

Technical Memorandum for Traffic Impact Study

Date: April 24, 2009

To: Mr. Jeff Baird, MoDOT
Mr. Richard Beckman, SLCDHT
Mr. Tom Aiken, City of Ballwin
Mr. Mr. Dan Theis, Brinkman
Mr. Bill Biermann, WB Properties,
Mr. Rob Taylor, PR&S

From: Lee Cannon, P.E., PTOE
Brian Rensing, P.E., PTOE

Subject: Technical Memorandum for Traffic Impact Study

Project: Development of the SW Quadrant of Clayton Road with Henry Avenue/Schoettler Road
Ballwin, Missouri
CBB Job No. 62-09

As you are aware, Crawford Bunte Brammeier (CBB) is working on a traffic impact study for a proposed development in the southwest quadrant of Clayton Road and Henry Avenue/Schoettler Road in Ballwin, Missouri. As an initial step in the traffic study, we have established base traffic volumes for the roadways within the study area; forecasted the amount of trips that would be generated by the development; estimated the directional distribution of these trips; and identified growth rates for future traffic volumes.

We have prepared the following memorandum to summarize these initial traffic study components. We ask that you review this memorandum and offer any thoughts or concerns that you may have. Crawford, Bunte, Brammeier will move forward with completing the remainder of the traffic study while the technical memorandum under review. For that reason, we ask that your agency offer comments and concerns as quickly as your schedule permits.

Baseline Traffic Volumes

The traffic study will evaluate conditions during the morning and afternoon peak periods of a typical weekday at the following intersections:

- Clayton Road at Henry Avenue/Schoettler Road;
- Clayton Road at Village Green/Town and Country Crossing;
- Clayton Road at Old Woods Mill Road; and
- All Proposed Site Entrances.

CBB performed a manual traffic count and queue observations in late April 2009 at the intersection of Clayton Road at Henry Avenue/Schoettler Road. It should be noted that CBB previously performed manual traffic counts at all of the study intersections as well as the

Route 141 interchange in early October 2008 as part of a signal timing project for MoDOT. Since the 2008 counts are within the MoDOT traffic impact criteria (2 or less years old), those counts were used as the base traffic conditions.

In general, the 2008 and 2009 traffic volumes at the intersection of Clayton Road at Henry Avenue/Schoettler Road are very similar. Where variations were found, the higher volume for any given movement was applied to be conservative, and the surplus was extended through the system. The most appreciable difference was the eastbound through volume during the a.m. peak hour, which was approximately 170 vehicles per hour (vph) heavier in 2009, representing an 8% increase. It should also be acknowledged that traffic volumes fluctuate day to day with changes up to 10% generally considered normal variation. **Exhibit 1** illustrates the traffic volumes which are intended to be used for the analysis of the existing conditions. The traffic volumes for the 2009 and 2008 counts are attached to the rear of this memo as Exhibit A and Exhibit B, respectively.

Background Traffic and Other Approved Developments

At the time of the 2008 traffic counts, it is our understanding that the retail components of the Town and Country Crossing development were completely built, but only partially occupied (Target, Whole Foods and select few businesses on the north end). Based on the forecasted trip generation of the original traffic study completed in January 2004 by CBB for the Town and Country Crossing development, the anchors alone are expected to generate approximately half of the development's traffic. Therefore, it can be reasoned that half of the development traffic is already accounted for in the 2008 traffic counts.

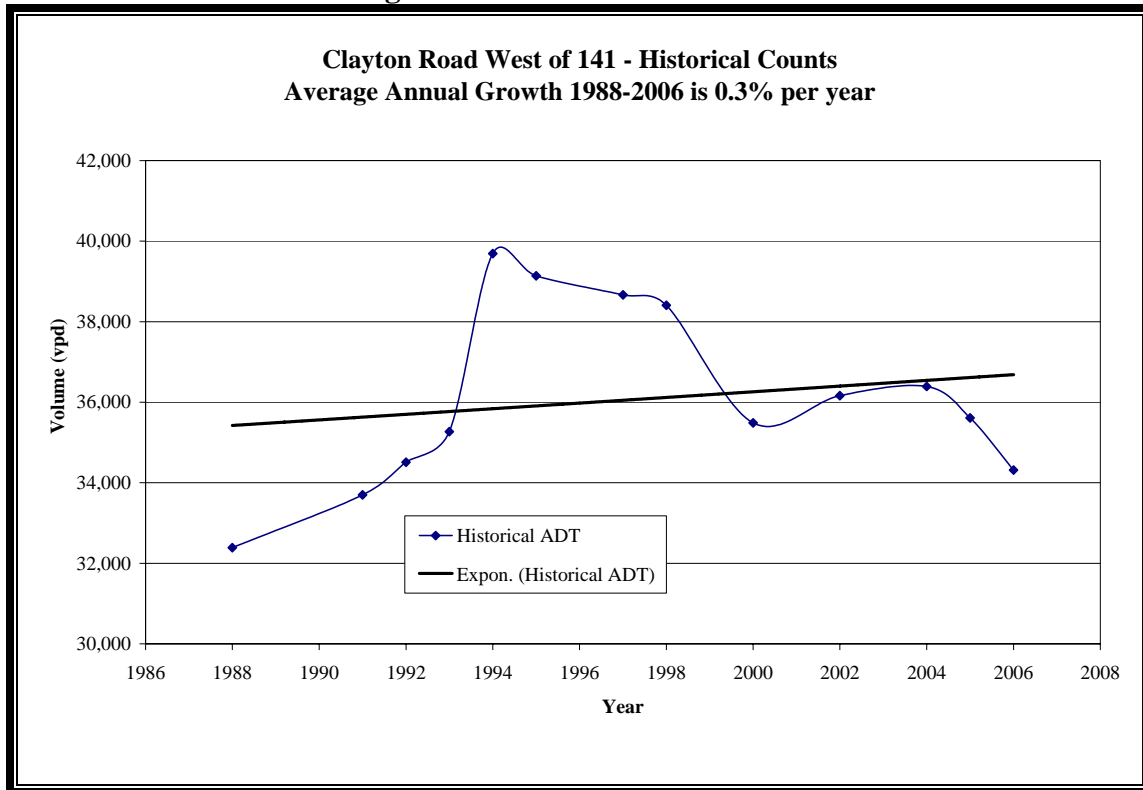
Since the Town and Country Crossing retail development is fully built but not occupied, we propose to increase traffic to the Town and Country Crossing development for the 2011 No-Build Scenario to account for the full occupancy of the remaining retail space. In order to keep the future traffic projections for the full occupancy of the Town and Country Crossing development relatively simple, we intend to double the 2008 traffic volumes oriented to Town and Country Crossing Drive (westbound left-turn, eastbound right-turn, northbound left-turn and northbound right-turn) and extend those trips through the study area. Additionally, a nominal amount of traffic (5-20 vph) will also be added to the thru movements on Old Woods Mill Road at Clayton Road to account for future trips using the Old Woods Mill Road access to Town and Country Crossing.

The future build-out of the Town and Country Crossing site also includes a residential portion on the south side of Clayton Road between Town and Country Crossing drive and Henry Avenue. In the scoping meeting, it was agreed that the residential development would likely occur after 2011; therefore, its traffic would be accounted for in the design horizon, 2031 traffic scenarios only. It was estimated that 65 condominium/townhome units could occupy the vacant area to complete the build-out of the Town and Country Crossing site.

The projected background growth was based on historical Average Daily Traffic (ADT) data obtained from MoDOT's count maps from 1988 to 2006. **Figure 1** illustrates the

historical traffic trend for Clayton Road. The traffic volumes have fluctuated between approximately 32,000 vehicles per day (vpd) to 40,000 vpd over the past 18 years resulting in an annual increase of approximately 0.3% per year on average.

Figure 1: Historical Traffic Data



The ADT has stabilized after peaking in 1994. As a result, we propose to use an annual growth rate of 1% for Clayton Road within the study area for the short term growth (2009 to 2011), which represents an overall growth of approximately 2%. This represents a very conservative approach based on the data. However, to address the 20-year design horizon, we propose to use an annual growth rate of 0.5% for Clayton Road (2011 to 2031), which represents an overall increase of 10.5%.

Proposed Development

The proposed development is located in the southwest quadrant of Clayton Road and Henry Avenue. Four commercial buildings are proposed near Clayton Road with a variety of uses which include: a CVS Pharmacy, general retail space, a sit-down restaurant, a coffee shop with drive-thru window, a bank with a drive-thru lanes and general office space. A fifth building is anticipated to be independent living located south of the commercial area along the west side of Henry Avenue. Two access drives are proposed to each Clayton Road and Henry Avenue. A site plan is attached to this memo.

Trip Generation

As a primary step in this analysis, traffic forecasts were prepared to estimate the amount of traffic that the proposed development would generate during each peak period. These forecasts were based upon information provided in the “Trip Generation Manual”, Eighth Edition, published by the Institute of Transportation Engineers (ITE). This manual, which is a standard resource for transportation engineers, is based on a compilation of nationwide studies documenting the characteristics of various land uses.

Based upon the recommended procedure for estimating trip generation outlined in the “Trip Generation Handbook, A Recommended Practice”, also published by the ITE (March 2001), the regression equation was utilized for:

- Land Use: 820 – Shopping Center (pg 1497)

The average trip rates were used for:

- Land Use: 710 – General Office Building (pg 1194)
- Land Use: 881 – Pharmacy/Drugstore with Drive-Thru (pg 1714)
- Land Use: 912 – Drive-In Bank (pg 1746)
- Land Use: 932 – High-Turnover (Sit-Down) Restaurant (pg 1794)
- Land Use: 937 – Coffee/Donut Shop with Drive-Thru (pg 1850)
- Land Use: 255 – Continuing Care Retirement Community (pg 523)

It should be noted that ITE does not provide trip generation specifically for independent care facilities. As a result, several similar senior housing land uses were compared with regards to their trip generation. These facilities tend to have lower traffic demands than other multi-family residential facilities since some residents may not have a personal vehicle or license to drive. Instead, most facilities of this nature provide transportation for their tenants in the form of scheduled trips on a van or mini-bus, thereby minimizing the number of trips into and out of the facility by the residents. As a result, traffic is primarily generated by employees. Furthermore, most employees and residents typically arrive and depart during off-peak periods, so the facilities’ peak hours typically occur in the late morning or early afternoon. For the various senior housing land uses, the Continuing Care Retirement Community is expected to generate the most traffic during the peak hours; therefore, it was utilized in our trip estimation.

The resulting traffic projection for the proposed development is shown in **Table 1**. It is important to note that the ITE estimates assume that each of the development’s components would be freestanding. Instead, the commercial uses would share parking and access, and published studies show that patrons of multi-use developments often visit more than one store within a center on a single visit. As a result, a 10% and 20% reduction was applied to several of the land uses to account for motorists that visit more than one use on the site as part of a single trip during the a.m. and p.m. peak hour, respectively. No reductions were applied to the proposed pharmacy, independent care community or general office since those uses would be expected to generate a higher proportion of “destination” trips. **Table 2** summarizes the common trip assumptions.



Table 1 – Site Generated Traffic

Land Use	Size	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Pharmacy/Drugstore with Drive-Thru	12,900 ft ²	20	15	35	65	65	130
Shopping Center (General Retail)	13,150 ft ²	30	15	45	80	85	165
High-Turnover (Sit-Down) Restaurant	5,600 ft ²	35	30	65	35	25	60
Coffee Shop with Drive-Thru	1,750 ft ²	100	95	195	40	40	80
Drive-In Bank	3 Lanes	15	15	30	40	40	80
General Office Building	3,750 ft ²	5	0	5	0	5	5
Continuing Care Retirement Community	125 Units	15	10	25	20	20	45
Subtotal		220	180	400	280	280	560
<i>Common Trip Reduction (see Table 2)</i>		(15)	(15)	(30)	(40)	(35)	(75)
Total Trips		205	165	370	240	245	485
<i>Pass-by Trips (See Table 2)</i>		60	60	120	105	105	210
<i>New Trips</i>		145	105	250	135	140	275

Table 2: Common and Pass-by Trip Assumptions

Land Use	Common Trip Assumptions		Pass-by Trip Assumptions	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Pharmacy/Drugstore with Drive-Thru	0%	0%	49%	49%
Shopping Center (General Retail)	10%	20%	25%	34%
High Turnover Sit-Down Restaurant	10%	20%	40%	43%
Coffee Shop with Drive-Thru	10%	20%	50%	50%
Drive-In Bank	10%	20%	30%	47%
General Office Building	0%	0%	0%	0%
Continuing Care Retirement Community	0%	0%	0%	0%

Consequently, the proposed development would be expected to generate a total of approximately 370 external trips during the weekday a.m. peak hour and 490 external trips during the weekday p.m. peak hour. However, it should be noted that not all of these trips would represent *new* traffic on the adjacent roadways. Specifically, a significant portion of the traffic attracted to this site would already be traveling on Clayton Road or Henry Avenue as part of another trip; i.e., “pass-by” trips.

Based upon statistical information provided in the “Trip Generation Handbook, A Recommended Practice” the pass-by trip percentages summarized in **Table 2** were assumed for the proposed uses. These pass-by trips would create turning movements at the driveways serving the site, but they would not represent new traffic on the adjacent roadways. Therefore, the development would be expected to generate a total of 250 and 280 “new” trips during the a.m. and p.m. peak hours, respectively.

Directional Distribution

Access to the site is proposed via two access drives on Clayton Road and two access drives on Henry Avenue. In subsequent steps of the traffic study, the site-generated trips will be assigned into and out of the proposed development based upon anticipated directional distributions. The pass-by trips will be assigned based on the existing traffic volumes along the adjacent roadways, while the new site-generated trips will be assigned as shown below:

- 58% to and from east on Clayton Road
 - 52% to and from the east on Clayton Road/Route 141;
 - 2% to and from the north on Old Woods Mill Road;
 - 2% to and from the south on Old Woods Mill Road;
 - 2% to and from the north on Village Green;
- 25% to and from the west on Clayton Road;
- 10% to and from the north on Schoettler Road; and
- 7% to and from the south on Henry Avenue.

We appreciate your review of this memorandum and look forward to receiving your comments and/or consensus on this information. Each participant is asked to review the above and offer any comments or changes prior to April 30. Please contact our office should there be any questions or need for additional information.

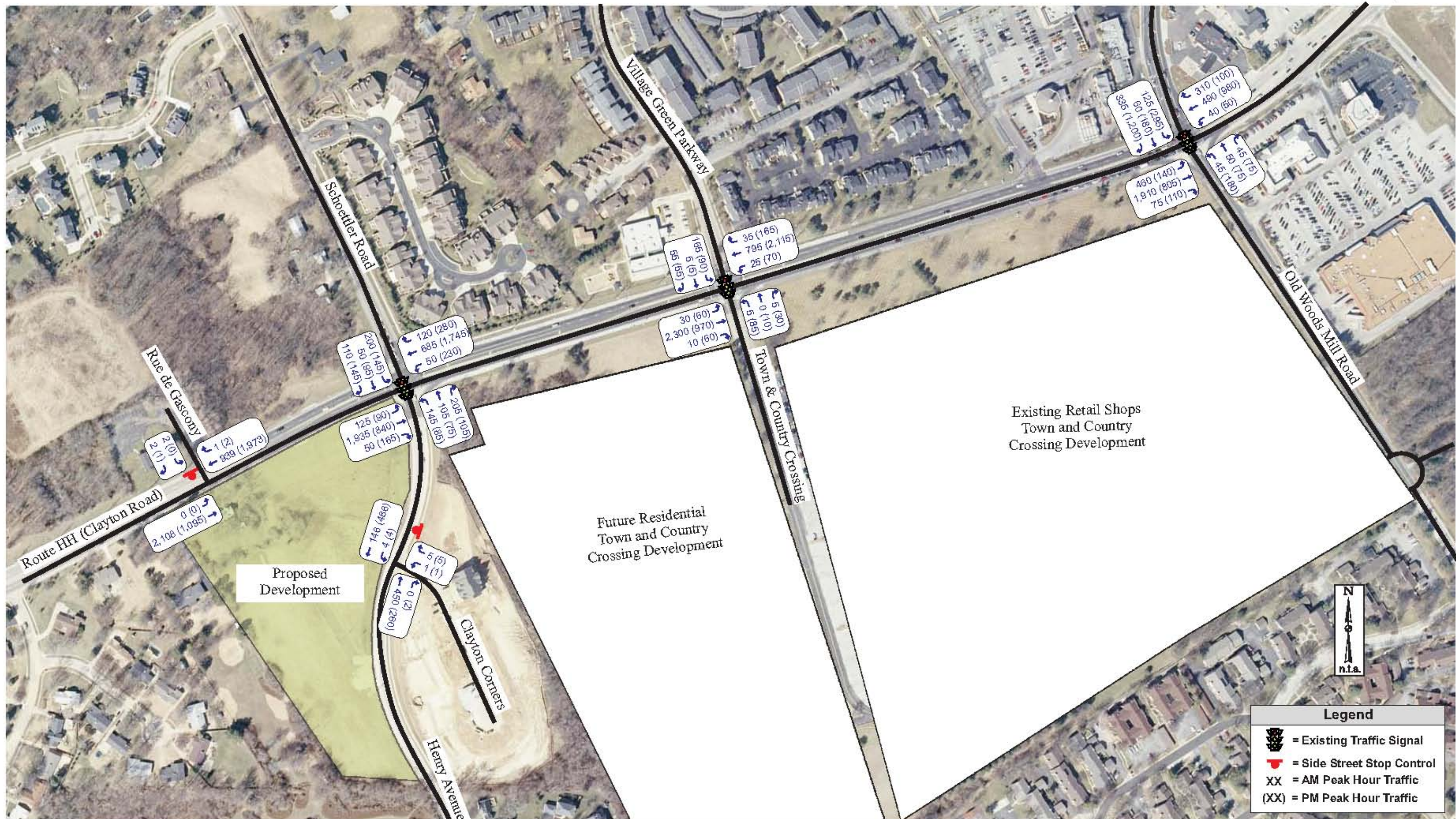


Exhibit I: Base Traffic Volumes (2009)

Job# 62-09
4/22/09

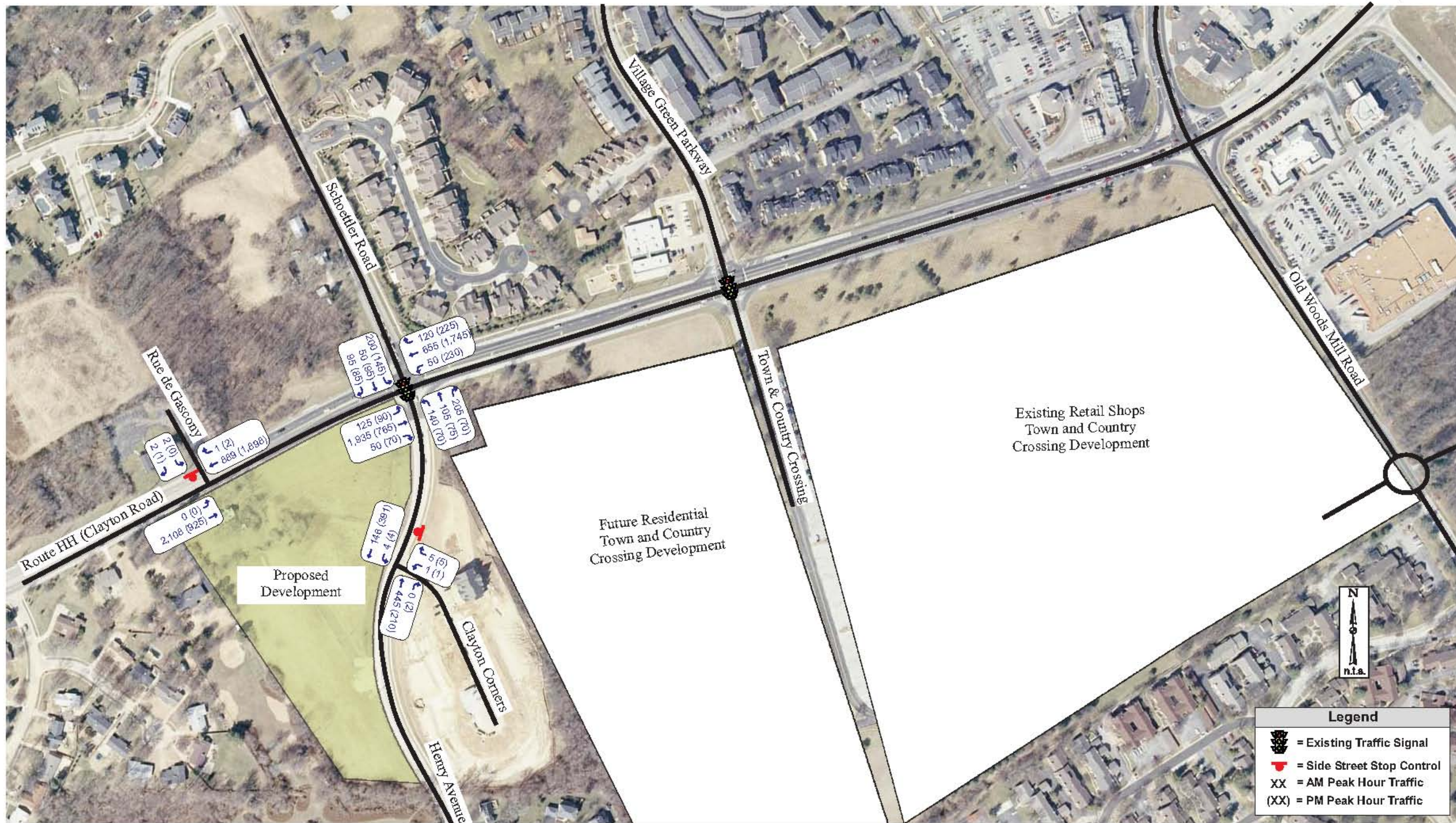


Exhibit A: Existing Traffic Volumes (2009)

