CADENCE AT MINT HILL
TRAFFIC IMPACT ANALYSIS
Mint Hill, North Carolina

Prepared for
Mattamy Homes

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Consulting Engineers

October 27, 2017

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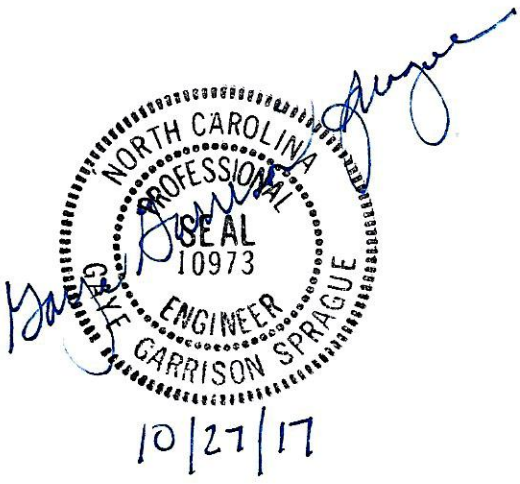

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CADENCE AT MINT HILL TRAFFIC IMPACT ANALYSIS
Mint Hill, North Carolina
October 27, 2017

Executive Summary

The site for Cadence at Mint Hill is located on Bartlett Road (SR 3109) just north of Fairview Road (NC 218) and will have one access to Bartlett. As shown in the conceptual site plan in Appendix A, the subdivision is planned as a residential neighborhood with 251 single family units. The subdivision will connect to Jefferson Colony Road to the west via Statesman Drive and Liberty Hill Drive. The findings of the study are:

- *Fairview Road (NC 218)/Blair Road/(NC 51)* – With 2023 no build volumes this intersection will operate with the highest delay that still qualifies for LOS D in the afternoon peak hour. With 2023 build volumes, the afternoon peak hour will increase six seconds per vehicle and move the intersection to LOS E. The westbound left already has volumes that suggest dual lefts, and the complementary northbound right has volumes which also suggest dual lanes, but each of these movements only has one receiving lane. Given the low volumes of the movements without exclusive lanes and the lack of dual receiving lanes for the westbound left and northbound right, no changes are recommended at this intersection as the result of Cadence at Mint Hill.

- *Fairview Road/485 Loop Ramps* – These intersections currently operate acceptably and will continue to do so with either 2023 no build or build volumes.

- *Fairview Road/Jefferson Colony Road/Park Driveway* – With 2023 build volumes at this intersection delay for the Jefferson Colony approach will increase but will be reasonable for a side street during the peak hour. Delay will also increase for the park driveway approach, but a conservative assumption made in the analyses for this intersection overstates delay, and no changes are recommended at this intersection to accommodate Cadence at Mint Hill traffic. The side street volumes are not high enough to indicate that the intersection could meet signal warrants, and the unusual alignment of the park driveway indicates that there are right-of-way or other issues which dictated its design and leave little room for changes. Given the good LOS of the eastbound left from Fairview to Bartlett, the long storage for that movement, and the zero percent trucks that make up the left turn out of the park driveway, the park driveway left turn exits will be able to convert to U turns at Bartlett if delay does increase beyond a reasonable level.

- *Fairview Road/Bartlett Road (SR 3109)* - This intersection currently operates acceptably and will continue to do so with 2023 no build or build volumes.

- *Bartlett Road/Site Access* – This intersection can operate acceptably with no left turn lane on Bartlett and with one approach lane on the site access with 2023 build volumes. However, a left turn lane on the major street may be needed for other than capacity needs. A check of the NCDOT guidelines for left turn lanes on a two-lane highway indicates the need for a left turn lane with 75 feet of storage northbound on Bartlett at the site access.

- No changes in turn storage length at the study intersections are recommended to accommodate Cadence at Mint Hill traffic because all estimated turn queues fall into one of two categories:
    - The 2023 no build queues exceed the storage available, and there is little difference with 2023 build volumes, or
    - The estimated queues either are less than the storage provided or are within approximately one vehicle length of the storage provided.

Introduction

The site for Cadence at Mint Hill is located on Bartlett Road (SR 3109) just north of Fairview Road (NC 218) and will have one access to Bartlett. As shown in the conceptual site plan in Appendix A, the subdivision is planned as a residential neighborhood with 251 single family units. The subdivision will connect to Jefferson Colony Road to the west via Statesman Drive and Liberty Hill Drive. Build out is expected by 2022. The study year is build out plus one which is 2023.

Capacity analyses and queue estimates were conducted to assess the 2017 existing, 2023 no build, and 2023 build volumes at the study intersections:

- Fairview Road (NC 218)/Blair Road (NC 51)
- Fairview Road/Jefferson Colony Road
- Fairview Road/Bartlett Road (SR 3109)
- Fairview Road/I-485 Inner ramp
- Fairview Road/I-485 Outer ramp
- Bartlett/site access

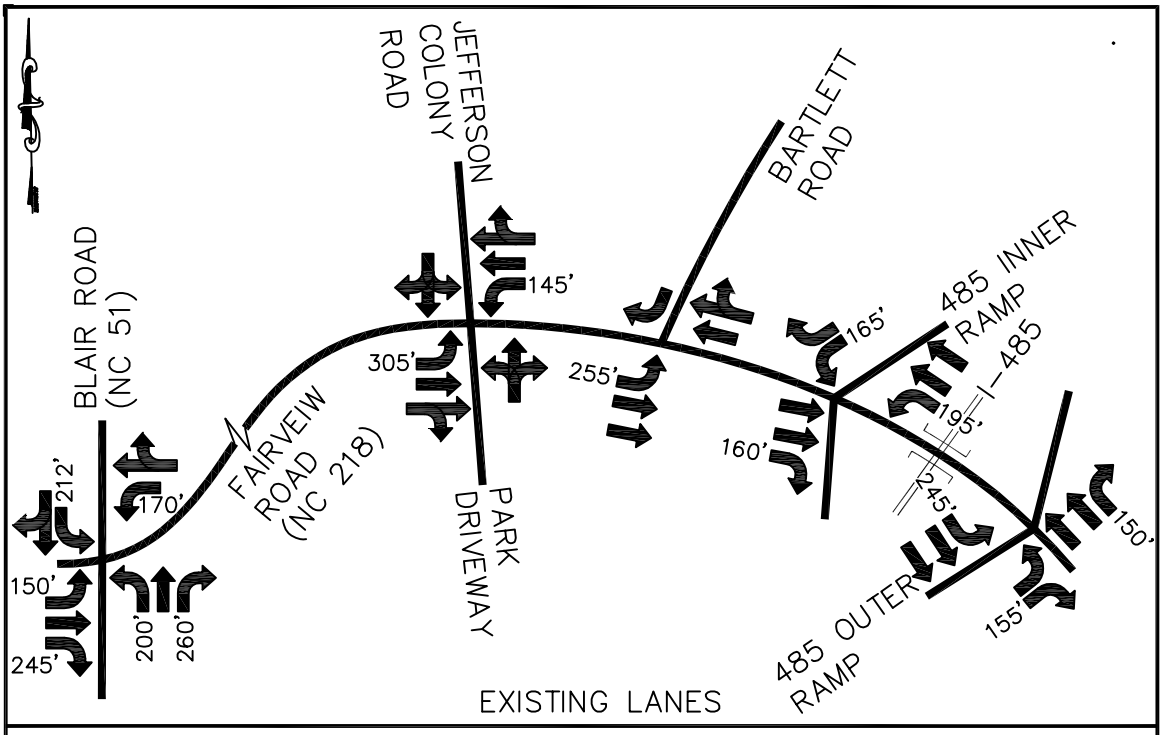
The study was conducted for morning and afternoon peak hours of adjacent street traffic. The types of studies documented in this report are capacity analyses and queue estimates. Fairview Road and the site access on Bartlett are referred to as east-west, and all other streets and roads are referred to as north-south.

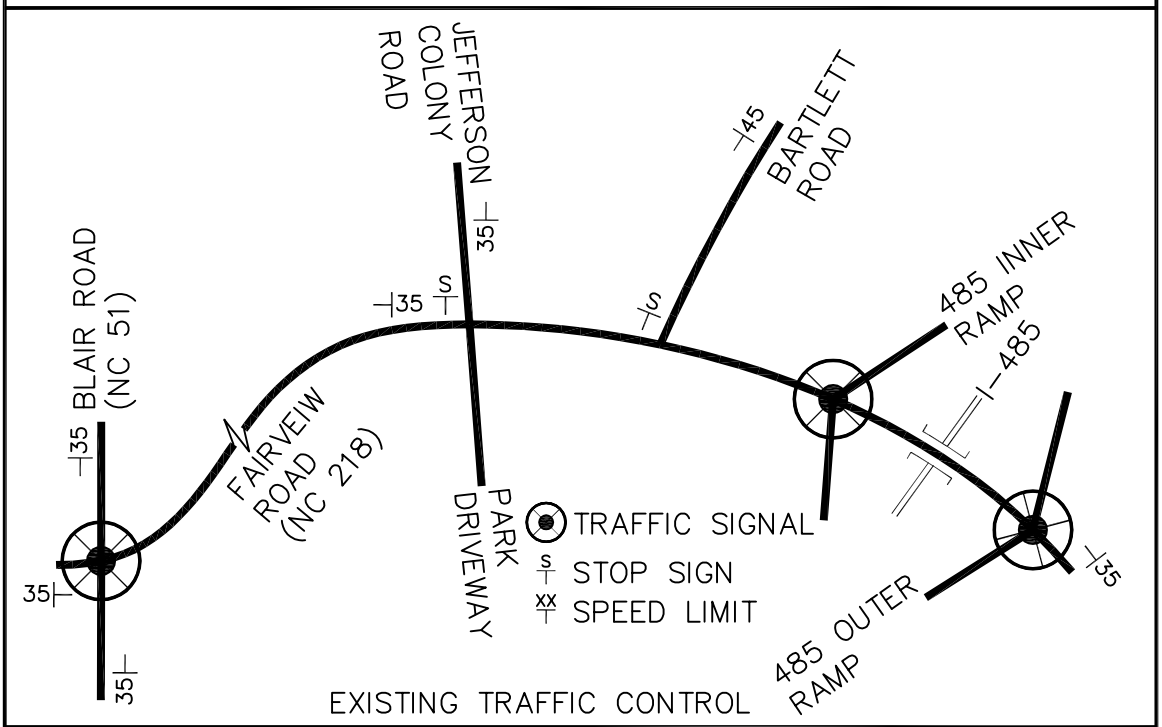
Existing Conditions

Existing conditions at the study intersections are shown in Figure 1. At its intersection with Fairview, NC 51 is a two/three-lane road with left turn lanes on both approaches to Fairview and a right turn lane northbound. South of its intersection with Fairview, NC 51 is a four-lane road, but the outside southbound through lane is not available until south of the Fairview intersection. Fairview is a two lane road from NC 51 to west of Jefferson Colony. A second eastbound through lane is added west of Jefferson Colony, and the second westbound through lane drops west of Jefferson Colony. Between Bartlett and the I-485 Outer ramp, Fairview is a five lane road. Left turn lanes are provided at all of the study intersections. There are right turn lanes eastbound at NC 51 and at both ramp intersections. Jefferson Colony and Bartlett are two-lane roads. There is one approach lane on Jefferson Colony at Fairview and one approach lane on the park driveway across from Jefferson Colony. On Bartlett, the single approach lane is for right turns only. Both ramps have two-lane approaches to Fairview. The intersections of NC 51 and both ramps are signalized, and the Jefferson Colony and Bartlett intersections have side street stop sign control. The speed limits are 35 miles per hour on all streets except on Bartlett where the speed limit is 45 miles per hour.

Turning movement counts were conducted at the study intersections in May 2015 while schools were still in regular session. The counts were conducted during the time periods of 7:00 – 9:00 a.m. and 4:00 – 6:00 p.m. and are included in Appendix B. The peak hours were identified, and the 2017 existing peak hour volumes are shown in Figure 2.

A vicinity map for the Cadence at Mint Hill site is included in the site plan in Appendix A. The Cadence at Mint Hill site is currently vacant. Immediately adjacent to the site are residential uses and I-485 to the east.





