	0.06	0.33	0.54	0.12	0.31
Control Delay	17.1	38.6	0.4	60.2	24.5	2.1	34.4	45.2	8.8	33.6	46.9	7.3
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	17.1	38.6	0.4	60.2	24.5	2.1	34.4	45.2	8.8	33.6	46.9	7.3
LOS	B	D	A	E	C	A	C	D	A	C	D	A
Approach Delay		21.4			40.3			24.5			27.3	
Approach LOS		C			D			C			C	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 29.4	Intersection LOS: C
Intersection Capacity Utilization 60.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 2: Twenty Mile Road & Pine Lane





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	483	390	464	485	41	286	39	233	263	72	154
Future Volume (veh/h)	22	483	390	464	485	41	286	39	233	263	72	154
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	525	0	504	527	0	311	42	0	286	78	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	2	2	2	2	2	2
Cap, veh/h	428	1351		590	1878		517	560		526	517	
Arrive On Green	0.02	0.38	0.00	0.17	0.53	0.00	0.17	0.16	0.00	0.15	0.15	0.00
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	24	525	0	504	527	0	311	42	0	286	78	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.1	14.0	0.0	18.4	10.7	0.0	19.0	1.3	0.0	17.4	2.5	0.0
Cycle Q Clear(g_c), s	1.1	14.0	0.0	18.4	10.7	0.0	19.0	1.3	0.0	17.4	2.5	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	428	1351		590	1878		517	560		526	517	
V/C Ratio(X)	0.06	0.39		0.85	0.28		0.60	0.07		0.54	0.15	
Avail Cap(c_a), veh/h	546	1351		1050	1878		599	560		603	517	
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	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	23.5	29.3	0.0	52.3	17.0	0.0	37.4	46.7	0.0	38.1	48.5	0.0
Incr Delay (d2), s/veh	0.1	0.8	0.0	3.7	0.4	0.0	1.3	0.3	0.0	0.9	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	0.5	6.2	0.0	8.3	4.5	0.0	8.5	0.6	0.0	7.8	1.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.6	30.1	0.0	56.0	17.3	0.0	38.7	46.9	0.0	39.0	49.2	0.0
LnGrp LOS	C	C		E	B		D	D		D	D	
Approach Vol, veh/h		549	A		1031	A		353	A		364	A
Approach Delay, s/veh		29.9			36.2			39.7			41.2	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.4	25.0	26.7	53.9	26.0	23.4	7.4	73.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	25.5	20.5	39.5	26.5	27.5	18.5	11.5	54.5
Max Q Clear Time (g_c+I1), s	19.4	3.3	20.4	16.0	21.0	4.5	3.1	12.7
Green Ext Time (p_c), s	0.4	0.1	1.8	2.6	0.5	0.3	0.0	4.0

Intersection Summary	
HCM 6th Ctrl Delay	36.0
HCM 6th LOS	D

Notes

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

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	507	23	160	735	0	156
Future Vol, veh/h	507	23	160	735	0	156
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	-	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	551	25	174	799	0	170

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	576	0	-	288
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.22	-	-	3.32
Pot Cap-1 Maneuver	-	-	1291	-	0	*884
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-	1	-		1
Mov Cap-1 Maneuver	-	-	1291	-	-	*884
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	884	-	-	1291	-
HCM Lane V/C Ratio	0.192	-	-	0.135	-
HCM Control Delay (s)	10	-	-	8.2	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.7	-	-	0.5	-

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

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	633	26	170	778	0	156
Future Vol, veh/h	633	26	170	778	0	156
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	-	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	688	28	185	846	0	170

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	716	0	-	358
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.22	-	-	3.32
Pot Cap-1 Maneuver	-	-	1210	-	0	*836
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-	1	-		1
Mov Cap-1 Maneuver	-	-	1210	-	-	*836
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	836	-	-	1210	-
HCM Lane V/C Ratio	0.203	-	-	0.153	-
HCM Control Delay (s)	10.4	-	-	8.5	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.8	-	-	0.5	-

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

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	630	23	160	911	0	156
Future Vol, veh/h	630	23	160	911	0	156
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	-	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	685	25	174	990	0	170

