

**Appendix D:  
Traffic Study**

**TRAFFIC IMPACT STUDY**  
**FOR**  
**SOLANO COMMUNITY COLLEGE DISTRICT AUTOTECHNOLOGY BUILDING**  
**VALLEJO CAMPUS**  
Vallejo, CA

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May 13, 2015

3260-01

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**SOLANO COMMUNITY COLLEGE DISTRICT AUTOTECHNOLOGY BUILDING  
VALLEJO CAMPUS  
Vallejo, CA**

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May 13, 2015

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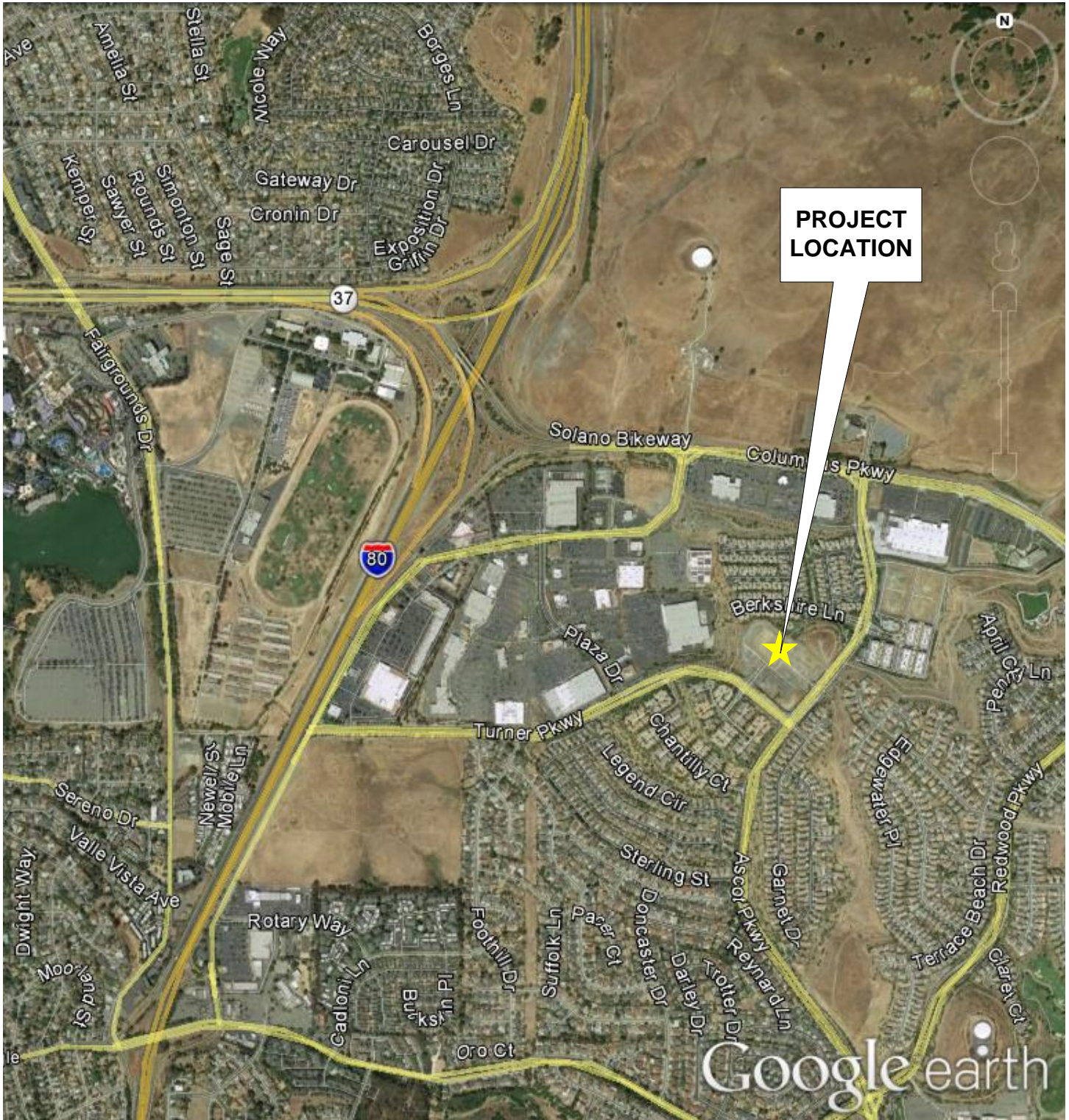
## INTRODUCTION

### **Study Purpose and Project Description**

This traffic impact study presents an evaluation of the traffic-related effects of the proposed 17,000 square foot Autotechnology Building to be located in the north quadrant of the Ascot Parkway / Turner Parkway intersection. This project is a part of the Solano Community College District (SCCD). The main building of the Vallejo campus is located to the northeast, in the south quadrant of the Columbus Parkway / St John's Mine Road intersection. The proposed building will include automobile related facilities, including 11 service bays, three classrooms, three offices and student support services. It is proposed to double the existing enrollment to 208 students; the existing Autotechnology site is temporarily housed at 1301 Georgia Street in Vallejo. Classes are expected to be in session between 8 a.m. and 10 p.m. Monday through Friday and on Saturday with classes beginning at 8 a.m.

Full access to the Autotechnology campus is through a signalized intersection at the Turner Parkway / Tiara Drive intersection; a secondary right-in, right-out driveway is located on Ascot Parkway about 400' north of the Turner Parkway / Ascot Parkway intersection. The building is projected to open in January 2018. Figure 1 shows the location of the project site in relation to the surrounding transportation system.









## **Overall Analysis Approach**

This traffic impact study presents an analysis of traffic operations under the following five scenarios:

- Existing Conditions,
- Near Term (NT) No Proposed Project,
- Near Term plus Project,
- Cumulative No Project, and
- Cumulative plus Project.

The Near Term conditions are intended to analyze the traffic conditions in the year the project is projected to be completed. Cumulative conditions are a long-term background condition which includes future year forecasts of traffic volumes in 2030.

The analysis of NT plus Project and Cumulative plus Project conditions assumes completion of the proposed project. The near-term impacts of the proposed project may be identified by comparing traffic operations under NT plus Project conditions to baseline NT No Project conditions. The long-term impacts of the proposed project may be identified by comparing traffic operations under Cumulative plus Project conditions to baseline Cumulative No Project conditions.



## EXISTING SETTING

### Study Area

This traffic impact study presents analyses of traffic operating conditions at six existing intersections in the study area. The quality of traffic flow is often governed by the operation of the local intersections. To quantitatively evaluate traffic conditions and to provide a basis for comparison of operating conditions with and without traffic generated by the proposed project, traffic operations at the following six study area intersections were determined for the five analysis scenarios:

The **Columbus Parkway / Admiral Callaghan Lane intersection** is a major access intersection for motorists traveling within the City of Vallejo. The intersection is a four-way signalized intersection. The eastbound Columbus Parkway approach includes a dedicated left turn lane, two through lanes and a free right turn lane. The westbound approach includes a dedicated left turn lane, two through lanes and a through-right lane; the roadway widens to three lanes about 250' in advance of the intersection. The northbound Admiral Callaghan Lane approach includes a dedicated left turn lane, a combination left-through lane and a free right turn lane. The southbound approach is a private gated roadway and includes a single lane approach. Columbus Parkway includes protected left turn movements while Admiral Callaghan Lane and the private roadway are split phase.

The **Columbus Parkway / Ascot Parkway intersection** is a major access intersection for motorists traveling within the City of Vallejo. The intersection is a four-way signalized intersection. The eastbound Columbus Parkway approach includes a dedicated left turn lane, two through lanes and a free right turn lane. The westbound approach includes a dedicated left turn lane, a through lane and a through-right lane. The northbound Ascot Parkway approach includes two left turn lanes, a through lane and a right turn lane while the southbound Ascot Place approach includes a left turn lane and a through-right lane. Columbus Parkway includes protected left turn movements while Ascot Parkway – Ascot Place is split phase.

The **Admiral Callaghan Lane / Plaza Drive intersection** is a signalized four-legged intersection. The north leg of the intersection provides access to the Home Depot store while Plaza Drive provides access to the various retail stores within Gateway Plaza. Admiral Callaghan Lane provides access between Columbus Parkway and Redwood Street at I-80. The eastbound and westbound approaches along Admiral Callaghan Lane include a dedicated left turn lane, a through lane and a through-right turn lane. The southbound Home Depot driveway approach includes left and right turn lanes in addition to the through lane. The northbound approach includes a left turn lane, a through lane and a right turn lane; the right turn lane is a trap lane from the outside northbound lanes along Plaza Drive.

The **Plaza Drive / Turner Parkway intersection** is a signalized tee intersection. The eastbound Turner Parkway approach includes a protected left turn lane and two through lanes while the westbound approach includes a through lane and a through-right turn lane. Plaza Drive includes left and right turn lanes and a left-right turn lane.



The **Turner Parkway / Tiara Drive – Project Access intersection** is the main access into the site and is signalized. Both approaches along Turner Parkway include a dedicated left turn lane, a through lane and a through-right lane. Tiara Drive consists of a single lane while the existing driveway approach includes a through-left lane and a right turn lane. The Turner Parkway approaches included protected left turns while the Tiara Drive – Project access approaches are permitted green phases.

The **Ascot Parkway / Turner Parkway – Turner Street intersection** is a major access intersection for motorists in the Northgate Specific Plan area of the City. The intersection is a four-way signalized intersection. Northbound and southbound Ascot Parkway include dedicated left turn lanes, a through lane and a through-right lane. The eastbound Turner Parkway approach includes a left turn lane, a through lane and a right lane. The westbound Turner Street approach includes a left turn lane and a through-right. Ascot Parkway includes protected left turn movements while Turner Parkway – Turner Street is split phase.

The location of these study intersections is presented in Figure 3.

### **Level of Service Analysis Procedures**

Level of service (LOS) analysis provides a basis for describing existing traffic conditions, and for evaluating the significance of project-related traffic impacts. Level of service measures the quality of traffic flow and is represented by letter designations from A to F, with a grade of A referring to the best conditions, and F representing the worst conditions. The following describes the LOS analysis procedures applied for this traffic impact study.

**Intersections.** The *2000 Highway Capacity Manual (HCM 2000)* is the basis for operational delay calculations for signalized and unsignalized intersections. The characteristics associated with the various LOS for unsignalized intersections (i.e., those controlled by stop signs) and signalized intersections are presented in Table 1. The City of Vallejo identifies LOS D or better as acceptable operation at an intersection. A traffic impact at an intersection is considered significant when any of the changes in volume to capacity (v/c) ratios, shown in Table 2, occur between the ‘no project’ and ‘plus project’ conditions. The 2000 HCM is not the latest version; rather the 2010 HCM is the most recent version. One component of the City’s significance threshold criteria is the comparison of the intersection’s volume to capacity (v/c) ratios under ‘No Project’ and ‘Plus Project’ conditions. The HCM 2010 methodology identifies v/c ratios for each movement but does not note an overall intersection v/c ratio. The v/c ratio for a specific movement could indicate the movement may operate at an unacceptable level while the overall intersection continues to operate acceptably. The 2000 HCM, though, does identify an overall v/c ratio and was therefore used.

**Traffic Signal Warrants.** The extent to which existing or projected traffic volumes may justify signalization at un-signalized intersections has been determined based on consideration of traffic signal warrant presented in the *Manual of Uniform Traffic Control Devices, 2012*. For this analysis the volume thresholds associated with Warrant 3 (Peak Hour Volume) were assessed for unsignalized intersections other than right-in, right-out only.

**TABLE 1  
LEVEL OF SERVICE DEFINITIONS (INTERSECTIONS)**

<b>Level of Service</b>	<b>Signalized Intersection</b>	<b>Unsignalized Intersection</b>	<b>Roadway (Daily)</b>
"A"	Uncongested operations, all queues clear in a single-signal cycle. Delay $\leq 10.0$ sec	Little or no delay. Delay $\leq 10$ sec/veh	Completely free flow.
"B"	Uncongested operations, all queues clear in a single cycle. Delay $> 10.0$ sec and $\leq 20.0$ sec	Short traffic delays. Delay $> 10$ sec/veh and $\leq 15$ sec/veh	Free flow, presence of other vehicles noticeable.
"C"	Light congestion, occasional backups on critical approaches. Delay $> 20.0$ sec and $\leq 35.0$ sec	Average traffic delays. Delay $> 15$ sec/veh and $\leq 25$ sec/veh	Ability to maneuver and select operating speed affected.
"D"	Significant congestion of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay $> 35.0$ sec and $\leq 55.0$ sec	Long traffic delays. Delay $> 25$ sec/veh and $\leq 35$ sec/veh	Unstable flow, speeds and ability to maneuver restricted.
"E"	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay $> 55.0$ sec and $\leq 80.0$ sec	Very long traffic delays, failure, extreme congestion. Delay $> 35$ sec/veh and $\leq 50$ sec/veh	At or near capacity, flow quite unstable.
"F"	Total breakdown, stop-and-go operation. Delay $> 80.0$ sec	Intersection blocked by external causes. Delay $> 50$ sec/veh	Forced flow, breakdown.

Sources: 2000 Highway Capacity Manual, Transportation Research Board (TRB) Special Report 209.

**TABLE 2  
VOLUME TO CAPACITY (V/C) THRESHOLDS FOR PROJECT IMPACTS**

<b>LOS without project</b>	<b>Increase in V/C with project</b>
C	$>0.04$
D	$>0.02$
E or F	$>0.01$

**Intersection Queues.** Intersection queues were evaluated at study intersections at the 95<sup>th</sup> percentile length. The 95<sup>th</sup> percentile queue length represents a condition where the queue during the peak period will be at or less than the queue length determined by the analysis 95 percent of the time, i.e. the queue will exceed the calculated queue 5 percent of the time. Queues extending beyond the available storage can block through traffic in adjacent travel lanes. These queues are typically associated with left-turn movements as right turning traffic typically proceeds concurrently with through traffic. For purposes of this analysis, queues that extend beyond the turn pocket by 25 feet or more (i.e., the length of one vehicle) into an adjacent traffic lane that operates separately from the left turn lane are identified. For intersections where the left turn lane is operating under a permitted movement with the through lane, a queue extending beyond the turn lane is not considered significant. If the vehicle queue already exceeds that turn pocket length under No Project conditions, a project impact would occur if project traffic lengthens the queue by 25 feet or more.

### **Public Transit**

The Solano County Transit Authority offers local fixed route, regional commuter route and para-transit services. One local fixed route passes the site. The Number 2 route provides service between the Vallejo Transit Center (VTC) and the Target Center in northeast Vallejo. The northbound route from the VTC loops in a counter-clockwise direction from Columbus Parkway, south to Redwood Parkway, north to Ascot Parkway, west onto Turner Parkway to the Target Center. The southbound route begins at the Target Center, heads north on Admiral Callaghan Lane and continues west on Columbus Parkway to the VTC. The first bus departs VTC at 6:30 a.m. Monday through Friday with a stop at the SCCD campus about 47 minutes later. The last bus departs VTC at 7:15 p.m. The first southbound route departs the Target Center at 7:20 a.m. arriving at the VTC about 25 minutes later. The last bus to VTC departs at 6:35 p.m. while the last bus to the Raley's Center departs at 8:05 p.m.

Route 2 also operates on Saturday, with the first bus departing at 6:30 a.m. and operating at 90 minute headways. The last northbound bus departs VTC at 5:00 p.m. The southbound routes operate from 7:20 a.m. with the last bus departing the Target center at 5:50 p.m.

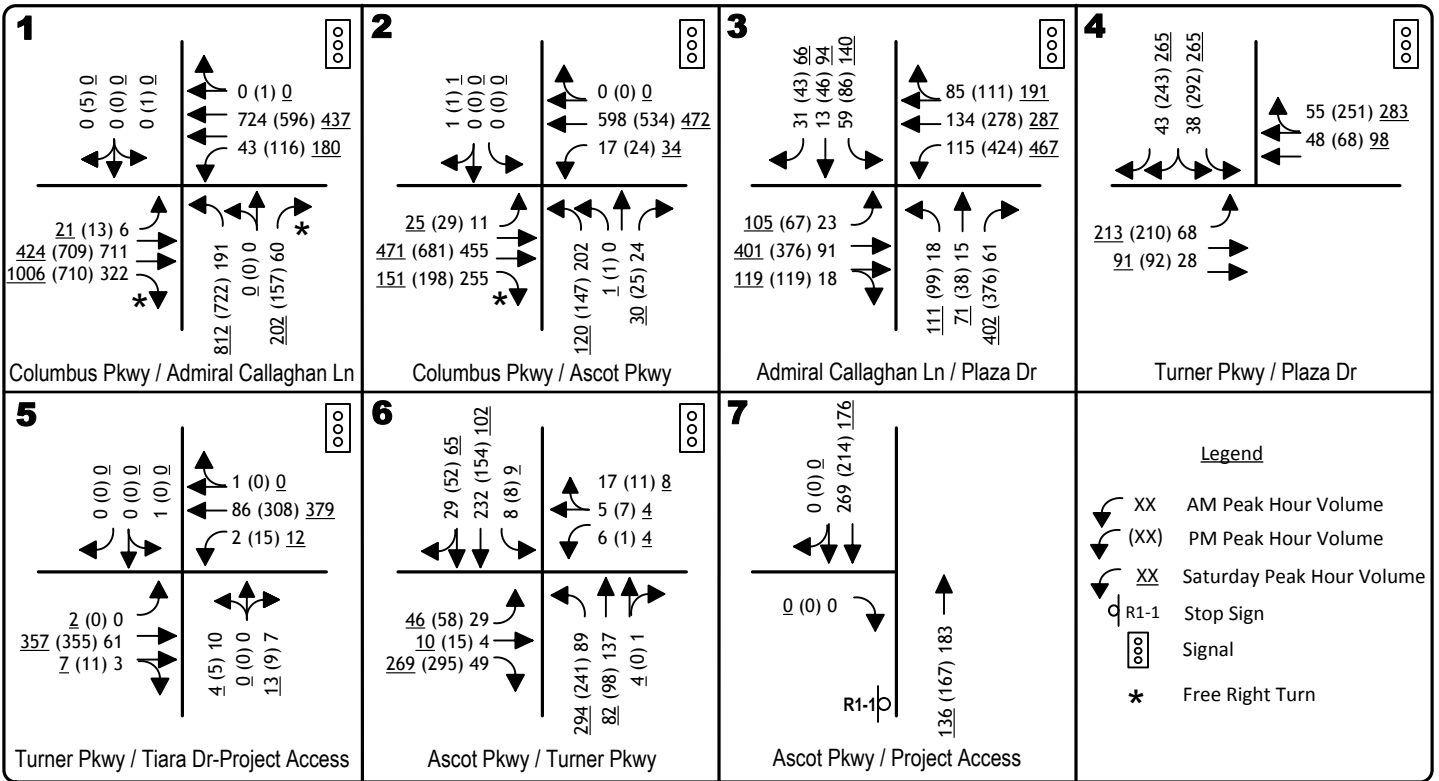
### **Bicycle and Pedestrian Facilities**

Designated bicycle facilities exist in the vicinity of the project. Class II bike lanes are present along all of the major routes in the project vicinity. This includes Columbus Parkway, Ascot Parkway, Turner Parkway and Redwood Parkway. Sidewalk is also present along the majority of the surrounding roadways, including the south side of Columbus Parkway and along Ascot Parkway.

### **Existing Traffic Conditions and Levels of Service**

**Traffic Volume Counts.** This analysis makes use of new peak hour traffic volume counts conducted on September 11, 2014, January 24, 2015, April 8 2015 and April 11, 2015. The counts were conducted while schools were in session. The counts are included in the Appendix, and the intersection turning movements are presented in Figure 3.





**EXISTING TRAFFIC VOLUMES  
AND LANE CONFIGURATIONS**

**Intersection Levels of Service.** Table 3 summarizes current operating Levels of Service at the study area intersections. All study intersections currently operate at Levels of Service (LOS) C or better during the a.m. and p.m. peak hours.

**Intersection Queues.** Table 4 presents information regarding current peak period queuing in lanes at signalized study intersections. In each case, the available storage has been presented along with current peak hour traffic volumes and the 95<sup>th</sup> percentile queue length. Three locations currently have left turn queues that exceed the turn pockets by more than 25'. The queue exceeds the southbound and westbound left turn lanes at the Admiral Callaghan Lane / Plaza Drive intersection for both the p.m. peak hour and the Saturday peak hour while the queue exceeds the northbound left turn lane at the Ascot Parkway / Turner Parkway intersection during the Saturday peak hour.

**TABLE 3  
EXISTING PEAK HOUR LEVELS OF SERVICE AT INTERSECTIONS**

Location	Control	AM Peak Hour			PM Peak Hour			Saturday Peak Hour			Traffic Signal Warranted?
		LOS	Average Delay	v/c ratio	LOS	Average Delay	v/c ratio	LOS	Average Delay	v/c ratio	
Columbus Pkwy / Admiral Callaghan Lane	Signal	B	10.1	0.41	C	20.7	0.77	C	21.1	0.79	N/A
Columbus Pkwy / Ascot Pkwy	Signal	B	10.6	0.37	B	11.7	0.39	B	15.0	0.24	N/A
Admiral Callaghan Lane / Plaza Drive	Signal	B	18.1	0.24	C	28.7	0.64	C	31.9	0.70	N/A
Plaza Drive / Turner Pkwy	Signal	B	13.7	0.13	B	13.8	0.40	B	12.8	0.40	N/A
Turner Pkwy / Tiara Drive	Signal	A	3.6	0.04	A	3.1	0.16	A	4.4	0.16	N/A
Ascot Pkwy / Turner Pkwy	Signal	B	16.9	0.27	C	21.3	0.40	C	20.1	0.34	N/A



**TABLE 4  
EXISTING TERM PEAK HOUR QUEUES AT SIGNALIZED INTERSECTIONS**

<b>Location</b>	<b>Capacity (feet)</b>	<b>AM Peak Hour Queue (Feet)</b>	<b>PM Peak Hour Queue (feet)</b>	<b>Saturday Peak Hour Queue (feet)</b>
<b>1. Columbus Parkway / Admiral Callaghan Lane</b>				
NB left turn	400	71	269	407
EB left turn	200	<25	26	45
WB left turn	215	77	212	237
<b>2. Columbus Parkway / Ascot Parkway</b>				
NB left turn	185	73	55	67
SB left turn	65	<25	<25	<25
EB left turn	220	<25	38	36
WB left turn	185	30	39	65
<b>3. Admiral Callaghan Lane / Plaza Drive</b>				
NB left turn	200	<25	128	156
SB left turn	100	41	133	222
EB left turn	250	<25	80	125
WB left turn	250	61	419	531
<b>4. Plaza Drive / Turner Parkway</b>				
SB left turn	150	<25	90	88
EB left turn	220	56	198	166
<b>5. Turner Parkway / Tiara Drive</b>				
EB left turn	120	<25	<25	<25
WB left turn	100	<25	<25	<25
<b>6. Ascot Parkway / Turner Parkway</b>				
NB left turn	380	60	323	415
SB left turn	120	<25	<25	<25
EB left turn	200	25	64	51
WB left turn	50	<25	<25	<25
<b>Highlighted</b> values indicate queue length in excess of available storage by 25' or more				

## **NEAR TERM (PROJECT OPENING) - NO PROJECT CONDITIONS**

### **Background Traffic Volume Forecasts**

Near Term Conditions were studied based on the year the project would open, 2018. The Near Term conditions analyzed the study intersections so that a base line condition could be established to evaluate project impacts. The Near Term volumes were developed through interpolation of existing and cumulative traffic volumes at the study intersections and addition of any approved projects. The only project identified by City staff was the *Chik-Fil-A Final Traffic Impact Study, April 15, 2014* by Kimley Horn. Cumulative volumes were also based on the *Chik-Fil-A Final Traffic Impact Study*.

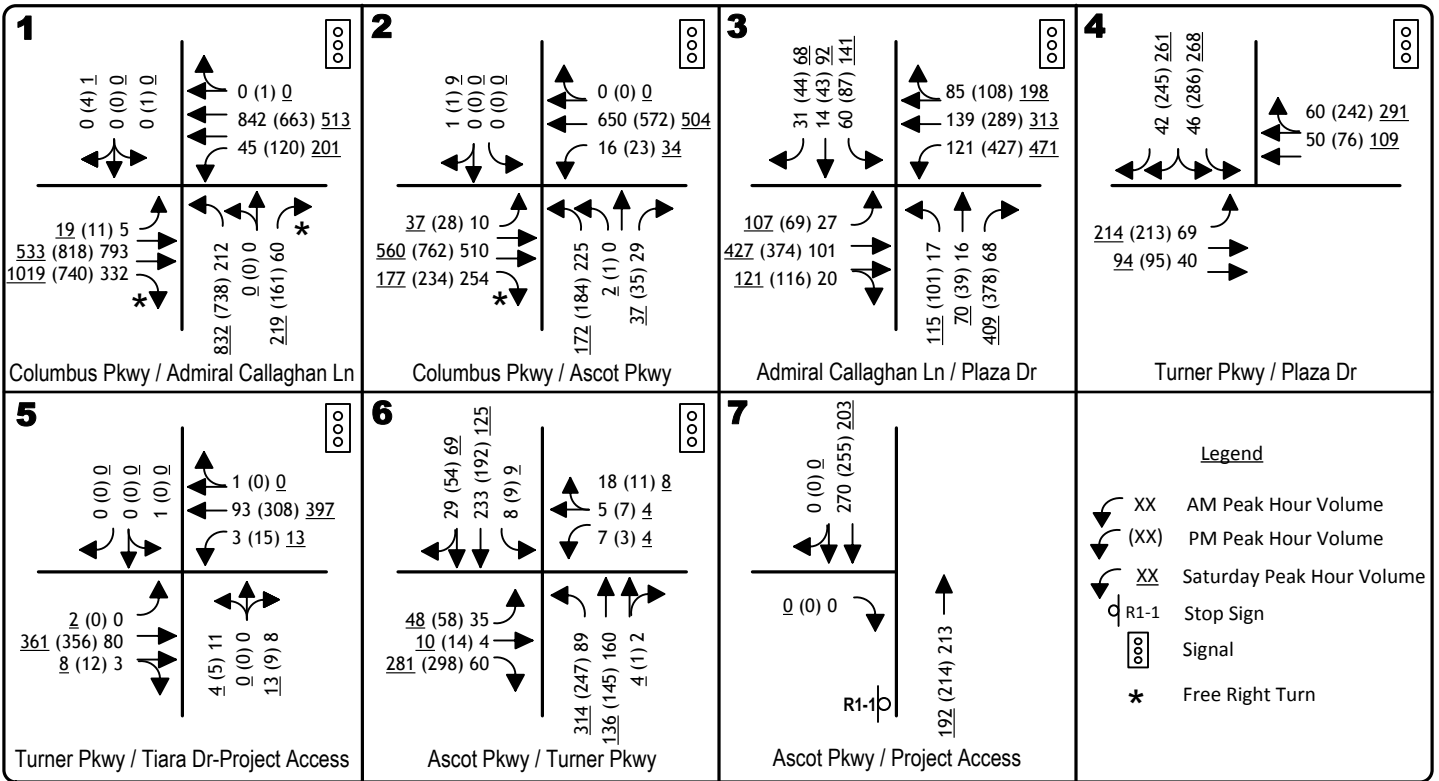
The Chik-Fil-A site is located in the southwest corner of the Columbus Parkway / Admiral Callaghan Lane intersection in the Northgate Specific Plan area. The project includes a 4,526 square foot Chick-Fil-A restaurant, a 16,500 square foot pharmacy and a 2,500 square foot restaurant. This project traffic was added to the interpolated volumes to develop the 2018 Near Term traffic volumes, as shown in Figure 4.

### **Intersection Levels of Service**

Table 5 summarizes current operating Levels of Service at the study area intersections. All study intersections will operate at Levels of Service (LOS) C or better during the a.m. and p.m. peak hours.

### **Intersection Queues**

Table 6 presents information regarding Near Term peak period queuing in lanes at signalized study intersections. Four locations will have left turn queues that exceed the turn pockets by more than 25'. The queue will exceed the southbound and westbound left turn lanes at the Admiral Callaghan Lane / Plaza Drive intersection for both the p.m. peak hour and the Saturday peak hour. The queue will exceed the northbound left turn lane at the Ascot Parkway / Turner Parkway intersection during the Saturday peak hour while the westbound left turn lane at the Columbus Parkway / Admiral Callaghan Lane will be exceeded in the Saturday peak hour.



NEAR TERM (2018) BASE VOLUMES

figure 4



**TABLE 5  
INTERSECTION LEVEL OF SERVICE  
NEAR TERM PLUS PROJECT CONDITIONS**

Intersection	Control	Near Term									Near Term plus Project								
		AM			PM			Saturday			AM			PM			Saturday		
		LOS	Delay (sec)	v/c ratio	LOS	Delay (sec)	v/c ratio	LOS	Delay (sec)	v/c ratio	LOS	Delay (sec)	v/c ratio	LOS	Delay (sec)	v/c ratio	LOS	Delay (sec)	v/c ratio
1. Columbus Pkwy / Admiral Callaghan Ln	Signal	B	10.6	0.46	C	20.9	0.81	C	22.2	0.80	B	10.5	0.47	C	21.2	0.83	C	22.2	0.80
2. Columbus Pkwy / Ascot Pkwy	Signal	B	10.6	0.40	B	12.3	0.44	B	16.8	0.30	B	10.9	0.41	B	12.7	0.45	B	17.1	0.31
3. Admiral Callaghan Ln / Plaza Drive	Signal	B	18.9	0.23	C	29.1	0.64	C	32.2	0.72	B	18.9	0.24	C	29.6	0.65	C	32.3	0.72
4. Plaza Drive / Turner Pkwy	Signal	B	13.0	0.13	B	14.1	0.40	B	12.8	0.40	B	13.3	0.14	B	14.0	0.41	B	12.8	0.41
5. Turner Pkwy / Tiara Drive	Signal	A	3.6	0.04	A	3.1	0.16	A	4.7	0.17	A	9.2	0.04	A	6.1	0.18	A	5.3	0.18
6. Ascot Pkwy / Turner Pkwy	Signal	B	16.8	0.28	C	21.3	0.43	C	20.1	0.36	B	17.5	0.31	C	22.2	0.46	C	20.3	0.37
7. Ascot Pkwy / Project Access EB Right	EB Stop	---	---	---	---	---	---	---	---	---	A	9.3	---	A	9.2	---	A	9.0	---

**TABLE 6  
NEAR TERM PEAK HOUR QUEUES AT SIGNALIZED INTERSECTIONS**

<b>Location</b>	<b>Capacity (feet)</b>	<b>NT AM Peak Hour Queue (Feet)</b>	<b>NT PM Peak Hour Queue (feet)</b>	<b>NT Saturday Peak Hour Queue (feet)</b>
<b>1. Columbus Parkway / Admiral Callaghan Lane</b>				
NB left turn	400	77	276	418
EB left turn	200	<25	<25	<25
WB left turn	215	81	219	262
<b>2. Columbus Parkway / Ascot Parkway</b>				
NB left turn	185	80	67	91
SB left turn	65	<25	<25	<25
EB left turn	220	<25	34	46
WB left turn	185	29	38	65
<b>3. Admiral Callaghan Lane / Plaza Drive</b>				
NB left turn	200	<25	131	166
SB left turn	100	42	134	227
EB left turn	250	<25	83	129
WB left turn	250	65	423	548
<b>4. Plaza Drive / Turner Parkway</b>				
SB left turn	150	<25	89	88
EB left turn	220	56	202	168
<b>5. Turner Parkway / Tiara Drive</b>				
EB left turn	120	<25	<25	<25
WB left turn	100	<25	<25	<25
<b>6. Ascot Parkway / Turner Parkway</b>				
NB left turn	380	60	335	448
SB left turn	120	<25	<25	<25
EB left turn	200	29	64	53
WB left turn	50	<25	<25	<25
NT – Near Term				
<b>Highlighted</b> values indicate queue length in excess of available storage by 25' or more				

## NEAR TERM PLUS PROJECT IMPACTS

The development of the SCCD Autotechnology project would attract new traffic to the local area site. The amount of additional traffic on a particular section of the street network depends on two factors:

- Trip Generation, the number of new trips generated by the project, and
- Trip Distribution and Assignment, the specific routes that the new traffic uses.

### **Trip Generation**

Development of the SCCD Autotechnology Campus project would generate new vehicle trips and affect traffic operations at the study intersections. The number of vehicle trips that are expected to be generated by development of the proposed project has been estimated using typical trip generation rates that have been developed based on the nature and size of project land uses. Data compiled by the Institute of Transportation Engineers (ITE) and presented in the publication *Trip Generation, 9<sup>th</sup> Edition* (Institute of Transportation Engineers 2013) is the source of trip generation rates for midweek traffic generation.

The Autotechnology complex will be the only building on the project site. The department has a projected enrollment of 208 students, with up to 48 students having classes on Saturdays. The trip generation of the project was computed using trip generation rates published in *Trip Generation* (Institute of Transportation Engineers, 9th Edition, 2013) based on the projected use. For this project, Land Use 540, a Community College was used to establish projected trip generation for the site. Table 7 displays the daily, a.m. peak hour and p.m. peak hour trip generation for the site. A review of ITE trip generation rates for Saturday traffic appears unrealistic due to the small size of the campus. As a conservative basis it was assumed that half of the Saturday students will arrive while the other half are departing, all during the Saturday peak hour. The project is expected to generate 358 daily trips, 88 a.m. peak hour trips, 114 p.m. peak hour trips and 48 Saturday peak hour trips.

**TABLE 7  
SCCD AUTOTECHNOLOGY BUILDING  
PROJECT TRIP GENERATION**

Land Use	Size	Daily	AM			PM			Saturday		
			Rate	In	Out	Rate	In	Out	Rate	In	Out
Junior / Community College (LU 540) - Students	208	1.72*	0.42**	0.84	0.16	0.55†	0.63	0.37	48‡	0.50	0.50
<b>Total Existing Trips</b>		<b>358</b>	<b>88</b>	74	14	<b>114</b>	72	42	<b>48</b>	24	24
<p>Notes: trips may not equal the sum of the components due to rounding            Source: Institute of Transportation Engineers (ITE) Trip Generation 9<sup>th</sup> edition for midweek rates            * <math>\text{Ln}(T) = 0.92 \text{Ln}(X) + 0.97</math>            ** <math>\text{Ln}(T) = 0.70 \text{Ln}(X) + 0.74</math>            † <math>\text{Ln}(T) = 0.64 \text{Ln}(X) + 1.32</math>            ‡ student population from SCCD</p>											



## **Trip Distribution / Assignment**

The distribution of project traffic was developed based on traffic conditions in the vicinity of the proposed project as well as traffic distribution at the SCCD Vallejo campus main driveway along Columbus Parkway. Table 8 presents the trip distribution for the site.

60% of project-related trips are expected to travel west on Columbus Parkway to I-80 and SR 37 while 10% are expected to travel east along Columbus Parkway. The remaining 30% is expected to be split with 20% traveling south along Ascot Parkway and the remaining 10% west along Turner Parkway toward Redwood Street. The resulting project-related traffic volumes are shown in Figure 5.

**TABLE 8  
SCCD AUTOTECHNOLOGY  
TRIP DISTRIBUTION PERCENTAGES**

<b>Direction</b>	<b>Percent Distribution</b>
West on Columbus Parkway	60%
East on Columbus Parkway	10%
South on Ascot Parkway	20%
West on Turner Parkway	10%
Total	100%

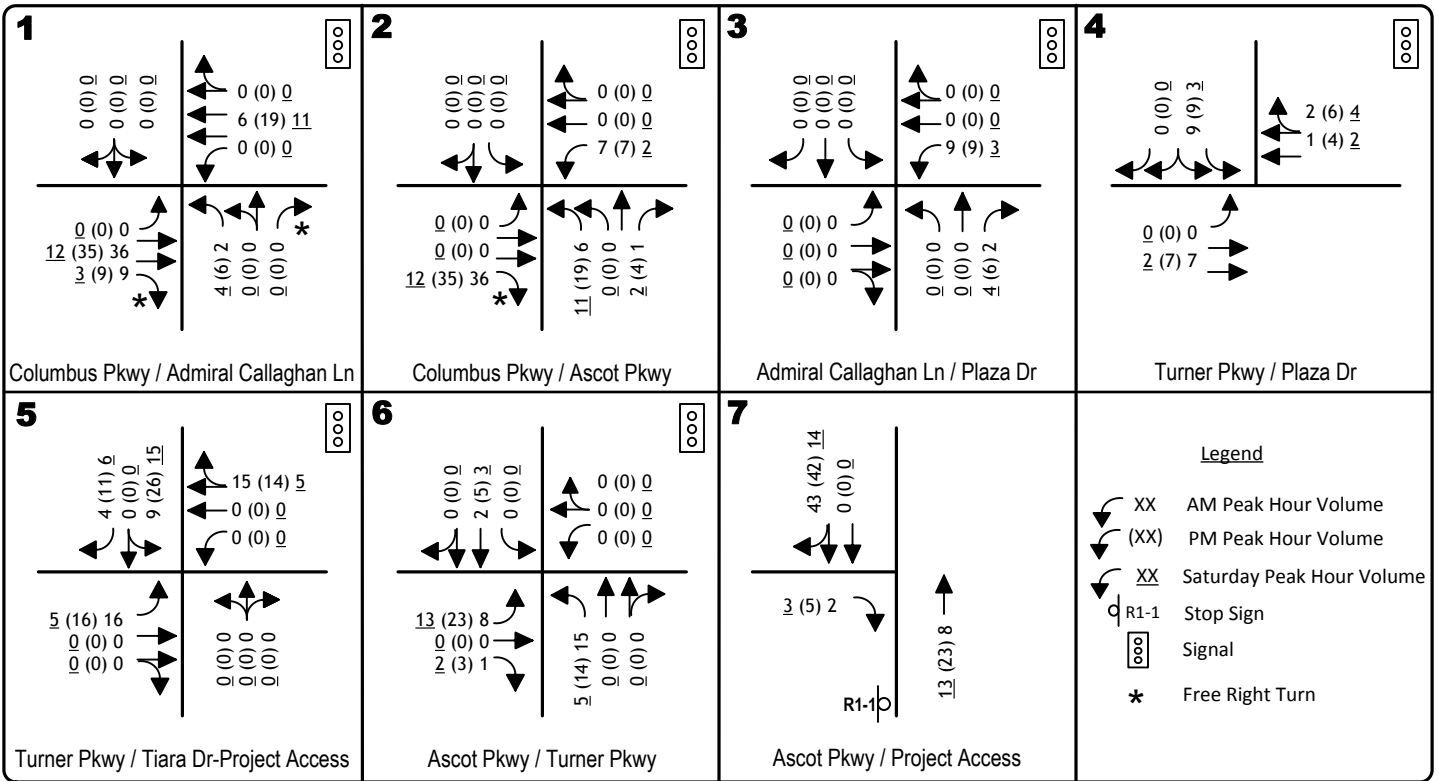
## **Level of Service Analysis**

Project-related traffic was added to Near Term background volumes to calculate NT plus Project (NTPP) conditions traffic volumes. Figure 6 displays the resulting NTPP traffic volumes anticipated for each study intersection in the a.m., p.m. and Saturday peak hours.

Table 5 compares the a.m., p.m. and Saturday peak hour LOS at each study intersection under NT and NTPP conditions. All intersections will continue to operate at LOS C or better during each time period and will operate within the acceptable v/c ratio differences.

## **Intersection Queues**

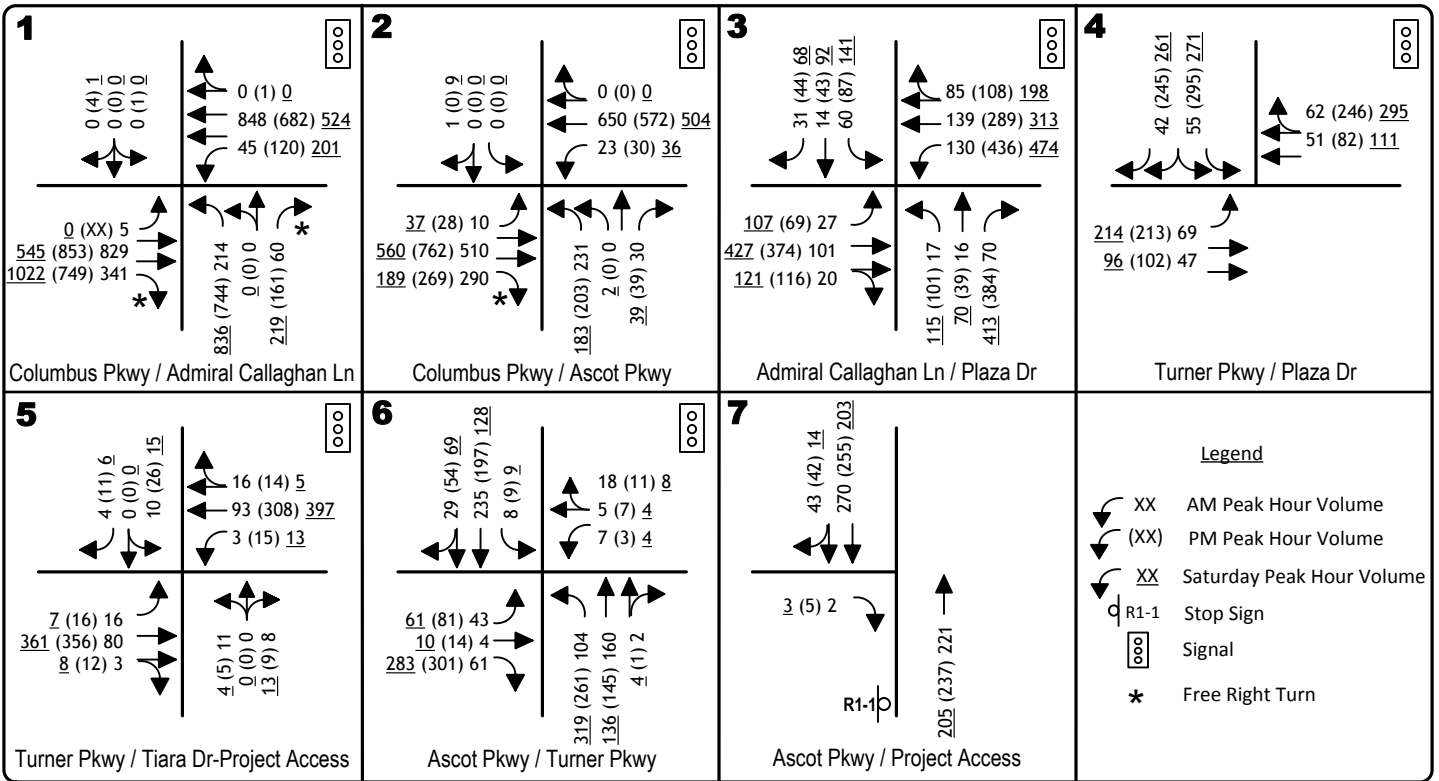
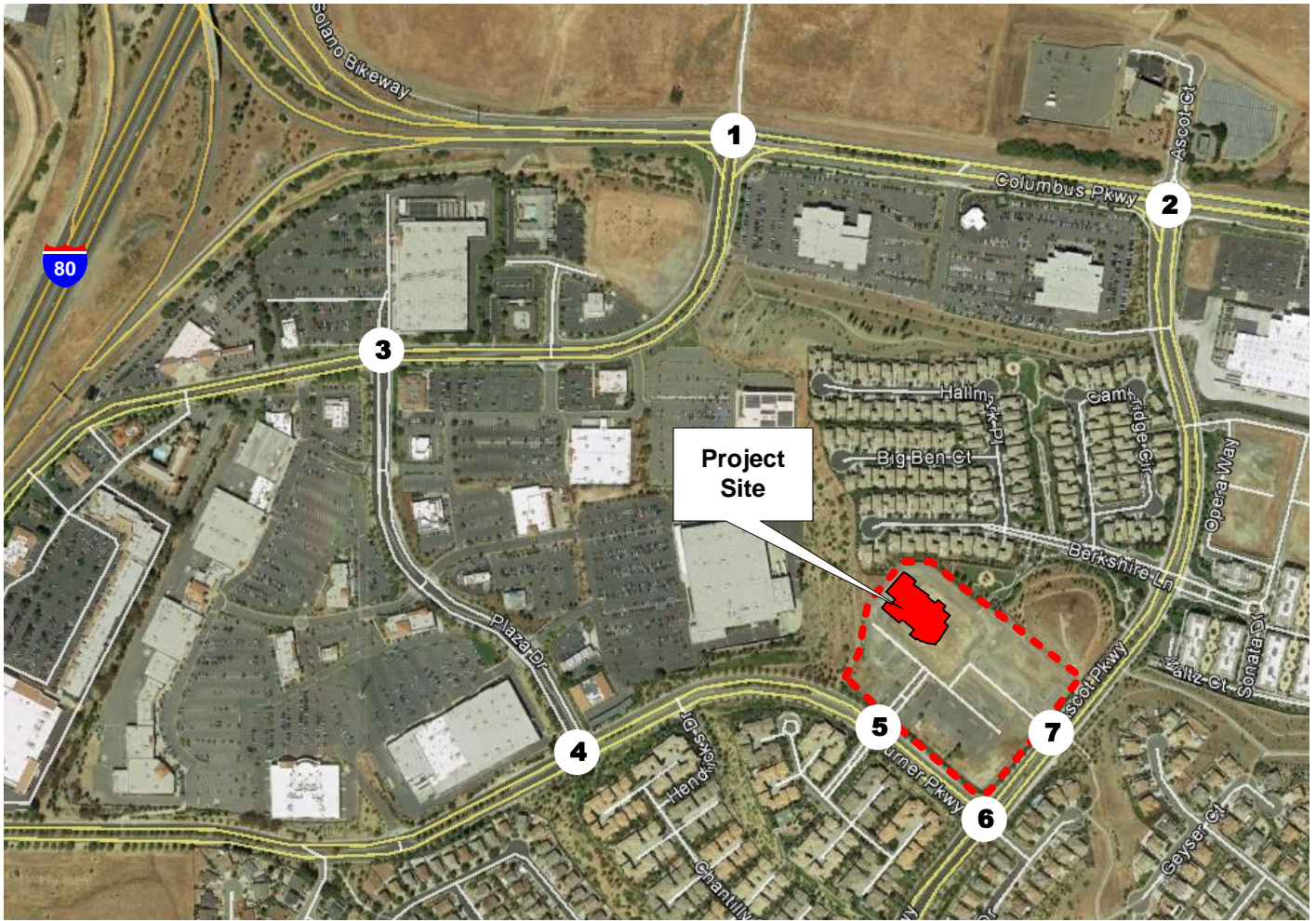
Table 9 presents information regarding Near Term peak period queuing in lanes at signalized study intersections. Four locations will have left turn queues that exceed the turn pockets by more than 25'. The queue will exceed the southbound and westbound left turn lanes at the Admiral Callaghan Lane / Plaza Drive intersection for both the p.m. peak hour and the Saturday peak hour. The queue will exceed the northbound left turn lane at the Ascot Parkway / Turner Parkway intersection during the Saturday peak hour while the westbound left turn lane at the Columbus Parkway / Admiral Callaghan Lane will be exceeded in the Saturday peak hour. While the queues at these locations will continue to exceed the available left turn storage, the queue differential between the Near Term No Project condition is less than 25'. None of these queues are considered significant impacts.



PROJECT VOLUMES

figure 5





**TABLE 9  
NEAR TERM PLUS PROJECT  
PEAK HOUR QUEUES AT SIGNALIZED INTERSECTIONS**

Location	Capacity (feet)	Near Term			Near Term plus Project		
		AM Peak Hour Queue (Feet)	PM Peak Hour Queue (feet)	Saturday Peak Hour Queue (feet)	AM Peak Hour Queue (Feet)	PM Peak Hour Queue (feet)	Saturday Peak Hour Queue (feet)
1. Columbus Parkway / Admiral Callaghan Lane							
NB left turn	400	77	276	418	78	278	421
EB left turn	200	<25	<25	<25	<25	<25	<25
WB left turn	215	81	219	262	81	219	262
2. Columbus Parkway / Ascot Parkway							
NB left turn	185	80	67	91	82	73	96
SB left turn	65	<25	<25	<25	<25	<25	<25
EB left turn	220	<25	34	46	<25	33	46
WB left turn	185	29	38	65	38	45	68
3. Admiral Callaghan Lane / Plaza Drive							
NB left turn	200	<25	131	166	<25	131	166
SB left turn	100	42	134	227	42	134	228
EB left turn	250	<25	83	129	<25	83	129
WB left turn	250	65	423	548	68	433	555
4. Plaza Drive / Turner Parkway							
SB left turn	150	<25	89	88	<25	91	89
EB left turn	220	56	202	168	57	202	168
5. Turner Parkway / Tiara Drive							
EB left turn	120	<25	<25	<25	<25	<25	<25
WB left turn	100	<25	<25	<25	<25	<25	<25
6. Ascot Parkway / Turner Parkway							
NB left turn	380	60	335	448	68	359	457
SB left turn	120	<25	<25	<25	<25	<25	<25
EB left turn	200	29	64	53	34	85	63
WB left turn	50	<25	<25	<25	<25	<25	<25
NT – Near Term <b>Highlighted</b> values indicate queue length in excess of available storage by 25' or more							



## **CUMULATIVE (2030) CONDITIONS**

### **Background Traffic Volume Forecasts**

The City of Vallejo's current General Plan extends to 2030. The Napa–Solano travel demand model was reviewed to develop 2030 intersection turning movement counts at the study intersections. However, the 2030 model does not have a link along Ascot Parkway between Turner Parkway and Columbus Parkway. This link provides direct access into the project site and between I-80, Columbus Parkway and the northeast area of the City. Because of this inaccuracy the model was not used. Instead, the 2030 traffic volumes from the *Chik-Fil-A* Traffic Impact Study prepared by Kimley Horn in April, 2014 and approved by the City was used as the basis. Traffic volumes for the Ascot Parkway / Turner Parkway intersection and the Turner Parkway / Tiara Drive intersection were developed based on projected growth at the adjacent intersections, at Turner Parkway / Plaza Drive and Ascot Parkway / Columbus Parkway. Figure 7 presents the projected Cumulative turning movement volumes.

### **Background Roadway Improvements**

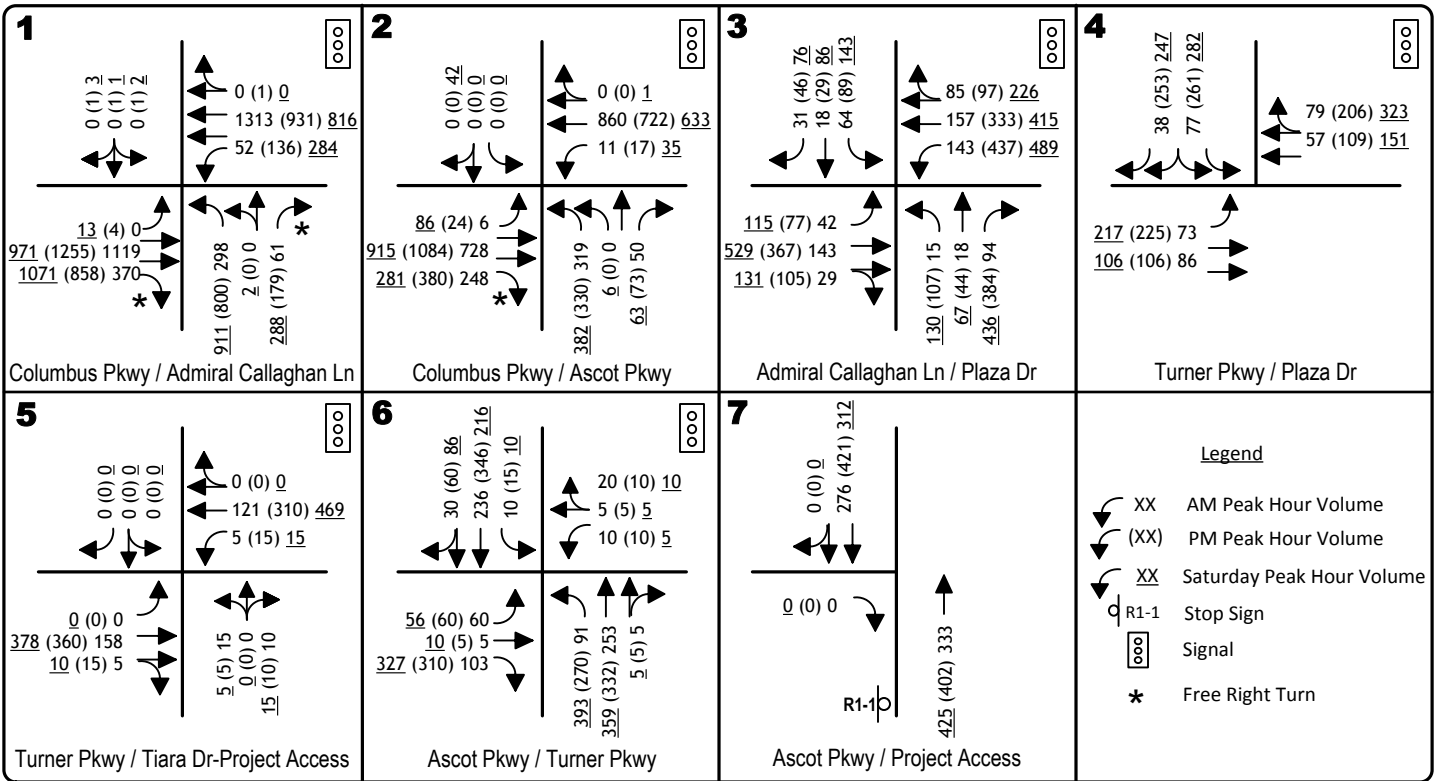
KDA obtained the Solano Transportation Authority (STA) Travel Demand Forecast Model information, which includes anticipated development within the City of Vallejo and remaining areas of Solano County. The STA has identified improvements along Columbus Parkway through 2030. In the project area the only one identified included widening of Columbus Parkway to three lanes for westbound traffic entering the I-80 / SR 37 interchange area. No other roadway improvements are assumed on the local street network.

### **Intersection Levels of Service**

Table 10 summarizes current operating Levels of Service at the study area intersections. All intersections will continue to operate at LOS D.

### **Intersection Queues**

Table 11 presents information regarding Near Term peak period queuing in lanes at signalized study intersections. Five locations will have left turn queues that exceed the turn pockets by more than 25'. The queue will exceed the southbound and westbound left turn lanes at the Admiral Callaghan Lane / Plaza Drive intersection for both the p.m. peak hour and the Saturday peak hour. The queue will also exceed the northbound left turn lane at the Ascot Parkway / Turner Parkway intersection during the Saturday peak hour. The queue in the northbound left turn lane at the Columbus Parkway / Admiral Callaghan Lane will be exceeded in the p.m. and Saturday peak hours while the queue in the westbound left turn lane will be exceeded in the Saturday peak hour.