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EXISTING CONDITIONS

Figure 1

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CADENCE AT MINT HILL TRAFFIC IMPACT ANALYSIS
MINT HILL, NORTH CAROLINA

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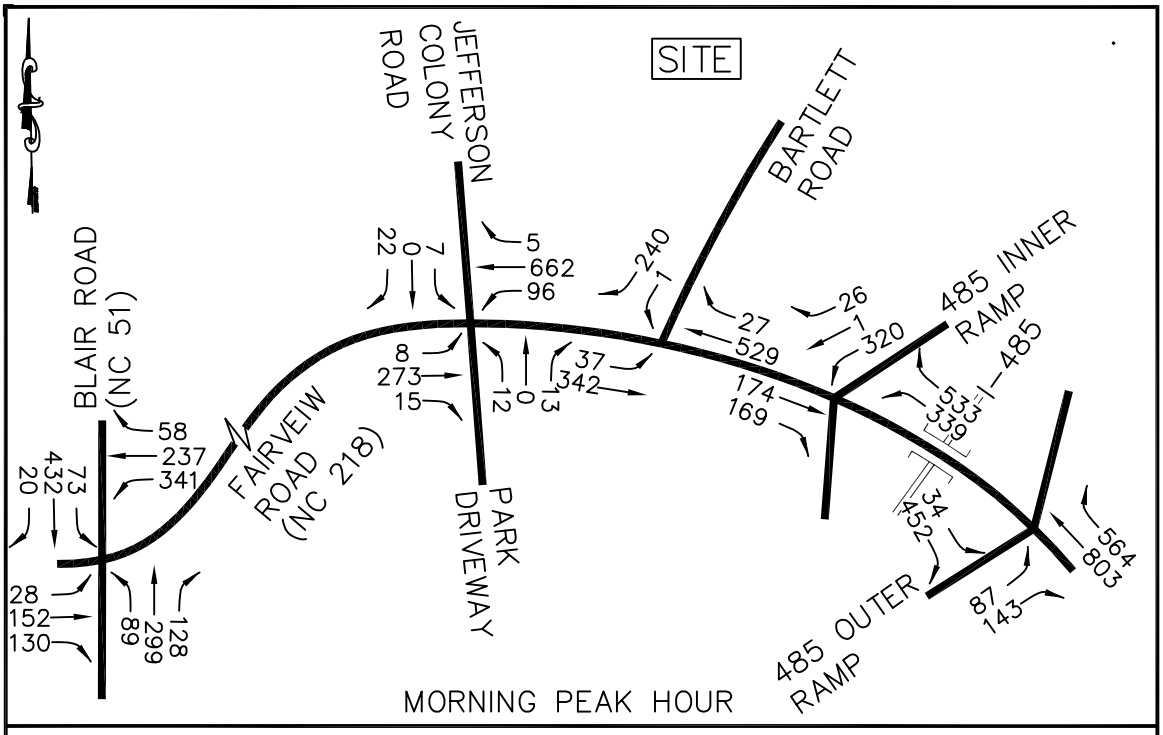

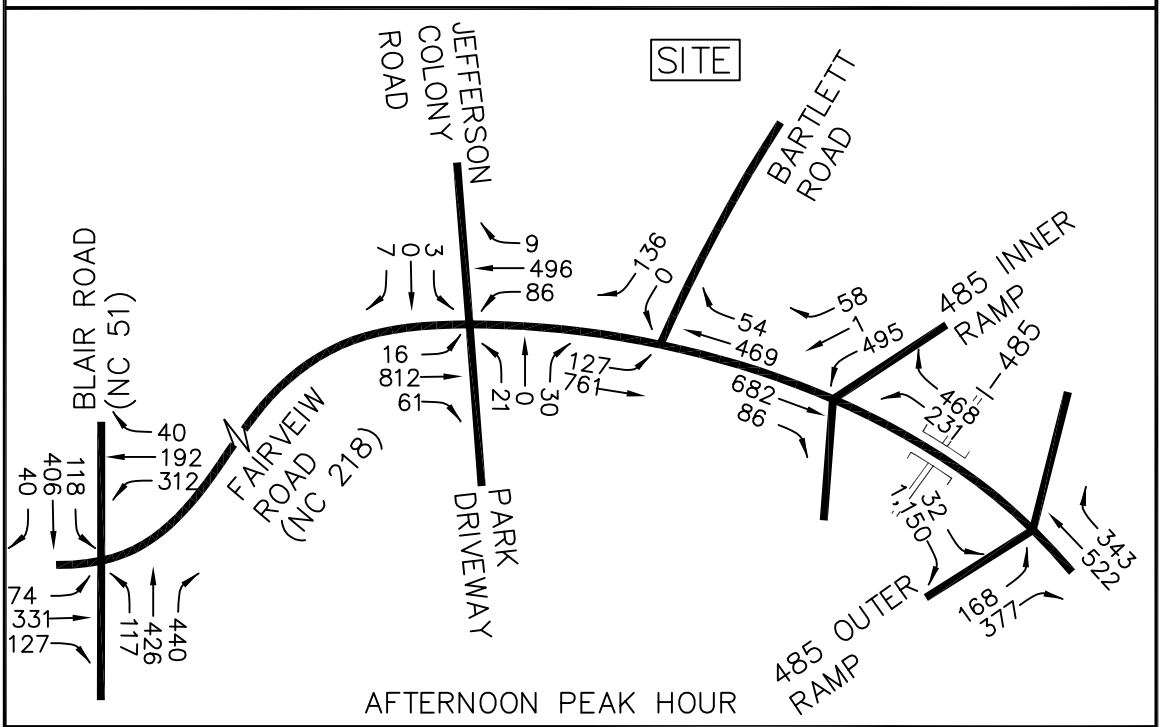

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2017 EXISTING PEAK HOUR TRAFFIC VOLUMES

Figure 2

10/11/17

CADENCE AT MINT HILL TRAFFIC IMPACT ANALYSIS
MINT HILL, NORTH CAROLINA

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Future Conditions

No build traffic is the traffic that would be at the study intersections in the future without the proposed development. No build traffic is made up of existing traffic and any increase or decrease in volumes which might occur from general growth trends in the surrounding area or from nearby specific developments. An appropriate background traffic growth rate for this study was discussed with the City's traffic consultant, and three percent per year was used for this study. The 2017 peak hour traffic volumes were increased by three percent per year for six years to obtain the 2023 no build peak hour traffic volumes shown in Figure 3.

Another element of background traffic is the traffic expected at the study intersections as a result of nearby approved developments. The only approved but not built development in the area is a church which will not affect the peak hours addressed in this study.

Proposed Site

Trip Generation – As stated previously, Cadence at Mint Hill is planned with 251 single family units. Trip generation for the site was estimated using these equations from the 9th Edition of Trip Generation:

- Single Family – independent variable is number of units
  - Morning Peak Hour: T=0.70X+9.74; 25% enter, 75% exit
  - Afternoon Peak Hour: LnT=0.90LnX+0.51; 63% enter, 37% exit

All trips will be new to the street network. The trip generation for Cadence at Mint Hill is shown in Table 1.

Table 1
TRIP GENERATION
Cadence at Mint Hill Traffic Impact Analysis
Mint Hill, North Carolina

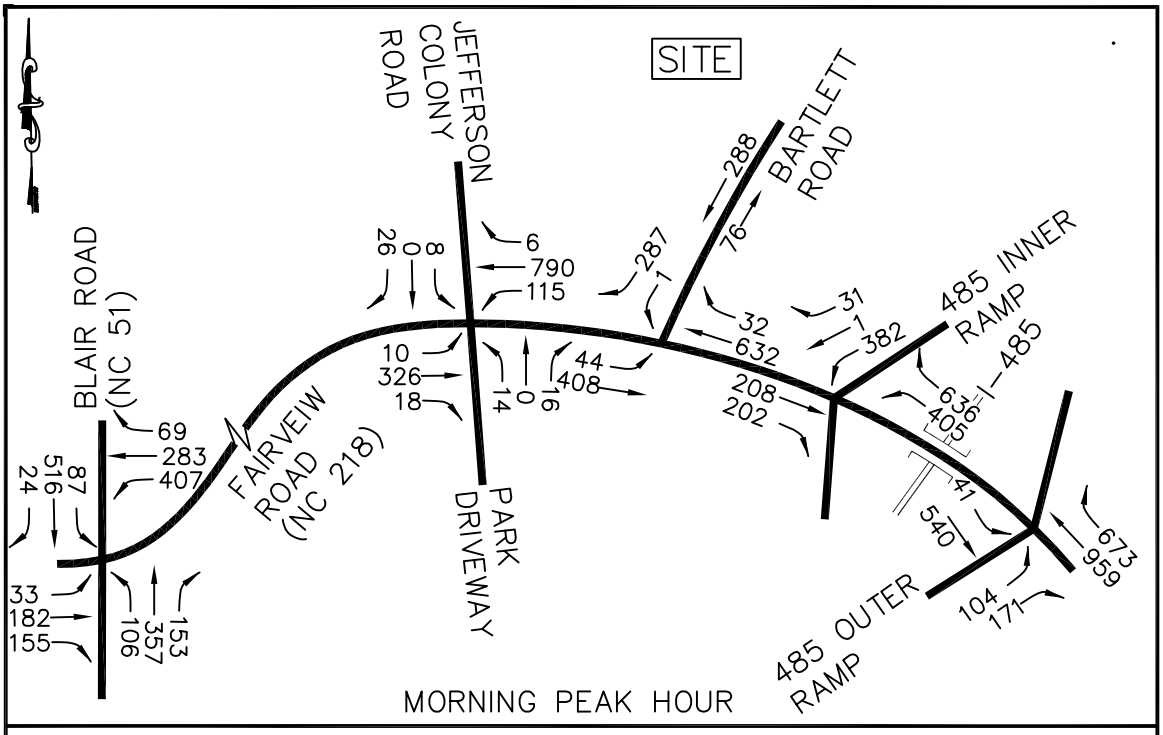
Use/Size	Morning Peak Hour			Afternoon Peak Hour		
	Enter	Exit	Total	Enter	Exit	Total
251 single family dwelling units	46	140	186	152	89	241

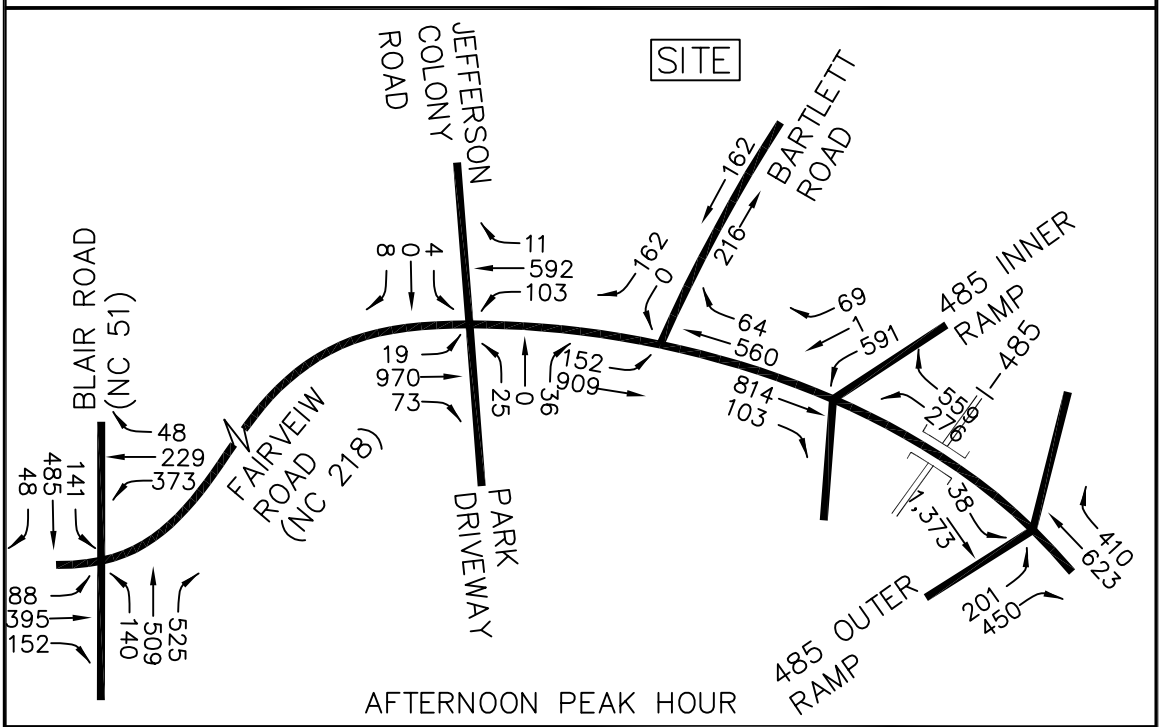
Trip Distribution - Trip distribution for site traffic was based on existing distribution of peak hour turns at Jefferson Colony/Fairview which is 69 percent west and 31 percent east and Bartlett which is 58 percent west and 42 percent east. Assuming that some traffic will go to the north on Bartlett, this trip distribution was used for the Cadence at Mint Hill site:

- 10 percent to/from the north via Bartlett
- 55 percent to/from the west via Fairview
- 35 percent to/from the east via Fairview

Trip Assignment- Site trips were assigned to the study intersections using the distribution discussed above, and to the individual movements in the same proportion as existing peak hour volumes. Peak hour site trips are shown in Figure 4.

2023 Build Traffic - The peak hour site trips were added to 2023 no build peak hour traffic volumes to obtain the 2023 build peak hour traffic volumes shown in Figure 5.





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2023 NO BUILD PEAK HOUR TRAFFIC VOLUMES

Figure 3

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CADENCE AT MINT HILL TRAFFIC IMPACT ANALYSIS
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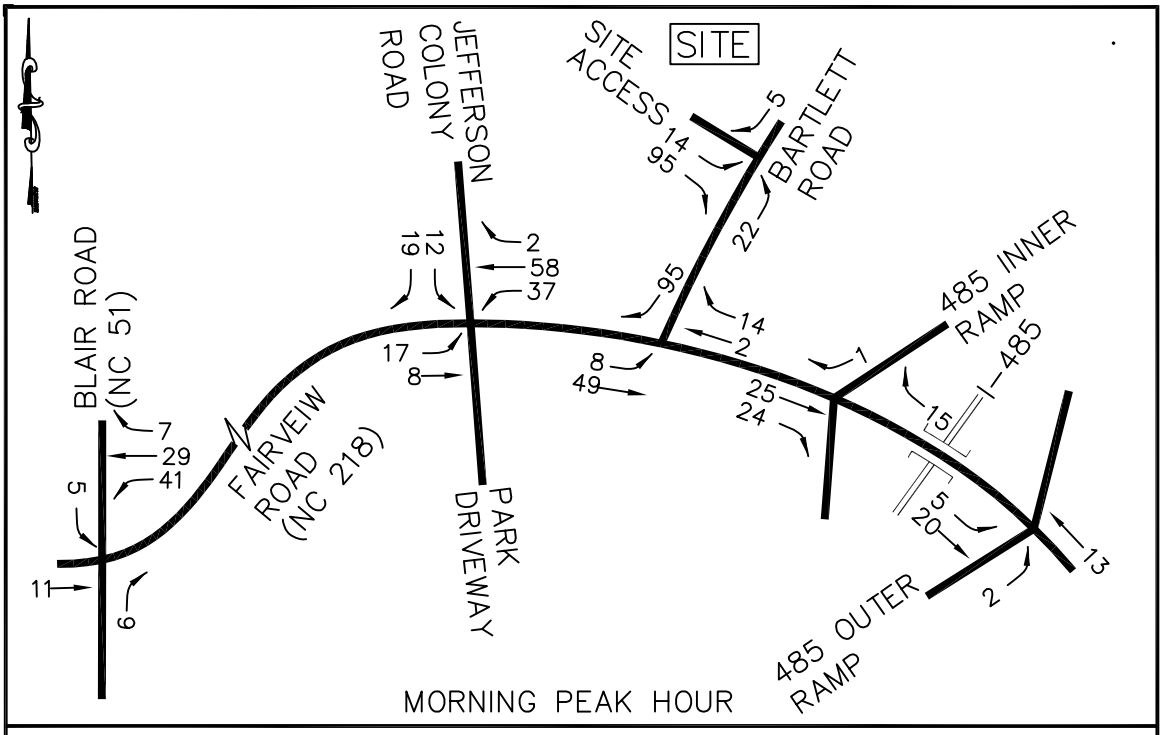