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	710	0	-	355
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.22	-	-	3.32
Pot Cap-1 Maneuver	-	-	1218	-	0	*836
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-	1	-		1
Mov Cap-1 Maneuver	-	-	1218	-	-	*836
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	836	-	-	1218	-
HCM Lane V/C Ratio	0.203	-	-	0.143	-
HCM Control Delay (s)	10.4	-	-	8.4	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.8	-	-	0.5	-

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

Intersection	
Int Delay, s/veh	1.5

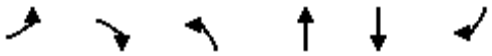
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	785	26	170	966	0	156
Future Vol, veh/h	785	26	170	966	0	156
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	-	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	853	28	185	1050	0	170

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	881	0	-	441
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.22	-	-	3.32
Pot Cap-1 Maneuver	-	-	*1142	-	0	*763
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-	1	-		1
Mov Cap-1 Maneuver	-	-	*1142	-	-	*763
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	11.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	763	-	-	* 1142	-
HCM Lane V/C Ratio	0.222	-	-	0.162	-
HCM Control Delay (s)	11.1	-	-	8.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.8	-	-	0.6	-

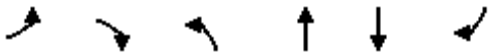
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	100	0	3669	1861	91
Future Volume (Veh/h)	0	100	0	3669	1861	91
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	109	0	3988	2023	99
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				865	463	
pX, platoon unblocked	0.56	0.69	0.69			
vC, conflicting volume	3352	674	2122			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	1046			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	85	100			
cM capacity (veh/h)	571	747	455			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	109	1329	1329	1329	674	674	674	99
Volume Left	0	0	0	0	0	0	0	0
Volume Right	109	0	0	0	0	0	0	99
cSH	747	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.15	0.78	0.78	0.78	0.40	0.40	0.40	0.06
Queue Length 95th (ft)	13	0	0	0	0	0	0	0
Control Delay (s)	10.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B							
Approach Delay (s)	10.6	0.0			0.0			
Approach LOS	B							

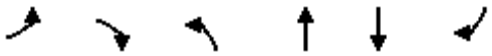
Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	74.2%	ICU Level of Service		D
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	109	0	2597	3306	107
Future Volume (Veh/h)	0	109	0	2597	3306	107
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	118	0	2823	3593	116
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				857	471	
pX, platoon unblocked	0.56	0.45	0.45			
vC, conflicting volume	4534	1198	3709			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2012	0	2754			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	76	100			
cM capacity (veh/h)	29	491	64			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	118	941	941	941	1198	1198	1198	116
Volume Left	0	0	0	0	0	0	0	0
Volume Right	118	0	0	0	0	0	0	116
cSH	491	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.24	0.55	0.55	0.55	0.70	0.70	0.70	0.07
Queue Length 95th (ft)	23	0	0	0	0	0	0	0
Control Delay (s)	14.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B							
Approach Delay (s)	14.6	0.0			0.0			
Approach LOS	B							

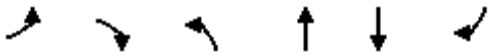
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	100	0	3669	1861	91
Future Volume (Veh/h)	0	100	0	3669	1861	91
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	109	0	3988	2023	99
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				865	463	
pX, platoon unblocked	0.71	0.75	0.75			
vC, conflicting volume	3070	555	2122			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	796			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	87	100			
cM capacity (veh/h)	731	808	612			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	109	997	997	997	997	578	578	578	388
Volume Left	0	0	0	0	0	0	0	0	0
Volume Right	109	0	0	0	0	0	0	0	99
cSH	808	1700	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.13	0.59	0.59	0.59	0.59	0.34	0.34	0.34	0.23
Queue Length 95th (ft)	12	0	0	0	0	0	0	0	0
Control Delay (s)	10.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B								
Approach Delay (s)	10.1	0.0				0.0			
Approach LOS	B								

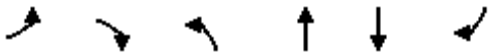
Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	56.5%	ICU Level of Service		B
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	109	0	2597	3306	107
Future Volume (Veh/h)	0	109	0	2597	3306	107
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	118	0	2823	3593	116
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				857	471	
pX, platoon unblocked	0.58	0.50	0.50			
vC, conflicting volume	4357	956	3709			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	750	0	1422			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	78	100			
cM capacity (veh/h)	200	543	238			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	118	706	706	706	706	1027	1027	1027	629
Volume Left	0	0	0	0	0	0	0	0	0
Volume Right	118	0	0	0	0	0	0	0	116
cSH	543	1700	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.22	0.42	0.42	0.42	0.42	0.60	0.60	0.60	0.37
Queue Length 95th (ft)	21	0	0	0	0	0	0	0	0
Control Delay (s)	13.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B								
Approach Delay (s)	13.5	0.0				0.0			
Approach LOS	B								