## 2030 TRAFFIC VOLUMES AND LANE CONFIGURATIONS

**TABLE 10  
INTERSECTION LEVEL OF SERVICE  
2030 PLUS PROJECT CONDITIONS**

Intersection	Control	2030									2030 plus Project								
		AM			PM			Saturday			AM			PM			Saturday		
		LOS	Delay (sec)	v/c ratio	LOS	Delay (sec)	v/c ratio	LOS	Delay (sec)	v/c ratio	LOS	Delay (sec)	v/c ratio	LOS	Delay (sec)	v/c ratio	LOS	Delay (sec)	v/c ratio
1. Columbus Pkwy / Admiral Callaghan Ln	Signal	B	11.1	0.62	C	33.4	0.97	C	29.7	0.89	B	11.2	0.64	C	33.8	0.98	C	30.2	0.90
2. Columbus Pkwy / Ascot Pkwy	Signal	B	12.3	0.53	B	18.0	0.60	C	23.4	0.52	B	11.9	0.54	B	18.7	0.62	C	23.8	0.52
3. Admiral Callaghan Ln/ Plaza Drive	Signal	B	18.0	0.34	C	30.2	0.64	D	35.1	0.76	B	18.2	0.35	C	30.8	0.65	D	35.3	0.77
4. Plaza Drive / Turner Pkwy	Signal	B	11.7	0.29	B	15.0	0.41	B	12.9	0.43	B	11.6	0.30	B	15.1	0.42	B	12.9	0.44
5. Turner Pkwy / Tiara Drive	Signal	A	3.7	0.07	A	3.1	0.16	A	3.7	0.19	A	7.5	0.09	A	6.1	0.18	A	5.9	0.22
6. Ascot Pkwy / Turner Pkwy	Signal	B	16.7	0.31	C	26.0	0.53	C	23.1	0.46	B	17.5	0.34	C	27.0	0.56	C	23.6	0.47
7. Ascot Pkwy / Project Access EB Right	EB Stop	---	---	---	---	---	---	---	---	---	A	9.3	---	A	9.8	---	A	9.3	---

**TABLE 11  
2030 PEAK HOUR QUEUES AT SIGNALIZED INTERSECTIONS**

Location	Capacity (feet)	2030 AM Peak Hour Queue (Feet)	2030 PM Peak Hour Queue (feet)	2030 Saturday Peak Hour Queue (feet)
<b>1. Columbus Parkway / Admiral Callaghan Lane</b>				
NB left turn	400	106	498	470
EB left turn	200	<25	<25	34
WB left turn	215	94	225	387
<b>2. Columbus Parkway / Ascot Parkway</b>				
NB left turn	185	117	166	192
SB left turn	65	<25	<25	<25
EB left turn	220	<25	31	61
WB left turn	185	<25	35	67
<b>3. Admiral Callaghan Lane / Plaza Drive</b>				
NB left turn	200	<25	140	197
SB left turn	100	67	137	234
EB left turn	250	70	95	138
WB left turn	250	108	434	587
<b>4. Plaza Drive / Turner Parkway</b>				
SB left turn	150	30	82	92
EB left turn	220	213	213	170
<b>5. Turner Parkway / Tiara Drive</b>				
EB left turn	120	<25	<25	<25
WB left turn	100	<25	<25	<25
<b>6. Ascot Parkway / Turner Parkway</b>				
NB left turn	380	61	382	579
SB left turn	120	<25	33	25
EB left turn	200	43	67	60
WB left turn	50	<25	<25	<25
<b>Highlighted</b> values indicate queue length in excess of available storage by 25' or more				



## **CUMULATIVE (2030) PLUS PROJECT IMPACTS**

The development of the SCCD Autotechnology project would attract additional traffic to the project vicinity, and the project would add traffic to the long-term 2030 background conditions.

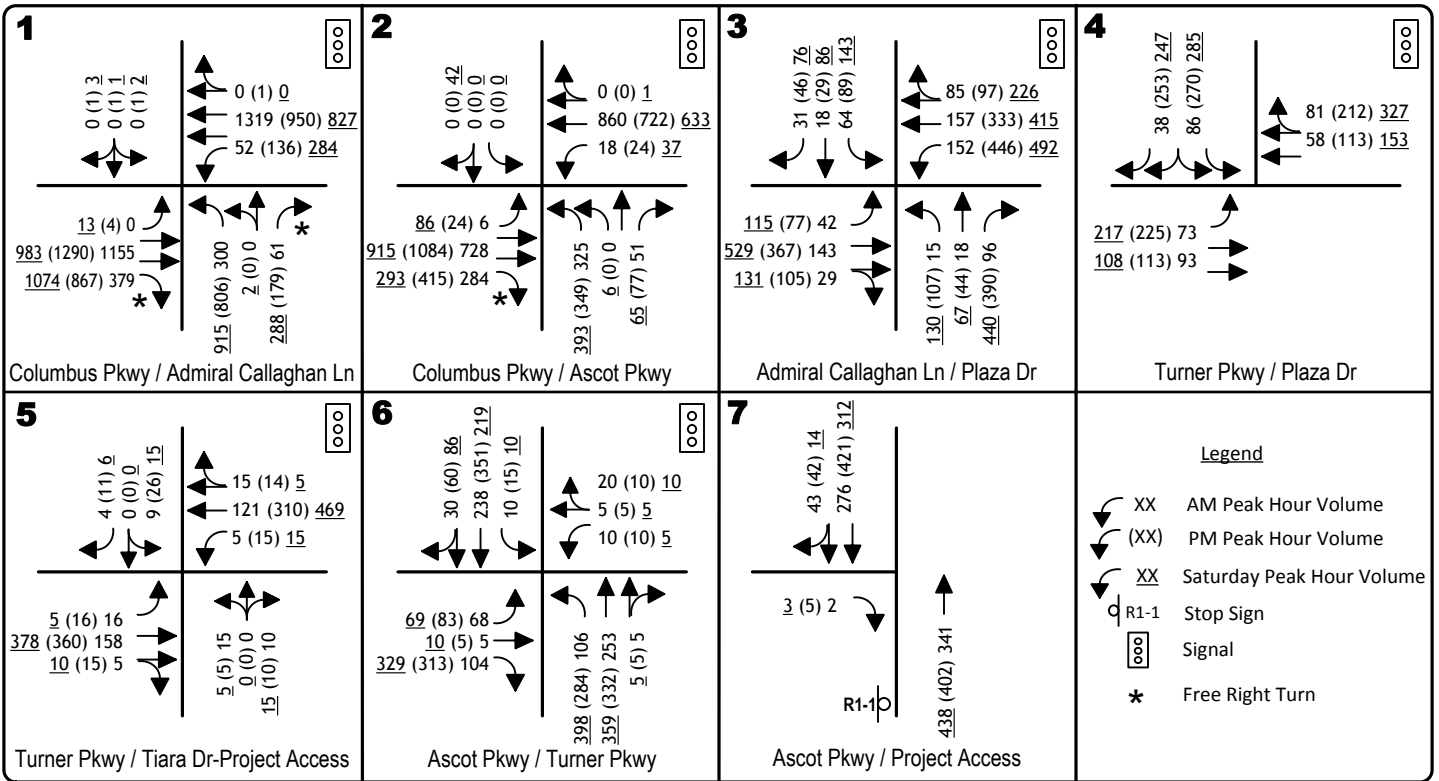
### **Level of Service Analysis**

Project-related traffic was added to 2030 background volumes to develop 2030 plus Project traffic volumes. Figure 8 displays the resulting traffic volumes anticipated for each study intersection in the a.m., p.m. and Saturday peak hours.

Table 10 compares the a.m., p.m. and Saturday peak hour LOS at each study intersection under 2030 and 2030 plus Project conditions. All intersections will continue to operate at LOS D or better during each time period and will operate within acceptable v/c ratio differences.

### **Intersection Queues**

Table 12 presents information regarding Cumulative plus Project peak period queuing in lanes at signalized study intersections. Five locations will have left turn queues that exceed the turn pockets by more than 25'. The queue will exceed the southbound and westbound left turn lanes at the Admiral Callaghan Lane / Plaza Drive intersection for both the p.m. peak hour and the Saturday peak hour. The queue will also exceed the northbound left turn lane at the Ascot Parkway / Turner Parkway intersection during the Saturday peak hour. The queue in the northbound left turn lane at the Columbus Parkway / Admiral Callaghan Lane will be exceeded in the p.m. and Saturday peak hours while the queue in the westbound left turn lane will be exceeded in the Saturday peak hour. The queue in the northbound left turn lane at the Ascot Parkway / Turner Parkway intersection exceeds the turn lane and the projected queue under the No Project condition by 25' or more. This is considered a significant impact.



**2030 PLUS PROJECT**  
**TRAFFIC VOLUMES AND LANE CONFIGURATIONS**

**TABLE 12  
CUMULATIVE (2030) PLUS PROJECT  
PEAK HOUR QUEUES AT SIGNALIZED INTERSECTIONS**

Location	Capacity (feet)	Cumulative (2030)			Cumulative (2030) plus Project		
		AM Peak Hour Queue (Feet)	PM Peak Hour Queue (feet)	Saturday Peak Hour Queue (feet)	AM Peak Hour Queue (Feet)	PM Peak Hour Queue (feet)	Saturday Peak Hour Queue (feet)
1. Columbus Parkway / Admiral Callaghan Lane							
NB left turn	400	106	498	470	107	505	473
EB left turn	200	<25	<25	34	<25	<25	34
WB left turn	215	94	225	387	94	225	387
2. Columbus Parkway / Ascot Parkway							
NB left turn	185	117	166	192	120	175	198
SB left turn	65	<25	<25	<25	<25	<25	<25
EB left turn	220	<25	31	61	<25	29	59
WB left turn	185	<25	35	67	32	46	69
3. Admiral Callaghan Lane / Plaza Drive							
NB left turn	200	<25	140	197	<25	140	198
SB left turn	100	67	137	234	67	137	235
EB left turn	250	70	95	138	71	95	139
WB left turn	250	108	434	587	117	446	595
4. Plaza Drive / Turner Parkway							
SB left turn	150	30	82	92	32	85	93
EB left turn	220	213	213	170	214	213	170
5. Turner Parkway / Tiara Drive							
EB left turn	120	<25	<25	<25	<25	<25	<25
WB left turn	100	<25	<25	<25	<25	<25	25
6. Ascot Parkway / Turner Parkway							
NB left turn	380	61	382	579	69	408	587
SB left turn	120	<25	33	25	<25	33	25
EB left turn	200	43	67	60	47	88	69
WB left turn	50	<25	<25	<25	<25	<25	<25
<b>Highlighted</b> values indicate queue length in excess of available storage by 25' or more; <b>red</b> indicates plus project condition exceeds No Project condition by 25' or more.							

## **FINDINGS / RECOMMENDATIONS / MITIGATIONS**

The preceding analysis has identified project impacts that may occur without mitigation. The text that follows identifies a strategy for mitigating the impacts of the proposed project. Recommendations are identified for facilities that have deficiencies in the roadway network without the project. If the project causes a significant impact, mitigations are identified for the facility.

### **Existing Conditions**

**Recommendations.** All intersections will operate at LOS C or better. The queues at the following locations exceed the left turn storage by 25' or greater:

- southbound left turn lane – Admiral Callaghan Lane at Plaza Drive
- westbound left turn lane – Admiral Callaghan Lane at Plaza Drive
- northbound left turn lane – Ascot Parkway at Turner Parkway

The following recommendation is made:

1. Ascot Parkway at Turner Parkway – The addition of 5 seconds of green time to the northbound left turn phase in the Saturday peak hour will reduce the queue in the turn lane to 380'. This queue is within the available left turn storage.

The left turn lane for the westbound approach at the Admiral Callaghan Lane and Plaza Drive intersection cannot be lengthened due to the back to back left turn lane with the eastbound left turn lane at Auto Club Way. The turn lanes for the southbound approach cannot be lengthened because of the driveway width reduction on the Home Depot site.

No additional recommendations are noted.

### **Near Term**

**Recommendations.** In the Near Term scenario all intersections will operate at acceptable levels of service. The queues at the following locations exceed the left turn storage by 25' or greater:

- southbound left turn lane – Admiral Callaghan Lane at Plaza Drive
- westbound left turn lane – Admiral Callaghan Lane at Plaza Drive
- northbound left turn lane – Ascot Parkway at Turner Parkway
- westbound left turn lane – Admiral Callaghan Lane at Columbus Parkway

The following recommendations are made:

1. Ascot Parkway at Turner Parkway – The addition of 12 seconds of green time to the northbound left turn phase in the Saturday peak hour will reduce the queue in the turn lane to 365'. This queue is within the available left turn storage.



2. Columbus Parkway at Admiral Callaghan Lane – The addition of green time will not adequately reduce the queue so that it is contained within the left turn lane. The westbound left turn lane should be lengthened to 265’ to accommodate the queue.

As noted in the Existing Conditions the left turn lane for the westbound approach at the Admiral Callaghan Lane and Plaza Drive intersection cannot be lengthened due to the back to back left turn lane with the eastbound left turn lane at Auto Club Way. The turn lanes for the southbound approach cannot be lengthened because of the driveway width reduction on the Home Depot site.

No additional recommendations are noted.

### **Near Term plus Project**

**Mitigations.** All intersections will operate at acceptable levels of service and are within the acceptable v/c ratios thresholds. The queues at the four locations identified in the Near Term conditions exceed the left turn storage by 25’ or greater; however, they do not exceed the No Project condition by 25’ or more. Therefore, this is not considered a significant impact.

The following mitigation measures should be undertaken:

1. Pay City Traffic Impact Mitigation Fees. The project should pay the Traffic Impact Fees as set forth by the City of Vallejo.

As noted in the Near Term ‘Recommendations’ lengthening of the westbound left turn lane at the Columbus Parkway at Admiral Callaghan Lane intersection will be adequate to contain the projected left turn queue. The addition of the 12 seconds of green time to the northbound left turn phase at the Ascot Parkway / Turner Parkway intersection will reduce the queue in the turn lane. The queue will lengthen to 376’ in this scenario and is within the available left turn lane.

As noted in the Existing Conditions the left turn lane for the westbound approach at the Admiral Callaghan Lane and Plaza Drive intersection cannot be lengthened due to the back to back left turn lane with the eastbound left turn lane at Auto Club Way. The turn lanes for the southbound approach cannot be lengthened because of the driveway width reduction on the Home Depot site.

No additional mitigations are identified.

### **Cumulative (2030) Conditions**

In the 2030 Cumulative scenario all intersections will operate at acceptable levels of service, at LOS D or better. The queues at the following locations exceed the left turn storage by 25’ or greater:

- southbound left turn lane – Admiral Callaghan Lane at Plaza Drive
- westbound left turn lane – Admiral Callaghan Lane at Plaza Drive
- northbound left turn lane – Ascot Parkway at Turner Parkway
- westbound left turn lane – Admiral Callaghan Lane at Columbus Parkway
- northbound left turn lane – Admiral Callaghan Lane at Columbus Parkway

The following recommendations are made:

1. Ascot Parkway at Turner Parkway – The addition of green time will not adequately reduce the queue so that it is contained within the northbound left turn lane. The northbound left turn lane striping can be extended to Chantilly Place to accommodate the queue.
2. Columbus Parkway at Admiral Callaghan Lane – The addition of green time will not adequately reduce the queue so that it is contained within the northbound left turn lane. The northbound left turn lane should be lengthened to 460' to accommodate the queue. The signal should also be retimed to a shorter signal cycle (96 seconds) for the p.m. peak hour to reduce the queues.
3. Columbus Parkway at Admiral Callaghan Lane – The addition of green time will not adequately reduce the queue so that it is contained within the left turn lane. As noted in the Near Term scenario the westbound left turn lane should be lengthened to 265' to accommodate the queue. The signal should also be retimed to a shorter signal cycle (96 seconds) for the p.m. peak hour to reduce the queues.

The left turn lane for the westbound approach at the Admiral Callaghan Lane and Plaza Drive intersection cannot be lengthened due to the back to back left turn lane with the eastbound left turn lane at Auto Club Way. The turn lanes for the southbound approach cannot be lengthened because of the driveway width reduction on the Home Depot site.

No additional recommendations are noted.

### **Cumulative (2030) + Project Mitigations**

All intersections will operate at acceptable levels of service and are within the acceptable v/c ratios thresholds. Queues at four locations identified in the Cumulative conditions exceed the left turn storage by 25' or greater; however, they do not exceed the No Project condition by 25' or more. The queue in the northbound left turn lane at the Ascot Parkway / Turner Parkway intersection exceeds the turn lane and the projected queue under the No Project condition by 25' or more. This is considered a significant impact.

The following mitigation is necessary:

1. Ascot Parkway / Turner Parkway. The addition of 5 seconds of green time to the northbound left turn phase during the p.m. peak hour will reduce the queue in the turn lane to 373'. This queue is within the available left turn storage. This will reduce the impact to less than significant. However, as noted in 'Recommendations' in the Cumulative Conditions section the northbound left turn lane should be lengthened by restriping to accommodate the projected Saturday peak hour turning movements. Extending the left turn phase by 5 seconds is not necessary should the lane be lengthened as the lane will accommodate the projected queue.

As noted in 'Recommendations' in the Cumulative Conditions section the northbound left turn lane at the Columbus Parkway / Admiral Callaghan Lane intersection should be lengthened to 460' to accommodate the projected queue.

As noted in the Existing Conditions the left turn lane for the westbound approach at the Admiral Callaghan Lane and Plaza Drive intersection cannot be lengthened due to the back to back left turn lane with the eastbound left turn lane at Auto Club Way. The turn lanes for the southbound approach cannot be lengthened because of the driveway width reduction on the Home Depot site.

No other mitigations are recommended.

## REFERENCES

1. Transportation Research Board, Special Report 209, *Highway Capacity Manual*, 2000
2. Institute of Transportation Engineers. 2013. *Trip Generation*, 9th Edition. Washington, D.C.
3. Telephone and E-mail correspondence, David Yatabe, City of Vallejo, September 2014 through May, 2015
4. *Chik-Fil-A Final Traffic Impact Study*, Kimley Horn & Associates, Inc. April 2014
5. *Travel Demand Model*, Solano Transportation Authority, 2011



## APPENDIX

# TECHNICAL APPENDIX

FOR

**SOLANO COMMUNITY COLLEGE DISTRICT  
AUTOTECHNOLOGY BUILDING - VALLEJO CAMPUS  
TRAFFIC IMPACT STUDY**

Vallejo, CA

Prepared For:

**First Carbon Solutions**  
1350 Treat Blvd, Suite 380  
Walnut Creek, CA 94597

Prepared By:

**KD Anderson & Associates**  
3853 Taylor Road, Suite G  
Loomis, California 95650  
(916) 660-1555

May 13, 2015

3260-01

*KD Anderson & Associates, Inc.*

Transportation Engineers

# ALL TRAFFIC DATA

3260-01

City of Vallejo  
 All Vehicles on Unshifted  
 Peds & Bikes on Bank 1  
 Nothing on Bank 2

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 14-7584-001 Admiral Callaghan Lane-Columbus Parkway.pr

Date : 9/11/2014

## Unshifted Count = All Vehicles

START TIME	Private Driveway					Columbus Parkway Westbound					Admiral Callaghan Lane Northbound					Columbus Parkway Eastbound					Total	Utum Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
07:00	0	0	0	0	0	2	121	0	0	123	22	0	13	0	35	0	100	58	1	159	317	1
07:15	0	0	0	0	0	4	181	0	0	185	44	0	9	0	53	0	154	54	0	208	446	0
07:30	0	0	0	0	0	7	201	0	0	208	51	0	7	0	58	0	216	60	1	277	543	1
07:45	0	0	0	0	0	12	235	0	0	247	38	0	12	0	50	0	212	84	3	299	596	3
<b>Total</b>	0	0	0	0	0	25	738	0	0	763	155	0	41	0	196	0	682	256	5	943	1902	5
08:00	0	0	0	0	0	8	168	0	0	176	47	0	17	1	65	0	143	79	1	223	464	2
08:15	0	0	0	0	0	16	120	0	0	136	54	0	24	0	78	0	140	99	1	240	454	1
08:30	0	0	0	0	0	14	128	0	0	142	45	0	19	0	64	0	141	84	2	227	433	2
08:45	0	0	0	0	0	13	164	0	0	177	57	0	17	0	74	0	135	94	0	229	480	0
<b>Total</b>	0	0	0	0	0	51	580	0	0	631	203	0	77	1	281	0	559	356	4	919	1831	5
16:00	0	0	0	0	0	26	120	1	0	147	159	0	41	0	200	1	147	163	1	312	659	1
16:15	1	0	0	0	1	34	123	0	1	158	167	0	32	0	199	1	129	192	2	324	682	3
16:30	0	0	1	0	1	30	118	0	0	148	171	0	41	0	212	0	135	190	0	325	686	0
16:45	0	0	0	0	0	33	127	0	0	160	168	0	42	0	210	1	138	197	2	338	708	2
<b>Total</b>	1	0	1	0	2	123	488	1	1	613	665	0	156	0	821	3	549	742	5	1299	2735	6
17:00	0	0	2	0	2	27	142	0	0	169	172	0	42	0	214	0	160	162	1	323	708	1
17:15	0	0	0	0	0	31	151	0	0	182	170	0	38	0	208	0	187	190	2	379	769	2
17:30	1	0	3	0	4	27	151	1	0	179	205	0	36	0	241	1	172	165	2	340	764	2
17:45	0	0	0	0	0	31	152	0	0	183	175	0	41	0	216	3	190	193	4	390	789	4
<b>Total</b>	1	0	5	0	6	116	596	1	0	713	722	0	157	0	879	4	709	710	9	1432	3030	9
<b>Grand Total</b>	2	0	6	0	8	315	2402	2	1	2720	1745	0	431	1	2177	7	2499	2064	23	4593	9498	25
Apprch %	25.0%	0.0%	75.0%	0.0%		11.6%	88.3%	0.1%	0.0%		80.2%	0.0%	19.8%	0.0%		0.2%	54.4%	44.9%	0.5%			
Total %	0.0%	0.0%	0.1%	0.0%	0.1%	3.3%	25.3%	0.0%	0.0%	28.6%	18.4%	0.0%	4.5%	0.0%	22.9%	0.1%	26.3%	21.7%	0.2%	48.4%	100.0%	

AM PEAK HOUR	Private Driveway					Columbus Parkway Westbound					Admiral Callaghan Lane Northbound					Columbus Parkway Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
07:30	0	0	0	0	0	7	201	0	0	208	51	0	7	0	58	0	216	60	1	277	543
07:45	0	0	0	0	0	12	235	0	0	247	38	0	12	0	50	0	212	84	3	299	596
08:00	0	0	0	0	0	8	168	0	0	176	47	0	17	1	65	0	143	79	1	223	464
08:15	0	0	0	0	0	16	120	0	0	136	54	0	24	0	78	0	140	99	1	240	454
Total Volume	0	0	0	0	0	43	724	0	0	767	190	0	60	1	251	0	711	322	6	1039	2057
% App Total	0.0%	0.0%	0.0%	0.0%		5.6%	94.4%	0.0%	0.0%		75.7%	0.0%	23.9%	0.4%		0.0%	68.4%	31.0%	0.6%		
PHF	.000	.000	.000	.000	.000	.672	.770	.000	.000	.776	.880	.000	.625	.250	.804	.000	.823	.813	.500	.869	.863

PM PEAK HOUR	Private Driveway					Columbus Parkway Westbound					Admiral Callaghan Lane Northbound					Columbus Parkway Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	0	2	0	2	27	142	0	0	169	172	0	42	0	214	0	160	162	1	323	708
17:15	0	0	0	0	0	31	151	0	0	182	170	0	38	0	208	0	187	190	2	379	769
17:30	1	0	3	0	4	27	151	1	0	179	205	0	36	0	241	1	172	165	2	340	764
17:45	0	0	0	0	0	31	152	0	0	183	175	0	41	0	216	3	190	193	4	390	789
Total Volume	1	0	5	0	6	116	596	1	0	713	722	0	157	0	879	4	709	710	9	1432	3030
% App Total	16.7%	0.0%	83.3%	0.0%		16.3%	83.6%	0.1%	0.0%		82.1%	0.0%	17.9%	0.0%		0.3%	49.5%	49.6%	0.6%		
PHF	.250	.000	.417	.000	.375	.935	.980	.250	.000	.974	.880	.000	.935	.000	.912	.333	.933	.920	.563	.918	.960

# ALL TRAFFIC DATA

3260-01

City of Vallejo  
 All Vehicles on Unshifted  
 Peds & Bikes on Bank 1  
 Nothing on Bank 2

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 14-7584-002 N. Ascot Parkway-Columbus Parkway.ppd

Date : 9/11/2014

## Unshifted Count = All Vehicles

START TIME	Ascot Court Southbound					Columbus Parkway Westbound					N. Ascot Parkway Northbound					Columbus Parkway Eastbound					Total	Utorn Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
07:00	0	0	0	0	0	2	94	0	0	96	50	0	4	0	54	0	78	35	0	113	263	0
07:15	0	0	0	0	0	2	132	0	0	134	44	0	8	0	52	0	86	43	3	132	318	3
07:30	0	0	0	0	0	5	155	0	0	160	53	0	1	0	54	0	120	102	2	224	438	2
07:45	0	0	0	0	0	6	187	0	0	193	60	0	11	0	71	0	141	62	2	205	469	2
Total	0	0	0	0	0	15	568	0	0	583	207	0	24	0	231	0	425	242	7	674	1488	7
08:00	0	0	1	0	1	4	124	0	0	128	45	0	4	0	49	1	108	48	3	160	338	3
08:15	0	0	0	0	0	5	95	0	0	100	35	0	5	0	40	1	133	29	5	168	308	5
08:30	2	1	1	0	4	3	99	2	0	104	43	0	3	0	46	1	107	35	5	148	302	5
08:45	0	0	1	0	1	1	133	0	0	134	52	0	4	0	56	1	100	37	4	142	333	4
Total	2	1	3	0	6	13	451	2	0	466	175	0	16	0	191	4	448	149	17	618	1281	17
16:00	0	0	0	0	0	5	113	0	0	118	29	0	5	0	34	0	130	43	5	178	330	5
16:15	0	2	0	0	2	5	124	0	0	129	30	0	6	0	36	0	133	39	2	174	341	2
16:30	0	0	0	0	0	3	116	0	0	119	42	2	1	0	45	0	138	40	7	185	349	7
16:45	0	0	0	0	0	6	125	0	0	131	39	0	9	0	48	0	140	52	6	198	377	6
Total	0	2	0	0	2	19	478	0	0	497	140	2	21	0	163	0	541	174	20	735	1397	20
17:00	0	0	0	0	0	4	131	0	0	135	32	0	6	0	38	0	136	56	8	200	373	8
17:15	0	0	1	0	1	4	135	0	0	139	40	1	2	0	43	0	181	51	4	236	419	4
17:30	0	0	0	0	0	10	130	0	0	140	49	0	10	0	59	0	182	36	8	226	425	8
17:45	0	0	0	0	0	6	138	0	0	144	26	0	7	0	33	1	182	55	8	246	423	8
Total	0	0	1	0	1	24	534	0	0	558	147	1	25	0	173	1	681	198	28	908	1640	28
Grand Total	2	3	4	0	9	71	2031	2	0	2104	669	3	86	0	758	5	2095	763	72	2935	5806	72
Apprch %	22.2%	33.3%	44.4%	0.0%		3.4%	96.5%	0.1%	0.0%		88.3%	0.4%	11.3%	0.0%		0.2%	71.4%	26.0%	2.5%			
Total %	0.0%	0.1%	0.1%	0.0%	0.2%	1.2%	35.0%	0.0%	0.0%	36.2%	11.5%	0.1%	1.5%	0.0%	13.1%	0.1%	36.1%	13.1%	1.2%	50.6%	100.0%	

AM PEAK HOUR	Ascot Court Southbound					Columbus Parkway Westbound					N. Ascot Parkway Northbound					Columbus Parkway Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:15 to 08:15																					
Peak Hour For Entire Intersection Begins at 07:15																					
07:15	0	0	0	0	0	2	132	0	0	134	44	0	8	0	52	0	86	43	3	132	318
07:30	0	0	0	0	0	5	155	0	0	160	53	0	1	0	54	0	120	102	2	224	438
07:45	0	0	0	0	0	6	187	0	0	193	60	0	11	0	71	0	141	62	2	205	469
08:00	0	0	1	0	1	4	124	0	0	128	45	0	4	0	49	1	108	48	3	160	338
Total Volume	0	0	1	0	1	17	598	0	0	615	202	0	24	0	226	1	455	255	10	721	1563
% App Total	0.0%	0.0%	100.0%	0.0%		2.8%	97.2%	0.0%	0.0%		89.4%	0.0%	10.6%	0.0%		0.1%	63.1%	35.4%	1.4%		
PHF	.000	.000	.250	.000	.250	.708	.799	.000	.000	.797	.842	.000	.545	.000	.796	.250	.807	.625	.833	.805	.833

PM PEAK HOUR	Ascot Court Southbound					Columbus Parkway Westbound					N. Ascot Parkway Northbound					Columbus Parkway Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	0	0	0	0	4	131	0	0	135	32	0	6	0	38	0	136	56	8	200	373
17:15	0	0	1	0	1	4	135	0	0	139	40	1	2	0	43	0	181	51	4	236	419
17:30	0	0	0	0	0	10	130	0	0	140	49	0	10	0	59	0	182	36	8	226	425
17:45	0	0	0	0	0	6	138	0	0	144	26	0	7	0	33	1	182	55	8	246	423
Total Volume	0	0	1	0	1	24	534	0	0	558	147	1	25	0	173	1	681	198	28	908	1640
% App Total	0.0%	0.0%	100.0%	0.0%		4.3%	95.7%	0.0%	0.0%		85.0%	0.6%	14.5%	0.0%		0.1%	75.0%	21.8%	3.1%		
PHF	.000	.000	.250	.000	.250	.600	.967	.000	.000	.969	.750	.250	.625	.000	.733	.250	.935	.884	.875	.923	.965



# ALL TRAFFIC DATA

3260-01

City of Vallejo  
 All Vehicles on Unshifted  
 Peds & Bikes on Bank 1  
 Nothing on Bank 2

(916) 771-8700  
[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 14-7584-003 Lowes Driveway-Columbus Parkway.ppd  
 Date : 9/11/2014

### Unshifted Count = All Vehicles

START TIME	Southbound					Columbus Parkway Westbound					Lowes Driveway Northbound					Columbus Parkway Eastbound					Total	Uturn Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL			
07:00	0	0	0	0	0	1	89	0	0	90	1	0	0	0	1	0	70	1	0	0	71	162	0
07:15	0	0	0	0	0	2	132	0	0	134	3	0	0	0	3	0	100	0	0	0	100	237	0
07:30	0	0	0	0	0	1	159	0	0	160	0	0	1	0	1	0	112	0	0	0	112	273	0
07:45	0	0	0	0	0	1	198	0	0	199	2	0	2	0	4	0	154	0	0	0	154	357	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>578</b>	<b>0</b>	<b>0</b>	<b>583</b>	<b>6</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>436</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>437</b>	<b>1029</b>	<b>0</b>
08:00	0	0	0	0	0	6	124	0	1	131	4	0	1	0	5	0	103	1	0	0	104	240	1
08:15	0	0	0	0	0	1	100	0	2	103	8	0	5	0	13	0	114	2	0	0	116	232	2
08:30	0	0	0	0	0	1	95	0	0	96	5	0	1	0	6	0	121	1	0	0	122	224	0
08:45	0	0	0	0	0	3	129	0	0	132	2	0	1	0	3	0	93	1	0	0	94	229	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>11</b>	<b>448</b>	<b>0</b>	<b>3</b>	<b>462</b>	<b>19</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>27</b>	<b>0</b>	<b>431</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>436</b>	<b>925</b>	<b>3</b>
16:00	0	0	0	0	0	4	116	0	0	120	8	0	4	0	12	0	135	1	0	0	136	268	0
16:15	0	0	0	0	0	3	120	0	0	123	9	0	2	0	11	0	127	0	0	0	127	261	0
16:30	0	0	0	0	0	2	109	0	0	111	5	0	5	0	10	0	145	0	0	0	145	266	0
16:45	0	0	0	0	0	4	133	0	0	137	10	0	2	0	12	0	131	5	0	0	136	285	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>478</b>	<b>0</b>	<b>0</b>	<b>491</b>	<b>32</b>	<b>0</b>	<b>13</b>	<b>0</b>	<b>45</b>	<b>0</b>	<b>538</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>544</b>	<b>1080</b>	<b>0</b>
17:00	0	0	0	0	0	4	118	0	0	122	7	0	3	0	10	0	136	1	0	0	137	269	0
17:15	0	0	0	0	0	2	127	0	0	129	8	0	1	0	9	0	176	1	0	0	177	315	0
17:30	0	0	0	0	0	4	145	0	0	149	6	0	2	0	8	0	170	2	0	0	172	329	0
17:45	0	0	0	0	0	5	141	0	1	147	5	0	3	0	8	0	179	1	0	0	180	335	1
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>15</b>	<b>531</b>	<b>0</b>	<b>1</b>	<b>547</b>	<b>26</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>35</b>	<b>0</b>	<b>661</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>666</b>	<b>1248</b>	<b>1</b>
Grand Total	0	0	0	0	0	44	2035	0	4	2083	83	0	33	0	116	0	2066	17	0	0	2083	4282	4
Apprch %	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	97.7%	0.0%	0.2%	97.6%	71.6%	0.0%	28.4%	0.0%	28.4%	0.0%	99.2%	0.8%	0.0%	0.0%	99.2%	100.0%	100.0%
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	47.5%	0.0%	0.1%	48.6%	1.9%	0.0%	0.8%	0.0%	2.7%	0.0%	48.2%	0.4%	0.0%	0.0%	48.6%	100.0%	100.0%

AM PEAK HOUR	Southbound					Columbus Parkway Westbound					Lowes Driveway Northbound					Columbus Parkway Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 07:15 to 08:15																						
Peak Hour For Entire Intersection Begins at 07:15																						
07:15	0	0	0	0	0	2	132	0	0	134	3	0	0	0	3	0	100	0	0	0	100	237
07:30	0	0	0	0	0	1	159	0	0	160	0	0	1	0	1	0	112	0	0	0	112	273
07:45	0	0	0	0	0	1	198	0	0	199	2	0	2	0	4	0	154	0	0	0	154	357
08:00	0	0	0	0	0	6	124	0	1	131	4	0	1	0	5	0	103	1	0	0	104	240
Total Volume	0	0	0	0	0	10	613	0	1	624	9	0	4	0	13	0	469	1	0	0	470	1107
% App Total	0.0%	0.0%	0.0%	0.0%	0.0%	1.6%	98.2%	0.0%	0.2%	97.6%	69.2%	0.0%	30.8%	0.0%	28.4%	0.0%	99.2%	0.2%	0.0%	0.0%	99.2%	100.0%
PHF	.000	.000	.000	.000	.000	.417	.774	.000	.250	.784	.563	.000	.500	.000	.650	.000	.761	.250	.000	.763	.775	.775

PM PEAK HOUR	Southbound					Columbus Parkway Westbound					Lowes Driveway Northbound					Columbus Parkway Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 17:00 to 18:00																						
Peak Hour For Entire Intersection Begins at 17:00																						
17:00	0	0	0	0	0	4	118	0	0	122	7	0	3	0	10	0	136	1	0	0	137	269
17:15	0	0	0	0	0	2	127	0	0	129	8	0	1	0	9	0	176	1	0	0	177	315
17:30	0	0	0	0	0	4	145	0	0	149	6	0	2	0	8	0	170	2	0	0	172	329
17:45	0	0	0	0	0	5	141	0	1	147	5	0	3	0	8	0	179	1	0	0	180	335
Total Volume	0	0	0	0	0	15	531	0	1	547	26	0	9	0	35	0	661	5	0	0	666	1248
% App Total	0.0%	0.0%	0.0%	0.0%	0.0%	2.7%	97.1%	0.0%	0.2%	97.6%	74.3%	0.0%	25.7%	0.0%	28.4%	0.0%	99.2%	0.8%	0.0%	0.0%	99.2%	100.0%
PHF	.000	.000	.000	.000	.000	.750	.916	.000	.250	.918	.813	.000	.750	.000	.875	.000	.923	.625	.000	.925	.931	.931

# ALL TRAFFIC DATA

3260-01

City of Vallejo  
 All Vehicles on Unshifted  
 Peds & Bikes on Bank 1  
 Nothing on Bank 2

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 14-7584-004 St. Johns Mine Road-Columbus Parkway.ppd

Date : 9/11/2014

### Unshifted Count = All Vehicles

START TIME	St. Johns Mine Road Southbound					Columbus Parkway Westbound					Solano Community College Driveway Northbound					Columbus Parkway Eastbound					Total	Utturn Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
07:00	0	0	3	0	3	1	90	0	0	91	0	0	0	0	0	0	65	1	0	66	160	0
07:15	1	0	0	0	1	1	126	0	0	127	0	0	0	0	0	0	101	1	0	102	230	0
07:30	0	0	2	0	2	2	166	0	0	168	0	0	0	0	0	0	117	0	0	117	287	0
07:45	0	0	1	0	1	2	190	1	0	193	3	0	2	0	5	0	134	7	0	141	340	0
<b>Total</b>	<b>1</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>7</b>	<b>6</b>	<b>572</b>	<b>1</b>	<b>0</b>	<b>579</b>	<b>3</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>417</b>	<b>9</b>	<b>0</b>	<b>426</b>	<b>1017</b>	<b>0</b>
08:00	0	0	0	0	0	6	127	0	1	134	4	0	0	0	4	0	83	8	0	91	229	1
08:15	0	0	0	0	0	8	92	0	0	100	1	0	4	0	5	0	87	12	1	100	205	1
08:30	0	0	0	0	0	3	96	0	0	99	2	0	1	0	3	1	96	9	1	107	209	1
08:45	0	0	1	0	1	4	135	0	0	139	4	0	0	0	4	1	87	5	2	95	239	2
<b>Total</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>21</b>	<b>450</b>	<b>0</b>	<b>1</b>	<b>472</b>	<b>11</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>16</b>	<b>2</b>	<b>353</b>	<b>34</b>	<b>4</b>	<b>393</b>	<b>882</b>	<b>5</b>
16:00	0	0	2	0	2	2	108	0	0	110	11	0	3	0	14	0	123	6	0	129	255	0
16:15	0	0	0	0	0	3	116	0	0	119	4	0	3	0	7	1	112	2	1	116	242	1
16:30	0	0	0	0	0	1	118	0	0	119	1	0	3	0	4	1	139	6	1	147	270	1
16:45	0	0	2	0	2	0	125	0	0	125	2	0	1	0	3	0	128	1	2	131	261	2
<b>Total</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>4</b>	<b>6</b>	<b>467</b>	<b>0</b>	<b>0</b>	<b>473</b>	<b>18</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>28</b>	<b>2</b>	<b>502</b>	<b>15</b>	<b>4</b>	<b>523</b>	<b>1028</b>	<b>4</b>
17:00	0	0	0	0	0	1	127	0	0	128	2	0	1	0	3	0	138	2	2	142	273	2
17:15	0	0	0	0	0	4	124	1	0	129	4	0	0	0	4	1	163	3	0	167	300	0
17:30	0	0	2	0	2	8	134	0	0	142	3	0	1	0	4	0	168	3	2	173	321	2
17:45	0	0	1	0	1	19	129	1	0	149	13	0	4	0	17	0	140	18	3	161	328	3
<b>Total</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>32</b>	<b>514</b>	<b>2</b>	<b>0</b>	<b>548</b>	<b>22</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>28</b>	<b>1</b>	<b>609</b>	<b>26</b>	<b>7</b>	<b>643</b>	<b>1222</b>	<b>7</b>
Grand Total	1	0	14	0	15	65	2003	3	1	2072	54	0	23	0	77	5	1881	84	15	1985	4149	16
Apprch %	6.7%	0.0%	93.3%	0.0%		3.1%	96.7%	0.1%	0.0%		70.1%	0.0%	29.9%	0.0%		0.3%	94.8%	4.2%	0.8%			
Total %	0.0%	0.0%	0.3%	0.0%	0.4%	1.6%	48.3%	0.1%	0.0%	49.9%	1.3%	0.0%	0.6%	0.0%	1.9%	0.1%	45.3%	2.0%	0.4%	47.8%	100.0%	

AM PEAK HOUR	St. Johns Mine Road Southbound					Columbus Parkway Westbound					Solano Community College Driveway Northbound					Columbus Parkway Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:15 to 08:15																					
Peak Hour For Entire Intersection Begins at 07:15																					
07:15	1	0	0	0	1	1	126	0	0	127	0	0	0	0	0	0	101	1	0	102	230
07:30	0	0	2	0	2	2	166	0	0	168	0	0	0	0	0	0	117	0	0	117	287
07:45	0	0	1	0	1	2	190	1	0	193	3	0	2	0	5	0	134	7	0	141	340
08:00	0	0	0	0	0	6	127	0	1	134	4	0	0	0	4	0	83	8	0	91	229
Total Volume	1	0	3	0	4	11	609	1	1	622	7	0	2	0	9	0	435	16	0	451	1086
% App Total	25.0%	0.0%	75.0%	0.0%		1.8%	97.9%	0.2%	0.2%		77.8%	0.0%	22.2%	0.0%		0.0%	96.5%	3.5%	0.0%		
PHF	.250	.000	.375	.000	.500	.458	.801	.250	.250	.806	.438	.000	.250	.000	.450	.000	.812	.500	.000	.800	.799

PM PEAK HOUR	St. Johns Mine Road Southbound					Columbus Parkway Westbound					Solano Community College Driveway Northbound					Columbus Parkway Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	0	0	0	0	1	127	0	0	128	2	0	1	0	3	0	138	2	2	142	273
17:15	0	0	0	0	0	4	124	1	0	129	4	0	0	0	4	1	163	3	0	167	300
17:30	0	0	2	0	2	8	134	0	0	142	3	0	1	0	4	0	168	3	2	173	321
17:45	0	0	1	0	1	19	129	1	0	149	13	0	4	0	17	0	140	18	3	161	328
Total Volume	0	0	3	0	3	32	514	2	0	548	22	0	6	0	28	1	609	26	7	643	1222
% App Total	0.0%	0.0%	100.0%	0.0%		5.8%	93.8%	0.4%	0.0%		78.6%	0.0%	21.4%	0.0%		0.2%	94.7%	4.0%	1.1%		
PHF	.000	.000	.375	.000	.375	.421	.959	.500	.000	.919	.423	.000	.375	.000	.412	.250	.906	.361	.583	.929	.931

# ALL TRAFFIC DATA

3260-01

City of Vallejo  
 All Vehicles on Unshifted  
 Peds & Bikes on Bank 1  
 Nothing on Bank 2

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 14-7584-005 Redwood Parkway-Columbus Parkway.ppd

Date : 9/11/2014

## Unshifted Count = All Vehicles

START TIME	Southbound					Columbus Parkway Westbound					Redwood Parkway Northbound					Columbus Parkway Eastbound					Total	Utorn Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
07:00	0	0	0	0	0	3	52	0	0	55	38	0	8	0	46	0	52	14	0	66	167	0
07:15	0	0	0	0	0	2	92	0	0	94	44	0	17	0	61	0	77	25	0	102	257	0
07:30	0	0	0	0	0	3	76	0	0	79	91	0	40	0	131	0	87	20	0	107	317	0
07:45	0	0	0	0	0	6	94	0	0	100	104	0	33	1	138	0	114	29	0	143	381	1
<b>Total</b>	0	0	0	0	0	14	314	0	0	328	277	0	98	1	376	0	330	88	0	418	1122	1
08:00	0	0	0	0	0	4	92	0	0	96	43	0	11	0	54	0	63	19	0	82	232	0
08:15	0	0	0	0	0	7	79	0	0	86	22	0	2	0	24	0	67	21	0	88	198	0
08:30	0	0	0	0	0	3	71	0	0	74	29	0	5	0	34	0	73	29	0	102	210	0
08:45	0	0	0	0	0	3	85	0	0	88	50	0	4	0	54	0	64	21	0	85	227	0
<b>Total</b>	0	0	0	0	0	17	327	0	0	344	144	0	22	0	166	0	267	90	0	357	867	0
16:00	0	0	0	0	0	11	90	0	0	101	15	0	6	0	21	0	94	36	0	130	252	0
16:15	0	0	0	0	0	7	99	0	0	106	22	0	3	0	25	0	87	34	0	121	252	0
16:30	0	0	0	0	0	7	91	0	0	98	25	0	7	0	32	0	96	34	0	130	260	0
16:45	0	0	0	0	0	9	98	0	0	107	29	0	9	0	38	0	91	41	0	132	277	0
<b>Total</b>	0	0	0	0	0	34	378	0	0	412	91	0	25	0	116	0	368	145	0	513	1041	0
17:00	0	0	0	0	0	7	105	0	0	112	22	0	5	0	27	0	93	43	0	136	275	0
17:15	0	0	0	0	0	6	109	0	0	115	23	0	5	0	28	0	118	50	0	168	311	0
17:30	0	0	0	0	0	5	108	0	0	113	38	0	5	0	43	0	111	54	0	165	321	0
17:45	0	0	0	0	0	9	119	0	0	128	31	0	7	0	38	0	97	45	0	142	308	0
<b>Total</b>	0	0	0	0	0	27	441	0	0	468	114	0	22	0	136	0	419	192	0	611	1215	0
Grand Total	0	0	0	0	0	92	1460	0	0	1552	626	0	167	1	794	0	1384	515	0	1899	4245	1
Apprch %	0.0%	0.0%	0.0%	0.0%	0.0%	5.9%	94.1%	0.0%	0.0%		78.8%	0.0%	21.0%	0.1%		0.0%	72.9%	27.1%	0.0%			
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	2.2%	34.4%	0.0%	0.0%	36.6%	14.7%	0.0%	3.9%	0.0%	18.7%	0.0%	32.6%	12.1%	0.0%	44.7%	100.0%	

AM PEAK HOUR	Southbound					Columbus Parkway Westbound					Redwood Parkway Northbound					Columbus Parkway Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:15 to 08:15																					
Peak Hour For Entire Intersection Begins at 07:15																					
07:15	0	0	0	0	0	2	92	0	0	94	44	0	17	0	61	0	77	25	0	102	257
07:30	0	0	0	0	0	3	76	0	0	79	91	0	40	0	131	0	87	20	0	107	317
07:45	0	0	0	0	0	6	94	0	0	100	104	0	33	1	138	0	114	29	0	143	381
08:00	0	0	0	0	0	4	92	0	0	96	43	0	11	0	54	0	63	19	0	82	232
Total Volume	0	0	0	0	0	15	354	0	0	369	282	0	101	1	384	0	341	93	0	434	1187
% App Total	0.0%	0.0%	0.0%	0.0%	0.0%	4.1%	95.9%	0.0%	0.0%		73.4%	0.0%	26.3%	0.3%		0.0%	78.6%	21.4%	0.0%		
PHF	.000	.000	.000	.000	.000	.625	.941	.000	.000	.923	.678	.000	.631	.250	.696	.000	.748	.802	.000	.759	.779

PM PEAK HOUR	Southbound					Columbus Parkway Westbound					Redwood Parkway Northbound					Columbus Parkway Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	0	0	0	0	7	105	0	0	112	22	0	5	0	27	0	93	43	0	136	275
17:15	0	0	0	0	0	6	109	0	0	115	23	0	5	0	28	0	118	50	0	168	311
17:30	0	0	0	0	0	5	108	0	0	113	38	0	5	0	43	0	111	54	0	165	321
17:45	0	0	0	0	0	9	119	0	0	128	31	0	7	0	38	0	97	45	0	142	308
Total Volume	0	0	0	0	0	27	441	0	0	468	114	0	22	0	136	0	419	192	0	611	1215
% App Total	0.0%	0.0%	0.0%	0.0%	0.0%	5.8%	94.2%	0.0%	0.0%		83.8%	0.0%	16.2%	0.0%		0.0%	68.6%	31.4%	0.0%		
PHF	.000	.000	.000	.000	.000	.750	.926	.000	.000	.914	.750	.000	.786	.000	.791	.000	.888	.889	.000	.909	.946

# ALL TRAFFIC DATA

3260-01

City of Vallejo  
 All Vehicles on Unshifted  
 Peds & Bikes on Bank 1  
 Nothing on Bank 2

(916) 771-8700  
[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 14-7584-006 N. Ascot Parkway-Turner Parkway.ppd  
 Date : 9/11/2014

### Unshifted Count = All Vehicles

START TIME	N. Ascot Parkway Southbound					Turner Street Westbound					Ascot Parkway Northbound					Turner Parkway Eastbound					Total	Uturn Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
07:00	1	27	5	0	33	1	1	9	0	11	17	32	1	0	50	6	0	9	0	15	109	0
07:15	0	37	6	0	43	1	0	4	0	5	16	25	0	0	41	7	0	13	0	20	109	0
07:30	4	88	8	0	100	3	4	4	0	11	16	39	1	0	56	11	3	15	0	29	196	0
07:45	0	73	9	0	82	0	0	4	0	4	28	40	0	0	68	6	0	10	0	16	170	0
<b>Total</b>	<b>5</b>	<b>225</b>	<b>28</b>	<b>0</b>	<b>258</b>	<b>5</b>	<b>5</b>	<b>21</b>	<b>0</b>	<b>31</b>	<b>77</b>	<b>136</b>	<b>2</b>	<b>0</b>	<b>215</b>	<b>30</b>	<b>3</b>	<b>47</b>	<b>0</b>	<b>80</b>	<b>584</b>	<b>0</b>
08:00	4	34	6	0	44	2	1	5	0	8	29	33	0	0	62	5	1	11	0	17	131	0
08:15	1	21	3	0	25	0	2	2	0	4	19	28	0	0	47	4	2	14	0	20	96	0
08:30	1	28	8	0	37	0	0	4	0	4	20	26	2	0	48	8	4	13	1	26	115	1
08:45	0	40	9	0	49	3	4	6	0	13	30	39	0	0	69	5	1	21	0	27	158	0
<b>Total</b>	<b>6</b>	<b>123</b>	<b>26</b>	<b>0</b>	<b>155</b>	<b>5</b>	<b>7</b>	<b>17</b>	<b>0</b>	<b>29</b>	<b>98</b>	<b>126</b>	<b>2</b>	<b>0</b>	<b>226</b>	<b>22</b>	<b>8</b>	<b>59</b>	<b>1</b>	<b>90</b>	<b>500</b>	<b>1</b>
16:00	1	36	15	0	52	0	3	1	0	4	47	18	1	0	66	13	1	63	0	77	199	0
16:15	4	26	15	1	46	1	3	1	0	5	65	22	0	0	87	7	5	56	0	68	206	1
16:30	5	34	8	0	47	1	1	2	0	4	56	27	0	0	83	12	4	74	0	90	224	0
16:45	3	37	15	0	55	0	1	3	0	4	65	26	0	0	91	20	6	78	0	104	254	0
<b>Total</b>	<b>13</b>	<b>133</b>	<b>53</b>	<b>1</b>	<b>200</b>	<b>2</b>	<b>8</b>	<b>7</b>	<b>0</b>	<b>17</b>	<b>233</b>	<b>93</b>	<b>1</b>	<b>0</b>	<b>327</b>	<b>52</b>	<b>16</b>	<b>271</b>	<b>0</b>	<b>339</b>	<b>883</b>	<b>1</b>
17:00	3	39	18	0	60	0	1	3	0	4	48	18	0	0	66	15	4	74	0	93	223	0
17:15	2	37	9	0	48	0	0	5	0	5	54	28	0	0	82	7	5	71	0	83	218	0
17:30	0	32	8	0	40	0	1	2	0	3	77	27	0	0	104	19	3	75	0	97	244	0
17:45	3	46	17	0	66	1	5	1	0	7	62	25	0	0	87	17	3	75	0	95	255	0
<b>Total</b>	<b>8</b>	<b>154</b>	<b>52</b>	<b>0</b>	<b>214</b>	<b>1</b>	<b>7</b>	<b>11</b>	<b>0</b>	<b>19</b>	<b>241</b>	<b>98</b>	<b>0</b>	<b>0</b>	<b>339</b>	<b>58</b>	<b>15</b>	<b>295</b>	<b>0</b>	<b>368</b>	<b>940</b>	<b>0</b>
<b>Grand Total</b>	<b>32</b>	<b>635</b>	<b>159</b>	<b>1</b>	<b>827</b>	<b>13</b>	<b>27</b>	<b>56</b>	<b>0</b>	<b>96</b>	<b>649</b>	<b>453</b>	<b>5</b>	<b>0</b>	<b>1107</b>	<b>162</b>	<b>42</b>	<b>672</b>	<b>1</b>	<b>877</b>	<b>2907</b>	<b>2</b>
Apprch %	3.9%	76.8%	19.2%	0.1%		13.5%	28.1%	58.3%	0.0%		58.6%	40.9%	0.5%	0.0%		18.5%	4.8%	76.6%	0.1%			
Total %	1.1%	21.8%	5.5%	0.0%	28.4%	0.4%	0.9%	1.9%	0.0%	3.3%	22.3%	15.6%	0.2%	0.0%	38.1%	5.6%	1.4%	23.1%	0.0%	30.2%	100.0%	

AM PEAK HOUR	N. Ascot Parkway Southbound					Turner Street Westbound					Ascot Parkway Northbound					Turner Parkway Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:15 to 08:15																					
Peak Hour For Entire Intersection Begins at 07:15																					
07:15	0	37	6	0	43	1	0	4	0	5	16	25	0	0	41	7	0	13	0	20	109
07:30	4	88	8	0	100	3	4	4	0	11	16	39	1	0	56	11	3	15	0	29	196
07:45	0	73	9	0	82	0	0	4	0	4	28	40	0	0	68	6	0	10	0	16	170
08:00	4	34	6	0	44	2	1	5	0	8	29	33	0	0	62	5	1	11	0	17	131
Total Volume	8	232	29	0	269	6	5	17	0	28	89	137	1	0	227	29	4	49	0	82	606
% App Total	3.0%	86.2%	10.8%	0.0%		21.4%	17.9%	60.7%	0.0%		39.2%	60.4%	0.4%	0.0%		35.4%	4.9%	59.8%	0.0%		
PHF	.500	.659	.806	.000	.673	.500	.313	.850	.000	.636	.767	.856	.250	.000	.835	.659	.333	.817	.000	.707	.773

PM PEAK HOUR	N. Ascot Parkway Southbound					Turner Street Westbound					Ascot Parkway Northbound					Turner Parkway Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	3	39	18	0	60	0	1	3	0	4	48	18	0	0	66	15	4	74	0	93	223
17:15	2	37	9	0	48	0	0	5	0	5	54	28	0	0	82	7	5	71	0	83	218
17:30	0	32	8	0	40	0	1	2	0	3	77	27	0	0	104	19	3	75	0	97	244
17:45	3	46	17	0	66	1	5	1	0	7	62	25	0	0	87	17	3	75	0	95	255
Total Volume	8	154	52	0	214	1	7	11	0	19	241	98	0	0	339	58	15	295	0	368	940
% App Total	3.7%	72.0%	24.3%	0.0%		5.3%	36.8%	57.9%	0.0%		71.1%	28.9%	0.0%	0.0%		15.8%	4.1%	80.2%	0.0%		
PHF	.667	.837	.722	.000	.811	.250	.350	.550	.000	.679	.782	.875	.000	.000	.815	.763	.750	.983	.000	.948	.922