Job# 62-09
4/22/09

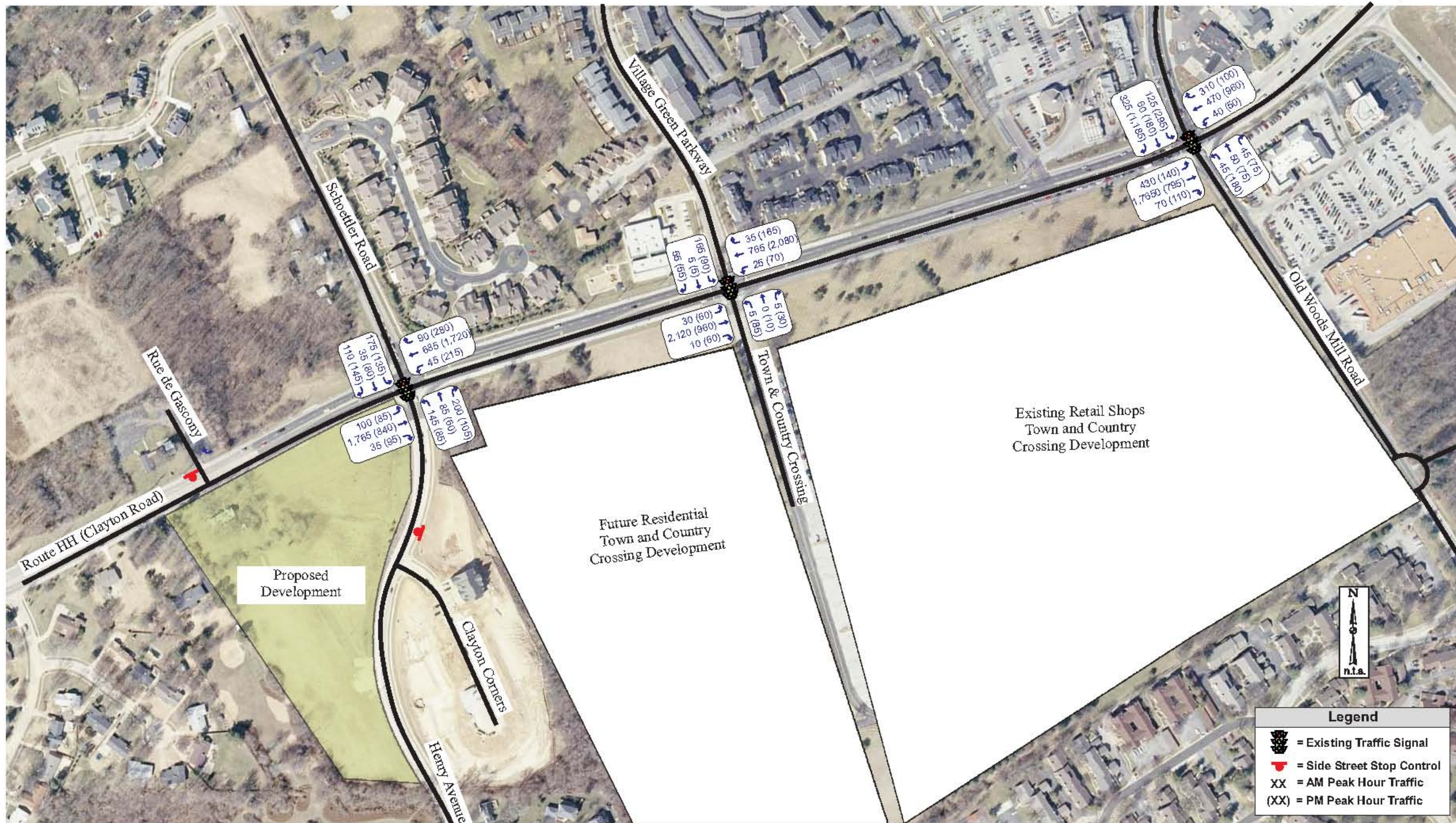
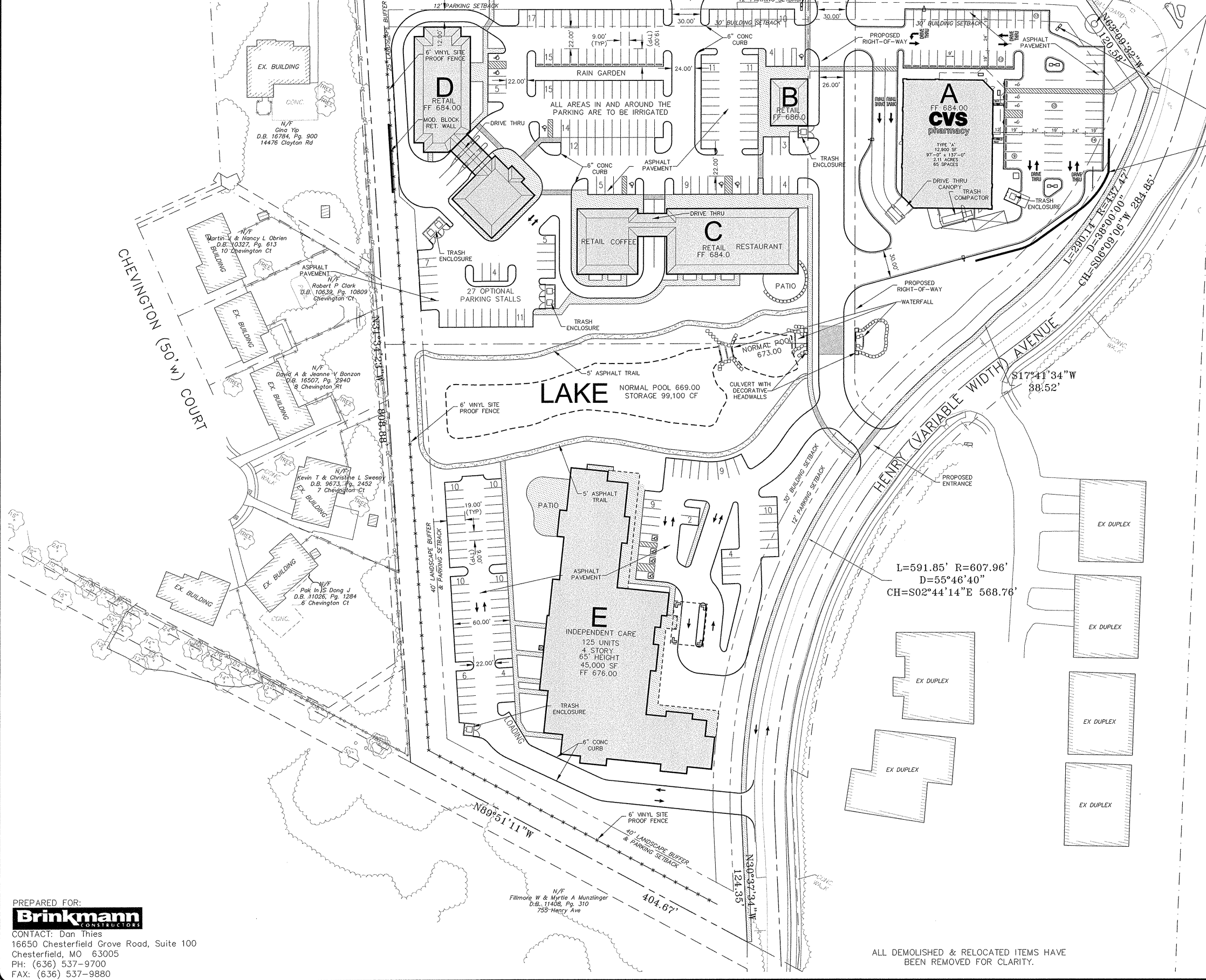


Exhibit B: Existing Traffic Volumes (2008)

Job# 62-09
4/22/09

SITE DEVELOPMENT PLAN CLAYTON & HENRY

PART OF SECTION 25
TOWNSHIP 45 NORTH, RANGE 4 EAST
CITY OF BALLWIN, ST. LOUIS COUNTY, MISSOURI



PARKING DATA

BUILDING	SQ. FT.	PARKING REQ.
A DRUG STORE	12,900 S.F.	65 P.S.
B RETAIL	2,000 S.F.	10 P.S.
C RETAIL COFFEE (65 SEATS)	1,750 S.F.	10 P.S.
RESTAURANT (180 SEATS)	5,600 S.F.	45 P.S.
SUB-TOTAL:	14,500 S.F.	91 P.S.
D RETAIL BANK	4,000 S.F.	20 P.S.
SUB-TOTAL:	11,500 S.F.	30 P.S.
TOTAL:	40,900 S.F.	216 P.S.
MIXED-USE PARKING REDUCTION (15%):		-32 P.S.
TOTAL REQUIRED:		184 P.S.
PARKING PROVIDED:	200 P.S.	
OPTIONAL (+43 P.S.)		
F INDEPENDENT CARE (125 UNITS)	180,00 S.F.	21 P.S.
PARKING PROVIDED @ 1 P.S./1.45 UNITS		86 P.S.
		(+65 P.S.)

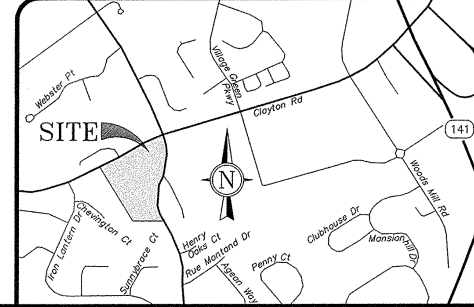
GREENSPACE CALCULATIONS

SITE AREA = 507,040 S.F.
 BUILDING COVERAGE = 85,900 S.F. (17%)
 PAVED AREA = 229,700 S.F. (45%)
 LAKE AREA = 18,510 S.F. (4%)
 DIFFERENCE = 172,930 S.F. GREENSPACE
 [(172,930 S.F.)/(507,040 S.F.)] x 100 = 35% GREENSPACE
 [(85,900 S.F.)/(507,040 S.F.)] x 100 = 17% FLOOR AREA RATIO

PERTINENT DATA

OWNER: CLAYTON HENRY, LLC (UNDER CONTRACT)
 DEVELOPER: CLAYTON HENRY, LLC
 16650 CHESTERFIELD GROVE RD, STE. 1000
 CHESTERFIELD, MISSOURI 63005
 EXISTING ZONING: R-1 "RESIDENTIAL"
 PROPOSED ZONING: "NEIGHBORHOOD COMMERCIAL OVERLAY DISTRICT"
 SITE AREA: 11.64 ACRES
 WATER SHED: GRAND GLAIZE CREEK
 WATER DISTRICT: MISSOURI AMERICAN WATER CO
 FIRE DISTRICT: WEST COUNTY EMS
 SCHOOL DISTRICT: PARKWAY
 SEWER DISTRICT: MSD
 GAS SERVICE: LACLEDE GAS CO.
 ELECTRIC SERVICE: AMEREN U.E.
 TELEPHONE SERVICE: AT&T

LOCATION MAP



ALL DEMOLISHED & RELOCATED ITEMS HAVE BEEN REMOVED FOR CLARITY.

PREPARED FOR:
Brinkmann
 CONSTRUCTORS
 CONTACT: Dan Thies
 16650 Chesterfield Grove Road, Suite 100
 Chesterfield, MO 63005
 PH: (636) 537-9700
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REV. NO.	DATE	REMARKS
1	03/21/09	PER OWNER COMMENTS
2	04/16/09	PER CITY COMMENTS

SITE DEVELOPMENT PLAN
CLAYTON & HENRY
 SW CORNER OF INTERSECTION

PROPOSED
 SITE PLAN

JOB NUMBER: 2062
 DRAWN BY: JLW
 DATE: 03/20/09
 CHECKED BY: LJM
 DATE: 30/20/09
 SHEET:

C2

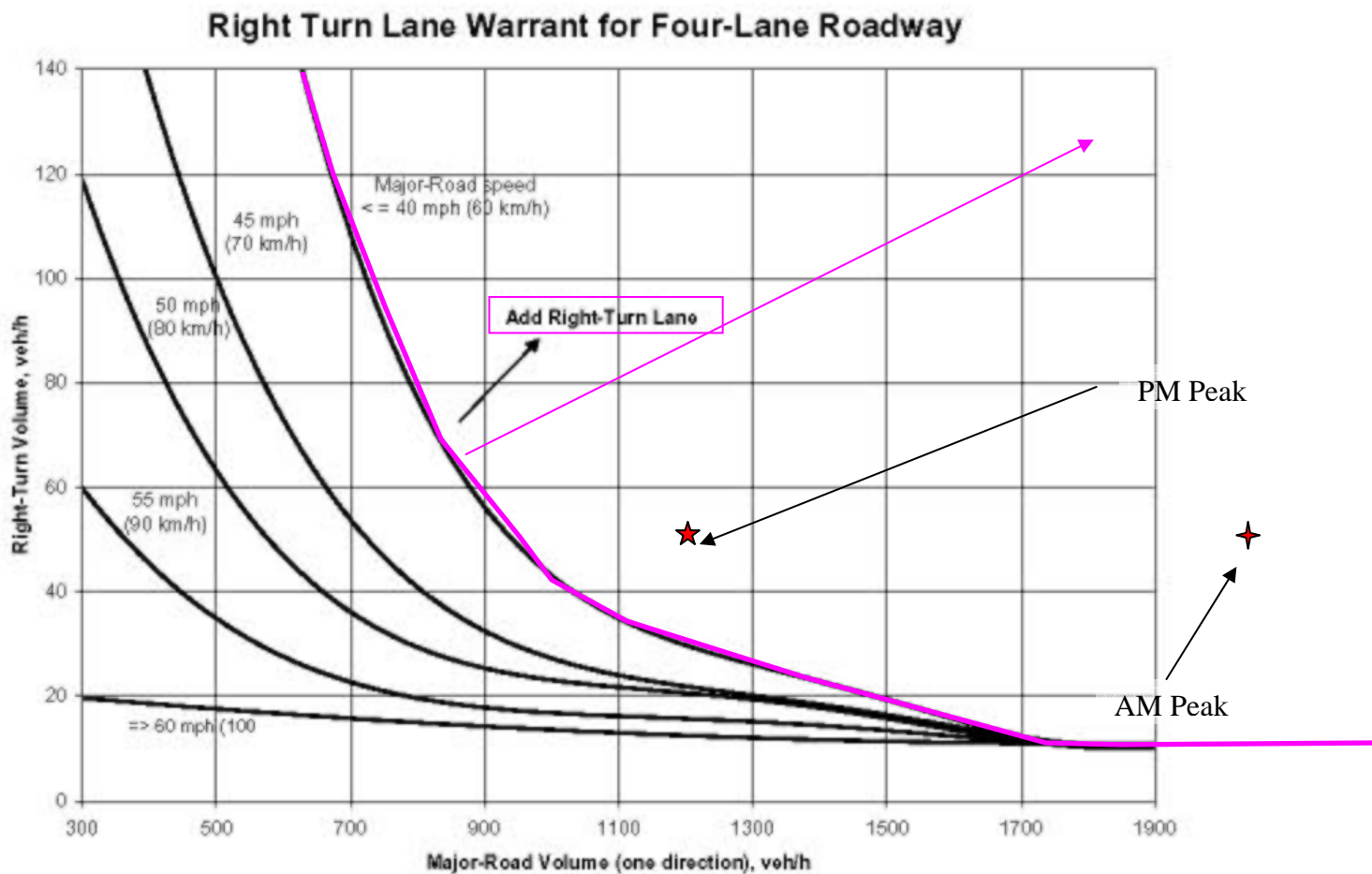
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Auxiliary Turn Lane Needs Analysis

Warranted

Figure 1
Clayton Road at Proposed West Driveway
Right-Turn Lane Needs Evaluation
2011 Build Conditions



The following data are required:

1. Advancing Volume (veh/hr) - The advancing volume should include the right-turn, left-turn and through movements in the same direction as the right turning vehicle.
2. Right Turning Volume (veh/hr) - The right turning volume is the number of advancing vehicles turning right.
3. Operating Speed (mph) - The greater of design or posted speed.

Note: Right turn lane not warranted for right turn volume less than 10 vph

If the combination of major-road approach volume and right-turn volume intersects above or to the right of the speed trend line corresponding the major road operating speed, then a right-turn lane is warranted.

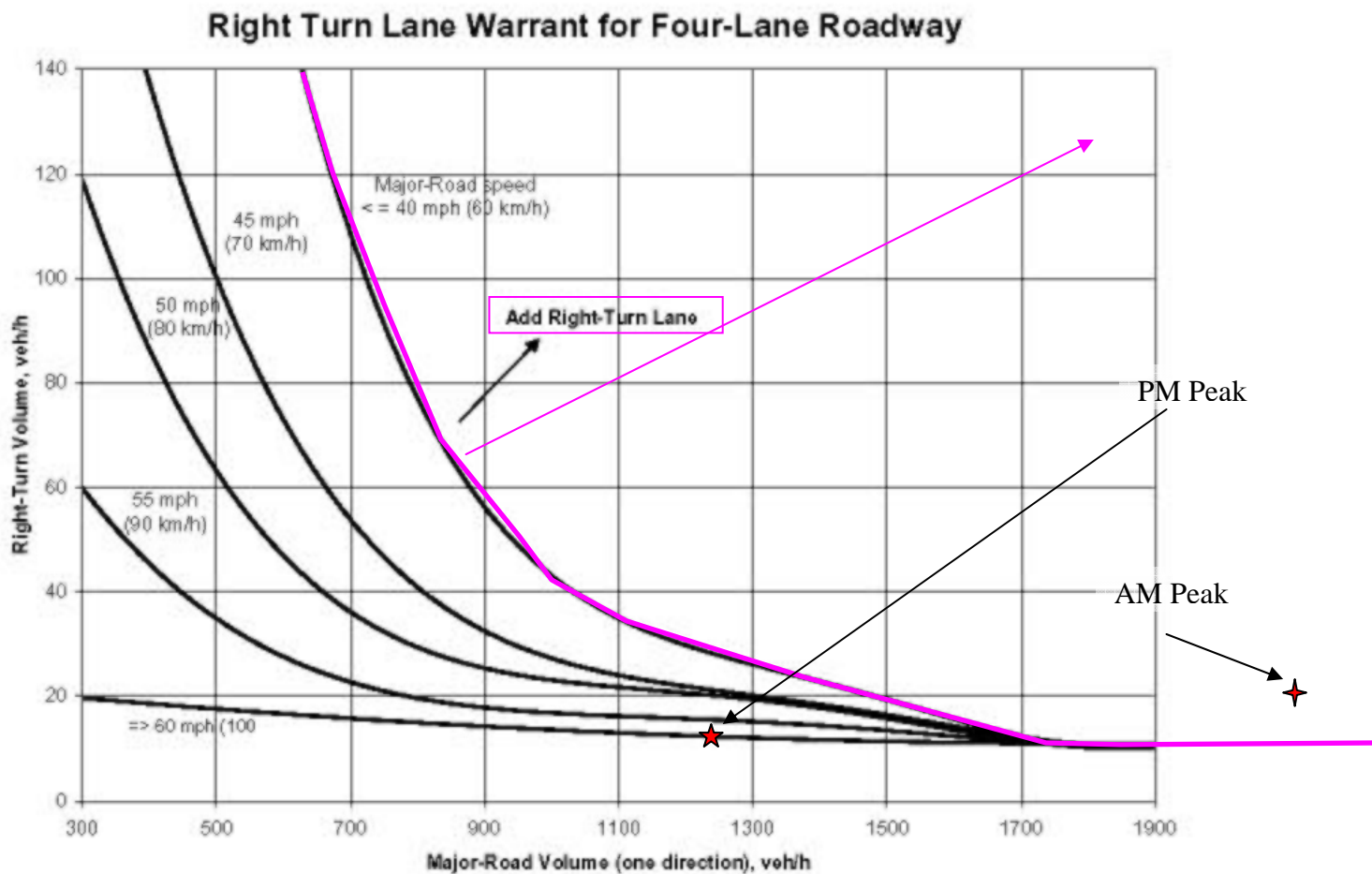
Roadway Speed
40 mph

AM Peak Hour
 $V_A = 2,198$ vph
Right-Turns = 50

PM Peak Hour
 $V_A = 1,195$ vph
Right-Turns = 50

Warranted

Figure 2
Clayton Road at Proposed East Driveway
Right-Turn Lane Needs Evaluation
2011 Build Conditions



The following data are required:

1. Advancing Volume (veh/hr) - The advancing volume should include the right-turn, left-turn and through movements in the same direction as the right turning vehicle.
2. Right Turning Volume (veh/hr) - The right turning volume is the number of advancing vehicles turning right.
3. Operating Speed (mph) - The greater of design or posted speed.

Note: Right turn lane not warranted for right turn volume less than 10 vph

If the combination of major-road approach volume and right-turn volume intersects above or to the right of the speed trend line corresponding the major road operating speed, then a right-turn lane is warranted.

Roadway Speed
40 mph

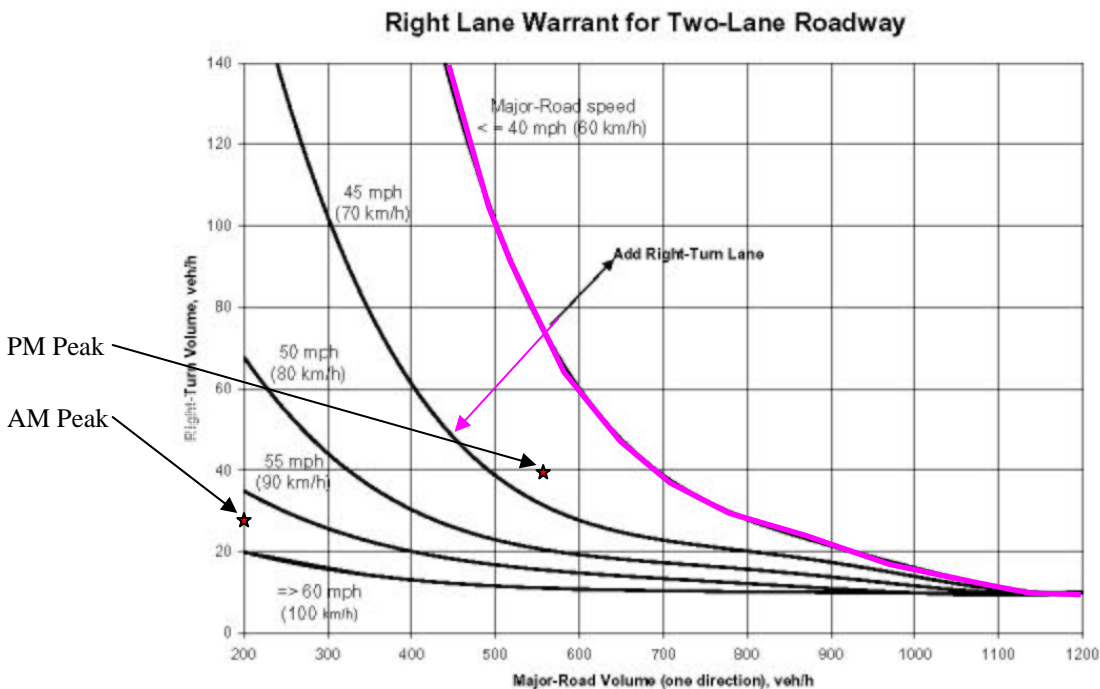
AM Peak Hour
 $V_A = 2,210$ vph
Right-Turns = 20

PM Peak Hour
 $V_A = 1,220$ vph
Right-Turns = 15

Figure 3 Henry Avenue at Proposed North Site Drive Right-Turn Lane Needs Evaluation 2031 Build Conditions

**Not
Warranted**

Posted Speed = 35 mph	
<u>AM Peak Hour</u>	<u>PM Peak Hour</u>
Va = 197 vph	Va = 582 vph
Right-Turns = 30 vph	Right-Turns = 35 vph



The following data are required:

1. Advancing Volume (veh/hr) - The advancing volume should include the right-turn, left-turn and through movements in the same direction as the right turning vehicle.
2. Right Turning Volume (veh/hr) - The right turning volume is the number of advancing vehicles turning right.
3. Operating Speed (mph) - The greater of design or posted speed.