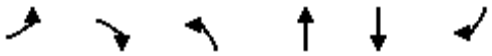
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	63.1%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	100	0	4527	2309	91
Future Volume (Veh/h)	0	100	0	4527	2309	91
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	109	0	4921	2510	99
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				865	463	
pX, platoon unblocked	0.76	0.65	0.65			
vC, conflicting volume	3790	677	2609			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	750			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	84	100			
cM capacity (veh/h)	782	700	552			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	109	1230	1230	1230	1230	717	717	717	458
Volume Left	0	0	0	0	0	0	0	0	0
Volume Right	109	0	0	0	0	0	0	0	99
cSH	700	1700	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.16	0.72	0.72	0.72	0.72	0.42	0.42	0.42	0.27
Queue Length 95th (ft)	14	0	0	0	0	0	0	0	0
Control Delay (s)	11.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B								
Approach Delay (s)	11.1	0.0				0.0			
Approach LOS	B								

Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	68.9%	ICU Level of Service		C
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	109	0	3195	4102	107
Future Volume (Veh/h)	0	109	0	3195	4102	107
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	118	0	3473	4459	116
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				857	471	
pX, platoon unblocked	0.55	0.47	0.47			
vC, conflicting volume	5385	1173	4575			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2326	0	2956			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	77	100			
cM capacity (veh/h)	17	508	55			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	118	868	868	868	868	1274	1274	1274	753
Volume Left	0	0	0	0	0	0	0	0	0
Volume Right	118	0	0	0	0	0	0	0	116
cSH	508	1700	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.23	0.51	0.51	0.51	0.51	0.75	0.75	0.75	0.44
Queue Length 95th (ft)	22	0	0	0	0	0	0	0	0
Control Delay (s)	14.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B								
Approach Delay (s)	14.2	0.0				0.0			
Approach LOS	B								

Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	74.6%	ICU Level of Service		D
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	31	0	49	0	535	30	24	383	0
Future Vol, veh/h	0	0	0	31	0	49	0	535	30	24	383	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	125	100	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	34	0	53	0	582	33	26	416	0

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	842	1050	291	-	0	0	615	0	0
Stage 1	582	582	-	-	-	-	-	-	-
Stage 2	260	468	-	-	-	-	-	-	-
Critical Hdwy	6.84	6.54	6.94	-	-	-	4.14	-	-
Critical Hdwy Stg 1	5.84	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	-	-	-	2.22	-	-
Pot Cap-1 Maneuver	303	226	706	0	-	-	961	-	-
Stage 1	522	497	-	0	-	-	-	-	-
Stage 2	760	560	-	0	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	295	0	706	-	-	-	961	-	-
Mov Cap-2 Maneuver	295	0	-	-	-	-	-	-	-
Stage 1	522	0	-	-	-	-	-	-	-
Stage 2	739	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.7	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	-	458	961	-	-
HCM Lane V/C Ratio	-	-	0.19	0.027	-	-
HCM Control Delay (s)	-	-	14.7	8.9	-	-
HCM Lane LOS	-	-	B	A	-	-
HCM 95th %tile Q(veh)	-	-	0.7	0.1	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	32	0	51	0	400	33	26	701	0
Future Vol, veh/h	0	0	0	32	0	51	0	400	33	26	701	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	125	100	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	35	0	55	0	435	36	28	762	0