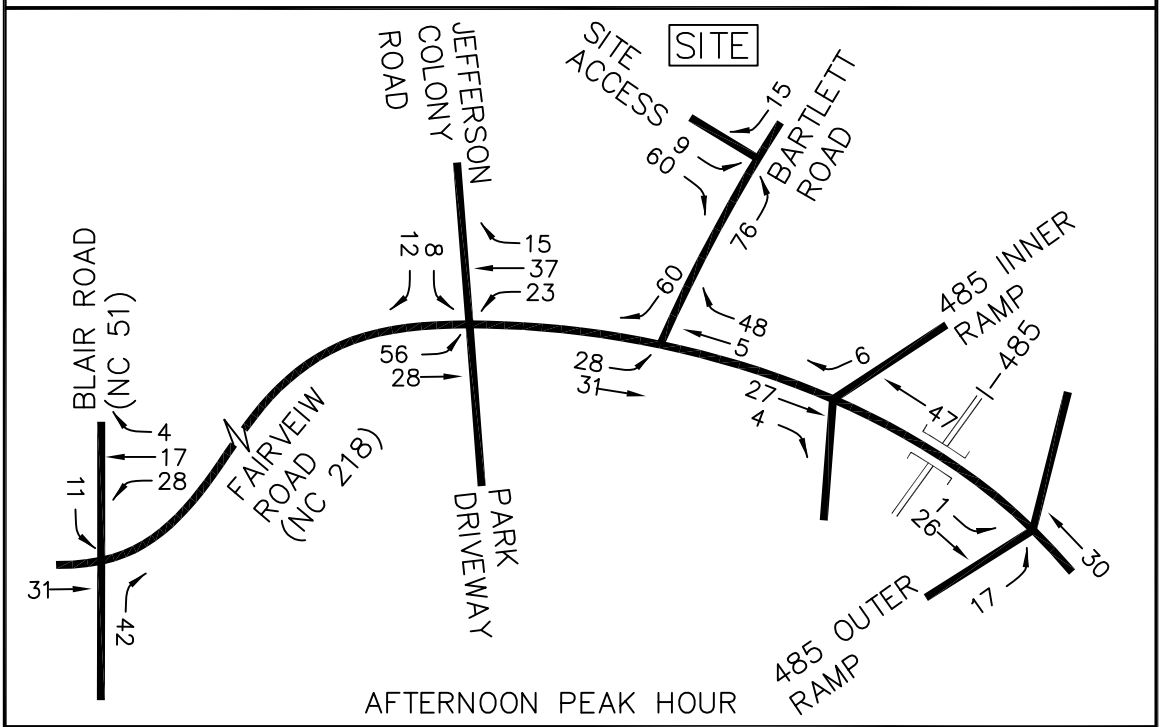

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PEAK HOUR SITE TRIPS

Figure 4

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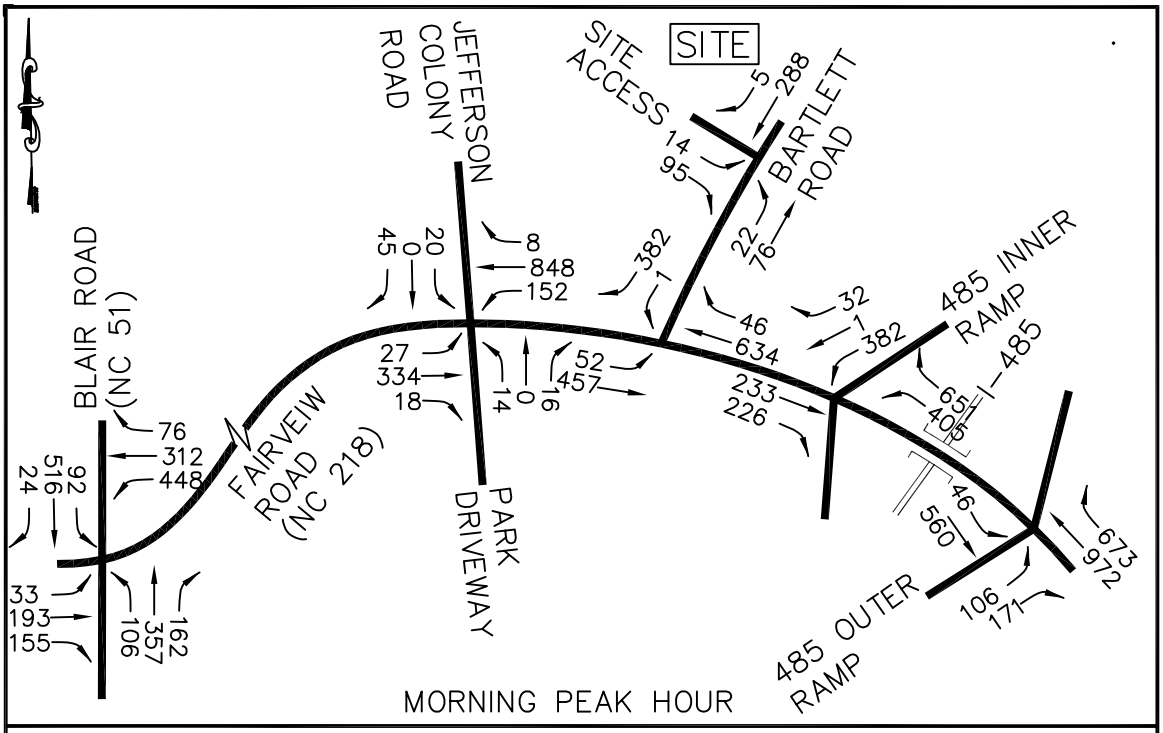

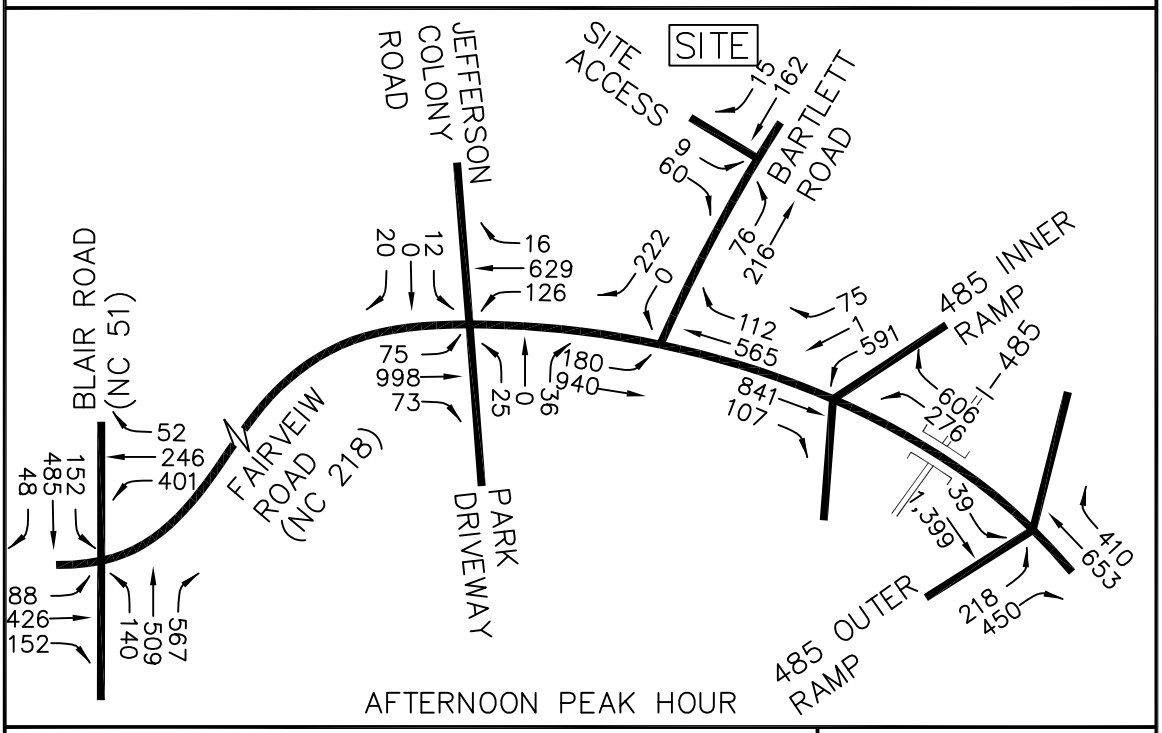

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2023 BUILD PEAK HOUR TRAFFIC VOLUMES

Figure 5

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CADENCE AT MINT HILL TRAFFIC IMPACT ANALYSIS
MINT HILL, NORTH CAROLINA

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Need for Left Turn Lanes

In general, it is desirable to have a left turn lane on the major street at a driveway or side street so that vehicles stopped to turn left have a place to store outside the through lane. This arrangement reduces the potential for rear end collisions. The provision of a right turn lane eliminates the delay that can result for through vehicles as the right turn vehicles slow to make the turn. Right turn lanes also reduce the potential for rear end collisions. The disadvantages of the additional lanes are the maintenance costs and the additional run-off caused by a paved surface as well as the accident potential during construction.

Because there are both advantages and disadvantages to the additional lanes, the lanes should be installed where the advantages outweigh the disadvantages. A graph entitled "Warrant for Left and Right-Turn Lanes – At Grade, Unsignalized Intersections" is available in Policy on Street and Driveway Access to North Carolina Highways. The 2023 build volumes at the site access on Bartlett were plotted on this graph to determine if turn lanes will be needed as shown in Appendix C. The plots indicate that:

- A left turn lane should be provided on Bartlett at the site access. Storage of 75 feet is required.
- A right turn lane on Bartlett at the site access is not required.

Even when a left turn lane is not necessary for volume conditions, it may be helpful if a horizontal or vertical curve on the approach to the left turning traffic hinders stopping sight distance for approaching through vehicles to cars stopped to turn left. Stopping sight distance varies with the grade on which the vehicle is stopping and on speed and is given in A Policy on Geometric Design of Highways and Streets, 2011, American Association of State Highway and Transportation Officials. The speed limit on Bartlett is 45 miles per hour, and the grade is approximately flat along the frontage of Cadence at Mint Hill. Stopping sight distance is 360 feet for 45 miles per hour at a grade of zeo percent. This stopping sight distance is available northbound on Bartlett at the site access. Therefore a left turn lane is not needed on Bartlett to address a stopping sight distance issue.

Traffic Operations

Synchro 9.1 is the software used for the traffic operations analyses in this study. The methodology used in this study for assessing the quality of traffic flow is the methodology describe in the 2010 Highway Capacity Manual (HCM), Transportation Research Board. In general, the HCM expresses quality of flow in terms of Level of Service (LOS). The types of transportation facilities which were examined in this study are signalized and unsignalized intersections. The criteria for intersection LOS is shown in Table 2. The variable used is control delay. This is the delay attributed to traffic control measures and includes deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Usually, LOS D is considered acceptable at a signalized intersection. However, it is not unusual for an individual movement, especially on a side street at an unsignalized intersection, to experience LOS E or F during the peak hour.

Table 2
INTERSECTION LEVEL OF SERVICE CRITERIA
Cadence at Mint Hill Traffic Impact Analysis
Mint Hill, North Carolina

Level of Service	Control Delay Range (seconds/vehicle)	
	Unsignalized Intersection	Signalized Intersection
A	<10	<10
B	>10 and <15	>10 and <20
C	>15 and <25	>20 and <35
D	>25 and <35	>35 and <55
E	>35 and <50	>55 and <80
F	>50	>80

The study intersections were analyzed for morning and afternoon peak hours with existing, 2023 no build, and 2023 build peak hour traffic volumes. Percentages of heavy vehicles, peak hour factors, and pedestrians were taken from existing counts. Lane widths, storage lengths, and grades were measured on aerials.

Clearance times were assumed, and signal timings were optimized with some adjustments to balance delay and to give at least 11 or 12 seconds to each phase. NCDOT was contacted and confirmed that no signals in the study area are interconnected. However, in recognition that the two 485 ramp intersections will likely be interconnected at some point, the same cycle lengths were used at both intersections during each peak hour. Capacity analysis printouts are included in Appendix D.

Fairview Road/Blair Road - As shown in Table 3, this intersection currently operates acceptably, but in the afternoon peak hour, 2023 no build volumes will operate with the highest delay that still qualifies for LOS D. With 2023 build volumes, the intersection will operate acceptably in the morning peak hour but delay during the afternoon peak hour will increase six seconds per vehicle and move the intersection to LOS E. The only turns which do not currently have exclusive lanes have low volumes, and it would not be productive to add exclusive lanes for those movements. The westbound left already has volumes that suggest dual lefts, and the complementary northbound right has volumes which also suggest dual lanes. These dual lanes are not suggested because each movement only has one receiving lane.

Because the overall delay per vehicle increase over no build volumes is only six seconds per vehicles and because there are no lane additions that are productive or can be accommodated due to a lack of receiving lanes, no changes are recommended at this intersection as the result of Cadence at Mint Hill.