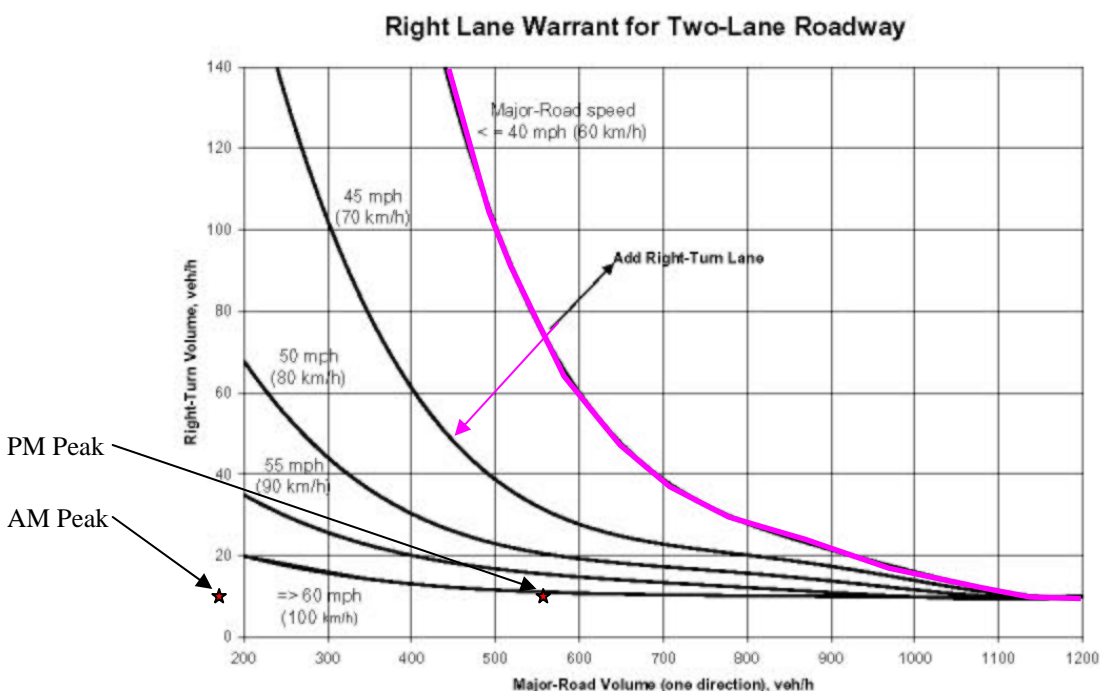
Note: Right turn lane is not warranted for right turn volume less than 10 vph

If the combination of major-road approach volume and right-turn volume intersects above or to the right of the speed trend line corresponding the major road operating speed, then a right-turn lane is warranted.

Figure 4 Henry Avenue at Proposed South Site Drive Right-Turn Lane Needs Evaluation 2031 Build Conditions

**Not
Warranted**

Posted Speed = 35 mph	
<u>AM Peak Hour</u>	<u>PM Peak Hour</u>
Va = 172vph	Va = 567 vph
Right-Turns = 5 vph	Right-Turns =10 vph



The following data are required:

1. Advancing Volume (veh/hr) - The advancing volume should include the right-turn, left-turn and through movements in the same direction as the right turning vehicle.
2. Right Turning Volume (veh/hr) - The right turning volume is the number of advancing vehicles turning right.
3. Operating Speed (mph) - The greater of design or posted speed.

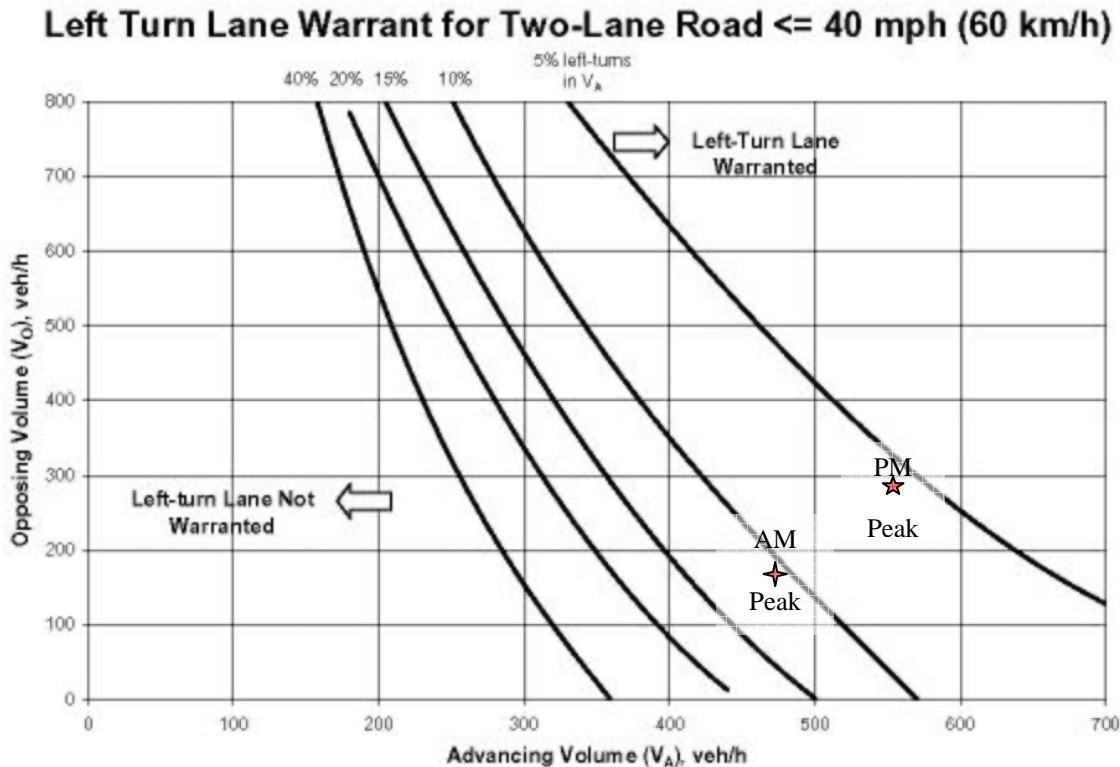
Note: Right turn lane is not warranted for right turn volume less than 10 vph

If the combination of major-road approach volume and right-turn volume intersects above or to the right of the speed trend line corresponding the major road operating speed, then a right-turn lane is warranted.

Figure 5
Henry Avenue at Proposed Northern Site Driveway
Right-Turn Lane Needs Evaluation
2031 Build Conditions

**Not
Warranted**

<u>AM Peak Hour</u>	<u>PM Peak Hour</u>
NB LT = 15	SB LT = 10
$V_A = 485$ vph	$V_A = 297$ vph
$V_O = 197$ vph	$V_O = 582$ vph
% LT = 3 %	% LT = 3 %



The following data are required:

1. Opposing Volume (veh/hr) - V_O - The opposing volume should include only the right-turn and through movements in the opposite direction of the left turning vehicle.
2. Advancing Volume (veh/hr) - V_A - The advancing volume should include the right-turn, left-turn and through movements in the same direction as the left turning vehicle.
3. Operating Speed (mph) - The greater of design or posted speed.
4. Percentage of left turns in V_A

Synchro 7 Outputs
Base Conditions
AM Peak Hour

Timings
1: Clayton Road & Schoettler Road

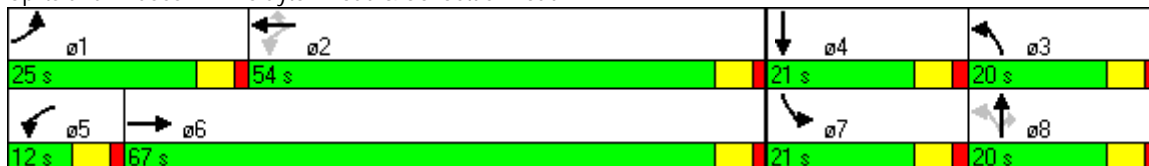
Base Traffic Conditions
Timing Plan: AM Peak

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Configurations											
Volume (vph)	125	1935	50	685	120	145	105	205	200	50	
Turn Type	Prot		pm+pt		Perm	pm+pt		Perm	Prot		
Protected Phases	1	6	5	2		3	8		7	4	
Permitted Phases			2		2	8		8			
Detector Phase	1	6	5	2	2	3	8	8	7	4	
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	7.0	7.0	5.0	7.0	
Minimum Split (s)	10.4	21.4	10.4	26.4	26.4	10.7	12.7	12.7	10.6	29.6	
Total Split (s)	25.0	67.0	12.0	54.0	54.0	20.0	20.0	20.0	21.0	21.0	
Total Split (%)	20.8%	55.8%	10.0%	45.0%	45.0%	16.7%	16.7%	16.7%	17.5%	17.5%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.4	1.4	1.4	1.4	1.4	1.7	1.7	1.7	1.6	1.6	
Lost Time Adjust (s)	-1.4	-1.4	-1.4	-1.4	-1.4	-1.7	-1.7	0.0	-1.6	-1.6	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.7	4.0	4.0	
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Act Effct Green (s)	16.0	69.2	66.4	58.7	58.7	15.2	14.6	12.9	14.7	14.1	
Actuated g/C Ratio	0.13	0.58	0.55	0.49	0.49	0.13	0.12	0.11	0.12	0.12	
v/c Ratio	0.59	1.08	0.32	0.44	0.16	0.72	0.52	0.83	0.56	0.71	
Control Delay	58.7	74.1	31.8	8.9	0.5	68.4	57.4	48.8	54.6	45.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	58.7	74.1	31.8	8.9	0.5	68.4	57.4	48.8	54.6	45.1	
LOS	E	E	C	A	A	E	E	D	D	D	
Approach Delay		73.1		9.1			57.0			50.4	
Approach LOS		E		A			E			D	

Intersection Summary

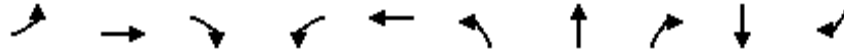
Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 92 (77%), Referenced to phase 2:WBTL and 6:EBT, Start of 1st Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.08
 Intersection Signal Delay: 54.5
 Intersection LOS: D
 Intersection Capacity Utilization 90.0%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 1: Clayton Road & Schoettler Road



Timings
2: Clayton Road & Village Green Parkway

Base Traffic Conditions
Timing Plan: AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations	↰	↑↑↑	↱	↰	↑↑↑	↰	↰	↱	↰	↱
Volume (vph)	30	2300	10	25	795	5	0	5	5	55
Turn Type	Prot		Perm	Prot		Split		Perm		pm+ov
Protected Phases	1	6		5	2	3	3		4	1
Permitted Phases			6					3		4
Detector Phase	1	6	6	5	2	3	3	3	4	1
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	10.8	23.8	23.8	10.5	15.5	13.4	13.4	13.4	41.4	10.8
Total Split (s)	18.0	71.0	71.0	14.0	67.0	14.0	14.0	14.0	21.0	18.0
Total Split (%)	15.0%	59.2%	59.2%	11.7%	55.8%	11.7%	11.7%	11.7%	17.5%	15.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.8	1.8	1.8	1.5	1.5	2.4	2.4	2.4	2.4	1.8
Lost Time Adjust (s)	-1.8	-1.8	-1.8	-1.5	-1.5	-2.4	-2.4	-2.4	-2.4	-1.8
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None
Act Effect Green (s)	12.7	82.3	82.3	8.7	76.0	9.4	9.4	9.4	16.2	30.5
Actuated g/C Ratio	0.11	0.69	0.69	0.07	0.63	0.08	0.08	0.08	0.14	0.25
v/c Ratio	0.17	0.76	0.01	0.22	0.32	0.02	0.02	0.04	0.71	0.13
Control Delay	33.4	7.0	2.4	45.0	15.5	51.5	51.7	31.2	66.2	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.4	7.0	2.4	45.0	15.5	51.5	51.7	31.2	66.2	12.8
LOS	C	A	A	D	B	D	D	C	E	B
Approach Delay		7.3			16.3		41.4		53.1	
Approach LOS		A			B		D		D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 92 (77%), Referenced to phase 2:WBT and 6:EBT, Start of 1st Green
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 12.6
 Intersection LOS: B
 Intersection Capacity Utilization 69.7%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 2: Clayton Road & Village Green Parkway



Timings
7: Clayton Road & Woods Mill Road

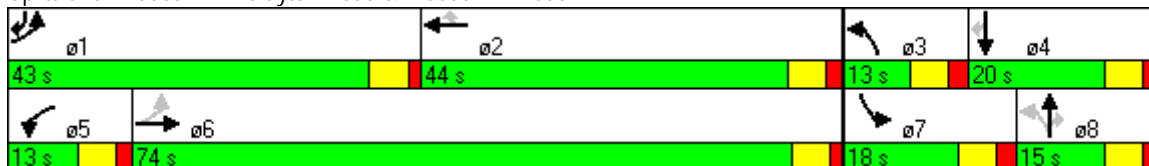
Base Traffic Conditions
Timing Plan: AM Peak

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Volume (vph)	460	1910	40	490	310	45	50	45	125	60	335	
Turn Type	pm+pt		Prot		Perm	pm+pt		Perm	Prot		pm+ov	
Protected Phases	1	6	5	2		3	8		7	4	1	
Permitted Phases	6				2	8		8			4	
Detector Phase	1	6	5	2	2	3	8	8	7	4	1	
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	7.0	7.0	5.0	7.0	5.0	
Minimum Split (s)	10.4	28.4	10.7	28.7	28.7	11.1	33.9	33.9	11.1	12.9	10.4	
Total Split (s)	43.0	74.0	13.0	44.0	44.0	13.0	15.0	15.0	18.0	20.0	43.0	
Total Split (%)	35.8%	61.7%	10.8%	36.7%	36.7%	10.8%	12.5%	12.5%	15.0%	16.7%	35.8%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.4	1.4	1.7	1.7	1.7	2.1	1.9	1.9	2.1	1.9	1.4	
Lost Time Adjust (s)	-1.4	-1.4	-1.7	-1.7	-1.7	-2.1	-1.9	-1.9	-2.1	-1.9	-1.4	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None	None	
Act Effct Green (s)	87.0	76.6	8.6	57.6	57.6	17.1	10.2	10.2	13.4	14.6	44.0	
Actuated g/C Ratio	0.72	0.64	0.07	0.48	0.48	0.14	0.08	0.08	0.11	0.12	0.37	
v/c Ratio	0.75	0.70	0.34	0.31	0.35	0.22	0.34	0.27	0.67	0.28	0.27	
Control Delay	11.8	8.4	60.4	22.8	4.1	38.7	57.5	18.2	68.2	50.7	0.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	11.8	8.4	60.4	22.8	4.1	38.7	57.5	18.2	68.2	50.7	0.6	
LOS	B	A	E	C	A	D	E	B	E	D	A	
Approach Delay		9.0		17.7			38.8			22.6		
Approach LOS		A		B			D			C		

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 16 (13%), Referenced to phase 2:WBT and 6:EBTL, Start of 1st Green
 Natural Cycle: 105
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 13.7
 Intersection LOS: B
 Intersection Capacity Utilization 66.3%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 7: Clayton Road & Woods Mill Road



HCM Unsignalized Intersection Capacity Analysis

9: Clayton Road & Rue De Gascony

Base Traffic Conditions
Timing Plan: AM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↕↕	↕↶		↶↶	
Volume (veh/h)	1	2108	939	1	2	2
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	2243	999	1	2	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage (veh)		2	2			
Upstream signal (ft)			573			
pX, platoon unblocked	0.86				0.86	0.86
vC, conflicting volume	1000				2123	500
vC1, stage 1 conf vol					999	
vC2, stage 2 conf vol					1123	
vCu, unblocked vol	687				1985	108
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	781				221	799

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	1	1121	1121	666	334	4
Volume Left	1	0	0	0	0	2
Volume Right	0	0	0	0	1	2
cSH	781	1700	1700	1700	1700	347
Volume to Capacity	0.00	0.66	0.66	0.39	0.20	0.01
Queue Length 95th (ft)	0	0	0	0	0	1
Control Delay (s)	9.6	0.0	0.0	0.0	0.0	15.5
Lane LOS	A					C
Approach Delay (s)	0.0			0.0		15.5
Approach LOS						C

Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			68.3%		ICU Level of Service	C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

6: Clatyon Corners & Henry

Base Traffic Conditions
Timing Plan: AM Peak



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	1	5	450	1	4	146
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	5	479	1	4	155
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						540
pX, platoon unblocked						
vC, conflicting volume	643	479			480	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	643	479			480	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			100	
cM capacity (veh/h)	436	586			1083	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	6	480	160
Volume Left	1	0	4
Volume Right	5	1	0
cSH	555	1700	1083
Volume to Capacity	0.01	0.28	0.00
Queue Length 95th (ft)	1	0	0
Control Delay (s)	11.6	0.0	0.3
Lane LOS	B		A
Approach Delay (s)	11.6	0.0	0.3
Approach LOS	B		

Intersection Summary			
Average Delay			0.2
Intersection Capacity Utilization	33.7%	ICU Level of Service	A
Analysis Period (min)			15

Synchro 7 Outputs
Base Conditions
PM Peak Hour

Timings
1: Clayton Road & Schoettler Road

Base Traffic Conditions
Timing Plan: PM Peak

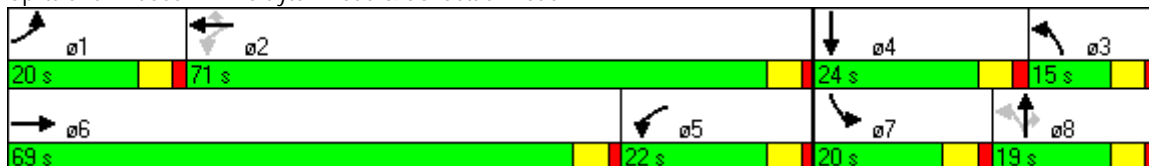


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↗	↖	↑	↗	↖	↖
Volume (vph)	90	840	230	1745	280	85	75	105	145	95
Turn Type	Prot		pm+pt		Perm	pm+pt		Perm	Prot	
Protected Phases	1	6	5	2		3	8		7	4
Permitted Phases			2		2	8		8		
Detector Phase	1	6	5	2	2	3	8	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	7.0	7.0	5.0	7.0
Minimum Split (s)	10.4	21.4	10.4	26.4	26.4	10.7	12.7	12.7	10.6	29.6
Total Split (s)	20.0	69.0	22.0	71.0	71.0	15.0	19.0	19.0	20.0	24.0
Total Split (%)	15.4%	53.1%	16.9%	54.6%	54.6%	11.5%	14.6%	14.6%	15.4%	18.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.4	1.4	1.4	1.4	1.4	1.7	1.7	1.7	1.6	1.6
Lost Time Adjust (s)	-1.4	-1.4	-1.4	-1.4	-1.4	-1.7	-1.7	0.0	-1.6	-1.6
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.7	4.0	4.0
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effect Green (s)	13.4	67.5	72.1	72.1	72.1	15.2	15.2	13.5	13.3	20.0
Actuated g/C Ratio	0.10	0.52	0.55	0.55	0.55	0.12	0.12	0.10	0.10	0.15
v/c Ratio	0.55	0.62	0.62	0.99	0.32	0.54	0.38	0.43	0.49	0.93
Control Delay	66.2	23.6	16.9	24.6	1.0	67.5	58.9	14.6	59.6	82.1
Queue Delay	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.2	23.6	16.9	25.7	1.0	67.5	58.9	14.6	59.6	82.1
LOS	E	C	B	C	A	E	E	B	E	F
Approach Delay		27.1		21.8			44.1			73.6
Approach LOS		C		C			D			E

Intersection Summary

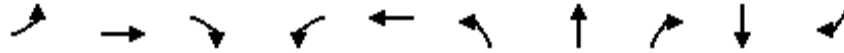
Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 3 (2%), Referenced to phase 2:WBTL and 6:EBT, Start of 1st Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.99
 Intersection Signal Delay: 30.0
 Intersection LOS: C
 Intersection Capacity Utilization 85.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 1: Clayton Road & Schoettler Road