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	872	1253	218	-	0	0	471	0	0
Stage 1	435	435	-	-	-	-	-	-	-
Stage 2	437	818	-	-	-	-	-	-	-
Critical Hdwy	6.84	6.54	6.94	-	-	-	4.14	-	-
Critical Hdwy Stg 1	5.84	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	-	-	-	2.22	-	-
Pot Cap-1 Maneuver	290	171	786	0	-	-	1087	-	-
Stage 1	620	579	-	0	-	-	-	-	-
Stage 2	619	388	-	0	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	282	0	786	-	-	-	1087	-	-
Mov Cap-2 Maneuver	282	0	-	-	-	-	-	-	-
Stage 1	620	0	-	-	-	-	-	-	-
Stage 2	603	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.6	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	-	465	1087	-	-
HCM Lane V/C Ratio	-	-	0.194	0.026	-	-
HCM Control Delay (s)	-	-	14.6	8.4	-	-
HCM Lane LOS	-	-	B	A	-	-
HCM 95th %tile Q(veh)	-	-	0.7	0.1	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	31	0	49	0	663	30	24	475	0
Future Vol, veh/h	0	0	0	31	0	49	0	663	30	24	475	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	125	100	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	34	0	53	0	721	33	26	516	0

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1031	1289	361	-	0	0	754	0	0
Stage 1	721	721	-	-	-	-	-	-	-
Stage 2	310	568	-	-	-	-	-	-	-
Critical Hdwy	6.84	6.54	6.94	-	-	-	4.14	-	-
Critical Hdwy Stg 1	5.84	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	-	-	-	2.22	-	-
Pot Cap-1 Maneuver	229	162	636	0	-	-	852	-	-
Stage 1	443	430	-	0	-	-	-	-	-
Stage 2	717	505	-	0	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	222	0	636	-	-	-	852	-	-
Mov Cap-2 Maneuver	222	0	-	-	-	-	-	-	-
Stage 1	443	0	-	-	-	-	-	-	-
Stage 2	695	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.7	0	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	-	369	852	-	-
HCM Lane V/C Ratio	-	-	0.236	0.031	-	-
HCM Control Delay (s)	-	-	17.7	9.4	-	-
HCM Lane LOS	-	-	C	A	-	-
HCM 95th %tile Q(veh)	-	-	0.9	0.1	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	32	0	51	0	496	33	26	868	0
Future Vol, veh/h	0	0	0	32	0	51	0	496	33	26	868	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	125	100	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	35	0	55	0	539	36	28	943	0

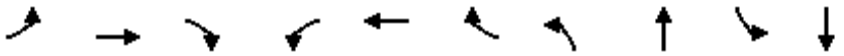
Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1067	1538	270	-	0	0	575	0	0
Stage 1	539	539	-	-	-	-	-	-	-
Stage 2	528	999	-	-	-	-	-	-	-
Critical Hdwy	6.84	6.54	6.94	-	-	-	4.14	-	-
Critical Hdwy Stg 1	5.84	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	-	-	-	2.22	-	-
Pot Cap-1 Maneuver	217	115	728	0	-	-	994	-	-
Stage 1	549	520	-	0	-	-	-	-	-
Stage 2	556	319	-	0	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	211	0	728	-	-	-	994	-	-
Mov Cap-2 Maneuver	211	0	-	-	-	-	-	-	-
Stage 1	549	0	-	-	-	-	-	-	-
Stage 2	540	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.7	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	-	374	994	-	-
HCM Lane V/C Ratio	-	-	0.241	0.028	-	-
HCM Control Delay (s)	-	-	17.7	8.7	-	-
HCM Lane LOS	-	-	C	A	-	-
HCM 95th %tile Q(veh)	-	-	0.9	0.1	-	-

APPENDIX F

Queue Analysis Worksheets



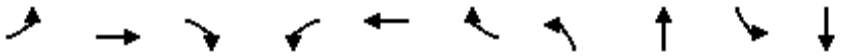
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	430	201	89	118	372	240	239	3748	66	2277
v/c Ratio	0.81	0.26	0.06	0.46	0.77	0.15	0.73	1.08	0.43	0.76
Control Delay	59.9	43.8	0.1	62.0	80.3	0.2	60.9	73.8	69.6	26.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.9	43.8	0.1	62.0	80.3	0.2	60.9	73.8	69.6	26.9
Queue Length 50th (ft)	185	80	0	50	170	0	105	~1073	28	389
Queue Length 95th (ft)	245	117	0	84	222	0	m134	#1129	54	420
Internal Link Dist (ft)		455			1855			383		2158
Turn Bay Length (ft)	175		50	325		50	625		550	
Base Capacity (vph)	570	775	1583	396	528	1583	336	3463	153	3002
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.26	0.06	0.30	0.70	0.15	0.71	1.08	0.43	0.76

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.