Volumes for: Thursday, September 11, 2014

City: Vallejo

Project #: 14-7585-001

Location: Columbus Parkway between Ascot Parkway and St. Johns Mine Road

3260-01

Start Time	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	28	146			14	130				
12:15	13	133			7	132				
12:30	13	113			11	127				
12:45	15	118	69	510	2	124	34	513	103	1023
1:00	4	105			9	111				
1:15	9	111			9	113				
1:30	10	106			3	120				
1:45	4	100	27	422	7	156	28	500	55	922
2:00	6	102			2	146				
2:15	4	137			4	116				
2:30	3	136			3	107				
2:45	3	140	16	515	2	109	11	478	27	993
3:00	6	120			6	159				
3:15	10	139			11	163				
3:30	7	120			4	130				
3:45	15	122	38	501	5	144	26	596	64	1097
4:00	8	135			7	128				
4:15	13	130			16	121				
4:30	14	138			25	130				
4:45	13	154	48	557	20	126	68	505	116	1062
5:00	24	156			27	127				
5:15	37	178			38	152				
5:30	40	201			56	150				
5:45	39	188	140	723	58	131	179	560	319	1283
6:00	50	167			70	125				
6:15	53	159			78	121				
6:30	89	140			89	112				
6:45	87	115	279	581	97	94	334	452	613	1033
7:00	89	112			98	78				
7:15	91	131			142	89				
7:30	131	112			152	86				
7:45	139	105	450	460	197	76	589	329	1039	789
8:00	132	114			133	85				
8:15	126	102			100	76				
8:30	108	99			109	101				
8:45	109	76	475	391	131	113	473	375	948	766
9:00	105	71			93	41				
9:15	112	85			118	49				
9:30	93	46			106	51				
9:45	87	42	397	244	95	33	412	174	809	418
10:00	84	54			103	21				
10:15	107	54			113	30				
10:30	92	29			112	34				
10:45	109	34	392	171	161	15	489	100	881	271
11:00	111	24			109	9				
11:15	91	26			97	17				
11:30	125	29			114	12				
11:45	134	28	461	107	115	12	435	50	896	157
Total	2792	5182	2792	5182	3078	4632	3078	4632	5870	9814
Combined Total	7974		7974		7710		7710		15684	
AM Peak	11:30 AM				7:15 AM					
Vol.	538				624					
P.H.F.	0.921				0.792					
PM Peak		5:15 PM				3:00 PM				
Vol.		734				596				
P.H.F.		0.913				0.914				
Percentage	35.0%	65.0%			39.9%	60.1%				

Prepared by NDS/ATD

Volumes for: Thursday, September 11, 2014

City: Vallejo

Project #: 14-7585-002

Location: Ascot Parkway south of Columbus Parkway

3260-01

Start Time	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	8	41			3	42				
12:15	7	41			2	34				
12:30	1	63			0	41				
12:45	5	58	21	203	2	30	7	147	28	350
1:00	4	58			0	41				
1:15	4	50			1	51				
1:30	3	48			0	51				
1:45	4	45	15	201	0	65	1	208	16	409
2:00	3	28			0	60				
2:15	2	52			0	37				
2:30	2	45			2	44				
2:45	1	44	8	169	2	35	4	176	12	345
3:00	2	36			1	35				
3:15	3	46			5	48				
3:30	3	52			4	46				
3:45	0	48	8	182	3	39	13	168	21	350
4:00	0	39			5	44				
4:15	3	57			7	40				
4:30	4	53			3	43				
4:45	4	67	11	216	10	36	25	163	36	379
5:00	8	71			25	50				
5:15	6	43			23	46				
5:30	8	54			17	45				
5:45	4	57	26	225	29	52	94	193	120	418
6:00	9	61			25	33				
6:15	6	62			33	34				
6:30	10	55			43	32				
6:45	19	41	44	219	48	33	149	132	193	351
7:00	27	44			49	32				
7:15	61	51			50	17				
7:30	97	40			83	30				
7:45	44	33	229	168	64	26	246	105	475	273
8:00	47	26			43	25				
8:15	43	34			38	16				
8:30	46	34			34	19				
8:45	48	33	184	127	48	24	163	84	347	211
9:00	30	37			37	15				
9:15	28	19			41	11				
9:30	23	27			38	17	0			
9:45	34	18	115	101	25	11	141	54	256	155
10:00	27	26			35	26				
10:15	28	24			43	6				
10:30	29	10			25	15				
10:45	43	15	127	75	42	6	145	53	272	128
11:00	37	17			33	5				
11:15	39	12			37	6				
11:30	26	13			50	5				
11:45	40	14	142	56	40	3	160	19	302	75
Total	930	1942	930	1942	1148	1502	1148	1502	2078	3444
Combined Total	2872		2872		2650		2650		5522	
AM Peak	7:15 AM				7:00 AM					
Vol.	249				246					
P.H.F.	0.642				0.741					
PM Peak	4:15 PM				1:15 PM					
Vol.	248				227					
P.H.F.	0.910				0.873					
Percentage	32.4%	67.6%			43.3%	56.7%				

# ALL TRAFFIC DATA

3260-01

City of Vallejo  
 All Vehicles on Unshifted  
 Peds & Bikes on Bank 1  
 Nothing on Bank 2

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 15-7044-001 Admiral Callaghan Lane-Columbus Parkway.pr

Date : 1/24/2015

## Unshifted Count = All Vehicles

START TIME	Private Driveway					Columbus Parkway Westbound					Admiral Callaghan Lane Northbound					Columbus Parkway Eastbound					Total	Uturn Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
11:00	0	0	0	0	0	32	134	0	0	166	173	0	39	0	212	1	108	237	6	352	730	6
11:15	0	0	0	0	0	38	107	0	0	145	178	0	31	0	209	0	102	231	3	336	690	3
11:30	0	0	0	0	0	43	132	0	0	175	173	0	40	1	214	0	94	211	5	310	699	6
11:45	0	0	0	0	0	39	96	0	0	135	196	0	53	0	249	1	108	246	1	356	740	1
<b>Total</b>	0	0	0	0	0	152	469	0	0	621	720	0	163	1	884	2	412	925	15	1354	2859	16
12:00	0	0	0	0	0	45	99	0	0	144	184	0	50	0	234	1	103	226	4	334	712	4
12:15	0	0	0	0	0	45	118	0	0	163	208	0	47	0	255	2	86	277	3	368	786	3
12:30	0	0	0	0	0	37	117	0	1	155	201	0	59	0	260	1	129	261	6	397	812	7
12:45	0	0	0	0	0	52	103	0	0	155	219	0	46	0	265	0	106	242	4	352	772	4
<b>Total</b>	0	0	0	0	0	179	437	0	1	617	812	0	202	0	1014	4	424	1006	17	1451	3082	18
<b>Grand Total</b>	0	0	0	0	0	331	906	0	1	1238	1532	0	365	1	1898	6	836	1931	32	2805	5941	34
Apprch %	0.0%	0.0%	0.0%	0.0%	0.0%	26.7%	73.2%	0.0%	0.1%	20.8%	80.7%	0.0%	19.2%	0.1%	31.9%	0.2%	29.8%	68.8%	1.1%	47.2%	100.0%	
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	5.6%	15.2%	0.0%	0.0%	20.8%	25.8%	0.0%	6.1%	0.0%	31.9%	0.1%	14.1%	32.5%	0.5%	47.2%	100.0%	

<b>NOON PEAK</b>		Private Driveway					Columbus Parkway Westbound					Admiral Callaghan Lane Northbound					Columbus Parkway Eastbound					Total
START TIME		LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 12:00 to 13:00																						
Peak Hour For Entire Intersection Begins at 12:00																						
12:00		0	0	0	0	0	45	99	0	0	144	184	0	50	0	234	1	103	226	4	334	712
12:15		0	0	0	0	0	45	118	0	0	163	208	0	47	0	255	2	86	277	3	368	786
12:30		0	0	0	0	0	37	117	0	1	155	201	0	59	0	260	1	129	261	6	397	812
12:45		0	0	0	0	0	52	103	0	0	155	219	0	46	0	265	0	106	242	4	352	772
Total Volume		0	0	0	0	0	179	437	0	1	617	812	0	202	0	1014	4	424	1006	17	1451	3082
% App Total		0.0%	0.0%	0.0%	0.0%	0.0%	29.0%	70.8%	0.0%	0.2%	20.8%	80.1%	0.0%	19.9%	0.0%	31.9%	0.3%	29.2%	69.3%	1.2%	47.2%	100.0%
PHF		.000	.000	.000	.000	.000	.861	.926	.000	.250	.946	.927	.000	.856	.000	.957	.500	.822	.908	.708	.914	.949

# ALL TRAFFIC DATA

3260-01

City of Vallejo  
 All Vehicles on Unshifted  
 Peds & Bikes on Bank 1  
 Nothing on Bank 2

(916) 771-8700  
[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 15-7044-002 N. Ascot Parkway-Columbus Parkway.ppd  
 Date : 1/24/2015

### Unshifted Count = All Vehicles

START TIME	Ascot Court Southbound					Columbus Parkway Westbound					N. Ascot Parkway Northbound					Columbus Parkway Eastbound					Total	Utum Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
11:00	0	0	2	0	2	6	111	0	0	117	50	0	5	0	55	0	120	27	9	156	330	9
11:15	0	0	0	0	0	4	111	0	0	115	34	0	9	0	43	0	99	31	11	141	299	11
11:30	0	0	1	0	1	5	116	0	0	121	46	0	8	0	54	1	97	22	7	127	303	7
11:45	0	0	1	0	1	5	111	0	1	117	25	1	7	1	34	0	120	38	7	165	317	9
<b>Total</b>	0	0	4	0	4	20	449	0	1	470	155	1	29	1	186	1	436	118	34	589	1249	36
12:00	0	0	0	0	0	8	105	0	2	115	29	0	9	0	38	0	111	38	3	152	305	5
12:15	0	0	0	0	0	8	123	0	0	131	39	0	5	0	44	0	105	30	11	146	321	11
12:30	0	0	0	0	0	8	133	0	2	143	26	0	9	0	35	0	135	45	4	184	362	6
12:45	0	0	0	0	0	6	109	0	0	115	37	0	8	0	45	0	105	33	12	150	310	12
<b>Total</b>	0	0	0	0	0	30	470	0	4	504	131	0	31	0	162	0	456	146	30	632	1298	34
<b>Grand Total</b>	0	0	4	0	4	50	919	0	5	974	286	1	60	1	348	1	892	264	64	1221	2547	70
Apprch %	0.0%	0.0%	100.0%	0.0%		5.1%	94.4%	0.0%	0.5%		82.2%	0.3%	17.2%	0.3%		0.1%	73.1%	21.6%	5.2%			
Total %	0.0%	0.0%	0.2%	0.0%	0.2%	2.0%	36.1%	0.0%	0.2%	38.2%	11.2%	0.0%	2.4%	0.0%	13.7%	0.0%	35.0%	10.4%	2.5%	47.9%	100.0%	

NOON PEAK START TIME	Ascot Court Southbound					Columbus Parkway Westbound					N. Ascot Parkway Northbound					Columbus Parkway Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 11:45 to 12:45																					
Peak Hour For Entire Intersection Begins at 11:45																					
11:45	0	0	1	0	1	5	111	0	1	117	25	1	7	1	34	0	120	38	7	165	317
12:00	0	0	0	0	0	8	105	0	2	115	29	0	9	0	38	0	111	38	3	152	305
12:15	0	0	0	0	0	8	123	0	0	131	39	0	5	0	44	0	105	30	11	146	321
12:30	0	0	0	0	0	8	133	0	2	143	26	0	9	0	35	0	135	45	4	184	362
Total Volume	0	0	1	0	1	29	472	0	5	506	119	1	30	1	151	0	471	151	25	647	1305
% App Total	0.0%	0.0%	100.0%	0.0%		5.7%	93.3%	0.0%	1.0%		78.8%	0.7%	19.9%	0.7%		0.0%	72.8%	23.3%	3.9%		
PHF	.000	.000	.250	.000	.250	.906	.887	.000	.625	.885	.763	.250	.833	.250	.858	.000	.872	.839	.568	.879	.901



# ALL TRAFFIC DATA

3260-01

City of Vallejo  
 All Vehicles on Unshifted  
 Peds & Bikes on Bank 1  
 Nothing on Bank 2

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 15-7044-003 Lowes Driveway-Columbus Parkway.ppd

Date : 1/24/2015

## Unshifted Count = All Vehicles

START TIME	Southbound					Columbus Parkway Westbound					Lowes Driveway Northbound					Columbus Parkway Eastbound					Total	Uturm Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
11:00	0	0	0	0	0	5	106	0	0	111	17	0	2	0	19	0	108	0	0	108	238	0
11:15	0	0	0	0	0	5	105	0	0	110	8	0	5	0	13	0	84	0	0	84	207	0
11:30	0	0	0	0	0	8	114	0	0	122	9	0	1	0	10	0	96	1	0	97	229	0
11:45	0	0	0	0	0	12	99	0	0	111	16	0	6	0	22	0	100	1	0	101	234	0
<b>Total</b>	0	0	0	0	0	30	424	0	0	454	50	0	14	0	64	0	388	2	0	390	908	0
12:00	0	0	0	0	0	12	101	0	0	113	14	0	5	0	19	0	112	1	0	113	245	0
12:15	0	0	0	0	0	10	117	0	0	127	16	0	6	0	22	0	104	1	0	105	254	0
12:30	0	0	0	0	0	8	125	0	0	133	14	0	5	0	19	0	130	1	0	131	283	0
12:45	0	0	0	0	0	5	100	0	0	105	14	0	5	0	19	0	89	0	0	89	213	0
<b>Total</b>	0	0	0	0	0	35	443	0	0	478	58	0	21	0	79	0	435	3	0	438	995	0
<b>Grand Total</b>	0	0	0	0	0	65	867	0	0	932	108	0	35	0	143	0	823	5	0	828	1903	0
Apprch %	0.0%	0.0%	0.0%	0.0%		7.0%	93.0%	0.0%	0.0%		75.5%	0.0%	24.5%	0.0%		0.0%	99.4%	0.6%	0.0%			
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	3.4%	45.6%	0.0%	0.0%	49.0%	5.7%	0.0%	1.8%	0.0%	7.5%	0.0%	43.2%	0.3%	0.0%	43.5%	100.0%	

NOON PEAK START TIME	Southbound					Columbus Parkway Westbound					Lowes Driveway Northbound					Columbus Parkway Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 11:45 to 12:45																					
Peak Hour For Entire Intersection Begins at 11:45																					
11:45	0	0	0	0	0	12	99	0	0	111	16	0	6	0	22	0	100	1	0	101	234
12:00	0	0	0	0	0	12	101	0	0	113	14	0	5	0	19	0	112	1	0	113	245
12:15	0	0	0	0	0	10	117	0	0	127	16	0	6	0	22	0	104	1	0	105	254
12:30	0	0	0	0	0	8	125	0	0	133	14	0	5	0	19	0	130	1	0	131	283
<b>Total Volume</b>	0	0	0	0	0	42	442	0	0	484	60	0	22	0	82	0	446	4	0	450	1016
<b>% App Total</b>	0.0%	0.0%	0.0%	0.0%		8.7%	91.3%	0.0%	0.0%		73.2%	0.0%	26.8%	0.0%		0.0%	99.1%	0.9%	0.0%		
<b>PHF</b>	.000	.000	.000	.000	.000	.875	.884	.000	.000	.910	.938	.000	.917	.000	.932	.000	.858	1.000	.000	.859	.898

# ALL TRAFFIC DATA

3260-01

City of Vallejo  
 All Vehicles on Unshifted  
 Peds & Bikes on Bank 1  
 Nothing on Bank 2

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 15-7044-004 St. Johns Mine Road-Columbus Parkway.ppd

Date : 1/24/2015

## Unshifted Count = All Vehicles

START TIME	St. Johns Mine Road Southbound					Columbus Parkway Westbound					Solano Community College Driveway Northbound					Columbus Parkway Eastbound					Total	Utum Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
11:00	0	0	2	0	2	0	111	0	0	111	0	0	0	0	0	1	107	0	1	109	222	1
11:15	0	0	0	0	0	0	107	0	0	107	0	0	0	0	0	5	82	0	1	88	195	1
11:30	0	0	0	0	0	1	124	1	0	126	1	0	0	0	1	1	95	0	1	97	224	1
11:45	0	0	0	0	0	0	115	3	1	119	0	0	2	0	2	7	97	2	1	107	228	2
<b>Total</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>457</b>	<b>4</b>	<b>1</b>	<b>463</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>14</b>	<b>381</b>	<b>2</b>	<b>4</b>	<b>401</b>	<b>869</b>	<b>5</b>
12:00	0	0	1	0	1	1	106	2	0	109	0	0	0	0	0	1	112	0	3	116	226	3
12:15	1	0	0	0	1	0	127	0	0	127	1	0	0	0	1	2	107	0	2	111	240	2
12:30	0	0	0	0	0	0	130	0	1	131	1	0	0	0	1	0	132	1	2	135	267	3
12:45	3	0	0	0	3	0	100	0	0	100	0	0	0	0	0	2	94	0	1	97	200	1
<b>Total</b>	<b>4</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>5</b>	<b>1</b>	<b>463</b>	<b>2</b>	<b>1</b>	<b>467</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>5</b>	<b>445</b>	<b>1</b>	<b>8</b>	<b>459</b>	<b>933</b>	<b>9</b>
<b>Grand Total</b>	<b>4</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>7</b>	<b>2</b>	<b>920</b>	<b>6</b>	<b>2</b>	<b>930</b>	<b>3</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>5</b>	<b>19</b>	<b>826</b>	<b>3</b>	<b>12</b>	<b>860</b>	<b>1802</b>	<b>14</b>
Apprch %	57.1%	0.0%	42.9%	0.0%	0.4%	0.2%	98.9%	0.6%	0.2%	51.6%	60.0%	0.0%	40.0%	0.0%	0.3%	2.2%	96.0%	0.3%	1.4%	47.7%	100.0%	
Total %	0.2%	0.0%	0.2%	0.0%		0.1%	51.1%	0.3%	0.1%		0.2%	0.0%	0.1%	0.0%		1.1%	45.8%	0.2%	0.7%			

NOON PEAK START TIME	St. Johns Mine Road Southbound					Columbus Parkway Westbound					Solano Community College Driveway Northbound					Columbus Parkway Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 11:45 to 12:45																						
Peak Hour For Entire Intersection Begins at 11:45																						
11:45	0	0	0	0	0	0	115	3	1	119	0	0	2	0	2	7	97	2	1	107	228	
12:00	0	0	1	0	1	1	106	2	0	109	0	0	0	0	0	1	112	0	3	116	226	
12:15	1	0	0	0	1	0	127	0	0	127	1	0	0	0	1	2	107	0	2	111	240	
12:30	0	0	0	0	0	0	130	0	1	131	1	0	0	0	1	0	132	1	2	135	267	
Total Volume	1	0	1	0	2	1	478	5	2	486	2	0	2	0	4	10	448	3	8	469	961	
% App Total	50.0%	0.0%	50.0%	0.0%		0.2%	98.4%	1.0%	0.4%		50.0%	0.0%	50.0%	0.0%		2.1%	95.5%	0.6%	1.7%			
PHF	.250	.000	.250	.000	.500	.250	.919	.417	.500	.927	.500	.000	.250	.000	.500	.357	.848	.375	.667	.869	.900	

# ALL TRAFFIC DATA

3260-01

City of Vallejo  
 All Vehicles on Unshifted  
 Peds & Bikes on Bank 1  
 Nothing on Bank 2

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 15-7044-005 Redwood Parkway-Columbus Parkway.ppd

Date : 1/24/2015

## Unshifted Count = All Vehicles

START TIME	Southbound					Columbus Parkway Westbound					Redwood Parkway Northbound					Columbus Parkway Eastbound					Total	Uturn Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
11:00	0	0	0	0	0	3	79	0	0	82	31	0	4	0	35	0	78	22	0	100	217	0
11:15	0	0	0	0	0	6	70	0	1	77	37	0	4	0	41	0	62	28	0	90	208	1
11:30	0	0	0	0	0	2	78	0	0	80	46	0	4	0	50	0	68	27	0	95	225	0
11:45	0	0	0	0	0	5	98	0	0	103	24	0	8	0	32	0	68	29	0	97	232	0
Total	0	0	0	0	0	16	325	0	1	342	138	0	20	0	158	0	276	106	0	382	882	1
12:00	0	0	0	0	0	3	81	0	0	84	27	0	4	0	31	0	86	24	0	110	225	0
12:15	0	0	0	0	0	6	89	0	0	95	41	0	5	0	46	0	78	30	0	108	249	0
12:30	0	0	0	0	0	5	101	0	0	106	29	0	4	0	33	0	95	36	0	131	270	0
12:45	0	0	0	0	0	1	84	0	1	86	16	0	5	0	21	0	72	27	0	99	206	1
Total	0	0	0	0	0	15	355	0	1	371	113	0	18	0	131	0	331	117	0	448	950	1
Grand Total	0	0	0	0	0	31	680	0	2	713	251	0	38	0	289	0	607	223	0	830	1832	2
Apprch %	0.0%	0.0%	0.0%	0.0%		4.3%	95.4%	0.0%	0.3%		86.9%	0.0%	13.1%	0.0%		0.0%	73.1%	26.9%	0.0%			
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	1.7%	37.1%	0.0%	0.1%	38.9%	13.7%	0.0%	2.1%	0.0%	15.8%	0.0%	33.1%	12.2%	0.0%	45.3%	100.0%	

NOON PEAK START TIME	Southbound					Columbus Parkway Westbound					Redwood Parkway Northbound					Columbus Parkway Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 11:45 to 12:45																					
Peak Hour For Entire Intersection Begins at 11:45																					
11:45	0	0	0	0	0	5	98	0	0	103	24	0	8	0	32	0	68	29	0	97	232
12:00	0	0	0	0	0	3	81	0	0	84	27	0	4	0	31	0	86	24	0	110	225
12:15	0	0	0	0	0	6	89	0	0	95	41	0	5	0	46	0	78	30	0	108	249
12:30	0	0	0	0	0	5	101	0	0	106	29	0	4	0	33	0	95	36	0	131	270
Total Volume	0	0	0	0	0	19	369	0	0	388	121	0	21	0	142	0	327	119	0	446	976
% App Total	0.0%	0.0%	0.0%	0.0%		4.9%	95.1%	0.0%	0.0%		85.2%	0.0%	14.8%	0.0%		0.0%	73.3%	26.7%	0.0%		
PHF	.000	.000	.000	.000	.000	.792	.913	.000	.000	.915	.738	.000	.656	.000	.772	.000	.861	.826	.000	.851	.904

# ALL TRAFFIC DATA

3260-01

City of Vallejo  
 All Vehicles on Unshifted  
 Peds & Bikes on Bank 1  
 Nothing on Bank 2

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[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 15-7044-006 N. Ascot Parkway-Turner Parkway.ppd  
 Date : 1/24/2015

### Unshifted Count = All Vehicles

START TIME	N. Ascot Parkway Southbound					Turner Street Westbound					Ascot Parkway Northbound					Turner Parkway Eastbound					Total	Utum Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
11:00	0	16	19	0	35	0	6	6	0	12	80	30	1	1	112	7	3	48	1	59	218	2
11:15	0	21	12	0	33	1	4	4	0	9	79	26	0	0	105	11	1	44	2	58	205	2
11:30	2	13	9	0	24	1	0	2	0	3	72	22	0	0	94	17	2	56	1	76	197	1
11:45	6	23	15	0	44	0	3	5	0	8	66	19	0	0	85	18	4	59	0	81	218	0
<b>Total</b>	<b>8</b>	<b>73</b>	<b>55</b>	<b>0</b>	<b>136</b>	<b>2</b>	<b>13</b>	<b>17</b>	<b>0</b>	<b>32</b>	<b>297</b>	<b>97</b>	<b>1</b>	<b>1</b>	<b>396</b>	<b>53</b>	<b>10</b>	<b>207</b>	<b>4</b>	<b>274</b>	<b>838</b>	<b>5</b>
12:00	3	30	16	0	49	0	0	1	0	1	68	19	2	0	89	11	7	73	0	91	230	0
12:15	1	16	16	0	33	2	2	2	0	6	66	27	0	0	93	8	1	76	0	85	217	0
12:30	2	38	20	0	60	1	2	3	0	6	65	15	0	0	80	17	0	60	0	77	223	0
12:45	3	18	13	0	34	1	0	2	0	3	95	21	2	0	118	10	2	60	0	72	227	0
<b>Total</b>	<b>9</b>	<b>102</b>	<b>65</b>	<b>0</b>	<b>176</b>	<b>4</b>	<b>4</b>	<b>8</b>	<b>0</b>	<b>16</b>	<b>294</b>	<b>82</b>	<b>4</b>	<b>0</b>	<b>380</b>	<b>46</b>	<b>10</b>	<b>269</b>	<b>0</b>	<b>325</b>	<b>897</b>	<b>0</b>
<b>Grand Total</b>	<b>17</b>	<b>175</b>	<b>120</b>	<b>0</b>	<b>312</b>	<b>6</b>	<b>17</b>	<b>25</b>	<b>0</b>	<b>48</b>	<b>591</b>	<b>179</b>	<b>5</b>	<b>1</b>	<b>776</b>	<b>99</b>	<b>20</b>	<b>476</b>	<b>4</b>	<b>599</b>	<b>1735</b>	<b>5</b>
Apprch %	5.4%	56.1%	38.5%	0.0%		12.5%	35.4%	52.1%	0.0%		76.2%	23.1%	0.6%	0.1%		16.5%	3.3%	79.5%	0.7%			
Total %	1.0%	10.1%	6.9%	0.0%	18.0%	0.3%	1.0%	1.4%	0.0%	2.8%	34.1%	10.3%	0.3%	0.1%	44.7%	5.7%	1.2%	27.4%	0.2%	34.5%	100.0%	

NOON PEAK START TIME	N. Ascot Parkway Southbound					Turner Street Westbound					Ascot Parkway Northbound					Turner Parkway Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 12:00 to 13:00																					
Peak Hour For Entire Intersection Begins at 12:00																					
12:00	3	30	16	0	49	0	0	1	0	1	68	19	2	0	89	11	7	73	0	91	230
12:15	1	16	16	0	33	2	2	2	0	6	66	27	0	0	93	8	1	76	0	85	217
12:30	2	38	20	0	60	1	2	3	0	6	65	15	0	0	80	17	0	60	0	77	223
12:45	3	18	13	0	34	1	0	2	0	3	95	21	2	0	118	10	2	60	0	72	227
Total Volume	9	102	65	0	176	4	4	8	0	16	294	82	4	0	380	46	10	269	0	325	897
% App Total	5.1%	58.0%	36.9%	0.0%		25.0%	25.0%	50.0%	0.0%		77.4%	21.6%	1.1%	0.0%		14.2%	3.1%	82.8%	0.0%		
PHF	.750	.671	.813	.000	.733	.500	.500	.667	.000	.667	.774	.759	.500	.000	.805	.676	.357	.885	.000	.893	.975



Volumes for: Saturday, January 24, 2015

City: Vallejo

Project #: 15-7045-001

Location: Columbus Parkway east of Ascot Parkway

3260-01

Start Time	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	23	116			17	122				
12:15	24	104			8	127				
12:30	14	116			10	131				
12:45	17	99	78	435	12	117	47	497	125	932
1:00	11	101			10	104				
1:15	12	111			8	117				
1:30	11	108			4	109				
1:45	8	111	42	431	3	111	25	441	67	872
2:00	11	120			3	141				
2:15	8	130			3	114				
2:30	8	114			2	109				
2:45	7	107	34	471	6	108	14	472	48	943
3:00	7	113			8	104				
3:15	5	114			5	105				
3:30	7	119			7	118				
3:45	4	126	23	472	4	100	24	427	47	899
4:00	5	128			6	105				
4:15	6	101			9	119				
4:30	12	123			4	101				
4:45	11	119	34	471	3	102	22	427	56	898
5:00	11	108			11	93				
5:15	11	100			16	125				
5:30	19	113			16	107				
5:45	21	107	62	428	25	98	68	423	130	851
6:00	15	116			23	107				
6:15	10	109			26	89				
6:30	22	107			19	73				
6:45	26	121	73	453	27	76	95	345	168	798
7:00	37	138			38	74				
7:15	41	80			40	74				
7:30	45	75			51	47				
7:45	34	79	157	372	65	56	194	251	351	623
8:00	31	67			53	46				
8:15	46	61			57	61				
8:30	58	65			69	36				
8:45	41	57	176	250	79	40	258	183	434	433
9:00	53	62			71	50				
9:15	47	59			90	50				
9:30	56	51			94	39				
9:45	61	58	217	230	85	48	340	187	557	417
10:00	83	49			76	41				
10:15	80	35			93	31				
10:30	98	56			97	30				
10:45	85	32	346	172	113	27	379	129	725	301
11:00	99	46			116	23				
11:15	90	32			120	28				
11:30	92	37			114	19				
11:45	98	30	379	145	116	26	466	96	845	241
Total	1621	4330	1621	4330	1932	3878	1932	3878	3553	8208
Combined Total	5951		5951		5810		5810		11761	
AM Peak	11:45 AM				11:45 AM					
Vol.	434				496					
P.H.F.	0.935				0.947					
PM Peak		3:15 PM				12:00 PM				
Vol.		487				497				
P.H.F.		0.951				0.948				
Percentage	27.2%	72.8%			33.3%	66.7%				

Volumes for: Saturday, January 24, 2015

City: Vallejo

Project #: 15-7045-002

Location: Ascot Parkway south of Columbus Parkway

3260-01

Start Time	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	6	37			11	46				
12:15	4	44			11	38				
12:30	5	39			8	52				
12:45	7	45	22	165	5	40	35	176	57	341
1:00	2	41			6	41				
1:15	1	52			11	56				
1:30	3	58			3	38				
1:45	2	46	8	197	7	51	27	186	35	383
2:00	3	54			4	55				
2:15	1	49			2	67				
2:30	1	47			2	53				
2:45	6	36	11	186	2	56	10	231	21	417
3:00	2	53			3	43				
3:15	3	47			4	46				
3:30	1	38			3	52				
3:45	1	55	7	193	7	58	17	199	24	392
4:00	3	40			2	47				
4:15	2	31			2	55				
4:30	2	51			1	50				
4:45	3	39	10	161	2	52	7	204	17	365
5:00	8	43			1	50				
5:15	7	39			3	41				
5:30	4	45			3	52				
5:45	12	25	31	152	6	39	13	182	44	334
6:00	16	41			2	50				
6:15	16	42			1	41				
6:30	11	19			3	48				
6:45	13	20	56	122	6	30	12	169	68	291
7:00	17	19			11	40				
7:15	19	29			16	49				
7:30	24	31			19	34				
7:45	20	23	80	102	21	28	67	151	147	253
8:00	19	20			18	31				
8:15	33	21			18	37				
8:30	38	20			18	28				
8:45	47	26	137	87	25	22	79	118	216	205
9:00	24	14			21	30				
9:15	46	20			30	26				
9:30	39	16			36	21	0			
9:45	41	17	150	67	35	23	122	100	272	167
10:00	43	26			20	24				
10:15	37	20			23	26				
10:30	37	15			44	26				
10:45	39	16	156	77	28	16	115	92	271	169
11:00	53	19			34	16				
11:15	46	10			35	17				
11:30	57	15			28	13				
11:45	33	5	189	49	43	24	140	70	329	119
Total	857	1558	857	1558	644	1878	644	1878	1501	3436
Combined Total	2415		2415		2522		2522		4937	
AM Peak	10:45 AM				11:45 AM					
Vol.	195				179					
P.H.F.	0.855				0.861					
PM Peak	1:15 PM				2:00 PM					
Vol.	210				231					
P.H.F.	0.871				0.862					
Percentage	35.5%	64.5%			25.5%	74.5%				

# ALL TRAFFIC DATA

3260-01

City of Vallejo  
 All Vehicles on Unshifted  
 Peds & Bikes on Bank 1  
 Nothing on Bank 2

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 15-7288-001 Tiara Drive-Turner Parkway.ppd

Date : 4/8/2015

## Unshifted Count = All Vehicles

START TIME	Tiara Drive Southbound					Turner Parkway Westbound					Tiara Drive Northbound					Turner Parkway Eastbound					Total	Utum Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
07:00	0	0	0	0	0	2	18	0	0	20	3	0	3	0	6	0	9	0	0	9	35	0
07:15	0	0	0	0	0	0	11	0	0	11	3	0	0	0	3	0	15	1	0	16	30	0
07:30	0	0	0	0	0	2	23	0	0	25	1	0	2	0	3	0	16	1	0	17	45	0
07:45	0	0	0	0	0	1	20	0	0	21	1	0	1	0	2	0	9	1	0	10	33	0
<b>Total</b>	0	0	0	0	0	5	72	0	0	77	8	0	6	0	14	0	49	3	0	52	143	0
08:00	0	0	0	0	0	0	22	0	0	22	6	0	3	0	9	0	13	2	0	15	46	0
08:15	1	0	0	0	1	1	20	1	0	22	2	0	0	0	2	0	11	0	0	11	36	0
08:30	0	0	0	0	0	1	24	0	0	25	0	0	1	0	1	0	15	0	0	15	41	0
08:45	0	0	0	0	0	0	20	0	0	20	2	0	3	0	5	0	22	1	0	23	48	0
<b>Total</b>	1	0	0	0	1	2	86	1	0	89	10	0	7	0	17	0	61	3	0	64	171	0
<b>Grand Total</b>	1	0	0	0	1	7	158	1	0	166	18	0	13	0	31	0	110	6	0	116	314	0
Apprch %	100.0%	0.0%	0.0%	0.0%		4.2%	95.2%	0.6%	0.0%		58.1%	0.0%	41.9%	0.0%		0.0%	94.8%	5.2%	0.0%			
Total %	0.3%	0.0%	0.0%	0.0%	0.3%	2.2%	50.3%	0.3%	0.0%	52.9%	5.7%	0.0%	4.1%	0.0%	9.9%	0.0%	35.0%	1.9%	0.0%	36.9%	100.0%	

AM PEAK HOUR	Tiara Drive Southbound					Turner Parkway Westbound					Tiara Drive Northbound					Turner Parkway Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 08:00 to 09:00																					
Peak Hour For Entire Intersection Begins at 08:00																					
08:00	0	0	0	0	0	0	22	0	0	22	6	0	3	0	9	0	13	2	0	15	46
08:15	1	0	0	0	1	1	20	1	0	22	2	0	0	0	2	0	11	0	0	11	36
08:30	0	0	0	0	0	1	24	0	0	25	0	0	1	0	1	0	15	0	0	15	41
08:45	0	0	0	0	0	0	20	0	0	20	2	0	3	0	5	0	22	1	0	23	48
Total Volume	1	0	0	0	1	2	86	1	0	89	10	0	7	0	17	0	61	3	0	64	171
% App Total	100.0%	0.0%	0.0%	0.0%		2.2%	96.6%	1.1%	0.0%		58.8%	0.0%	41.2%	0.0%		0.0%	95.3%	4.7%	0.0%		
PHF	.250	.000	.000	.000	.250	.500	.896	.250	.000	.890	.417	.000	.583	.000	.472	.000	.693	.375	.000	.696	.891

# ALL TRAFFIC DATA

3260-01

City of Vallejo  
 All Vehicles on Unshifted  
 Peds & Bikes on Bank 1  
 Nothing on Bank 2

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[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 15-7288-001 Tiara Drive-Turner Parkway.ppd

Date : 4/11/2015

## Unshifted Count = All Vehicles

START TIME	Tiara Drive Southbound					Turner Parkway Westbound					Tiara Drive Northbound					Turner Parkway Eastbound					Total	Utum Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
11:00	0	0	0	0	0	0	80	0	0	80	1	0	3	0	4	0	70	1	3	74	158	3
11:15	0	0	0	0	0	1	100	0	0	101	1	0	0	0	1	0	67	1	0	68	170	0
11:30	0	0	0	0	0	2	83	0	0	85	0	0	3	0	3	0	75	1	0	76	164	0
11:45	0	0	0	0	0	0	93	0	0	93	2	0	1	0	3	0	75	3	0	78	174	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>356</b>	<b>0</b>	<b>0</b>	<b>359</b>	<b>4</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>11</b>	<b>0</b>	<b>287</b>	<b>6</b>	<b>3</b>	<b>296</b>	<b>666</b>	<b>3</b>
12:00	0	0	0	0	0	2	88	0	0	90	2	0	3	0	5	0	85	0	0	85	180	0
12:15	0	0	0	0	0	3	96	0	0	99	2	0	3	0	5	0	88	3	1	92	196	1
12:30	0	0	0	0	0	4	93	0	0	97	0	0	5	0	5	0	94	2	1	97	199	1
12:45	0	0	0	0	0	1	102	0	2	105	0	0	2	0	2	0	90	2	0	92	199	2
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>379</b>	<b>0</b>	<b>2</b>	<b>391</b>	<b>4</b>	<b>0</b>	<b>13</b>	<b>0</b>	<b>17</b>	<b>0</b>	<b>357</b>	<b>7</b>	<b>2</b>	<b>366</b>	<b>774</b>	<b>4</b>
<b>Grand Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>735</b>	<b>0</b>	<b>2</b>	<b>750</b>	<b>8</b>	<b>0</b>	<b>20</b>	<b>0</b>	<b>28</b>	<b>0</b>	<b>644</b>	<b>13</b>	<b>5</b>	<b>662</b>	<b>1440</b>	<b>7</b>
Apprch %	0.0%	0.0%	0.0%	0.0%		1.7%	98.0%	0.0%	0.3%		28.6%	0.0%	71.4%	0.0%		0.0%	97.3%	2.0%	0.8%			
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	51.0%	0.0%	0.1%	52.1%	0.6%	0.0%	1.4%	0.0%	1.9%	0.0%	44.7%	0.9%	0.3%	46.0%	100.0%	

NOON PEAK START TIME	Tiara Drive Southbound					Turner Parkway Westbound					Tiara Drive Northbound					Turner Parkway Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 12:00 to 13:00																					
Peak Hour For Entire Intersection Begins at 12:00																					
12:00	0	0	0	0	0	2	88	0	0	90	2	0	3	0	5	0	85	0	0	85	180
12:15	0	0	0	0	0	3	96	0	0	99	2	0	3	0	5	0	88	3	1	92	196
12:30	0	0	0	0	0	4	93	0	0	97	0	0	5	0	5	0	94	2	1	97	199
12:45	0	0	0	0	0	1	102	0	2	105	0	0	2	0	2	0	90	2	0	92	199
Total Volume	0	0	0	0	0	10	379	0	2	391	4	0	13	0	17	0	357	7	2	366	774
% App Total	0.0%	0.0%	0.0%	0.0%		2.6%	96.9%	0.0%	0.5%		23.5%	0.0%	76.5%	0.0%	0.5%	0.0%	97.5%	1.9%	0.5%		
PHF	.000	.000	.000	.000	.000	.625	.929	.000	.250	.931	.500	.000	.650	.000	.850	.000	.949	.583	.500	.943	.972



# ALL TRAFFIC DATA

3260-01

City of Vallejo  
 All Vehicles on Unshifted  
 Peds & Bikes on Bank 1  
 Nothing on Bank 2

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 15-7288-002 Plaza Drive-Turner Parkway.ppd

Date : 4/8/2015

## Unshifted Count = All Vehicles

START TIME	Plaza Drive Southbound					Turner Parkway Westbound					Northbound					Turner Parkway Eastbound					Total	Utum Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
07:00	8	0	9	0	17	0	11	12	0	23	0	0	0	0	0	9	2	0	0	11	51	0
07:15	7	0	10	0	17	0	9	8	0	17	0	0	0	0	0	10	6	0	0	16	50	0
07:30	10	0	9	0	19	0	5	23	0	28	0	0	0	0	0	16	7	0	0	23	70	0
07:45	6	0	14	0	20	0	10	14	0	24	0	0	0	0	0	22	5	0	0	27	71	0
<b>Total</b>	<b>31</b>	<b>0</b>	<b>42</b>	<b>0</b>	<b>73</b>	<b>0</b>	<b>35</b>	<b>57</b>	<b>0</b>	<b>92</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>57</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>77</b>	<b>242</b>	<b>0</b>
08:00	7	0	11	0	18	0	14	11	0	25	0	0	0	0	0	12	8	0	0	20	63	0
08:15	7	0	10	0	17	0	14	15	0	29	0	0	0	0	0	16	4	0	1	21	67	1
08:30	10	0	12	0	22	0	11	15	0	26	0	0	0	0	0	16	6	0	0	22	70	0
08:45	13	0	10	1	24	0	9	14	0	23	0	0	0	0	0	23	10	0	0	33	80	1
<b>Total</b>	<b>37</b>	<b>0</b>	<b>43</b>	<b>1</b>	<b>81</b>	<b>0</b>	<b>48</b>	<b>55</b>	<b>0</b>	<b>103</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>67</b>	<b>28</b>	<b>0</b>	<b>1</b>	<b>96</b>	<b>280</b>	<b>2</b>
<b>Grand Total</b>	<b>68</b>	<b>0</b>	<b>85</b>	<b>1</b>	<b>154</b>	<b>0</b>	<b>83</b>	<b>112</b>	<b>0</b>	<b>195</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>124</b>	<b>48</b>	<b>0</b>	<b>1</b>	<b>173</b>	<b>522</b>	<b>2</b>
Apprch %	44.2%	0.0%	55.2%	0.6%		0.0%	42.6%	57.4%	0.0%		0.0%	0.0%	0.0%	0.0%		71.7%	27.7%	0.0%	0.6%			
Total %	13.0%	0.0%	16.3%	0.2%	29.5%	0.0%	15.9%	21.5%	0.0%	37.4%	0.0%	0.0%	0.0%	0.0%	0.0%	23.8%	9.2%	0.0%	0.2%	33.1%	100.0%	

AM PEAK HOUR	Plaza Drive Southbound					Turner Parkway Westbound					Northbound					Turner Parkway Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 08:00 to 09:00																					
Peak Hour For Entire Intersection Begins at 08:00																					
08:00	7	0	11	0	18	0	14	11	0	25	0	0	0	0	0	12	8	0	0	20	63
08:15	7	0	10	0	17	0	14	15	0	29	0	0	0	0	0	16	4	0	1	21	67
08:30	10	0	12	0	22	0	11	15	0	26	0	0	0	0	0	16	6	0	0	22	70
08:45	13	0	10	1	24	0	9	14	0	23	0	0	0	0	0	23	10	0	0	33	80
Total Volume	37	0	43	1	81	0	48	55	0	103	0	0	0	0	0	67	28	0	1	96	280
% App Total	45.7%	0.0%	53.1%	1.2%		0.0%	46.6%	53.4%	0.0%		0.0%	0.0%	0.0%	0.0%		69.8%	29.2%	0.0%	1.0%		
PHF	.712	.000	.896	.250	.844	.000	.857	.917	.000	.888	.000	.000	.000	.000	.000	.728	.700	.000	.250	.727	.875

# ALL TRAFFIC DATA

3260-01

City of Vallejo  
 All Vehicles on Unshifted  
 Peds & Bikes on Bank 1  
 Nothing on Bank 2

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 15-7288-002 Plaza Drive-Turner Parkway.ppd

Date : 4/11/2015

## Unshifted Count = All Vehicles

START TIME	Plaza Drive Southbound					Turner Parkway Westbound					Northbound					Turner Parkway Eastbound					Total	Uturn Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
11:00	59	0	49	0	108	0	22	58	0	80	0	0	0	0	0	51	19	0	0	70	258	0
11:15	51	0	54	0	105	0	24	81	0	105	0	0	0	0	0	71	13	0	0	84	294	0
11:30	63	0	44	0	107	0	20	70	0	90	0	0	0	0	0	51	19	0	0	70	267	0
11:45	60	0	67	0	127	0	31	61	0	92	0	0	0	0	0	64	27	0	0	91	310	0
<b>Total</b>	<b>233</b>	<b>0</b>	<b>214</b>	<b>0</b>	<b>447</b>	<b>0</b>	<b>97</b>	<b>270</b>	<b>0</b>	<b>367</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>237</b>	<b>78</b>	<b>0</b>	<b>0</b>	<b>315</b>	<b>1129</b>	<b>0</b>
12:00	55	0	66	0	121	0	20	76	0	96	0	0	0	0	0	49	23	0	0	72	289	0
12:15	75	0	72	0	147	0	29	71	0	100	0	0	0	0	0	51	20	0	0	71	318	0
12:30	75	0	60	0	135	0	18	75	0	93	0	0	0	0	0	49	21	0	0	70	298	0
12:45	80	0	62	0	142	0	31	67	0	98	0	0	0	0	0	41	21	0	0	62	302	0
<b>Total</b>	<b>285</b>	<b>0</b>	<b>260</b>	<b>0</b>	<b>545</b>	<b>0</b>	<b>98</b>	<b>289</b>	<b>0</b>	<b>387</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>190</b>	<b>85</b>	<b>0</b>	<b>0</b>	<b>275</b>	<b>1207</b>	<b>0</b>
<b>Grand Total</b>	<b>518</b>	<b>0</b>	<b>474</b>	<b>0</b>	<b>992</b>	<b>0</b>	<b>195</b>	<b>559</b>	<b>0</b>	<b>754</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>427</b>	<b>163</b>	<b>0</b>	<b>0</b>	<b>590</b>	<b>2336</b>	<b>0</b>
Apprch %	52.2%	0.0%	47.8%	0.0%		0.0%	25.9%	74.1%	0.0%		0.0%	0.0%	0.0%	0.0%		72.4%	27.6%	0.0%	0.0%			
Total %	22.2%	0.0%	20.3%	0.0%	42.5%	0.0%	8.3%	23.9%	0.0%	32.3%	0.0%	0.0%	0.0%	0.0%	0.0%	18.3%	7.0%	0.0%	0.0%	25.3%	100.0%	

NOON PEAK START TIME	Plaza Drive Southbound					Turner Parkway Westbound					Northbound					Turner Parkway Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 11:45 to 12:45																						
Peak Hour For Entire Intersection Begins at 11:45																						
11:45	60	0	67	0	127	0	31	61	0	92	0	0	0	0	0	64	27	0	0	91	310	
12:00	55	0	66	0	121	0	20	76	0	96	0	0	0	0	0	49	23	0	0	72	289	
12:15	75	0	72	0	147	0	29	71	0	100	0	0	0	0	0	51	20	0	0	71	318	
12:30	75	0	60	0	135	0	18	75	0	93	0	0	0	0	0	49	21	0	0	70	298	
Total Volume	265	0	265	0	530	0	98	283	0	381	0	0	0	0	0	213	91	0	0	304	1215	
% App Total	50.0%	0.0%	50.0%	0.0%		0.0%	25.7%	74.3%	0.0%		0.0%	0.0%	0.0%	0.0%		70.1%	29.9%	0.0%	0.0%			
PHF	.883	.000	.920	.000	.901	.000	.790	.931	.000	.953	.000	.000	.000	.000	.000	.832	.843	.000	.000	.835	.955	

# ALL TRAFFIC DATA

3260-01

City of Vallejo  
 All Vehicles on Unshifted  
 Peds & Bikes on Bank 1  
 Nothing on Bank 2

(916) 771-8700  
[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 15-7288-003 Plaza Drive-Admiral Callaghan Lane.ppd  
 Date : 4/8/2015

### Unshifted Count = All Vehicles

START TIME	Plaza Drive Southbound					Admiral Callaghan Lane Westbound					Plaza Drive Northbound					Admiral Callaghan Lane Eastbound					Total	Utum Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
07:00	2	2	4	0	8	21	7	8	0	36	4	2	9	0	15	4	12	9	0	25	84	0
07:15	6	0	2	0	8	21	27	15	0	63	0	2	14	0	16	4	22	2	0	28	115	0
07:30	5	3	2	0	10	13	17	19	0	49	3	3	14	0	20	9	14	6	0	29	108	0
07:45	5	3	4	0	12	22	25	16	0	63	8	5	23	0	36	8	25	6	0	39	150	0
<b>Total</b>	<b>18</b>	<b>8</b>	<b>12</b>	<b>0</b>	<b>38</b>	<b>77</b>	<b>76</b>	<b>58</b>	<b>0</b>	<b>211</b>	<b>15</b>	<b>12</b>	<b>60</b>	<b>0</b>	<b>87</b>	<b>25</b>	<b>73</b>	<b>23</b>	<b>0</b>	<b>121</b>	<b>457</b>	<b>0</b>
08:00	8	4	8	0	20	25	27	24	0	76	4	3	15	0	22	7	21	2	0	30	148	0
08:15	19	3	6	1	29	23	34	26	0	83	3	5	13	0	21	3	22	1	0	26	159	1
08:30	13	4	11	0	28	34	36	21	0	91	5	3	19	0	27	5	24	5	0	34	180	0
08:45	18	2	6	0	26	33	37	14	0	84	6	4	14	0	24	8	24	10	0	42	176	0
<b>Total</b>	<b>58</b>	<b>13</b>	<b>31</b>	<b>1</b>	<b>103</b>	<b>115</b>	<b>134</b>	<b>85</b>	<b>0</b>	<b>334</b>	<b>18</b>	<b>15</b>	<b>61</b>	<b>0</b>	<b>94</b>	<b>23</b>	<b>91</b>	<b>18</b>	<b>0</b>	<b>132</b>	<b>663</b>	<b>1</b>
<b>Grand Total</b>	<b>76</b>	<b>21</b>	<b>43</b>	<b>1</b>	<b>141</b>	<b>192</b>	<b>210</b>	<b>143</b>	<b>0</b>	<b>545</b>	<b>33</b>	<b>27</b>	<b>121</b>	<b>0</b>	<b>181</b>	<b>48</b>	<b>164</b>	<b>41</b>	<b>0</b>	<b>253</b>	<b>1120</b>	<b>1</b>
Apprch %	53.9%	14.9%	30.5%	0.7%		35.2%	38.5%	26.2%	0.0%		18.2%	14.9%	66.9%	0.0%		19.0%	64.8%	16.2%	0.0%			
Total %	6.8%	1.9%	3.8%	0.1%	12.6%	17.1%	18.8%	12.8%	0.0%	48.7%	2.9%	2.4%	10.8%	0.0%	16.2%	4.3%	14.6%	3.7%	0.0%	22.6%	100.0%	

AM PEAK HOUR	Plaza Drive Southbound					Admiral Callaghan Lane Westbound					Plaza Drive Northbound					Admiral Callaghan Lane Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 08:00 to 09:00																					
Peak Hour For Entire Intersection Begins at 08:00																					
08:00	8	4	8	0	20	25	27	24	0	76	4	3	15	0	22	7	21	2	0	30	148
08:15	19	3	6	1	29	23	34	26	0	83	3	5	13	0	21	3	22	1	0	26	159
08:30	13	4	11	0	28	34	36	21	0	91	5	3	19	0	27	5	24	5	0	34	180
08:45	18	2	6	0	26	33	37	14	0	84	6	4	14	0	24	8	24	10	0	42	176
Total Volume	58	13	31	1	103	115	134	85	0	334	18	15	61	0	94	23	91	18	0	132	663
% App Total	56.3%	12.6%	30.1%	1.0%		34.4%	40.1%	25.4%	0.0%		19.1%	16.0%	64.9%	0.0%		17.4%	68.9%	13.6%	0.0%		
PHF	.763	.813	.705	.250	.888	.846	.905	.817	.000	.918	.750	.750	.803	.000	.870	.719	.948	.450	.000	.786	.921

# ALL TRAFFIC DATA

3260-01

City of Vallejo  
 All Vehicles on Unshifted  
 Peds & Bikes on Bank 1  
 Nothing on Bank 2

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 15-7288-003 Plaza Drive-Admiral Callaghan Lane.ppd

Date : 4/11/2015

### Unshifted Count = All Vehicles

START TIME	Plaza Drive Southbound					Admiral Callaghan Lane Westbound					Plaza Drive Northbound					Admiral Callaghan Lane Eastbound					Total	Uturn Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
11:00	37	21	14	0	72	116	67	49	0	232	28	20	112	0	160	30	69	17	0	116	580	0
11:15	44	21	22	0	87	110	64	51	0	225	16	13	84	0	113	34	85	28	0	147	572	0
11:30	36	28	13	0	77	113	60	51	0	224	23	20	91	0	134	27	80	28	0	135	570	0
11:45	26	22	14	0	62	108	60	56	0	224	28	17	104	0	149	24	85	23	0	132	567	0
<b>Total</b>	<b>143</b>	<b>92</b>	<b>63</b>	<b>0</b>	<b>298</b>	<b>447</b>	<b>251</b>	<b>207</b>	<b>0</b>	<b>905</b>	<b>95</b>	<b>70</b>	<b>391</b>	<b>0</b>	<b>556</b>	<b>115</b>	<b>319</b>	<b>96</b>	<b>0</b>	<b>530</b>	<b>2289</b>	<b>0</b>
12:00	31	21	15	0	67	113	64	61	0	238	32	18	90	0	140	21	109	29	2	161	606	2
12:15	30	12	19	0	61	121	59	43	0	223	26	16	89	0	131	21	90	22	0	133	548	0
12:30	40	28	12	0	80	122	80	39	0	241	28	20	109	0	157	34	104	30	0	168	646	0
12:45	39	33	20	0	92	111	84	48	0	243	25	17	114	0	156	27	98	38	0	163	654	0
<b>Total</b>	<b>140</b>	<b>94</b>	<b>66</b>	<b>0</b>	<b>300</b>	<b>467</b>	<b>287</b>	<b>191</b>	<b>0</b>	<b>945</b>	<b>111</b>	<b>71</b>	<b>402</b>	<b>0</b>	<b>584</b>	<b>103</b>	<b>401</b>	<b>119</b>	<b>2</b>	<b>625</b>	<b>2454</b>	<b>2</b>
<b>Grand Total</b>	<b>283</b>	<b>186</b>	<b>129</b>	<b>0</b>	<b>598</b>	<b>914</b>	<b>538</b>	<b>398</b>	<b>0</b>	<b>1850</b>	<b>206</b>	<b>141</b>	<b>793</b>	<b>0</b>	<b>1140</b>	<b>218</b>	<b>720</b>	<b>215</b>	<b>2</b>	<b>1155</b>	<b>4743</b>	<b>2</b>
Apprch %	47.3%	31.1%	21.6%	0.0%		49.4%	29.1%	21.5%	0.0%		18.1%	12.4%	69.6%	0.0%		18.9%	62.3%	18.6%	0.2%			
Total %	6.0%	3.9%	2.7%	0.0%	12.6%	19.3%	11.3%	8.4%	0.0%	39.0%	4.3%	3.0%	16.7%	0.0%	24.0%	4.6%	15.2%	4.5%	0.0%	24.4%	100.0%	

NOON PEAK START TIME	Plaza Drive Southbound					Admiral Callaghan Lane Westbound					Plaza Drive Northbound					Admiral Callaghan Lane Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 12:00 to 13:00																					
Peak Hour For Entire Intersection Begins at 12:00																					
12:00	31	21	15	0	67	113	64	61	0	238	32	18	90	0	140	21	109	29	2	161	606
12:15	30	12	19	0	61	121	59	43	0	223	26	16	89	0	131	21	90	22	0	133	548
12:30	40	28	12	0	80	122	80	39	0	241	28	20	109	0	157	34	104	30	0	168	646
12:45	39	33	20	0	92	111	84	48	0	243	25	17	114	0	156	27	98	38	0	163	654
Total Volume	140	94	66	0	300	467	287	191	0	945	111	71	402	0	584	103	401	119	2	625	2454
% App Total	46.7%	31.3%	22.0%	0.0%		49.4%	30.4%	20.2%	0.0%		19.0%	12.2%	68.8%	0.0%		16.5%	64.2%	19.0%	0.3%		
PHF	.875	.712	.825	.000	.815	.957	.854	.783	.000	.972	.867	.888	.882	.000	.930	.757	.920	.783	.250	.930	.938