Timings
2: Clayton Road & Village Green Parkway

Base Traffic Conditions
Timing Plan: PM Peak



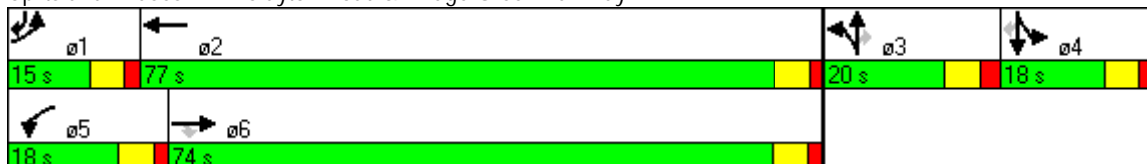
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↘	↖	↗	↖	↗
Volume (vph)	60	970	60	70	2115	85	10	30	5	55
Turn Type	Prot		Perm	Prot		Split		Perm		pm+ov
Protected Phases	1	6		5	2	3	3		4	1
Permitted Phases			6					3		4
Detector Phase	1	6	6	5	2	3	3	3	4	1
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	10.8	23.8	23.8	10.5	15.5	13.4	13.4	13.4	41.4	10.8
Total Split (s)	15.0	74.0	74.0	18.0	77.0	20.0	20.0	20.0	18.0	15.0
Total Split (%)	11.5%	56.9%	56.9%	13.8%	59.2%	15.4%	15.4%	15.4%	13.8%	11.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.8	1.8	1.8	1.5	1.5	2.4	2.4	2.4	2.4	1.8
Lost Time Adjust (s)	-1.8	-1.8	-1.8	-1.5	-1.5	-2.4	-2.4	-2.4	-2.4	-1.8
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None
Act Effect Green (s)	10.3	82.3	82.3	11.9	83.9	12.0	12.0	12.0	12.9	27.2
Actuated g/C Ratio	0.08	0.63	0.63	0.09	0.65	0.09	0.09	0.09	0.10	0.21
v/c Ratio	0.46	0.35	0.06	0.48	0.88	0.33	0.32	0.18	0.54	0.15
Control Delay	72.0	6.5	1.4	68.2	19.0	60.3	60.1	19.3	67.0	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
Total Delay	72.0	6.5	1.4	68.2	19.8	60.3	60.1	19.3	67.0	11.5
LOS	E	A	A	E	B	E	E	B	E	B
Approach Delay		9.8			21.1		50.4		46.6	
Approach LOS		A			C		D		D	

Intersection Summary

Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 1 (1%), Referenced to phase 2:WBT and 6:EBT, Start of 1st Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 19.9
 Intersection Capacity Utilization 70.6%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 2: Clayton Road & Village Green Parkway



Timings
7: Clayton Road & Woods Mill Road

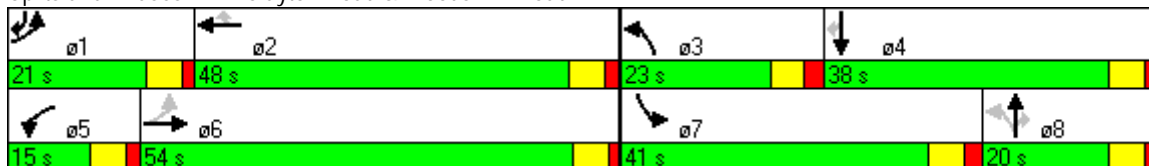
Base Traffic Conditions
Timing Plan: PM Peak

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Volume (vph)	140	805	50	980	100	180	75	75	295	180	1200	
Turn Type	pm+pt		Prot		Perm	pm+pt		Perm	Prot		pm+ov	
Protected Phases	1	6	5	2		3	8		7	4	1	
Permitted Phases	6				2	8		8			4	
Detector Phase	1	6	5	2	2	3	8	8	7	4	1	
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	7.0	7.0	5.0	7.0	5.0	
Minimum Split (s)	10.4	28.4	10.7	28.7	28.7	11.1	33.9	33.9	11.1	12.9	10.4	
Total Split (s)	21.0	54.0	15.0	48.0	48.0	23.0	20.0	20.0	41.0	38.0	21.0	
Total Split (%)	16.2%	41.5%	11.5%	36.9%	36.9%	17.7%	15.4%	15.4%	31.5%	29.2%	16.2%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.4	1.4	1.7	1.7	1.7	2.1	1.9	1.9	2.1	1.9	1.4	
Lost Time Adjust (s)	-1.4	-1.4	-1.7	-1.7	-1.7	-2.1	-1.9	-1.9	-2.1	-1.9	-1.4	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	Max	
Act Effct Green (s)	75.4	63.7	10.0	54.4	54.4	29.7	12.7	12.7	30.0	25.6	46.6	
Actuated g/C Ratio	0.58	0.49	0.08	0.42	0.42	0.23	0.10	0.10	0.23	0.20	0.36	
v/c Ratio	0.50	0.42	0.39	0.70	0.15	0.55	0.44	0.35	0.77	0.52	0.98	
Control Delay	40.6	18.3	65.3	35.9	7.0	36.3	62.4	15.3	59.3	50.8	45.4	
Queue Delay	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	40.6	18.3	65.3	36.5	7.0	36.3	62.4	15.3	59.3	50.8	45.4	
LOS	D	B	E	D	A	D	E	B	E	D	D	
Approach Delay		21.3		35.2			37.5			48.4		
Approach LOS		C		D			D			D		

Intersection Summary

Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 13 (10%), Referenced to phase 2:WBT and 6:EBTL, Start of 1st Green
 Natural Cycle: 105
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.98
 Intersection Signal Delay: 37.1
 Intersection LOS: D
 Intersection Capacity Utilization 89.0%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 7: Clayton Road & Woods Mill Road



HCM Unsignalized Intersection Capacity Analysis

9: Clayton Road & Rue De Gascony

Base Traffic Conditions
Timing Plan: PM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↕	↕		↶	
Volume (veh/h)	1	1095	1973	2	0	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	1165	2099	2	0	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLT	TWLT			
Median storage (veh)		2	2			
Upstream signal (ft)			573			
pX, platoon unblocked	0.46				0.46	0.46
vC, conflicting volume	2101				2685	1051
vC1, stage 1 conf vol					2100	
vC2, stage 2 conf vol					585	
vCu, unblocked vol	1044				2314	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	304				129	498

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	1	582	582	1399	702	1
Volume Left	1	0	0	0	0	0
Volume Right	0	0	0	0	2	1
cSH	304	1700	1700	1700	1700	498
Volume to Capacity	0.00	0.34	0.34	0.82	0.41	0.00
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	16.9	0.0	0.0	0.0	0.0	12.2
Lane LOS	C					B
Approach Delay (s)	0.0			0.0		12.2
Approach LOS						B

Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			64.6%		ICU Level of Service	C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

6: Clatyon Corners & Henry Ave

Base Traffic Conditions
Timing Plan: PM Peak



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	1	5	260	2	4	486
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	5	277	2	4	517
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						540
pX, platoon unblocked	0.94					
vC, conflicting volume	803	278			279	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	762	278			279	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			100	
cM capacity (veh/h)	351	761			1284	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	6	279	521
Volume Left	1	0	4
Volume Right	5	2	0
cSH	637	1700	1284
Volume to Capacity	0.01	0.16	0.00
Queue Length 95th (ft)	1	0	0
Control Delay (s)	10.7	0.0	0.1
Lane LOS	B		A
Approach Delay (s)	10.7	0.0	0.1
Approach LOS	B		

Intersection Summary			
Average Delay		0.1	
Intersection Capacity Utilization		38.8%	ICU Level of Service A
Analysis Period (min)		15	

Synchro 7 Outputs
Year 2011 No-Build Conditions
AM Peak Hour

Timings
1: Clayton Road & Schoettler Road

2011 No-Build Traffic Conditions

Timing Plan: AM Peak

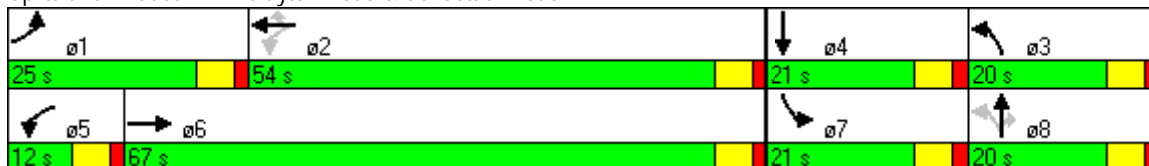


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	130	1985	50	705	125	150	105	210	205	50
Turn Type	Prot		pm+pt		Perm	pm+pt		Perm	Prot	
Protected Phases	1	6	5	2		3	8		7	4
Permitted Phases			2		2	8		8		
Detector Phase	1	6	5	2	2	3	8	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	7.0	7.0	5.0	7.0
Minimum Split (s)	10.4	21.4	10.4	26.4	26.4	10.7	12.7	12.7	10.6	29.6
Total Split (s)	25.0	67.0	12.0	54.0	54.0	20.0	20.0	20.0	21.0	21.0
Total Split (%)	20.8%	55.8%	10.0%	45.0%	45.0%	16.7%	16.7%	16.7%	17.5%	17.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.4	1.4	1.4	1.4	1.4	1.7	1.7	1.7	1.6	1.6
Lost Time Adjust (s)	-1.4	-1.4	-1.4	-1.4	-1.4	-1.7	-1.7	0.0	-1.6	-1.6
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.7	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	16.2	69.1	66.1	58.4	58.4	15.3	14.5	12.8	14.9	14.1
Actuated g/C Ratio	0.14	0.58	0.55	0.49	0.49	0.13	0.12	0.11	0.12	0.12
v/c Ratio	0.60	1.11	0.32	0.45	0.17	0.74	0.52	0.85	0.57	0.71
Control Delay	59.0	85.5	31.4	8.2	0.4	70.1	57.6	52.9	54.7	45.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.0	85.5	31.4	8.2	0.4	70.1	57.6	52.9	54.7	45.1
LOS	E	F	C	A	A	E	E	D	D	D
Approach Delay		83.9		8.4			59.5			50.5
Approach LOS		F		A			E			D

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 92 (77%), Referenced to phase 2:WBTL and 6:EBT, Start of 1st Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.11
 Intersection Signal Delay: 60.6
 Intersection LOS: E
 Intersection Capacity Utilization 91.7%
 ICU Level of Service F
 Analysis Period (min) 15

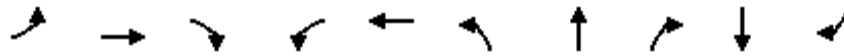
Splits and Phases: 1: Clayton Road & Schoettler Road



Timings
2: Clayton Road & Village Green Parkway

2011 No-Build Traffic Conditions

Timing Plan: AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations	↶	↑↑↑	↷	↶	↑↑↑	↶	↶	↷	↶	↷
Volume (vph)	30	2350	20	50	810	10	0	10	5	55
Turn Type	Prot		Perm	Prot		Split		Perm		pm+ov
Protected Phases	1	6		5	2	3	3		4	1
Permitted Phases			6					3		4
Detector Phase	1	6	6	5	2	3	3	3	4	1
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	10.8	23.8	23.8	10.5	15.5	13.4	13.4	13.4	41.4	10.8
Total Split (s)	18.0	71.0	71.0	14.0	67.0	14.0	14.0	14.0	21.0	18.0
Total Split (%)	15.0%	59.2%	59.2%	11.7%	55.8%	11.7%	11.7%	11.7%	17.5%	15.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.8	1.8	1.8	1.5	1.5	2.4	2.4	2.4	2.4	1.8
Lost Time Adjust (s)	-1.8	-1.8	-1.8	-1.5	-1.5	-2.4	-2.4	-2.4	-2.4	-1.8
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	12.7	76.7	76.7	9.3	73.3	9.4	9.4	9.4	16.2	29.7
Actuated g/C Ratio	0.11	0.64	0.64	0.08	0.61	0.08	0.08	0.08	0.14	0.25
v/c Ratio	0.17	0.83	0.02	0.41	0.34	0.04	0.05	0.08	0.71	0.13
Control Delay	33.4	9.0	1.8	50.4	17.3	51.8	52.0	26.5	66.2	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.4	9.0	1.8	50.4	17.3	51.8	52.0	26.5	66.2	12.2
LOS	C	A	A	D	B	D	D	C	E	B
Approach Delay		9.2			18.9		39.2		53.0	
Approach LOS		A			B		D		D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 92 (77%), Referenced to phase 2:WBT and 6:EBT, Start of 1st Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 14.6
 Intersection LOS: B
 Intersection Capacity Utilization 70.6%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 2: Clayton Road & Village Green Parkway



Timings
7: Clayton Road & Woods Mill Road

2011 No-Build Traffic Conditions

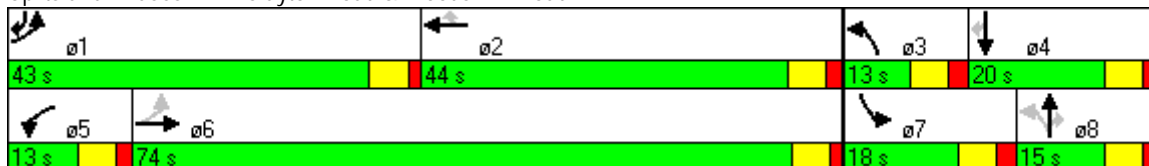
Timing Plan: AM Peak

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Volume (vph)	470	1955	40	515	315	45	50	45	130	70	350	
Turn Type	pm+pt		Prot		Perm	pm+pt		Perm	Prot		pm+ov	
Protected Phases	1	6	5	2		3	8		7	4	1	
Permitted Phases	6				2	8		8			4	
Detector Phase	1	6	5	2	2	3	8	8	7	4	1	
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	7.0	7.0	5.0	7.0	5.0	
Minimum Split (s)	10.4	28.4	10.7	28.7	28.7	11.1	33.9	33.9	11.1	12.9	10.4	
Total Split (s)	43.0	74.0	13.0	44.0	44.0	13.0	15.0	15.0	18.0	20.0	43.0	
Total Split (%)	35.8%	61.7%	10.8%	36.7%	36.7%	10.8%	12.5%	12.5%	15.0%	16.7%	35.8%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.4	1.4	1.7	1.7	1.7	2.1	1.9	1.9	2.1	1.9	1.4	
Lost Time Adjust (s)	-1.4	-1.4	-1.7	-1.7	-1.7	-2.1	-1.9	-1.9	-2.1	-1.9	-1.4	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None	None	
Act Effct Green (s)	86.9	76.5	8.6	56.4	56.4	17.1	10.2	10.2	13.5	14.7	45.2	
Actuated g/C Ratio	0.72	0.64	0.07	0.47	0.47	0.14	0.08	0.08	0.11	0.12	0.38	
v/c Ratio	0.77	0.72	0.34	0.33	0.36	0.22	0.34	0.27	0.69	0.32	0.28	
Control Delay	13.6	7.7	60.4	23.9	4.2	38.7	57.5	18.2	69.6	51.7	0.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	13.6	7.7	60.4	23.9	4.2	38.7	57.5	18.2	69.6	51.7	0.7	
LOS	B	A	E	C	A	D	E	B	E	D	A	
Approach Delay		8.8		18.4			38.8			23.5		
Approach LOS		A		B			D			C		

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 16 (13%), Referenced to phase 2:WBT and 6:EBTL, Start of 1st Green
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 13.9
 Intersection LOS: B
 Intersection Capacity Utilization 67.5%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 7: Clayton Road & Woods Mill Road



HCM Unsignalized Intersection Capacity Analysis
 9: Clayton Road & Rue De Gascony

2011 No-Build Traffic Conditions
 Timing Plan: AM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↶↶	↶↶		↶↶	
Volume (veh/h)	1	2163	964	1	2	2
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	2301	1026	1	2	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage (veh)		2	2			
Upstream signal (ft)			573			
pX, platoon unblocked	0.86				0.86	0.86
vC, conflicting volume	1027				2179	513
vC1, stage 1 conf vol					1026	
vC2, stage 2 conf vol					1153	
vCu, unblocked vol	701				2043	103
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	766				214	800

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	1	1151	1151	684	343	4
Volume Left	1	0	0	0	0	2
Volume Right	0	0	0	0	1	2
cSH	766	1700	1700	1700	1700	337
Volume to Capacity	0.00	0.68	0.68	0.40	0.20	0.01
Queue Length 95th (ft)	0	0	0	0	0	1
Control Delay (s)	9.7	0.0	0.0	0.0	0.0	15.8
Lane LOS	A					C
Approach Delay (s)	0.0			0.0		15.8
Approach LOS						C

Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			69.8%		ICU Level of Service	C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
6: Clatyon Corners & Henry Ave

2011 No-Build Traffic Conditions

Timing Plan: AM Peak



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	1	5	460	1	4	146
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	5	489	1	4	155
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						540
pX, platoon unblocked						
vC, conflicting volume	654	490			490	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	654	490			490	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			100	
cM capacity (veh/h)	430	578			1073	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	6	490	160
Volume Left	1	0	4
Volume Right	5	1	0
cSH	547	1700	1073
Volume to Capacity	0.01	0.29	0.00
Queue Length 95th (ft)	1	0	0
Control Delay (s)	11.7	0.0	0.3
Lane LOS	B		A
Approach Delay (s)	11.7	0.0	0.3
Approach LOS	B		

Intersection Summary			
Average Delay			0.2
Intersection Capacity Utilization	34.3%	ICU Level of Service	A
Analysis Period (min)			15

Synchro 7 Outputs
Year 2011 No-Build Conditions
PM Peak Hour

Timings
1: Clayton Road & Schoettler Road

2011 No-Build Traffic Conditions

Timing Plan: PM Peak

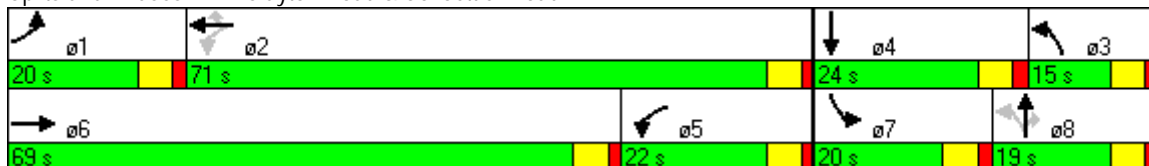


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	90	900	245	1845	295	85	75	110	160	95
Turn Type	Prot		pm+pt		Perm	pm+pt		Perm	Prot	
Protected Phases	1	6	5	2		3	8		7	4
Permitted Phases			2		2	8		8		
Detector Phase	1	6	5	2	2	3	8	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	7.0	7.0	5.0	7.0
Minimum Split (s)	10.4	21.4	10.4	26.4	26.4	10.7	12.7	12.7	10.6	29.6
Total Split (s)	20.0	69.0	22.0	71.0	71.0	15.0	19.0	19.0	20.0	24.0
Total Split (%)	15.4%	53.1%	16.9%	54.6%	54.6%	11.5%	14.6%	14.6%	15.4%	18.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.4	1.4	1.4	1.4	1.4	1.7	1.7	1.7	1.6	1.6
Lost Time Adjust (s)	-1.4	-1.4	-1.4	-1.4	-1.4	-1.7	-1.7	0.0	-1.6	-1.6
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.7	4.0	4.0
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effect Green (s)	13.4	67.3	71.9	71.9	71.9	14.9	14.9	13.2	13.7	20.0
Actuated g/C Ratio	0.10	0.52	0.55	0.55	0.55	0.11	0.11	0.10	0.11	0.15
v/c Ratio	0.55	0.66	0.70	1.05	0.34	0.54	0.39	0.45	0.52	0.95
Control Delay	66.2	24.9	22.2	42.0	1.0	67.1	59.3	14.8	60.0	85.4
Queue Delay	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.2	24.9	22.2	44.3	1.0	67.1	59.3	14.8	60.0	85.4
LOS	E	C	C	D	A	E	E	B	E	F
Approach Delay		28.1		36.7			43.6			75.3
Approach LOS		C		D			D			E

Intersection Summary

Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 3 (2%), Referenced to phase 2:WBTL and 6:EBT, Start of 1st Green
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.05
 Intersection Signal Delay: 38.7
 Intersection LOS: D
 Intersection Capacity Utilization 88.2%
 ICU Level of Service E
 Analysis Period (min) 15

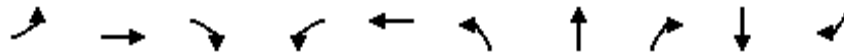
Splits and Phases: 1: Clayton Road & Schoettler Road



Timings
2: Clayton Road & Village Green Parkway

2011 No-Build Traffic Conditions

Timing Plan: PM Peak

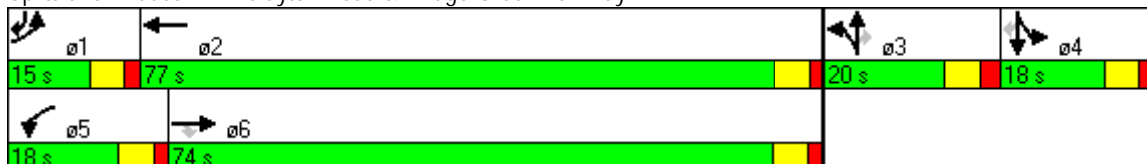


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖	↑↑↑	↖	↖	↗	↖	↗
Volume (vph)	60	990	120	140	2160	170	10	60	5	55
Turn Type	Prot		Perm	Prot		Split		Perm		pm+ov
Protected Phases	1	6		5	2	3	3		4	1
Permitted Phases			6					3		4
Detector Phase	1	6	6	5	2	3	3	3	4	1
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	10.8	23.8	23.8	10.5	15.5	13.4	13.4	13.4	41.4	10.8
Total Split (s)	15.0	74.0	74.0	18.0	77.0	20.0	20.0	20.0	18.0	15.0
Total Split (%)	11.5%	56.9%	56.9%	13.8%	59.2%	15.4%	15.4%	15.4%	13.8%	11.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.8	1.8	1.8	1.5	1.5	2.4	2.4	2.4	2.4	1.8
Lost Time Adjust (s)	-1.8	-1.8	-1.8	-1.5	-1.5	-2.4	-2.4	-2.4	-2.4	-1.8
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	10.3	73.1	73.1	13.9	79.1	14.1	14.1	14.1	12.9	27.2
Actuated g/C Ratio	0.08	0.56	0.56	0.11	0.61	0.11	0.11	0.11	0.10	0.21
v/c Ratio	0.46	0.40	0.14	0.83	0.95	0.53	0.53	0.28	0.54	0.16
Control Delay	72.5	8.1	1.4	84.5	25.2	65.3	65.0	15.1	67.0	25.0
Queue Delay	0.0	0.0	0.0	0.0	10.8	0.0	0.0	0.0	0.0	0.0
Total Delay	72.5	8.1	1.4	84.5	36.0	65.3	65.0	15.1	67.0	25.0
LOS	E	A	A	F	D	E	E	B	E	C
Approach Delay		10.7			38.5		52.6		51.6	
Approach LOS		B			D		D		D	