Table 3
CAPACITY ANALYSIS RESULTS – SIGNALIZED INTERSECTION – EXISTING GEOMETRY
FAIRVIEW ROAD/BLAIR ROAD
Cadence at Mint Hill Traffic Impact Analysis
Mint Hill, North Carolina

Movement	Level of Service/Delay (seconds/vehicle)		
	2017 Existing Volumes	2023 No Build Volumes	2023 Build Volumes
Morning Peak Hour			
Eastbound - Left	C/28	C/30	C/30
Through	D/38	D/42	D/44
Right	C/31	C/33	C/33
Westbound - Left	C/28	E/63	F/97
Through/right	C/28	C/34	D/37
Northbound - Left	C/25	C/31	C/31
Through	C/28	C/30	C/31
Right	B/13	B/13	B/14
Southbound - Left	C/22	C/22	C/22
Through/right	D/47	F/82	F/82
Overall	C/32	D/48	D/55
Afternoon Peak Hour			
Eastbound - Left	C/25	C/28	C/31
Through	D/38	D/52	E/78
Right	C/26	C/31	C/34
Westbound - Left	C/26	D/47	E/74
Through/right	C/25	C/27	C/28
Northbound - Left	D/35	F/92	F/92
Through	D/51	E/76	E/76
Right	C/29	C/30	C/29
Southbound - Left	C/35	E/63	E/78
Through/right	D/51	E/78	E/78
Overall	D/37	D/55	E/61

Notes:
- Blair Road is north-south. Fairview Road is east-west.

Fairview Road/485 Inner Ramp – As shown in Table 4, this intersection currently operates acceptably and will continue to do so with either 2023 no build or build volumes.

Table 4
CAPACITY ANALYSIS RESULTS – SIGNALIZED INTERSECTION – EXISTING GEOMETRY
FAIRVIEW ROAD/485 INNER RAMP
Cadence at Mint Hill Traffic Impact Analysis
Mint Hill, North Carolina

Movement	Level of Service/Delay (seconds/vehicle)		
	2017 Existing Volumes	2023 No Build Volumes	2023 Build Volumes
Morning Peak Hour			
Eastbound - Through	B/18	C/21	C/22
Right	C/21	C/27	C/28
Westbound – Left	B/12	B/17	B/18
Through/right	A/8	A/10	A/10
Southbound - Left	C/30	D/39	D/39
Through/right	B/18	B/18	B/18
Overall	B/16	C/21	C/21
Afternoon Peak Hour			
Eastbound - Through	C/25	D/36	D/37
Right	B/20	C/25	C/25
Westbound – Left	B/18	D/40	D/43
Through/right	B/11	B/14	B/15
Southbound - Left	D/37	D/49	D/49
Through/right	B/19	B/18	B/18
Overall	C/24	C/34	C/34

Notes:
- 485 Inner Ramp is north-south. Fairview Road is east-west.

Fairview Road (NC 218)/485 Outer Ramp – As shown in Table 5, this intersection currently operates acceptably and will continue to do so with either 2023 no build or build volumes.

Table 5
CAPACITY ANALYSIS RESULTS – SIGNALIZED INTERSECTION – EXISTING GEOMETRY
FAIRVIEW ROAD/485 OUTER RAMP
Cadence at Mint Hill Traffic Impact Analysis
Mint Hill, North Carolina

Movement	Level of Service/Delay (seconds/vehicle)		
	2017 Existing Volumes	2023 No Build Volumes	2023 Build Volumes
Morning Peak Hour			
Eastbound - Left	A/6	A/7	A/8
Through	A/4	A/5	A/5
Westbound – Through	A/9	B/11	B/12
Right	B/19	D/37	D/38
Northbound - Left/through	C/27	C/27	C/27
Right	C/33	C/33	C/33
Overall	B/13	B/19	B/19
Afternoon Peak Hour			
Eastbound - Left	B/11	B/13	B/13
Through	B/13	B/19	B/20
Westbound – Through	B/15	B/18	B/19
Right	B/19	C/26	C/26
Northbound- Left/through	C/23	C/22	C/23
Right	D/38	D/46	D/45
Overall	B/18	C/24	C/24

Notes:
- 485 Outer Ramp is north-south. Fairview Road is east-west.

Fairview Road/Jefferson Colony Road/Park Driveway – Because the westbound outside through lane on Fairview drops about 600 feet west of this intersection, the analyses for this intersection were conducted with the assumption that the outside lane westbound will operate as a right turn lane. This assumption overstates side street delay. As shown in Table 6, all movements currently operate acceptably except the park driveway approach which operates at LOS E in the afternoon peak hour. This delay will increase with the 2023 no build volumes. With 2023 build volumes, the Jefferson Colony approach goes to LOS F, but the delay is reasonable for a side street in the peak hour. The delay for the park driveway approach is higher, but given the overstatement of delay in these analyses, no changes are recommended at this intersection to accommodate Cadence at Mint Hill traffic. The side street volumes are not high enough to indicate that the intersection could meet signal warrants, and the unusual alignment of the park driveway indicates that there are right-of-way or other issues which dictated its design and leave little room for changes. Given the good LOS of the eastbound left from Fairview to Bartlett, the long storage for that movement, and the zero percent trucks that make up the left turn out of the park driveway, the park driveway left turn exits will be able to convert to U turns at Bartlett if delay does increase beyond a reasonable level.

Table 6
CAPACITY ANALYSIS RESULTS – UNSIGNALIZED INTERSECTION – EXISTING GEOMETRY
FAIRVIEW ROAD/JEFFERSON COLONY ROAD/PARK DRIVEWAY
Cadence at Mint Hill Traffic Impact Analysis
Mint Hill, North Carolina

Movement	Level of Service/Delay (seconds/vehicle)		
	Existing Volumes	No Build Volumes	Build Volumes
Morning Peak Hour			
Eastbound - Left	A/9	A/10	A/10
Westbound - Left	A/8	A/8	A/9
Northbound – Left/through/right	C/24	E/35	F/59
Southbound – Left/through/right	C/20	D/28	F/60
Afternoon Peak Hour			
Eastbound - Left	A/9	A/9	A/9
Westbound - Left	B/11	B/12	B/13
Northbound – Left/through/right	E/50	F/146	F/387
Southbound – Left/through/right	C/21	D/32	F/70

Notes:

- Jefferson Colony/Park Driveway is north-south. Fairview is east-west.

Fairview Road/Bartlett Road - As shown in Table 7, this intersection currently operates acceptably and will continue to do so with 2023 no build or build volumes.

Table 7
CAPACITY ANALYSIS RESULTS – UNSIGNALIZED INTERSECTION – EXISTING GEOMETRY
FAIRVIEW ROAD/BARTLETT ROAD
Cadence at Mint Hill Traffic Impact Analysis
Mint Hill, North Carolina

Movement		Level of Service/Delay (seconds/vehicle)		
		Existing Volumes	No Build Volumes	Build Volumes
Morning Peak Hour				
Eastbound -	Left	A/9	A/10	A/10
Southbound –	Right	B/13	C/16	C/21
Afternoon Peak Hour				
Eastbound -	Left	A/9	A/9	B/10
Southbound –	Right	B/11	B/12	B/13

Notes:
- Bartlett is north-south. Fairview is east-west.

Bartlett Road/Site Access – The analyses for this intersection were conducted without a left turn lane on Bartlett at the site access and with a one-lane approach on the site access. As shown in Table 8, this intersection can operate acceptably with 2023 build volumes and the geometry assumed in the analyses.

Table 8
CAPACITY ANALYSES RESULTS – UNSIGNALIZED INTERSECTION
BARTLETT ROAD/SITE ACCESS
Cadence at Mint Hill Traffic Impact Analysis
Mint Hill, North Carolina

Movement		Level of Service/Delay (seconds/vehicle)	
		Morning Peak Hour	Afternoon Peak Hour
Eastbound -	Left/right	B/11	B/10
Northbound -	Left	A/8	A/8

Notes:
- Bartlett Road is north-south. Site access is east-west.

Turn Lane Storage

While the LOS at an intersection can describe the basic operation of traffic, other factors influence that operation. For instance, if turn queues extend past their storage, they can interrupt traffic flow. TRAFFSIM was run for existing, 2023 no build, and 2023 build volumes, and the printouts are included in Appendix D. The turn storage needs as shown in Table 9 indicate that:

- For all turn lanes at Fairview/Blair, for the southbound left on the 485 Inner Ramp, and for the northbound right for the 485 Outer Ramp, the 2023 no build queues exceed the storage available, and there is little difference with 2023 build volumes.
- For the remaining turn lanes, the estimated queues either are less than the storage provided or are within approximately one vehicle length of the storage provided.

Therefore, no changes in storage lengths are recommended as the result of Cadence at Mint Hill traffic at the study intersections.

Table 9
QUEUE AND STORAGE LENGTHS IN FEET
Cadence at Mint Hill Traffic Impact Analysis
Mint Hill, North Carolina

Intersection	Turn	TraffSim 95th Percentile Queues						Storage Available	Comments
		Morning Peak Hour			Afternoon Peak Hour				
		Exist	2023 No Bld	2023 Build	Exist	2023 No Bld	2023 Build		
Fairview/Blair	EB Left	65	103	72	183	220	215	150	(1)
	EB Right	84	141	158	217	363	368	245	(1)
	WB Left	214	222	201	219	223	223	170	(1)
	NB Left	141	145	116	276	286	279	200	(1)
	NB Right	107	110	77	380	333	331	260	(1)
	SB Left	151	234	286	273	307	304	212	(1)
Fairview/Jefferson Colony/Park	EB Left	19	25	39	20	30	44	305	OK
	WB Left	42	44	48	53	65	78	145	OK
Fairview/Bartlett	EB Left	36	49	64	66	92	110	255	OK
Fairview/ 485 Inner Ramp	EB Right	78	87	94	149	193	188	160	28' difference – OK
	WB Left	165	220	224	161	206	197	195	29' difference – OK
	SB Left	211	218	215	219	197	202	165	(1)
Fairview/ 485 Outer Ramp	EB Left	52	58	57	52	52	59	245	OK
	WB Right	125	163	166	78	110	96	150	16' difference – OK
	NB Right	77	88	94	191	214	209	155	(1)

Notes:

(1) Estimated queue for 2023 no build volumes exceeds storage, and there is little change with 2023 build volumes.

Conclusions and Recommendations

- *Fairview Road (NC 218)/Blair Road/(NC 51)* - This intersection currently operates acceptably, but in the afternoon peak hour, 2023 no build volumes will operate with the highest delay that still qualifies for LOS D. With 2023 build volumes, the intersection will operate acceptably in the morning peak hour but delay during the afternoon peak hour will increase six seconds per vehicle and move the intersection to LOS E. The only turns which do not currently have exclusive lanes have low volumes, and it would not be productive to add exclusive lanes for those movements. The westbound left already has volumes that suggest dual lefts, and the complementary northbound right has volumes which also suggest dual lanes. These dual lanes are not suggested because each movement only has one receiving lane. Because the overall delay per vehicle increase over no build volumes is only six seconds per vehicles and because there are no lane additions that are productive, no changes are recommended at this intersection as the result of Cadence at Mint Hill.

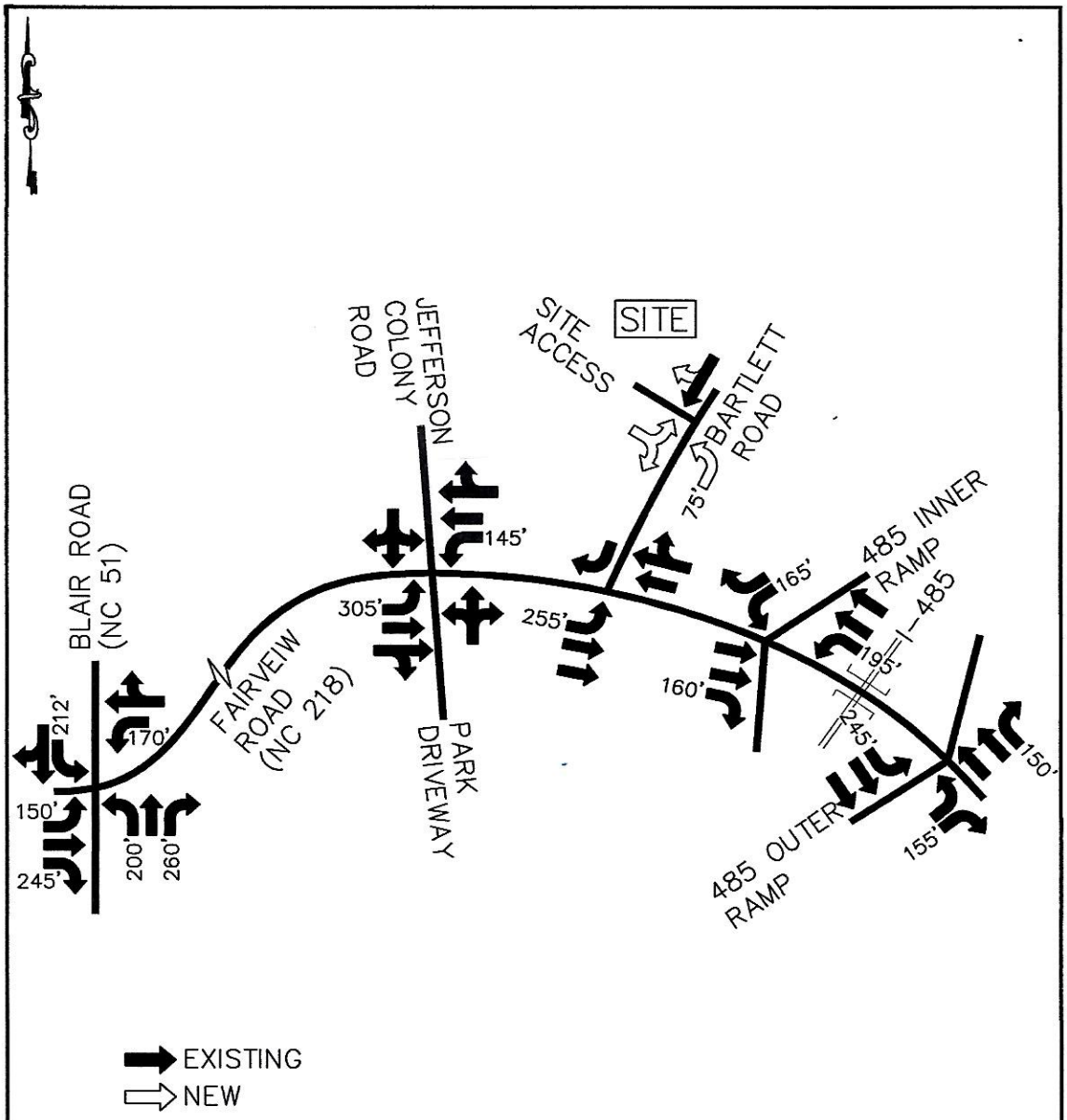
- *Fairview Road (NC 218)/485 Inner Ramp and Outer Ramp* – These intersections currently operate acceptably and will continue to do so with either 2023 no build or build volumes.