# ALL TRAFFIC DATA

3260-01

City of Vallejo  
 All Vehicles on Unshifted  
 Peds & Bikes on Bank 1  
 Nothing on Bank 2

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 15-7353-001 Tiara Drive-Turner Parkway.ppd

Date : 4/30/2015

## Unshifted Count = All Vehicles

START TIME	Tiara Drive Southbound					Turner Parkway Westbound					Tiara Drive Northbound					Turner Parkway Eastbound					Total	Utum Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	0	0	0	0	0	4	78	0	0	82	3	0	3	0	6	0	72	2	0	74	162	0
16:15	0	0	0	0	0	4	73	1	0	78	1	0	1	0	2	0	88	0	0	88	168	0
16:30	0	0	1	0	1	2	80	0	1	83	3	0	1	0	4	1	78	3	0	82	170	1
16:45	0	0	0	0	0	0	69	0	0	69	0	0	3	0	3	0	97	1	0	98	170	0
<b>Total</b>	0	0	1	0	1	10	300	1	1	312	7	0	8	0	15	1	335	6	0	342	670	1
17:00	0	0	0	0	0	6	69	0	0	75	2	0	1	0	3	0	80	2	0	82	160	0
17:15	0	0	0	0	0	4	82	0	0	86	2	0	3	0	5	0	85	1	0	86	177	0
17:30	0	0	0	0	0	3	85	0	0	88	1	0	0	0	1	0	96	4	0	100	189	0
17:45	0	0	0	0	0	2	72	0	0	74	0	0	5	0	5	0	94	4	0	98	177	0
<b>Total</b>	0	0	0	0	0	15	308	0	0	323	5	0	9	0	14	0	355	11	0	366	703	0
<b>Grand Total</b>	0	0	1	0	1	25	608	1	1	635	12	0	17	0	29	1	690	17	0	708	1373	1
Apprch %	0.0%	0.0%	100.0%	0.0%		3.9%	95.7%	0.2%	0.2%		41.4%	0.0%	58.6%	0.0%		0.1%	97.5%	2.4%	0.0%			
Total %	0.0%	0.0%	0.1%	0.0%	0.1%	1.8%	44.3%	0.1%	0.1%	46.2%	0.9%	0.0%	1.2%	0.0%	2.1%	0.1%	50.3%	1.2%	0.0%	51.6%	100.0%	

PM PEAK HOUR	Tiara Drive Southbound					Turner Parkway Westbound					Tiara Drive Northbound					Turner Parkway Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	

Peak Hour Analysis From 17:00 to 18:00

Peak Hour For Entire Intersection Begins at 17:00

17:00	0	0	0	0	0	6	69	0	0	75	2	0	1	0	3	0	80	2	0	82	160
17:15	0	0	0	0	0	4	82	0	0	86	2	0	3	0	5	0	85	1	0	86	177
17:30	0	0	0	0	0	3	85	0	0	88	1	0	0	0	1	0	96	4	0	100	189
17:45	0	0	0	0	0	2	72	0	0	74	0	0	5	0	5	0	94	4	0	98	177
<b>Total Volume</b>	0	0	0	0	0	15	308	0	0	323	5	0	9	0	14	0	355	11	0	366	703
<b>% App Total</b>	0.0%	0.0%	0.0%	0.0%		4.6%	95.4%	0.0%	0.0%		35.7%	0.0%	64.3%	0.0%		0.0%	97.0%	3.0%	0.0%		
PHF	.000	.000	.000	.000	.000	.625	.906	.000	.000	.918	.625	.000	.450	.000	.700	.000	.924	.688	.000	.915	.930



# ALL TRAFFIC DATA

3260-01

City of Vallejo  
 All Vehicles on Unshifted  
 Peds & Bikes on Bank 1  
 Nothing on Bank 2

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 15-7353-002 Plaza Drive-Turner Parkway.ppd

Date : 4/30/2015

## Unshifted Count = All Vehicles

START TIME	Plaza Drive Southbound					Turner Parkway Westbound					Northbound					Turner Parkway Eastbound					Total	Uturn Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	60	0	57	0	117	0	28	60	0	88	0	0	0	0	0	48	14	0	0	62	267	0
16:15	65	0	44	0	109	0	16	58	0	74	0	0	0	0	0	53	25	0	0	78	261	0
16:30	62	0	47	0	109	0	34	55	0	89	0	0	0	0	0	39	27	0	0	66	264	0
16:45	72	0	46	0	118	0	23	49	0	72	0	0	0	0	0	58	26	0	0	84	274	0
<b>Total</b>	<b>259</b>	<b>0</b>	<b>194</b>	<b>0</b>	<b>453</b>	<b>0</b>	<b>101</b>	<b>222</b>	<b>0</b>	<b>323</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>198</b>	<b>92</b>	<b>0</b>	<b>0</b>	<b>290</b>	<b>1066</b>	<b>0</b>
17:00	66	0	63	0	129	0	18	57	0	75	0	0	0	0	0	46	24	0	0	70	274	0
17:15	76	0	57	0	133	0	16	64	0	80	0	0	0	0	0	56	23	0	0	79	292	0
17:30	76	0	56	0	132	0	20	69	0	89	0	0	0	0	0	62	23	0	0	85	306	0
17:45	74	0	67	0	141	0	14	61	0	75	0	0	0	0	0	46	22	0	0	68	284	0
<b>Total</b>	<b>292</b>	<b>0</b>	<b>243</b>	<b>0</b>	<b>535</b>	<b>0</b>	<b>68</b>	<b>251</b>	<b>0</b>	<b>319</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>210</b>	<b>92</b>	<b>0</b>	<b>0</b>	<b>302</b>	<b>1156</b>	<b>0</b>
<b>Grand Total</b>	<b>551</b>	<b>0</b>	<b>437</b>	<b>0</b>	<b>988</b>	<b>0</b>	<b>169</b>	<b>473</b>	<b>0</b>	<b>642</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>408</b>	<b>184</b>	<b>0</b>	<b>0</b>	<b>592</b>	<b>2222</b>	<b>0</b>
Apprch %	55.8%	0.0%	44.2%	0.0%		0.0%	26.3%	73.7%	0.0%		0.0%	0.0%	0.0%	0.0%		68.9%	31.1%	0.0%	0.0%			
Total %	24.8%	0.0%	19.7%	0.0%	44.5%	0.0%	7.6%	21.3%	0.0%	28.9%	0.0%	0.0%	0.0%	0.0%		18.4%	8.3%	0.0%	0.0%	26.6%	100.0%	

PM PEAK HOUR	Plaza Drive Southbound					Turner Parkway Westbound					Northbound					Turner Parkway Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	66	0	63	0	129	0	18	57	0	75	0	0	0	0	0	46	24	0	0	70	274
17:15	76	0	57	0	133	0	16	64	0	80	0	0	0	0	0	56	23	0	0	79	292
17:30	76	0	56	0	132	0	20	69	0	89	0	0	0	0	0	62	23	0	0	85	306
17:45	74	0	67	0	141	0	14	61	0	75	0	0	0	0	0	46	22	0	0	68	284
Total Volume	292	0	243	0	535	0	68	251	0	319	0	0	0	0	0	210	92	0	0	302	1156
% App Total	54.6%	0.0%	45.4%	0.0%		0.0%	21.3%	78.7%	0.0%		0.0%	0.0%	0.0%	0.0%		69.5%	30.5%	0.0%	0.0%		
PHF	.961	.000	.907	.000	.949	.000	.850	.909	.000	.896	.000	.000	.000	.000	.000	.847	.958	.000	.000	.888	.944

# ALL TRAFFIC DATA

3260-01

City of Vallejo  
 All Vehicles on Unshifted  
 Peds & Bikes on Bank 1  
 Nothing on Bank 2

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 15-7353-003 Plaza Drive-Admiral Callaghand Lane.ppd

Date : 4/30/2015

## Unshifted Count = All Vehicles

START TIME	Plaza Drive Southbound					Admiral Callaghand Lane Westbound					Plaza Drive Northbound					Admiral Callaghand Lane Eastbound					Total	Uturn Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	25	6	16	0	47	109	91	27	0	227	23	11	64	0	98	10	95	28	1	134	506	1
16:15	23	16	9	0	48	94	59	30	0	183	23	15	100	0	138	19	68	23	0	110	479	0
16:30	17	9	13	0	39	106	68	36	1	211	23	3	88	0	114	14	96	21	0	131	495	1
16:45	34	9	17	0	60	89	66	26	0	181	17	8	83	0	108	23	105	25	0	153	502	0
<b>Total</b>	<b>99</b>	<b>40</b>	<b>55</b>	<b>0</b>	<b>194</b>	<b>398</b>	<b>284</b>	<b>119</b>	<b>1</b>	<b>802</b>	<b>86</b>	<b>37</b>	<b>335</b>	<b>0</b>	<b>458</b>	<b>66</b>	<b>364</b>	<b>97</b>	<b>1</b>	<b>528</b>	<b>1982</b>	<b>2</b>
17:00	16	18	10	0	44	113	80	19	0	212	21	7	95	0	123	19	96	26	0	141	520	0
17:15	22	9	16	0	47	94	71	31	0	196	25	8	80	0	113	22	93	33	0	148	504	0
17:30	24	9	7	0	40	113	55	25	0	193	26	9	94	0	129	12	106	40	0	158	520	0
17:45	24	10	10	0	44	103	72	36	1	212	27	14	107	0	148	14	81	20	0	115	519	1
<b>Total</b>	<b>86</b>	<b>46</b>	<b>43</b>	<b>0</b>	<b>175</b>	<b>423</b>	<b>278</b>	<b>111</b>	<b>1</b>	<b>813</b>	<b>99</b>	<b>38</b>	<b>376</b>	<b>0</b>	<b>513</b>	<b>67</b>	<b>376</b>	<b>119</b>	<b>0</b>	<b>562</b>	<b>2063</b>	<b>1</b>
<b>Grand Total</b>	<b>185</b>	<b>86</b>	<b>98</b>	<b>0</b>	<b>369</b>	<b>821</b>	<b>562</b>	<b>230</b>	<b>2</b>	<b>1615</b>	<b>185</b>	<b>75</b>	<b>711</b>	<b>0</b>	<b>971</b>	<b>133</b>	<b>740</b>	<b>216</b>	<b>1</b>	<b>1090</b>	<b>4045</b>	<b>3</b>
Apprch %	50.1%	23.3%	26.6%	0.0%		50.8%	34.8%	14.2%	0.1%		19.1%	7.7%	73.2%	0.0%		12.2%	67.9%	19.8%	0.1%			
Total %	4.6%	2.1%	2.4%	0.0%	9.1%	20.3%	13.9%	5.7%	0.0%	39.9%	4.6%	1.9%	17.6%	0.0%	24.0%	3.3%	18.3%	5.3%	0.0%	26.9%	100.0%	

PM PEAK HOUR	Plaza Drive Southbound					Admiral Callaghand Lane Westbound					Plaza Drive Northbound					Admiral Callaghand Lane Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	

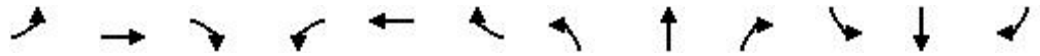
Peak Hour Analysis From 17:00 to 18:00

Peak Hour For Entire Intersection Begins at 17:00

17:00	16	18	10	0	44	113	80	19	0	212	21	7	95	0	123	19	96	26	0	141	520
17:15	22	9	16	0	47	94	71	31	0	196	25	8	80	0	113	22	93	33	0	148	504
17:30	24	9	7	0	40	113	55	25	0	193	26	9	94	0	129	12	106	40	0	158	520
17:45	24	10	10	0	44	103	72	36	1	212	27	14	107	0	148	14	81	20	0	115	519
<b>Total Volume</b>	<b>86</b>	<b>46</b>	<b>43</b>	<b>0</b>	<b>175</b>	<b>423</b>	<b>278</b>	<b>111</b>	<b>1</b>	<b>813</b>	<b>99</b>	<b>38</b>	<b>376</b>	<b>0</b>	<b>513</b>	<b>67</b>	<b>376</b>	<b>119</b>	<b>0</b>	<b>562</b>	<b>2063</b>
% App Total	49.1%	26.3%	24.6%	0.0%		52.0%	34.2%	13.7%	0.1%		19.3%	7.4%	73.3%	0.0%		11.9%	66.9%	21.2%	0.0%		
PHF	.896	.639	.672	.000	.931	.936	.869	.771	.250	.959	.917	.679	.879	.000	.867	.761	.887	.744	.000	.889	.992

HCM Signalized Intersection Capacity Analysis  
1: Adm Callaghan Ln & Columbus Parkway

Exist AM  
4/27/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗	↘		↕	
Volume (vph)	6	711	322	43	724	0	191	0	60	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.95	0.95	1.00			
Flt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85			
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539	1583	1770	5085		1681	1681	1583			
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539	1583	1770	5085		1681	1681	1583			
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	7	827	374	50	842	0	222	0	70	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	7	827	374	50	842	0	111	111	70	0	0	0
Turn Type	Prot	NA	Free	Prot	NA		Split	NA	Free			
Protected Phases	7	4		3	8		2	2				6
Permitted Phases			Free						Free		6	
Actuated Green, G (s)	1.4	49.4	84.0	8.1	56.1		14.5	14.5	84.0			
Effective Green, g (s)	1.4	49.4	84.0	8.1	56.1		14.5	14.5	84.0			
Actuated g/C Ratio	0.02	0.59	1.00	0.10	0.67		0.17	0.17	1.00			
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0				
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0				
Lane Grp Cap (vph)	29	2081	1583	170	3396		290	290	1583			
v/s Ratio Prot	0.00	c0.23		0.03	0.17		c0.07	0.07				
v/s Ratio Perm			c0.24						0.04			
v/c Ratio	0.24	0.40	0.24	0.29	0.25		0.38	0.38	0.04			
Uniform Delay, d1	40.8	9.3	0.0	35.3	5.6		30.8	30.8	0.0			
Progression Factor	1.00	1.00	1.00	1.15	1.37		1.00	1.00	1.00			
Incremental Delay, d2	4.3	0.6	0.4	0.9	0.2		0.8	0.8	0.1			
Delay (s)	45.1	9.9	0.4	41.4	7.8		31.6	31.6	0.1			
Level of Service	D	A	A	D	A		C	C	A			
Approach Delay (s)		7.1			9.7			24.1			0.0	
Approach LOS		A			A			C			A	

Intersection Summary

HCM 2000 Control Delay	10.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 2: Ascot Parkway/Ascot Ct & Columbus Parkway

Exist AM  
 4/27/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗	↘	↖	↗	↘
Volume (vph)	11	455	255	17	598	0	202	0	24	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0		4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97		1.00		1.00	
Frb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00		1.00		1.00	
Fpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00		1.00		1.00	
Fit	1.00	1.00	0.85	1.00	1.00		1.00		0.85		0.85	
Fit Protected	0.95	1.00	1.00	0.95	1.00		0.95		1.00		1.00	
Satd. Flow (prot)	1770	3539	1563	1770	3539		3433		1583		1583	
Fit Permitted	0.95	1.00	1.00	0.95	1.00		0.95		1.00		1.00	
Satd. Flow (perm)	1770	3539	1563	1770	3539		3433		1583		1583	
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	13	548	307	20	720	0	243	0	29	0	0	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	24	0	1	0
Lane Group Flow (vph)	13	548	307	20	720	0	243	0	5	0	0	0
Confl. Peds. (#/hr)			2									
Turn Type	Prot	NA	Free	Prot	NA		Split		Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			Free						2			
Actuated Green, G (s)	0.8	51.9	84.0	2.2	53.3		13.1		13.1		0.8	
Effective Green, g (s)	0.8	51.9	84.0	2.2	53.3		13.1		13.1		0.8	
Actuated g/C Ratio	0.01	0.62	1.00	0.03	0.63		0.16		0.16		0.01	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0		4.0		4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0		3.0		3.0	
Lane Grp Cap (vph)	16	2186	1563	46	2245		535		246		15	
v/s Ratio Prot	0.01	0.15		c0.01	c0.20		c0.07				0.00	
v/s Ratio Perm			c0.20						0.00			
v/c Ratio	0.81	0.25	0.20	0.43	0.32		0.45		0.02		0.00	
Uniform Delay, d1	41.5	7.3	0.0	40.3	7.0		32.2		30.0		41.2	
Progression Factor	1.16	0.55	1.00	1.00	1.00		1.00		1.00		1.00	
Incremental Delay, d2	128.4	0.3	0.3	6.5	0.4		0.6		0.0		0.0	
Delay (s)	176.8	4.3	0.3	46.7	7.4		32.8		30.0		41.2	
Level of Service	F	A	A	D	A		C		C		D	
Approach Delay (s)		5.4			8.5			32.5			41.2	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	49.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
3: Plaza Dr & Admiral Callaghan Ln

Exist AM  
4/27/2015



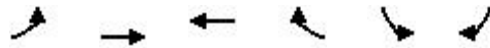
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↗	↖	↗	↗
Volume (vph)	23	91	18	115	134	85	18	15	61	59	13	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.97		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3450		1770	3334		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3450		1770	3334		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	99	20	125	146	92	20	16	66	64	14	34
RTOR Reduction (vph)	0	14	0	0	53	0	0	0	59	0	0	28
Lane Group Flow (vph)	25	105	0	125	185	0	20	16	7	64	14	6
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	0.8	13.4		5.9	18.5		0.7	4.6	4.6	3.4	7.3	7.3
Effective Green, g (s)	0.8	13.4		5.9	18.5		0.7	4.6	4.6	3.4	7.3	7.3
Actuated g/C Ratio	0.02	0.31		0.14	0.43		0.02	0.11	0.11	0.08	0.17	0.17
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	32	1067		241	1424		28	197	168	138	314	266
v/s Ratio Prot	0.01	0.03		0.07	0.06		0.01	0.01		0.04	0.01	
v/s Ratio Perm									0.00			0.00
v/c Ratio	0.78	0.10		0.52	0.13		0.71	0.08	0.04	0.46	0.04	0.02
Uniform Delay, d1	21.2	10.6		17.4	7.5		21.2	17.4	17.4	19.1	15.1	15.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	74.5	0.0		1.9	0.0		60.5	0.2	0.1	2.5	0.1	0.0
Delay (s)	95.7	10.7		19.3	7.6		81.7	17.6	17.5	21.5	15.1	15.1
Level of Service	F	B		B	A		F	B	B	C	B	B
Approach Delay (s)		25.4			11.6			30.1			18.8	
Approach LOS		C			B			C			B	

Intersection Summary

HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	43.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	29.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
4: Turner Parkway & Plaza Dr

Exist AM  
4/27/2015



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↗		↙↘	↘
Volume (vph)	68	28	48	55	38	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		0.97	0.91
Flt	1.00	1.00	0.92		0.95	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00
Satd. Flow (prot)	1770	3539	3258		3328	1441
Flt Permitted	0.95	1.00	1.00		0.97	1.00
Satd. Flow (perm)	1770	3539	3258		3328	1441
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	77	32	55	62	43	49
RTOR Reduction (vph)	0	0	28	0	19	27
Lane Group Flow (vph)	77	32	89	0	44	2
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases						6
Actuated Green, G (s)	2.4	26.5	20.1		2.1	2.1
Effective Green, g (s)	2.4	26.5	20.1		2.1	2.1
Actuated g/C Ratio	0.07	0.72	0.55		0.06	0.06
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	116	2562	1789		190	82
v/s Ratio Prot	c0.04	0.01	c0.03		c0.01	
v/s Ratio Perm						0.00
v/c Ratio	0.66	0.01	0.05		0.23	0.02
Uniform Delay, d1	16.7	1.4	3.8		16.5	16.3
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	13.4	0.0	0.0		0.6	0.1
Delay (s)	30.1	1.4	3.8		17.1	16.4
Level of Service	C	A	A		B	B
Approach Delay (s)		21.7	3.8		16.9	
Approach LOS		C	A		B	

Intersection Summary

HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.13		
Actuated Cycle Length (s)	36.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	20.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



HCM Signalized Intersection Capacity Analysis  
 5: Tiara Dr/Site Access & Turner Parkway

Exist AM  
 4/27/2015



Movement	SEL	SET	SER	NML	NMT	NMR	NEL	NET	NER	SML	SWT	SWR
Lane Configurations	↖	↗		↖	↗			↕			↖	↗
Volume (vph)	0	61	3	2	86	1	10	0	7	1	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.95		1.00	0.95			1.00			1.00	
Flt		0.99		1.00	1.00			0.94			1.00	
Flt Protected		1.00		0.95	1.00			0.97			0.95	
Satd. Flow (prot)		3517		1770	3534			1707			1770	
Flt Permitted		1.00		0.95	1.00			1.00			1.00	
Satd. Flow (perm)		3517		1770	3534			1757			1863	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	69	3	2	97	1	11	0	8	1	0	0
RTOR Reduction (vph)	0	1	0	0	0	0	0	18	0	0	0	0
Lane Group Flow (vph)	0	71	0	2	98	0	0	1	0	0	1	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases							4			8		8
Actuated Green, G (s)		34.6		1.2	39.8			2.2			2.2	
Effective Green, g (s)		34.6		1.2	39.8			2.2			2.2	
Actuated g/C Ratio		0.69		0.02	0.80			0.04			0.04	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		2433		42	2813			77			81	
v/s Ratio Prot		0.02		0.00	0.03							
v/s Ratio Perm								0.00			0.00	
v/c Ratio		0.03		0.05	0.03			0.01			0.01	
Uniform Delay, d1		2.4		23.8	1.1			22.9			22.9	
Progression Factor		1.00		0.97	0.04			1.00			1.00	
Incremental Delay, d2		0.0		0.4	0.0			0.1			0.1	
Delay (s)		2.4		23.5	0.1			22.9			22.9	
Level of Service		A		C	A			C			C	
Approach Delay (s)		2.4			0.5			22.9			22.9	
Approach LOS		A			A			C			C	

Intersection Summary

HCM 2000 Control Delay	3.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.04		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	17.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
6: Ascot Parkway & Turner Parkway

Exist AM  
4/27/2015



Movement	SEL	SET	SER	NML	NWT	NWR	NEL	NET	NER	SML	SWT	SWR
Lane Configurations	↖	↑	↗	↖	↗		↖	↕		↖	↕	
Volume (vph)	29	4	49	6	5	17	89	137	1	8	232	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	1.00	0.99	1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Flt	1.00	1.00	0.85	1.00	0.88		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1562	1770	1627		1770	3536		1770	3480	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1562	1770	1627		1770	3536		1770	3480	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	38	5	64	8	6	22	116	178	1	10	301	38
RTOR Reduction (vph)	0	0	58	0	17	0	0	1	0	0	19	0
Lane Group Flow (vph)	38	5	6	8	11	0	116	178	0	10	320	0
Confl. Peds. (#/hr)			3			2			3			
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	6	6		2	2		7	4		3	8	
Permitted Phases			6									
Actuated Green, G (s)	4.3	4.3	4.3	11.7	11.7		6.1	17.2		0.8	11.9	
Effective Green, g (s)	4.3	4.3	4.3	11.7	11.7		6.1	17.2		0.8	11.9	
Actuated g/C Ratio	0.09	0.09	0.09	0.23	0.23		0.12	0.34		0.02	0.24	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	152	160	134	414	380		215	1216		28	828	
v/s Ratio Prot	∞0.02	0.00		0.00	∞0.01		∞0.07	0.05		0.01	∞0.09	
v/s Ratio Perm			0.00									
v/c Ratio	0.25	0.03	0.04	0.02	0.03		0.54	0.15		0.36	0.39	
Uniform Delay, d1	21.3	20.9	21.0	14.7	14.8		20.6	11.3		24.3	16.0	
Progression Factor	0.86	0.82	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.1	0.1	0.1	0.1		2.6	0.1		7.7	0.3	
Delay (s)	19.3	17.3	21.1	14.8	14.9		23.2	11.4		32.0	16.3	
Level of Service	B	B	C	B	B		C	B		C	B	
Approach Delay (s)		20.3			14.9			16.0			16.7	
Approach LOS		C			B			B			B	

Intersection Summary

HCM 2000 Control Delay	16.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 24: Lowes D/W & Columbus Parkway

Exist AM  
 4/27/2015



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑↑↑	
Volume (vph)	469	1	11	613	9	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	
Frb, ped/bikes	1.00	0.97	1.00	1.00	1.00	
Flb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flt	1.00	0.85	1.00	1.00	0.96	
Flt Protected	1.00	1.00	0.95	1.00	0.97	
Satd. Flow (prot)	3539	1539	1770	3539	3337	
Flt Permitted	1.00	1.00	0.95	1.00	0.97	
Satd. Flow (perm)	3539	1539	1770	3539	3337	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	601	1	14	786	12	5
RTOR Reduction (vph)	0	0	0	0	5	0
Lane Group Flow (vph)	601	1	14	786	12	0
Confl. Peds. (#/hr)		7				
Turn Type	NA	Perm	Prot	NA	Prot	
Protected Phases	4		3	8	2	
Permitted Phases		4				
Actuated Green, G (s)	36.2	36.2	1.0	41.2	0.8	
Effective Green, g (s)	36.2	36.2	1.0	41.2	0.8	
Actuated g/C Ratio	0.72	0.72	0.02	0.82	0.02	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	2562	1114	35	2916	53	
v/s Ratio Prot	0.17		0.01	0.22	0.00	
v/s Ratio Perm		0.00				
v/c Ratio	0.23	0.00	0.40	0.27	0.23	
Uniform Delay, d1	2.3	1.9	24.2	1.0	24.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.0	7.3	0.2	2.2	
Delay (s)	2.5	1.9	31.5	1.2	26.5	
Level of Service	A	A	C	A	C	
Approach Delay (s)	2.5			1.8	26.5	
Approach LOS	A			A	C	

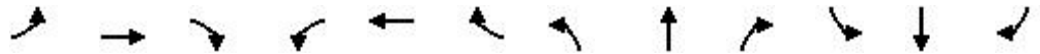
Intersection Summary

HCM 2000 Control Delay	2.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	28.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 1: Adm Callaghan Ln & Columbus Parkway

Exist PM  
 5/11/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕	↗	↖	↕	↗	↖	↕	↗		↕	
Volume (vph)	13	709	710	116	596	1	722	0	157	1	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.95	0.95	1.00		1.00	
Flt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.88	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		0.99	
Satd. Flow (prot)	1770	3539	1583	1770	5084		1681	1681	1583		1636	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	1770	5084		1681	1681	1583		1647	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	15	824	826	135	693	1	840	0	183	1	0	6
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	7	0
Lane Group Flow (vph)	15	824	826	135	694	0	420	420	183	0	0	0
Turn Type	Prot	NA	Free	Prot	NA		Split	NA	Free	Perm	NA	
Protected Phases	7	4		3	8		2	2				6
Permitted Phases			Free						Free	6		
Actuated Green, G (s)	0.8	27.4	84.0	12.7	39.3		27.1	27.1	84.0		0.8	
Effective Green, g (s)	0.8	27.4	84.0	12.7	39.3		27.1	27.1	84.0		0.8	
Actuated g/C Ratio	0.01	0.33	1.00	0.15	0.47		0.32	0.32	1.00		0.01	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	16	1154	1583	267	2378		542	542	1583		15	
v/s Ratio Prot	0.01	c0.23		0.08	0.14		c0.25	0.25				
v/s Ratio Perm			c0.52						0.12		0.00	
v/c Ratio	0.94	0.71	0.52	0.51	0.29		0.77	0.77	0.12		0.00	
Uniform Delay, d1	41.6	24.9	0.0	32.8	13.8		25.7	25.7	0.0		41.2	
Progression Factor	1.00	1.00	1.00	1.07	1.25		1.00	1.00	1.00		1.00	
Incremental Delay, d2	191.7	3.8	1.2	1.5	0.3		6.8	6.8	0.1		0.1	
Delay (s)	233.3	28.6	1.2	36.5	17.5		32.5	32.5	0.1		41.3	
Level of Service	F	C	A	D	B		C	C	A		D	
Approach Delay (s)		16.9			20.6			26.7			41.3	
Approach LOS		B			C			C			D	

Intersection Summary

HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
2: Ascot Parkway/Ascot Ct & Columbus Parkway

Exist PM  
5/11/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑	↗	↖	↑↑		↖↗	↑	↗	↖	↗	
Volume (vph)	29	681	198	24	534	0	147	1	25	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00		1.00	
Frbp, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	1.00		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Flt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1770	3539	1563	1770	3539		3433	1863	1583		1583	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1770	3539	1563	1770	3539		3433	1863	1583		1583	
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	35	820	239	29	643	0	177	1	30	0	0	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	26	0	1	0
Lane Group Flow (vph)	35	820	239	29	643	0	177	1	4	0	0	0
Confl. Peds. (#/hr)			2									
Turn Type	Prot	NA	Free	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			Free						2			
Actuated Green, G (s)	3.8	52.9	84.0	2.3	51.4		12.0	12.0	12.0		0.8	
Effective Green, g (s)	3.8	52.9	84.0	2.3	51.4		12.0	12.0	12.0		0.8	
Actuated g/C Ratio	0.05	0.63	1.00	0.03	0.61		0.14	0.14	0.14		0.01	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	80	2228	1563	48	2165		490	266	226		15	
v/s Ratio Prot	c0.02	c0.23		0.02	0.18		c0.05	0.00			0.00	
v/s Ratio Perm			c0.15						0.00			
v/c Ratio	0.44	0.37	0.15	0.60	0.30		0.36	0.00	0.02		0.00	
Uniform Delay, d1	39.1	7.5	0.0	40.4	7.7		32.5	30.9	30.9		41.2	
Progression Factor	0.86	1.24	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	3.4	0.4	0.2	19.6	0.4		0.5	0.0	0.0		0.0	
Delay (s)	36.9	9.7	0.2	60.0	8.1		33.0	30.9	31.0		41.2	
Level of Service	D	A	A	E	A		C	C	C		D	
Approach Delay (s)		8.5			10.3			32.7			41.2	
Approach LOS		A			B			C			D	

Intersection Summary

HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	47.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
3: Plaza Dr & Admiral Callaghan Ln

Exist PM  
5/11/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↗	↖	↗	↗
Volume (vph)	67	376	119	424	278	111	99	38	376	86	46	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.96		1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3412		1770	3388		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3412		1770	3388		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	68	380	120	428	281	112	100	38	380	87	46	43
RTOR Reduction (vph)	0	48	0	0	63	0	0	0	308	0	0	37
Lane Group Flow (vph)	68	452	0	428	330	0	100	38	72	87	46	6
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	3.2	13.3		16.3	26.4		6.2	11.4	11.4	3.0	8.2	8.2
Effective Green, g (s)	3.2	13.3		16.3	26.4		6.2	11.4	11.4	3.0	8.2	8.2
Actuated g/C Ratio	0.05	0.22		0.27	0.44		0.10	0.19	0.19	0.05	0.14	0.14
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	94	756		480	1490		182	353	300	88	254	216
v/s Ratio Prot	0.04	c0.13		c0.24	0.10		0.06	0.02		c0.05	0.02	
v/s Ratio Perm									c0.05			0.00
v/c Ratio	0.72	0.60		0.89	0.22		0.55	0.11	0.24	0.99	0.18	0.03
Uniform Delay, d1	28.0	20.9		21.0	10.4		25.6	20.1	20.6	28.5	22.9	22.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	23.9	1.3		18.5	0.1		3.4	0.1	0.4	91.3	0.3	0.1
Delay (s)	51.8	22.2		39.5	10.5		28.9	20.2	21.0	119.8	23.3	22.5
Level of Service	D	C		D	B		C	C	C	F	C	C
Approach Delay (s)		25.8			25.6			22.5			70.8	
Approach LOS		C			C			C			E	

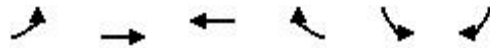
Intersection Summary

HCM 2000 Control Delay	28.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



HCM Signalized Intersection Capacity Analysis  
4: Turner Parkway & Plaza Dr

Exist PM  
5/11/2015



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↵	↑↑	↑↑		↵↵	↵
Volume (vph)	210	92	68	251	292	243
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		0.97	0.91
Flt	1.00	1.00	0.88		0.97	0.85
Flt Protected	0.95	1.00	1.00		0.96	1.00
Satd. Flow (prot)	1770	3539	3121		3369	1441
Flt Permitted	0.95	1.00	1.00		0.96	1.00
Satd. Flow (perm)	1770	3539	3121		3369	1441
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	223	98	72	267	311	259
RTOR Reduction (vph)	0	0	191	0	61	137
Lane Group Flow (vph)	223	98	148	0	330	42
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases						6
Actuated Green, G (s)	6.2	21.1	10.9		9.0	9.0
Effective Green, g (s)	6.2	21.1	10.9		9.0	9.0
Actuated g/C Ratio	0.16	0.55	0.29		0.24	0.24
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	288	1959	892		795	340
v/s Ratio Prot	c0.13	0.03	c0.05		c0.10	
v/s Ratio Perm						0.03
v/c Ratio	0.77	0.05	0.17		0.41	0.12
Uniform Delay, d1	15.3	3.9	10.2		12.3	11.4
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	12.2	0.0	0.1		0.4	0.2
Delay (s)	27.5	3.9	10.3		12.7	11.6
Level of Service	C	A	B		B	B
Approach Delay (s)		20.3	10.3		12.3	
Approach LOS		C	B		B	

Intersection Summary

HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	38.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	42.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 5: Tiara Dr/Site Access & Turner Parkway

Exist PM  
 5/11/2015



Movement	SEL	SET	SER	NML	NMT	NMR	NEL	NET	NER	SML	SWT	SWR
Lane Configurations	↖	↗		↖	↗			↕			↖	↗
Volume (vph)	0	355	11	15	308	0	5	0	9	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0				
Lane Util. Factor		0.95		1.00	0.95			1.00				
Frt		1.00		1.00	1.00			0.91				
Frt Protected		1.00		0.95	1.00			0.98				
Satd. Flow (prot)		3523		1770	3539			1667				
Frt Permitted		1.00		0.95	1.00			1.00				
Satd. Flow (perm)		3523		1770	3539			1695				
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	382	12	16	331	0	5	0	10	0	0	0
RTOR Reduction (vph)	0	2	0	0	0	0	0	14	0	0	0	0
Lane Group Flow (vph)	0	392	0	16	331	0	0	1	0	0	0	0
Turn Type	Prot	NA		Prot	NA		Perm	NA				Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases							4			8		8
Actuated Green, G (s)		34.4		1.4	39.8			2.2				
Effective Green, g (s)		34.4		1.4	39.8			2.2				
Actuated g/C Ratio		0.69		0.03	0.80			0.04				
Clearance Time (s)		4.0		4.0	4.0			4.0				
Vehicle Extension (s)		3.0		3.0	3.0			3.0				
Lane Grp Cap (vph)		2423		49	2817			74				
v/s Ratio Prot		c0.11		c0.01	0.09							
v/s Ratio Perm								c0.00				
v/c Ratio		0.16		0.33	0.12			0.01				
Uniform Delay, d1		2.7		23.8	1.1			22.9				
Progression Factor		1.00		1.00	1.00			1.00				
Incremental Delay, d2		0.1		3.9	0.1			0.0				
Delay (s)		2.9		27.7	1.2			22.9				
Level of Service		A		C	A			C				
Approach Delay (s)		2.9			2.5			22.9			0.0	
Approach LOS		A			A			C			A	

Intersection Summary

HCM 2000 Control Delay	3.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.16		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	22.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
6: Ascot Parkway & Turner Parkway

Exist PM  
5/11/2015



Movement	SEL	SET	SER	NML	NWT	NWR	NEL	NET	NER	SML	SWT	SWR
Lane Configurations	↖	↑	↗	↖	↗		↖	↕		↖	↕	
Volume (vph)	58	15	295	1	7	11	241	98	0	8	154	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frb, ped/bikes	1.00	1.00	0.99	1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Flt	1.00	1.00	0.85	1.00	0.91		1.00	1.00		1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1562	1770	1679		1770	3539		1770	3405	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1562	1770	1679		1770	3539		1770	3405	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	75	19	383	1	9	14	313	127	0	10	200	68
RTOR Reduction (vph)	0	0	312	0	13	0	0	0	0	0	44	0
Lane Group Flow (vph)	75	19	71	1	10	0	313	127	0	10	224	0
Confl. Peds. (#/hr)			3			2			3			
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	6	6		2	2		7	4		3	8	
Permitted Phases			6									
Actuated Green, G (s)	11.1	11.1	11.1	4.4	4.4		14.7	28.0		0.8	14.1	
Effective Green, g (s)	11.1	11.1	11.1	4.4	4.4		14.7	28.0		0.8	14.1	
Actuated g/C Ratio	0.18	0.18	0.18	0.07	0.07		0.24	0.46		0.01	0.23	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	325	342	287	129	122		431	1643		23	796	
v/s Ratio Prot	0.04	0.01		0.00	c0.01		c0.18	0.04		0.01	c0.07	
v/s Ratio Perm			c0.05									
v/c Ratio	0.23	0.06	0.25	0.01	0.08		0.73	0.08		0.43	0.28	
Uniform Delay, d1	21.0	20.3	21.0	25.9	26.1		21.0	9.0		29.5	18.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.1	0.4	0.0	0.3		6.0	0.0		12.6	0.2	
Delay (s)	21.3	20.3	21.5	25.9	26.4		27.0	9.0		42.1	19.1	
Level of Service	C	C	C	C	C		C	A		D	B	
Approach Delay (s)		21.4			26.3			21.8			20.0	
Approach LOS		C			C			C			B	

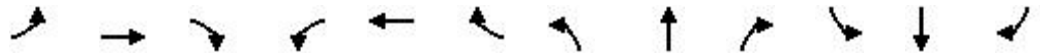
Intersection Summary

HCM 2000 Control Delay	21.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	60.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	40.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 1: Adm Callaghan Ln & Columbus Parkway

Exist Saturday  
 4/27/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗	↘		↕	
Volume (vph)	21	424	1006	180	437	0	812	0	202	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.95	0.95	1.00			
Flt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85			
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539	1583	1770	5085		1681	1681	1583			
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539	1583	1770	5085		1681	1681	1583			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	22	446	1059	189	460	0	855	0	213	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	22	446	1059	189	460	0	427	428	213	0	0	0
Turn Type	Prot	NA	Free	Prot	NA		Split	NA	Free			
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			Free						Free	6		
Actuated Green, G (s)	4.8	53.2	125.0	20.2	68.6		39.6	39.6	125.0			
Effective Green, g (s)	4.8	53.2	125.0	20.2	68.6		39.6	39.6	125.0			
Actuated g/C Ratio	0.04	0.43	1.00	0.16	0.55		0.32	0.32	1.00			
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0				
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0				
Lane Grp Cap (vph)	67	1506	1583	286	2790		532	532	1583			
v/s Ratio Prot	0.01	0.13		0.11	0.09		0.25	c0.25				
v/s Ratio Perm			c0.67						0.13			
v/c Ratio	0.33	0.30	0.67	0.66	0.16		0.80	0.80	0.13			
Uniform Delay, d1	58.5	23.6	0.0	49.2	14.0		39.1	39.2	0.0			
Progression Factor	1.00	1.00	1.00	0.84	0.67		1.00	1.00	1.00			
Incremental Delay, d2	2.9	0.5	2.3	5.6	0.1		8.5	8.6	0.2			
Delay (s)	61.4	24.1	2.3	47.0	9.5		47.7	47.8	0.2			
Level of Service	E	C	A	D	A		D	D	A			
Approach Delay (s)		9.5		20.4			38.2				0.0	
Approach LOS		A		C			D				A	

Intersection Summary

HCM 2000 Control Delay	21.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 2: Ascot Parkway/Ascot Ct & Columbus Parkway

Exist Saturday  
 4/27/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑	↗	↙	↑↑		↙↗	↑	↗	↙	↗	
Volume (vph)	25	471	151	34	472	0	120	1	30	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00		1.00	
Flpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	1.00		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Flt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1770	3539	1563	1770	3539		3433	1863	1583		1583	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1770	3539	1563	1770	3539		3433	1863	1583		1583	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor (vph)	50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Adj. Flow (vph)	14	523	168	38	524	0	133	1	33	0	0	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	29	0	1	0
Lane Group Flow (vph)	14	523	168	38	524	0	133	1	4	0	0	0
Confl. Peds. (#/hr)			2									
Turn Type	Prot	NA	Free	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			Free						2			
Actuated Green, G (s)	3.1	82.2	125.0	7.0	86.1		14.8	14.8	14.8		5.0	
Effective Green, g (s)	3.1	82.2	125.0	7.0	86.1		14.8	14.8	14.8		5.0	
Actuated g/C Ratio	0.02	0.66	1.00	0.06	0.69		0.12	0.12	0.12		0.04	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	43	2327	1563	99	2437		406	220	187		63	
v/s Ratio Prot	0.01	c0.15		c0.02	0.15		c0.04	0.00			0.00	
v/s Ratio Perm			c0.11						0.00			
v/c Ratio	0.33	0.22	0.11	0.38	0.22		0.33	0.00	0.02		0.00	
Uniform Delay, d1	59.9	8.6	0.0	56.9	7.1		50.5	48.6	48.7		57.6	
Progression Factor	1.17	1.29	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	4.3	0.2	0.1	2.5	0.2		0.5	0.0	0.0		0.0	
Delay (s)	74.4	11.3	0.1	59.4	7.3		51.0	48.6	48.7		57.6	
Level of Service	E	B	A	E	A		D	D	D		E	
Approach Delay (s)		9.9			10.8			50.5			57.6	
Approach LOS		A			B			D			E	

Intersection Summary

HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	46.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 3: Plaza Dr & Admiral Callaghan Ln

Exist Saturday  
 4/27/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↗	↖	↗	↗
Volume (vph)	105	401	119	467	287	191	111	71	402	140	94	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.97		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3418		1770	3327		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3418		1770	3327		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	112	427	127	497	305	203	118	76	428	149	100	70
RTOR Reduction (vph)	0	26	0	0	93	0	0	0	371	0	0	61
Lane Group Flow (vph)	112	528	0	497	415	0	118	76	57	149	100	9
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	8.7	19.9		29.4	40.6		9.5	11.4	11.4	9.1	11.0	11.0
Effective Green, g (s)	8.7	19.9		29.4	40.6		9.5	11.4	11.4	9.1	11.0	11.0
Actuated g/C Ratio	0.10	0.23		0.34	0.47		0.11	0.13	0.13	0.11	0.13	0.13
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	179	792		606	1574		195	247	210	187	238	202
v/s Ratio Prot	0.06	c0.15		c0.28	0.12		0.07	0.04		c0.08	c0.05	
v/s Ratio Perm									0.04			0.01
v/c Ratio	0.63	0.67		0.82	0.26		0.61	0.31	0.27	0.80	0.42	0.04
Uniform Delay, d1	37.0	29.9		25.8	13.6		36.4	33.6	33.5	37.4	34.5	32.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.7	2.1		8.7	0.1		5.2	0.7	0.7	20.5	1.2	0.1
Delay (s)	43.6	32.1		34.5	13.7		41.6	34.3	34.2	58.0	35.7	32.9
Level of Service	D	C		C	B		D	C	C	E	D	C
Approach Delay (s)		34.0			24.0			35.6			45.5	
Approach LOS		C			C			D			D	

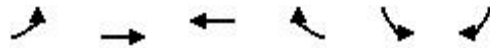
Intersection Summary

HCM 2000 Control Delay	31.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	85.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



HCM Signalized Intersection Capacity Analysis  
4: Turner Parkway & Plaza Dr

Exist Saturday  
4/27/2015



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↑↗		↘↘	↘
Volume (vph)	213	91	98	283	265	265
Ideal Flow (vophpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		0.97	0.91
Flt	1.00	1.00	0.89		0.96	0.85
Flt Protected	0.95	1.00	1.00		0.96	1.00
Satd. Flow (prot)	1770	3539	3145		3345	1441
Flt Permitted	0.95	1.00	1.00		0.96	1.00
Satd. Flow (perm)	1770	3539	3145		3345	1441
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	222	95	102	295	276	276
RTOR Reduction (vph)	0	0	210	0	81	137
Lane Group Flow (vph)	222	95	187	0	297	37
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases						6
Actuated Green, G (s)	7.5	22.8	11.3		8.2	8.2
Effective Green, g (s)	7.5	22.8	11.3		8.2	8.2
Actuated g/C Ratio	0.19	0.58	0.29		0.21	0.21
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	340	2068	911		703	302
v/s Ratio Prot	c0.13	0.03	c0.06		c0.09	
v/s Ratio Perm						0.03
v/c Ratio	0.65	0.05	0.21		0.42	0.12
Uniform Delay, d1	14.5	3.5	10.5		13.3	12.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	4.5	0.0	0.1		0.4	0.2
Delay (s)	19.0	3.5	10.6		13.8	12.7
Level of Service	B	A	B		B	B
Approach Delay (s)		14.3	10.6		13.4	
Approach LOS		B	B		B	

Intersection Summary

HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	39.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 5: Tiara Dr/Site Access & Turner Parkway

Exist Saturday  
 4/27/2015



Movement	SEL	SET	SER	NML	NMT	NMR	NEL	NET	NER	SML	SWT	SWR
Lane Configurations	↔	↕↔		↔	↕↔			↕↔			↕↔	↔
Volume (vph)	2	357	7	12	379	0	4	0	13	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0				
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00				
Flt	1.00	1.00		1.00	1.00			0.90				
Flt Protected	0.95	1.00		0.95	1.00			0.99				
Satd. Flow (prot)	1770	3529		1770	3539			1651				
Flt Permitted	0.95	1.00		0.95	1.00			0.92				
Satd. Flow (perm)	1770	3529		1770	3539			1535				
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	2	368	7	12	391	0	4	0	13	0	0	0
RTOR Reduction (vph)	0	2	0	0	0	0	0	16	0	0	0	0
Lane Group Flow (vph)	2	373	0	12	391	0	0	1	0	0	0	0
Turn Type	Prot	NA		Prot	NA		Perm	NA				Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases							4			8		8
Actuated Green, G (s)	0.5	27.9		0.5	27.9			2.9				
Effective Green, g (s)	0.5	27.9		0.5	27.9			2.9				
Actuated g/C Ratio	0.01	0.64		0.01	0.64			0.07				
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0				
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0				
Lane Grp Cap (vph)	20	2273		20	2280			102				
v/s Ratio Prot	0.00	0.11		c0.01	c0.11							
v/s Ratio Perm								c0.00				
v/c Ratio	0.10	0.16		0.60	0.17			0.01				
Uniform Delay, d1	21.2	3.1		21.3	3.1			18.9				
Progression Factor	1.00	1.00		1.00	1.00			1.00				
Incremental Delay, d2	2.2	0.0		40.2	0.0			0.0				
Delay (s)	23.4	3.1		61.5	3.1			18.9				
Level of Service	C	A		E	A			B				
Approach Delay (s)		3.2			4.9			18.9			0.0	
Approach LOS		A			A			B			A	

Intersection Summary

HCM 2000 Control Delay	4.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.16		
Actuated Cycle Length (s)	43.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	20.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
6: Ascot Parkway & Turner Parkway

Exist Saturday  
4/27/2015



Movement	SEL	SET	SER	NML	NWT	NWR	NEL	NET	NER	SML	SWT	SWR
Lane Configurations	↖	↑	↗	↖	↗		↖	↕		↖	↕	
Volume (vph)	46	10	269	4	4	8	294	82	4	9	102	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	1.00	0.99	1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Flt	1.00	1.00	0.85	1.00	0.90		1.00	0.99		1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1562	1770	1662		1770	3511		1770	3333	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1562	1770	1662		1770	3511		1770	3333	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	47	10	274	4	4	8	300	84	4	9	104	66
RTOR Reduction (vph)	0	0	223	0	8	0	0	2	0	0	51	0
Lane Group Flow (vph)	47	10	51	4	4	0	300	86	0	9	119	0
Confl. Peds. (#/hr)			3			2			3			
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	6	6		2	2		7	4		3	8	
Permitted Phases			6									
Actuated Green, G (s)	10.3	10.3	10.3	3.0	3.0		13.6	26.0		0.5	12.9	
Effective Green, g (s)	10.3	10.3	10.3	3.0	3.0		13.6	26.0		0.5	12.9	
Actuated g/C Ratio	0.18	0.18	0.18	0.05	0.05		0.24	0.47		0.01	0.23	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	326	343	288	95	89		431	1635		15	770	
v/s Ratio Prot	0.03	0.01		0.00	c0.00		c0.17	0.02		0.01	c0.04	
v/s Ratio Perm			c0.03									
v/c Ratio	0.14	0.03	0.18	0.04	0.05		0.70	0.05		0.60	0.15	
Uniform Delay, d1	19.1	18.7	19.2	25.0	25.0		19.2	8.2		27.6	17.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.0	0.3	0.2	0.2		4.8	0.0		51.0	0.1	
Delay (s)	19.3	18.7	19.5	25.2	25.3		24.1	8.2		78.6	17.2	
Level of Service	B	B	B	C	C		C	A		E	B	
Approach Delay (s)		19.4			25.3			20.5			20.3	
Approach LOS		B			C			C			C	

Intersection Summary

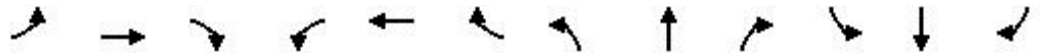
HCM 2000 Control Delay	20.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	55.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	42.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



HCM Signalized Intersection Capacity Analysis  
 1: Adm Callaghan Ln & Columbus Parkway

Near Term AM  
 4/27/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑	↗	↖	↑↑↑		↖	↑	↗		↕	
Volume (vph)	5	793	332	45	842	0	212	0	60	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.95	0.95	1.00			
Flt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85			
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539	1583	1770	5085		1681	1681	1583			
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539	1583	1770	5085		1681	1681	1583			
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	6	922	386	52	979	0	247	0	70	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	6	922	386	52	979	0	123	124	70	0	0	0
Turn Type	Prot	NA	Free	Prot	NA		Split	NA	Free			
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			Free						Free	6		
Actuated Green, G (s)	1.3	48.8	84.0	8.2	55.7		15.0	15.0	84.0			
Effective Green, g (s)	1.3	48.8	84.0	8.2	55.7		15.0	15.0	84.0			
Actuated g/C Ratio	0.02	0.58	1.00	0.10	0.66		0.18	0.18	1.00			
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0				
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0				
Lane Grp Cap (vph)	27	2055	1583	172	3371		300	300	1583			
v/s Ratio Prot	0.00	c0.26		0.03	c0.19		0.07	c0.07				
v/s Ratio Perm			c0.24						0.04			
v/c Ratio	0.22	0.45	0.24	0.30	0.29		0.41	0.41	0.04			
Uniform Delay, d1	40.9	10.0	0.0	35.2	5.9		30.6	30.6	0.0			
Progression Factor	1.00	1.00	1.00	1.14	1.33		1.00	1.00	1.00			
Incremental Delay, d2	4.1	0.7	0.4	1.0	0.2		0.9	0.9	0.1			
Delay (s)	45.0	10.7	0.4	41.2	8.1		31.5	31.5	0.1			
Level of Service	D	B	A	D	A		C	C	A			
Approach Delay (s)		7.8			9.8			24.6			0.0	
Approach LOS		A			A			C			A	

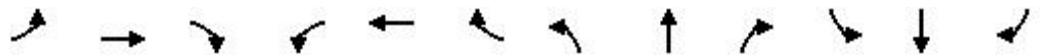
Intersection Summary

HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	41.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
2: Ascot Parkway/Ascot Ct & Columbus Parkway

Near Term AM  
4/27/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗	↘	↖	↗	↘
Volume (vph)	10	510	254	16	650	0	225	0	29	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0		4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97		1.00		1.00	
Frb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00		1.00		1.00	
Fpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00		1.00		1.00	
Fit	1.00	1.00	0.85	1.00	1.00		1.00		0.85		0.85	
Fit Protected	0.95	1.00	1.00	0.95	1.00		0.95		1.00		1.00	
Satd. Flow (prot)	1770	3539	1563	1770	3539		3433		1583		1583	
Fit Permitted	0.95	1.00	1.00	0.95	1.00		0.95		1.00		1.00	
Satd. Flow (perm)	1770	3539	1563	1770	3539		3433		1583		1583	
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	12	614	306	19	783	0	271	0	35	0	0	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	29	0	1	0
Lane Group Flow (vph)	12	614	306	19	783	0	271	0	6	0	0	0
Confl. Peds. (#/hr)			2									
Turn Type	Prot	NA	Free	Prot	NA		Split		Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			Free						2			
Actuated Green, G (s)	0.8	51.3	84.0	2.2	52.7		13.7		13.7		0.8	
Effective Green, g (s)	0.8	51.3	84.0	2.2	52.7		13.7		13.7		0.8	
Actuated g/C Ratio	0.01	0.61	1.00	0.03	0.63		0.16		0.16		0.01	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0		4.0		4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0		3.0		3.0	
Lane Grp Cap (vph)	16	2161	1563	46	2220		559		258		15	
v/s Ratio Prot	0.01	0.17		0.01	0.22		0.08				0.00	
v/s Ratio Perm			0.20						0.00			
v/c Ratio	0.75	0.28	0.20	0.41	0.35		0.48		0.02		0.00	
Uniform Delay, d1	41.5	7.7	0.0	40.3	7.5		31.9		29.5		41.2	
Progression Factor	1.10	0.55	1.00	1.00	1.00		1.00		1.00		1.00	
Incremental Delay, d2	101.4	0.3	0.3	5.9	0.4		0.7		0.0		0.0	
Delay (s)	147.0	4.6	0.3	46.2	7.9		32.6		29.6		41.2	
Level of Service	F	A	A	D	A		C		C		D	
Approach Delay (s)		5.0			8.8			32.3			41.2	
Approach LOS		A			A			C			D	

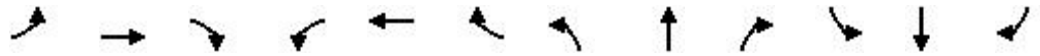
Intersection Summary			
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	49.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



HCM Signalized Intersection Capacity Analysis  
 3: Plaza Dr & Admiral Callaghan Ln