Intersection Summary

Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 1 (1%), Referenced to phase 2:WBT and 6:EBT, Start of 1st Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 32.3
 Intersection LOS: C
 Intersection Capacity Utilization 71.5%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 2: Clayton Road & Village Green Parkway



Timings
7: Clayton Road & Woods Mill Road

2011 No-Build Traffic Conditions

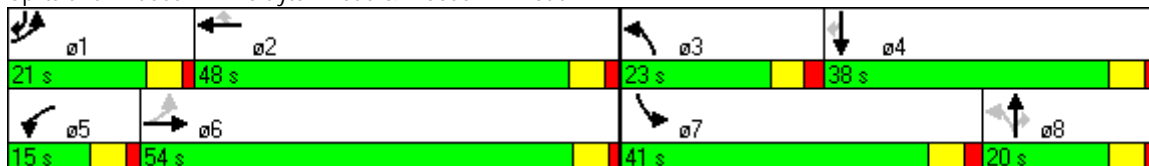
Timing Plan: PM Peak

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	145	850	50	1035	100	185	85	75	300	205	1255
Turn Type	pm+pt		Prot		Perm	pm+pt		Perm	Prot		pm+ov
Protected Phases	1	6	5	2		3	8		7	4	1
Permitted Phases	6				2	8		8			4
Detector Phase	1	6	5	2	2	3	8	8	7	4	1
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	7.0	7.0	5.0	7.0	5.0
Minimum Split (s)	10.4	28.4	10.7	28.7	28.7	11.1	33.9	33.9	11.1	12.9	10.4
Total Split (s)	21.0	54.0	15.0	48.0	48.0	23.0	20.0	20.0	41.0	38.0	21.0
Total Split (%)	16.2%	41.5%	11.5%	36.9%	36.9%	17.7%	15.4%	15.4%	31.5%	29.2%	16.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.4	1.4	1.7	1.7	1.7	2.1	1.9	1.9	2.1	1.9	1.4
Lost Time Adjust (s)	-1.4	-1.4	-1.7	-1.7	-1.7	-2.1	-1.9	-1.9	-2.1	-1.9	-1.4
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	Max
Act Effct Green (s)	74.6	62.9	10.0	53.6	53.6	30.3	13.1	13.1	30.3	26.2	47.2
Actuated g/C Ratio	0.57	0.48	0.08	0.41	0.41	0.23	0.10	0.10	0.23	0.20	0.36
v/c Ratio	0.55	0.45	0.39	0.75	0.15	0.56	0.48	0.34	0.77	0.58	1.01
Control Delay	48.8	20.1	65.3	38.1	7.9	36.2	63.2	15.1	59.3	52.3	54.1
Queue Delay	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.8	20.1	65.3	38.9	7.9	36.2	63.2	15.1	59.3	52.3	54.1
LOS	D	C	E	D	A	D	E	B	E	D	D
Approach Delay		23.9		37.4			38.2			54.7	
Approach LOS		C		D			D			D	

Intersection Summary

Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 13 (10%), Referenced to phase 2:WBT and 6:EBTL, Start of 1st Green
 Natural Cycle: 125
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.01
 Intersection Signal Delay: 41.0
 Intersection LOS: D
 Intersection Capacity Utilization 92.8%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 7: Clayton Road & Woods Mill Road



HCM Unsignalized Intersection Capacity Analysis
 9: Clayton Road & Rue De Gascony

2011 No-Build Traffic Conditions
 Timing Plan: PM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↗		↙	
Volume (veh/h)	1	1160	2078	2	0	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	1234	2211	2	0	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLT	TWLT			
Median storage (veh)		2	2			
Upstream signal (ft)			573			
pX, platoon unblocked	0.45				0.45	0.45
vC, conflicting volume	2213				2831	1106
vC1, stage 1 conf vol					2212	
vC2, stage 2 conf vol					619	
vCu, unblocked vol	1262				2627	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	248				99	491

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	1	617	617	1474	739	1
Volume Left	1	0	0	0	0	0
Volume Right	0	0	0	0	2	1
cSH	248	1700	1700	1700	1700	491
Volume to Capacity	0.00	0.36	0.36	0.87	0.43	0.00
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	19.6	0.0	0.0	0.0	0.0	12.3
Lane LOS	C					B
Approach Delay (s)	0.0			0.0		12.3
Approach LOS						B

Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			67.5%		ICU Level of Service	C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
6: Clatyon Corners & Henry Ave

2011 No-Build Traffic Conditions

Timing Plan: PM Peak



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	1	5	265	2	4	506
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	5	282	2	4	538
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						540
pX, platoon unblocked	0.94					
vC, conflicting volume	830	283			284	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	784	283			284	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			100	
cM capacity (veh/h)	338	756			1278	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	6	284	543
Volume Left	1	0	4
Volume Right	5	2	0
cSH	627	1700	1278
Volume to Capacity	0.01	0.17	0.00
Queue Length 95th (ft)	1	0	0
Control Delay (s)	10.8	0.0	0.1
Lane LOS	B		A
Approach Delay (s)	10.8	0.0	0.1
Approach LOS	B		

Intersection Summary			
Average Delay		0.1	
Intersection Capacity Utilization		39.8%	ICU Level of Service
Analysis Period (min)		15	A

Synchro 7 Outputs
Year 2031 No-Build Conditions
AM Peak Hour

Timings
1: Clayton Road & Schoettler Road

2031 No-Build Traffic Conditions

Timing Plan: AM Peak

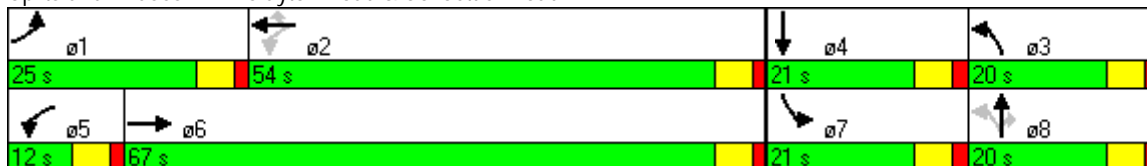


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	130	2190	55	780	135	150	105	230	220	55
Turn Type	Prot		pm+pt		Perm	pm+pt		Perm	Prot	
Protected Phases	1	6	5	2		3	8		7	4
Permitted Phases			2		2	8		8		
Detector Phase	1	6	5	2	2	3	8	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	7.0	7.0	5.0	7.0
Minimum Split (s)	10.4	21.4	10.4	26.4	26.4	10.7	12.7	12.7	10.6	29.6
Total Split (s)	25.0	67.0	12.0	54.0	54.0	20.0	20.0	20.0	21.0	21.0
Total Split (%)	20.8%	55.8%	10.0%	45.0%	45.0%	16.7%	16.7%	16.7%	17.5%	17.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.4	1.4	1.4	1.4	1.4	1.7	1.7	1.7	1.6	1.6
Lost Time Adjust (s)	-1.4	-1.4	-1.4	-1.4	-1.4	-1.7	-1.7	0.0	-1.6	-1.6
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.7	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	16.2	67.9	65.0	57.2	57.2	16.1	15.3	13.6	15.2	14.5
Actuated g/C Ratio	0.14	0.57	0.54	0.48	0.48	0.13	0.13	0.11	0.13	0.12
v/c Ratio	0.60	1.25	0.34	0.51	0.18	0.70	0.49	0.92	0.59	0.74
Control Delay	59.0	143.0	32.5	9.0	0.5	66.6	56.0	66.2	55.2	49.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.0	143.0	32.5	9.0	0.5	66.6	56.0	66.2	55.2	49.0
LOS	E	F	C	A	A	E	E	E	E	D
Approach Delay		138.4		9.1			64.1			52.5
Approach LOS		F		A			E			D

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 92 (77%), Referenced to phase 2:WBTL and 6:EBT, Start of 1st Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.25
 Intersection Signal Delay: 92.0
 Intersection LOS: F
 Intersection Capacity Utilization 97.7%
 ICU Level of Service F
 Analysis Period (min) 15

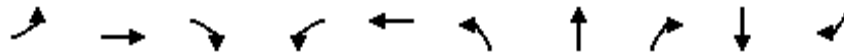
Splits and Phases: 1: Clayton Road & Schoettler Road



Timings
2: Clayton Road & Village Green Parkway

2031 No-Build Traffic Conditions

Timing Plan: AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations	↵	↑↑↑	↶	↵	↑↑↑	↵	↶	↶	↶	↶
Volume (vph)	30	2590	20	50	895	20	0	30	5	55
Turn Type	Prot		Perm	Prot		Split		Perm		pm+ov
Protected Phases	1	6		5	2	3	3		4	1
Permitted Phases			6					3		4
Detector Phase	1	6	6	5	2	3	3	3	4	1
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	10.8	23.8	23.8	10.5	15.5	13.4	13.4	13.4	41.4	10.8
Total Split (s)	18.0	71.0	71.0	14.0	67.0	14.0	14.0	14.0	21.0	18.0
Total Split (%)	15.0%	59.2%	59.2%	11.7%	55.8%	11.7%	11.7%	11.7%	17.5%	15.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.8	1.8	1.8	1.5	1.5	2.4	2.4	2.4	2.4	1.8
Lost Time Adjust (s)	-1.8	-1.8	-1.8	-1.5	-1.5	-2.4	-2.4	-2.4	-2.4	-1.8
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	12.7	76.6	76.6	9.3	73.2	9.5	9.5	9.5	16.2	29.7
Actuated g/C Ratio	0.11	0.64	0.64	0.08	0.61	0.08	0.08	0.08	0.14	0.25
v/c Ratio	0.17	0.92	0.02	0.41	0.38	0.08	0.08	0.21	0.71	0.13
Control Delay	33.2	11.8	2.1	48.7	16.5	52.6	52.6	20.2	66.2	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.2	11.8	2.1	48.7	16.5	52.6	52.6	20.2	66.2	12.2
LOS	C	B	A	D	B	D	D	C	E	B
Approach Delay		12.0			18.0		33.4		53.0	
Approach LOS		B			B		C		D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 92 (77%), Referenced to phase 2:WBT and 6:EBT, Start of 1st Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 16.1
 Intersection LOS: B
 Intersection Capacity Utilization 75.3%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 2: Clayton Road & Village Green Parkway



Timings
7: Clayton Road & Woods Mill Road

2031 No-Build Traffic Conditions

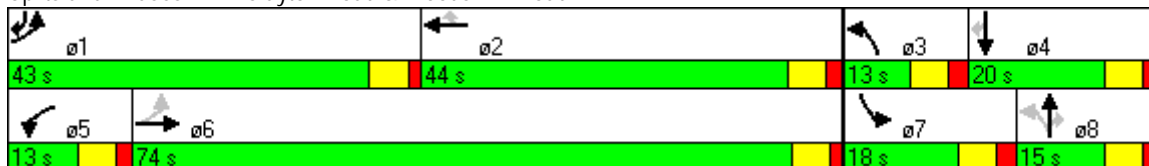
Timing Plan: AM Peak

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	515	2165	40	565	315	45	50	45	130	70	385
Turn Type	pm+pt		Prot		Perm	pm+pt		Perm	Prot		pm+ov
Protected Phases	1	6	5	2		3	8		7	4	1
Permitted Phases	6				2	8		8			4
Detector Phase	1	6	5	2	2	3	8	8	7	4	1
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	7.0	7.0	5.0	7.0	5.0
Minimum Split (s)	10.4	28.4	10.7	28.7	28.7	11.1	33.9	33.9	11.1	12.9	10.4
Total Split (s)	43.0	74.0	13.0	44.0	44.0	13.0	15.0	15.0	18.0	20.0	43.0
Total Split (%)	35.8%	61.7%	10.8%	36.7%	36.7%	10.8%	12.5%	12.5%	15.0%	16.7%	35.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.4	1.4	1.7	1.7	1.7	2.1	1.9	1.9	2.1	1.9	1.4
Lost Time Adjust (s)	-1.4	-1.4	-1.7	-1.7	-1.7	-2.1	-1.9	-1.9	-2.1	-1.9	-1.4
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	86.9	76.5	8.6	51.1	51.1	17.1	10.2	10.2	13.5	14.7	50.5
Actuated g/C Ratio	0.72	0.64	0.07	0.43	0.43	0.14	0.08	0.08	0.11	0.12	0.42
v/c Ratio	0.84	0.79	0.34	0.40	0.39	0.22	0.34	0.27	0.69	0.32	0.28
Control Delay	18.7	9.3	60.4	27.7	4.5	38.7	57.5	18.2	69.6	51.7	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.7	9.3	60.4	27.7	4.5	38.7	57.5	18.2	69.6	51.7	1.0
LOS	B	A	E	C	A	D	E	B	E	D	A
Approach Delay		11.0		21.2			38.8			22.3	
Approach LOS		B		C			D			C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 16 (13%), Referenced to phase 2:WBT and 6:EBTL, Start of 1st Green
 Natural Cycle: 125
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 15.5
 Intersection LOS: B
 Intersection Capacity Utilization 71.8%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 7: Clayton Road & Woods Mill Road



HCM Unsignalized Intersection Capacity Analysis
 9: Clayton Road & Rue De Gascony

2031 No-Build Traffic Conditions
 Timing Plan: AM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	1	2373	1039	1	2	2
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	2524	1105	1	2	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage (veh)		2	2			
Upstream signal (ft)			573			
pX, platoon unblocked	0.83				0.83	0.83
vC, conflicting volume	1106				2370	553
vC1, stage 1 conf vol					1106	
vC2, stage 2 conf vol					1264	
vCu, unblocked vol	728				2244	64
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	726				188	822

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	1	1262	1262	737	370	4
Volume Left	1	0	0	0	0	2
Volume Right	0	0	0	0	1	2
cSH	726	1700	1700	1700	1700	306
Volume to Capacity	0.00	0.74	0.74	0.43	0.22	0.01
Queue Length 95th (ft)	0	0	0	0	0	1
Control Delay (s)	10.0	0.0	0.0	0.0	0.0	16.9
Lane LOS	A					C
Approach Delay (s)	0.0			0.0		16.9
Approach LOS						C

Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			75.6%		ICU Level of Service	D
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
6: Clatyon Corners & Henry Ave

2031 No-Build Traffic Conditions
Timing Plan: AM Peak



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	1	5	480	1	4	161
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	5	511	1	4	171
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						540
pX, platoon unblocked						
vC, conflicting volume	691	511			512	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	691	511			512	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			100	
cM capacity (veh/h)	409	563			1054	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	6	512	176
Volume Left	1	0	4
Volume Right	5	1	0
cSH	529	1700	1054
Volume to Capacity	0.01	0.30	0.00
Queue Length 95th (ft)	1	0	0
Control Delay (s)	11.9	0.0	0.2
Lane LOS	B		A
Approach Delay (s)	11.9	0.0	0.2
Approach LOS	B		

Intersection Summary			
Average Delay			0.2
Intersection Capacity Utilization	35.3%	ICU Level of Service	A
Analysis Period (min)			15

Synchro 7 Outputs
Year 2031 No-Build Conditions
PM Peak Hour

Timings
1: Clayton Road & Schoettler Road

2031 No-Build Traffic Conditions

Timing Plan: PM Peak

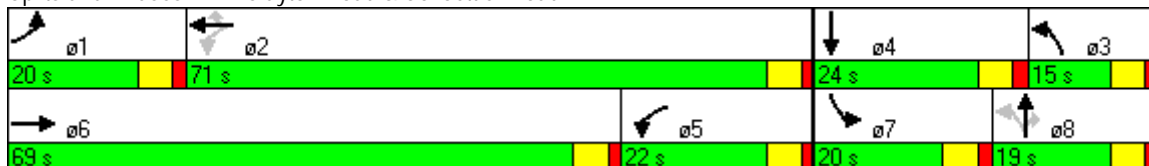


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	100	990	265	2025	325	85	75	125	170	105
Turn Type	Prot		pm+pt		Perm	pm+pt		Perm	Prot	
Protected Phases	1	6	5	2		3	8		7	4
Permitted Phases			2		2	8		8		
Detector Phase	1	6	5	2	2	3	8	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	7.0	7.0	5.0	7.0
Minimum Split (s)	10.4	21.4	10.4	26.4	26.4	10.7	12.7	12.7	10.6	29.6
Total Split (s)	20.0	69.0	22.0	71.0	71.0	15.0	19.0	19.0	20.0	24.0
Total Split (%)	15.4%	53.1%	16.9%	54.6%	54.6%	11.5%	14.6%	14.6%	15.4%	18.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.4	1.4	1.4	1.4	1.4	1.7	1.7	1.7	1.6	1.6
Lost Time Adjust (s)	-1.4	-1.4	-1.4	-1.4	-1.4	-1.7	-1.7	0.0	-1.6	-1.6
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.7	4.0	4.0
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	13.8	67.2	71.3	71.3	71.3	14.8	14.8	13.1	14.1	20.0
Actuated g/C Ratio	0.11	0.52	0.55	0.55	0.55	0.11	0.11	0.10	0.11	0.15
v/c Ratio	0.59	0.73	0.83	1.16	0.38	0.53	0.39	0.49	0.54	1.00
Control Delay	67.9	27.1	29.0	88.6	0.8	66.5	59.6	14.8	60.2	98.4
Queue Delay	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.9	27.1	29.0	91.0	0.8	66.5	59.6	14.8	60.2	98.4
LOS	E	C	C	F	A	E	E	B	E	F
Approach Delay		30.3		73.5			42.0			83.1
Approach LOS		C		E			D			F

Intersection Summary

Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 3 (2%), Referenced to phase 2:WBTL and 6:EBT, Start of 1st Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.16
 Intersection Signal Delay: 60.6
 Intersection LOS: E
 Intersection Capacity Utilization 94.3%
 ICU Level of Service F
 Analysis Period (min) 15

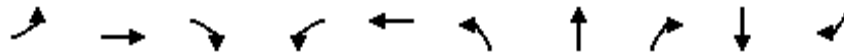
Splits and Phases: 1: Clayton Road & Schoettler Road



Timings
2: Clayton Road & Village Green Parkway

2031 No-Build Traffic Conditions

Timing Plan: PM Peak

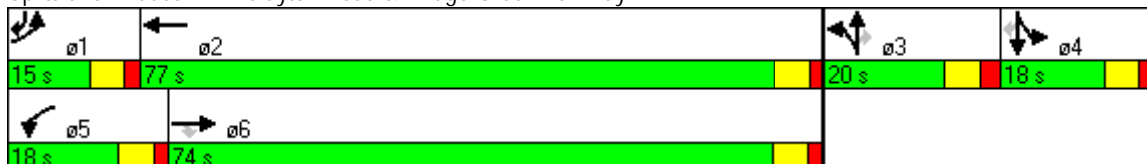


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↘	↖	↗	↖	↗
Volume (vph)	60	1095	130	160	2385	175	10	70	5	55
Turn Type	Prot		Perm	Prot		Split		Perm		pm+ov
Protected Phases	1	6		5	2	3	3		4	1
Permitted Phases			6					3		4
Detector Phase	1	6	6	5	2	3	3	3	4	1
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	10.8	23.8	23.8	10.5	15.5	13.4	13.4	13.4	41.4	10.8
Total Split (s)	15.0	74.0	74.0	18.0	77.0	20.0	20.0	20.0	18.0	15.0
Total Split (%)	11.5%	56.9%	56.9%	13.8%	59.2%	15.4%	15.4%	15.4%	13.8%	11.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.8	1.8	1.8	1.5	1.5	2.4	2.4	2.4	2.4	1.8
Lost Time Adjust (s)	-1.8	-1.8	-1.8	-1.5	-1.5	-2.4	-2.4	-2.4	-2.4	-1.8
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None
Act Effect Green (s)	10.3	72.9	72.9	14.0	79.0	14.2	14.2	14.2	12.9	27.2
Actuated g/C Ratio	0.08	0.56	0.56	0.11	0.61	0.11	0.11	0.11	0.10	0.21
v/c Ratio	0.46	0.44	0.15	0.93	1.04	0.54	0.54	0.31	0.54	0.16
Control Delay	70.8	8.2	1.3	95.6	45.6	65.8	65.3	14.7	67.0	26.2
Queue Delay	0.0	0.0	0.0	0.0	63.7	0.0	0.0	0.0	0.0	0.0
Total Delay	70.8	8.2	1.3	95.6	109.3	65.8	65.3	14.7	67.0	26.2
LOS	E	A	A	F	F	E	E	B	E	C
Approach Delay		10.4			108.5		51.6		52.0	
Approach LOS		B			F		D		D	

Intersection Summary

Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 1 (1%), Referenced to phase 2:WBT and 6:EBT, Start of 1st Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 77.7
 Intersection LOS: E
 Intersection Capacity Utilization 75.8%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 2: Clayton Road & Village Green Parkway



Timings
7: Clayton Road & Woods Mill Road

2031 No-Build Traffic Conditions

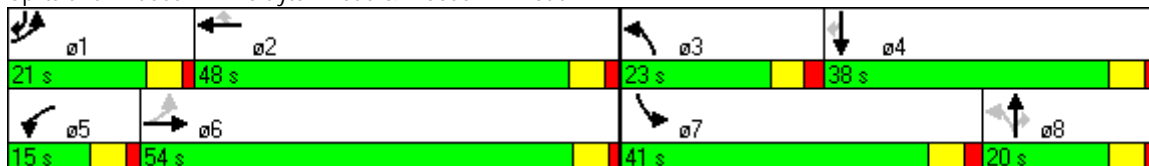
Timing Plan: PM Peak

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Volume (vph)	155	945	50	1140	100	195	85	75	300	205	1385	
Turn Type	pm+pt		Prot		Perm	pm+pt		Perm	Prot		pm+ov	
Protected Phases	1	6	5	2		3	8		7	4	1	
Permitted Phases	6				2	8		8			4	
Detector Phase	1	6	5	2	2	3	8	8	7	4	1	
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	7.0	7.0	5.0	7.0	5.0	
Minimum Split (s)	10.4	28.4	10.7	28.7	28.7	11.1	33.9	33.9	11.1	12.9	10.4	
Total Split (s)	21.0	54.0	15.0	48.0	48.0	23.0	20.0	20.0	41.0	38.0	21.0	
Total Split (%)	16.2%	41.5%	11.5%	36.9%	36.9%	17.7%	15.4%	15.4%	31.5%	29.2%	16.2%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.4	1.4	1.7	1.7	1.7	2.1	1.9	1.9	2.1	1.9	1.4	
Lost Time Adjust (s)	-1.4	-1.4	-1.7	-1.7	-1.7	-2.1	-1.9	-1.9	-2.1	-1.9	-1.4	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	Max	
Act Effct Green (s)	74.6	62.9	10.0	53.6	53.6	30.6	13.1	13.1	30.3	25.9	46.9	
Actuated g/C Ratio	0.57	0.48	0.08	0.41	0.41	0.24	0.10	0.10	0.23	0.20	0.36	
v/c Ratio	0.64	0.50	0.39	0.83	0.15	0.58	0.48	0.34	0.77	0.59	1.12	
Control Delay	59.4	22.6	65.3	41.5	9.3	36.9	63.2	15.1	59.3	52.8	92.2	
Queue Delay	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	59.4	22.6	65.3	43.4	9.3	36.9	63.2	15.1	59.3	52.8	92.2	
LOS	E	C	E	D	A	D	E	B	E	D	F	
Approach Delay		27.3		41.6			38.5			82.7		
Approach LOS		C		D			D			F		