- *Fairview Road/Jefferson Colony Road/Park Driveway* – Because the westbound outside through lane on Fairview drops about 600 feet west of this intersection, the analyses for this intersection were conducted with the assumption that the outside lane westbound will operate as a right turn lane. This assumption overstates side street delay. All movements currently operate acceptably except the park driveway approach which operates at LOS E in the afternoon peak hour. This delay will increase with the 2023 no build volumes. With 2023 build volumes, the Jefferson Colony approach goes to LOS F, but the delay is reasonable for a side street in the peak hour. The delay for the park driveway approach is higher, but given the overstatement of delay in these analyses, no changes are recommended at this intersection to accommodate Cadence at Mint Hill traffic. The side street volumes are not high enough to indicate that the intersection could meet signal warrants, and the unusual alignment of the park driveway indicates that there are right-of-way or other issues which dictated its design and leave little room for changes. Given the good LOS of the eastbound left from Fairview to Bartlett, the long storage for that movement, and the zero percent trucks that make up the left turn out of the park driveway, the park driveway left turn exits will be able to convert to U turns at Bartlett if delay does increase beyond a reasonable level.

- *Fairview Road/Bartlett Road* - This intersection currently operates acceptably and will continue to do so with 2023 no build or build volumes.

- *Bartlett Road/Site Access* – This intersection can operate acceptably with no left turn lane on Bartlett and with one approach lane on the site access with 2023 build volumes. However, a left turn lane on the major street may be needed for other than capacity needs. A check on the NCDOT guidelines for left turn lanes on a two-lane highway indicates the need for a left turn lane with 75 feet of storage northbound on Bartlett at the site access. The left turn lane is shown in Figure 6.

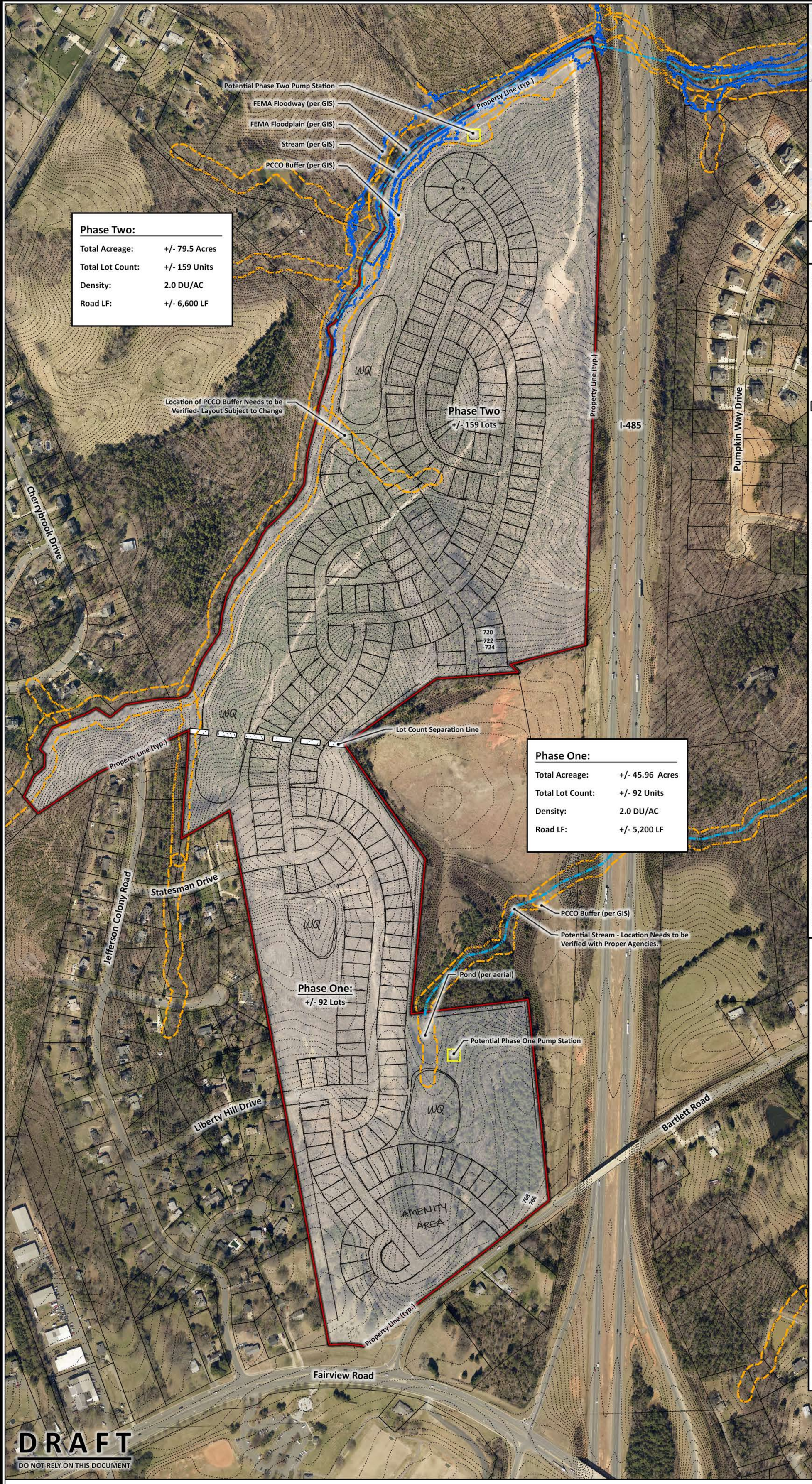
- No changes in turn storage length at the study intersections are recommended to accommodate Cadence at Mint Hill traffic because all estimated turn queues fall into one of two categories:
    - The 2023 no build queues exceed the storage available, and there is little difference with 2023 build volumes, or
    - The estimated queues either are less than the storage provided or are within approximately one vehicle length of the storage provided.



RECOMMENDED LANES	17-015ST-GGS.DWG Figure 6 10/11/17
CADENCE AT MINT HILL TRAFFIC IMPACT ANALYSIS MINT HILL, NORTH CAROLINA	Sprague & Sprague Consulting Engineers

Appendix A

CONCEPTUAL SITE PLAN

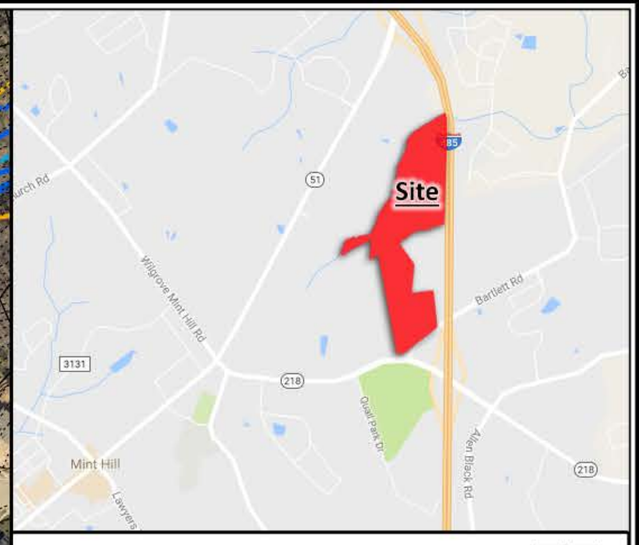


Phase Two:

Total Acreage:	+/- 79.5 Acres
Total Lot Count:	+/- 159 Units
Density:	2.0 DU/AC
Road LF:	+/- 6,600 LF

Phase One:

Total Acreage:	+/- 45.96 Acres
Total Lot Count:	+/- 92 Units
Density:	2.0 DU/AC
Road LF:	+/- 5,200 LF



Vicinity Map

Not To Scale

NORTH

Site Data:

Tax Parcels:	13936199, 13906101, 13901402, and 13901401
Total Acreage:	+/- 125.46 Acres
Location:	Mint Hill, North Carolina
Zoning:	
Existing:	R
Proposed:	TBD
Total 55'x120' Lots:	+/- 251 Lots
Phase Two:	+/- 159 Lots
Phase One:	+/- 92 Lots
Density:	2.0 DU/AC*

*Note: Density is based off of the separate acreages of the Northern and Southern Portions of the site.

Open Space:	
Required:	+/- 31.4 Acres (25%)*
Proposed:	+/- 31.4 Acres (25%) Minimum

*Note: Open Space Calculation includes- stream buffers, water quality areas, common open space, and up to 50% of the overall Floodplain and perimeter buffer acreage (per the Town of Mint Hill UDO). Land located within the floodway cannot be counted towards required open space.

General Notes
1. Base information provided by Mecklenburg County GIS Data - information should be verified for accuracy.
2. All site plan, zoning, and wetland information utilized in the preparation of this plan is considered to be preliminary in nature and subject to change and final verification.
3. Draft - Do not rely on this document.

Floodplain Information
Floodplain information obtained from FEMA FIRM Panel 3710551200K effective date of study 02/19/2014.

Stream/Wetland Information
Stream/Wetland information is based on preliminary information provided to ESP by Mecklenburg County GIS data. For purposes of preparation of this Preliminary Concept Plan, any potential wetland areas and stream features depicted on the plan are considered to be preliminary in nature and approximate in location. The Preliminary Concept Plan will need to be revised once all agencies approved on-site wetland/stream and appropriate jurisdictional boundaries are surveyed and verified with acceptable levels of accuracy- unit loss may occur.

Access Points/Driveways/Streets
1. Proposed project site entrance locations are considered preliminary in nature and need to be verified for adequate sight distance.
2. All roadway and street systems are considered to be preliminary and will need to be verified for sufficiency to satisfy or exceed minimum requirements established in the Town of Mint Hill UDO and applicable standards identified by NCDOT. Street connections are conceptual and may be subject to change based on agency input and review.

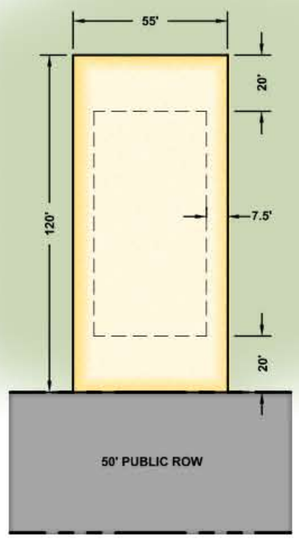
Open Space
Open Space areas are conceptual and preliminary. The exact location of these areas may change as the client finalizes decisions regarding final layout, product allocation, and as other spatially dependent project components such as stormwater areas, wetland areas, utility features, and buffers, (as applicable) for this project are better defined.

Potential Stormwater Quality Areas
Location of proposed stormwater areas are conceptual and preliminary and still need to be determined. The exact size and location of these areas will change as the client finalizes decisions regarding final layout, product allocation, and as other proposed changes to the project are better defined. Layout and unit count subject to change based on final design of stormwater areas.

Public Information
ESP Associates is not responsible for plan deficiencies created by incorrect, incomplete, missing or outdated information derived from public sources such as GIS, Planning and Zoning departments.

Typical Lot Detail

NOT TO SCALE



55' x 120' Lot

Setbacks
F: 20'
S: 7.5'
R: 20'

DRAFT
DO NOT RELY ON THIS DOCUMENT

ESP Associates, P.A.
P.O. Box 7030 3475 Lakemont Blvd.
Charlotte, NC 28241 Fort Mill, SC 29708
NC - 704.583.4949 SC - 803.802.2440
www.espassociates.com

NORTH

Weston Tract

Preliminary Concept Plan DRAFT

ESP Job #FM44.100 February 10, 2017

GRAPHIC SCALE
200 0 100 200 400
1 INCH = 200 FT.

mattamyHOMES
2127 Ayrsley Town Blvd., Suite 201
Charlotte, NC 28273

Appendix B

EXISTING TRAFFIC COUNTS

Type of peak hour being reported: Intersection Peak

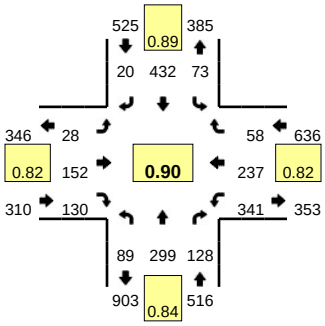
Method for determining peak hour: Total Entering Volume