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



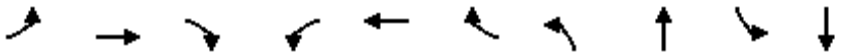
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	493	205	159	172	207	98	208	2613	132	3997
v/c Ratio	0.78	0.30	0.10	0.55	0.59	0.06	0.54	0.82	0.49	1.36
Control Delay	50.9	41.7	0.1	61.2	77.0	0.1	58.0	29.8	58.6	192.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.9	41.7	0.1	61.2	77.0	0.1	58.0	29.8	58.6	192.8
Queue Length 50th (ft)	199	86	0	72	95	0	89	417	57	~1276
Queue Length 95th (ft)	248	117	0	111	135	0	m128	m#711	m86	#1410
Internal Link Dist (ft)		455			1855			391		2158
Turn Bay Length (ft)	175		50	325		50	625		550	
Base Capacity (vph)	871	702	1583	739	490	1583	384	3181	272	2941
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.29	0.10	0.23	0.42	0.06	0.54	0.82	0.49	1.36

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.

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	498	245	110	145	460	298	268	4651	82	2790
v/c Ratio	0.77	0.24	0.07	0.51	0.72	0.19	0.69	1.68	0.40	1.16
Control Delay	46.6	32.5	0.1	60.6	65.0	0.3	56.5	339.1	64.2	117.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.6	32.5	0.1	60.6	65.0	0.3	56.5	339.1	64.2	117.0
Queue Length 50th (ft)	212	96	0	61	207	0	113	~1675	34	~789
Queue Length 95th (ft)	266	127	m0	95	262	0	m150	#1821	62	#1007
Internal Link Dist (ft)		455			1855			383		2158
Turn Bay Length (ft)	175		50	325		50	625		550	
Base Capacity (vph)	1109	1008	1583	1029	640	1583	400	2762	207	2396
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.24	0.07	0.14	0.72	0.19	0.67	1.68	0.40	1.16

Intersection Summary

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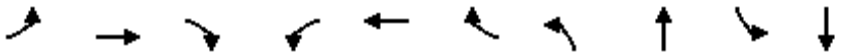
Queue shown is maximum after two cycles.

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

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



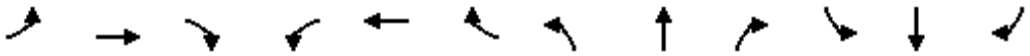
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	576	250	198	210	253	122	228	3241	163	4920
v/c Ratio	0.80	0.32	0.13	0.60	0.64	0.08	0.65	1.11	0.57	1.78
Control Delay	48.2	38.8	0.2	60.9	73.5	0.1	63.1	90.6	61.9	378.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.2	38.8	0.2	60.9	73.5	0.1	63.1	90.6	61.9	378.6
Queue Length 50th (ft)	250	103	0	88	115	0	97	~903	69	~1806
Queue Length 95th (ft)	302	136	0	127	157	0	m140	m#1065	m107	#1944
Internal Link Dist (ft)		455			1855			391		2158
Turn Bay Length (ft)	175		50	325		50	625		550	
Base Capacity (vph)	950	776	1583	887	492	1583	350	2910	287	2763
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.32	0.13	0.24	0.51	0.08	0.65	1.11	0.57	1.78

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.

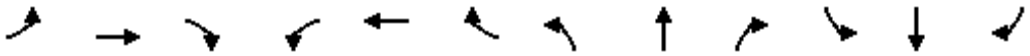
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	7	337	182	242	538	17	398	33	208	197	53	173
v/c Ratio	0.04	0.50	0.11	0.81	0.65	0.03	0.47	0.02	0.20	0.26	0.03	0.20
Control Delay	32.0	50.3	0.1	73.9	36.3	0.2	14.2	17.8	1.9	12.5	23.3	3.3
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	32.0	50.3	0.1	73.9	36.3	0.2	14.2	17.8	1.9	12.5	23.3	3.3
Queue Length 50th (ft)	4	135	0	78	189	0	155	7	0	67	13	0
Queue Length 95th (ft)	16	185	0	m#153	238	m0	219	17	32	103	29	40
Internal Link Dist (ft)		1748			385			464			469	
Turn Bay Length (ft)	275		50	175		150	200		50	225		150
Base Capacity (vph)	181	669	1583	303	830	829	949	1749	1057	933	1521	887
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	0.04	0.50	0.11	0.80	0.65	0.02	0.42	0.02	0.20	0.21	0.03	0.20