Near Term AM  
 4/27/2015



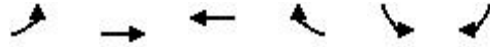
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↗	↖	↗	↗
Volume (vph)	27	101	20	121	139	85	17	16	68	60	14	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.97		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3451		1770	3338		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3451		1770	3338		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	29	110	22	132	151	92	18	17	74	65	15	34
RTOR Reduction (vph)	0	16	0	0	51	0	0	0	66	0	0	28
Lane Group Flow (vph)	29	116	0	132	192	0	18	17	8	65	15	6
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	0.9	13.3		7.9	20.3		0.7	4.9	4.9	3.6	7.8	7.8
Effective Green, g (s)	0.9	13.3		7.9	20.3		0.7	4.9	4.9	3.6	7.8	7.8
Actuated g/C Ratio	0.02	0.29		0.17	0.44		0.02	0.11	0.11	0.08	0.17	0.17
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	34	1004		305	1482		27	199	169	139	317	270
v/s Ratio Prot	0.02	0.03		c0.07	c0.06		0.01	c0.01		c0.04	c0.01	
v/s Ratio Perm									0.01			0.00
v/c Ratio	0.85	0.12		0.43	0.13		0.67	0.09	0.05	0.47	0.05	0.02
Uniform Delay, d1	22.3	11.9		16.9	7.5		22.4	18.4	18.3	20.1	15.8	15.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	95.5	0.1		1.0	0.0		48.1	0.2	0.1	2.5	0.1	0.0
Delay (s)	117.8	11.9		17.9	7.5		70.4	18.6	18.4	22.6	15.9	15.8
Level of Service	F	B		B	A		E	B	B	C	B	B
Approach Delay (s)		31.0			11.2			27.0			19.7	
Approach LOS		C			B			C			B	

Intersection Summary

HCM 2000 Control Delay	18.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	45.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	30.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
4: Turner Parkway & Plaza Dr

Near Term AM  
4/27/2015



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑↑	↑↑		↰↰	↰
Volume (vph)	69	40	50	60	46	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		0.97	0.91
Flt	1.00	1.00	0.92		0.96	0.85
Flt Protected	0.95	1.00	1.00		0.96	1.00
Satd. Flow (prot)	1770	3539	3250		3358	1441
Flt Permitted	0.95	1.00	1.00		0.96	1.00
Satd. Flow (perm)	1770	3539	3250		3358	1441
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	78	45	57	68	52	48
RTOR Reduction (vph)	0	0	33	0	14	29
Lane Group Flow (vph)	78	45	92	0	54	3
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases						6
Actuated Green, G (s)	2.5	25.5	19.0		3.7	3.7
Effective Green, g (s)	2.5	25.5	19.0		3.7	3.7
Actuated g/C Ratio	0.07	0.69	0.51		0.10	0.10
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	118	2425	1659		333	143
v/s Ratio Prot	c0.04	0.01	c0.03		c0.02	
v/s Ratio Perm						0.00
v/c Ratio	0.66	0.02	0.06		0.16	0.02
Uniform Delay, d1	16.9	1.9	4.6		15.3	15.1
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	13.0	0.0	0.0		0.2	0.1
Delay (s)	30.0	1.9	4.6		15.6	15.2
Level of Service	C	A	A		B	B
Approach Delay (s)		19.7	4.6		15.4	
Approach LOS		B	A		B	

Intersection Summary

HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.13		
Actuated Cycle Length (s)	37.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	20.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
5: Tiara Dr/Site Access & Turner Parkway

Near Term AM  
4/27/2015



Movement	SEL	SET	SER	NML	NMT	NMR	NEL	NET	NER	SML	SWT	SWR
Lane Configurations	↖	↗		↖	↗			↕			↖	↗
Volume (vph)	0	80	3	3	93	1	11	0	8	1	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.95		1.00	0.95			1.00			1.00	
Flt		1.00		1.00	1.00			0.94			1.00	
Flt Protected		1.00		0.95	1.00			0.97			0.95	
Satd. Flow (prot)		3522		1770	3534			1706			1770	
Flt Permitted		1.00		0.95	1.00			1.00			1.00	
Satd. Flow (perm)		3522		1770	3534			1755			1863	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	90	3	3	104	1	12	0	9	1	0	0
RTOR Reduction (vph)	0	1	0	0	0	0	0	20	0	0	0	0
Lane Group Flow (vph)	0	92	0	3	105	0	0	1	0	0	1	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases							4			8		8
Actuated Green, G (s)		34.6		1.2	39.8			2.2			2.2	
Effective Green, g (s)		34.6		1.2	39.8			2.2			2.2	
Actuated g/C Ratio		0.69		0.02	0.80			0.04			0.04	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		2437		42	2813			77			81	
v/s Ratio Prot		0.03		0.00	0.03							
v/s Ratio Perm								0.00			0.00	
v/c Ratio		0.04		0.07	0.04			0.01			0.01	
Uniform Delay, d1		2.4		23.9	1.1			22.9			22.9	
Progression Factor		1.00		0.96	0.04			1.00			1.00	
Incremental Delay, d2		0.0		0.7	0.0			0.1			0.1	
Delay (s)		2.5		23.6	0.1			22.9			22.9	
Level of Service		A		C	A			C			C	
Approach Delay (s)		2.5			0.7			22.9			22.9	
Approach LOS		A			A			C			C	

Intersection Summary

HCM 2000 Control Delay	3.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.04		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	17.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
6: Ascot Parkway & Turner Parkway

Near Term AM  
4/27/2015



Movement	SEL	SET	SER	NML	NWT	NMR	NEL	NET	NER	SML	SWT	SWR
Lane Configurations	↖	↑	↗	↖	↗		↖	↕		↖	↕	
Volume (vph)	35	4	60	7	5	18	89	160	2	8	233	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frb, ped/bikes	1.00	1.00	0.99	1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Flt	1.00	1.00	0.85	1.00	0.88		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1562	1770	1624		1770	3530		1770	3480	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1562	1770	1624		1770	3530		1770	3480	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	45	5	78	9	6	23	116	208	3	10	303	38
RTOR Reduction (vph)	0	0	71	0	18	0	0	2	0	0	19	0
Lane Group Flow (vph)	45	5	7	9	11	0	116	209	0	10	322	0
Confl. Peds. (#/hr)			3			2			3			
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	6	6		2	2		7	4		3	8	
Permitted Phases			6									
Actuated Green, G (s)	4.4	4.4	4.4	11.7	11.7		6.1	17.1		0.8	11.8	
Effective Green, g (s)	4.4	4.4	4.4	11.7	11.7		6.1	17.1		0.8	11.8	
Actuated g/C Ratio	0.09	0.09	0.09	0.23	0.23		0.12	0.34		0.02	0.24	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	155	163	137	414	380		215	1207		28	821	
v/s Ratio Prot	c0.03	0.00		0.01	c0.01		c0.07	0.06		0.01	c0.09	
v/s Ratio Perm			0.00									
v/c Ratio	0.29	0.03	0.05	0.02	0.03		0.54	0.17		0.36	0.39	
Uniform Delay, d1	21.3	20.8	20.9	14.7	14.8		20.6	11.5		24.3	16.1	
Progression Factor	0.85	0.80	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	0.1	0.2	0.1	0.1		2.6	0.1		7.7	0.3	
Delay (s)	19.1	16.8	21.0	14.8	14.9		23.2	11.6		32.0	16.4	
Level of Service	B	B	C	B	B		C	B		C	B	
Approach Delay (s)		20.2			14.9			15.7			16.8	
Approach LOS		C			B			B			B	

Intersection Summary

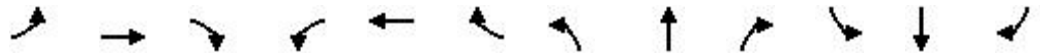
HCM 2000 Control Delay	16.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	49.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



HCM Signalized Intersection Capacity Analysis  
 1: Adm Callaghan Ln & Columbus Parkway

Near Term PM  
 5/11/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑↑		↘	↖	↗		↕	
Volume (vph)	11	818	740	120	663	1	738	0	161	1	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.95	0.95	1.00		1.00	
Flt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.89	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		0.99	
Satd. Flow (prot)	1770	3539	1583	1770	5084		1681	1681	1583		1640	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	1770	5084		1681	1681	1583		1653	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	13	951	860	140	771	1	858	0	187	1	0	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	6	0
Lane Group Flow (vph)	13	951	860	140	772	0	429	429	187	0	0	0
Turn Type	Prot	NA	Free	Prot	NA		Split	NA	Free	Perm	NA	
Protected Phases	7	4		3	8		2	2				6
Permitted Phases			Free						Free	6		
Actuated Green, G (s)	0.8	28.8	84.0	10.7	38.7		27.7	27.7	84.0		0.8	
Effective Green, g (s)	0.8	28.8	84.0	10.7	38.7		27.7	27.7	84.0		0.8	
Actuated g/C Ratio	0.01	0.34	1.00	0.13	0.46		0.33	0.33	1.00		0.01	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	16	1213	1583	225	2342		554	554	1583		15	
v/s Ratio Prot	0.01	c0.27		0.08	0.15		c0.26	0.26				
v/s Ratio Perm			c0.54						0.12		0.00	
v/c Ratio	0.81	0.78	0.54	0.62	0.33		0.77	0.77	0.12		0.00	
Uniform Delay, d1	41.5	24.8	0.0	34.7	14.4		25.3	25.3	0.0		41.2	
Progression Factor	1.00	1.00	1.00	1.07	1.20		1.00	1.00	1.00		1.00	
Incremental Delay, d2	132.2	5.1	1.3	5.1	0.4		6.7	6.7	0.2		0.1	
Delay (s)	173.7	29.9	1.3	42.3	17.7		32.0	32.0	0.2		41.3	
Level of Service	F	C	A	D	B		C	C	A		D	
Approach Delay (s)		17.5			21.5			26.3			41.3	
Approach LOS		B			C			C			D	

Intersection Summary

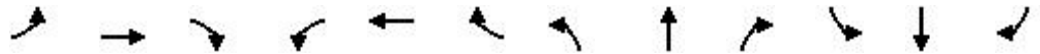
HCM 2000 Control Delay	20.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



HCM Signalized Intersection Capacity Analysis  
 2: Ascot Parkway/Ascot Ct & Columbus Parkway

Near Term PM  
 5/11/2015



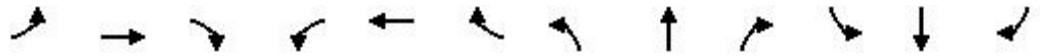
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗	↘	↖	↗	↘
Volume (vph)	28	762	234	23	572	0	184	1	35	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00		1.00	
Flpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	1.00		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Flt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1770	3539	1563	1770	3539		3433	1863	1583		1583	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1770	3539	1563	1770	3539		3433	1863	1583		1583	
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	34	918	282	28	689	0	222	1	42	0	0	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	36	0	1	0
Lane Group Flow (vph)	34	918	282	28	689	0	222	1	6	0	0	0
Confl. Peds. (#/hr)			2									
Turn Type	Prot	NA	Free	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			Free						2			
Actuated Green, G (s)	3.8	52.1	84.0	2.3	50.6		12.8	12.8	12.8		0.8	
Effective Green, g (s)	3.8	52.1	84.0	2.3	50.6		12.8	12.8	12.8		0.8	
Actuated g/C Ratio	0.05	0.62	1.00	0.03	0.60		0.15	0.15	0.15		0.01	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	80	2195	1563	48	2131		523	283	241		15	
v/s Ratio Prot	c0.02	c0.26		0.02	0.19		c0.06	0.00			0.00	
v/s Ratio Perm			c0.18						0.00			
v/c Ratio	0.42	0.42	0.18	0.58	0.32		0.42	0.00	0.03		0.00	
Uniform Delay, d1	39.0	8.2	0.0	40.4	8.2		32.3	30.2	30.3		41.2	
Progression Factor	0.88	1.24	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	3.1	0.5	0.2	16.8	0.4		0.6	0.0	0.0		0.0	
Delay (s)	37.5	10.6	0.2	57.1	8.6		32.8	30.2	30.3		41.2	
Level of Service	D	B	A	E	A		C	C	C		D	
Approach Delay (s)		9.0			10.5			32.4			41.2	
Approach LOS		A			B			C			D	

Intersection Summary		
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.44	B
Actuated Cycle Length (s)	84.0	Sum of lost time (s)
Intersection Capacity Utilization	48.6%	16.0
Analysis Period (min)	15	ICU Level of Service
		A

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 3: Plaza Dr & Admiral Callaghan Ln

Near Term PM  
 5/11/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↗	↖	↗	↗
Volume (vph)	69	374	116	427	289	108	101	39	378	87	43	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.96		1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3414		1770	3395		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3414		1770	3395		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	70	378	117	431	292	109	102	39	382	88	43	44
RTOR Reduction (vph)	0	47	0	0	56	0	0	0	310	0	0	38
Lane Group Flow (vph)	70	448	0	431	345	0	102	39	72	88	43	6
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	3.2	13.3		16.4	26.5		6.2	11.4	11.4	3.0	8.2	8.2
Effective Green, g (s)	3.2	13.3		16.4	26.5		6.2	11.4	11.4	3.0	8.2	8.2
Actuated g/C Ratio	0.05	0.22		0.27	0.44		0.10	0.19	0.19	0.05	0.14	0.14
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	94	755		482	1496		182	353	300	88	254	215
v/s Ratio Prot	0.04	c0.13		c0.24	0.10		0.06	0.02		c0.05	0.02	
v/s Ratio Perm									c0.05			0.00
v/c Ratio	0.74	0.59		0.89	0.23		0.56	0.11	0.24	1.00	0.17	0.03
Uniform Delay, d1	28.0	21.0		21.0	10.5		25.7	20.2	20.7	28.6	22.9	22.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	27.0	1.3		18.7	0.1		3.9	0.1	0.4	95.9	0.3	0.1
Delay (s)	55.0	22.2		39.7	10.5		29.6	20.3	21.1	124.5	23.3	22.5
Level of Service	E	C		D	B		C	C	C	F	C	C
Approach Delay (s)		26.3			25.6			22.7			74.0	
Approach LOS		C			C			C			E	

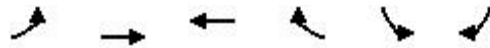
Intersection Summary

HCM 2000 Control Delay	29.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	60.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
4: Turner Parkway & Plaza Dr

Near Term PM  
5/11/2015



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↙	↑↑	↑↑		↙↘	↗
Volume (vph)	213	95	76	242	286	245
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		0.97	0.91
Flt	1.00	1.00	0.89		0.97	0.85
Flt Protected	0.95	1.00	1.00		0.96	1.00
Satd. Flow (prot)	1770	3539	3136		3365	1441
Flt Permitted	0.95	1.00	1.00		0.96	1.00
Satd. Flow (perm)	1770	3539	3136		3365	1441
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	227	101	81	257	304	261
RTOR Reduction (vph)	0	0	183	0	64	136
Lane Group Flow (vph)	227	101	155	0	324	41
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases						6
Actuated Green, G (s)	6.2	21.2	11.0		8.9	8.9
Effective Green, g (s)	6.2	21.2	11.0		8.9	8.9
Actuated g/C Ratio	0.16	0.56	0.29		0.23	0.23
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	288	1969	905		786	336
v/s Ratio Prot	c0.13	0.03	c0.05		c0.10	
v/s Ratio Perm						0.03
v/c Ratio	0.79	0.05	0.17		0.41	0.12
Uniform Delay, d1	15.3	3.9	10.1		12.4	11.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	13.3	0.0	0.1		0.4	0.2
Delay (s)	28.6	3.9	10.2		12.7	11.7
Level of Service	C	A	B		B	B
Approach Delay (s)		21.0	10.2		12.4	
Approach LOS		C	B		B	

Intersection Summary

HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	38.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	42.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
5: Tiara Dr/Site Access & Turner Parkway

Near Term PM  
5/11/2015



Movement	SEL	SET	SER	NML	NMT	NMR	NEL	NET	NER	SML	SWT	SWR
Lane Configurations	↖	↗		↖	↗			↕			↖	↗
Volume (vph)	0	356	12	15	308	0	5	0	9	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0				
Lane Util. Factor		0.95		1.00	0.95			1.00				
Flt		1.00		1.00	1.00			0.91				
Flt Protected		1.00		0.95	1.00			0.98				
Satd. Flow (prot)		3522		1770	3539			1667				
Flt Permitted		1.00		0.95	1.00			1.00				
Satd. Flow (perm)		3522		1770	3539			1695				
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	383	13	16	331	0	5	0	10	0	0	0
RTOR Reduction (vph)	0	2	0	0	0	0	0	14	0	0	0	0
Lane Group Flow (vph)	0	394	0	16	331	0	0	1	0	0	0	0
Turn Type	Prot	NA		Prot	NA		Perm	NA				Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases							4			8		8
Actuated Green, G (s)		34.4		1.4	39.8			2.2				
Effective Green, g (s)		34.4		1.4	39.8			2.2				
Actuated g/C Ratio		0.69		0.03	0.80			0.04				
Clearance Time (s)		4.0		4.0	4.0			4.0				
Vehicle Extension (s)		3.0		3.0	3.0			3.0				
Lane Grp Cap (vph)		2423		49	2817			74				
v/s Ratio Prot		c0.11		c0.01	0.09							
v/s Ratio Perm								c0.00				
v/c Ratio		0.16		0.33	0.12			0.01				
Uniform Delay, d1		2.7		23.8	1.1			22.9				
Progression Factor		1.00		1.00	1.00			1.00				
Incremental Delay, d2		0.1		3.9	0.1			0.0				
Delay (s)		2.9		27.7	1.2			22.9				
Level of Service		A		C	A			C				
Approach Delay (s)		2.9			2.5			22.9			0.0	
Approach LOS		A			A			C			A	

Intersection Summary

HCM 2000 Control Delay	3.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.16		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	22.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
6: Ascot Parkway & Turner Parkway

Near Term PM  
5/11/2015



Movement	SEL	SET	SER	NML	NWT	NWR	NEL	NET	NER	SML	SWT	SWR
Lane Configurations	↖	↑	↗	↖	↗		↖	↕		↖	↕	
Volume (vph)	58	14	298	3	7	11	247	145	1	9	192	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	1.00	0.99	1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Flt	1.00	1.00	0.85	1.00	0.91		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1562	1770	1679		1770	3536		1770	3423	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1562	1770	1679		1770	3536		1770	3423	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	75	18	387	4	9	14	321	188	1	12	249	70
RTOR Reduction (vph)	0	0	317	0	13	0	0	1	0	0	33	0
Lane Group Flow (vph)	75	18	70	4	10	0	321	188	0	12	286	0
Confl. Peds. (#/hr)			3			2			3			
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	6	6		2	2		7	4		3	8	
Permitted Phases			6									
Actuated Green, G (s)	11.1	11.1	11.1	4.4	4.4		15.0	29.0		0.8	14.8	
Effective Green, g (s)	11.1	11.1	11.1	4.4	4.4		15.0	29.0		0.8	14.8	
Actuated g/C Ratio	0.18	0.18	0.18	0.07	0.07		0.24	0.47		0.01	0.24	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	320	337	282	127	120		433	1672		23	826	
v/s Ratio Prot	0.04	0.01		0.00	c0.01		c0.18	0.05		0.01	c0.08	
v/s Ratio Perm			c0.04									
v/c Ratio	0.23	0.05	0.25	0.03	0.08		0.74	0.11		0.52	0.35	
Uniform Delay, d1	21.5	20.8	21.5	26.5	26.6		21.4	9.0		30.1	19.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.1	0.5	0.1	0.3		6.7	0.0		19.7	0.3	
Delay (s)	21.8	20.8	22.0	26.6	26.9		28.1	9.0		49.8	19.5	
Level of Service	C	C	C	C	C		C	A		D	B	
Approach Delay (s)		21.9			26.8			21.0			20.6	
Approach LOS		C			C			C			C	

Intersection Summary

HCM 2000 Control Delay	21.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	61.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	42.3%	ICU Level of Service	A
Analysis Period (min)	15		

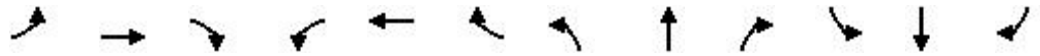
c Critical Lane Group





HCM Signalized Intersection Capacity Analysis  
 1: Adm Callaghan Ln & Columbus Parkway

Near Term Saturday  
 4/27/2015



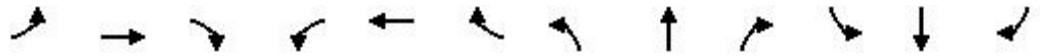
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗	↘		↗	↘
Volume (vph)	0	533	1019	201	513	0	832	0	219	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor		0.95	1.00	1.00	0.91		0.95	0.95	1.00		1.00	
Flt		1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.86	
Flt Protected		1.00	1.00	0.95	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (prot)		3539	1583	1770	5085		1681	1681	1583		1611	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (perm)		3539	1583	1770	5085		1681	1681	1583		1611	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	561	1073	212	540	0	876	0	231	0	0	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	561	1073	212	540	0	438	438	231	0	0	0
Turn Type	Prot	NA	Free	Prot	NA		Split	NA	Free		NA	
Protected Phases	7	4		3	8		2	2				6
Permitted Phases			Free						Free		6	
Actuated Green, G (s)		48.3	125.0	19.5	71.8		40.4	40.4	125.0		0.8	
Effective Green, g (s)		48.3	125.0	19.5	71.8		40.4	40.4	125.0		0.8	
Actuated g/C Ratio		0.39	1.00	0.16	0.57		0.32	0.32	1.00		0.01	
Clearance Time (s)		4.0		4.0	4.0		4.0	4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1367	1583	276	2920		543	543	1583		10	
v/s Ratio Prot		0.16		0.12	0.11		0.26	0.26			0.00	
v/s Ratio Perm			0.68						0.15			
v/c Ratio		0.41	0.68	0.77	0.18		0.81	0.81	0.15		0.00	
Uniform Delay, d1		28.0	0.0	50.6	12.7		38.7	38.7	0.0		61.7	
Progression Factor		1.00	1.00	0.89	0.74		1.00	1.00	1.00		1.00	
Incremental Delay, d2		0.9	2.4	12.0	0.1		8.6	8.6	0.2		0.0	
Delay (s)		28.9	2.4	57.0	9.5		47.3	47.3	0.2		61.7	
Level of Service		C	A	E	A		D	D	A		E	
Approach Delay (s)		11.5			22.9			37.5			61.7	
Approach LOS		B			C			D			E	

Intersection Summary

HCM 2000 Control Delay	22.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	65.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
2: Ascot Parkway/Ascot Ct & Columbus Parkway

Near Term Saturday  
4/27/2015



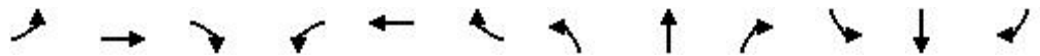
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗	↘	↖	↗	↘
Volume (vph)	37	560	177	34	504	0	172	2	37	0	0	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00		1.00	
Frb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	1.00		1.00	
Flb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Flt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1770	3539	1563	1770	3539		3433	1863	1583		1583	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1770	3539	1563	1770	3539		3433	1863	1583		1583	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor (vph)	50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Adj. Flow (vph)	21	622	197	38	560	0	191	2	41	0	0	10
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	36	0	10	0
Lane Group Flow (vph)	21	622	197	38	560	0	191	2	5	0	0	0
Confl. Peds. (#/hr)			2									
Turn Type	Prot	NA	Free	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			Free						2			
Actuated Green, G (s)	4.8	79.5	125.0	7.0	81.7		16.4	16.4	16.4		6.1	
Effective Green, g (s)	4.8	79.5	125.0	7.0	81.7		16.4	16.4	16.4		6.1	
Actuated g/C Ratio	0.04	0.64	1.00	0.06	0.65		0.13	0.13	0.13		0.05	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	67	2250	1563	99	2313		450	244	207		77	
v/s Ratio Prot	0.01	c0.18		c0.02	0.16		c0.06	0.00			0.00	
v/s Ratio Perm			c0.13						0.00			
v/c Ratio	0.31	0.28	0.13	0.38	0.24		0.42	0.01	0.03		0.01	
Uniform Delay, d1	58.5	10.0	0.0	56.9	8.9		50.0	47.2	47.3		56.6	
Progression Factor	1.07	1.12	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	2.6	0.3	0.2	2.5	0.2		0.6	0.0	0.1		0.0	
Delay (s)	65.4	11.6	0.2	59.4	9.2		50.6	47.2	47.4		56.6	
Level of Service	E	B	A	E	A		D	D	D		E	
Approach Delay (s)		10.2			12.3			50.0			56.6	
Approach LOS		B			B			D			E	

Intersection Summary

HCM 2000 Control Delay	16.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	48.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
3: Plaza Dr & Admiral Callaghan Ln

Near Term Saturday  
4/27/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↗	↖	↗	↖
Volume (vph)	107	427	121	471	313	198	115	70	409	141	92	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.97		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3422		1770	3333		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3422		1770	3333		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	114	454	129	501	333	211	122	74	435	150	98	72
RTOR Reduction (vph)	0	25	0	0	85	0	0	0	377	0	0	63
Lane Group Flow (vph)	114	558	0	501	459	0	122	74	58	150	98	9
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	10.4	20.0		29.4	39.0		9.6	11.5	11.5	9.1	11.0	11.0
Effective Green, g (s)	10.4	20.0		29.4	39.0		9.6	11.5	11.5	9.1	11.0	11.0
Actuated g/C Ratio	0.12	0.23		0.34	0.45		0.11	0.13	0.13	0.11	0.13	0.13
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	214	795		605	1511		197	249	211	187	238	202
v/s Ratio Prot	0.06	c0.16		c0.28	0.14		0.07	0.04		c0.08	c0.05	
v/s Ratio Perm									0.04			0.01
v/c Ratio	0.53	0.70		0.83	0.30		0.62	0.30	0.28	0.80	0.41	0.05
Uniform Delay, d1	35.5	30.3		26.0	14.9		36.5	33.6	33.5	37.6	34.5	32.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.5	2.8		9.1	0.1		5.7	0.7	0.7	21.4	1.2	0.1
Delay (s)	38.1	33.1		35.1	15.0		42.2	34.3	34.2	59.0	35.7	33.0
Level of Service	D	C		D	B		D	C	C	E	D	C
Approach Delay (s)		33.9			24.6			35.8			46.0	
Approach LOS		C			C			D			D	

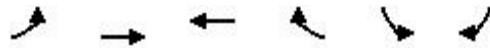
Intersection Summary

HCM 2000 Control Delay	32.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	86.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
4: Turner Parkway & Plaza Dr

Near Term Saturday  
4/27/2015



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↑↗		↙↘	↘
Volume (vph)	214	94	109	291	268	261
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		0.97	0.91
Flt	1.00	1.00	0.89		0.96	0.85
Flt Protected	0.95	1.00	1.00		0.96	1.00
Satd. Flow (prot)	1770	3539	3153		3349	1441
Flt Permitted	0.95	1.00	1.00		0.96	1.00
Satd. Flow (perm)	1770	3539	3153		3349	1441
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	223	98	114	303	279	272
RTOR Reduction (vph)	0	0	215	0	77	138
Lane Group Flow (vph)	223	98	202	0	300	36
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases						6
Actuated Green, G (s)	7.5	22.9	11.4		8.2	8.2
Effective Green, g (s)	7.5	22.9	11.4		8.2	8.2
Actuated g/C Ratio	0.19	0.59	0.29		0.21	0.21
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	339	2072	919		702	302
v/s Ratio Prot	c0.13	0.03	c0.06		c0.09	
v/s Ratio Perm						0.03
v/c Ratio	0.66	0.05	0.22		0.43	0.12
Uniform Delay, d1	14.6	3.5	10.5		13.4	12.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	4.6	0.0	0.1		0.4	0.2
Delay (s)	19.2	3.5	10.6		13.8	12.7
Level of Service	B	A	B		B	B
Approach Delay (s)		14.4	10.6		13.5	
Approach LOS		B	B		B	

Intersection Summary

HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	39.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	44.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 5: Tiara Dr/Site Access & Turner Parkway

Near Term Saturday  
 4/27/2015



Movement	SEL	SET	SER	NML	NMT	NMR	NEL	NET	NER	SML	SWT	SWR
Lane Configurations	↖	↗		↖	↗			↕			↖	↗
Volume (vph)	2	361	8	13	397	0	4	0	13	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0				
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00				
Flt	1.00	1.00		1.00	1.00			0.90				
Flt Protected	0.95	1.00		0.95	1.00			0.99				
Satd. Flow (prot)	1770	3528		1770	3539			1651				
Flt Permitted	0.95	1.00		0.95	1.00			0.92				
Satd. Flow (perm)	1770	3528		1770	3539			1535				
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	2	372	8	13	409	0	4	0	13	0	0	0
RTOR Reduction (vph)	0	2	0	0	0	0	0	16	0	0	0	0
Lane Group Flow (vph)	2	378	0	13	409	0	0	1	0	0	0	0
Turn Type	Prot	NA		Prot	NA		Perm	NA				Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases							4			8		8
Actuated Green, G (s)	0.5	27.9		0.5	27.9			2.9				
Effective Green, g (s)	0.5	27.9		0.5	27.9			2.9				
Actuated g/C Ratio	0.01	0.64		0.01	0.64			0.07				
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0				
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0				
Lane Grp Cap (vph)	20	2273		20	2280			102				
v/s Ratio Prot	0.00	0.11		c0.01	c0.12							
v/s Ratio Perm								c0.00				
v/c Ratio	0.10	0.17		0.65	0.18			0.01				
Uniform Delay, d1	21.2	3.1		21.3	3.1			18.9				
Progression Factor	1.00	1.00		1.00	1.00			1.00				
Incremental Delay, d2	2.2	0.0		56.6	0.0			0.0				
Delay (s)	23.4	3.1		77.9	3.1			18.9				
Level of Service	C	A		E	A			B				
Approach Delay (s)		3.2			5.4			18.9			0.0	
Approach LOS		A			A			B			A	

Intersection Summary

HCM 2000 Control Delay	4.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.17		
Actuated Cycle Length (s)	43.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	21.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
6: Ascot Parkway & Turner Parkway

Near Term Saturday

4/27/2015



Movement	SEL	SET	SER	NML	NWT	NMR	NEL	NET	NER	SML	SWT	SWR
Lane Configurations	↖	↑	↗	↖	↗		↖	↕		↖	↕	
Volume (vph)	48	10	281	4	4	8	314	136	4	9	125	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	1.00	0.99	1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Flt	1.00	1.00	0.85	1.00	0.90		1.00	1.00		1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1562	1770	1662		1770	3522		1770	3352	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1562	1770	1662		1770	3522		1770	3352	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	49	10	287	4	4	8	320	139	4	9	128	70
RTOR Reduction (vph)	0	0	234	0	8	0	0	2	0	0	54	0
Lane Group Flow (vph)	49	10	53	4	4	0	320	141	0	9	144	0
Confl. Peds. (#/hr)			3			2			3			
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	6	6		2	2		7	4		3	8	
Permitted Phases			6									
Actuated Green, G (s)	10.4	10.4	10.4	3.0	3.0		14.1	26.7		0.5	13.1	
Effective Green, g (s)	10.4	10.4	10.4	3.0	3.0		14.1	26.7		0.5	13.1	
Actuated g/C Ratio	0.18	0.18	0.18	0.05	0.05		0.25	0.47		0.01	0.23	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	325	342	287	93	88		440	1661		15	775	
v/s Ratio Prot	0.03	0.01		0.00	c0.00		c0.18	0.04		0.01	c0.04	
v/s Ratio Perm			c0.03									
v/c Ratio	0.15	0.03	0.18	0.04	0.05		0.73	0.08		0.60	0.19	
Uniform Delay, d1	19.4	19.0	19.5	25.4	25.4		19.5	8.2		28.0	17.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.0	0.3	0.2	0.2		5.9	0.0		51.0	0.1	
Delay (s)	19.6	19.0	19.8	25.6	25.7		25.4	8.2		79.0	17.6	
Level of Service	B	B	B	C	C		C	A		E	B	
Approach Delay (s)		19.8			25.7			20.1			20.3	
Approach LOS		B			C			C			C	

Intersection Summary

HCM 2000 Control Delay	20.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	56.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	44.1%	ICU Level of Service	A
Analysis Period (min)	15		

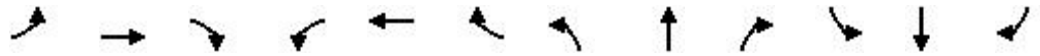
c Critical Lane Group





HCM Signalized Intersection Capacity Analysis  
1: Adm Callaghan Ln & Columbus Parkway

Near Term + Project AM  
4/27/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗	↘		↕	
Volume (vph)	5	829	341	45	848	0	214	0	60	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.95	0.95	1.00			
Flt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85			
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539	1583	1770	5085		1681	1681	1583			
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539	1583	1770	5085		1681	1681	1583			
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	6	964	397	52	986	0	249	0	70	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	6	964	397	52	986	0	124	125	70	0	0	0
Turn Type	Prot	NA	Free	Prot	NA		Split	NA	Free			
Protected Phases	7	4		3	8		2	2				6
Permitted Phases			Free						Free		6	
Actuated Green, G (s)	1.3	49.2	84.0	7.8	55.7		15.0	15.0	84.0			
Effective Green, g (s)	1.3	49.2	84.0	7.8	55.7		15.0	15.0	84.0			
Actuated g/C Ratio	0.02	0.59	1.00	0.09	0.66		0.18	0.18	1.00			
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0				
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0				
Lane Grp Cap (vph)	27	2072	1583	164	3371		300	300	1583			
v/s Ratio Prot	0.00	c0.27		0.03	c0.19		0.07	c0.07				
v/s Ratio Perm			c0.25						0.04			
v/c Ratio	0.22	0.47	0.25	0.32	0.29		0.41	0.42	0.04			
Uniform Delay, d1	40.9	9.9	0.0	35.6	5.9		30.6	30.6	0.0			
Progression Factor	1.00	1.00	1.00	1.13	1.33		1.00	1.00	1.00			
Incremental Delay, d2	4.1	0.8	0.4	1.1	0.2		0.9	0.9	0.1			
Delay (s)	45.0	10.7	0.4	41.4	8.1		31.5	31.6	0.1			
Level of Service	D	B	A	D	A		C	C	A			
Approach Delay (s)		7.8			9.7			24.6			0.0	
Approach LOS		A			A			C			A	

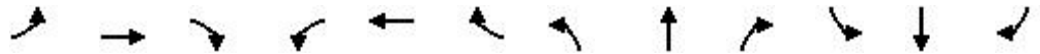
Intersection Summary

HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	42.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 2: Ascot Parkway/Ascot Ct & Columbus Parkway

Near Term + Project AM  
 4/27/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗	↘	↖	↗	↘
Volume (vph)	10	510	290	23	650	0	231	0	30	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0		4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97		1.00		1.00	
Frb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00		1.00		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00		1.00		1.00	
Flt	1.00	1.00	0.85	1.00	1.00		1.00		0.85		0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95		1.00		1.00	
Satd. Flow (prot)	1770	3539	1563	1770	3539		3433		1583		1583	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95		1.00		1.00	
Satd. Flow (perm)	1770	3539	1563	1770	3539		3433		1583		1583	
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	12	614	349	28	783	0	278	0	36	0	0	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	30	0	1	0
Lane Group Flow (vph)	12	614	349	28	783	0	278	0	6	0	0	0
Confl. Peds. (#/hr)			2									
Turn Type	Prot	NA	Free	Prot	NA		Split		Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			Free						2			
Actuated Green, G (s)	0.8	51.1	84.0	2.3	52.6		13.8		13.8		0.8	
Effective Green, g (s)	0.8	51.1	84.0	2.3	52.6		13.8		13.8		0.8	
Actuated g/C Ratio	0.01	0.61	1.00	0.03	0.63		0.16		0.16		0.01	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0		4.0		4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0		3.0		3.0	
Lane Grp Cap (vph)	16	2152	1563	48	2216		563		260		15	
v/s Ratio Prot	0.01	0.17		0.02	0.22		0.08				0.00	
v/s Ratio Perm			0.22						0.00			
v/c Ratio	0.75	0.29	0.22	0.58	0.35		0.49		0.02		0.00	
Uniform Delay, d1	41.5	7.8	0.0	40.4	7.5		31.9		29.4		41.2	
Progression Factor	1.09	0.58	1.00	1.00	1.00		1.00		1.00		1.00	
Incremental Delay, d2	100.8	0.3	0.3	16.8	0.4		0.7		0.0		0.0	
Delay (s)	145.9	4.8	0.3	57.1	8.0		32.6		29.5		41.2	
Level of Service	F	A	A	E	A		C		C		D	
Approach Delay (s)		4.9			9.7			32.2			41.2	
Approach LOS		A			A			C			D	

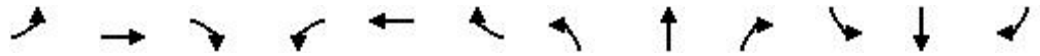
Intersection Summary

HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	49.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
3: Plaza Dr & Admiral Callaghan Ln

Near Term + Project AM  
4/27/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↗	↖	↗	↗
Volume (vph)	27	101	20	130	139	85	17	16	70	60	14	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.97		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3451		1770	3338		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3451		1770	3338		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	29	110	22	141	151	92	18	17	76	65	15	34
RTOR Reduction (vph)	0	16	0	0	51	0	0	0	68	0	0	28
Lane Group Flow (vph)	29	116	0	141	192	0	18	17	8	65	15	6
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	0.9	13.1		8.1	20.3		0.7	4.9	4.9	3.6	7.8	7.8
Effective Green, g (s)	0.9	13.1		8.1	20.3		0.7	4.9	4.9	3.6	7.8	7.8
Actuated g/C Ratio	0.02	0.29		0.18	0.44		0.02	0.11	0.11	0.08	0.17	0.17
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	34	989		313	1482		27	199	169	139	317	270
v/s Ratio Prot	0.02	0.03		c0.08	c0.06		0.01	c0.01		c0.04	c0.01	
v/s Ratio Perm									0.01			0.00
v/c Ratio	0.85	0.12		0.45	0.13		0.67	0.09	0.05	0.47	0.05	0.02
Uniform Delay, d1	22.3	12.0		16.8	7.5		22.4	18.4	18.3	20.1	15.8	15.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	95.5	0.1		1.0	0.0		48.1	0.2	0.1	2.5	0.1	0.0
Delay (s)	117.8	12.1		17.8	7.5		70.4	18.6	18.4	22.6	15.9	15.8
Level of Service	F	B		B	A		E	B	B	C	B	B
Approach Delay (s)		31.1			11.3			26.9			19.7	
Approach LOS		C			B			C			B	

Intersection Summary

HCM 2000 Control Delay	18.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	45.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	30.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
4: Turner Parkway & Plaza Dr

Near Term + Project AM

4/27/2015



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↗		↙	↘
Volume (vph)	69	47	51	62	55	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		0.97	0.91
Flt	1.00	1.00	0.92		0.97	0.85
Flt Protected	0.95	1.00	1.00		0.96	1.00
Satd. Flow (prot)	1770	3539	3249		3380	1441
Flt Permitted	0.95	1.00	1.00		0.96	1.00
Satd. Flow (perm)	1770	3539	3249		3380	1441
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	78	53	58	70	62	48
RTOR Reduction (vph)	0	0	34	0	12	31
Lane Group Flow (vph)	78	53	94	0	63	4
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases						6
Actuated Green, G (s)	2.4	25.2	18.8		3.8	3.8
Effective Green, g (s)	2.4	25.2	18.8		3.8	3.8
Actuated g/C Ratio	0.06	0.68	0.51		0.10	0.10
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	114	2410	1650		347	147
v/s Ratio Prot	c0.04	0.01	c0.03		c0.02	
v/s Ratio Perm						0.00
v/c Ratio	0.68	0.02	0.06		0.18	0.02
Uniform Delay, d1	16.9	1.9	4.6		15.2	14.9
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	15.7	0.0	0.0		0.3	0.1
Delay (s)	32.6	1.9	4.6		15.4	15.0
Level of Service	C	A	A		B	B
Approach Delay (s)		20.2	4.6		15.3	
Approach LOS		C	A		B	

Intersection Summary

HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.14		
Actuated Cycle Length (s)	37.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	20.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
5: Tiara Dr/Site Access & Turner Parkway

Near Term + Project AM

4/27/2015



Movement	SEL	SET	SER	NML	NMT	NMR	NEL	NET	NER	SML	SWT	SWR
Lane Configurations	↖	↗		↖	↗			↕			↖	↗
Volume (vph)	16	80	3	3	93	16	11	0	8	10	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Flt	1.00	1.00		1.00	0.98			0.94			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.95	1.00
Satd. Flow (prot)	1770	3522		1770	3461			1706			1770	1583
Flt Permitted	0.95	1.00		0.95	1.00			1.00			1.00	1.00
Satd. Flow (perm)	1770	3522		1770	3461			1755			1863	1583
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	18	90	3	3	104	18	12	0	9	11	0	4
RTOR Reduction (vph)	0	1	0	0	5	0	0	20	0	0	0	4
Lane Group Flow (vph)	18	92	0	3	117	0	0	1	0	0	11	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases							4			8		8
Actuated Green, G (s)	0.8	34.6		1.2	35.0			2.2			2.2	2.2
Effective Green, g (s)	0.8	34.6		1.2	35.0			2.2			2.2	2.2
Actuated g/C Ratio	0.02	0.69		0.02	0.70			0.04			0.04	0.04
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	28	2437		42	2422			77			81	69
v/s Ratio Prot	∞0.01	0.03		0.00	∞0.03							
v/s Ratio Perm								0.00			∞0.01	0.00
v/c Ratio	0.64	0.04		0.07	0.05			0.01			0.14	0.00
Uniform Delay, d1	24.5	2.4		23.9	2.3			22.9			23.0	22.9
Progression Factor	1.00	1.00		0.92	0.71			1.00			1.00	1.00
Incremental Delay, d2	40.9	0.0		0.6	0.0			0.1			0.8	0.0
Delay (s)	65.4	2.5		22.7	1.7			22.9			23.8	22.9
Level of Service	E	A		C	A			C			C	C
Approach Delay (s)		12.7			2.2			22.9			23.5	
Approach LOS		B			A			C			C	

Intersection Summary

HCM 2000 Control Delay	9.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.07		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	22.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
6: Ascot Parkway & Turner Parkway

Near Term + Project AM

4/27/2015



Movement	SEL	SET	SER	NML	NWT	NMR	NEL	NET	NER	SML	SWT	SWR
Lane Configurations	↖	↑	↗	↖	↗		↖	↕		↖	↕	
Volume (vph)	43	4	61	7	5	18	104	160	2	8	235	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	1.00	0.99	1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Flt	1.00	1.00	0.85	1.00	0.88		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1562	1770	1624		1770	3530		1770	3480	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1562	1770	1624		1770	3530		1770	3480	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	56	5	79	9	6	23	135	208	3	10	305	38
RTOR Reduction (vph)	0	0	70	0	18	0	0	2	0	0	19	0
Lane Group Flow (vph)	56	5	9	9	11	0	135	209	0	10	324	0
Confl. Peds. (#/hr)			3			2			3			
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	6	6		2	2		7	4		3	8	
Permitted Phases			6									
Actuated Green, G (s)	5.8	5.8	5.8	10.3	10.3		6.0	17.1		0.8	11.9	
Effective Green, g (s)	5.8	5.8	5.8	10.3	10.3		6.0	17.1		0.8	11.9	
Actuated g/C Ratio	0.12	0.12	0.12	0.21	0.21		0.12	0.34		0.02	0.24	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	205	216	181	364	334		212	1207		28	828	
v/s Ratio Prot	∞0.03	0.00		0.01	∞0.01		∞0.08	0.06		0.01	∞0.09	
v/s Ratio Perm			0.01									
v/c Ratio	0.27	0.02	0.05	0.02	0.03		0.64	0.17		0.36	0.39	
Uniform Delay, d1	20.2	19.6	19.7	15.8	15.9		21.0	11.5		24.3	16.0	
Progression Factor	0.92	0.89	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	0.0	0.1	0.1	0.2		6.1	0.1		7.7	0.3	
Delay (s)	19.2	17.5	19.8	16.0	16.0		27.1	11.6		32.0	16.3	
Level of Service	B	B	B	B	B		C	B		C	B	
Approach Delay (s)		19.5			16.0			17.6			16.8	
Approach LOS		B			B			B			B	

Intersection Summary

HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	49.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations		↗		↕	↖	
Volume (veh/h)	0	2	0	221	270	43
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	2	0	240	293	47
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				433		
pX, platoon unblocked						
vC, conflicting volume	437	170	340			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	437	170	340			
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	100	100			
dM capacity (veh/h)	548	844	1216			

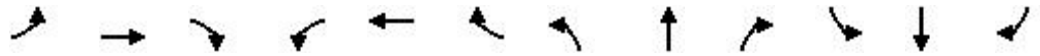
Direction, Lane #	SE 1	NE 1	NE 2	SW 1	SW 2
Volume Total	2	120	120	196	145
Volume Left	0	0	0	0	0
Volume Right	2	0	0	0	47
cSH	844	1700	1700	1700	1700
Volume to Capacity	0.00	0.07	0.07	0.12	0.09
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	9.3	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.3	0.0		0.0	
Approach LOS	A				

Intersection Summary					
Average Delay			0.0		
Intersection Capacity Utilization		18.8%		ICU Level of Service	A
Analysis Period (min)		15			



HCM Signalized Intersection Capacity Analysis  
 1: Adm Callaghan Ln & Columbus Parkway

Near Term plus Project PM  
 5/11/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑↑		↘	↗	↗		↕	
Volume (vph)	11	853	749	120	682	1	744	0	161	1	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.95	0.95	1.00		1.00	
Flt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.89	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		0.99	
Satd. Flow (prot)	1770	3539	1583	1770	5084		1681	1681	1583		1640	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	1770	5084		1681	1681	1583		1653	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	13	992	871	140	793	1	865	0	187	1	0	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	6	0
Lane Group Flow (vph)	13	992	871	140	794	0	432	433	187	0	0	0
Turn Type	Prot	NA	Free	Prot	NA		Split	NA	Free	Perm	NA	
Protected Phases	7	4		3	8		2	2				6
Permitted Phases			Free						Free	6		
Actuated Green, G (s)	0.8	29.2	84.0	10.2	38.6		27.8	27.8	84.0		0.8	
Effective Green, g (s)	0.8	29.2	84.0	10.2	38.6		27.8	27.8	84.0		0.8	
Actuated g/C Ratio	0.01	0.35	1.00	0.12	0.46		0.33	0.33	1.00		0.01	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	16	1230	1583	214	2336		556	556	1583		15	
v/s Ratio Prot	0.01	c0.28		0.08	0.16		0.26	c0.26				
v/s Ratio Perm			c0.55						0.12		0.00	
v/c Ratio	0.81	0.81	0.55	0.65	0.34		0.78	0.78	0.12		0.00	
Uniform Delay, d1	41.5	24.8	0.0	35.2	14.5		25.3	25.3	0.0		41.2	
Progression Factor	1.00	1.00	1.00	1.06	1.18		1.00	1.00	1.00		1.00	
Incremental Delay, d2	132.2	5.7	1.4	6.8	0.4		6.7	6.8	0.2		0.1	
Delay (s)	173.7	30.6	1.4	44.3	17.6		32.1	32.1	0.2		41.3	
Level of Service	F	C	A	D	B		C	C	A		D	
Approach Delay (s)		18.0			21.6			26.4			41.3	
Approach LOS		B			C			C			D	

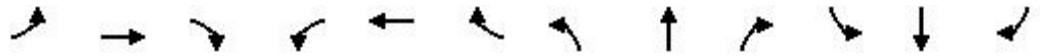
Intersection Summary

HCM 2000 Control Delay	21.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 2: Ascot Parkway/Ascot Ct & Columbus Parkway

Near Term plus Project PM  
 5/11/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗	↘	↖	↗	↘
Volume (vph)	28	762	269	30	572	0	203	0	39	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0		4.0			
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97		1.00			
Flpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00		1.00			
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00		1.00			
Flt	1.00	1.00	0.85	1.00	1.00		1.00		0.85			
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95		1.00			
Satd. Flow (prot)	1770	3539	1563	1770	3539		3433		1583			
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95		1.00			
Satd. Flow (perm)	1770	3539	1563	1770	3539		3433		1583			
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	34	918	324	36	689	0	245	0	47	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	40	0	0	0
Lane Group Flow (vph)	34	918	324	36	689	0	245	0	7	0	0	0
Confl. Peds. (#/hr)			2									
Turn Type	Prot	NA	Free	Prot	NA		Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			Free						2			
Actuated Green, G (s)	3.8	50.2	84.0	3.8	50.2		13.2		13.2			
Effective Green, g (s)	3.8	50.2	84.0	3.8	50.2		13.2		13.2			
Actuated g/C Ratio	0.05	0.60	1.00	0.05	0.60		0.16		0.16			
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0		4.0			
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0		3.0			
Lane Grp Cap (vph)	80	2114	1563	80	2114		539		248			
v/s Ratio Prot	0.02	c0.26		c0.02	0.19		c0.07					
v/s Ratio Perm			c0.21						0.00			
v/c Ratio	0.42	0.43	0.21	0.45	0.33		0.45		0.03			
Uniform Delay, d1	39.0	9.2	0.0	39.1	8.4		32.1		30.0			
Progression Factor	0.89	1.20	1.00	1.00	1.00		1.00		1.00			
Incremental Delay, d2	3.1	0.6	0.3	4.0	0.4		0.6		0.0			
Delay (s)	37.7	11.6	0.3	43.1	8.9		32.7		30.0			
Level of Service	D	B	A	D	A		C		C			
Approach Delay (s)		9.4			10.6			32.3			0.0	
Approach LOS		A			B			C			A	

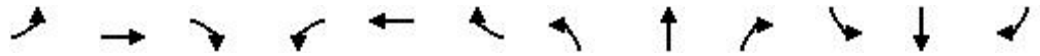
Intersection Summary

HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	42.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
3: Plaza Dr & Admiral Callaghan Ln

Near Term plus Project PM  
5/11/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↗	↖	↗	↗
Volume (vph)	69	374	116	436	289	108	101	39	384	87	43	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.96		1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3414		1770	3395		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3414		1770	3395		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	70	378	117	440	292	109	102	39	388	88	43	44
RTOR Reduction (vph)	0	47	0	0	56	0	0	0	315	0	0	38
Lane Group Flow (vph)	70	448	0	440	345	0	102	39	73	88	43	6
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	3.2	13.3		16.5	26.6		6.2	11.4	11.4	3.0	8.2	8.2
Effective Green, g (s)	3.2	13.3		16.5	26.6		6.2	11.4	11.4	3.0	8.2	8.2
Actuated g/C Ratio	0.05	0.22		0.27	0.44		0.10	0.19	0.19	0.05	0.14	0.14
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	94	754		485	1500		182	352	299	88	253	215
v/s Ratio Prot	0.04	c0.13		c0.25	0.10		0.06	0.02		c0.05	0.02	
v/s Ratio Perm									c0.05			0.00
v/c Ratio	0.74	0.59		0.91	0.23		0.56	0.11	0.25	1.00	0.17	0.03
Uniform Delay, d1	28.1	21.0		21.1	10.4		25.7	20.2	20.7	28.6	23.0	22.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	27.0	1.3		20.5	0.1		3.9	0.1	0.4	95.9	0.3	0.1
Delay (s)	55.1	22.3		41.6	10.5		29.6	20.3	21.2	124.5	23.3	22.6
Level of Service	E	C		D	B		C	C	C	F	C	C
Approach Delay (s)		26.4			26.8			22.7			74.0	
Approach LOS		C			C			C			E	

Intersection Summary

HCM 2000 Control Delay	29.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	60.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
4: Turner Parkway & Plaza Dr

Near Term plus Project PM  
5/11/2015



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↵	↑↑	↑↑		↵↵	↵
Volume (vph)	213	102	82	246	295	245
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		0.97	0.91
Flt	1.00	1.00	0.89		0.97	0.85
Flt Protected	0.95	1.00	1.00		0.96	1.00
Satd. Flow (prot)	1770	3539	3141		3369	1441
Flt Permitted	0.95	1.00	1.00		0.96	1.00
Satd. Flow (perm)	1770	3539	3141		3369	1441
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	227	109	87	262	314	261
RTOR Reduction (vph)	0	0	187	0	62	137
Lane Group Flow (vph)	227	109	162	0	333	43
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases						6
Actuated Green, G (s)	6.2	21.1	10.9		9.0	9.0
Effective Green, g (s)	6.2	21.1	10.9		9.0	9.0
Actuated g/C Ratio	0.16	0.55	0.29		0.24	0.24
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	288	1959	898		795	340
v/s Ratio Prot	c0.13	0.03	c0.05		c0.10	
v/s Ratio Perm						0.03
v/c Ratio	0.79	0.06	0.18		0.42	0.13
Uniform Delay, d1	15.3	3.9	10.2		12.3	11.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	13.3	0.0	0.1		0.4	0.2
Delay (s)	28.6	3.9	10.3		12.7	11.6
Level of Service	C	A	B		B	B
Approach Delay (s)		20.6	10.3		12.4	
Approach LOS		C	B		B	

Intersection Summary

HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	38.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	43.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
5: Tiara Dr/Site Access & Turner Parkway

Near Term plus Project PM  
5/11/2015



Movement	SEL	SET	SER	NML	NMT	NMR	NEL	NET	NER	SML	SWT	SWR
Lane Configurations	↖	↗		↖	↗			↕			↖	↗
Volume (vph)	16	356	12	15	308	14	5	0	9	26	0	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Flt	1.00	1.00		1.00	0.99			0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.95	1.00
Satd. Flow (prot)	1770	3522		1770	3516			1667			1770	1583
Flt Permitted	0.95	1.00		0.95	1.00			0.88			1.00	1.00
Satd. Flow (perm)	1770	3522		1770	3516			1488			1863	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	17	383	13	16	331	15	5	0	10	28	0	12
RTOR Reduction (vph)	0	2	0	0	4	0	0	14	0	0	0	11
Lane Group Flow (vph)	17	394	0	16	342	0	0	1	0	0	28	1
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases							4			8		8
Actuated Green, G (s)	0.8	33.0		1.4	33.6			3.6			3.6	3.6
Effective Green, g (s)	0.8	33.0		1.4	33.6			3.6			3.6	3.6
Actuated g/C Ratio	0.02	0.66		0.03	0.67			0.07			0.07	0.07
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	28	2324		49	2362			107			134	113
v/s Ratio Prot	c0.01	c0.11		0.01	0.10							
v/s Ratio Perm								0.00			c0.02	0.00
v/c Ratio	0.61	0.17		0.33	0.14			0.01			0.21	0.01
Uniform Delay, d1	24.4	3.3		23.8	3.0			21.5			21.9	21.5
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	32.0	0.2		3.9	0.1			0.0			0.8	0.0
Delay (s)	56.4	3.4		27.7	3.1			21.6			22.6	21.6
Level of Service	E	A		C	A			C			C	C
Approach Delay (s)		5.6			4.2			21.6			22.3	
Approach LOS		A			A			C			C	

Intersection Summary

HCM 2000 Control Delay	6.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.18		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	25.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
6: Ascot Parkway & Turner Parkway