LOCATION: Blair Rd/Matthews-Mint Hill Rd -- NC 218/Wilgrove-Mint Hill Rd

QC JOB #: 14407901

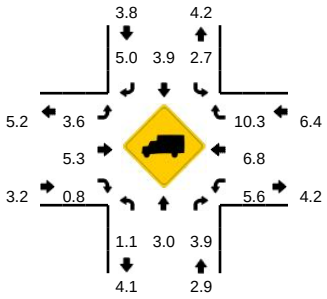
CITY/STATE: Charlotte, NC

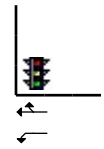
DATE: Thu, May 11 2017

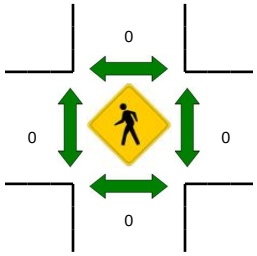


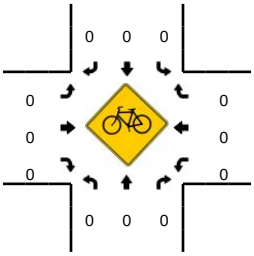
Peak-Hour: 7:25 AM -- 8:25 AM

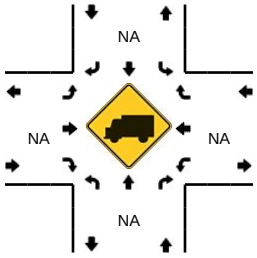
Peak 15-Min: 7:55 AM -- 8:10 AM

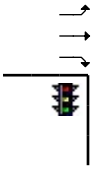


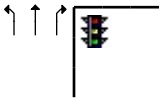


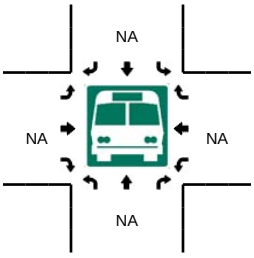












5-Min Count Period Beginning At	Blair Rd/Matthews-Mint Hill Rd (Northbound)				Blair Rd/Matthews-Mint Hill Rd (Southbound)				NC 218/Wilgrove-Mint Hill Rd (Eastbound)				NC 218/Wilgrove-Mint Hill Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	6	10	8	0	4	34	1	0	3	20	11	0	20	17	5	0	139	
7:05 AM	2	23	8	0	1	27	2	0	4	24	5	0	22	13	4	0	135	
7:10 AM	4	19	7	0	3	32	0	0	4	13	7	0	24	11	3	0	127	
7:15 AM	5	15	10	0	3	34	2	0	1	23	8	0	21	21	5	0	148	
7:20 AM	8	19	4	0	2	30	1	0	4	15	7	0	29	16	3	0	138	
7:25 AM	5	18	6	0	8	29	2	0	4	10	9	0	23	13	3	0	130	
7:30 AM	3	21	13	0	9	41	1	0	5	14	4	0	24	12	2	0	149	
7:35 AM	5	19	8	0	9	33	1	0	0	6	8	0	33	22	1	0	145	
7:40 AM	5	31	6	0	4	49	0	0	3	15	11	0	24	16	3	0	167	
7:45 AM	3	22	10	0	3	38	3	0	2	13	18	0	33	20	7	0	172	
7:50 AM	10	26	4	0	9	34	0	0	3	18	20	0	24	20	7	0	175	
7:55 AM	8	32	13	0	6	42	1	0	1	13	16	0	41	27	4	0	204	1829
8:00 AM	8	30	12	0	8	40	0	0	2	11	14	0	25	17	5	0	172	1862
8:05 AM	10	22	8	0	6	25	2	0	2	18	10	0	37	34	4	0	178	1905
8:10 AM	12	27	18	0	3	35	2	0	4	9	8	0	33	16	11	0	178	1956
8:15 AM	11	29	14	0	3	25	7	0	0	10	3	0	18	20	7	0	147	1955
8:20 AM	9	22	16	0	5	41	1	0	2	15	9	0	26	20	4	0	170	1987
8:25 AM	8	16	11	0	3	25	3	0	3	10	8	0	23	14	0	0	124	1981
8:30 AM	6	21	13	0	0	19	1	0	4	11	5	0	15	19	3	0	117	1949
8:35 AM	4	20	12	0	2	25	2	0	4	6	8	0	22	12	0	0	117	1921
8:40 AM	6	19	9	0	0	21	4	0	1	6	2	0	19	23	4	0	114	1868
8:45 AM	6	20	17	0	2	22	1	0	4	9	8	0	25	12	4	0	130	1826
8:50 AM	4	16	15	0	2	29	0	0	2	16	10	0	26	15	6	0	141	1792
8:55 AM	5	14	13	0	2	27	2	0	4	10	7	0	29	15	6	0	134	1722

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	104	336	132	0	80	428	12	0	20	168	160	0	412	312	52	0	2216
Heavy Trucks	0	4	0		4	8	0		0	12	0		28	16	4		76
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 5/17/2017 1:09 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

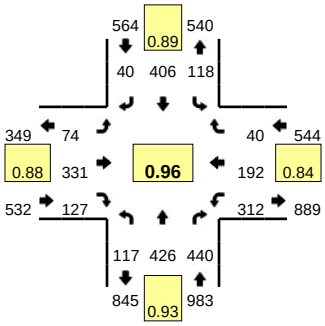
Method for determining peak hour: Total Entering Volume

LOCATION: Blair Rd/Matthews-Mint Hill Rd -- NC 218/Wilgrove-Mint Hill Rd

QC JOB #: 14407902

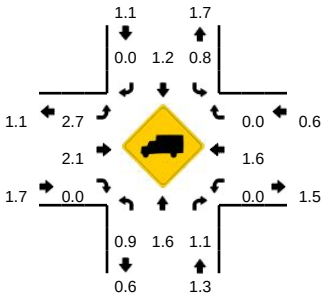
CITY/STATE: Charlotte, NC

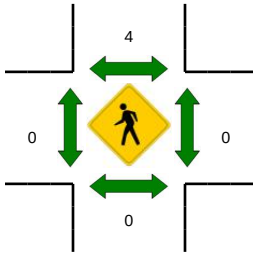
DATE: Thu, May 11 2017

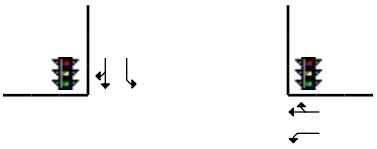


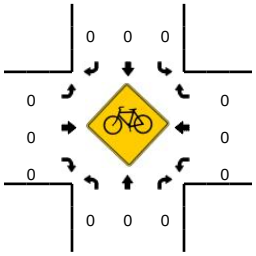
Peak-Hour: 5:00 PM -- 6:00 PM

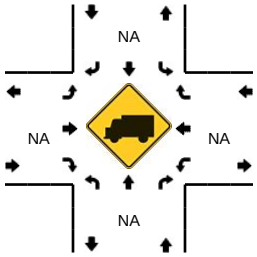
Peak 15-Min: 5:40 PM -- 5:55 PM

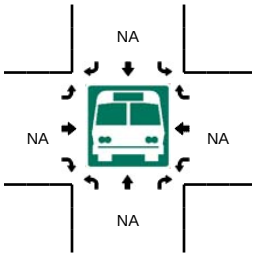












5-Min Count Period Beginning At	Blair Rd/Matthews-Mint Hill Rd (Northbound)				Blair Rd/Matthews-Mint Hill Rd (Southbound)				NC 218/Wilgrove-Mint Hill Rd (Eastbound)				NC 218/Wilgrove-Mint Hill Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	6	16	23	0	4	25	3	0	0	18	8	0	18	20	2	0	143	
4:05 PM	13	32	24	0	7	24	6	0	6	14	11	0	27	11	3	0	178	
4:10 PM	8	38	29	0	6	31	3	0	6	20	3	0	19	6	3	0	172	
4:15 PM	9	24	24	0	3	27	7	0	7	24	12	0	28	21	6	0	192	
4:20 PM	14	36	32	0	19	59	4	0	2	13	17	0	43	19	11	0	269	
4:25 PM	7	33	35	0	1	29	2	0	6	14	8	0	20	18	4	0	177	
4:30 PM	10	47	28	0	1	29	2	0	6	23	9	0	20	18	4	0	197	
4:35 PM	7	27	34	0	6	35	1	0	4	15	12	0	22	15	6	0	184	
4:40 PM	11	35	24	0	3	25	1	0	6	22	12	0	22	18	2	0	181	
4:45 PM	5	31	33	0	8	33	5	0	7	14	11	0	40	8	4	0	199	
4:50 PM	16	25	29	0	7	21	2	0	8	31	13	0	31	18	2	0	203	
4:55 PM	7	35	48	0	15	47	3	0	6	25	9	0	19	8	3	0	225	2320
5:00 PM	6	34	35	0	4	25	2	0	3	27	6	0	35	21	4	0	202	2379
5:05 PM	12	49	29	0	6	35	2	0	5	19	9	0	27	15	2	0	210	2411
5:10 PM	8	38	47	0	4	43	2	0	8	29	8	0	31	8	1	0	227	2466
5:15 PM	4	38	42	0	12	38	4	0	3	32	17	0	24	20	2	0	236	2510
5:20 PM	14	23	34	0	10	35	4	0	8	36	11	0	25	9	2	0	211	2452
5:25 PM	6	41	39	0	17	37	6	0	7	25	4	0	23	7	5	0	217	2492
5:30 PM	5	29	32	0	12	27	3	0	6	29	3	0	27	19	7	0	199	2494
5:35 PM	8	37	27	0	14	32	2	0	5	34	14	0	15	18	4	0	210	2520
5:40 PM	16	41	32	0	14	31	3	0	8	27	9	0	33	15	3	0	232	2571
5:45 PM	15	46	43	0	11	35	1	0	4	18	12	0	27	13	2	0	227	2599
5:50 PM	6	24	23	0	9	31	5	0	12	37	15	0	26	28	7	0	223	2619
5:55 PM	17	26	57	0	5	37	6	0	5	18	19	0	19	19	1	0	229	2623

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	148	444	392	0	136	388	36	0	96	328	144	0	344	224	48	0	2728
Heavy Trucks	4	0	4		0	0	0		4	16	0		0	0	0		28
Pedestrians		0				16				0				0			16
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 5/17/2017 1:09 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

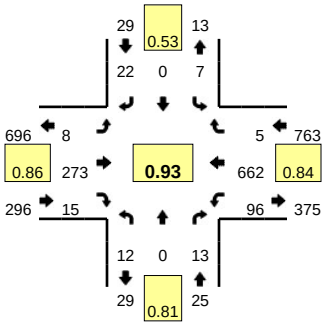
Method for determining peak hour: Total Entering Volume

LOCATION: Jefferson Colony Rd -- NC 218/Fairview Rd

QC JOB #: 14407903

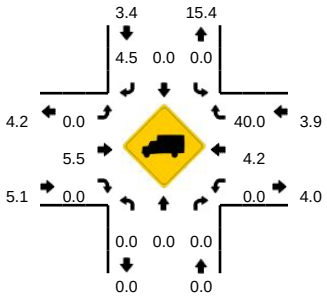
CITY/STATE: Mint Hill, NC

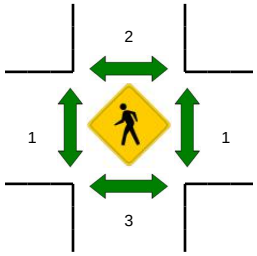
DATE: Thu, May 11 2017

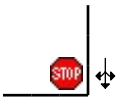


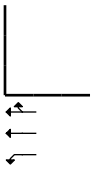
Peak-Hour: 7:10 AM -- 8:10 AM

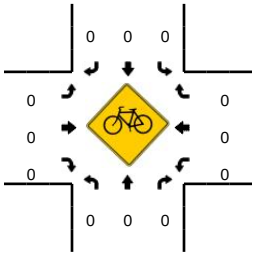
Peak 15-Min: 7:55 AM -- 8:10 AM

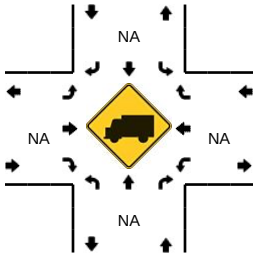


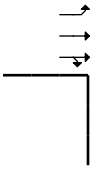


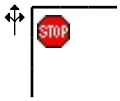


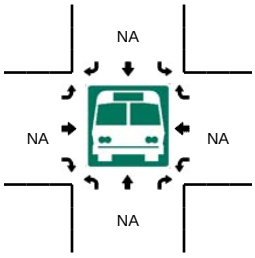












5-Min Count Period Beginning At	Jefferson Colony Rd (Northbound)				Jefferson Colony Rd (Southbound)				NC 218/Fairview Rd (Eastbound)				NC 218/Fairview Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	1	0	0	0	1	0	0	22	1	0	2	46	0	6	79	
7:05 AM	2	0	0	0	0	0	1	0	1	26	1	0	1	45	0	5	82	
7:10 AM	0	0	1	0	0	0	1	0	0	30	1	0	2	42	0	14	91	
7:15 AM	0	0	0	0	1	0	0	0	1	20	3	0	0	58	0	7	90	
7:20 AM	0	0	0	0	0	0	1	0	0	21	0	0	0	52	0	6	80	
7:25 AM	1	0	1	0	1	0	1	0	0	15	1	0	2	52	0	14	88	
7:30 AM	1	0	0	0	0	0	0	0	1	20	4	0	4	62	1	9	102	
7:35 AM	1	0	1	0	0	0	5	0	0	19	0	0	2	71	2	7	108	
7:40 AM	0	0	1	0	3	0	6	0	0	13	1	0	1	52	1	7	85	
7:45 AM	1	0	0	0	0	0	1	0	0	32	1	0	0	47	0	6	88	
7:50 AM	2	0	2	0	0	0	1	0	0	20	0	0	2	52	0	3	82	
7:55 AM	1	0	1	0	0	0	5	0	0	29	1	0	1	67	1	5	111	1086
8:00 AM	4	0	3	0	1	0	0	0	1	30	1	0	0	58	0	1	99	1106
8:05 AM	1	0	3	0	1	0	1	0	5	24	2	0	0	49	0	3	89	1113
8:10 AM	1	0	0	0	1	0	1	0	1	24	2	0	0	38	0	2	70	1092
8:15 AM	1	0	1	0	0	0	1	0	0	27	3	0	2	36	0	3	74	1076
8:20 AM	1	0	1	0	1	1	1	0	0	31	4	0	2	43	0	5	90	1086
8:25 AM	4	0	0	0	0	0	1	0	2	20	2	0	1	35	1	4	70	1068
8:30 AM	1	0	3	0	0	0	0	0	1	20	3	0	0	44	1	3	76	1042
8:35 AM	1	0	2	0	1	0	0	0	0	18	2	0	0	27	0	2	53	987
8:40 AM	2	0	1	0	2	0	0	0	0	12	1	0	3	47	0	0	68	970
8:45 AM	0	0	2	0	2	0	4	0	0	20	0	0	1	36	0	4	69	951
8:50 AM	0	0	2	0	1	0	1	0	0	21	1	0	1	45	0	5	77	946
8:55 AM	4	0	1	0	1	0	0	0	0	21	3	0	0	39	0	4	73	908