Intersection Summary

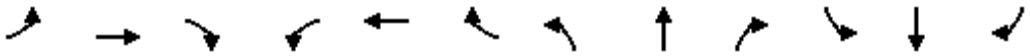
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	21	427	345	408	425	41	259	40	204	274	72	190
v/c Ratio	0.05	0.36	0.22	0.74	0.27	0.04	0.48	0.05	0.26	0.48	0.09	0.31
Control Delay	17.0	34.9	0.3	60.0	24.0	0.7	30.6	43.5	4.1	30.8	42.5	6.4
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	17.0	34.9	0.3	60.0	24.0	0.7	30.6	43.5	4.1	30.8	42.5	6.4
Queue Length 50th (ft)	8	143	0	157	86	0	151	14	0	161	25	0
Queue Length 95th (ft)	22	203	0	m160	m93	m1	223	33	48	236	50	58
Internal Link Dist (ft)		1748			385			462			469	
Turn Bay Length (ft)	275		50	175		150	200		50	225		150
Base Capacity (vph)	522	1174	1583	805	1571	1131	620	764	873	632	790	715
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	0.04	0.36	0.22	0.51	0.27	0.04	0.42	0.05	0.23	0.43	0.09	0.27

Intersection Summary

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	8	414	221	300	667	21	485	35	258	200	57	175
v/c Ratio	0.06	0.65	0.14	1.08	0.87	0.04	0.55	0.02	0.24	0.28	0.04	0.20
Control Delay	33.7	54.8	0.2	112.3	50.3	0.8	14.7	16.7	1.8	12.4	24.7	3.5
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	33.7	54.8	0.2	112.3	50.3	0.8	14.7	16.7	1.8	12.4	24.7	3.5
Queue Length 50th (ft)	5	172	0	~141	291	0	192	7	0	65	14	0
Queue Length 95th (ft)	18	229	0	m#193	m331	m0	267	17	34	100	32	42
Internal Link Dist (ft)		1748			385			464			469	
Turn Bay Length (ft)	275		50	175		150	200		50	225		150
Base Capacity (vph)	145	639	1583	277	763	847	995	1807	1087	964	1475	881
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	0.06	0.65	0.14	1.08	0.87	0.02	0.49	0.02	0.24	0.21	0.04	0.20

Intersection Summary

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Queue shown is maximum after two cycles.

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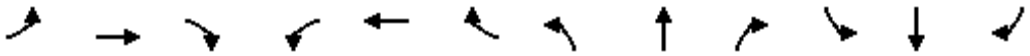