Near Term plus Project PM  
5/11/2015



Movement	SEL	SET	SER	NML	NWT	NWR	NEL	NET	NER	SML	SWT	SWR
Lane Configurations	↖	↑	↗	↖	↗		↖	↕		↖	↕	
Volume (vph)	81	14	301	3	7	11	261	145	1	9	197	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	1.00	0.99	1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Flt	1.00	1.00	0.85	1.00	0.91		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1562	1770	1679		1770	3536		1770	3425	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1562	1770	1679		1770	3536		1770	3425	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	105	18	391	4	9	14	339	188	1	12	256	70
RTOR Reduction (vph)	0	0	317	0	13	0	0	1	0	0	32	0
Lane Group Flow (vph)	105	18	74	4	10	0	339	188	0	12	294	0
Confl. Peds. (#/hr)			3			2			3			
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	6	6		2	2		7	4		3	8	
Permitted Phases			6									
Actuated Green, G (s)	11.8	11.8	11.8	4.5	4.5		15.7	29.6		0.8	14.7	
Effective Green, g (s)	11.8	11.8	11.8	4.5	4.5		15.7	29.6		0.8	14.7	
Actuated g/C Ratio	0.19	0.19	0.19	0.07	0.07		0.25	0.47		0.01	0.23	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	333	350	293	127	120		443	1669		22	802	
v/s Ratio Prot	0.06	0.01		0.00	0.01		0.19	0.05		0.01	0.09	
v/s Ratio Perm			0.05									
v/c Ratio	0.32	0.05	0.25	0.03	0.08		0.77	0.11		0.55	0.37	
Uniform Delay, d1	22.0	20.9	21.7	27.1	27.2		21.8	9.2		30.8	20.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.1	0.5	0.1	0.3		7.7	0.0		24.9	0.3	
Delay (s)	22.5	20.9	22.1	27.2	27.5		29.5	9.3		55.6	20.4	
Level of Service	C	C	C	C	C		C	A		E	C	
Approach Delay (s)		22.2			27.4			22.3			21.6	
Approach LOS		C			C			C			C	

Intersection Summary

HCM 2000 Control Delay	22.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	62.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	44.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations		↑		↑↑	↑↑	
Volume (veh/h)	0	5	0	237	255	42
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	5	0	258	277	46
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)				433		
pX, platoon unblocked						
vC, conflicting volume	429	161	323			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	429	161	323			
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	99	100			
dM capacity (veh/h)	554	855	1234			

Direction, Lane #	SE 1	NE 1	NE 2	SW 1	SW 2
Volume Total	5	129	129	185	138
Volume Left	0	0	0	0	0
Volume Right	5	0	0	0	46
cSH	855	1700	1700	1700	1700
Volume to Capacity	0.01	0.08	0.08	0.11	0.08
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	9.2	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.2	0.0		0.0	
Approach LOS	A				

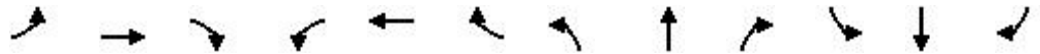
Intersection Summary					
Average Delay			0.1		
Intersection Capacity Utilization		18.4%		ICU Level of Service	A
Analysis Period (min)		15			



HCM Signalized Intersection Capacity Analysis  
1: Adm Callaghan Ln & Columbus Parkway

Near Term + Project Saturday

4/27/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗	↘		↗	↘
Volume (vph)	0	545	1022	201	524	0	836	0	219	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor		0.95	1.00	1.00	0.91		0.95	0.95	1.00		1.00	
Flt		1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.86	
Flt Protected		1.00	1.00	0.95	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (prot)		3539	1583	1770	5085		1681	1681	1583		1611	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (perm)		3539	1583	1770	5085		1681	1681	1583		1611	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	574	1076	212	552	0	880	0	231	0	0	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	574	1076	212	552	0	440	440	231	0	0	0
Turn Type	Prot	NA	Free	Prot	NA		Split	NA	Free		NA	
Protected Phases	7	4		3	8		2	2				6
Permitted Phases			Free						Free		6	
Actuated Green, G (s)		48.2	125.0	19.5	71.7		40.5	40.5	125.0		0.8	
Effective Green, g (s)		48.2	125.0	19.5	71.7		40.5	40.5	125.0		0.8	
Actuated g/C Ratio		0.39	1.00	0.16	0.57		0.32	0.32	1.00		0.01	
Clearance Time (s)		4.0		4.0	4.0		4.0	4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1364	1583	276	2916		544	544	1583		10	
v/s Ratio Prot		0.16		0.12	0.11		0.26	0.26			0.00	
v/s Ratio Perm			0.68						0.15			
v/c Ratio		0.42	0.68	0.77	0.19		0.81	0.81	0.15		0.00	
Uniform Delay, d1		28.2	0.0	50.6	12.7		38.7	38.7	0.0		61.7	
Progression Factor		1.00	1.00	0.88	0.74		1.00	1.00	1.00		1.00	
Incremental Delay, d2		1.0	2.4	11.9	0.1		8.6	8.6	0.2		0.0	
Delay (s)		29.1	2.4	56.6	9.5		47.4	47.4	0.2		61.7	
Level of Service		C	A	E	A		D	D	A		E	
Approach Delay (s)		11.7			22.6			37.5			61.7	
Approach LOS		B			C			D			E	

Intersection Summary

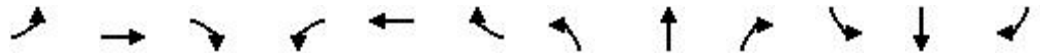
HCM 2000 Control Delay	22.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 2: Ascot Parkway/Ascot Ct & Columbus Parkway

Near Term + Project Saturday

4/27/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗	↘	↖	↗	↘
Volume (vph)	37	560	189	36	504	0	183	2	39	0	0	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00		1.00	
Frb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	1.00		1.00	
Flb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Flt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1770	3539	1563	1770	3539		3433	1863	1583		1583	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1770	3539	1563	1770	3539		3433	1863	1583		1583	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor (vph)	50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Adj. Flow (vph)	21	622	210	40	560	0	203	2	43	0	0	10
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	37	0	10	0
Lane Group Flow (vph)	21	622	210	40	560	0	203	2	6	0	0	0
Confl. Peds. (#/hr)			2									
Turn Type	Prot	NA	Free	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			Free						2			
Actuated Green, G (s)	4.8	79.0	125.0	7.2	81.4		16.7	16.7	16.7		6.1	
Effective Green, g (s)	4.8	79.0	125.0	7.2	81.4		16.7	16.7	16.7		6.1	
Actuated g/C Ratio	0.04	0.63	1.00	0.06	0.65		0.13	0.13	0.13		0.05	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	67	2236	1563	101	2304		458	248	211		77	
v/s Ratio Prot	0.01	c0.18		c0.02	0.16		c0.06	0.00			0.00	
v/s Ratio Perm			c0.13						0.00			
v/c Ratio	0.31	0.28	0.13	0.40	0.24		0.44	0.01	0.03		0.01	
Uniform Delay, d1	58.5	10.3	0.0	56.8	9.0		49.9	47.0	47.1		56.6	
Progression Factor	1.07	1.12	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	2.6	0.3	0.2	2.5	0.3		0.7	0.0	0.1		0.0	
Delay (s)	65.2	11.9	0.2	59.4	9.3		50.6	47.0	47.1		56.6	
Level of Service	E	B	A	E	A		D	D	D		E	
Approach Delay (s)		10.3			12.6			49.9			56.6	
Approach LOS		B			B			D			E	

Intersection Summary

HCM 2000 Control Delay	17.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	48.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
3: Plaza Dr & Admiral Callaghan Ln

Near Term + Project Saturday

4/27/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↗	↖	↗	↖
Volume (vph)	107	427	121	474	313	198	115	70	413	141	92	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.97		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3422		1770	3333		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3422		1770	3333		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	114	454	129	504	333	211	122	74	439	150	98	72
RTOR Reduction (vph)	0	25	0	0	85	0	0	0	380	0	0	63
Lane Group Flow (vph)	114	558	0	504	459	0	122	74	59	150	98	9
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	10.4	20.0		29.4	39.0		9.6	11.5	11.5	9.1	11.0	11.0
Effective Green, g (s)	10.4	20.0		29.4	39.0		9.6	11.5	11.5	9.1	11.0	11.0
Actuated g/C Ratio	0.12	0.23		0.34	0.45		0.11	0.13	0.13	0.11	0.13	0.13
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	214	795		605	1511		197	249	211	187	238	202
v/s Ratio Prot	0.06	c0.16		c0.28	0.14		0.07	0.04		c0.08	c0.05	
v/s Ratio Perm									0.04			0.01
v/c Ratio	0.53	0.70		0.83	0.30		0.62	0.30	0.28	0.80	0.41	0.05
Uniform Delay, d1	35.5	30.3		26.0	14.9		36.5	33.6	33.5	37.6	34.5	32.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.5	2.8		9.6	0.1		5.7	0.7	0.7	21.4	1.2	0.1
Delay (s)	38.1	33.1		35.6	15.0		42.2	34.3	34.2	59.0	35.7	33.0
Level of Service	D	C		D	B		D	C	C	E	D	C
Approach Delay (s)		33.9			24.9			35.8			46.0	
Approach LOS		C			C			D			D	

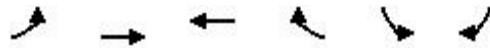
Intersection Summary

HCM 2000 Control Delay	32.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	86.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
4: Turner Parkway & Plaza Dr

Near Term + Project Saturday  
4/27/2015



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↗		↙↘	↘
Volume (vph)	214	96	111	295	271	261
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		0.97	0.91
Flt	1.00	1.00	0.89		0.96	0.85
Flt Protected	0.95	1.00	1.00		0.96	1.00
Satd. Flow (prot)	1770	3539	3154		3350	1441
Flt Permitted	0.95	1.00	1.00		0.96	1.00
Satd. Flow (perm)	1770	3539	3154		3350	1441
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	223	100	116	307	282	272
RTOR Reduction (vph)	0	0	217	0	77	138
Lane Group Flow (vph)	223	100	206	0	303	36
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases						6
Actuated Green, G (s)	7.5	22.9	11.4		8.2	8.2
Effective Green, g (s)	7.5	22.9	11.4		8.2	8.2
Actuated g/C Ratio	0.19	0.59	0.29		0.21	0.21
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	339	2072	919		702	302
v/s Ratio Prot	c0.13	0.03	c0.07		c0.09	
v/s Ratio Perm						0.03
v/c Ratio	0.66	0.05	0.22		0.43	0.12
Uniform Delay, d1	14.6	3.5	10.5		13.4	12.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	4.6	0.0	0.1		0.4	0.2
Delay (s)	19.2	3.5	10.6		13.8	12.7
Level of Service	B	A	B		B	B
Approach Delay (s)		14.3	10.6		13.5	
Approach LOS		B	B		B	

Intersection Summary

HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	39.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	44.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 5: Tiara Dr/Site Access & Turner Parkway

Near Term + Project Saturday

4/27/2015



Movement	SEL	SET	SER	NML	NMT	NMR	NEL	NET	NER	SML	SWT	SWR
Lane Configurations	↖	↗		↖	↗			↕			↖	↗
Volume (vph)	7	361	8	13	397	5	4	0	13	15	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Flt	1.00	1.00		1.00	1.00			0.90			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.95	1.00
Satd. Flow (prot)	1770	3528		1770	3533			1651			1770	1583
Flt Permitted	0.95	1.00		0.95	1.00			0.91			1.00	1.00
Satd. Flow (perm)	1770	3528		1770	3533			1528			1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	7	372	8	13	409	5	4	0	13	15	0	6
RTOR Reduction (vph)	0	2	0	0	1	0	0	16	0	0	0	6
Lane Group Flow (vph)	7	378	0	13	413	0	0	1	0	0	15	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases							4			8		8
Actuated Green, G (s)	0.5	26.7		0.5	26.7			3.0			3.0	3.0
Effective Green, g (s)	0.5	26.7		0.5	26.7			3.0			3.0	3.0
Actuated g/C Ratio	0.01	0.63		0.01	0.63			0.07			0.07	0.07
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	20	2232		20	2235			108			132	112
v/s Ratio Prot	0.00	0.11		0.01	0.12							
v/s Ratio Perm								0.00			0.01	0.00
v/c Ratio	0.35	0.17		0.65	0.18			0.01			0.11	0.00
Uniform Delay, d1	20.7	3.2		20.8	3.2			18.2			18.4	18.2
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	10.3	0.0		56.6	0.0			0.0			0.4	0.0
Delay (s)	31.0	3.2		77.3	3.3			18.3			18.7	18.2
Level of Service	C	A		E	A			B			B	B
Approach Delay (s)		3.7			5.5			18.3			18.6	
Approach LOS		A			A			B			B	

Intersection Summary

HCM 2000 Control Delay	5.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.18		
Actuated Cycle Length (s)	42.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	27.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
6: Ascot Parkway & Turner Parkway

Near Term + Project Saturday

4/27/2015



Movement	SEL	SET	SER	NML	NWT	NMR	NEL	NET	NER	SML	SWT	SWR
Lane Configurations	↙	↑	↗	↙	↗		↙	↕		↙	↕	
Volume (vph)	61	10	283	4	4	8	319	136	4	9	128	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	1.00	0.99	1.00	0.99		1.00	1.00		1.00	1.00	
Ftpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Flt	1.00	1.00	0.85	1.00	0.90		1.00	1.00		1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1562	1770	1662		1770	3522		1770	3354	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1562	1770	1662		1770	3522		1770	3354	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	62	10	289	4	4	8	326	139	4	9	131	70
RTOR Reduction (vph)	0	0	236	0	8	0	0	2	0	0	54	0
Lane Group Flow (vph)	62	10	53	4	4	0	326	141	0	9	147	0
Confl. Peds. (#/hr)			3			2			3			
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	6	6		2	2		7	4		3	8	
Permitted Phases			6									
Actuated Green, G (s)	10.5	10.5	10.5	3.0	3.0		14.3	26.8		0.5	13.0	
Effective Green, g (s)	10.5	10.5	10.5	3.0	3.0		14.3	26.8		0.5	13.0	
Actuated g/C Ratio	0.18	0.18	0.18	0.05	0.05		0.25	0.47		0.01	0.23	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	327	344	288	93	87		445	1661		15	767	
v/s Ratio Prot	0.04	0.01		0.00	0.00		0.18	0.04		0.01	0.04	
v/s Ratio Perm			0.03									
v/c Ratio	0.19	0.03	0.19	0.04	0.05		0.73	0.08		0.60	0.19	
Uniform Delay, d1	19.6	19.0	19.5	25.5	25.5		19.5	8.3		28.1	17.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.0	0.3	0.2	0.2		6.1	0.0		51.0	0.1	
Delay (s)	19.8	19.0	19.9	25.7	25.8		25.6	8.3		79.1	17.8	
Level of Service	B	B	B	C	C		C	A		E	B	
Approach Delay (s)		19.8			25.8			20.3			20.4	
Approach LOS		B			C			C			C	

Intersection Summary

HCM 2000 Control Delay	20.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	56.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	45.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
 7: Ascot Parkway & Site Access

Near Term + Project Saturday  
 4/27/2015



Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations		↑		↑↑	↑↑	
Volume (veh/h)	0	3	0	205	203	14
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	3	0	223	221	15
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)				433		
pX, platoon unblocked						
vC, conflicting volume	340	118	236			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	340	118	236			
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	100	100			
dM capacity (veh/h)	630	912	1328			

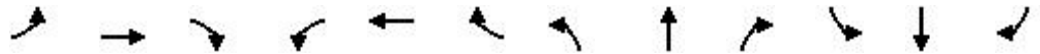
Direction, Lane #	SE 1	NE 1	NE 2	SW 1	SW 2
Volume Total	3	111	111	147	89
Volume Left	0	0	0	0	0
Volume Right	3	0	0	0	15
cSH	912	1700	1700	1700	1700
Volume to Capacity	0.00	0.07	0.07	0.09	0.05
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	9.0	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.0	0.0		0.0	
Approach LOS	A				

Intersection Summary					
Average Delay			0.1		
Intersection Capacity Utilization			16.1%	ICU Level of Service	A
Analysis Period (min)			15		



HCM Signalized Intersection Capacity Analysis  
 1: Adm Callaghan Ln & Columbus Parkway

2030 AM  
 4/27/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑	↗	↖	↑↑↑		↖	↖	↗		↕	
Volume (vph)	0	1119	370	52	1313	0	298	0	61	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0	4.0	4.0			
Lane Util. Factor		0.95	1.00	1.00	0.91		0.95	0.95	1.00			
Flt		1.00	0.85	1.00	1.00		1.00	1.00	0.85			
Flt Protected		1.00	1.00	0.95	1.00		0.95	0.95	1.00			
Satd. Flow (prot)		3539	1583	1770	5085		1681	1681	1583			
Flt Permitted		1.00	1.00	0.95	1.00		0.95	0.95	1.00			
Satd. Flow (perm)		3539	1583	1770	5085		1681	1681	1583			
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	1301	430	60	1527	0	347	0	71	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1301	430	60	1527	0	173	174	71	0	0	0
Turn Type	Prot	NA	Free	Prot	NA		Split	NA	Free			
Protected Phases	7	4		3	8		2	2				6
Permitted Phases			Free						Free		6	
Actuated Green, G (s)		52.0	84.0	3.2	59.2		16.8	16.8	84.0			
Effective Green, g (s)		52.0	84.0	3.2	59.2		16.8	16.8	84.0			
Actuated g/C Ratio		0.62	1.00	0.04	0.70		0.20	0.20	1.00			
Clearance Time (s)		4.0		4.0	4.0		4.0	4.0				
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0				
Lane Grp Cap (vph)		2190	1583	67	3583		336	336	1583			
v/s Ratio Prot		c0.37		c0.03	0.30		0.10	c0.10				
v/s Ratio Perm			0.27						0.04			
v/c Ratio		0.59	0.27	0.90	0.43		0.51	0.52	0.04			
Uniform Delay, d1		9.6	0.0	40.2	5.2		30.0	30.0	0.0			
Progression Factor		1.00	1.00	1.05	1.12		1.00	1.00	1.00			
Incremental Delay, d2		1.2	0.4	71.0	0.3		1.3	1.3	0.1			
Delay (s)		10.8	0.4	113.4	6.2		31.3	31.3	0.1			
Level of Service		B	A	F	A		C	C	A			
Approach Delay (s)		8.2			10.3			26.0			0.0	
Approach LOS		A			B			C			A	

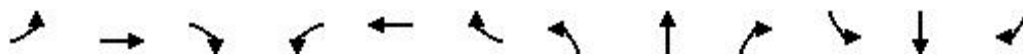
Intersection Summary

HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 2: Ascot Parkway/Ascot Ct & Columbus Parkway

2030 AM  
 4/27/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗	↘	↖	↗	↘
Volume (vph)	6	728	248	11	860	0	319	0	50	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0		4.0			
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97		1.00			
Flpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00		1.00			
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00		1.00			
Flt	1.00	1.00	0.85	1.00	1.00		1.00		0.85			
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95		1.00			
Satd. Flow (prot)	1770	3539	1563	1770	3539		3433		1583			
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95		1.00			
Satd. Flow (perm)	1770	3539	1563	1770	3539		3433		1583			
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	7	877	299	13	1036	0	384	0	60	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	49	0	0	0
Lane Group Flow (vph)	7	877	299	13	1036	0	384	0	11	0	0	0
Confl. Peds. (#/hr)			2									
Turn Type	Prot	NA	Free	Prot	NA		Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			Free						2			
Actuated Green, G (s)	0.8	51.3	84.0	0.8	51.3		15.1		15.1			
Effective Green, g (s)	0.8	51.3	84.0	0.8	51.3		15.1		15.1			
Actuated g/C Ratio	0.01	0.61	1.00	0.01	0.61		0.18		0.18			
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0		4.0			
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0		3.0			
Lane Grp Cap (vph)	16	2161	1563	16	2161		617		284			
v/s Ratio Prot	0.00	0.25		0.01	0.29		0.11					
v/s Ratio Perm			0.19						0.01			
v/c Ratio	0.44	0.41	0.19	0.81	0.48		0.62		0.04			
Uniform Delay, d1	41.4	8.5	0.0	41.5	9.0		31.8		28.5			
Progression Factor	1.11	0.67	1.00	1.00	1.00		1.00		1.00			
Incremental Delay, d2	15.2	0.5	0.2	132.2	0.8		2.0		0.1			
Delay (s)	61.3	6.2	0.2	173.7	9.8		33.8		28.5			
Level of Service	E	A	A	F	A		C		C			
Approach Delay (s)		5.0			11.8			33.1			0.0	
Approach LOS		A			B			C			A	

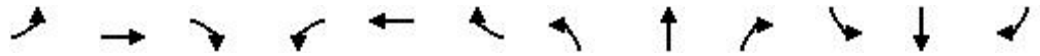
Intersection Summary

HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	45.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 3: Plaza Dr & Admiral Callaghan Ln

2030 AM  
 4/27/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↗	↖	↗	↗
Volume (vph)	77	367	105	143	157	85	15	18	94	64	18	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.97		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3421		1770	3354		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3421		1770	3354		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	399	114	155	171	92	16	20	102	70	20	34
RTOR Reduction (vph)	0	33	0	0	57	0	0	0	87	0	0	27
Lane Group Flow (vph)	84	480	0	155	206	0	16	20	15	70	20	7
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	4.0	15.9		8.0	19.9		0.7	7.7	7.7	4.3	11.3	11.3
Effective Green, g (s)	4.0	15.9		8.0	19.9		0.7	7.7	7.7	4.3	11.3	11.3
Actuated g/C Ratio	0.08	0.31		0.15	0.38		0.01	0.15	0.15	0.08	0.22	0.22
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	136	1048		272	1286		23	276	234	146	405	344
v/s Ratio Prot	0.05	c0.14		c0.09	c0.06		0.01	c0.01		c0.04	c0.01	
v/s Ratio Perm									0.01			0.00
v/c Ratio	0.62	0.46		0.57	0.16		0.70	0.07	0.06	0.48	0.05	0.02
Uniform Delay, d1	23.2	14.5		20.4	10.5		25.5	19.0	19.0	22.7	16.1	16.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.1	0.3		2.7	0.1		63.9	0.1	0.1	2.5	0.1	0.0
Delay (s)	31.3	14.8		23.1	10.6		89.4	19.1	19.1	25.2	16.1	16.0
Level of Service	C	B		C	B		F	B	B	C	B	B
Approach Delay (s)		17.2			15.2			27.3			21.2	
Approach LOS		B			B			C			C	

Intersection Summary

HCM 2000 Control Delay	18.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	51.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	41.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
4: Turner Parkway & Plaza Dr

2030 AM  
4/27/2015



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↗		↙↘	↘
Volume (vph)	225	106	57	79	77	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		0.97	0.91
Flt	1.00	1.00	0.91		0.99	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3539	3231		3426	1441
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	3539	3231		3426	1441
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	256	120	65	90	88	43
RTOR Reduction (vph)	0	0	59	0	4	35
Lane Group Flow (vph)	256	120	96	0	88	4
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases						6
Actuated Green, G (s)	8.6	25.6	13.0		3.9	3.9
Effective Green, g (s)	8.6	25.6	13.0		3.9	3.9
Actuated g/C Ratio	0.23	0.68	0.35		0.10	0.10
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	405	2415	1120		356	149
v/s Ratio Prot	c0.14	0.03	c0.03		c0.03	
v/s Ratio Perm						0.00
v/c Ratio	0.63	0.05	0.09		0.25	0.03
Uniform Delay, d1	13.0	2.0	8.2		15.5	15.1
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	3.2	0.0	0.0		0.4	0.1
Delay (s)	16.2	2.0	8.3		15.8	15.2
Level of Service	B	A	A		B	B
Approach Delay (s)		11.7	8.3		15.6	
Approach LOS		B	A		B	

Intersection Summary

HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	37.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	29.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 5: Tiara Dr/Site Access & Turner Parkway

2030 AM  
 4/27/2015



Movement	SEL	SET	SER	NML	NMT	NMR	NEL	NET	NER	SML	SWT	SWR
Lane Configurations	↖	↗		↖	↗			↕			↖	↗
Volume (vph)	0	158	5	5	121	0	15	0	10	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0				
Lane Util. Factor		0.95		1.00	0.95			1.00				
Flt		1.00		1.00	1.00			0.95				
Flt Protected		1.00		0.95	1.00			0.97				
Satd. Flow (prot)		3522		1770	3539			1712				
Flt Permitted		1.00		0.95	1.00			0.97				
Satd. Flow (perm)		3522		1770	3539			1718				
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	178	6	6	136	0	17	0	11	0	0	0
RTOR Reduction (vph)	0	2	0	0	0	0	0	26	0	0	0	0
Lane Group Flow (vph)	0	182	0	6	136	0	0	2	0	0	0	0
Turn Type	Prot	NA		Prot	NA		Perm	NA				Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases							4			8		8
Actuated Green, G (s)		33.4		1.3	38.7			3.3				
Effective Green, g (s)		33.4		1.3	38.7			3.3				
Actuated g/C Ratio		0.67		0.03	0.77			0.07				
Clearance Time (s)		4.0		4.0	4.0			4.0				
Vehicle Extension (s)		3.0		3.0	3.0			3.0				
Lane Grp Cap (vph)		2352		46	2739			113				
v/s Ratio Prot		c0.05		c0.00	0.04							
v/s Ratio Perm								c0.00				
v/c Ratio		0.08		0.13	0.05			0.02				
Uniform Delay, d1		2.9		23.8	1.3			21.8				
Progression Factor		1.00		0.94	0.05			1.00				
Incremental Delay, d2		0.1		1.2	0.0			0.1				
Delay (s)		3.0		23.6	0.1			21.9				
Level of Service		A		C	A			C				
Approach Delay (s)		3.0			1.1			21.9			0.0	
Approach LOS		A			A			C			A	

Intersection Summary

HCM 2000 Control Delay	3.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.07		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	14.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
6: Ascot Parkway & Turner Parkway

2030 AM  
4/27/2015



Movement	SEL	SET	SER	NML	NWT	NMR	NEL	NET	NER	SML	SWT	SWR
Lane Configurations	↖	↑	↗	↖	↗		↖	↕		↖	↕	
Volume (vph)	60	5	103	10	5	20	91	253	5	10	236	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	1.00	0.99	1.00	0.99		1.00	1.00		1.00	1.00	
Ftpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Flt	1.00	1.00	0.85	1.00	0.88		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1562	1770	1619		1770	3528		1770	3479	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1562	1770	1619		1770	3528		1770	3479	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	78	6	134	13	6	26	118	329	6	13	306	39
RTOR Reduction (vph)	0	0	118	0	21	0	0	3	0	0	19	0
Lane Group Flow (vph)	78	6	16	13	11	0	118	332	0	13	326	0
Confl. Peds. (#/hr)			3			2			3			
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	6	6		2	2		7	4		3	8	
Permitted Phases			6									
Actuated Green, G (s)	6.0	6.0	6.0	10.3	10.3		5.8	16.9		0.8	11.9	
Effective Green, g (s)	6.0	6.0	6.0	10.3	10.3		5.8	16.9		0.8	11.9	
Actuated g/C Ratio	0.12	0.12	0.12	0.21	0.21		0.12	0.34		0.02	0.24	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	212	223	187	364	333		205	1192		28	828	
v/s Ratio Prot	0.04	0.00		0.01	0.01		0.07	0.09		0.01	0.09	
v/s Ratio Perm			0.01									
v/c Ratio	0.37	0.03	0.09	0.04	0.03		0.58	0.28		0.46	0.39	
Uniform Delay, d1	20.3	19.4	19.6	15.9	15.9		20.9	12.1		24.4	16.0	
Progression Factor	0.81	0.74	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.1	0.0	0.2	0.2	0.2		3.9	0.1		11.7	0.3	
Delay (s)	17.5	14.5	19.8	16.1	16.1		24.8	12.2		36.1	16.3	
Level of Service	B	B	B	B	B		C	B		D	B	
Approach Delay (s)		18.8			16.1			15.5			17.0	
Approach LOS		B			B			B			B	

Intersection Summary

HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		

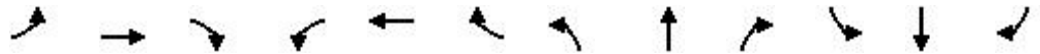
c Critical Lane Group





HCM Signalized Intersection Capacity Analysis  
 1: Adm Callaghan Ln & Columbus Parkway

Cumulative PM  
 5/11/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑↑		↘	↖	↗		↕	
Volume (vph)	4	1255	858	136	931	1	800	0	179	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.95	0.95	1.00		1.00	
Flt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		0.98	
Satd. Flow (prot)	1770	3539	1583	1770	5085		1681	1681	1583		1750	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	1770	5085		1681	1681	1583		1779	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	5	1459	998	158	1083	1	930	0	208	1	1	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	5	1459	998	158	1084	0	465	465	208	0	2	0
Turn Type	Prot	NA	Free	Prot	NA		Split	NA	Free	Perm	NA	
Protected Phases	7	4		3	8		2	2				6
Permitted Phases			Free						Free	6		
Actuated Green, G (s)	0.8	46.7	110.0	14.2	60.1		32.3	32.3	110.0		0.8	
Effective Green, g (s)	0.8	46.7	110.0	14.2	60.1		32.3	32.3	110.0		0.8	
Actuated g/C Ratio	0.01	0.42	1.00	0.13	0.55		0.29	0.29	1.00		0.01	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	12	1502	1583	228	2778		493	493	1583		12	
v/s Ratio Prot	0.00	c0.41		0.09	0.21		c0.28	0.28				
v/s Ratio Perm			c0.63						0.13		0.00	
v/c Ratio	0.42	0.97	0.63	0.69	0.39		0.94	0.94	0.13		0.17	
Uniform Delay, d1	54.4	31.0	0.0	45.8	14.4		38.0	38.0	0.0		54.3	
Progression Factor	1.00	1.00	1.00	1.08	1.23		1.00	1.00	1.00		1.00	
Incremental Delay, d2	21.8	17.3	1.9	8.1	0.4		26.8	26.8	0.2		6.5	
Delay (s)	76.1	48.3	1.9	57.8	18.0		64.7	64.7	0.2		60.8	
Level of Service	E	D	A	E	B		E	E	A		E	
Approach Delay (s)		29.6			23.1			52.9			60.8	
Approach LOS		C			C			D			E	

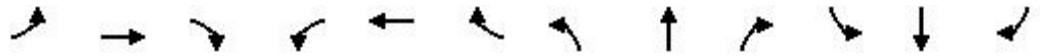
Intersection Summary

HCM 2000 Control Delay	33.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 2: Ascot Parkway/Ascot Ct & Columbus Parkway

Cumulative PM  
 5/11/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑		↘↗	↑	↗	↘	↗	
Volume (vph)	24	1084	380	17	722	0	330	0	73	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0		4.0			
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97		1.00			
Frb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00		1.00			
Flb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00		1.00			
Flt	1.00	1.00	0.85	1.00	1.00		1.00		0.85			
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95		1.00			
Satd. Flow (prot)	1770	3539	1563	1770	3539		3433		1583			
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95		1.00			
Satd. Flow (perm)	1770	3539	1563	1770	3539		3433		1583			
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	29	1306	458	20	870	0	398	0	88	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	74	0	0	0
Lane Group Flow (vph)	29	1306	458	20	870	0	398	0	14	0	0	0
Confl. Peds. (#/hr)			2									
Turn Type	Prot	NA	Free	Prot	NA		Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			Free						2			
Actuated Green, G (s)	4.3	72.5	110.0	2.9	71.1		17.8		17.8			
Effective Green, g (s)	4.3	72.5	110.0	2.9	71.1		17.8		17.8			
Actuated g/C Ratio	0.04	0.66	1.00	0.03	0.65		0.16		0.16			
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0		4.0			
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0		3.0			
Lane Grp Cap (vph)	69	2332	1563	46	2287		555		256			
v/s Ratio Prot	0.02	c0.37		0.01	c0.25		c0.12					
v/s Ratio Perm			c0.29						0.01			
v/c Ratio	0.42	0.56	0.29	0.43	0.38		0.72		0.06			
Uniform Delay, d1	51.6	10.1	0.0	52.7	9.1		43.7		39.0			
Progression Factor	0.91	1.69	1.00	1.00	1.00		1.00		1.00			
Incremental Delay, d2	2.8	0.7	0.3	6.5	0.5		4.4		0.1			
Delay (s)	50.1	17.8	0.3	59.2	9.6		48.1		39.1			
Level of Service	D	B	A	E	A		D		D			
Approach Delay (s)		13.9			10.7			46.5			0.0	
Approach LOS		B			B			D			A	

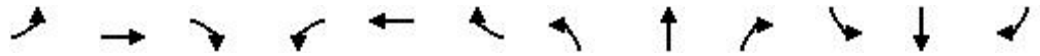
Intersection Summary

HCM 2000 Control Delay	18.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 3: Plaza Dr & Admiral Callaghan Ln

Cumulative PM  
 5/11/2015



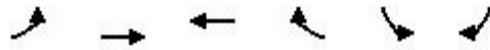
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↗	↖	↗	↗
Volume (vph)	77	367	105	437	333	97	107	44	384	89	29	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.97		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3421		1770	3419		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3421		1770	3419		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	78	371	106	441	336	98	108	44	388	90	29	46
RTOR Reduction (vph)	0	42	0	0	40	0	0	0	315	0	0	40
Lane Group Flow (vph)	78	435	0	441	394	0	108	44	73	90	29	6
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	3.3	13.3		16.5	26.5		6.2	11.3	11.3	3.0	8.1	8.1
Effective Green, g (s)	3.3	13.3		16.5	26.5		6.2	11.3	11.3	3.0	8.1	8.1
Actuated g/C Ratio	0.05	0.22		0.27	0.44		0.10	0.19	0.19	0.05	0.13	0.13
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	97	757		485	1507		182	350	297	88	251	213
v/s Ratio Prot	0.04	c0.13		c0.25	0.12		0.06	0.02		c0.05	0.02	
v/s Ratio Perm									c0.05			0.00
v/c Ratio	0.80	0.57		0.91	0.26		0.59	0.13	0.25	1.02	0.12	0.03
Uniform Delay, d1	28.1	20.9		21.1	10.6		25.7	20.3	20.8	28.6	22.9	22.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	36.6	1.1		20.7	0.1		5.1	0.2	0.4	102.3	0.2	0.1
Delay (s)	64.7	21.9		41.8	10.7		30.9	20.5	21.2	130.8	23.1	22.6
Level of Service	E	C		D	B		C	C	C	F	C	C
Approach Delay (s)		27.9			26.4			23.1			81.7	
Approach LOS		C			C			C			F	

Intersection Summary

HCM 2000 Control Delay	30.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	60.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
4: Turner Parkway & Plaza Dr

Cumulative PM  
5/11/2015



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↑↗		↙↘	↘
Volume (vph)	225	106	109	206	261	253
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		0.97	0.91
Flt	1.00	1.00	0.90		0.96	0.85
Flt Protected	0.95	1.00	1.00		0.96	1.00
Satd. Flow (prot)	1770	3539	3192		3349	1441
Flt Permitted	0.95	1.00	1.00		0.96	1.00
Satd. Flow (perm)	1770	3539	3192		3349	1441
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	239	113	116	219	278	269
RTOR Reduction (vph)	0	0	154	0	75	133
Lane Group Flow (vph)	239	113	181	0	300	39
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases						6
Actuated Green, G (s)	6.2	21.4	11.2		8.5	8.5
Effective Green, g (s)	6.2	21.4	11.2		8.5	8.5
Actuated g/C Ratio	0.16	0.56	0.30		0.22	0.22
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	289	1998	943		751	323
v/s Ratio Prot	c0.14	0.03	c0.06		c0.09	
v/s Ratio Perm						0.03
v/c Ratio	0.83	0.06	0.19		0.40	0.12
Uniform Delay, d1	15.3	3.7	10.0		12.5	11.7
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	17.3	0.0	0.1		0.3	0.2
Delay (s)	32.7	3.7	10.1		12.9	11.9
Level of Service	C	A	B		B	B
Approach Delay (s)		23.4	10.1		12.6	
Approach LOS		C	B		B	

Intersection Summary

HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	37.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	42.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
5: Tiara Dr/Site Access & Turner Parkway

Cumulative PM  
5/11/2015



Movement	SEL	SET	SER	NML	NMT	NMR	NEL	NET	NER	SML	SWT	SWR
Lane Configurations	↖	↗		↖	↗			↕			↖	↗
Volume (vph)	0	360	15	15	310	0	5	0	10	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0				
Lane Util. Factor		0.95		1.00	0.95			1.00				
Flt		0.99		1.00	1.00			0.91				
Flt Protected		1.00		0.95	1.00			0.98				
Satd. Flow (prot)		3518		1770	3539			1664				
Flt Permitted		1.00		0.95	1.00			1.00				
Satd. Flow (perm)		3518		1770	3539			1690				
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	387	16	16	333	0	5	0	11	0	0	0
RTOR Reduction (vph)	0	3	0	0	0	0	0	15	0	0	0	0
Lane Group Flow (vph)	0	400	0	16	333	0	0	1	0	0	0	0
Turn Type	Prot	NA		Prot	NA		Perm	NA				Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases							4			8		8
Actuated Green, G (s)		34.4		1.4	39.8			2.2				
Effective Green, g (s)		34.4		1.4	39.8			2.2				
Actuated g/C Ratio		0.69		0.03	0.80			0.04				
Clearance Time (s)		4.0		4.0	4.0			4.0				
Vehicle Extension (s)		3.0		3.0	3.0			3.0				
Lane Grp Cap (vph)		2420		49	2817			74				
v/s Ratio Prot		c0.11		c0.01	0.09							
v/s Ratio Perm								c0.00				
v/c Ratio		0.17		0.33	0.12			0.01				
Uniform Delay, d1		2.7		23.8	1.1			22.9				
Progression Factor		1.00		1.00	1.00			1.00				
Incremental Delay, d2		0.1		3.9	0.1			0.1				
Delay (s)		2.9		27.7	1.2			22.9				
Level of Service		A		C	A			C				
Approach Delay (s)		2.9			2.4			22.9			0.0	
Approach LOS		A			A			C			A	

Intersection Summary

HCM 2000 Control Delay	3.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.16		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	22.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
6: Ascot Parkway & Turner Parkway

Cumulative PM  
5/11/2015



Movement	SEL	SET	SER	NML	NWT	NMR	NEL	NET	NER	SML	SWT	SWR
Lane Configurations	↖	↗	↘	↙	↘		↖	↗↘		↖	↗↘	
Volume (vph)	60	5	310	10	5	10	270	332	5	15	346	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	1.00	0.99	1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Flt	1.00	1.00	0.85	1.00	0.90		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1562	1770	1656		1770	3531		1770	3461	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1562	1770	1656		1770	3531		1770	3461	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	78	6	403	13	6	13	351	431	6	19	449	78
RTOR Reduction (vph)	0	0	334	0	12	0	0	1	0	0	18	0
Lane Group Flow (vph)	78	6	69	13	7	0	351	436	0	19	509	0
Confl. Peds. (#/hr)			3			2			3			
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	6	6		2	2		7	4		3	8	
Permitted Phases			6									
Actuated Green, G (s)	11.2	11.2	11.2	4.6	4.6		16.1	32.9		0.5	17.3	
Effective Green, g (s)	11.2	11.2	11.2	4.6	4.6		16.1	32.9		0.5	17.3	
Actuated g/C Ratio	0.17	0.17	0.17	0.07	0.07		0.25	0.50		0.01	0.27	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	304	320	268	124	116		437	1781		13	918	
v/s Ratio Prot	0.04	0.00		c0.01	0.00		c0.20	0.12		0.01	c0.15	
v/s Ratio Perm			c0.04									
v/c Ratio	0.26	0.02	0.26	0.10	0.06		0.80	0.24		1.46	0.55	
Uniform Delay, d1	23.4	22.4	23.4	28.4	28.3		23.1	9.1		32.4	20.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.0	0.5	0.4	0.2		10.2	0.1		423.0	0.7	
Delay (s)	23.8	22.5	23.9	28.7	28.5		33.3	9.2		455.3	21.4	
Level of Service	C	C	C	C	C		C	A		F	C	
Approach Delay (s)		23.9			28.6			19.9			36.5	
Approach LOS		C			C			B			D	

Intersection Summary

HCM 2000 Control Delay	26.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	65.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	48.1%	ICU Level of Service	A
Analysis Period (min)	15		

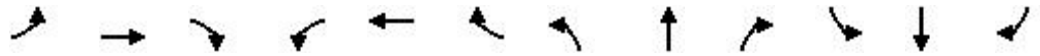
c Critical Lane Group





HCM Signalized Intersection Capacity Analysis  
 1: Adm Callaghan Ln & Columbus Parkway

2030 Saturday  
 4/27/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗	↘		↕	
Volume (vph)	13	971	1071	284	816	0	911	2	288	2	1	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.95	0.95	1.00		1.00	
Flt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		0.98	
Satd. Flow (prot)	1770	3539	1583	1770	5085		1681	1686	1583		1709	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	1770	5085		1681	1686	1583		1737	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	14	1022	1127	299	859	0	959	2	303	2	1	3
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	14	1022	1127	299	859	0	479	482	303	0	3	0
Turn Type	Prot	NA	Free	Prot	NA		Split	NA	Free	Perm	NA	
Protected Phases	7	4		3	8		2	2				6
Permitted Phases			Free						Free	6		
Actuated Green, G (s)	2.4	39.9	125.0	25.6	63.1		42.7	42.7	125.0		0.8	
Effective Green, g (s)	2.4	39.9	125.0	25.6	63.1		42.7	42.7	125.0		0.8	
Actuated g/C Ratio	0.02	0.32	1.00	0.20	0.50		0.34	0.34	1.00		0.01	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	33	1129	1583	362	2566		574	575	1583		11	
v/s Ratio Prot	0.01	c0.29		c0.17	0.17		0.28	c0.29				
v/s Ratio Perm			c0.71						0.19		0.00	
v/c Ratio	0.42	0.91	0.71	0.83	0.33		0.83	0.84	0.19		0.27	
Uniform Delay, d1	60.6	40.7	0.0	47.6	18.4		37.9	38.0	0.0		61.8	
Progression Factor	1.00	1.00	1.00	0.95	0.87		1.00	1.00	1.00		1.00	
Incremental Delay, d2	8.6	11.9	2.8	13.6	0.3		10.1	10.3	0.3		13.1	
Delay (s)	69.2	52.6	2.8	58.8	16.4		48.0	48.3	0.3		74.9	
Level of Service	E	D	A	E	B		D	D	A		E	
Approach Delay (s)		26.8			27.3			36.7			74.9	
Approach LOS		C			C			D			E	

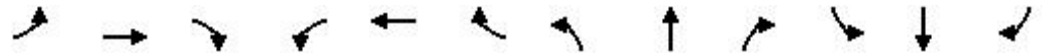
Intersection Summary

HCM 2000 Control Delay	29.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	84.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 2: Ascot Parkway/Ascot Ct & Columbus Parkway

2030 Saturday  
 4/27/2015



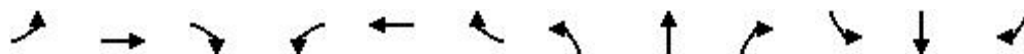
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑	↗	↙	↑↑		↙↗	↑	↗	↙	↗	
Volume (vph)	86	915	281	35	633	1	382	6	63	0	0	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00		1.00	
Frb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	1.00		1.00	
Flb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Flt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1770	3539	1563	1770	3538		3433	1863	1583		1583	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1770	3539	1563	1770	3538		3433	1863	1583		1583	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor (vph)	50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Adj. Flow (vph)	48	1017	312	39	703	1	424	7	70	0	0	47
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	57	0	45	0
Lane Group Flow (vph)	48	1017	312	39	704	0	424	7	13	0	2	0
Confl. Peds. (#/hr)			2									
Turn Type	Prot	NA	Free	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			Free						2			
Actuated Green, G (s)	7.3	73.7	125.0	7.1	73.5		23.0	23.0	23.0		5.2	
Effective Green, g (s)	7.3	73.7	125.0	7.1	73.5		23.0	23.0	23.0		5.2	
Actuated g/C Ratio	0.06	0.59	1.00	0.06	0.59		0.18	0.18	0.18		0.04	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	103	2086	1563	100	2080		631	342	291		65	
v/s Ratio Prot	c0.03	c0.29		0.02	0.20		c0.12	0.00			0.00	
v/s Ratio Perm			c0.20						0.01			
v/c Ratio	0.47	0.49	0.20	0.39	0.34		0.67	0.02	0.04		0.03	
Uniform Delay, d1	57.0	14.8	0.0	56.9	13.2		47.5	41.8	42.0		57.5	
Progression Factor	0.85	1.33	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	2.6	0.6	0.2	2.5	0.4		2.8	0.0	0.1		0.2	
Delay (s)	51.0	20.3	0.2	59.4	13.7		50.3	41.8	42.0		57.7	
Level of Service	D	C	A	E	B		D	D	D		E	
Approach Delay (s)		16.8			16.1			49.0			57.7	
Approach LOS		B			B			D			E	

Intersection Summary

HCM 2000 Control Delay	23.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
3: Plaza Dr & Admiral Callaghan Ln

2030 Saturday  
4/27/2015



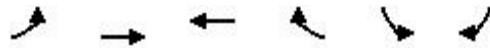
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↗	↖	↗	↗
Volume (vph)	115	529	131	489	415	226	130	67	436	143	86	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.97		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3434		1770	3352		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3434		1770	3352		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	122	563	139	520	441	240	138	71	464	152	91	81
RTOR Reduction (vph)	0	20	0	0	60	0	0	0	403	0	0	71
Lane Group Flow (vph)	122	682	0	520	621	0	138	71	61	152	91	10
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	10.8	23.5		29.3	42.0		10.0	11.8	11.8	9.1	10.9	10.9
Effective Green, g (s)	10.8	23.5		29.3	42.0		10.0	11.8	11.8	9.1	10.9	10.9
Actuated g/C Ratio	0.12	0.26		0.33	0.47		0.11	0.13	0.13	0.10	0.12	0.12
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	213	899		578	1569		197	245	208	179	226	192
v/s Ratio Prot	0.07	c0.20		c0.29	0.19		0.08	0.04		c0.09	c0.05	
v/s Ratio Perm									0.04			0.01
v/c Ratio	0.57	0.76		0.90	0.40		0.70	0.29	0.29	0.85	0.40	0.05
Uniform Delay, d1	37.3	30.5		28.8	15.6		38.4	35.2	35.2	39.6	36.4	34.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.7	3.7		16.8	0.2		10.7	0.7	0.8	29.4	1.2	0.1
Delay (s)	41.0	34.2		45.6	15.7		49.1	35.8	36.0	69.0	37.6	34.9
Level of Service	D	C		D	B		D	D	D	E	D	C
Approach Delay (s)		35.2			28.7			38.6			51.7	
Approach LOS		D			C			D			D	

Intersection Summary

HCM 2000 Control Delay	35.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	89.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
4: Turner Parkway & Plaza Dr

2030 Saturday  
4/27/2015



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↗		↙↘	↘
Volume (vph)	217	106	151	323	282	247
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		0.97	0.91
Flt	1.00	1.00	0.90		0.97	0.85
Flt Protected	0.95	1.00	1.00		0.96	1.00
Satd. Flow (prot)	1770	3539	3177		3362	1441
Flt Permitted	0.95	1.00	1.00		0.96	1.00
Satd. Flow (perm)	1770	3539	3177		3362	1441
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	226	110	157	336	294	257
RTOR Reduction (vph)	0	0	236	0	67	136
Lane Group Flow (vph)	226	110	257	0	312	36
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases						6
Actuated Green, G (s)	7.5	23.3	11.8		8.3	8.3
Effective Green, g (s)	7.5	23.3	11.8		8.3	8.3
Actuated g/C Ratio	0.19	0.59	0.30		0.21	0.21
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	335	2082	946		704	302
v/s Ratio Prot	c0.13	0.03	c0.08		c0.09	
v/s Ratio Perm						0.03
v/c Ratio	0.67	0.05	0.27		0.44	0.12
Uniform Delay, d1	14.9	3.5	10.6		13.6	12.7
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	5.3	0.0	0.2		0.4	0.2
Delay (s)	20.2	3.5	10.8		14.1	12.9
Level of Service	C	A	B		B	B
Approach Delay (s)		14.7	10.8		13.7	
Approach LOS		B	B		B	

Intersection Summary

HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	39.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
5: Tiara Dr/Site Access & Turner Parkway

2030 Saturday  
4/27/2015



Movement	SEL	SET	SER	NML	NMT	NMR	NEL	NET	NER	SML	SWT	SWR
Lane Configurations	↖	↗		↖	↗			↕			↖	↗
Volume (vph)	0	378	10	15	469	0	5	0	15	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0				
Lane Util. Factor		0.95		1.00	0.95			1.00				
Flt		1.00		1.00	1.00			0.90				
Flt Protected		1.00		0.95	1.00			0.99				
Satd. Flow (prot)		3526		1770	3539			1653				
Flt Permitted		1.00		0.95	1.00			0.91				
Satd. Flow (perm)		3526		1770	3539			1530				
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	390	10	15	484	0	5	0	15	0	0	0
RTOR Reduction (vph)	0	3	0	0	0	0	0	18	0	0	0	0
Lane Group Flow (vph)	0	397	0	15	484	0	0	2	0	0	0	0
Turn Type	Prot	NA		Prot	NA		Perm	NA				Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases							4			8		8
Actuated Green, G (s)		26.3		0.6	30.9			3.2				
Effective Green, g (s)		26.3		0.6	30.9			3.2				
Actuated g/C Ratio		0.62		0.01	0.73			0.08				
Clearance Time (s)		4.0		4.0	4.0			4.0				
Vehicle Extension (s)		3.0		3.0	3.0			3.0				
Lane Grp Cap (vph)		2202		25	2597			116				
v/s Ratio Prot		0.11		0.01	0.14							
v/s Ratio Perm								0.00				
v/c Ratio		0.18		0.60	0.19			0.01				
Uniform Delay, d1		3.3		20.6	1.7			18.0				
Progression Factor		1.00		1.00	1.00			1.00				
Incremental Delay, d2		0.0		33.2	0.0			0.0				
Delay (s)		3.4		53.8	1.8			18.0				
Level of Service		A		D	A			B				
Approach Delay (s)		3.4			3.3			18.0			0.0	
Approach LOS		A			A			B			A	

Intersection Summary

HCM 2000 Control Delay	3.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.19		
Actuated Cycle Length (s)	42.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	23.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
6: Ascot Parkway & Turner Parkway

2030 Saturday  
4/27/2015



Movement	SEL	SET	SER	NML	NWT	NMR	NEL	NET	NER	SML	SWT	SWR
Lane Configurations	↘	↑	↗	↘	↗		↘	↕		↘	↕	
Volume (vph)	56	10	327	5	5	10	393	359	5	10	216	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	1.00	0.99	1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Flt	1.00	1.00	0.85	1.00	0.90		1.00	1.00		1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1562	1770	1662		1770	3531		1770	3388	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1562	1770	1662		1770	3531		1770	3388	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	57	10	334	5	5	10	401	366	5	10	220	88
RTOR Reduction (vph)	0	0	277	0	9	0	0	2	0	0	68	0
Lane Group Flow (vph)	57	10	57	5	6	0	401	369	0	10	240	0
Confl. Peds. (#/hr)			3			2			3			
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	6	6		2	2		7	4		3	8	
Permitted Phases			6									
Actuated Green, G (s)	10.5	10.5	10.5	4.5	4.5		16.5	29.7		0.4	13.6	
Effective Green, g (s)	10.5	10.5	10.5	4.5	4.5		16.5	29.7		0.4	13.6	
Actuated g/C Ratio	0.17	0.17	0.17	0.07	0.07		0.27	0.49		0.01	0.22	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	304	320	268	130	122		477	1716		11	754	
v/s Ratio Prot	0.03	0.01		0.00	c0.00		c0.23	0.10		0.01	c0.07	
v/s Ratio Perm			c0.04									
v/c Ratio	0.19	0.03	0.21	0.04	0.05		0.84	0.22		0.91	0.32	
Uniform Delay, d1	21.6	21.1	21.8	26.3	26.3		21.1	9.0		30.3	19.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.0	0.4	0.1	0.2		12.6	0.1		217.6	0.2	
Delay (s)	22.0	21.1	22.2	26.4	26.5		33.7	9.1		247.9	20.1	
Level of Service	C	C	C	C	C		C	A		F	C	
Approach Delay (s)		22.1			26.5			21.8			27.3	
Approach LOS		C			C			C			C	

Intersection Summary

HCM 2000 Control Delay	23.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	61.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	51.9%	ICU Level of Service	A
Analysis Period (min)	15		

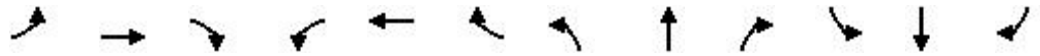
c Critical Lane Group





HCM Signalized Intersection Capacity Analysis  
 1: Adm Callaghan Ln & Columbus Parkway

2030 plus Project AM  
 4/27/2015



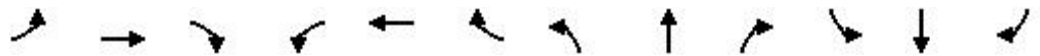
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑↑		↘	↖	↗		↕	
Volume (vph)	0	1155	379	52	1319	0	300	0	61	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0	4.0	4.0			
Lane Util. Factor		0.95	1.00	1.00	0.91		0.95	0.95	1.00			
Flt		1.00	0.85	1.00	1.00		1.00	1.00	0.85			
Flt Protected		1.00	1.00	0.95	1.00		0.95	0.95	1.00			
Satd. Flow (prot)		3539	1583	1770	5085		1681	1681	1583			
Flt Permitted		1.00	1.00	0.95	1.00		0.95	0.95	1.00			
Satd. Flow (perm)		3539	1583	1770	5085		1681	1681	1583			
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	1343	441	60	1534	0	349	0	71	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1343	441	60	1534	0	174	175	71	0	0	0
Turn Type	Prot	NA	Free	Prot	NA		Split	NA	Free			
Protected Phases	7	4		3	8		2	2				6
Permitted Phases			Free						Free		6	
Actuated Green, G (s)		52.0	84.0	3.2	59.2		16.8	16.8	84.0			
Effective Green, g (s)		52.0	84.0	3.2	59.2		16.8	16.8	84.0			
Actuated g/C Ratio		0.62	1.00	0.04	0.70		0.20	0.20	1.00			
Clearance Time (s)		4.0		4.0	4.0		4.0	4.0				
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0				
Lane Grp Cap (vph)		2190	1583	67	3583		336	336	1583			
v/s Ratio Prot		c0.38		c0.03	0.30		0.10	c0.10				
v/s Ratio Perm			0.28						0.04			
v/c Ratio		0.61	0.28	0.90	0.43		0.52	0.52	0.04			
Uniform Delay, d1		9.8	0.0	40.2	5.2		30.0	30.0	0.0			
Progression Factor		1.00	1.00	1.05	1.12		1.00	1.00	1.00			
Incremental Delay, d2		1.3	0.4	70.9	0.4		1.3	1.5	0.1			
Delay (s)		11.1	0.4	113.2	6.2		31.3	31.5	0.1			
Level of Service		B	A	F	A		C	C	A			
Approach Delay (s)		8.5			10.2			26.1			0.0	
Approach LOS		A			B			C			A	

Intersection Summary

HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
2: Ascot Parkway/Ascot Ct & Columbus Parkway