Intersection Summary

Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 13 (10%), Referenced to phase 2:WBT and 6:EBTL, Start of 1st Green
 Natural Cycle: 135
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.12
 Intersection Signal Delay: 54.0
 Intersection LOS: D
 Intersection Capacity Utilization 100.8%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 7: Clayton Road & Woods Mill Road



HCM Unsignalized Intersection Capacity Analysis
 9: Clayton Road & Rue De Gascony

2031 No-Build Traffic Conditions
 Timing Plan: PM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	1	1275	2258	2	0	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	1356	2402	2	0	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage (veh)		2	2			
Upstream signal (ft)			573			
pX, platoon unblocked	0.46				0.46	0.46
vC, conflicting volume	2404				3084	1202
vC1, stage 1 conf vol					2403	
vC2, stage 2 conf vol					680	
vCu, unblocked vol	1698				3182	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	100
cM capacity (veh/h)	170				59	496

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	1	678	678	1601	803	1
Volume Left	1	0	0	0	0	0
Volume Right	0	0	0	0	2	1
cSH	170	1700	1700	1700	1700	496
Volume to Capacity	0.01	0.40	0.40	0.94	0.47	0.00
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	26.3	0.0	0.0	0.0	0.0	12.3
Lane LOS	D					B
Approach Delay (s)	0.0			0.0		12.3
Approach LOS						B

Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			72.5%		ICU Level of Service	C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 6: Clatyon Corners & Henry Ave

2031 No-Build Traffic Conditions
 Timing Plan: PM Peak



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	1	5	280	2	4	551
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	5	298	2	4	586
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						540
pX, platoon unblocked	0.93					
vC, conflicting volume	894	299			300	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	845	299			300	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			100	
cM capacity (veh/h)	307	741			1261	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	6	300	590
Volume Left	1	0	4
Volume Right	5	2	0
cSH	600	1700	1261
Volume to Capacity	0.01	0.18	0.00
Queue Length 95th (ft)	1	0	0
Control Delay (s)	11.1	0.0	0.1
Lane LOS	B		A
Approach Delay (s)	11.1	0.0	0.1
Approach LOS	B		

Intersection Summary			
Average Delay		0.1	
Intersection Capacity Utilization		42.2%	ICU Level of Service
Analysis Period (min)		15	A

Synchro 7 Outputs
Year 2011 Build Conditions
AM Peak Hour

Timings
1: Clayton Road & Henry Ave

2011 Build Traffic Conditions (opt timings)

Timing Plan: AM Peak

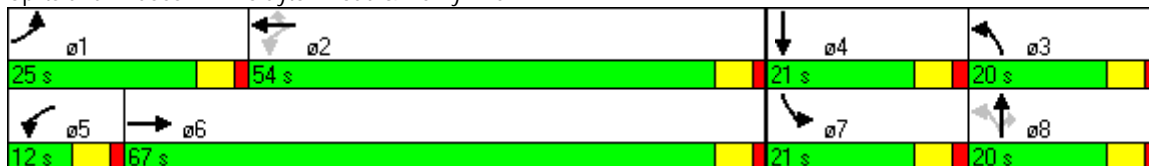


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↗	↖	↑	↗	↖	↖
Volume (vph)	135	2025	80	760	125	150	110	230	205	55
Turn Type	Prot		pm+pt		Perm	pm+pt		Perm	Prot	
Protected Phases	1	6	5	2		3	8		7	4
Permitted Phases			2		2	8		8		
Detector Phase	1	6	5	2	2	3	8	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	7.0	7.0	5.0	7.0
Minimum Split (s)	10.4	21.4	10.4	26.4	26.4	10.7	12.7	12.7	10.6	29.6
Total Split (s)	25.0	67.0	12.0	54.0	54.0	20.0	20.0	20.0	21.0	21.0
Total Split (%)	20.8%	55.8%	10.0%	45.0%	45.0%	16.7%	16.7%	16.7%	17.5%	17.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.4	1.4	1.4	1.4	1.4	1.7	1.7	1.7	1.6	1.6
Lost Time Adjust (s)	-1.4	-1.4	-1.4	-1.4	-1.4	-1.7	-1.7	0.0	-1.6	-1.6
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.7	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	16.5	65.8	65.0	57.2	57.2	15.6	15.5	13.8	14.9	14.7
Actuated g/C Ratio	0.14	0.55	0.54	0.48	0.48	0.13	0.13	0.12	0.12	0.12
v/c Ratio	0.61	1.19	0.50	0.50	0.17	0.73	0.51	0.90	0.57	0.76
Control Delay	59.3	119.1	46.6	8.9	0.5	68.7	56.4	61.0	54.7	49.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.3	119.1	46.6	8.9	0.5	68.7	56.4	61.0	54.7	49.4
LOS	E	F	D	A	A	E	E	E	D	D
Approach Delay		115.4		10.9			62.4			52.3
Approach LOS		F		B			E			D

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 92 (77%), Referenced to phase 2:WBTL and 6:EBT, Start of 1st Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.19
 Intersection Signal Delay: 78.0
 Intersection LOS: E
 Intersection Capacity Utilization 93.9%
 ICU Level of Service F
 Analysis Period (min) 15

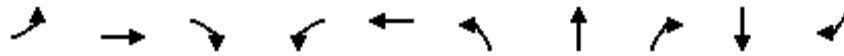
Splits and Phases: 1: Clayton Road & Henry Ave



Timings
2: Clayton Road & Village Green Parkway

2011 Build Traffic Conditions (opt timings)

Timing Plan: AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations	↰	↑↑↑	↱	↰	↑↑↑	↰	↰	↱	↰	↱
Volume (vph)	35	2405	20	50	890	10	0	10	5	60
Turn Type	Prot		Perm	Prot		Split		Perm		pm+ov
Protected Phases	1	6		5	2	3	3		4	1
Permitted Phases			6					3		4
Detector Phase	1	6	6	5	2	3	3	3	4	1
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	10.8	23.8	23.8	10.5	15.5	13.4	13.4	13.4	41.4	10.8
Total Split (s)	18.0	71.0	71.0	14.0	67.0	14.0	14.0	14.0	21.0	18.0
Total Split (%)	15.0%	59.2%	59.2%	11.7%	55.8%	11.7%	11.7%	11.7%	17.5%	15.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.8	1.8	1.8	1.5	1.5	2.4	2.4	2.4	2.4	1.8
Lost Time Adjust (s)	-1.8	-1.8	-1.8	-1.5	-1.5	-2.4	-2.4	-2.4	-2.4	-1.8
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	12.7	76.7	76.7	9.3	73.3	9.4	9.4	9.4	16.2	29.7
Actuated g/C Ratio	0.11	0.64	0.64	0.08	0.61	0.08	0.08	0.08	0.14	0.25
v/c Ratio	0.20	0.85	0.02	0.41	0.37	0.04	0.05	0.08	0.71	0.14
Control Delay	33.5	9.6	2.0	50.6	17.2	51.8	52.0	26.5	66.2	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.5	9.6	2.0	50.6	17.2	51.8	52.0	26.5	66.2	12.2
LOS	C	A	A	D	B	D	D	C	E	B
Approach Delay		9.9			18.8		39.2		52.1	
Approach LOS		A			B		D		D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 92 (77%), Referenced to phase 2:WBT and 6:EBT, Start of 1st Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.85
 Intersection Signal Delay: 15.0
 Intersection LOS: B
 Intersection Capacity Utilization 71.7%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 2: Clayton Road & Village Green Parkway



Timings
7: Clayton Road & Woods Mill Road

2011 Build Traffic Conditions (opt timings)

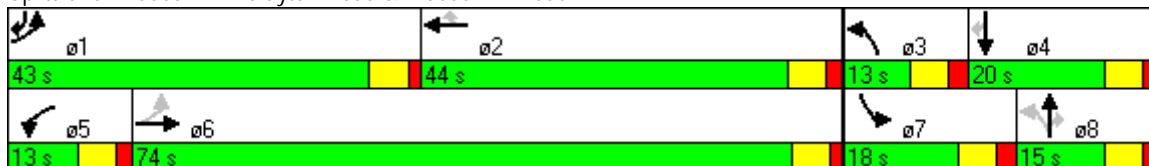
Timing Plan: AM Peak

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	470	2005	40	550	315	50	65	45	130	70	390
Turn Type	pm+pt		Prot		Perm	pm+pt		Perm	Prot		pm+ov
Protected Phases	1	6	5	2		3	8		7	4	1
Permitted Phases	6				2	8		8			4
Detector Phase	1	6	5	2	2	3	8	8	7	4	1
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	7.0	7.0	5.0	7.0	5.0
Minimum Split (s)	10.4	28.4	10.7	28.7	28.7	11.1	33.9	33.9	11.1	12.9	10.4
Total Split (s)	43.0	74.0	13.0	44.0	44.0	13.0	15.0	15.0	18.0	20.0	43.0
Total Split (%)	35.8%	61.7%	10.8%	36.7%	36.7%	10.8%	12.5%	12.5%	15.0%	16.7%	35.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.4	1.4	1.7	1.7	1.7	2.1	1.9	1.9	2.1	1.9	1.4
Lost Time Adjust (s)	-1.4	-1.4	-1.7	-1.7	-1.7	-2.1	-1.9	-1.9	-2.1	-1.9	-1.4
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	86.7	76.3	8.6	55.3	55.3	17.4	10.4	10.4	13.5	14.9	46.3
Actuated g/C Ratio	0.72	0.64	0.07	0.46	0.46	0.14	0.09	0.09	0.11	0.12	0.39
v/c Ratio	0.79	0.74	0.34	0.36	0.37	0.24	0.43	0.27	0.69	0.32	0.30
Control Delay	15.2	8.2	60.4	25.0	4.2	39.1	60.2	18.1	69.6	51.4	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.2	8.2	60.4	25.0	4.2	39.1	60.2	18.1	69.6	51.4	1.2
LOS	B	A	E	C	A	D	E	B	E	D	A
Approach Delay		9.5		19.3			41.7			22.2	
Approach LOS		A		B			D			C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 16 (13%), Referenced to phase 2:WBT and 6:EBTL, Start of 1st Green
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 14.6
 Intersection LOS: B
 Intersection Capacity Utilization 68.6%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 7: Clayton Road & Woods Mill Road



HCM Unsignalized Intersection Capacity Analysis 2011 Build Traffic Conditions (opt timings)
 9: Clayton Road & Rue De Gascony Timing Plan: AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑	↗	↖	↑↑		↖		↗		↕	
Volume (veh/h)	1	2148	50	80	949	1	40	0	60	2	0	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	2285	53	85	1010	1	43	0	64	2	0	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage (veh)		2			2							
Upstream signal (ft)					573							
pX, platoon unblocked	0.85						0.85	0.85		0.85	0.85	0.85
vC, conflicting volume	1011			2338			2964	3468	1143	2389	3521	505
vC1, stage 1 conf vol							2287	2287		1180	1180	
vC2, stage 2 conf vol							677	1181		1209	2340	
vCu, unblocked vol	649			2338			2958	3553	1143	2278	3616	51
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			59			0	100	67	95	100	100
cM capacity (veh/h)	790			208			39	65	194	42	3	851

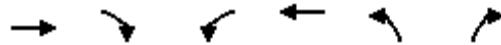
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1
Volume Total	1	1143	1143	53	85	673	338	43	64	4
Volume Left	1	0	0	0	85	0	0	43	0	2
Volume Right	0	0	0	53	0	0	1	0	64	2
cSH	790	1700	1700	1700	208	1700	1700	39	194	80
Volume to Capacity	0.00	0.67	0.67	0.03	0.41	0.40	0.20	1.10	0.33	0.05
Queue Length 95th (ft)	0	0	0	0	46	0	0	106	34	4
Control Delay (s)	9.6	0.0	0.0	0.0	33.8	0.0	0.0	334.3	32.4	52.2
Lane LOS	A				D			F	D	F
Approach Delay (s)	0.0				2.6			153.2		52.2
Approach LOS								F		F

Intersection Summary										
Average Delay				5.5						
Intersection Capacity Utilization			77.1%		ICU Level of Service				D	
Analysis Period (min)			15							

HCM Unsignalized Intersection Capacity Analysis
 36: Clayton Road & RIRO Drive

2011 Build Traffic Conditions (opt timings)

Timing Plan: AM Peak



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑		↗
Volume (veh/h)	2190	20	0	1030	0	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	2330	21	0	1096	0	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL		TWLTL			
Median storage (veh)	2		2			
Upstream signal (ft)			252			
pX, platoon unblocked					0.84	
vC, conflicting volume	2351			2878	1165	
vC1, stage 1 conf vol					2330	
vC2, stage 2 conf vol					548	
vCu, unblocked vol	2351			2854	1165	
tC, single (s)	4.1			6.8	6.9	
tC, 2 stage (s)					5.8	
tF (s)	2.2			3.5	3.3	
p0 queue free %	100			100	89	
cM capacity (veh/h)	206			58	187	

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	1165	1165	21	548	548	21
Volume Left	0	0	0	0	0	0
Volume Right	0	0	21	0	0	21
cSH	1700	1700	1700	1700	1700	187
Volume to Capacity	0.69	0.69	0.01	0.32	0.32	0.11
Queue Length 95th (ft)	0	0	0	0	0	9
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	26.7
Lane LOS						D
Approach Delay (s)	0.0				0.0	26.7
Approach LOS						D

Intersection Summary						
Average Delay	0.2					
Intersection Capacity Utilization	70.5%			ICU Level of Service	C	
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 2011 Build Traffic Conditions (opt timings)
 6: Clatyon Corners & Henry Ave Timing Plan: AM Peak



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	1	5	485	1	4	181
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	5	516	1	4	193
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						540
pX, platoon unblocked						
vC, conflicting volume	718	516			517	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	718	516			517	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			100	
cM capacity (veh/h)	394	559			1049	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	6	517	197
Volume Left	1	0	4
Volume Right	5	1	0
cSH	522	1700	1049
Volume to Capacity	0.01	0.30	0.00
Queue Length 95th (ft)	1	0	0
Control Delay (s)	12.0	0.0	0.2
Lane LOS	B		A
Approach Delay (s)	12.0	0.0	0.2
Approach LOS	B		

Intersection Summary			
Average Delay			0.2
Intersection Capacity Utilization	35.6%	ICU Level of Service	A
Analysis Period (min)			15

HCM Unsignalized Intersection Capacity Analysis
 46: Site North Drive & Henry Ave

2011 Build Traffic Conditions (opt timings)

Timing Plan: AM Peak



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	35	5	15	450	152	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	37	5	16	479	162	32
Pedestrians	152					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	13					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)					688	
pX, platoon unblocked						
vC, conflicting volume	840	330	346			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	840	330	346			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	87	99	98			
cM capacity (veh/h)	288	622	1060			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	43	495	194
Volume Left	37	16	0
Volume Right	5	0	32
cSH	309	1060	1700
Volume to Capacity	0.14	0.02	0.11
Queue Length 95th (ft)	12	1	0
Control Delay (s)	18.5	0.4	0.0
Lane LOS	C	A	
Approach Delay (s)	18.5	0.4	0.0
Approach LOS	C		

Intersection Summary			
Average Delay		1.4	
Intersection Capacity Utilization	45.8%		ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
48: Site South Drive & Henry Ave

2011 Build Traffic Conditions (opt timings)

Timing Plan: AM Peak



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	5	5	465	152	5
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	5	5	495	162	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)					1110	
pX, platoon unblocked						
vC, conflicting volume	670	164	167			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	670	164	167			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	100			
cM capacity (veh/h)	421	880	1411			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	5	500	167			
Volume Left	0	5	0			
Volume Right	5	0	5			
cSH	880	1411	1700			
Volume to Capacity	0.01	0.00	0.10			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	9.1	0.1	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.1	0.1	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization		38.5%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis 2011 Build (Alt - 1 NB Lane out of West Drive)
 9: Clayton Road & Rue De Gascony

Timing Plan: AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑	↗	↖	↑↑			↕			↕	
Volume (veh/h)	1	2148	50	80	949	1	40	0	60	2	0	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	2285	53	85	1010	1	43	0	64	2	0	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage (veh)		2			2							
Upstream signal (ft)					573							
pX, platoon unblocked	0.85						0.85	0.85		0.85	0.85	0.85
vC, conflicting volume	1011			2338			2964	3468	1143	2389	3521	505
vC1, stage 1 conf vol							2287	2287		1180	1180	
vC2, stage 2 conf vol							677	1181		1209	2340	
vCu, unblocked vol	649			2338			2958	3553	1143	2278	3616	51
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			59			0	100	67	95	100	100
cM capacity (veh/h)	790			208			39	65	194	42	3	851

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	1	1143	1143	53	85	673	338	106	4
Volume Left	1	0	0	0	85	0	0	43	2
Volume Right	0	0	0	53	0	0	1	64	2
cSH	790	1700	1700	1700	208	1700	1700	75	80
Volume to Capacity	0.00	0.67	0.67	0.03	0.41	0.40	0.20	1.43	0.05
Queue Length 95th (ft)	0	0	0	0	46	0	0	215	4
Control Delay (s)	9.6	0.0	0.0	0.0	33.8	0.0	0.0	349.2	52.2
Lane LOS	A				D			F	F
Approach Delay (s)	0.0				2.6			349.2	52.2
Approach LOS								F	F

Intersection Summary			
Average Delay		11.4	
Intersection Capacity Utilization	80.0%		ICU Level of Service D
Analysis Period (min)		15	

Synchro 7 Outputs
Year 2011 Build Conditions
PM Peak Hour

Timings
1: Clayton Road & Schoettler Road

2011 Build Traffic Conditions (optimized timings)

Timing Plan: PM Peak

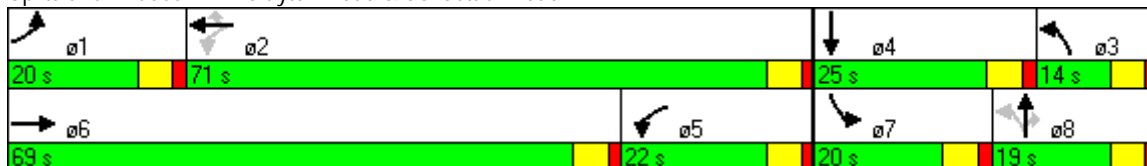


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	100	955	270	1895	295	85	80	135	160	100
Turn Type	Prot		pm+pt		Perm	pm+pt		Perm	Prot	
Protected Phases	1	6	5	2		3	8		7	4
Permitted Phases			2		2	8		8		
Detector Phase	1	6	5	2	2	3	8	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	7.0	7.0	5.0	7.0
Minimum Split (s)	10.4	21.4	10.4	26.4	26.4	10.7	12.7	12.7	10.6	29.6
Total Split (s)	20.0	69.0	22.0	71.0	71.0	14.0	19.0	19.0	20.0	25.0
Total Split (%)	15.4%	53.1%	16.9%	54.6%	54.6%	10.8%	14.6%	14.6%	15.4%	19.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.4	1.4	1.4	1.4	1.4	1.7	1.7	1.7	1.6	1.6
Lost Time Adjust (s)	-1.4	-1.4	-1.4	-1.4	-1.4	-1.7	-1.7	0.0	-1.6	-1.6
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.7	4.0	4.0
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	13.8	66.6	70.8	70.8	70.8	15.7	15.7	14.0	13.7	21.0
Actuated g/C Ratio	0.11	0.51	0.54	0.54	0.54	0.12	0.12	0.11	0.11	0.16
v/c Ratio	0.59	0.70	0.82	1.09	0.35	0.55	0.40	0.49	0.52	0.96
Control Delay	67.9	26.5	31.2	61.0	1.9	67.9	58.9	14.2	60.0	86.5
Queue Delay	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.9	26.5	31.2	62.0	1.9	67.9	58.9	14.2	60.0	86.5
LOS	E	C	C	E	A	E	E	B	E	F
Approach Delay		29.9		51.4			41.3			76.4
Approach LOS		C		D			D			E

Intersection Summary

Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 3 (2%), Referenced to phase 2:WBTL and 6:EBT, Start of 1st Green
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.09
 Intersection Signal Delay: 47.3
 Intersection LOS: D
 Intersection Capacity Utilization 91.0%
 ICU Level of Service F
 Analysis Period (min) 15

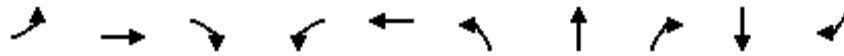
Splits and Phases: 1: Clayton Road & Schoettler Road