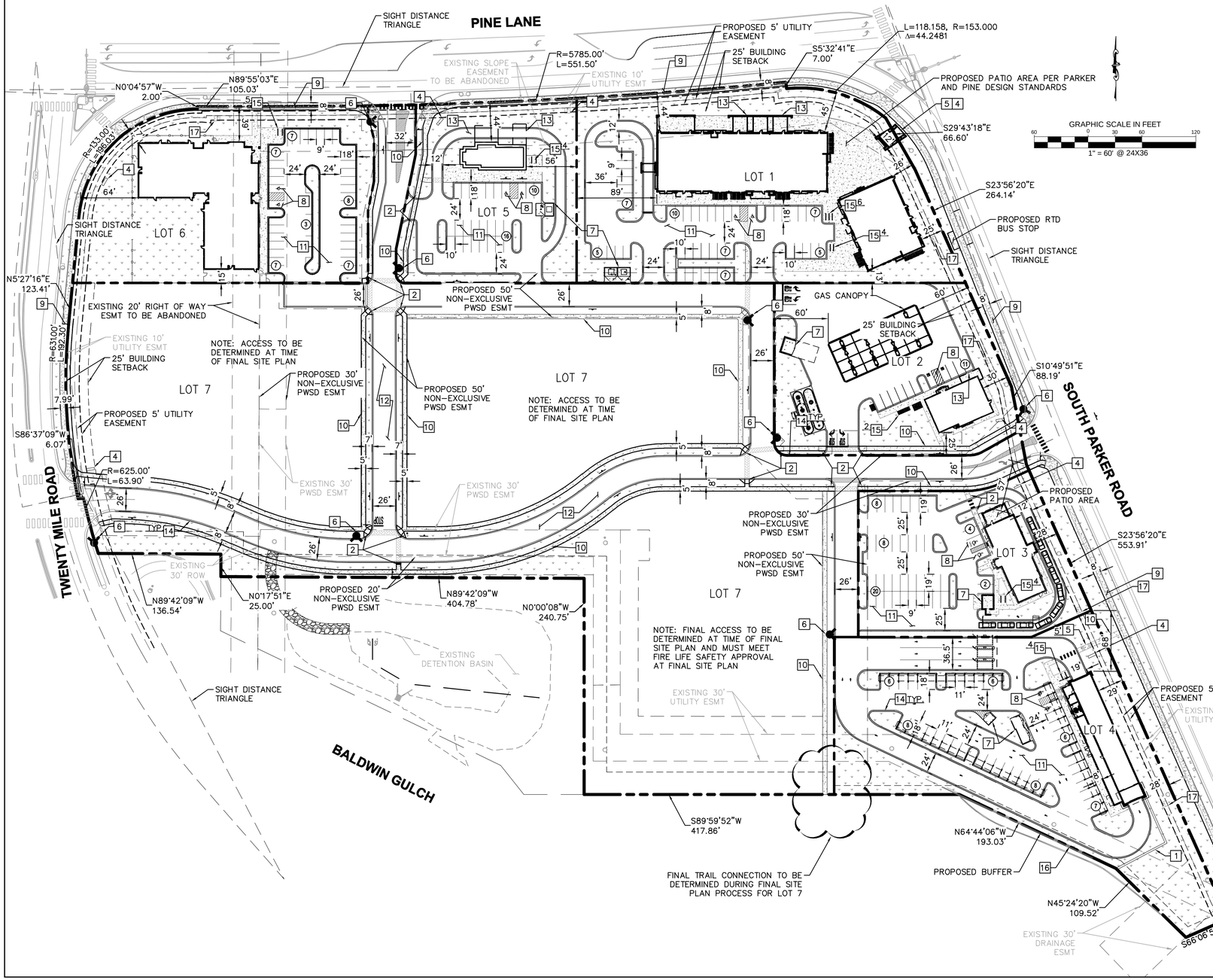
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	24	525	424	504	527	45	311	42	253	286	78	167
v/c Ratio	0.08	0.60	0.27	0.77	0.38	0.05	0.50	0.04	0.28	0.46	0.08	0.25
Control Delay	21.6	47.4	0.4	56.8	32.0	1.6	26.4	37.1	4.8	25.8	38.3	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.6	47.4	0.4	56.8	32.0	1.6	26.4	37.1	4.8	25.8	38.3	5.7
Queue Length 50th (ft)	11	207	0	187	147	1	169	13	19	153	26	0
Queue Length 95th (ft)	26	284	0	m158	m117	m1	245	31	65	223	51	52
Internal Link Dist (ft)		1748			385			462			469	
Turn Bay Length (ft)	275		50	175		150	200		50	225		150
Base Capacity (vph)	503	878	1583	805	1375	999	679	975	957	682	935	824
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	0.05	0.60	0.27	0.63	0.38	0.05	0.46	0.04	0.26	0.42	0.08	0.20

Intersection Summary

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

APPENDIX G

Conceptual Site Plan



LEGEND

- PROPERTY LINE
- NUMBER OF PARKING SPACES
- ACCESSIBLE PARKING SPACES
- PROPOSED ELECTRICAL TRANSFORMER
- LANDSCAPED AREA
- HEAVY DUTY ASPHALT PAVING
- STANDARD DUTY ASPHALT PAVING
- COLORED CONCRETE
- STANDARD DUTY CONCRETE
- PROPOSED EASEMENT
- EXISTING EASEMENT
- PROPOSED CURB AND GUTTER