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	24	0	28	0	8	0	24	0	24	332	16	0	4	696	4	36	1196
Heavy Trucks	0	0	0		0	0	0		0	16	0		0	24	4		44
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 5/17/2017 1:09 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

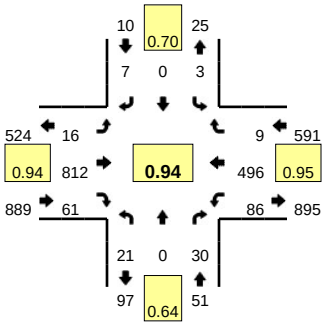
Method for determining peak hour: Total Entering Volume

LOCATION: Jefferson Colony Rd -- NC 218/Fairview Rd

QC JOB #: 14407904

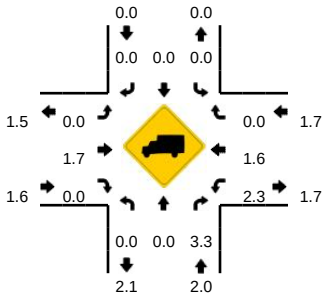
CITY/STATE: Mint Hill, NC

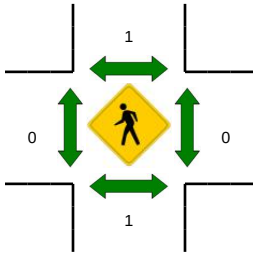
DATE: Thu, May 11 2017

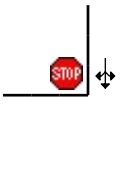


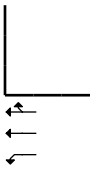
Peak-Hour: 5:00 PM -- 6:00 PM

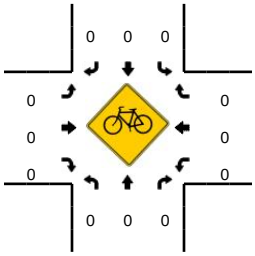
Peak 15-Min: 5:45 PM -- 6:00 PM

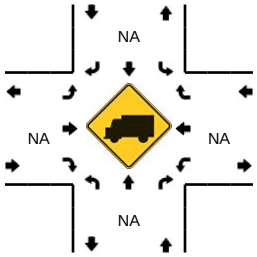


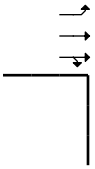


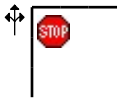


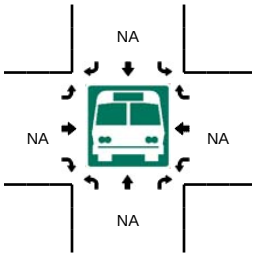












5-Min Count Period Beginning At	Jefferson Colony Rd (Northbound)				Jefferson Colony Rd (Southbound)				NC 218/Fairview Rd (Eastbound)				NC 218/Fairview Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	1	0	0	0	0	0	2	48	2	0	0	28	0	0	81	
4:05 PM	2	0	5	0	1	0	0	0	3	43	3	0	2	33	1	1	94	
4:10 PM	2	0	2	0	1	0	0	0	1	42	1	0	1	32	1	4	87	
4:15 PM	1	0	1	0	0	0	2	0	3	41	0	0	3	26	0	0	77	
4:20 PM	2	0	1	0	0	0	1	0	0	50	1	0	1	24	1	4	85	
4:25 PM	2	0	4	0	0	0	0	0	0	45	2	0	3	40	0	2	98	
4:30 PM	0	0	2	0	0	0	0	0	0	42	0	0	3	40	2	1	90	
4:35 PM	1	0	0	0	0	0	1	0	1	61	1	0	5	31	0	1	102	
4:40 PM	1	1	2	0	1	1	0	0	2	39	1	0	0	43	0	2	93	
4:45 PM	0	0	1	0	1	0	1	0	0	52	1	0	2	43	0	5	106	
4:50 PM	0	0	3	0	0	0	1	0	1	62	2	0	4	53	1	4	131	
4:55 PM	0	0	1	0	0	0	0	0	2	67	1	0	1	47	0	4	123	1167
5:00 PM	2	0	1	0	0	0	1	0	1	58	5	0	1	39	0	5	113	1199
5:05 PM	1	0	0	0	1	0	0	0	2	62	2	0	1	48	0	3	120	1225
5:10 PM	1	0	1	0	0	0	0	0	0	75	2	0	0	39	0	3	121	1259
5:15 PM	1	0	1	0	0	0	1	0	2	78	3	0	3	37	2	2	130	1312
5:20 PM	2	0	5	0	0	0	1	0	2	65	9	0	5	41	1	5	136	1363
5:25 PM	0	0	2	0	2	0	0	0	0	69	7	0	5	37	2	4	128	1393
5:30 PM	3	0	5	0	0	0	2	0	2	78	1	0	4	43	1	3	142	1445
5:35 PM	1	0	0	0	0	0	1	0	1	58	3	0	3	47	0	5	119	1462
5:40 PM	3	0	4	0	0	0	0	0	0	69	4	0	2	34	1	4	121	1490
5:45 PM	1	0	7	0	0	0	0	0	1	76	6	0	4	52	1	6	154	1538
5:50 PM	3	0	2	0	0	0	1	0	2	54	7	0	4	30	0	4	107	1514
5:55 PM	3	0	2	0	0	0	0	0	3	70	12	0	4	49	1	6	150	1541

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	28	0	44	0	0	0	4	0	24	800	100	0	48	524	8	64	1644
Heavy Trucks	0	0	0		0	0	0		0	20	0		0	4	0		24
Pedestrians		0				4				0				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 5/17/2017 1:09 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

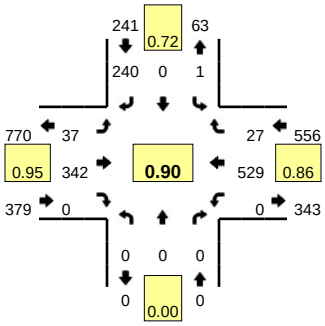
Method for determining peak hour: Total Entering Volume

LOCATION: Bartlett Rd -- NC 218/Fairview Rd

CITY/STATE: Mint Hill, NC

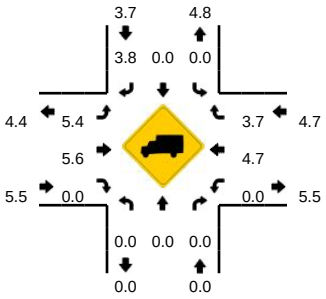
QC JOB #: 14407905

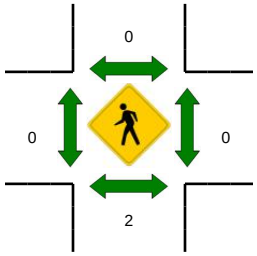
DATE: Thu, May 11 2017

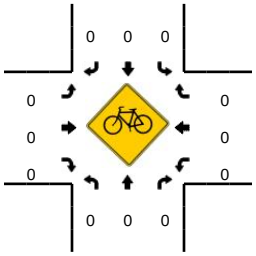


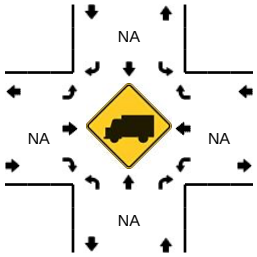
Peak-Hour: 7:10 AM -- 8:10 AM

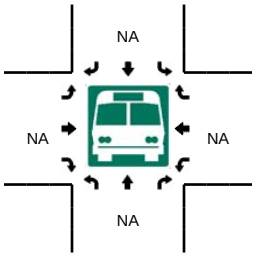
Peak 15-Min: 7:25 AM -- 7:40 AM











5-Min Count Period Beginning At	Bartlett Rd (Northbound)				Bartlett Rd (Southbound)				NC 218/Fairview Rd (Eastbound)				NC 218/Fairview Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	0	16	0	2	28	0	0	0	41	2	0	89	
7:05 AM	0	0	0	0	0	0	15	0	1	28	0	0	0	35	1	0	80	
7:10 AM	0	0	0	0	0	0	23	0	3	41	0	0	0	34	2	0	103	
7:15 AM	0	0	0	0	0	0	22	0	1	28	0	0	0	44	2	0	97	
7:20 AM	0	0	0	0	0	0	13	0	0	25	0	0	0	44	3	0	85	
7:25 AM	0	0	0	0	0	0	38	0	1	31	0	0	0	33	1	0	104	
7:30 AM	0	0	0	0	1	0	22	0	1	30	0	1	0	51	2	0	108	
7:35 AM	0	0	0	0	0	0	25	0	2	26	0	0	0	58	2	0	113	
7:40 AM	0	0	0	0	0	0	20	0	3	21	0	0	0	43	2	0	89	
7:45 AM	0	0	0	0	0	0	22	0	2	35	0	0	0	30	4	0	93	
7:50 AM	0	0	0	0	0	0	9	0	7	21	0	0	0	49	1	0	87	
7:55 AM	0	0	0	0	0	0	20	0	4	28	0	0	0	57	2	0	111	1159
8:00 AM	0	0	0	0	0	0	8	0	5	30	0	0	0	49	3	0	95	1165
8:05 AM	0	0	0	0	0	0	18	0	7	26	0	0	0	37	3	0	91	1176
8:10 AM	0	0	0	0	0	0	7	0	2	26	0	0	0	31	1	0	67	1140
8:15 AM	0	0	0	0	1	0	7	0	7	24	0	0	0	34	3	0	76	1119
8:20 AM	0	0	0	0	0	0	15	0	2	37	0	0	0	36	1	0	91	1125
8:25 AM	0	0	0	0	0	0	11	0	2	22	0	0	0	32	1	0	68	1089
8:30 AM	0	0	0	0	1	0	8	0	5	21	0	0	0	39	2	0	76	1057
8:35 AM	0	0	0	0	0	0	5	0	5	15	0	0	0	21	2	0	48	992
8:40 AM	0	0	0	0	0	0	6	0	5	12	0	0	0	47	4	0	74	977
8:45 AM	0	0	0	0	0	0	10	0	5	23	0	0	0	28	2	0	68	952
8:50 AM	0	0	0	0	0	0	14	0	7	23	0	0	0	39	4	0	87	952
8:55 AM	0	0	0	0	1	0	7	0	4	22	0	0	0	32	4	0	70	911

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	4	0	340	0	16	348	0	4	0	568	20	0	1300
Heavy Trucks	0	0	0		0	0	12		0	16	0		0	24	4		56
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 5/17/2017 1:09 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

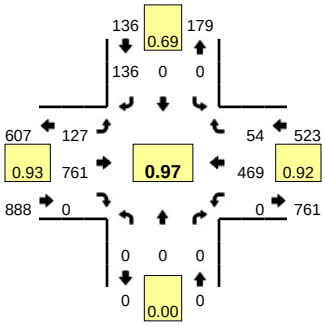
Method for determining peak hour: Total Entering Volume

LOCATION: Bartlett Rd -- NC 218/Fairview Rd

CITY/STATE: Mint Hill, NC

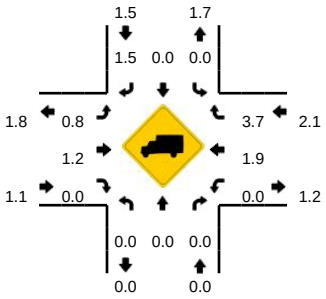
QC JOB #: 14407906

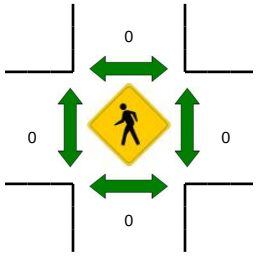
DATE: Thu, May 11 2017

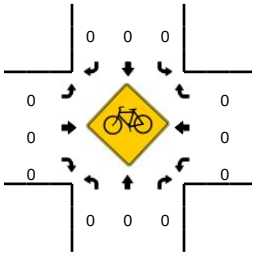


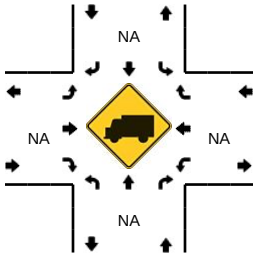
Peak-Hour: 4:50 PM -- 5:50 PM

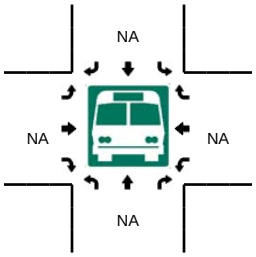
Peak 15-Min: 5:35 PM -- 5:50 PM











5-Min Count Period Beginning At	Bartlett Rd (Northbound)				Bartlett Rd (Southbound)				NC 218/Fairview Rd (Eastbound)				NC 218/Fairview Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	0	0	6	0	6	40	0	0	0	22	6	0	80	
4:05 PM	0	0	0	0	1	0	5	0	13	42	0	0	0	31	1	0	93	
4:10 PM	0	0	0	0	0	0	10	0	6	42	0	0	0	28	2	0	88	
4:15 PM	0	0	0	0	0	0	6	0	4	38	0	0	0	25	6	0	79	
4:20 PM	0	0	0	0	0	0	7	0	8	46	0	1	0	21	9	0	92	
4:25 PM	0	0	0	0	0	0	12	0	9	42	0	0	0	33	1	0	97	
4:30 PM	0	0	0	0	0	0	13	0	9	39	0	0	0	33	5	0	99	
4:35 PM	0	0	0	0	0	0	8	0	12	49	0	0	0	30	6	0	105	
4:40 PM	0	0	0	0	0	0	12	0	7	36	0	0	0	31	5	0	91	
4:45 PM	0	0	0	0	0	0	9	0	6	52	0	0	0	42	4	0	113	
4:50 PM	0	0	0	0	0	0	8	0	10	59	0	0	0	52	8	0	137	
4:55 PM	0	0	0	0	0	0	11	0	7	64	0	0	0	42	4	0	128	1202
5:00 PM	0	0	0	0	0	0	13	0	11	54	0	0	0	32	4	0	114	1236
5:05 PM	0	0	0	0	0	0	9	0	10	54	0	0	0	41	4	0	118	1261
5:10 PM	0	0	0	0	0	0	10	0	10	68	0	1	0	36	4	0	129	1302
5:15 PM	0	0	0	0	0	0	7	0	10	69	0	0	0	32	5	0	123	1346
5:20 PM	0	0	0	0	0	0	14	0	10	63	0	0	0	38	4	0	129	1383
5:25 PM	0	0	0	0	0	0	8	0	13	64	0	0	0	43	4	0	132	1418
5:30 PM	0	0	0	0	0	0	7	0	12	76	0	0	0	41	1	0	137	1456
5:35 PM	0	0	0	0	0	0	19	0	6	54	0	0	0	34	4	0	117	1468
5:40 PM	0	0	0	0	0	0	11	0	14	65	0	0	0	34	7	0	131	1508
5:45 PM	0	0	0	0	0	0	19	0	12	71	0	1	0	44	5	0	152	1547
5:50 PM	0	0	0	0	0	0	3	0	5	58	0	0	0	32	5	0	103	1513
5:55 PM	0	0	0	0	0	0	15	0	8	71	0	0	0	46	4	0	144	1529