Timings
2: Clayton Road & Village Green Parkway

2011 Build Traffic Conditions (optimized timings)

Timing Plan: PM Peak

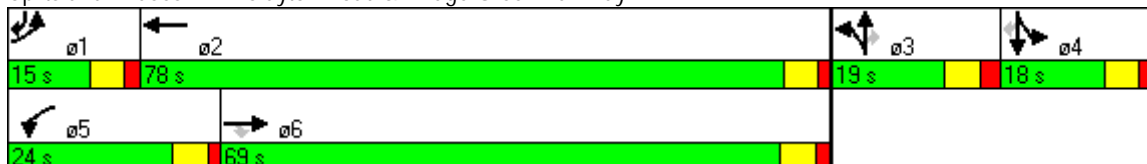


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↘	↖	↗	↖	↗
Volume (vph)	65	1065	120	140	2230	170	10	60	5	60
Turn Type	Prot		Perm	Prot		Split		Perm		pm+ov
Protected Phases	1	6		5	2	3	3		4	1
Permitted Phases			6					3		4
Detector Phase	1	6	6	5	2	3	3	3	4	1
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	10.8	23.8	23.8	10.5	15.5	13.4	13.4	13.4	41.4	10.8
Total Split (s)	15.0	69.0	69.0	24.0	78.0	19.0	19.0	19.0	18.0	15.0
Total Split (%)	11.5%	53.1%	53.1%	18.5%	60.0%	14.6%	14.6%	14.6%	13.8%	11.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.8	1.8	1.8	1.5	1.5	2.4	2.4	2.4	2.4	1.8
Lost Time Adjust (s)	-1.8	-1.8	-1.8	-1.5	-1.5	-2.4	-2.4	-2.4	-2.4	-1.8
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None
Act Effect Green (s)	10.4	70.2	70.2	17.2	77.0	13.7	13.7	13.7	12.9	27.3
Actuated g/C Ratio	0.08	0.54	0.54	0.13	0.59	0.11	0.11	0.11	0.10	0.21
v/c Ratio	0.50	0.45	0.14	0.67	1.00	0.55	0.54	0.29	0.54	0.17
Control Delay	77.6	7.7	1.4	64.9	35.6	67.0	66.6	15.5	67.0	29.0
Queue Delay	0.0	0.0	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0
Total Delay	77.6	7.7	1.4	64.9	49.8	67.0	66.6	15.5	67.0	29.0
LOS	E	A	A	E	D	E	E	B	E	C
Approach Delay		10.7			50.6		53.9		52.3	
Approach LOS		B			D		D		D	

Intersection Summary

Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 8 (6%), Referenced to phase 2:WBT and 6:EBT, Start of 1st Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 39.9
 Intersection LOS: D
 Intersection Capacity Utilization 72.8%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 2: Clayton Road & Village Green Parkway



Timings
7: Clayton Road & Woods Mill Road

2011 Build Traffic Conditions (optimized timings)

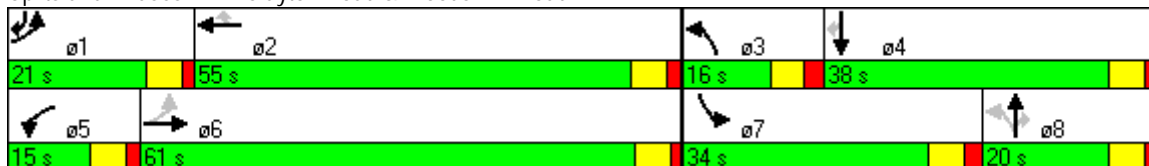
Timing Plan: PM Peak

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Volume (vph)	145	920	50	1065	100	190	85	75	300	205	1290	
Turn Type	pm+pt		Prot		Perm	pm+pt		Perm	Prot		pm+ov	
Protected Phases	1	6	5	2		3	8		7	4	1	
Permitted Phases	6				2	8		8			4	
Detector Phase	1	6	5	2	2	3	8	8	7	4	1	
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	7.0	7.0	5.0	7.0	5.0	
Minimum Split (s)	10.4	28.4	10.7	28.7	28.7	11.1	33.9	33.9	11.1	12.9	10.4	
Total Split (s)	21.0	61.0	15.0	55.0	55.0	16.0	20.0	20.0	34.0	38.0	21.0	
Total Split (%)	16.2%	46.9%	11.5%	42.3%	42.3%	12.3%	15.4%	15.4%	26.2%	29.2%	16.2%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.4	1.4	1.7	1.7	1.7	2.1	1.9	1.9	2.1	1.9	1.4	
Lost Time Adjust (s)	-1.4	-1.4	-1.7	-1.7	-1.7	-2.1	-1.9	-1.9	-2.1	-1.9	-1.4	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	Max	
Act Effct Green (s)	76.9	65.2	10.0	55.9	55.9	25.1	13.1	13.1	28.0	29.1	50.1	
Actuated g/C Ratio	0.59	0.50	0.08	0.43	0.43	0.19	0.10	0.10	0.22	0.22	0.39	
v/c Ratio	0.55	0.47	0.39	0.75	0.14	0.72	0.48	0.34	0.84	0.52	1.00	
Control Delay	48.6	17.3	65.3	35.8	6.2	49.1	63.2	15.1	68.0	48.1	50.4	
Queue Delay	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	48.6	17.3	65.3	36.9	6.2	49.1	63.2	15.1	68.0	48.1	50.4	
LOS	D	B	E	D	A	D	E	B	E	D	D	
Approach Delay		21.2		35.6			45.2			53.1		
Approach LOS		C		D			D			D		

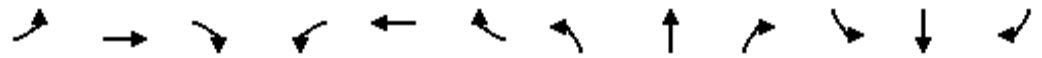
Intersection Summary

Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 13 (10%), Referenced to phase 2:WBT and 6:EBTL, Start of 1st Green
 Natural Cycle: 125
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 39.5
 Intersection LOS: D
 Intersection Capacity Utilization 95.1%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 7: Clayton Road & Woods Mill Road



HCM Unsignalized Intersection Capacity Analysis 2011 Build Traffic Conditions (opt timings)
 9: Clayton Road & Rue De Gascony Timing Plan: PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑	↘	↖	↑↑		↖		↗		↕	
Volume (veh/h)	1	1145	50	115	2023	2	90	0	75	0	1	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	1218	53	122	2152	2	96	0	80	0	1	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh		2			2							
Upstream signal (ft)					573							
pX, platoon unblocked	0.46						0.46	0.46		0.46	0.46	0.46
vC, conflicting volume	2154			1271			2544	3619	609	3089	3671	1077
vC1, stage 1 conf vol							1220	1220		2398	2398	
vC2, stage 2 conf vol							1323	2399		691	1273	
vCu, unblocked vol	1170			1271			2013	4339	609	3192	4452	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			77			40	100	82	100	98	100
cM capacity (veh/h)	274			542			160	48	438	33	45	501

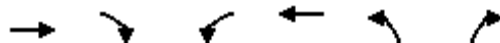
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1
Volume Total	1	609	609	53	122	1435	720	96	80	3
Volume Left	1	0	0	0	122	0	0	96	0	0
Volume Right	0	0	0	53	0	0	2	0	80	2
cSH	274	1700	1700	1700	542	1700	1700	160	438	114
Volume to Capacity	0.00	0.36	0.36	0.03	0.23	0.84	0.42	0.60	0.18	0.03
Queue Length 95th (ft)	0	0	0	0	21	0	0	80	16	2
Control Delay (s)	18.2	0.0	0.0	0.0	13.6	0.0	0.0	56.6	15.0	37.5
Lane LOS	C				B			F	C	E
Approach Delay (s)	0.0				0.7			37.7		37.5
Approach LOS								E		E

Intersection Summary		
Average Delay		2.3
Intersection Capacity Utilization	81.0%	ICU Level of Service
Analysis Period (min)		15
		D

HCM Unsignalized Intersection Capacity Analysis
 36: Clayton Road & RIRO

2011 Build Traffic Conditions (opt timings)

Timing Plan: PM Peak



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Volume (veh/h)	1205	15	0	2140	0	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1282	16	0	2277	0	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL		TWLTL			
Median storage (veh)	2		2			
Upstream signal (ft)			252			
pX, platoon unblocked					0.46	
vC, conflicting volume			1298	2420	641	
vC1, stage 1 conf vol					1282	
vC2, stage 2 conf vol					1138	
vCu, unblocked vol			1298	1736	641	
tC, single (s)			4.1	6.8	6.9	
tC, 2 stage (s)					5.8	
tF (s)			2.2	3.5	3.3	
p0 queue free %			100	100	95	
cM capacity (veh/h)			530	198	417	

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	641	641	16	1138	1138	21
Volume Left	0	0	0	0	0	0
Volume Right	0	0	16	0	0	21
cSH	1700	1700	1700	1700	1700	417
Volume to Capacity	0.38	0.38	0.01	0.67	0.67	0.05
Queue Length 95th (ft)	0	0	0	0	0	4
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	14.1
Lane LOS						B
Approach Delay (s)	0.0			0.0		14.1
Approach LOS						B

Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			62.5%	ICU Level of Service	B	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 2011 Build Traffic Conditions (opt timings)
 6: Clatyon Corners & Henry Ave Timing Plan: PM Peak



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	1	5	295	2	4	536
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	5	314	2	4	570
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						540
pX, platoon unblocked	0.92					
vC, conflicting volume	894	315			316	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	843	315			316	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			100	
cM capacity (veh/h)	307	726			1244	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	6	316	574
Volume Left	1	0	4
Volume Right	5	2	0
cSH	591	1700	1244
Volume to Capacity	0.01	0.19	0.00
Queue Length 95th (ft)	1	0	0
Control Delay (s)	11.2	0.0	0.1
Lane LOS	B		A
Approach Delay (s)	11.2	0.0	0.1
Approach LOS	B		

Intersection Summary			
Average Delay		0.1	
Intersection Capacity Utilization		41.4%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
46: Site North Drive & Henry Ave

2011 Build Traffic Conditions (opt timings)

Timing Plan: PM Peak



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	25	20	10	272	502	35
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	27	21	11	289	534	37
Pedestrians	152					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	13					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)					688	
pX, platoon unblocked	0.93	0.93	0.93			
vC, conflicting volume	1015	705	723			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	979	645	665			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	88	94	99			
cM capacity (veh/h)	222	384	751			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	48	300	571
Volume Left	27	11	0
Volume Right	21	0	37
cSH	273	751	1700
Volume to Capacity	0.18	0.01	0.34
Queue Length 95th (ft)	16	1	0
Control Delay (s)	20.9	0.5	0.0
Lane LOS	C	A	
Approach Delay (s)	20.9	0.5	0.0
Approach LOS	C		

Intersection Summary			
Average Delay		1.3	
Intersection Capacity Utilization		39.0%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
 48: Site South Drive & Henry Ave

2011 Build Traffic Conditions (opt timings)




















Timing Plan: PM Peak



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	10	5	5	272	512	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	11	5	5	289	545	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)					1110	
pX, platoon unblocked	0.98	0.98	0.98			
vC, conflicting volume	850	550	555			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	834	527	532			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	99	99			
cM capacity (veh/h)	328	538	1011			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	16	295	555			
Volume Left	11	5	0			
Volume Right	5	0	11			
cSH	377	1011	1700			
Volume to Capacity	0.04	0.01	0.33			
Queue Length 95th (ft)	3	0	0			
Control Delay (s)	15.0	0.2	0.0			
Lane LOS	B	A				
Approach Delay (s)	15.0	0.2	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			37.6%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 2011 Build (Alt - 1 NB Lane out of West Drive)
 9: Clayton Road & Rue De Gascony

Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	1145	50	115	2023	2	90	0	75	0	1	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	1218	53	122	2152	2	96	0	80	0	1	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage (veh)		2			2							
Upstream signal (ft)					573							
pX, platoon unblocked	0.46						0.46	0.46		0.46	0.46	0.46
vC, conflicting volume	2154			1271			2544	3619	609	3089	3671	1077
vC1, stage 1 conf vol							1220	1220		2398	2398	
vC2, stage 2 conf vol							1323	2399		691	1273	
vCu, unblocked vol	1170			1271			2013	4339	609	3192	4452	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			77			40	100	82	100	98	100
cM capacity (veh/h)	274			542			160	48	438	33	45	501
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1			
Volume Total	1	609	609	53	122	1435	720	176	3			
Volume Left	1	0	0	0	122	0	0	96	0			
Volume Right	0	0	0	53	0	0	2	80	2			
cSH	274	1700	1700	1700	542	1700	1700	225	114			
Volume to Capacity	0.00	0.36	0.36	0.03	0.23	0.84	0.42	0.78	0.03			
Queue Length 95th (ft)	0	0	0	0	21	0	0	140	2			
Control Delay (s)	18.2	0.0	0.0	0.0	13.6	0.0	0.0	61.6	37.5			
Lane LOS	C				B			F	E			
Approach Delay (s)	0.0				0.7			61.6	37.5			
Approach LOS								F	E			
Intersection Summary												
Average Delay			3.4									
Intersection Capacity Utilization			85.6%		ICU Level of Service				E			
Analysis Period (min)			15									

Synchro 7 Outputs
Year 2031 Build Conditions
AM Peak Hour

Timings
1: Clayton Road & Schoettler Road

2031 Build Traffic Conditions (optimized timings)

Timing Plan: AM Peak

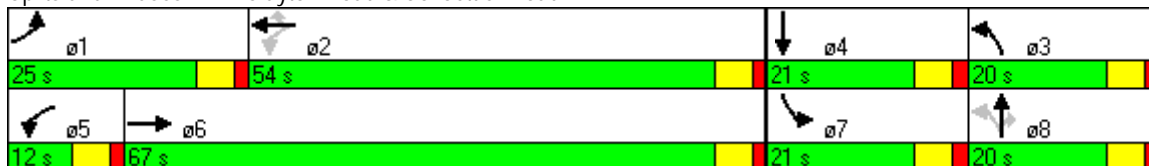


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↗	↖	↑	↗	↖	↗
Volume (vph)	135	2230	85	835	135	150	110	250	220	60
Turn Type	Prot		pm+pt		Perm	pm+pt		Perm	Prot	
Protected Phases	1	6	5	2		3	8		7	4
Permitted Phases			2		2	8		8		
Detector Phase	1	6	5	2	2	3	8	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	7.0	7.0	5.0	7.0
Minimum Split (s)	10.4	21.4	10.4	26.4	26.4	10.7	12.7	12.7	10.6	29.6
Total Split (s)	25.0	67.0	12.0	54.0	54.0	20.0	20.0	20.0	21.0	21.0
Total Split (%)	20.8%	55.8%	10.0%	45.0%	45.0%	16.7%	16.7%	16.7%	17.5%	17.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.4	1.4	1.4	1.4	1.4	1.7	1.7	1.7	1.6	1.6
Lost Time Adjust (s)	-1.4	-1.4	-1.4	-1.4	-1.4	-1.7	-1.7	0.0	-1.6	-1.6
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.7	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	16.5	64.6	63.8	56.0	56.0	16.3	16.3	14.6	15.2	15.2
Actuated g/C Ratio	0.14	0.54	0.53	0.47	0.47	0.14	0.14	0.12	0.13	0.13
v/c Ratio	0.61	1.34	0.53	0.56	0.18	0.69	0.48	0.96	0.59	0.78
Control Delay	59.3	182.3	47.8	9.7	0.5	65.6	55.1	74.4	55.2	53.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.3	182.3	47.8	9.7	0.5	65.6	55.1	74.4	55.2	53.2
LOS	E	F	D	A	A	E	E	E	E	D
Approach Delay		175.4		11.6			67.7			54.3
Approach LOS		F		B			E			D

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 92 (77%), Referenced to phase 2:WBTL and 6:EBT, Start of 1st Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.34
 Intersection Signal Delay: 112.1
 Intersection LOS: F
 Intersection Capacity Utilization 100.3%
 ICU Level of Service G
 Analysis Period (min) 15

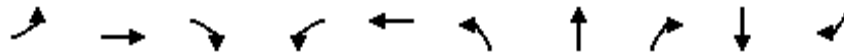
Splits and Phases: 1: Clayton Road & Schoettler Road



Timings
2: Clayton Road & Village Green Parkway

2031 Build Traffic Conditions (optimized timings)

Timing Plan: AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations	↶	↑↑↑	↷	↶	↑↑↑	↶	↶	↷	↶	↷
Volume (vph)	35	2645	20	55	975	20	0	30	5	60
Turn Type	Prot		Perm	Prot		Split		Perm		pm+ov
Protected Phases	1	6		5	2	3	3		4	1
Permitted Phases			6					3		4
Detector Phase	1	6	6	5	2	3	3	3	4	1
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	10.8	23.8	23.8	10.5	15.5	13.4	13.4	13.4	41.4	10.8
Total Split (s)	18.0	71.0	71.0	14.0	67.0	14.0	14.0	14.0	21.0	18.0
Total Split (%)	15.0%	59.2%	59.2%	11.7%	55.8%	11.7%	11.7%	11.7%	17.5%	15.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.8	1.8	1.8	1.5	1.5	2.4	2.4	2.4	2.4	1.8
Lost Time Adjust (s)	-1.8	-1.8	-1.8	-1.5	-1.5	-2.4	-2.4	-2.4	-2.4	-1.8
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	12.7	76.5	76.5	9.4	73.2	9.5	9.5	9.5	16.2	29.7
Actuated g/C Ratio	0.11	0.64	0.64	0.08	0.61	0.08	0.08	0.08	0.14	0.25
v/c Ratio	0.20	0.94	0.02	0.44	0.41	0.08	0.08	0.21	0.71	0.14
Control Delay	33.5	12.6	2.0	50.3	16.3	52.6	52.6	20.2	66.2	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.5	12.6	2.0	50.3	16.3	52.6	52.6	20.2	66.2	12.1
LOS	C	B	A	D	B	D	D	C	E	B
Approach Delay		12.8			17.8		33.4		52.1	
Approach LOS		B			B		C		D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 92 (77%), Referenced to phase 2:WBT and 6:EBT, Start of 1st Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 16.5
 Intersection LOS: B
 Intersection Capacity Utilization 76.3%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 2: Clayton Road & Village Green Parkway



Timings
7: Clayton Road & Woods Mill Road

2031 Build Traffic Conditions (optimized timings)

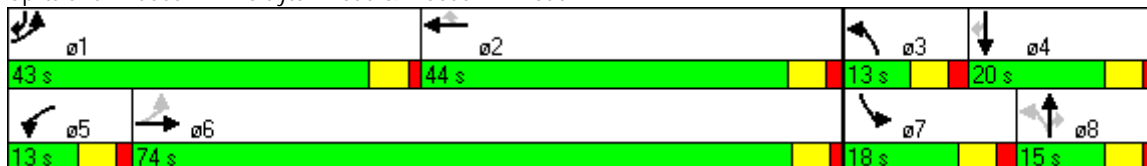
Timing Plan: AM Peak

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Volume (vph)	515	2215	40	600	315	55	65	45	130	70	425	
Turn Type	pm+pt		Prot		Perm	pm+pt		Perm	Prot		pm+ov	
Protected Phases	1	6	5	2		3	8		7	4	1	
Permitted Phases	6				2	8		8			4	
Detector Phase	1	6	5	2	2	3	8	8	7	4	1	
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	7.0	7.0	5.0	7.0	5.0	
Minimum Split (s)	10.4	28.4	10.7	28.7	28.7	11.1	33.9	33.9	11.1	12.9	10.4	
Total Split (s)	43.0	74.0	13.0	44.0	44.0	13.0	15.0	15.0	18.0	20.0	43.0	
Total Split (%)	35.8%	61.7%	10.8%	36.7%	36.7%	10.8%	12.5%	12.5%	15.0%	16.7%	35.8%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.4	1.4	1.7	1.7	1.7	2.1	1.9	1.9	2.1	1.9	1.4	
Lost Time Adjust (s)	-1.4	-1.4	-1.7	-1.7	-1.7	-2.1	-1.9	-1.9	-2.1	-1.9	-1.4	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None	None	
Act Effct Green (s)	86.7	76.3	8.6	49.4	49.4	17.4	10.4	10.4	13.5	14.9	52.2	
Actuated g/C Ratio	0.72	0.64	0.07	0.41	0.41	0.14	0.09	0.09	0.11	0.12	0.44	
v/c Ratio	0.85	0.82	0.34	0.44	0.39	0.26	0.43	0.27	0.69	0.32	0.30	
Control Delay	21.1	10.1	60.4	29.2	4.5	39.7	60.2	18.1	69.6	51.4	1.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	21.1	10.1	60.4	29.2	4.5	39.7	60.2	18.1	69.6	51.4	1.6	
LOS	C	B	E	C	A	D	E	B	E	D	A	
Approach Delay		12.1		22.4			41.9			21.3		
Approach LOS		B		C			D			C		

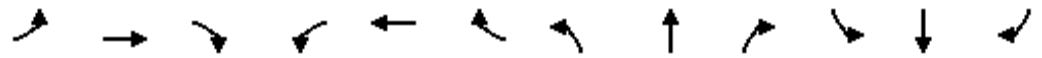
Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 16 (13%), Referenced to phase 2:WBT and 6:EBTL, Start of 1st Green
 Natural Cycle: 125
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.85
 Intersection Signal Delay: 16.6
 Intersection LOS: B
 Intersection Capacity Utilization 72.8%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 7: Clayton Road & Woods Mill Road



HCM Unsignalized Intersection Capacity Analysis 2031 Build Traffic Conditions (opt timings)
 9: Clayton Road & Rue De Gascony Timing Plan: AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑	↘	↖	↑↑		↖		↗		↕	
Volume (veh/h)	1	2358	50	80	1024	1	40	0	60	2	0	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	2509	53	85	1089	1	43	0	64	2	0	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh		2			2							
Upstream signal (ft)					573							
pX, platoon unblocked	0.82						0.82	0.82		0.82	0.82	0.82
vC, conflicting volume	1090			2562			3228	3771	1254	2580	3824	545
vC1, stage 1 conf vol							2511	2511		1260	1260	
vC2, stage 2 conf vol							717	1261		1320	2564	
vCu, unblocked vol	670			2562			3278	3941	1254	2488	4006	4
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			50			0	100	61	86	100	100
cM capacity (veh/h)	751			170			28	50	163	15	1	883