2030 plus Project AM  
4/27/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗	↘	↖	↗	↘
Volume (vph)	6	728	284	18	860	0	325	0	51	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0		4.0			
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97		1.00			
Flpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00		1.00			
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00		1.00			
Flt	1.00	1.00	0.85	1.00	1.00		1.00		0.85			
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95		1.00			
Satd. Flow (prot)	1770	3539	1563	1770	3539		3433		1583			
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95		1.00			
Satd. Flow (perm)	1770	3539	1563	1770	3539		3433		1583			
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	7	877	342	22	1036	0	392	0	61	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	50	0	0	0
Lane Group Flow (vph)	7	877	342	22	1036	0	392	0	11	0	0	0
Confl. Peds. (#/hr)			2									
Turn Type	Prot	NA	Free	Prot	NA		Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			Free						2			
Actuated Green, G (s)	0.8	49.8	84.0	2.2	51.2		15.2		15.2			
Effective Green, g (s)	0.8	49.8	84.0	2.2	51.2		15.2		15.2			
Actuated g/C Ratio	0.01	0.59	1.00	0.03	0.61		0.18		0.18			
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0		4.0			
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0		3.0			
Lane Grp Cap (vph)	16	2098	1563	46	2157		621		286			
v/s Ratio Prot	0.00	0.25		0.01	0.29		0.11					
v/s Ratio Perm			0.22						0.01			
v/c Ratio	0.44	0.42	0.22	0.48	0.48		0.63		0.04			
Uniform Delay, d1	41.4	9.3	0.0	40.3	9.1		31.8		28.4			
Progression Factor	1.12	0.66	1.00	1.00	1.00		1.00		1.00			
Incremental Delay, d2	15.0	0.5	0.3	7.6	0.8		2.1		0.1			
Delay (s)	61.5	6.6	0.3	48.0	9.8		33.9		28.4			
Level of Service	E	A	A	D	A		C		C			
Approach Delay (s)		5.1			10.6			33.2			0.0	
Approach LOS		A			B			C			A	

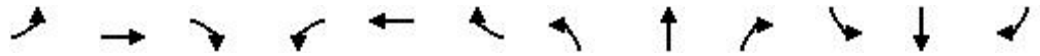
Intersection Summary

HCM 2000 Control Delay	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	45.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
3: Plaza Dr & Admiral Callaghan Ln

2030 plus Project AM  
4/27/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↗	↖	↗	↗
Volume (vph)	77	367	105	152	157	85	15	18	96	64	18	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.97		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3421		1770	3354		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3421		1770	3354		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	399	114	165	171	92	16	20	104	70	20	34
RTOR Reduction (vph)	0	33	0	0	57	0	0	0	89	0	0	27
Lane Group Flow (vph)	84	480	0	165	206	0	16	20	15	70	20	7
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	4.0	15.9		8.0	19.9		0.7	7.7	7.7	4.3	11.3	11.3
Effective Green, g (s)	4.0	15.9		8.0	19.9		0.7	7.7	7.7	4.3	11.3	11.3
Actuated g/C Ratio	0.08	0.31		0.15	0.38		0.01	0.15	0.15	0.08	0.22	0.22
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	136	1048		272	1286		23	276	234	146	405	344
v/s Ratio Prot	0.05	c0.14		c0.09	c0.06		0.01	c0.01		c0.04	c0.01	
v/s Ratio Perm									0.01			0.00
v/c Ratio	0.62	0.46		0.61	0.16		0.70	0.07	0.07	0.48	0.05	0.02
Uniform Delay, d1	23.2	14.5		20.5	10.5		25.5	19.0	19.0	22.7	16.1	16.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.1	0.3		3.8	0.1		63.9	0.1	0.1	2.5	0.1	0.0
Delay (s)	31.3	14.8		24.3	10.6		89.4	19.1	19.1	25.2	16.1	16.0
Level of Service	C	B		C	B		F	B	B	C	B	B
Approach Delay (s)		17.2			15.9			27.2			21.2	
Approach LOS		B			B			C			C	

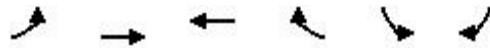
Intersection Summary

HCM 2000 Control Delay	18.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	51.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	42.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
4: Turner Parkway & Plaza Dr

2030 plus Project AM  
4/27/2015



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↙	↑↑	↑↑		↙↘	↗
Volume (vph)	225	113	58	81	86	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		0.97	0.91
Flt	1.00	1.00	0.91		0.99	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3539	3230		3428	1441
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	3539	3230		3428	1441
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	256	128	66	92	98	43
RTOR Reduction (vph)	0	0	60	0	4	35
Lane Group Flow (vph)	256	128	98	0	98	4
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases						6
Actuated Green, G (s)	8.6	25.5	12.9		4.0	4.0
Effective Green, g (s)	8.6	25.5	12.9		4.0	4.0
Actuated g/C Ratio	0.23	0.68	0.34		0.11	0.11
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	405	2406	1111		365	153
v/s Ratio Prot	c0.14	0.04	c0.03		c0.03	
v/s Ratio Perm						0.00
v/c Ratio	0.63	0.05	0.09		0.27	0.03
Uniform Delay, d1	13.0	2.0	8.3		15.4	15.0
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	3.2	0.0	0.0		0.4	0.1
Delay (s)	16.2	2.0	8.4		15.8	15.1
Level of Service	B	A	A		B	B
Approach Delay (s)		11.5	8.4		15.6	
Approach LOS		B	A		B	

Intersection Summary

HCM 2000 Control Delay	11.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	37.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	30.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 5: Tiara Dr/Site Access & Turner Parkway

2030 plus Project AM  
 4/27/2015



Movement	SEL	SET	SER	NML	NMT	NMR	NEL	NET	NER	SML	SWT	SWR
Lane Configurations	↖	↗		↖	↗			↕			↖	↗
Volume (vph)	16	158	5	5	121	15	15	0	10	9	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Flt	1.00	1.00		1.00	0.98			0.95			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.95	1.00
Satd. Flow (prot)	1770	3522		1770	3480			1712			1770	1583
Flt Permitted	0.95	1.00		0.95	1.00			0.92			1.00	1.00
Satd. Flow (perm)	1770	3522		1770	3480			1620			1863	1583
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	18	178	6	6	136	17	17	0	11	10	0	4
RTOR Reduction (vph)	0	2	0	0	6	0	0	26	0	0	0	4
Lane Group Flow (vph)	18	182	0	6	147	0	0	2	0	0	10	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases							4			8		8
Actuated Green, G (s)	0.8	33.2		1.3	33.7			3.5			3.5	3.5
Effective Green, g (s)	0.8	33.2		1.3	33.7			3.5			3.5	3.5
Actuated g/C Ratio	0.02	0.66		0.03	0.67			0.07			0.07	0.07
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	28	2338		46	2345			113			130	110
v/s Ratio Prot	c0.01	c0.05		0.00	0.04							
v/s Ratio Perm								0.00			c0.01	0.00
v/c Ratio	0.64	0.08		0.13	0.06			0.02			0.08	0.00
Uniform Delay, d1	24.5	3.0		23.8	2.8			21.6			21.7	21.6
Progression Factor	1.00	1.00		0.86	0.60			1.00			1.00	1.00
Incremental Delay, d2	40.9	0.1		1.1	0.0			0.1			0.3	0.0
Delay (s)	65.4	3.0		21.5	1.7			21.7			22.0	21.6
Level of Service	E	A		C	A			C			C	C
Approach Delay (s)		8.6			2.5			21.7			21.9	
Approach LOS		A			A			C			C	

Intersection Summary

HCM 2000 Control Delay	7.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.09		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	26.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
6: Ascot Parkway & Turner Parkway

2030 plus Project AM  
4/27/2015



Movement	SEL	SET	SER	NML	NWT	NWR	NEL	NET	NER	SML	SWT	SWR
Lane Configurations	↖	↑	↗	↖	↗		↖	↕		↖	↕	↗
Volume (vph)	68	5	104	10	5	20	106	253	5	10	238	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	1.00	0.99	1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Flt	1.00	1.00	0.85	1.00	0.88		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1562	1770	1619		1770	3528		1770	3480	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1562	1770	1619		1770	3528		1770	3480	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	88	6	135	13	6	26	138	329	6	13	309	39
RTOR Reduction (vph)	0	0	119	0	21	0	0	3	0	0	19	0
Lane Group Flow (vph)	88	6	16	13	11	0	138	332	0	13	329	0
Confl. Peds. (#/hr)			3			2			3			
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	6	6		2	2		7	4		3	8	
Permitted Phases			6									
Actuated Green, G (s)	6.1	6.1	6.1	10.1	10.1		5.8	17.0		0.8	12.0	
Effective Green, g (s)	6.1	6.1	6.1	10.1	10.1		5.8	17.0		0.8	12.0	
Actuated g/C Ratio	0.12	0.12	0.12	0.20	0.20		0.12	0.34		0.02	0.24	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	215	227	190	357	327		205	1199		28	835	
v/s Ratio Prot	∞0.05	0.00		∞0.01	0.01		∞0.08	0.09		0.01	∞0.09	
v/s Ratio Perm			0.01									
v/c Ratio	0.41	0.03	0.09	0.04	0.03		0.67	0.28		0.46	0.39	
Uniform Delay, d1	20.3	19.3	19.5	16.0	16.0		21.2	12.0		24.4	15.9	
Progression Factor	0.85	0.79	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.3	0.0	0.2	0.2	0.2		8.4	0.1		11.7	0.3	
Delay (s)	18.5	15.4	19.7	16.2	16.2		29.6	12.1		36.1	16.3	
Level of Service	B	B	B	B	B		C	B		D	B	
Approach Delay (s)		19.1			16.2			17.2			17.0	
Approach LOS		B			B			B			B	

Intersection Summary

HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations		↑		↑↑	↑↑	
Volume (veh/h)	0	2	0	341	276	43
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	2	0	371	300	47
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)				433		
pX, platoon unblocked						
vC, conflicting volume	509	173	347			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	509	173	347			
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	100	100			
dM capacity (veh/h)	494	840	1209			

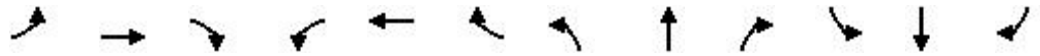
Direction, Lane #	SE 1	NE 1	NE 2	SW 1	SW 2
Volume Total	2	185	185	200	147
Volume Left	0	0	0	0	0
Volume Right	2	0	0	0	47
cSH	840	1700	1700	1700	1700
Volume to Capacity	0.00	0.11	0.11	0.12	0.09
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	9.3	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.3	0.0		0.0	
Approach LOS	A				

Intersection Summary					
Average Delay			0.0		
Intersection Capacity Utilization			19.0%	ICU Level of Service	A
Analysis Period (min)			15		



HCM Signalized Intersection Capacity Analysis  
1: Adm Callaghan Ln & Columbus Parkway

Cumulative plus Project PM  
5/11/2015



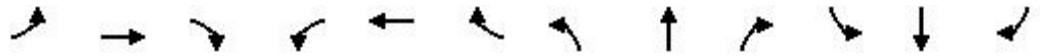
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗	↘		↖	↗
Volume (vph)	4	1290	867	136	950	1	806	0	179	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.95	0.95	1.00		1.00	
Flt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		0.98	
Satd. Flow (prot)	1770	3539	1583	1770	5085		1681	1681	1583		1750	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	1770	5085		1681	1681	1583		1779	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	5	1500	1008	158	1105	1	937	0	208	1	1	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	5	1500	1008	158	1106	0	468	469	208	0	2	0
Turn Type	Prot	NA	Free	Prot	NA		Split	NA	Free	Perm	NA	
Protected Phases	7	4		3	8		2	2				6
Permitted Phases			Free						Free	6		
Actuated Green, G (s)	0.8	47.6	110.0	13.2	60.0		32.4	32.4	110.0		0.8	
Effective Green, g (s)	0.8	47.6	110.0	13.2	60.0		32.4	32.4	110.0		0.8	
Actuated g/C Ratio	0.01	0.43	1.00	0.12	0.55		0.29	0.29	1.00		0.01	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	12	1531	1583	212	2773		495	495	1583		12	
v/s Ratio Prot	0.00	c0.42		0.09	0.22		0.28	c0.28				
v/s Ratio Perm			c0.64						0.13		0.00	
v/c Ratio	0.42	0.98	0.64	0.75	0.40		0.95	0.95	0.13		0.17	
Uniform Delay, d1	54.4	30.7	0.0	46.8	14.5		37.9	38.0	0.0		54.3	
Progression Factor	1.00	1.00	1.00	1.06	1.16		1.00	1.00	1.00		1.00	
Incremental Delay, d2	21.8	18.7	2.0	12.2	0.4		27.1	27.4	0.2		6.5	
Delay (s)	76.1	49.4	2.0	61.6	17.2		65.0	65.4	0.2		60.8	
Level of Service	E	D	A	E	B		E	E	A		E	
Approach Delay (s)		30.4			22.7			53.4			60.8	
Approach LOS		C			C			D			E	

Intersection Summary

HCM 2000 Control Delay	33.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 2: Ascot Parkway/Ascot Ct & Columbus Parkway

Cumulative plus Project PM  
 5/11/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑		↘↗	↑	↗	↘	↗	
Volume (vph)	24	1084	415	24	722	0	349	0	77	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0		4.0			
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97		1.00			
Flpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00		1.00			
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00		1.00			
Flt	1.00	1.00	0.85	1.00	1.00		1.00		0.85			
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95		1.00			
Satd. Flow (prot)	1770	3539	1563	1770	3539		3433		1583			
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95		1.00			
Satd. Flow (perm)	1770	3539	1563	1770	3539		3433		1583			
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	29	1306	500	29	870	0	420	0	93	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	78	0	0	0
Lane Group Flow (vph)	29	1306	500	29	870	0	420	0	15	0	0	0
Confl. Peds. (#/hr)			2									
Turn Type	Prot	NA	Free	Prot	NA		Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			Free						2			
Actuated Green, G (s)	4.3	70.4	110.0	4.5	70.6		18.3		18.3			
Effective Green, g (s)	4.3	70.4	110.0	4.5	70.6		18.3		18.3			
Actuated g/C Ratio	0.04	0.64	1.00	0.04	0.64		0.17		0.17			
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0		4.0			
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0		3.0			
Lane Grp Cap (vph)	69	2264	1563	72	2271		571		263			
v/s Ratio Prot	0.02	c0.37		0.02	0.25		c0.12					
v/s Ratio Perm			c0.32						0.01			
v/c Ratio	0.42	0.58	0.32	0.40	0.38		0.74		0.06			
Uniform Delay, d1	51.6	11.3	0.0	51.4	9.4		43.6		38.6			
Progression Factor	0.94	1.61	1.00	1.00	1.00		1.00		1.00			
Incremental Delay, d2	2.8	0.7	0.4	3.7	0.5		4.9		0.1			
Delay (s)	51.2	19.0	0.4	55.1	9.8		48.5		38.7			
Level of Service	D	B	A	E	A		D		D			
Approach Delay (s)		14.4			11.3			46.7			0.0	
Approach LOS		B			B			D			A	

Intersection Summary

HCM 2000 Control Delay	18.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
3: Plaza Dr & Admiral Callaghan Ln

Cumulative plus Project PM  
5/11/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↗	↖	↗	↗
Volume (vph)	77	367	105	446	333	97	107	44	390	89	29	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.97		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3421		1770	3419		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3421		1770	3419		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	78	371	106	451	336	98	108	44	394	90	29	46
RTOR Reduction (vph)	0	42	0	0	40	0	0	0	320	0	0	40
Lane Group Flow (vph)	78	435	0	451	394	0	108	44	74	90	29	6
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	3.3	13.3		16.7	26.7		6.2	11.3	11.3	3.0	8.1	8.1
Effective Green, g (s)	3.3	13.3		16.7	26.7		6.2	11.3	11.3	3.0	8.1	8.1
Actuated g/C Ratio	0.05	0.22		0.28	0.44		0.10	0.19	0.19	0.05	0.13	0.13
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	96	754		490	1513		181	349	296	88	250	212
v/s Ratio Prot	0.04	c0.13		c0.25	0.12		0.06	0.02		c0.05	0.02	
v/s Ratio Perm									c0.05			0.00
v/c Ratio	0.81	0.58		0.92	0.26		0.60	0.13	0.25	1.02	0.12	0.03
Uniform Delay, d1	28.2	21.0		21.2	10.6		25.9	20.4	20.9	28.6	23.0	22.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	38.8	1.1		22.7	0.1		5.2	0.2	0.4	102.3	0.2	0.1
Delay (s)	66.9	22.1		43.8	10.7		31.1	20.6	21.3	130.9	23.2	22.7
Level of Service	E	C		D	B		C	C	C	F	C	C
Approach Delay (s)		28.4			27.6			23.2			81.8	
Approach LOS		C			C			C			F	

Intersection Summary

HCM 2000 Control Delay	30.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	60.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
4: Turner Parkway & Plaza Dr

Cumulative plus Project PM  
5/11/2015



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↗		↙↘	↘
Volume (vph)	225	113	113	212	270	253
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		0.97	0.91
Flt	1.00	1.00	0.90		0.96	0.85
Flt Protected	0.95	1.00	1.00		0.96	1.00
Satd. Flow (prot)	1770	3539	3192		3354	1441
Flt Permitted	0.95	1.00	1.00		0.96	1.00
Satd. Flow (perm)	1770	3539	3192		3354	1441
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	239	120	120	226	287	269
RTOR Reduction (vph)	0	0	160	0	72	135
Lane Group Flow (vph)	239	120	186	0	309	40
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases						6
Actuated Green, G (s)	6.2	21.4	11.2		8.8	8.8
Effective Green, g (s)	6.2	21.4	11.2		8.8	8.8
Actuated g/C Ratio	0.16	0.56	0.29		0.23	0.23
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	287	1982	935		772	331
v/s Ratio Prot	c0.14	0.03	c0.06		c0.09	
v/s Ratio Perm						0.03
v/c Ratio	0.83	0.06	0.20		0.40	0.12
Uniform Delay, d1	15.5	3.8	10.1		12.5	11.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	18.3	0.0	0.1		0.3	0.2
Delay (s)	33.8	3.8	10.2		12.8	11.8
Level of Service	C	A	B		B	B
Approach Delay (s)		23.8	10.2		12.5	
Approach LOS		C	B		B	

Intersection Summary

HCM 2000 Control Delay	15.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	38.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	42.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
5: Tiara Dr/Site Access & Turner Parkway

Cumulative plus Project PM  
5/11/2015



Movement	SEL	SET	SER	NML	NMT	NMR	NEL	NET	NER	SML	SWT	SWR
Lane Configurations	↖	↗		↖	↗			↕			↖	↗
Volume (vph)	16	360	15	15	310	14	5	0	10	26	0	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Flt	1.00	0.99		1.00	0.99			0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.95	1.00
Satd. Flow (prot)	1770	3518		1770	3516			1664			1770	1583
Flt Permitted	0.95	1.00		0.95	1.00			0.88			1.00	1.00
Satd. Flow (perm)	1770	3518		1770	3516			1495			1863	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	17	387	16	16	333	15	5	0	11	28	0	12
RTOR Reduction (vph)	0	3	0	0	4	0	0	15	0	0	0	11
Lane Group Flow (vph)	17	400	0	16	344	0	0	1	0	0	28	1
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases							4			8		8
Actuated Green, G (s)	0.8	33.0		1.4	33.6			3.6			3.6	3.6
Effective Green, g (s)	0.8	33.0		1.4	33.6			3.6			3.6	3.6
Actuated g/C Ratio	0.02	0.66		0.03	0.67			0.07			0.07	0.07
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	28	2321		49	2362			107			134	113
v/s Ratio Prot	c0.01	c0.11		0.01	0.10							
v/s Ratio Perm								0.00			c0.02	0.00
v/c Ratio	0.61	0.17		0.33	0.15			0.01			0.21	0.01
Uniform Delay, d1	24.4	3.3		23.8	3.0			21.5			21.9	21.5
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	32.0	0.2		3.9	0.1			0.0			0.8	0.0
Delay (s)	56.4	3.4		27.7	3.1			21.6			22.6	21.6
Level of Service	E	A		C	A			C			C	C
Approach Delay (s)		5.6			4.2			21.6			22.3	
Approach LOS		A			A			C			C	

Intersection Summary

HCM 2000 Control Delay	6.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.18		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	25.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
6: Ascot Parkway & Turner Parkway

Cumulative plus Project PM  
5/11/2015



Movement	SEL	SET	SER	NML	NWT	NMR	NEL	NET	NER	SML	SWT	SWR
Lane Configurations	↖	↗	↘	↙	↘		↖	↗↘		↖	↗↘	
Volume (vph)	83	5	313	10	5	10	284	332	5	15	351	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frb, ped/bikes	1.00	1.00	0.99	1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Flt	1.00	1.00	0.85	1.00	0.90		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1562	1770	1656		1770	3531		1770	3462	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1562	1770	1656		1770	3531		1770	3462	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	108	6	406	13	6	13	369	431	6	19	456	78
RTOR Reduction (vph)	0	0	334	0	12	0	0	1	0	0	18	0
Lane Group Flow (vph)	108	6	72	13	7	0	369	436	0	19	516	0
Confl. Peds. (#/hr)			3			2			3			
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	6	6		2	2		7	4		3	8	
Permitted Phases			6									
Actuated Green, G (s)	11.8	11.8	11.8	4.7	4.7		16.6	33.4		0.5	17.3	
Effective Green, g (s)	11.8	11.8	11.8	4.7	4.7		16.6	33.4		0.5	17.3	
Actuated g/C Ratio	0.18	0.18	0.18	0.07	0.07		0.25	0.50		0.01	0.26	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	314	331	277	125	117		442	1776		13	901	
v/s Ratio Prot	∞0.06	0.00		∞0.01	0.00		∞0.21	0.12		0.01	∞0.15	
v/s Ratio Perm			0.05									
v/c Ratio	0.34	0.02	0.26	0.10	0.06		0.83	0.25		1.46	0.57	
Uniform Delay, d1	23.9	22.5	23.5	28.9	28.8		23.6	9.4		33.0	21.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	0.0	0.5	0.4	0.2		12.8	0.1		423.0	0.9	
Delay (s)	24.6	22.5	24.0	29.2	29.0		36.4	9.4		455.9	22.2	
Level of Service	C	C	C	C	C		D	A		F	C	
Approach Delay (s)		24.1			29.1			21.8			37.1	
Approach LOS		C			C			C			D	

Intersection Summary

HCM 2000 Control Delay	27.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	66.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations		↑		↑↑	↑↑	
Volume (veh/h)	0	5	0	402	421	42
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	5	0	437	458	46
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)				433		
pX, platoon unblocked	0.98					
vC, conflicting volume	699	252	503			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	662	252	503			
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	99	100			
dM capacity (veh/h)	389	748	1057			

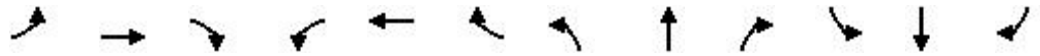
Direction, Lane #	SE 1	NE 1	NE 2	SW 1	SW 2
Volume Total	5	218	218	305	198
Volume Left	0	0	0	0	0
Volume Right	5	0	0	0	46
cSH	748	1700	1700	1700	1700
Volume to Capacity	0.01	0.13	0.13	0.18	0.12
Queue Length 95th (ft)	1	0	0	0	0
Control Delay (s)	9.8	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.8	0.0		0.0	
Approach LOS	A				

Intersection Summary					
Average Delay			0.1		
Intersection Capacity Utilization			23.0%	ICU Level of Service	A
Analysis Period (min)			15		



HCM Signalized Intersection Capacity Analysis  
1: Adm Callaghan Ln & Columbus Parkway

2030 + Project Saturday  
4/27/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗	↘		↕	
Volume (vph)	13	983	1074	284	827	0	915	2	288	2	1	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.95	0.95	1.00		1.00	
Flt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		0.98	
Satd. Flow (prot)	1770	3539	1583	1770	5085		1681	1686	1583		1709	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (perm)	1770	3539	1583	1770	5085		1681	1686	1583		1737	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	14	1035	1131	299	871	0	963	2	303	2	1	3
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	14	1035	1131	299	871	0	481	484	303	0	3	0
Turn Type	Prot	NA	Free	Prot	NA		Split	NA	Free	Perm	NA	
Protected Phases	7	4		3	8		2	2				6
Permitted Phases			Free						Free	6		
Actuated Green, G (s)	2.4	39.8	125.0	25.5	62.9		42.9	42.9	125.0		0.8	
Effective Green, g (s)	2.4	39.8	125.0	25.5	62.9		42.9	42.9	125.0		0.8	
Actuated g/C Ratio	0.02	0.32	1.00	0.20	0.50		0.34	0.34	1.00		0.01	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	33	1126	1583	361	2558		576	578	1583		11	
v/s Ratio Prot	0.01	c0.29		c0.17	0.17		0.29	c0.29				
v/s Ratio Perm			c0.71						0.19		0.00	
v/c Ratio	0.42	0.92	0.71	0.83	0.34		0.84	0.84	0.19		0.27	
Uniform Delay, d1	60.6	41.1	0.0	47.7	18.6		37.8	37.8	0.0		61.8	
Progression Factor	1.00	1.00	1.00	0.96	0.89		1.00	1.00	1.00		1.00	
Incremental Delay, d2	8.6	13.3	2.8	13.8	0.3		10.1	10.2	0.3		13.1	
Delay (s)	69.2	54.4	2.8	59.6	16.8		47.9	48.1	0.3		74.9	
Level of Service	E	D	A	E	B		D	D	A		E	
Approach Delay (s)		27.7			27.8			36.6			74.9	
Approach LOS		C			C			D			E	

Intersection Summary

HCM 2000 Control Delay	30.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
2: Ascot Parkway/Ascot Ct & Columbus Parkway

2030 + Project Saturday  
4/27/2015



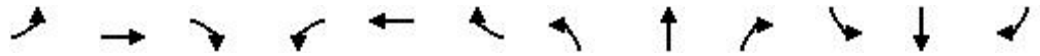
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗	↘	↖	↗	↘
Volume (vph)	86	915	293	37	633	1	393	6	65	0	0	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00		1.00	
Frb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	1.00		1.00	
Flb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Flt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1770	3539	1563	1770	3538		3433	1863	1583		1583	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1770	3539	1563	1770	3538		3433	1863	1583		1583	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor (vph)	50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Adj. Flow (vph)	48	1017	326	41	703	1	437	7	72	0	0	47
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	58	0	45	0
Lane Group Flow (vph)	48	1017	326	41	704	0	437	7	14	0	2	0
Confl. Peds. (#/hr)			2									
Turn Type	Prot	NA	Free	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			Free						2			
Actuated Green, G (s)	7.3	73.0	125.0	7.2	72.9		23.6	23.6	23.6		5.2	
Effective Green, g (s)	7.3	73.0	125.0	7.2	72.9		23.6	23.6	23.6		5.2	
Actuated g/C Ratio	0.06	0.58	1.00	0.06	0.58		0.19	0.19	0.19		0.04	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	103	2066	1563	101	2063		648	351	298		65	
v/s Ratio Prot	c0.03	c0.29		0.02	0.20		c0.13	0.00			0.00	
v/s Ratio Perm			c0.21						0.01			
v/c Ratio	0.47	0.49	0.21	0.41	0.34		0.67	0.02	0.05		0.03	
Uniform Delay, d1	57.0	15.2	0.0	56.8	13.6		47.1	41.3	41.5		57.5	
Progression Factor	0.82	1.36	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	2.5	0.6	0.2	2.7	0.5		2.8	0.0	0.1		0.2	
Delay (s)	49.4	21.3	0.2	59.5	14.0		49.9	41.3	41.5		57.7	
Level of Service	D	C	A	E	B		D	D	D		E	
Approach Delay (s)		17.3			16.5			48.6			57.7	
Approach LOS		B			B			D			E	

Intersection Summary

HCM 2000 Control Delay	23.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 3: Plaza Dr & Admiral Callaghan Ln

2030 + Project Saturday  
 4/27/2015



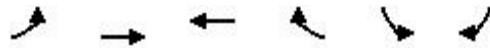
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↗	↖	↗	↗
Volume (vph)	115	529	131	492	415	226	130	67	440	143	86	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.97		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3434		1770	3352		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3434		1770	3352		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	122	563	139	523	441	240	138	71	468	152	91	81
RTOR Reduction (vph)	0	20	0	0	60	0	0	0	406	0	0	71
Lane Group Flow (vph)	122	682	0	523	621	0	138	71	62	152	91	10
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	10.8	23.5		29.3	42.0		10.0	11.8	11.8	9.1	10.9	10.9
Effective Green, g (s)	10.8	23.5		29.3	42.0		10.0	11.8	11.8	9.1	10.9	10.9
Actuated g/C Ratio	0.12	0.26		0.33	0.47		0.11	0.13	0.13	0.10	0.12	0.12
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	213	899		578	1569		197	245	208	179	226	192
v/s Ratio Prot	0.07	c0.20		c0.30	0.19		0.08	0.04		c0.09	c0.05	
v/s Ratio Perm									0.04			0.01
v/c Ratio	0.57	0.76		0.90	0.40		0.70	0.29	0.30	0.85	0.40	0.05
Uniform Delay, d1	37.3	30.5		28.9	15.6		38.4	35.2	35.2	39.6	36.4	34.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.7	3.7		17.6	0.2		10.7	0.7	0.8	29.4	1.2	0.1
Delay (s)	41.0	34.2		46.5	15.7		49.1	35.8	36.0	69.0	37.6	34.9
Level of Service	D	C		D	B		D	D	D	E	D	C
Approach Delay (s)		35.2			29.1			38.6			51.7	
Approach LOS		D			C			D			D	

Intersection Summary

HCM 2000 Control Delay	35.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	89.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
4: Turner Parkway & Plaza Dr

2030 + Project Saturday  
4/27/2015



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↗		↙↘	↘
Volume (vph)	217	108	153	327	285	247
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		0.97	0.91
Flt	1.00	1.00	0.90		0.97	0.85
Flt Protected	0.95	1.00	1.00		0.96	1.00
Satd. Flow (prot)	1770	3539	3177		3365	1441
Flt Permitted	0.95	1.00	1.00		0.96	1.00
Satd. Flow (perm)	1770	3539	3177		3365	1441
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	226	112	159	341	297	257
RTOR Reduction (vph)	0	0	240	0	65	138
Lane Group Flow (vph)	226	112	260	0	314	37
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases						6
Actuated Green, G (s)	7.5	23.2	11.7		8.3	8.3
Effective Green, g (s)	7.5	23.2	11.7		8.3	8.3
Actuated g/C Ratio	0.19	0.59	0.30		0.21	0.21
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	336	2078	941		707	302
v/s Ratio Prot	c0.13	0.03	c0.08		c0.09	
v/s Ratio Perm						0.03
v/c Ratio	0.67	0.05	0.28		0.44	0.12
Uniform Delay, d1	14.9	3.5	10.7		13.6	12.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	5.2	0.0	0.2		0.4	0.2
Delay (s)	20.1	3.5	10.8		14.0	12.8
Level of Service	C	A	B		B	B
Approach Delay (s)		14.6	10.8		13.7	
Approach LOS		B	B		B	

Intersection Summary

HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	39.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	47.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 5: Tiara Dr/Site Access & Turner Parkway

2030 + Project Saturday  
 4/27/2015



Movement	SEL	SET	SER	NML	NMT	NMR	NEL	NET	NER	SML	SWT	SWR
Lane Configurations	↖	↗		↖	↗			↕			↖	↗
Volume (vph)	5	378	10	15	469	5	15	0	10	15	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Flt	1.00	1.00		1.00	1.00			0.95			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.95	1.00
Satd. Flow (prot)	1770	3526		1770	3534			1711			1770	1583
Flt Permitted	0.95	1.00		0.95	1.00			1.00			1.00	1.00
Satd. Flow (perm)	1770	3526		1770	3534			1762			1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	5	390	10	15	484	5	15	0	10	15	0	6
RTOR Reduction (vph)	0	3	0	0	1	0	0	23	0	0	0	6
Lane Group Flow (vph)	5	397	0	15	488	0	0	2	0	0	15	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases							4			8		8
Actuated Green, G (s)	0.5	26.7		0.5	26.7			3.0			3.0	3.0
Effective Green, g (s)	0.5	26.7		0.5	26.7			3.0			3.0	3.0
Actuated g/C Ratio	0.01	0.63		0.01	0.63			0.07			0.07	0.07
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	20	2230		20	2235			125			132	112
v/s Ratio Prot	0.00	0.11		0.01	0.14							
v/s Ratio Perm								0.00			0.01	0.00
v/c Ratio	0.25	0.18		0.75	0.22			0.01			0.11	0.00
Uniform Delay, d1	20.7	3.2		20.8	3.3			18.2			18.4	18.2
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	6.5	0.0		91.0	0.0			0.0			0.4	0.0
Delay (s)	27.1	3.2		111.8	3.4			18.3			18.7	18.2
Level of Service	C	A		F	A			B			B	B
Approach Delay (s)		3.5			6.6			18.3			18.6	
Approach LOS		A			A			B			B	

Intersection Summary

HCM 2000 Control Delay	5.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	42.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	29.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
6: Ascot Parkway & Turner Parkway

2030 + Project Saturday  
4/27/2015



Movement	SEL	SET	SER	NML	NWT	NWR	NEL	NET	NER	SML	SWT	SWR
Lane Configurations	↖	↑	↗	↖	↗		↖	↕		↖	↕	
Volume (vph)	69	10	329	5	5	10	398	359	5	10	219	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frb, ped/bikes	1.00	1.00	0.99	1.00	0.99		1.00	1.00		1.00	1.00	
Flb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Flt	1.00	1.00	0.85	1.00	0.90		1.00	1.00		1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1562	1770	1662		1770	3531		1770	3389	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1562	1770	1662		1770	3531		1770	3389	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	70	10	336	5	5	10	406	366	5	10	223	88
RTOR Reduction (vph)	0	0	278	0	9	0	0	2	0	0	66	0
Lane Group Flow (vph)	70	10	58	5	6	0	406	369	0	10	245	0
Confl. Peds. (#/hr)			3			2			3			
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	6	6		2	2		7	4		3	8	
Permitted Phases			6									
Actuated Green, G (s)	10.7	10.7	10.7	4.6	4.6		16.6	29.9		0.4	13.7	
Effective Green, g (s)	10.7	10.7	10.7	4.6	4.6		16.6	29.9		0.4	13.7	
Actuated g/C Ratio	0.17	0.17	0.17	0.07	0.07		0.27	0.49		0.01	0.22	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	307	323	271	132	124		476	1713		11	753	
v/s Ratio Prot	0.04	0.01		0.00	0.00		0.23	0.10		0.01	0.07	
v/s Ratio Perm			0.04									
v/c Ratio	0.23	0.03	0.22	0.04	0.05		0.85	0.22		0.91	0.33	
Uniform Delay, d1	21.9	21.1	21.8	26.4	26.5		21.3	9.1		30.6	20.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.0	0.4	0.1	0.2		13.8	0.1		217.6	0.3	
Delay (s)	22.3	21.2	22.2	26.6	26.6		35.1	9.2		248.1	20.3	
Level of Service	C	C	C	C	C		D	A		F	C	
Approach Delay (s)		22.2			26.6			22.7			27.4	
Approach LOS		C			C			C			C	

Intersection Summary

HCM 2000 Control Delay	23.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	61.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
 7: Ascot Parkway & Site Access

2030 + Project Saturday  
 4/27/2015



Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations		↗		↑↑	↑↑	
Volume (veh/h)	0	3	0	438	312	14
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	3	0	476	339	15
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)				433		
pX, platoon unblocked	0.97					
vC, conflicting volume	585	177	354			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	507	177	354			
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	100	100			
dM capacity (veh/h)	479	835	1201			

Direction, Lane #	SE 1	NE 1	NE 2	SW 1	SW 2
Volume Total	3	238	238	226	128
Volume Left	0	0	0	0	0
Volume Right	3	0	0	0	15
cSH	835	1700	1700	1700	1700
Volume to Capacity	0.00	0.14	0.14	0.13	0.08
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	9.3	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.3	0.0		0.0	
Approach LOS	A				

Intersection Summary					
Average Delay			0.0		
Intersection Capacity Utilization			19.1%	ICU Level of Service	A
Analysis Period (min)			15		



Queues  
1: Adm Callaghan Ln & Columbus Parkway

Exist AM  
4/28/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	7	827	374	50	842	111	111	70
v/c Ratio	0.06	0.37	0.24	0.35	0.23	0.38	0.38	0.04
Control Delay	37.0	10.6	0.4	50.3	9.8	31.9	31.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.0	10.6	0.4	50.3	9.8	31.9	31.9	0.1
Queue Length 50th (ft)	4	98	0	26	23	57	57	0
Queue Length 95th (ft)	15	212	0	#77	205	71	71	0
Internal Link Dist (ft)		355			228		1103	
Turn Bay Length (ft)	200			215		400		
Base Capacity (vph)	125	2218	1583	143	3594	660	660	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.37	0.24	0.35	0.23	0.17	0.17	0.04

Intersection Summary

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

Queues  
2: Ascot Parkway/Ascot Ct & Columbus Parkway

Exist AM  
4/28/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBR	SBT
Lane Group Flow (vph)	13	548	307	20	720	243	29	1
v/c Ratio	0.11	0.23	0.20	0.17	0.29	0.45	0.05	0.00
Control Delay	45.8	4.3	0.3	40.6	7.1	33.7	0.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.8	4.3	0.3	40.6	7.1	33.7	0.2	0.0
Queue Length 50th (ft)	7	31	0	10	43	62	0	0
Queue Length 95th (ft)	m20	30	0	30	168	73	0	0
Internal Link Dist (ft)		1216			232			381
Turn Bay Length (ft)	220			185		185		
Base Capacity (vph)	116	2445	1563	120	2538	882	688	337
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.22	0.20	0.17	0.28	0.28	0.04	0.00

Intersection Summary

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

Queues  
3: Plaza Dr & Admiral Callaghan Ln

Exist AM  
4/28/2015



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	25	119	125	238	20	16	66	64	14	34
v/c Ratio	0.10	0.10	0.32	0.13	0.10	0.05	0.18	0.29	0.03	0.07
Control Delay	17.4	12.7	16.7	5.9	18.4	15.7	3.1	20.9	12.8	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.4	12.7	16.7	5.9	18.4	15.7	3.1	20.9	12.8	0.3
Queue Length 50th (ft)	5	10	25	8	4	3	0	14	2	0
Queue Length 95th (ft)	21	26	61	34	18	15	12	41	14	0
Internal Link Dist (ft)		1017		564		1686			302	
Turn Bay Length (ft)	250		250		200			100		100
Base Capacity (vph)	258	2795	412	2900	206	1468	1272	223	1468	1272
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	0.10	0.04	0.30	0.08	0.10	0.01	0.05	0.29	0.01	0.03

Intersection Summary

Queues  
4: Turner Parkway & Plaza Dr

Exist AM  
4/28/2015



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	77	32	117	63	29
v/c Ratio	0.19	0.01	0.05	0.09	0.09
Control Delay	15.3	2.1	4.1	11.8	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	15.3	2.1	4.1	11.8	9.3
Queue Length 50th (ft)	4	0	0	1	0
Queue Length 95th (ft)	56	3	14	20	19
Internal Link Dist (ft)		725	1138	1686	
Turn Bay Length (ft)	220			150	
Base Capacity (vph)	510	2893	2485	1331	588
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.15	0.01	0.05	0.05	0.05

Intersection Summary

Queues  
5: Tiara Dr/Site Access & Turner Parkway

Exist AM  
4/28/2015



Lane Group	SET	NML	NWT	NET	SWT
Lane Group Flow (vph)	72	2	98	19	1
v/c Ratio	0.02	0.01	0.03	0.05	0.00
Control Delay	3.7	19.0	0.1	0.2	17.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	3.7	19.0	0.1	0.2	17.0
Queue Length 50th (ft)	0	1	0	0	0
Queue Length 95th (ft)	14	m0	0	0	3
Internal Link Dist (ft)	1138		447	321	315
Turn Bay Length (ft)		100			
Base Capacity (vph)	3112	354	3264	539	409
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.02	0.01	0.03	0.04	0.00

Intersection Summary

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

Queues  
6: Ascot Parkway & Turner Parkway

Exist AM  
4/28/2015



Lane Group	SEL	SET	SER	NML	NWT	NEL	NET	SWL	SWT
Lane Group Flow (vph)	38	5	64	8	28	116	179	10	339
v/c Ratio	0.16	0.02	0.14	0.01	0.05	0.45	0.15	0.05	0.50
Control Delay	17.9	15.0	1.4	17.8	10.8	25.7	11.1	21.2	19.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.9	15.0	1.4	17.8	10.8	25.7	11.1	21.2	19.2
Queue Length 50th (ft)	10	1	0	2	2	31	14	3	43
Queue Length 95th (ft)	25	5	0	9	15	60	33	12	60
Internal Link Dist (ft)		447			173		1794		353
Turn Bay Length (ft)	200			50		380		120	
Base Capacity (vph)	283	298	488	584	551	266	1312	189	784
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.02	0.13	0.01	0.05	0.44	0.14	0.05	0.43

Intersection Summary



Lane Group	EBT	EBR	WBL	WBT	NBL
Lane Group Flow (vph)	601	1	14	786	17
v/c Ratio	0.19	0.00	0.08	0.23	0.06
Control Delay	1.8	3.0	21.6	0.7	19.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	1.8	3.0	21.6	0.7	19.1
Queue Length 50th (ft)	0	0	4	0	1
Queue Length 95th (ft)	51	1	14	27	7
Internal Link Dist (ft)	528			636	262
Turn Bay Length (ft)			210		50
Base Capacity (vph)	3242	1410	177	3369	271
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.19	0.00	0.08	0.23	0.06
<b>Intersection Summary</b>					



Queues  
1: Adm Callaghan Ln & Columbus Parkway

Exist PM  
5/11/2015



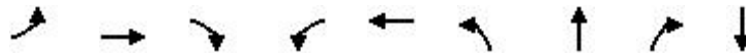
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	15	824	826	135	694	420	420	183	7
v/c Ratio	0.13	0.58	0.52	0.67	0.25	0.78	0.78	0.12	0.03
Control Delay	40.0	22.4	1.2	61.5	15.7	35.5	35.5	0.1	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.0	22.4	1.2	61.5	15.7	35.5	35.5	0.1	0.2
Queue Length 50th (ft)	8	171	0	71	60	205	205	0	0
Queue Length 95th (ft)	26	250	0	#212	176	269	269	0	0
Internal Link Dist (ft)		355			228		1103		547
Turn Bay Length (ft)	200			215		400			
Base Capacity (vph)	117	1422	1583	201	2768	660	660	1583	239
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.58	0.52	0.67	0.25	0.64	0.64	0.12	0.03

Intersection Summary

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

Queues  
2: Ascot Parkway/Ascot Ct & Columbus Parkway

Exist PM  
5/11/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	35	820	239	29	643	177	1	30	1
v/c Ratio	0.27	0.33	0.15	0.23	0.27	0.36	0.00	0.09	0.00
Control Delay	37.0	10.0	0.2	42.0	8.5	33.0	25.0	0.6	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.0	10.0	0.2	42.0	8.5	33.0	25.0	0.6	0.0
Queue Length 50th (ft)	18	114	0	15	65	45	1	0	0
Queue Length 95th (ft)	m38	110	0	39	148	55	4	0	0
Internal Link Dist (ft)		1216			232		702		381
Turn Bay Length (ft)	220			185		185			
Base Capacity (vph)	129	2488	1563	125	2391	882	478	493	398
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.33	0.15	0.23	0.27	0.20	0.00	0.06	0.00

Intersection Summary

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

Queues  
3: Plaza Dr & Admiral Callaghan Ln

Exist PM  
5/11/2015



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	68	500	428	393	100	38	380	87	46	43
v/c Ratio	0.35	0.69	0.84	0.24	0.41	0.11	0.63	0.66	0.15	0.09
Control Delay	34.3	25.9	40.3	10.0	35.7	20.1	7.7	58.1	22.1	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.3	25.9	40.3	10.0	35.7	20.1	7.7	58.1	22.1	0.4
Queue Length 50th (ft)	22	73	132	32	33	11	0	30	14	0
Queue Length 95th (ft)	#80	159	#419	87	#128	32	55	#133	39	0
Internal Link Dist (ft)		1017		564		1686			302	
Turn Bay Length (ft)	250		250		200			100		100
Base Capacity (vph)	198	782	560	1634	249	487	694	132	417	538
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	0.34	0.64	0.76	0.24	0.40	0.08	0.55	0.66	0.11	0.08

Intersection Summary

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

Queues  
4: Turner Parkway & Plaza Dr

Exist PM  
5/11/2015



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	223	98	339	391	179
v/c Ratio	0.59	0.05	0.31	0.46	0.38
Control Delay	27.6	3.9	3.9	13.6	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.6	3.9	3.9	13.6	6.5
Queue Length 50th (ft)	37	3	6	24	0
Queue Length 95th (ft)	#198	10	24	90	48
Internal Link Dist (ft)		725	1138	1686	
Turn Bay Length (ft)	220			150	
Base Capacity (vph)	408	2381	1216	1124	579
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.55	0.04	0.28	0.35	0.31

Intersection Summary

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



Lane Group	SET	NML	NWT	NET
Lane Group Flow (vph)	394	16	331	15
v/c Ratio	0.13	0.07	0.10	0.04
Control Delay	3.4	19.9	1.4	0.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	3.4	19.9	1.4	0.2
Queue Length 50th (ft)	0	4	0	0
Queue Length 95th (ft)	63	17	29	0
Internal Link Dist (ft)	1138		447	321
Turn Bay Length (ft)		100		
Base Capacity (vph)	3099	354	3270	525
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.13	0.05	0.10	0.03
<b>Intersection Summary</b>				

Queues  
6: Ascot Parkway & Turner Parkway

Exist PM  
5/11/2015



Lane Group	SEL	SET	SER	NML	NWT	NEL	NET	SWL	SWT
Lane Group Flow (vph)	75	19	383	1	23	313	127	10	268
v/c Ratio	0.21	0.05	0.62	0.00	0.08	0.67	0.07	0.06	0.42
Control Delay	23.9	23.5	8.1	26.0	17.5	32.5	16.9	36.9	24.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.9	23.5	8.1	26.0	17.5	32.5	16.9	36.9	24.0
Queue Length 50th (ft)	14	4	0	0	2	56	4	2	21
Queue Length 95th (ft)	64	24	27	4	20	#323	57	21	100
Internal Link Dist (ft)		447			173		1794		353
Turn Bay Length (ft)	200			50		380		120	
Base Capacity (vph)	644	677	812	425	414	743	2108	169	871
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.03	0.47	0.00	0.06	0.42	0.06	0.06	0.31

Intersection Summary

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

Queues  
1: Adm Callaghan Ln & Columbus Parkway

Exist Saturday  
4/28/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	22	446	1059	189	460	427	428	213
v/c Ratio	0.22	0.29	0.67	0.72	0.16	0.80	0.80	0.13
Control Delay	60.8	25.8	2.3	57.7	10.5	50.3	50.4	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.8	25.8	2.3	57.7	10.5	50.3	50.4	0.2
Queue Length 50th (ft)	17	121	0	151	53	329	330	0
Queue Length 95th (ft)	45	201	0	237	131	407	409	0
Internal Link Dist (ft)		355			228		1103	
Turn Bay Length (ft)	200			215		400		
Base Capacity (vph)	101	1552	1583	342	2854	685	685	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.29	0.67	0.55	0.16	0.62	0.62	0.13

Intersection Summary



Queues  
2: Ascot Parkway/Ascot Ct & Columbus Parkway

Exist Saturday  
4/28/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	14	523	168	38	524	133	1	33	1
v/c Ratio	0.15	0.21	0.11	0.33	0.20	0.33	0.00	0.13	0.00
Control Delay	69.0	16.7	0.1	62.8	11.2	50.3	40.0	1.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.0	16.7	0.1	62.8	11.2	50.3	40.0	1.0	0.0
Queue Length 50th (ft)	12	72	0	30	27	54	1	0	0
Queue Length 95th (ft)	36	280	0	65	232	67	5	0	0
Internal Link Dist (ft)		1216			232		702		381
Turn Bay Length (ft)	220			185		185			
Base Capacity (vph)	141	2529	1563	169	2682	1043	566	536	550
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.21	0.11	0.22	0.20	0.13	0.00	0.06	0.00

Intersection Summary

Queues  
3: Plaza Dr & Admiral Callaghan Ln

Exist Saturday  
4/28/2015



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	112	554	497	508	118	76	428	149	100	70
v/c Ratio	0.52	0.70	0.81	0.30	0.60	0.30	0.73	0.79	0.41	0.22
Control Delay	46.2	34.0	40.1	10.6	52.1	37.1	12.0	69.0	40.5	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.2	34.0	40.1	10.6	52.1	37.1	12.0	69.0	40.5	2.1
Queue Length 50th (ft)	56	132	234	54	60	37	0	78	50	0
Queue Length 95th (ft)	125	211	#531	110	#156	82	87	#222	104	4
Internal Link Dist (ft)		1017		564		1686			302	
Turn Bay Length (ft)	250		250		200			100		100
Base Capacity (vph)	273	1202	611	1868	210	598	799	189	576	579
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	0.41	0.46	0.81	0.27	0.56	0.13	0.54	0.79	0.17	0.12

Intersection Summary

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

Queues  
4: Turner Parkway & Plaza Dr

Exist Saturday  
4/28/2015



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	222	95	397	378	174
v/c Ratio	0.52	0.05	0.35	0.48	0.40
Control Delay	22.1	3.3	4.4	14.4	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	22.1	3.3	4.4	14.4	7.5
Queue Length 50th (ft)	37	3	9	24	0
Queue Length 95th (ft)	#166	8	30	88	51
Internal Link Dist (ft)		725	1138	1686	
Turn Bay Length (ft)	220			150	
Base Capacity (vph)	548	2535	1190	924	495
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.41	0.04	0.33	0.41	0.35

Intersection Summary

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



Lane Group	SEL	SET	NWL	NWT	NET
Lane Group Flow (vph)	2	375	12	391	17
v/c Ratio	0.01	0.12	0.04	0.13	0.03
Control Delay	24.0	5.5	22.7	5.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	24.0	5.5	22.7	5.5	0.1
Queue Length 50th (ft)	0	0	1	0	0
Queue Length 95th (ft)	8	100	22	105	0
Internal Link Dist (ft)		1138		447	321
Turn Bay Length (ft)	120		100		
Base Capacity (vph)	359	3099	359	3107	510
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.01	0.12	0.03	0.13	0.03
<b>Intersection Summary</b>					

Queues  
6: Ascot Parkway & Turner Parkway

Exist Saturday  
4/28/2015



Lane Group	SEL	SET	SER	NML	NWT	NEL	NET	SWL	SWT
Lane Group Flow (vph)	47	10	274	4	12	300	88	9	170
v/c Ratio	0.13	0.03	0.51	0.01	0.04	0.63	0.05	0.05	0.28
Control Delay	20.3	20.2	7.1	21.8	15.6	29.0	14.9	33.9	18.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.3	20.2	7.1	21.8	15.6	29.0	14.9	33.9	18.6
Queue Length 50th (ft)	8	2	0	1	1	48	2	2	9
Queue Length 95th (ft)	51	18	59	10	16	#415	47	23	70
Internal Link Dist (ft)		447			173		1794		353
Turn Bay Length (ft)	200			50		380		120	
Base Capacity (vph)	468	493	615	425	405	693	2057	176	946
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.02	0.45	0.01	0.03	0.43	0.04	0.05	0.18

Intersection Summary

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





Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	6	922	386	52	979	123	124	70
v/c Ratio	0.05	0.42	0.24	0.36	0.27	0.41	0.41	0.04
Control Delay	37.0	11.4	0.4	50.2	9.9	32.2	32.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.0	11.4	0.4	50.2	9.9	32.2	32.3	0.1
Queue Length 50th (ft)	3	117	0	27	29	64	65	0
Queue Length 95th (ft)	14	242	0	#81	236	77	78	0
Internal Link Dist (ft)		355			228		1103	
Turn Bay Length (ft)	200			215		400		
Base Capacity (vph)	124	2192	1583	146	3565	660	660	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.42	0.24	0.36	0.27	0.19	0.19	0.04

**Intersection Summary**

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



Queues  
2: Ascot Parkway/Ascot Ct & Columbus Parkway

Near Term AM  
4/28/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBR	SBT
Lane Group Flow (vph)	12	614	306	19	783	271	35	1
v/c Ratio	0.10	0.26	0.20	0.16	0.31	0.49	0.06	0.00
Control Delay	43.2	4.5	0.3	40.6	7.5	33.9	0.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.2	4.5	0.3	40.6	7.5	33.9	0.2	0.0
Queue Length 50th (ft)	6	37	0	10	51	69	0	0
Queue Length 95th (ft)	m17	32	0	29	185	80	0	0
Internal Link Dist (ft)		1216			232			381
Turn Bay Length (ft)	220			185		185		
Base Capacity (vph)	115	2424	1563	119	2516	882	662	310
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.25	0.20	0.16	0.31	0.31	0.05	0.00

Intersection Summary

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

Queues  
3: Plaza Dr & Admiral Callaghan Ln

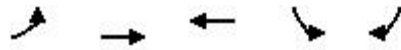
Near Term AM  
4/28/2015



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	29	132	132	243	18	17	74	65	15	34
v/c Ratio	0.12	0.15	0.36	0.13	0.10	0.06	0.22	0.32	0.03	0.07
Control Delay	17.9	12.9	17.5	5.9	18.6	15.9	3.8	21.9	12.9	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.9	12.9	17.5	5.9	18.6	15.9	3.8	21.9	12.9	0.3
Queue Length 50th (ft)	6	11	26	8	4	3	0	14	2	0
Queue Length 95th (ft)	23	28	65	35	17	15	15	#42	14	0
Internal Link Dist (ft)		1017		564		1686			302	
Turn Bay Length (ft)	250		250		200			100		100
Base Capacity (vph)	233	2648	373	2828	186	1377	1200	203	1377	1200
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	0.12	0.05	0.35	0.09	0.10	0.01	0.06	0.32	0.01	0.03

Intersection Summary

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



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	78	45	125	68	32
v/c Ratio	0.20	0.02	0.06	0.10	0.10
Control Delay	16.2	2.8	4.4	12.9	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	16.2	2.8	4.4	12.9	9.1
Queue Length 50th (ft)	8	1	1	3	0
Queue Length 95th (ft)	56	4	14	22	20
Internal Link Dist (ft)		725	1138	1686	
Turn Bay Length (ft)	220			150	
Base Capacity (vph)	473	2732	2149	1244	550
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.16	0.02	0.06	0.05	0.06

Intersection Summary



Lane Group	SET	NML	NWT	NET	SWT
Lane Group Flow (vph)	93	3	105	21	1
v/c Ratio	0.03	0.02	0.03	0.05	0.00
Control Delay	3.7	19.0	0.1	0.3	17.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	3.7	19.0	0.1	0.3	17.0
Queue Length 50th (ft)	0	1	0	0	0
Queue Length 95th (ft)	17	m1	0	0	3
Internal Link Dist (ft)	1138		447	321	315
Turn Bay Length (ft)		100			
Base Capacity (vph)	3114	354	3267	538	409
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.03	0.01	0.03	0.04	0.00