KEY NOTES

1. PROPOSED 3' SCREEN WALL
2. PROPOSED ACCESSIBLE RAMP W/ 36" DEEP DETECTABLE WARNING
3. PROPOSED 5' WIDE PEDESTRIAN CONNECTION.
4. PROPOSED MONUMENT SIGN.
5. PROPOSED SIDEWALK STAIRS. WIDTH PER PLAN
6. PROPOSED FIRE HYDRANT.
7. PROPOSED TRASH ENCLOSURE.
8. PROPOSED ADA PARKING STALLS.
9. PROPOSED 8' CONCRETE SIDEWALK.
10. PROPOSED 5' CONCRETE SIDEWALK.
11. PROPOSED STANDARD DUTY ASPHALT PAVING.
12. PROPOSED HEAVY DUTY ASPHALT PAVING.
13. PROPOSED BUILDING OVERHANG
14. PROPOSED 18" VERTICAL CURB.
15. PROPOSED BICYCLE PARKING.
16. EXISTING RETAINING WALL
17. PROPOSED TRANSFORMER

NOTES:

1. ALL LIGHTING ON-SITE, EXTERIOR, UNROOFED LIGHTING SHALL CONFORM TO THE TOWN'S LIGHTING STANDARDS.
2. ALL MECHANICAL EQUIPMENT SHALL BE SCREENED FROM VIEW FROM A PUBLIC RIGHT OF WAY. FINAL LOCATION AND SCREENING MEASURES SHALL BE DETERMINED AT TIME OF FINAL SITE PLAN.
3. LOCATION OF TRASH RECEPTACLES SHALL BE DETERMINED AT TIME OF FINAL SITE PLAN AND BE SCREENED BY A SOLID SCREEN FENCE SURROUNDING AT LEAST 3 SIDES OF THE CONTAINER.
4. CANOPIES AND PORTICO'S THAT ARE PROPOSED AT FINAL SITE PLAN TO MEET THE ZONING REQUIREMENTS FOR SETBACK PROXIMITY MUST BE PHYSICALLY AND ARCHITECTURALLY CONNECTED TO THE PRIMARY STRUCTURE AND MUST CREATE MEANINGFUL, ATTRACTIVE AND SIGNIFICANT ARCHITECTURAL INTEREST ALONG PARKER ROAD AND/OR PINE LANE.
5. DESIGN SHOWN IS PRELIMINARY. FINAL ARCHITECTURE SHALL BE APPROVED AT THE TIME OF FINAL SITE PLAN APPROVAL AND IS SUBJECT TO ALL REGULATORY DOCUMENTS.
6. ALL PARKING AND CIRCULATION REQUIREMENTS, INCLUDING BIKE AND PEDESTRIAN CIRCULATION MUST BE MET. FURTHER REQUIREMENTS MAY BE IMPOSED AT TIME OF FINAL SITE PLAN APPROVAL.
7. ADEQUATE SCREENING, AS DETERMINED BY STAFF AT TIME OF FINAL SITE PLAN, IS REQUIRED FOR ALL LOTS ADJACENT TO PARKER ROAD.
8. ARCHITECTURE WILL BE REQUIRED TO MEET ALL APPLICABLE REGULATIONS AND STANDARDS AT TIME OF FINAL SITE PLAN.
9. VACUUM STATIONS WILL NOT BE ALLOWED ADJACENT TO THE PEDESTRIAN TRAIL BUT MUST BE LOCATED TO LIMIT IMPACTS TO THE TRAIL AS MUCH AS POSSIBLE AT FINAL SITE PLAN.
10. ADEQUATE SCREENING, AS DETERMINED BY STAFF AT TIME OF FINAL SITE PLAN, IS REQUIRED FOR LOT 4 ADJACENT TO THE BALDWIN GULCH TRAIL.

EISENBERG COMPANY
2710 E CAMELBACK ROAD, SUITE 210
PHOENIX, AZ 85016

Adress:

PARKER AND PINE
MINOR DEVELOPMENT
FILING NO. 1
COUNTY OF DOUGLASS,
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PRELIMINARY
FOR REVIEW ONLY
NOT FOR CONSTRUCTION
Kimley»Horn
Kimley-Horn and Associates, Inc.

PRELIMINARY SITE PLAN

Revisions:

#	Date	Description
	05/16/2018	PLANNING SUBMITTAL
	11/30/2018	TOWN REVISION
	11/20/2019	TOWN REVISION
	03/11/2020	TOWN REVISION
	04/24/2020	TOWN REVISION

Sheet Title:

PRELIMINARY SITE PLAN

Date: 04/24/2020

Project Number: 096502001

Drawn By: JRK

Sheet Number:

03 OF 06