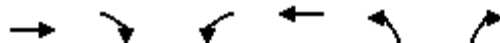
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1
Volume Total	1	1254	1254	53	85	726	364	43	64	4
Volume Left	1	0	0	0	85	0	0	43	0	2
Volume Right	0	0	0	53	0	0	1	0	64	2
cSH	751	1700	1700	1700	170	1700	1700	28	163	29
Volume to Capacity	0.00	0.74	0.74	0.03	0.50	0.43	0.21	1.53	0.39	0.14
Queue Length 95th (ft)	0	0	0	0	61	0	0	126	42	11
Control Delay (s)	9.8	0.0	0.0	0.0	45.9	0.0	0.0	575.5	40.6	146.7
Lane LOS	A				E			F	E	F
Approach Delay (s)	0.0				3.3			254.6		146.7
Approach LOS								F		F

Intersection Summary		
Average Delay		8.2
Intersection Capacity Utilization	82.2%	ICU Level of Service E
Analysis Period (min)		15

HCM Unsignalized Intersection Capacity Analysis
 36: Clayton Road & RIRO

2031 Build Traffic Conditions (opt timings)

Timing Plan: AM Peak



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Volume (veh/h)	2400	20	0	1105	0	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	2553	21	0	1176	0	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL		TWLTL			
Median storage (veh)	2		2			
Upstream signal (ft)			252			
pX, platoon unblocked					0.81	
vC, conflicting volume	2574			3141	1277	
vC1, stage 1 conf vol					2553	
vC2, stage 2 conf vol					588	
vCu, unblocked vol	2574			3174	1277	
tC, single (s)	4.1			6.8	6.9	
tC, 2 stage (s)					5.8	
tF (s)	2.2			3.5	3.3	
p0 queue free %	100			100	86	
cM capacity (veh/h)	168			43	157	

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	1277	1277	21	588	588	21
Volume Left	0	0	0	0	0	0
Volume Right	0	0	21	0	0	21
cSH	1700	1700	1700	1700	1700	157
Volume to Capacity	0.75	0.75	0.01	0.35	0.35	0.14
Queue Length 95th (ft)	0	0	0	0	0	11
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	31.4
Lane LOS						D
Approach Delay (s)	0.0			0.0		31.4
Approach LOS						D

Intersection Summary						
Average Delay	0.2					
Intersection Capacity Utilization	76.3%			ICU Level of Service	D	
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 2031 Build Traffic Conditions (opt timings)
 6: Clatyon Corners & Henry Ave Timing Plan: AM Peak



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	1	5	505	1	4	196
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	5	537	1	4	209
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						540
pX, platoon unblocked						
vC, conflicting volume	755	538			538	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	755	538			538	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			100	
cM capacity (veh/h)	375	543			1030	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	6	538	213
Volume Left	1	0	4
Volume Right	5	1	0
cSH	506	1700	1030
Volume to Capacity	0.01	0.32	0.00
Queue Length 95th (ft)	1	0	0
Control Delay (s)	12.2	0.0	0.2
Lane LOS	B		A
Approach Delay (s)	12.2	0.0	0.2
Approach LOS	B		

Intersection Summary			
Average Delay			0.2
Intersection Capacity Utilization	36.6%	ICU Level of Service	A
Analysis Period (min)			15

HCM Unsignalized Intersection Capacity Analysis
 46: Site North Drive & Henry Ave

2031 Build Traffic Conditions (opt timings)

Timing Plan: AM Peak



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	35	5	15	470	167	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	37	5	16	500	178	32
Pedestrians	152					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	13					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)					688	
pX, platoon unblocked						
vC, conflicting volume	878	346	362			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	878	346	362			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	86	99	98			
cM capacity (veh/h)	274	609	1045			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	43	516	210
Volume Left	37	16	0
Volume Right	5	0	32
cSH	294	1045	1700
Volume to Capacity	0.14	0.02	0.12
Queue Length 95th (ft)	12	1	0
Control Delay (s)	19.3	0.4	0.0
Lane LOS	C	A	
Approach Delay (s)	19.3	0.4	0.0
Approach LOS	C		

Intersection Summary			
Average Delay		1.4	
Intersection Capacity Utilization	46.8%		ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
48: Site South Drive & Henry Ave

2031 Build Traffic Conditions (opt timings)

Timing Plan: AM Peak



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	5	5	485	167	5
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	5	5	516	178	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)					1110	
pX, platoon unblocked						
vC, conflicting volume	707	180	183			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	707	180	183			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	100			
cM capacity (veh/h)	400	862	1392			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	5	521	183
Volume Left	0	5	0
Volume Right	5	0	5
cSH	862	1392	1700
Volume to Capacity	0.01	0.00	0.11
Queue Length 95th (ft)	0	0	0
Control Delay (s)	9.2	0.1	0.0
Lane LOS	A	A	
Approach Delay (s)	9.2	0.1	0.0
Approach LOS	A		

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		39.5%	ICU Level of Service
Analysis Period (min)		15	A

HCM Unsignalized Intersection Capacity Analysis 2031 Build (Alt - 1 NB Lane out of West Drive)
 9: Clayton Road & Rue De Gascony

Timing Plan: AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	2358	50	80	1024	1	40	0	60	2	0	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	2509	53	85	1089	1	43	0	64	2	0	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLT			TWLT							
Median storage (veh)		2			2							
Upstream signal (ft)					573							
pX, platoon unblocked	0.82						0.82	0.82		0.82	0.82	0.82
vC, conflicting volume	1090			2562			3228	3771	1254	2580	3824	545
vC1, stage 1 conf vol							2511	2511		1260	1260	
vC2, stage 2 conf vol							717	1261		1320	2564	
vCu, unblocked vol	670			2562			3278	3941	1254	2488	4006	4
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			50			0	100	61	86	100	100
cM capacity (veh/h)	751			170			28	50	163	15	1	883

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	1	1254	1254	53	85	726	364	106	4
Volume Left	1	0	0	0	85	0	0	43	2
Volume Right	0	0	0	53	0	0	1	64	2
cSH	751	1700	1700	1700	170	1700	1700	55	29
Volume to Capacity	0.00	0.74	0.74	0.03	0.50	0.43	0.21	1.92	0.14
Queue Length 95th (ft)	0	0	0	0	61	0	0	257	11
Control Delay (s)	9.8	0.0	0.0	0.0	45.9	0.0	0.0	592.6	146.7
Lane LOS	A				E			F	F
Approach Delay (s)	0.0				3.3			592.6	146.7
Approach LOS								F	F

Intersection Summary			
Average Delay		17.6	
Intersection Capacity Utilization	80.0%		ICU Level of Service D
Analysis Period (min)		15	

Synchro 7 Outputs
Year 2011 Build Conditions
PM Peak Hour

Timings
1: Clayton Road & Schoettler Road

2031 Build Traffic Conditions (optimized timings)

Timing Plan: PM Peak

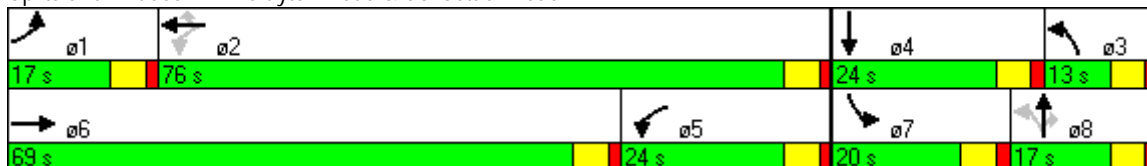


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↗	↖	↑	↗	↖	↗
Volume (vph)	110	1045	290	2075	325	85	80	150	170	110
Turn Type	Prot		pm+pt		Perm	pm+pt		Perm	Prot	
Protected Phases	1	6	5	2		3	8		7	4
Permitted Phases			2		2	8		8		
Detector Phase	1	6	5	2	2	3	8	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	7.0	7.0	5.0	7.0
Minimum Split (s)	10.4	21.4	10.4	26.4	26.4	10.7	12.7	12.7	10.6	29.6
Total Split (s)	17.0	69.0	24.0	76.0	76.0	13.0	17.0	17.0	20.0	24.0
Total Split (%)	13.1%	53.1%	18.5%	58.5%	58.5%	10.0%	13.1%	13.1%	15.4%	18.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.4	1.4	1.4	1.4	1.4	1.7	1.7	1.7	1.6	1.6
Lost Time Adjust (s)	-1.4	-1.4	-1.4	-1.4	-1.4	-1.7	-1.7	0.0	-1.6	-1.6
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.7	4.0	4.0
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	12.5	66.0	73.5	73.5	73.5	14.0	14.0	12.3	14.1	20.0
Actuated g/C Ratio	0.10	0.51	0.57	0.57	0.57	0.11	0.11	0.09	0.11	0.15
v/c Ratio	0.72	0.77	0.89	1.15	0.37	0.56	0.44	0.56	0.54	1.05
Control Delay	79.9	29.4	32.3	85.5	1.3	70.0	62.6	15.6	60.2	110.0
Queue Delay	0.0	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.9	29.4	32.3	88.1	1.3	70.0	62.6	15.6	60.2	110.0
LOS	E	C	C	F	A	E	E	B	E	F
Approach Delay		33.6		71.6			42.2			90.7
Approach LOS		C		E			D			F

Intersection Summary

Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 10 (8%), Referenced to phase 2:WBTL and 6:EBT, Start of 1st Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.15
 Intersection Signal Delay: 60.9
 Intersection LOS: E
 Intersection Capacity Utilization 97.1%
 ICU Level of Service F
 Analysis Period (min) 15

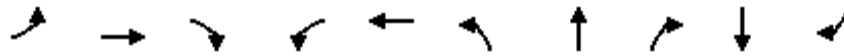
Splits and Phases: 1: Clayton Road & Schoettler Road



Timings
2: Clayton Road & Village Green Parkway

2031 Build Traffic Conditions (optimized timings)

Timing Plan: PM Peak

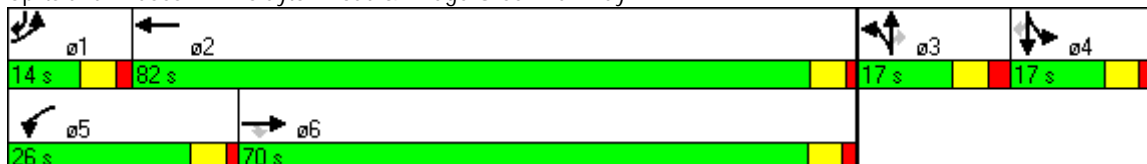


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↘	↖	↗	↖	↗
Volume (vph)	65	1170	130	160	2455	175	10	70	5	60
Turn Type	Prot		Perm	Prot		Split		Perm		pm+ov
Protected Phases	1	6		5	2	3	3		4	1
Permitted Phases			6					3		4
Detector Phase	1	6	6	5	2	3	3	3	4	1
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	7.0	7.0	7.0	7.0	5.0
Minimum Split (s)	10.8	23.8	23.8	10.5	15.5	13.4	13.4	13.4	41.4	10.8
Total Split (s)	14.0	70.0	70.0	26.0	82.0	17.0	17.0	17.0	17.0	14.0
Total Split (%)	10.8%	53.8%	53.8%	20.0%	63.1%	13.1%	13.1%	13.1%	13.1%	10.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.8	1.8	1.8	1.5	1.5	2.4	2.4	2.4	2.4	1.8
Lost Time Adjust (s)	-1.8	-1.8	-1.8	-1.5	-1.5	-2.4	-2.4	-2.4	-2.4	-1.8
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	9.7	70.4	70.4	18.8	79.6	12.5	12.5	12.5	12.3	26.0
Actuated g/C Ratio	0.07	0.54	0.54	0.14	0.61	0.10	0.10	0.10	0.09	0.20
v/c Ratio	0.53	0.49	0.15	0.69	1.06	0.62	0.61	0.34	0.56	0.18
Control Delay	77.8	7.0	1.3	62.3	54.0	73.6	72.8	16.1	69.5	36.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.8	7.0	1.3	62.3	54.0	73.6	72.8	16.1	69.5	36.1
LOS	E	A	A	E	D	E	E	B	E	D
Approach Delay		9.8			54.4		57.6		56.6	
Approach LOS		A			D		E		E	

Intersection Summary

Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 12 (9%), Referenced to phase 2:WBT and 6:EBT, Start of 1st Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.06
 Intersection Signal Delay: 42.4
 Intersection LOS: D
 Intersection Capacity Utilization 77.2%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 2: Clayton Road & Village Green Parkway



Timings
7: Clayton Road & Woods Mill Road

2031 Build Traffic Conditions (optimized timings)

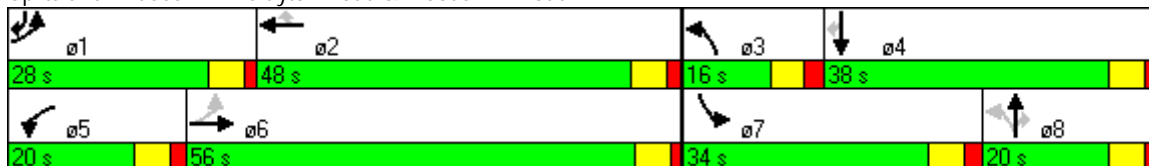
Timing Plan: PM Peak

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	155	1015	50	1170	100	200	85	75	300	205	1420
Turn Type	pm+pt		Prot		Perm	pm+pt		Perm	Prot		pm+ov
Protected Phases	1	6	5	2		3	8		7	4	1
Permitted Phases	6				2	8		8			4
Detector Phase	1	6	5	2	2	3	8	8	7	4	1
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	7.0	7.0	5.0	7.0	5.0
Minimum Split (s)	10.4	28.4	10.7	28.7	28.7	11.1	33.9	33.9	11.1	12.9	10.4
Total Split (s)	28.0	56.0	20.0	48.0	48.0	16.0	20.0	20.0	34.0	38.0	28.0
Total Split (%)	21.5%	43.1%	15.4%	36.9%	36.9%	12.3%	15.4%	15.4%	26.2%	29.2%	21.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.4	1.4	1.7	1.7	1.7	2.1	1.9	1.9	2.1	1.9	1.4
Lost Time Adjust (s)	-1.4	-1.4	-1.7	-1.7	-1.7	-2.1	-1.9	-1.9	-2.1	-1.9	-1.4
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	Max
Act Effct Green (s)	76.9	64.2	11.0	48.9	48.9	25.1	13.1	13.1	28.0	29.1	57.1
Actuated g/C Ratio	0.59	0.49	0.08	0.38	0.38	0.19	0.10	0.10	0.22	0.22	0.44
v/c Ratio	0.48	0.53	0.36	0.94	0.16	0.76	0.48	0.34	0.84	0.52	1.01
Control Delay	45.3	28.8	61.9	53.4	10.1	52.4	63.2	15.1	68.0	48.1	50.7
Queue Delay	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.3	28.8	61.9	57.2	10.1	52.4	63.2	15.1	68.0	48.1	50.7
LOS	D	C	E	E	B	D	E	B	E	D	D
Approach Delay		30.8		53.8			47.2			53.2	
Approach LOS		C		D			D			D	

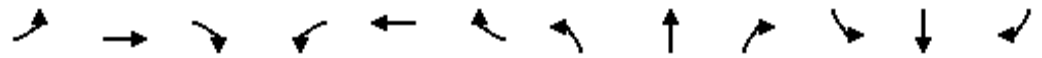
Intersection Summary

Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 13 (10%), Referenced to phase 2:WBT and 6:EBTL, Start of 1st Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.01
 Intersection Signal Delay: 47.0
 Intersection LOS: D
 Intersection Capacity Utilization 103.1%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 7: Clayton Road & Woods Mill Road



HCM Unsignalized Intersection Capacity Analysis 2031 Build Traffic Conditions (opt timings)
 9: Clayton Road & Rue De Gascony Timing Plan: PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑	↘	↖	↑↑		↖		↗		↕	
Volume (veh/h)	1	1260	50	115	2203	2	90	0	75	0	1	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	1340	53	122	2344	2	96	0	80	0	1	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh		2			2							
Upstream signal (ft)					573							
pX, platoon unblocked	0.44						0.44	0.44		0.44	0.44	0.44
vC, conflicting volume	2346			1394			2762	3933	670	3341	3985	1173
vC1, stage 1 conf vol							1343	1343		2589	2589	
vC2, stage 2 conf vol							1419	2590		752	1396	
vCu, unblocked vol	1518			1394			2460	5113	670	3774	5231	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			75			29	100	80	100	96	100
cM capacity (veh/h)	192			487			135	29	399	18	28	479

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1
Volume Total	1	670	670	53	122	1562	783	96	80	3
Volume Left	1	0	0	0	122	0	0	96	0	0
Volume Right	0	0	0	53	0	0	2	0	80	2
cSH	192	1700	1700	1700	487	1700	1700	135	399	75
Volume to Capacity	0.01	0.39	0.39	0.03	0.25	0.92	0.46	0.71	0.20	0.04
Queue Length 95th (ft)	0	0	0	0	25	0	0	100	18	3
Control Delay (s)	23.8	0.0	0.0	0.0	14.9	0.0	0.0	79.2	16.3	55.3
Lane LOS	C				B			F	C	F
Approach Delay (s)	0.0				0.7			50.6		55.3
Approach LOS								F		F

Intersection Summary		
Average Delay		2.7
Intersection Capacity Utilization	85.9%	ICU Level of Service E
Analysis Period (min)		15

HCM Unsignalized Intersection Capacity Analysis
 36: Clayton Road & RIRO

2031 Build Traffic Conditions (opt timings)

Timing Plan: PM Peak



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Volume (veh/h)	1320	15	0	2320	0	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1404	16	0	2468	0	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL		TWLTL			
Median storage (veh)	2		2			
Upstream signal (ft)			252			
pX, platoon unblocked					0.44	
vC, conflicting volume			1420	2638		702
vC1, stage 1 conf vol			1404			
vC2, stage 2 conf vol			1234			
vCu, unblocked vol			1420	2175		702
tC, single (s)			4.1	6.8		6.9
tC, 2 stage (s)			5.8			
tF (s)			2.2	3.5		3.3
p0 queue free %			100	100		94
cM capacity (veh/h)			475	170		381

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	702	702	16	1234	1234	21
Volume Left	0	0	0	0	0	0
Volume Right	0	0	16	0	0	21
cSH	1700	1700	1700	1700	1700	381
Volume to Capacity	0.41	0.41	0.01	0.73	0.73	0.06
Queue Length 95th (ft)	0	0	0	0	0	4
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	15.0
Lane LOS						C
Approach Delay (s)	0.0			0.0		15.0
Approach LOS						C

Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			67.5%	ICU Level of Service		C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 2031 Build Traffic Conditions (opt timings)
 6: Clatyon Corners & Henry Ave Timing Plan: PM Peak



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	1	5	310	2	4	581
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	5	330	2	4	618
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						540
pX, platoon unblocked	0.92					
vC, conflicting volume	957	331	332			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	909	331	332			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	100			
cM capacity (veh/h)	279	711	1227			

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	6	332	622
Volume Left	1	0	4
Volume Right	5	2	0
cSH	565	1700	1227
Volume to Capacity	0.01	0.20	0.00
Queue Length 95th (ft)	1	0	0
Control Delay (s)	11.4	0.0	0.1
Lane LOS	B		A
Approach Delay (s)	11.4	0.0	0.1
Approach LOS	B		

Intersection Summary			
Average Delay		0.1	
Intersection Capacity Utilization		43.8%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
 46: Site North Drive & Henry Ave

2031 Build Traffic Conditions (opt timings)

Timing Plan: PM Peak



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	25	20	10	287	547	35
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	27	21	11	305	582	37
Pedestrians	152					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	13					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)					688	
pX, platoon unblocked	0.93	0.93	0.93			
vC, conflicting volume	1079	753	771			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1045	692	712			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	87	94	99			
cM capacity (veh/h)	202	359	717			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	48	316	619
Volume Left	27	11	0
Volume Right	21	0	37
cSH	250	717	1700
Volume to Capacity	0.19	0.01	0.36
Queue Length 95th (ft)	17	1	0
Control Delay (s)	22.7	0.5	0.0
Lane LOS	C	A	
Approach Delay (s)	22.7	0.5	0.0
Approach LOS	C		

Intersection Summary			
Average Delay		1.3	
Intersection Capacity Utilization	41.3%		ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
 48: Site South Drive & Henry Ave

2031 Build Traffic Conditions (opt timings)

Timing Plan: PM Peak



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	10	5	5	287	557	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	11	5	5	305	593	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)					1110	
pX, platoon unblocked	0.97	0.97	0.97			
vC, conflicting volume	914	598	603			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	895	568	574			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	99	99			
cM capacity (veh/h)	300	506	968			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	16	311	603			
Volume Left	11	5	0			
Volume Right	5	0	11			
cSH	347	968	1700			
Volume to Capacity	0.05	0.01	0.35			
Queue Length 95th (ft)	4	0	0			
Control Delay (s)	15.9	0.2	0.0			
Lane LOS	C	A				
Approach Delay (s)	15.9	0.2	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			39.9%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 2031 Build (Alt - 1 NB Lane out of West Drive)
 9: Clayton Road & Rue De Gascony

Timing Plan: PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑	↘	↗	↑↑			↕			↕	
Volume (veh/h)	1	1260	50	115	2203	2	90	0	75	0	1	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	1340	53	122	2344	2	96	0	80	0	1	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage (veh)		2			2							
Upstream signal (ft)					573							
pX, platoon unblocked	0.44						0.44	0.44		0.44	0.44	0.44
vC, conflicting volume	2346			1394			2762	3933	670	3341	3985	1173
vC1, stage 1 conf vol							1343	1343		2589	2589	
vC2, stage 2 conf vol							1419	2590		752	1396	
vCu, unblocked vol	1518			1394			2460	5113	670	3774	5231	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			75			29	100	80	100	96	100
cM capacity (veh/h)	192			487			135	29	399	18	28	479

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	1	670	670	53	122	1562	783	176	3
Volume Left	1	0	0	0	122	0	0	96	0
Volume Right	0	0	0	53	0	0	2	80	2
cSH	192	1700	1700	1700	487	1700	1700	193	75
Volume to Capacity	0.01	0.39	0.39	0.03	0.25	0.92	0.46	0.91	0.04
Queue Length 95th (ft)	0	0	0	0	25	0	0	177	3
Control Delay (s)	23.8	0.0	0.0	0.0	14.9	0.0	0.0	92.7	55.3
Lane LOS	C				B			F	F
Approach Delay (s)	0.0				0.7			92.7	55.3
Approach LOS								F	F

Intersection Summary		
Average Delay		4.5
Intersection Capacity Utilization	90.5%	ICU Level of Service
Analysis Period (min)		15