**Intersection Summary**

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

Queues  
6: Ascot Parkway & Turner Parkway

Near Term AM  
4/28/2015



Lane Group	SEL	SET	SER	NML	NWT	NEL	NET	SWL	SWT
Lane Group Flow (vph)	45	5	78	9	29	116	211	10	341
v/c Ratio	0.19	0.02	0.17	0.02	0.05	0.46	0.17	0.05	0.50
Control Delay	17.9	14.8	1.8	17.9	10.6	25.9	11.2	21.2	19.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.9	14.8	1.8	17.9	10.6	25.9	11.2	21.2	19.2
Queue Length 50th (ft)	12	1	0	2	2	31	17	3	43
Queue Length 95th (ft)	29	4	0	10	15	60	37	12	60
Internal Link Dist (ft)		447			173		1794		353
Turn Bay Length (ft)	200			50		380		120	
Base Capacity (vph)	283	298	488	583	550	264	1309	189	784
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.02	0.16	0.02	0.05	0.44	0.16	0.05	0.43

Intersection Summary





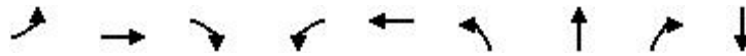
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	13	951	860	140	772	429	429	187	6
v/c Ratio	0.11	0.64	0.54	0.88	0.28	0.77	0.77	0.12	0.03
Control Delay	39.6	23.1	1.3	92.8	15.7	35.0	35.0	0.2	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.6	23.1	1.3	92.8	15.7	35.0	35.0	0.2	0.2
Queue Length 50th (ft)	7	191	0	~95	72	206	206	0	0
Queue Length 95th (ft)	24	298	0	#219	193	276	276	0	0
Internal Link Dist (ft)		355			228		1103		547
Turn Bay Length (ft)	200			215		400			
Base Capacity (vph)	116	1481	1583	159	2731	660	660	1583	239
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.64	0.54	0.88	0.28	0.65	0.65	0.12	0.03

**Intersection Summary**

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Queues  
2: Ascot Parkway/Ascot Ct & Columbus Parkway

Near Term PM  
5/11/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	34	918	282	28	689	222	1	42	1
v/c Ratio	0.27	0.38	0.18	0.22	0.30	0.43	0.00	0.12	0.00
Control Delay	37.5	10.7	0.2	41.8	8.9	33.5	25.0	0.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.5	10.7	0.2	41.8	8.9	33.5	25.0	0.7	0.0
Queue Length 50th (ft)	17	141	0	14	74	57	1	0	0
Queue Length 95th (ft)	m34	132	0	38	160	67	4	0	0
Internal Link Dist (ft)		1216			232		702		381
Turn Bay Length (ft)	220			185		185			
Base Capacity (vph)	128	2456	1563	125	2361	882	478	493	356
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.37	0.18	0.22	0.29	0.25	0.00	0.09	0.00

Intersection Summary

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





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	70	495	431	401	102	39	382	88	43	44
v/c Ratio	0.36	0.68	0.85	0.25	0.41	0.11	0.63	0.67	0.14	0.10
Control Delay	34.7	25.9	40.6	10.4	35.8	20.2	7.8	58.9	22.0	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.7	25.9	40.6	10.4	35.8	20.2	7.8	58.9	22.0	0.4
Queue Length 50th (ft)	23	72	133	34	34	12	0	30	13	0
Queue Length 95th (ft)	#83	158	#423	92	#131	33	56	#134	37	0
Internal Link Dist (ft)		1017		564		1686			302	
Turn Bay Length (ft)	250		250		200			100		100
Base Capacity (vph)	198	781	560	1632	249	487	696	131	417	538
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	0.35	0.63	0.77	0.25	0.41	0.08	0.55	0.67	0.10	0.08

**Intersection Summary**

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



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	227	101	338	388	177
v/c Ratio	0.59	0.05	0.31	0.45	0.37
Control Delay	27.9	3.9	4.1	13.5	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.9	3.9	4.1	13.5	6.5
Queue Length 50th (ft)	38	4	6	24	0
Queue Length 95th (ft)	#202	10	25	89	49
Internal Link Dist (ft)		725	1138	1686	
Turn Bay Length (ft)	220			150	
Base Capacity (vph)	408	2379	1215	1124	577
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.56	0.04	0.28	0.35	0.31

**Intersection Summary**

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



Lane Group	SET	NML	NWT	NET
Lane Group Flow (vph)	396	16	331	15
v/c Ratio	0.13	0.07	0.10	0.04
Control Delay	3.4	19.9	1.4	0.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	3.4	19.9	1.4	0.2
Queue Length 50th (ft)	0	4	0	0
Queue Length 95th (ft)	63	17	29	0
Internal Link Dist (ft)	1138		447	321
Turn Bay Length (ft)		100		
Base Capacity (vph)	3099	354	3270	525
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.13	0.05	0.10	0.03
<b>Intersection Summary</b>				



Lane Group	SEL	SET	SER	NML	NWT	NEL	NET	SWL	SWT
Lane Group Flow (vph)	75	18	387	4	23	321	189	12	319
v/c Ratio	0.22	0.05	0.63	0.01	0.08	0.68	0.10	0.07	0.49
Control Delay	24.3	23.9	8.2	26.0	17.7	33.1	16.1	37.2	26.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.3	23.9	8.2	26.0	17.7	33.1	16.1	37.2	26.5
Queue Length 50th (ft)	15	4	0	1	2	61	6	3	28
Queue Length 95th (ft)	64	23	27	9	20	#335	79	23	126
Internal Link Dist (ft)		447			173		1794		353
Turn Bay Length (ft)	200			50		380		120	
Base Capacity (vph)	628	661	803	415	405	723	2062	164	842
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.03	0.48	0.01	0.06	0.44	0.09	0.07	0.38

**Intersection Summary**

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



Queues  
1: Adm Callaghan Ln & Columbus Parkway

Near Term Saturday  
4/28/2015



Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	561	1073	212	540	438	438	231	1
v/c Ratio	0.38	0.68	0.77	0.18	0.81	0.81	0.15	0.00
Control Delay	29.9	2.4	63.0	9.6	50.0	50.0	0.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.9	2.4	63.0	9.6	50.0	50.0	0.2	0.0
Queue Length 50th (ft)	163	0	137	48	337	337	0	0
Queue Length 95th (ft)	280	0	262	132	418	418	0	0
Internal Link Dist (ft)	355			228		1103		547
Turn Bay Length (ft)			215		400			
Base Capacity (vph)	1458	1583	339	3051	685	685	1583	211
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.68	0.63	0.18	0.64	0.64	0.15	0.00

Intersection Summary

Queues  
2: Ascot Parkway/Ascot Ct & Columbus Parkway

Near Term Saturday  
4/28/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	21	622	197	38	560	191	2	41	10
v/c Ratio	0.21	0.27	0.13	0.33	0.23	0.43	0.01	0.15	0.02
Control Delay	64.6	16.3	0.2	62.8	13.3	51.0	39.0	2.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.6	16.3	0.2	62.8	13.3	51.0	39.0	2.1	0.1
Queue Length 50th (ft)	18	21	0	30	61	77	1	0	0
Queue Length 95th (ft)	m46	329	0	65	252	91	8	5	0
Internal Link Dist (ft)		1216			232		702		381
Turn Bay Length (ft)	220			185		185			
Base Capacity (vph)	141	2431	1563	169	2519	1043	566	536	491
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.26	0.13	0.22	0.22	0.18	0.00	0.08	0.02

Intersection Summary

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

Queues  
3: Plaza Dr & Admiral Callaghan Ln

Near Term Saturday  
4/28/2015



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	114	583	501	544	122	74	435	150	98	72
v/c Ratio	0.53	0.71	0.83	0.34	0.62	0.30	0.74	0.80	0.41	0.23
Control Delay	47.2	34.2	42.2	12.0	54.0	37.7	12.1	71.8	41.2	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.2	34.2	42.2	12.0	54.0	37.7	12.1	71.8	41.2	2.4
Queue Length 50th (ft)	57	142	241	65	62	36	0	79	49	0
Queue Length 95th (ft)	129	224	#548	126	#166	82	87	#227	104	5
Internal Link Dist (ft)		1017		564		1686			302	
Turn Bay Length (ft)	250		250		200			100		100
Base Capacity (vph)	270	1187	603	1836	208	591	799	187	569	573
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	0.42	0.49	0.83	0.30	0.59	0.13	0.54	0.80	0.17	0.13

Intersection Summary

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





Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	223	98	417	377	174
v/c Ratio	0.52	0.05	0.37	0.48	0.40
Control Delay	22.2	3.3	4.6	14.6	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	22.2	3.3	4.6	14.6	7.5
Queue Length 50th (ft)	38	3	10	24	0
Queue Length 95th (ft)	#168	8	32	88	51
Internal Link Dist (ft)		725	1138	1686	
Turn Bay Length (ft)	220			150	
Base Capacity (vph)	546	2527	1198	918	494
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.41	0.04	0.35	0.41	0.35

**Intersection Summary**

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



Lane Group	SEL	SET	NWL	NWT	NET
Lane Group Flow (vph)	2	380	13	409	17
v/c Ratio	0.01	0.12	0.04	0.13	0.03
Control Delay	24.0	5.5	22.5	5.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	24.0	5.5	22.5	5.6	0.1
Queue Length 50th (ft)	0	0	1	0	0
Queue Length 95th (ft)	8	102	24	110	0
Internal Link Dist (ft)		1138		447	321
Turn Bay Length (ft)	120		100		
Base Capacity (vph)	358	3098	358	3106	510
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.01	0.12	0.04	0.13	0.03
<b>Intersection Summary</b>					



Lane Group	SEL	SET	SER	NML	NWT	NEL	NET	SWL	SWT
Lane Group Flow (vph)	49	10	287	4	12	320	143	9	198
v/c Ratio	0.14	0.03	0.53	0.01	0.04	0.66	0.08	0.05	0.32
Control Delay	20.6	20.4	7.2	22.0	15.8	29.8	14.7	34.1	19.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.6	20.4	7.2	22.0	15.8	29.8	14.7	34.1	19.0
Queue Length 50th (ft)	9	2	0	1	1	53	4	2	12
Queue Length 95th (ft)	53	18	60	10	16	#448	71	23	82
Internal Link Dist (ft)		447			173		1794		353
Turn Bay Length (ft)	200			50		380		120	
Base Capacity (vph)	460	484	618	418	398	678	2030	173	935
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.02	0.46	0.01	0.03	0.47	0.07	0.05	0.21

**Intersection Summary**

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





Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	6	964	397	52	986	124	125	70
v/c Ratio	0.05	0.44	0.25	0.37	0.28	0.41	0.42	0.04
Control Delay	37.0	11.4	0.4	51.3	9.9	32.3	32.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.0	11.4	0.4	51.3	9.9	32.3	32.4	0.1
Queue Length 50th (ft)	3	125	0	27	29	65	65	0
Queue Length 95th (ft)	14	256	0	#81	238	78	80	0
Internal Link Dist (ft)		355			228		1103	
Turn Bay Length (ft)	200			215		400		
Base Capacity (vph)	124	2206	1583	139	3565	660	660	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.44	0.25	0.37	0.28	0.19	0.19	0.04

**Intersection Summary**

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



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBR	SBT
Lane Group Flow (vph)	12	614	349	28	783	278	36	1
v/c Ratio	0.10	0.26	0.22	0.22	0.32	0.49	0.07	0.00
Control Delay	42.6	4.8	0.3	41.8	7.5	33.9	0.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.6	4.8	0.3	41.8	7.5	33.9	0.2	0.0
Queue Length 50th (ft)	6	38	0	14	52	71	0	0
Queue Length 95th (ft)	m17	34	0	38	185	82	0	0
Internal Link Dist (ft)		1216			232			381
Turn Bay Length (ft)	220			185		185		
Base Capacity (vph)	115	2413	1563	125	2511	882	662	307
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.25	0.22	0.22	0.31	0.32	0.05	0.00

**Intersection Summary**

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

Queues  
3: Plaza Dr & Admiral Callaghan Ln

Near Term + Project AM

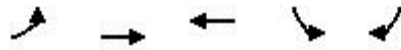
4/28/2015



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	29	132	141	243	18	17	76	65	15	34
v/c Ratio	0.12	0.15	0.38	0.13	0.10	0.06	0.22	0.32	0.03	0.07
Control Delay	17.9	12.9	17.8	5.9	18.6	15.9	4.1	21.9	12.9	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.9	12.9	17.8	5.9	18.6	15.9	4.1	21.9	12.9	0.3
Queue Length 50th (ft)	6	11	28	8	4	3	0	14	2	0
Queue Length 95th (ft)	23	28	68	35	17	15	16	#42	14	0
Internal Link Dist (ft)		1017		564		1686			302	
Turn Bay Length (ft)	250		250		200			100		100
Base Capacity (vph)	232	2638	372	2895	186	1373	1196	203	1373	1196
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	0.13	0.05	0.38	0.08	0.10	0.01	0.06	0.32	0.01	0.03

Intersection Summary

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



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	78	53	128	75	35
v/c Ratio	0.20	0.02	0.06	0.11	0.11
Control Delay	16.1	2.8	4.4	13.3	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	16.1	2.8	4.4	13.3	8.8
Queue Length 50th (ft)	8	1	1	3	0
Queue Length 95th (ft)	57	5	14	24	21
Internal Link Dist (ft)		725	1138	1686	
Turn Bay Length (ft)	220			150	
Base Capacity (vph)	475	2744	2138	1257	554
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.16	0.02	0.06	0.06	0.06
<b>Intersection Summary</b>					





Lane Group	SEL	SET	NWL	NWT	NET	SWT	SWR
Lane Group Flow (vph)	18	93	3	122	21	11	4
v/c Ratio	0.09	0.03	0.02	0.04	0.05	0.04	0.01
Control Delay	21.8	3.7	18.3	2.0	0.3	17.6	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.8	3.7	18.3	2.0	0.3	17.6	0.0
Queue Length 50th (ft)	5	0	1	0	0	3	0
Queue Length 95th (ft)	20	17	m1	m7	0	12	0
Internal Link Dist (ft)		1138		447	321	315	
Turn Bay Length (ft)	120		100				75
Base Capacity (vph)	193	3114	354	3089	538	409	501
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.03	0.01	0.04	0.04	0.03	0.01

**Intersection Summary**

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



Lane Group	SEL	SET	SER	NML	NWT	NEL	NET	SWL	SWT
Lane Group Flow (vph)	56	5	79	9	29	135	211	10	343
v/c Ratio	0.23	0.02	0.17	0.02	0.06	0.53	0.17	0.05	0.51
Control Delay	19.7	16.2	1.7	17.9	10.7	28.9	11.3	21.2	19.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.7	16.2	1.7	17.9	10.7	28.9	11.3	21.2	19.2
Queue Length 50th (ft)	16	1	0	2	2	36	17	3	43
Queue Length 95th (ft)	34	4	0	10	15	68	37	12	60
Internal Link Dist (ft)		447			173		1794		353
Turn Bay Length (ft)	200			50		380		120	
Base Capacity (vph)	283	298	488	507	482	262	1308	189	784
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.02	0.16	0.02	0.06	0.52	0.16	0.05	0.44

Intersection Summary





Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	13	992	871	140	794	432	433	187	6
v/c Ratio	0.11	0.66	0.55	0.96	0.29	0.78	0.78	0.12	0.03
Control Delay	39.6	23.4	1.4	112.5	15.5	34.9	35.0	0.2	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.6	23.4	1.4	112.5	15.5	34.9	35.0	0.2	0.2
Queue Length 50th (ft)	7	196	0	~111	81	208	208	0	0
Queue Length 95th (ft)	24	#318	0	#219	198	278	280	0	0
Internal Link Dist (ft)		355			228		1103		547
Turn Bay Length (ft)	200			215		400			
Base Capacity (vph)	116	1501	1583	146	2723	660	660	1583	239
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.66	0.55	0.96	0.29	0.65	0.66	0.12	0.03

**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.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	34	918	324	36	689	245	47
v/c Ratio	0.27	0.40	0.21	0.28	0.30	0.45	0.10
Control Delay	37.6	11.7	0.3	43.1	9.0	33.7	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.6	11.7	0.3	43.1	9.0	33.7	0.4
Queue Length 50th (ft)	17	133	0	18	76	62	0
Queue Length 95th (ft)	m33	131	0	45	160	73	0
Internal Link Dist (ft)		1216			232		
Turn Bay Length (ft)	220			185		185	
Base Capacity (vph)	128	2340	1563	130	2342	882	592
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.39	0.21	0.28	0.29	0.28	0.08

**Intersection Summary**

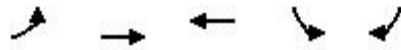
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	70	495	440	401	102	39	388	88	43	44
v/c Ratio	0.36	0.69	0.86	0.25	0.42	0.11	0.64	0.67	0.14	0.10
Control Delay	34.8	26.0	41.9	10.4	35.9	20.2	7.8	59.4	22.0	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.8	26.0	41.9	10.4	35.9	20.2	7.8	59.4	22.0	0.4
Queue Length 50th (ft)	23	72	137	34	34	12	0	30	13	0
Queue Length 95th (ft)	#83	158	#433	92	#131	33	56	#134	37	0
Internal Link Dist (ft)		1017		564		1686			302	
Turn Bay Length (ft)	250		250		200			100		100
Base Capacity (vph)	197	778	558	1635	248	485	699	131	416	537
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	0.36	0.64	0.79	0.25	0.41	0.08	0.56	0.67	0.10	0.08

**Intersection Summary**

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



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	227	109	349	395	180
v/c Ratio	0.59	0.06	0.32	0.46	0.38
Control Delay	27.9	3.9	4.2	13.7	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.9	3.9	4.2	13.7	6.5
Queue Length 50th (ft)	38	4	7	25	0
Queue Length 95th (ft)	#202	11	26	91	49
Internal Link Dist (ft)		725	1138	1686	
Turn Bay Length (ft)	220			150	
Base Capacity (vph)	409	2385	1212	1127	581
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.56	0.05	0.29	0.35	0.31

**Intersection Summary**

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



Lane Group	SEL	SET	NWL	NWT	NET	SWT	SWR
Lane Group Flow (vph)	17	396	16	346	15	28	12
v/c Ratio	0.09	0.14	0.07	0.12	0.04	0.11	0.03
Control Delay	21.7	4.1	19.9	3.4	0.2	18.2	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.7	4.1	19.9	3.4	0.2	18.2	0.2
Queue Length 50th (ft)	5	0	4	0	0	7	0
Queue Length 95th (ft)	20	63	17	48	0	22	0
Internal Link Dist (ft)		1138		447	321	315	
Turn Bay Length (ft)	120		100				75
Base Capacity (vph)	193	2885	354	2923	480	409	501
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.14	0.05	0.12	0.03	0.07	0.02
<b>Intersection Summary</b>							





Lane Group	SEL	SET	SER	NML	NWT	NEL	NET	SWL	SWT
Lane Group Flow (vph)	105	18	391	4	23	339	189	12	326
v/c Ratio	0.29	0.05	0.62	0.01	0.08	0.71	0.10	0.08	0.50
Control Delay	25.2	23.9	8.0	26.3	18.1	34.1	16.3	37.7	27.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.2	23.9	8.0	26.3	18.1	34.1	16.3	37.7	27.5
Queue Length 50th (ft)	23	4	0	1	2	68	7	3	32
Queue Length 95th (ft)	85	23	27	9	20	#359	79	23	#131
Internal Link Dist (ft)		447			173		1794		353
Turn Bay Length (ft)	200			50		380		120	
Base Capacity (vph)	609	641	793	404	394	699	2021	159	816
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.03	0.49	0.01	0.06	0.48	0.09	0.08	0.40

**Intersection Summary**

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





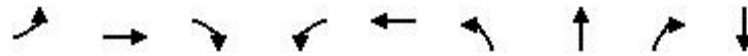
Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	574	1076	212	552	440	440	231	1
v/c Ratio	0.39	0.68	0.77	0.18	0.81	0.81	0.15	0.00
Control Delay	30.1	2.4	62.6	9.6	50.0	50.0	0.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.1	2.4	62.6	9.6	50.0	50.0	0.2	0.0
Queue Length 50th (ft)	168	0	137	48	340	340	0	0
Queue Length 95th (ft)	287	0	262	133	421	421	0	0
Internal Link Dist (ft)	355			228		1103		547
Turn Bay Length (ft)			215		400			
Base Capacity (vph)	1454	1583	339	3046	685	685	1583	207
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.68	0.63	0.18	0.64	0.64	0.15	0.00

Intersection Summary

Queues  
2: Ascot Parkway/Ascot Ct & Columbus Parkway

Near Term + Project Saturday

4/28/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	21	622	210	40	560	203	2	43	10
v/c Ratio	0.21	0.27	0.13	0.34	0.23	0.44	0.01	0.15	0.02
Control Delay	64.5	16.6	0.2	62.9	13.3	51.2	39.0	2.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.5	16.6	0.2	62.9	13.3	51.2	39.0	2.5	0.1
Queue Length 50th (ft)	18	21	0	32	62	81	1	0	0
Queue Length 95th (ft)	m46	331	0	68	252	96	8	7	0
Internal Link Dist (ft)		1216			232		702		381
Turn Bay Length (ft)	220			185		185			
Base Capacity (vph)	141	2419	1563	169	2510	1043	566	536	483
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.26	0.13	0.24	0.22	0.19	0.00	0.08	0.02

Intersection Summary

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

Queues  
3: Plaza Dr & Admiral Callaghan Ln

Near Term + Project Saturday

4/28/2015



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	114	583	504	544	122	74	439	150	98	72
v/c Ratio	0.53	0.71	0.84	0.34	0.62	0.30	0.74	0.80	0.41	0.23
Control Delay	47.2	34.2	42.7	12.0	54.0	37.6	12.1	71.8	41.2	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.2	34.2	42.7	12.0	54.0	37.6	12.1	71.8	41.2	2.4
Queue Length 50th (ft)	57	142	242	65	62	36	0	79	49	0
Queue Length 95th (ft)	129	224	#555	126	#166	81	88	#228	104	5
Internal Link Dist (ft)		1017		564		1686			302	
Turn Bay Length (ft)	250		250		200			100		100
Base Capacity (vph)	270	1186	603	1835	208	590	801	187	569	573
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	0.42	0.49	0.84	0.30	0.59	0.13	0.55	0.80	0.17	0.13

Intersection Summary

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



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	223	100	423	380	174
v/c Ratio	0.52	0.05	0.37	0.48	0.39
Control Delay	22.2	3.3	4.6	14.6	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	22.2	3.3	4.6	14.6	7.4
Queue Length 50th (ft)	38	4	10	25	0
Queue Length 95th (ft)	#168	8	32	89	51
Internal Link Dist (ft)		725	1138	1686	
Turn Bay Length (ft)	220			150	
Base Capacity (vph)	547	2530	1197	919	494
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.41	0.04	0.35	0.41	0.35

**Intersection Summary**

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



Lane Group	SEL	SET	NWL	NWT	NET	SWT	SWR
Lane Group Flow (vph)	7	380	13	414	17	15	6
v/c Ratio	0.02	0.12	0.04	0.13	0.03	0.03	0.01
Control Delay	21.9	5.8	21.3	5.8	0.1	10.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.9	5.8	21.3	5.8	0.1	10.7	0.0
Queue Length 50th (ft)	1	0	1	0	0	2	0
Queue Length 95th (ft)	15	102	23	112	0	15	0
Internal Link Dist (ft)		1138		447	321	315	
Turn Bay Length (ft)	120		100				75
Base Capacity (vph)	369	3080	369	3082	519	514	535
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.12	0.04	0.13	0.03	0.03	0.01

Intersection Summary

Queues  
6: Ascot Parkway & Turner Parkway

Near Term + Project Saturday

4/28/2015



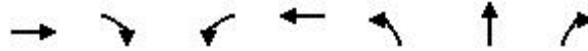
Lane Group	SEL	SET	SER	NML	NWT	NEL	NET	SWL	SWT
Lane Group Flow (vph)	62	10	289	4	12	326	143	9	201
v/c Ratio	0.17	0.03	0.53	0.01	0.04	0.66	0.08	0.05	0.33
Control Delay	20.8	20.4	7.2	22.0	15.8	29.9	14.7	34.2	19.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.8	20.4	7.2	22.0	15.8	29.9	14.7	34.2	19.2
Queue Length 50th (ft)	11	2	0	1	1	55	4	2	12
Queue Length 95th (ft)	63	18	60	10	16	#457	71	23	83
Internal Link Dist (ft)		447			173		1794		353
Turn Bay Length (ft)	200			50		380		120	
Base Capacity (vph)	457	481	617	415	396	672	2021	171	928
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.02	0.47	0.01	0.03	0.49	0.07	0.05	0.22

Intersection Summary

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







Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	1301	430	60	1527	173	174	71
v/c Ratio	0.58	0.27	0.71	0.43	0.52	0.52	0.04
Control Delay	13.5	0.4	83.1	7.9	33.6	33.6	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.5	0.4	83.1	7.9	33.6	33.6	0.0
Queue Length 50th (ft)	181	0	32	61	90	90	0
Queue Length 95th (ft)	387	0	#94	326	106	107	0
Internal Link Dist (ft)	355			228		1103	
Turn Bay Length (ft)			215		400		
Base Capacity (vph)	2225	1583	84	3586	660	660	1583
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.27	0.71	0.43	0.26	0.26	0.04

**Intersection Summary**

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



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	7	877	299	13	1036	384	60
v/c Ratio	0.06	0.36	0.19	0.11	0.43	0.62	0.12
Control Delay	42.8	5.3	0.2	39.6	8.4	35.9	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.8	5.3	0.2	39.6	8.4	35.9	0.5
Queue Length 50th (ft)	3	71	0	7	88	98	0
Queue Length 95th (ft)	m7	62	0	23	242	117	0
Internal Link Dist (ft)		1216			232		
Turn Bay Length (ft)	220			185		185	
Base Capacity (vph)	113	2431	1563	116	2431	858	589
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.36	0.19	0.11	0.43	0.45	0.10

**Intersection Summary**

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



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	84	513	155	263	16	20	102	70	20	34
v/c Ratio	0.45	0.46	0.52	0.18	0.11	0.08	0.33	0.44	0.05	0.07
Control Delay	30.5	14.3	26.9	7.6	23.3	19.6	7.7	33.3	16.1	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.5	14.3	26.9	7.6	23.3	19.6	7.7	33.3	16.1	0.3
Queue Length 50th (ft)	22	55	38	16	4	5	0	18	4	0
Queue Length 95th (ft)	#70	95	#108	37	20	21	29	#67	21	0
Internal Link Dist (ft)		1017		564		1686			302	
Turn Bay Length (ft)	250		250		200			100		100
Base Capacity (vph)	185	2098	296	2320	148	1093	976	159	1093	976
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	0.52	0.11	0.11	0.02	0.10	0.44	0.02	0.03

**Intersection Summary**

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



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	256	120	155	92	39
v/c Ratio	0.61	0.04	0.13	0.14	0.13
Control Delay	26.3	2.7	5.0	15.0	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	26.3	2.7	5.0	15.0	8.6
Queue Length 50th (ft)	38	3	4	6	0
Queue Length 95th (ft)	#213	9	16	30	23
Internal Link Dist (ft)		725	1138	1686	
Turn Bay Length (ft)	220			150	
Base Capacity (vph)	430	2794	1368	1146	507
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.60	0.04	0.11	0.08	0.08

**Intersection Summary**

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



Lane Group	SET	NML	NWT	NET
Lane Group Flow (vph)	184	6	136	28
v/c Ratio	0.06	0.03	0.04	0.07
Control Delay	3.9	18.6	0.1	0.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	3.9	18.6	0.1	0.4
Queue Length 50th (ft)	0	2	0	0
Queue Length 95th (ft)	30	m1	0	0
Internal Link Dist (ft)	1138		447	321
Turn Bay Length (ft)		100		
Base Capacity (vph)	2920	354	3079	530
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.06	0.02	0.04	0.05

**Intersection Summary**

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



Lane Group	SEL	SET	SER	NML	NWT	NEL	NET	SWL	SWT
Lane Group Flow (vph)	78	6	134	13	32	118	335	13	345
v/c Ratio	0.31	0.02	0.29	0.03	0.07	0.49	0.28	0.07	0.51
Control Delay	18.8	13.4	3.3	17.9	10.3	27.2	12.3	21.5	19.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.8	13.4	3.3	17.9	10.3	27.2	12.3	21.5	19.2
Queue Length 50th (ft)	21	2	0	3	2	32	30	4	44
Queue Length 95th (ft)	43	3	0	13	15	61	56	14	60
Internal Link Dist (ft)		447			173		1794		353
Turn Bay Length (ft)	200			50		380		120	
Base Capacity (vph)	283	298	488	506	481	253	1289	191	784
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.02	0.27	0.03	0.07	0.47	0.26	0.07	0.44

Intersection Summary





Queues  
1: Adm Callaghan Ln & Columbus Parkway

Cumulative PM  
5/11/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	5	1459	998	158	1084	465	465	208	3
v/c Ratio	0.06	0.85	0.63	0.90	0.35	0.94	0.94	0.13	0.05
Control Delay	52.0	31.6	1.9	97.5	14.9	67.2	67.2	0.2	47.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.0	31.6	1.9	97.5	14.9	67.2	67.2	0.2	47.0
Queue Length 50th (ft)	3	444	0	116	176	333	333	0	1
Queue Length 95th (ft)	15	#625	0	#225	205	#498	#498	0	11
Internal Link Dist (ft)		355			228		1103		547
Turn Bay Length (ft)	200			215		400			
Base Capacity (vph)	86	1709	1583	176	3074	504	504	1583	65
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.85	0.63	0.90	0.35	0.92	0.92	0.13	0.05

Intersection Summary

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

Queues  
2: Ascot Parkway/Ascot Ct & Columbus Parkway

Cumulative PM  
5/11/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	29	1306	458	20	870	398	88
v/c Ratio	0.27	0.52	0.29	0.19	0.36	0.72	0.21
Control Delay	49.8	16.4	0.3	53.4	9.0	51.0	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.8	16.4	0.3	53.4	9.0	51.0	1.2
Queue Length 50th (ft)	18	380	0	14	131	138	0
Queue Length 95th (ft)	m31	191	m0	35	200	166	0
Internal Link Dist (ft)		1216			232		
Turn Bay Length (ft)	220			185		185	
Base Capacity (vph)	107	2524	1563	104	2441	686	467
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.52	0.29	0.19	0.36	0.58	0.19

Intersection Summary

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

Queues  
3: Plaza Dr & Admiral Callaghan Ln

Cumulative PM  
5/11/2015



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	78	477	441	434	108	44	388	90	29	46
v/c Ratio	0.41	0.67	0.86	0.27	0.44	0.13	0.64	0.69	0.10	0.10
Control Delay	36.3	25.7	41.8	11.5	36.5	20.4	7.8	60.7	21.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.3	25.7	41.8	11.5	36.5	20.4	7.8	60.7	21.4	0.4
Queue Length 50th (ft)	25	69	136	42	35	13	0	31	9	0
Queue Length 95th (ft)	#95	154	#434	107	#140	36	56	#137	28	0
Internal Link Dist (ft)		1017		564		1686			302	
Turn Bay Length (ft)	250		250		200			100		100
Base Capacity (vph)	197	777	559	1629	249	486	700	131	417	537
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	0.40	0.61	0.79	0.27	0.43	0.09	0.55	0.69	0.07	0.09

Intersection Summary

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

Queues  
4: Turner Parkway & Plaza Dr

Cumulative PM  
5/11/2015



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	239	113	335	375	172
v/c Ratio	0.62	0.06	0.30	0.45	0.38
Control Delay	28.6	3.7	4.9	13.1	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	28.6	3.7	4.9	13.1	6.7
Queue Length 50th (ft)	40	4	10	22	0
Queue Length 95th (ft)	#213	11	29	82	48
Internal Link Dist (ft)		725	1138	1686	
Turn Bay Length (ft)	220			150	
Base Capacity (vph)	408	2381	1221	1129	574
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.59	0.05	0.27	0.33	0.30

Intersection Summary

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



Lane Group	SET	NML	NWT	NET
Lane Group Flow (vph)	403	16	333	16
v/c Ratio	0.13	0.07	0.10	0.04
Control Delay	3.4	19.9	1.4	0.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	3.4	19.9	1.4	0.2
Queue Length 50th (ft)	0	4	0	0
Queue Length 95th (ft)	64	17	29	0
Internal Link Dist (ft)	1138		447	321
Turn Bay Length (ft)		100		
Base Capacity (vph)	3095	354	3270	524
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.13	0.05	0.10	0.03
<b>Intersection Summary</b>				

Queues  
6: Ascot Parkway & Turner Parkway

Cumulative PM  
5/11/2015



Lane Group	SEL	SET	SER	NML	NWT	NEL	NET	SWL	SWT
Lane Group Flow (vph)	78	6	403	13	19	351	437	19	527
v/c Ratio	0.24	0.02	0.65	0.05	0.07	0.74	0.23	0.14	0.69
Control Delay	25.8	24.8	8.8	26.6	17.7	36.4	14.6	40.7	31.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.8	24.8	8.8	26.6	17.7	36.4	14.6	40.7	31.4
Queue Length 50th (ft)	18	1	0	3	1	77	17	5	60
Queue Length 95th (ft)	67	11	27	19	17	#382	163	33	#290
Internal Link Dist (ft)		447			173		1794		353
Turn Bay Length (ft)	200			50		380		120	
Base Capacity (vph)	511	538	737	414	397	655	2015	139	827
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.01	0.55	0.03	0.05	0.54	0.22	0.14	0.64

Intersection Summary

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





Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	14	1022	1127	299	859	479	482	303	6
v/c Ratio	0.17	0.79	0.71	0.91	0.31	0.83	0.84	0.19	0.10
Control Delay	61.9	42.6	2.8	78.3	15.6	50.7	50.9	0.3	50.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.9	42.6	2.8	78.3	15.6	50.7	50.9	0.3	50.0
Queue Length 50th (ft)	11	387	0	259	134	368	371	0	2
Queue Length 95th (ft)	34	#663	0	#387	192	470	472	0	18
Internal Link Dist (ft)		355			228		1103		547
Turn Bay Length (ft)	200			215		400			
Base Capacity (vph)	84	1288	1583	339	2793	685	687	1583	58
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.79	0.71	0.88	0.31	0.70	0.70	0.19	0.10

**Intersection Summary**

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





Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	48	1017	312	39	704	424	7	70	47
v/c Ratio	0.41	0.48	0.20	0.34	0.33	0.67	0.02	0.20	0.15
Control Delay	55.1	23.5	0.2	62.9	15.8	52.1	36.7	7.6	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.1	23.5	0.2	62.9	15.8	52.1	36.7	7.6	1.0
Queue Length 50th (ft)	31	418	0	31	145	170	5	0	0
Queue Length 95th (ft)	m61	513	m0	67	266	192	16	30	0
Internal Link Dist (ft)		1216			232		702		381
Turn Bay Length (ft)	220			185		185			
Base Capacity (vph)	141	2134	1563	169	2135	1043	566	536	315
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.48	0.20	0.23	0.33	0.41	0.01	0.13	0.15

**Intersection Summary**

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



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	122	702	520	681	138	71	464	152	91	81
v/c Ratio	0.58	0.76	0.90	0.42	0.70	0.29	0.76	0.85	0.40	0.27
Control Delay	50.3	35.9	52.0	14.7	61.2	38.9	12.5	81.1	42.5	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.3	35.9	52.0	14.7	61.2	38.9	12.5	81.1	42.5	3.9
Queue Length 50th (ft)	65	182	276	104	76	37	0	85	49	0
Queue Length 95th (ft)	138	282	#587	186	#197	79	91	#234	98	12
Internal Link Dist (ft)		1017		564		1686			302	
Turn Bay Length (ft)	250		250		200			100		100
Base Capacity (vph)	258	1137	577	1751	199	565	803	179	544	553
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	0.47	0.62	0.90	0.39	0.69	0.13	0.58	0.85	0.17	0.15

**Intersection Summary**

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



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	226	110	493	379	172
v/c Ratio	0.53	0.05	0.42	0.49	0.39
Control Delay	22.7	3.3	5.2	15.3	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	22.7	3.3	5.2	15.3	7.4
Queue Length 50th (ft)	41	4	14	27	0
Queue Length 95th (ft)	#170	9	38	92	50
Internal Link Dist (ft)		725	1138	1686	
Turn Bay Length (ft)	220			150	
Base Capacity (vph)	539	2498	1217	902	488
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.42	0.04	0.41	0.42	0.35

**Intersection Summary**

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



Lane Group	SET	NML	NWT	NET
Lane Group Flow (vph)	400	15	484	20
v/c Ratio	0.13	0.04	0.15	0.04
Control Delay	6.2	20.7	4.2	0.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	6.2	20.7	4.2	0.2
Queue Length 50th (ft)	0	2	0	0
Queue Length 95th (ft)	109	24	104	0
Internal Link Dist (ft)	1138		447	321
Turn Bay Length (ft)		100		
Base Capacity (vph)	3042	356	3148	518
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.13	0.04	0.15	0.04
<b>Intersection Summary</b>				

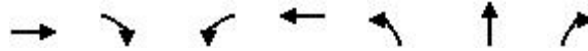


Lane Group	SEL	SET	SER	NML	NWT	NEL	NET	SWL	SWT
Lane Group Flow (vph)	57	10	334	5	15	401	371	10	308
v/c Ratio	0.17	0.03	0.59	0.02	0.05	0.77	0.20	0.07	0.49
Control Delay	23.5	23.0	8.1	24.4	16.9	36.1	14.7	37.8	22.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.5	23.0	8.1	24.4	16.9	36.1	14.7	37.8	22.4
Queue Length 50th (ft)	12	2	0	1	1	76	13	2	24
Queue Length 95th (ft)	60	18	64	11	18	#579	166	25	#130
Internal Link Dist (ft)		447			173		1794		353
Turn Bay Length (ft)	200			50		380		120	
Base Capacity (vph)	413	435	621	376	361	595	1919	148	850
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.02	0.54	0.01	0.04	0.67	0.19	0.07	0.36

**Intersection Summary**

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





Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	1343	441	60	1534	174	175	71
v/c Ratio	0.60	0.28	0.71	0.43	0.52	0.52	0.04
Control Delay	13.9	0.4	82.9	7.9	33.6	33.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.9	0.4	82.9	7.9	33.6	33.7	0.0
Queue Length 50th (ft)	191	0	33	61	90	91	0
Queue Length 95th (ft)	#416	0	#94	324	107	107	0
Internal Link Dist (ft)	355			228		1103	
Turn Bay Length (ft)			215		400		
Base Capacity (vph)	2224	1583	84	3583	660	660	1583
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.28	0.71	0.43	0.26	0.27	0.04

**Intersection Summary**

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



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	7	877	342	22	1036	392	61
v/c Ratio	0.06	0.38	0.22	0.18	0.43	0.63	0.12
Control Delay	43.3	6.1	0.3	40.9	8.4	36.0	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.3	6.1	0.3	40.9	8.4	36.0	0.5
Queue Length 50th (ft)	4	71	0	11	90	100	0
Queue Length 95th (ft)	m7	62	0	32	242	120	0
Internal Link Dist (ft)		1216			232		
Turn Bay Length (ft)	220			185		185	
Base Capacity (vph)	113	2330	1563	121	2425	858	589
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.38	0.22	0.18	0.43	0.46	0.10

**Intersection Summary**

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

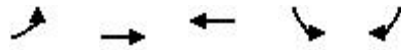




Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	84	513	165	263	16	20	104	70	20	34
v/c Ratio	0.45	0.46	0.56	0.18	0.11	0.08	0.34	0.44	0.05	0.07
Control Delay	30.6	14.3	28.5	7.6	23.4	19.6	7.9	33.3	16.1	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.6	14.3	28.5	7.6	23.4	19.6	7.9	33.3	16.1	0.3
Queue Length 50th (ft)	22	55	41	16	4	5	0	18	4	0
Queue Length 95th (ft)	#71	96	#117	37	20	21	29	#67	21	0
Internal Link Dist (ft)		1017		564		1686			302	
Turn Bay Length (ft)	250		250		200			100		100
Base Capacity (vph)	185	2096	296	2319	148	1092	976	159	1092	976
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	0.56	0.11	0.11	0.02	0.11	0.44	0.02	0.03

**Intersection Summary**

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



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	256	128	158	102	39
v/c Ratio	0.61	0.05	0.13	0.15	0.13
Control Delay	26.2	2.7	5.0	14.9	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	26.2	2.7	5.0	14.9	8.6
Queue Length 50th (ft)	38	4	5	7	0
Queue Length 95th (ft)	#214	10	16	32	23
Internal Link Dist (ft)		725	1138	1686	
Turn Bay Length (ft)	220			150	
Base Capacity (vph)	432	2805	1373	1153	509
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.59	0.05	0.12	0.09	0.08

**Intersection Summary**

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



Lane Group	SEL	SET	NWL	NWT	NET	SWT	SWR
Lane Group Flow (vph)	18	184	6	153	28	10	4
v/c Ratio	0.09	0.06	0.03	0.05	0.07	0.04	0.01
Control Delay	21.8	4.0	17.0	2.0	0.4	17.6	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.8	4.0	17.0	2.0	0.4	17.6	0.0
Queue Length 50th (ft)	5	0	2	0	0	3	0
Queue Length 95th (ft)	20	30	m1	m11	0	11	0
Internal Link Dist (ft)		1138		447	321	315	
Turn Bay Length (ft)	120		100				75
Base Capacity (vph)	193	2909	354	2907	509	409	501
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.06	0.02	0.05	0.06	0.02	0.01

**Intersection Summary**

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



Lane Group	SEL	SET	SER	NML	NWT	NEL	NET	SWL	SWT
Lane Group Flow (vph)	88	6	135	13	32	138	335	13	348
v/c Ratio	0.35	0.02	0.29	0.03	0.07	0.56	0.28	0.07	0.51
Control Delay	20.1	14.4	3.2	18.0	10.3	30.4	12.3	21.5	19.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.1	14.4	3.2	18.0	10.3	30.4	12.3	21.5	19.2
Queue Length 50th (ft)	24	2	0	3	2	38	30	4	44
Queue Length 95th (ft)	47	3	0	13	15	69	56	14	61
Internal Link Dist (ft)		447			173		1794		353
Turn Bay Length (ft)	200			50		380		120	
Base Capacity (vph)	283	298	488	499	475	255	1296	191	784
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.02	0.28	0.03	0.07	0.54	0.26	0.07	0.44

Intersection Summary



Queues  
1: Adm Callaghan Ln & Columbus Parkway

Cumulative plus Project PM  
5/11/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	5	1500	1008	158	1106	468	469	208	3
v/c Ratio	0.06	0.86	0.64	0.99	0.36	0.95	0.95	0.13	0.05
Control Delay	52.0	31.9	2.0	118.2	14.2	67.7	68.0	0.2	47.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.0	31.9	2.0	118.2	14.2	67.7	68.0	0.2	47.0
Queue Length 50th (ft)	3	466	0	116	133	336	337	0	1
Queue Length 95th (ft)	15	#656	0	#225	211	#505	#506	0	11
Internal Link Dist (ft)		355			228		1103		547
Turn Bay Length (ft)	200			215		400			
Base Capacity (vph)	86	1736	1583	160	3068	504	504	1583	65
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.86	0.64	0.99	0.36	0.93	0.93	0.13	0.05

Intersection Summary

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



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	29	1306	500	29	870	420	93
v/c Ratio	0.27	0.54	0.32	0.27	0.36	0.73	0.22
Control Delay	50.9	17.9	0.4	55.2	9.2	51.4	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.9	17.9	0.4	55.2	9.2	51.4	1.2
Queue Length 50th (ft)	20	350	0	20	134	146	0
Queue Length 95th (ft)	m29	191	m0	46	200	175	0
Internal Link Dist (ft)		1216			232		
Turn Bay Length (ft)	220			185		185	
Base Capacity (vph)	107	2431	1563	109	2425	686	467
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.54	0.32	0.27	0.36	0.61	0.20

**Intersection Summary**

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

Queues  
3: Plaza Dr & Admiral Callaghan Ln

Cumulative plus Project PM  
5/11/2015



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	78	477	451	434	108	44	394	90	29	46
v/c Ratio	0.41	0.67	0.87	0.27	0.44	0.13	0.64	0.69	0.10	0.10
Control Delay	36.4	25.8	43.1	11.5	36.6	20.4	7.9	61.3	21.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.4	25.8	43.1	11.5	36.6	20.4	7.9	61.3	21.4	0.4
Queue Length 50th (ft)	25	69	140	42	35	13	0	31	9	0
Queue Length 95th (ft)	#95	154	#446	107	#140	36	57	#137	28	0
Internal Link Dist (ft)		1017		564		1686			302	
Turn Bay Length (ft)	250		250		200			100		100
Base Capacity (vph)	196	773	556	1635	248	483	702	130	415	536
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	0.40	0.62	0.81	0.27	0.44	0.09	0.56	0.69	0.07	0.09

Intersection Summary

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





Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	239	120	346	381	175
v/c Ratio	0.62	0.06	0.31	0.45	0.37
Control Delay	29.1	3.9	5.0	13.1	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	29.1	3.9	5.0	13.1	6.6
Queue Length 50th (ft)	41	4	10	23	0
Queue Length 95th (ft)	#213	12	30	85	49
Internal Link Dist (ft)		725	1138	1686	
Turn Bay Length (ft)	220			150	
Base Capacity (vph)	407	2374	1212	1126	575
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.59	0.05	0.29	0.34	0.30

**Intersection Summary**

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



Lane Group	SEL	SET	NML	NWT	NET	SWT	SWR
Lane Group Flow (vph)	17	403	16	348	16	28	12
v/c Ratio	0.09	0.14	0.07	0.12	0.04	0.11	0.03
Control Delay	21.7	4.1	19.9	3.4	0.2	18.2	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.7	4.1	19.9	3.4	0.2	18.2	0.2
Queue Length 50th (ft)	5	0	4	0	0	7	0
Queue Length 95th (ft)	20	64	17	48	0	22	0
Internal Link Dist (ft)		1138		447	321	315	
Turn Bay Length (ft)	120		100				75
Base Capacity (vph)	193	2882	354	2926	481	409	501
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.14	0.05	0.12	0.03	0.07	0.02
<b>Intersection Summary</b>							



Lane Group	SEL	SET	SER	NML	NWT	NEL	NET	SWL	SWT
Lane Group Flow (vph)	108	6	406	13	19	369	437	19	534
v/c Ratio	0.32	0.02	0.65	0.05	0.07	0.77	0.23	0.14	0.70
Control Delay	26.7	24.6	8.5	27.0	17.9	37.9	14.8	41.2	32.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.7	24.6	8.5	27.0	17.9	37.9	14.8	41.2	32.5
Queue Length 50th (ft)	27	1	0	3	2	86	18	5	65
Queue Length 95th (ft)	88	11	27	19	17	#408	163	33	#295
Internal Link Dist (ft)		447			173		1794		353
Turn Bay Length (ft)	200			50		380		120	
Base Capacity (vph)	497	523	730	403	387	635	1991	135	802
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.01	0.56	0.03	0.05	0.58	0.22	0.14	0.67

**Intersection Summary**

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

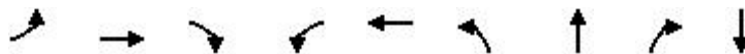




Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	14	1035	1131	299	871	481	484	303	6
v/c Ratio	0.17	0.81	0.71	0.91	0.31	0.84	0.84	0.19	0.10
Control Delay	61.9	43.4	2.8	78.8	16.1	50.4	50.6	0.3	50.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.9	43.4	2.8	78.8	16.1	50.4	50.6	0.3	50.0
Queue Length 50th (ft)	11	395	0	259	134	369	372	0	2
Queue Length 95th (ft)	34	#674	0	#387	197	473	475	0	18
Internal Link Dist (ft)		355			228		1103		547
Turn Bay Length (ft)	200			215		400			
Base Capacity (vph)	84	1282	1583	339	2784	685	687	1583	58
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.81	0.71	0.88	0.31	0.70	0.70	0.19	0.10

**Intersection Summary**

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



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	48	1017	326	41	704	437	7	72	47
v/c Ratio	0.41	0.48	0.21	0.35	0.33	0.68	0.02	0.20	0.15
Control Delay	53.5	24.4	0.2	63.1	16.0	51.8	36.5	7.8	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.5	24.4	0.2	63.1	16.0	51.8	36.5	7.8	1.0
Queue Length 50th (ft)	30	421	0	32	149	173	5	0	0
Queue Length 95th (ft)	m59	514	m0	69	265	198	16	32	0
Internal Link Dist (ft)		1216			232		702		381
Turn Bay Length (ft)	220			185		185			
Base Capacity (vph)	141	2117	1563	169	2120	1043	566	536	312
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.48	0.21	0.24	0.33	0.42	0.01	0.13	0.15

**Intersection Summary**

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



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	122	702	523	681	138	71	468	152	91	81
v/c Ratio	0.58	0.77	0.91	0.42	0.70	0.29	0.76	0.85	0.40	0.26
Control Delay	50.4	36.0	52.8	14.7	61.3	38.9	12.5	81.1	42.5	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.4	36.0	52.8	14.7	61.3	38.9	12.5	81.1	42.5	3.8
Queue Length 50th (ft)	65	182	278	104	76	37	0	85	49	0
Queue Length 95th (ft)	139	283	#595	186	#198	79	91	#235	98	12
Internal Link Dist (ft)		1017		564		1686			302	
Turn Bay Length (ft)	250		250		200			100		100
Base Capacity (vph)	258	1137	576	1750	199	565	806	179	544	553
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	0.47	0.62	0.91	0.39	0.69	0.13	0.58	0.85	0.17	0.15

**Intersection Summary**

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



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	226	112	500	379	175
v/c Ratio	0.53	0.06	0.42	0.49	0.40
Control Delay	22.7	3.3	5.2	15.5	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	22.7	3.3	5.2	15.5	7.4
Queue Length 50th (ft)	41	4	15	27	0
Queue Length 95th (ft)	#170	9	38	93	51
Internal Link Dist (ft)		725	1138	1686	
Turn Bay Length (ft)	220			150	
Base Capacity (vph)	539	2501	1219	901	490
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.42	0.04	0.41	0.42	0.36

**Intersection Summary**

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





Lane Group	SEL	SET	NWL	NWT	NET	SWT	SWR
Lane Group Flow (vph)	5	400	15	489	25	15	6
v/c Ratio	0.01	0.13	0.04	0.16	0.04	0.03	0.01
Control Delay	21.8	5.8	21.1	5.8	0.2	10.6	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.8	5.8	21.1	5.8	0.2	10.6	0.0
Queue Length 50th (ft)	1	0	2	0	0	2	0
Queue Length 95th (ft)	13	107	25	132	0	15	0
Internal Link Dist (ft)		1138		447	321	315	
Turn Bay Length (ft)	120		100				75
Base Capacity (vph)	368	3076	368	3082	584	513	535
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.13	0.04	0.16	0.04	0.03	0.01
<b>Intersection Summary</b>							



Lane Group	SEL	SET	SER	NML	NWT	NEL	NET	SWL	SWT
Lane Group Flow (vph)	70	10	336	5	15	406	371	10	311
v/c Ratio	0.21	0.03	0.59	0.02	0.05	0.78	0.20	0.07	0.49
Control Delay	23.8	22.9	8.1	24.6	17.0	36.7	14.8	37.9	22.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.8	22.9	8.1	24.6	17.0	36.7	14.8	37.9	22.8
Queue Length 50th (ft)	15	2	0	1	1	79	13	2	25
Queue Length 95th (ft)	69	18	64	11	18	#587	166	25	#133
Internal Link Dist (ft)		447			173		1794		353
Turn Bay Length (ft)	200			50		380		120	
Base Capacity (vph)	410	432	620	373	358	589	1911	147	842
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.02	0.54	0.01	0.04	0.69	0.19	0.07	0.37

**Intersection Summary**

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



Queues  
6: Ascot Parkway & Turner Parkway

MITIG8 Exist Saturday  
5/12/2015



Lane Group	SEL	SET	SER	NML	NWT	NEL	NET	SWL	SWT
Lane Group Flow (vph)	47	10	274	4	12	300	88	9	170
v/c Ratio	0.13	0.03	0.51	0.01	0.04	0.61	0.05	0.05	0.28
Control Delay	21.4	21.4	7.4	22.8	16.4	27.6	15.8	32.9	19.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.4	21.4	7.4	22.8	16.4	27.6	15.8	32.9	19.1
Queue Length 50th (ft)	8	2	0	1	1	48	2	2	9
Queue Length 95th (ft)	55	18	61	11	17	#380	50	23	73
Internal Link Dist (ft)		447			173		1794		353
Turn Bay Length (ft)	200			50		380		120	
Base Capacity (vph)	462	486	610	419	400	903	2395	190	939
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.02	0.45	0.01	0.03	0.33	0.04	0.05	0.18

Intersection Summary

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



Lane Group	SEL	SET	SER	NML	NWT	NEL	NET	SWL	SWT
Lane Group Flow (vph)	49	10	287	4	12	320	143	9	198
v/c Ratio	0.14	0.03	0.54	0.01	0.04	0.61	0.08	0.04	0.32
Control Delay	23.1	23.3	7.9	25.0	17.7	26.7	16.6	31.6	20.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.1	23.3	7.9	25.0	17.7	26.7	16.6	31.6	20.6
Queue Length 50th (ft)	9	2	0	1	1	53	4	2	12
Queue Length 95th (ft)	60	20	66	12	18	#365	79	22	90
Internal Link Dist (ft)		447			173		1794		353
Turn Bay Length (ft)	200			50		380		120	
Base Capacity (vph)	447	471	609	405	387	1172	2022	672	923
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.02	0.47	0.01	0.03	0.27	0.07	0.01	0.21

**Intersection Summary**

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

Queues  
6: Ascot Parkway & Turner Parkway

Near Term + Project Saturday  
5/12/2015



Lane Group	SEL	SET	SER	NML	NWT	NEL	NET	SWL	SWT
Lane Group Flow (vph)	62	10	289	4	12	326	143	9	201
v/c Ratio	0.18	0.03	0.54	0.01	0.04	0.62	0.08	0.04	0.33
Control Delay	23.4	23.3	7.8	25.0	17.8	26.9	16.6	31.7	20.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.4	23.3	7.8	25.0	17.8	26.9	16.6	31.7	20.8
Queue Length 50th (ft)	11	2	0	1	1	55	4	2	12
Queue Length 95th (ft)	72	20	66	12	18	#376	79	22	91
Internal Link Dist (ft)		447			173		1794		353
Turn Bay Length (ft)	200			50		380		120	
Base Capacity (vph)	443	467	607	402	384	1160	2015	666	916
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.02	0.48	0.01	0.03	0.28	0.07	0.01	0.22

Intersection Summary

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



Lane Group	SEL	SET	SER	NML	NWT	NEL	NET	SWL	SWT
Lane Group Flow (vph)	108	6	406	13	19	369	437	19	534
v/c Ratio	0.32	0.02	0.65	0.05	0.07	0.76	0.23	0.13	0.69
Control Delay	27.9	26.2	8.7	28.6	18.9	36.6	15.4	40.4	32.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.9	26.2	8.7	28.6	18.9	36.6	15.4	40.4	32.8
Queue Length 50th (ft)	26	1	0	3	2	86	18	5	64
Queue Length 95th (ft)	93	12	27	20	18	#373	171	33	#314
Internal Link Dist (ft)		447			173		1794		353
Turn Bay Length (ft)	200			50		380		120	
Base Capacity (vph)	490	516	726	397	381	794	1978	298	793
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.01	0.56	0.03	0.05	0.46	0.22	0.06	0.67

**Intersection Summary**

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