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	0	0	196	0	128	760	0	4	0	448	64	0	1600
Heavy Trucks	0	0	0		0	0	4		0	16	0		0	0	0		20
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 5/17/2017 1:09 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

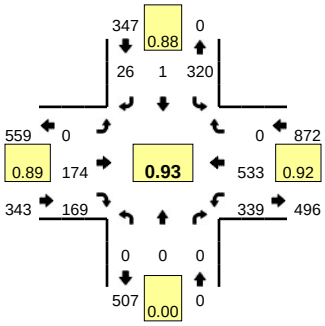
Method for determining peak hour: Total Entering Volume

LOCATION: I-485 Inner Ramps -- NC 218/Fairview Rd

CITY/STATE: Mint Hill, NC

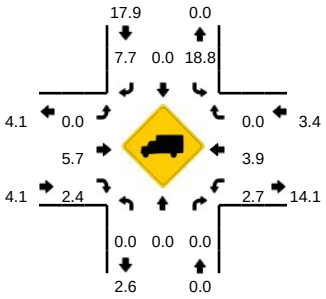
QC JOB #: 14407907

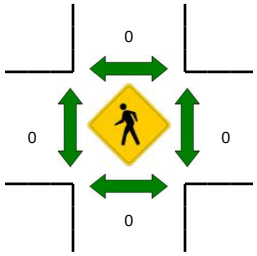
DATE: Thu, May 11 2017

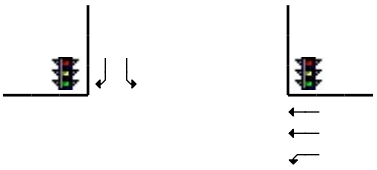


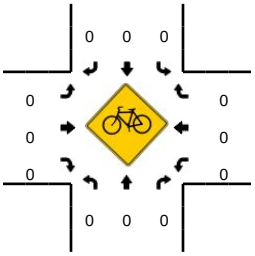
Peak-Hour: 7:10 AM -- 8:10 AM

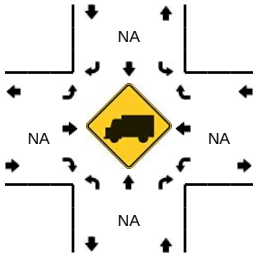
Peak 15-Min: 7:25 AM -- 7:40 AM

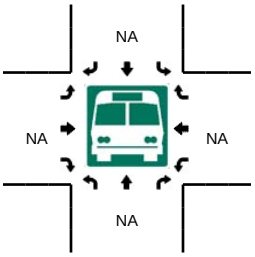












5-Min Count Period Beginning At	I-485 Inner Ramps (Northbound)				I-485 Inner Ramps (Southbound)				NC 218/Fairview Rd (Eastbound)				NC 218/Fairview Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	24	0	1	0	0	15	12	0	37	41	0	0	130	
7:05 AM	0	0	0	0	16	0	2	0	0	14	13	0	30	32	0	0	107	
7:10 AM	0	0	0	0	18	0	2	0	0	18	26	0	35	35	0	1	135	
7:15 AM	0	0	0	0	33	0	3	0	0	12	14	0	36	42	0	0	140	
7:20 AM	0	0	0	0	32	0	4	0	0	8	17	0	36	42	0	0	139	
7:25 AM	0	0	0	0	27	0	0	0	0	14	18	0	39	34	0	0	132	
7:30 AM	0	0	0	0	32	0	3	0	0	9	17	0	29	54	0	0	144	
7:35 AM	0	0	0	0	28	1	4	0	0	19	9	0	28	55	0	0	144	
7:40 AM	0	0	0	0	29	0	0	0	0	10	13	0	30	42	0	0	124	
7:45 AM	0	0	0	0	24	0	0	0	0	17	14	0	26	35	0	1	117	
7:50 AM	0	0	0	0	28	0	2	0	0	13	9	0	16	54	0	0	122	
7:55 AM	0	0	0	0	18	0	2	0	0	19	10	0	19	53	0	0	121	1555
8:00 AM	0	0	0	0	26	0	4	0	0	18	13	0	24	49	0	0	134	1559
8:05 AM	0	0	0	0	25	0	2	0	0	17	9	0	19	38	0	0	110	1562
8:10 AM	0	0	0	0	23	0	0	0	0	18	6	0	14	31	0	0	92	1519
8:15 AM	0	0	0	0	30	0	1	0	0	11	11	0	20	33	0	0	106	1485
8:20 AM	0	0	0	0	21	0	0	0	0	28	14	0	28	38	0	0	129	1475
8:25 AM	0	0	0	0	34	1	1	0	0	15	7	0	13	33	0	0	104	1447
8:30 AM	0	0	0	0	26	0	1	0	0	15	7	0	31	37	0	1	118	1421
8:35 AM	0	0	0	0	28	0	0	0	0	11	6	0	14	28	0	0	87	1364
8:40 AM	0	0	0	0	22	0	3	0	0	10	1	0	23	45	0	0	104	1344
8:45 AM	0	0	0	0	20	0	1	0	0	17	5	0	20	29	0	0	92	1319
8:50 AM	0	0	0	0	24	0	4	0	0	13	12	0	27	41	0	0	121	1318
8:55 AM	0	0	0	0	30	0	3	0	0	15	5	0	18	32	0	0	103	1300

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	348	4	28	0	0	168	176	0	384	572	0	0	1680
Heavy Trucks	0	0	0		76	0	4		0	4	0		12	20	0		116
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 5/17/2017 1:09 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

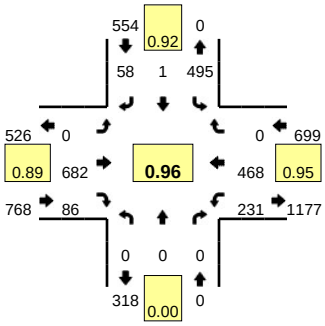
Method for determining peak hour: Total Entering Volume

LOCATION: I-485 Inner Ramps -- NC 218/Fairview Rd

QC JOB #: 14407908

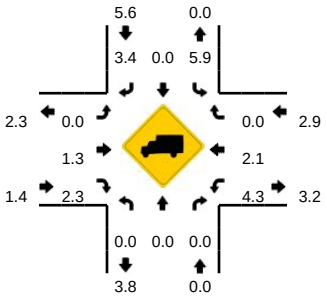
CITY/STATE: Mint Hill, NC

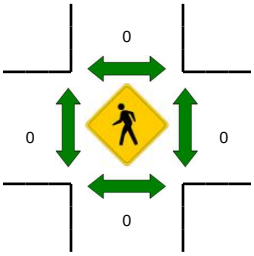
DATE: Thu, May 11 2017

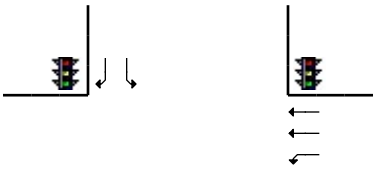


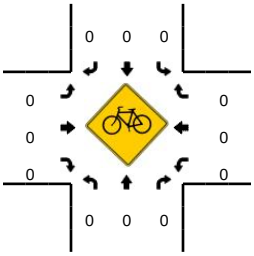
Peak-Hour: 4:50 PM -- 5:50 PM

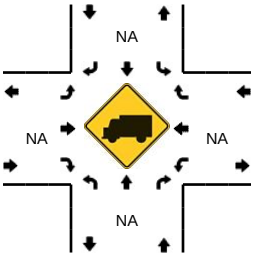
Peak 15-Min: 5:15 PM -- 5:30 PM

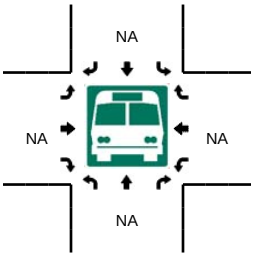












5-Min Count Period Beginning At	I-485 Inner Ramps (Northbound)				I-485 Inner Ramps (Southbound)				NC 218/Fairview Rd (Eastbound)				NC 218/Fairview Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	30	0	2	0	0	37	2	0	20	26	0	0	117	
4:05 PM	0	0	0	0	34	0	2	0	0	36	7	0	19	30	0	0	128	
4:10 PM	0	0	0	0	41	0	1	0	0	30	7	0	14	30	0	0	123	
4:15 PM	0	0	0	0	27	0	3	0	0	41	7	0	17	30	0	0	125	
4:20 PM	0	0	0	0	39	0	8	0	0	33	5	0	23	22	0	0	130	
4:25 PM	0	0	0	0	46	1	3	0	0	41	2	0	21	32	0	0	146	
4:30 PM	0	0	0	0	48	0	8	0	0	38	4	0	10	29	0	0	137	
4:35 PM	0	0	0	0	47	0	6	0	0	37	7	0	11	35	0	0	143	
4:40 PM	0	0	0	0	28	0	1	0	0	35	9	0	22	31	0	0	126	
4:45 PM	0	0	0	0	44	0	18	0	0	48	4	0	20	31	0	1	166	
4:50 PM	0	0	0	0	39	0	12	0	0	63	5	0	22	49	0	0	190	
4:55 PM	0	0	0	0	33	0	4	0	0	64	4	0	13	40	0	0	158	1689
5:00 PM	0	0	0	0	48	0	7	0	0	42	7	0	16	32	0	0	152	1724
5:05 PM	0	0	0	0	44	0	1	0	0	56	7	0	19	44	0	0	171	1767
5:10 PM	0	0	0	0	48	1	5	0	0	41	7	0	20	38	0	0	160	1804
5:15 PM	0	0	0	0	37	0	5	0	0	77	6	0	16	34	0	0	175	1854
5:20 PM	0	0	0	0	46	0	5	0	0	54	10	0	13	36	0	0	164	1888
5:25 PM	0	0	0	0	45	0	3	0	0	62	7	0	21	49	0	0	187	1929
5:30 PM	0	0	0	0	41	0	6	0	0	64	9	0	22	32	0	0	174	1966
5:35 PM	0	0	0	0	34	0	1	0	0	48	8	0	16	40	0	0	147	1970
5:40 PM	0	0	0	0	41	0	3	0	0	55	7	0	24	43	0	0	173	2017
5:45 PM	0	0	0	0	39	0	6	0	0	56	9	0	29	31	0	0	170	2021
5:50 PM	0	0	0	0	42	0	5	0	0	50	3	0	28	35	0	0	163	1994
5:55 PM	0	0	0	0	33	0	5	0	0	63	5	0	18	42	0	0	166	2002

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	512	0	52	0	0	772	92	0	200	476	0	0	2104
Heavy Trucks	0	0	0		28	0	0		0	4	4		20	20	0		76
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 5/17/2017 1:09 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

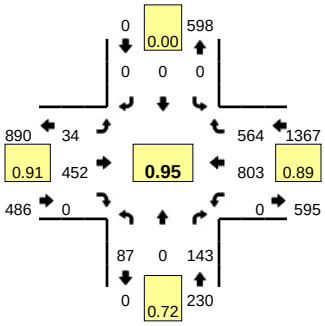
Method for determining peak hour: Total Entering Volume

LOCATION: I-485 Outer Ramp -- NC 218/Fairview Rd

CITY/STATE: Mint Hill, NC

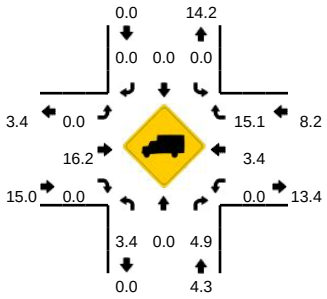
QC JOB #: 14407909

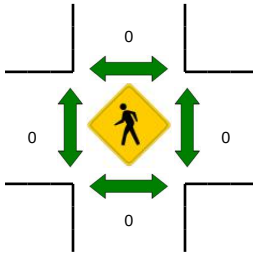
DATE: Thu, May 11 2017

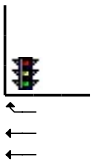


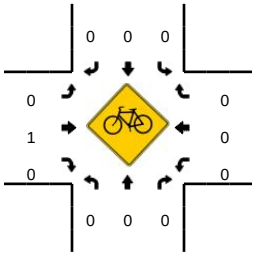
Peak-Hour: 7:00 AM -- 8:00 AM

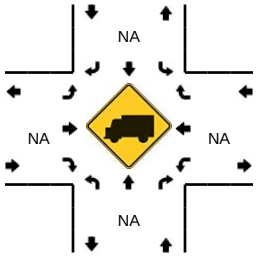
Peak 15-Min: 7:15 AM -- 7:30 AM

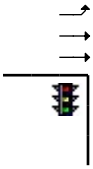


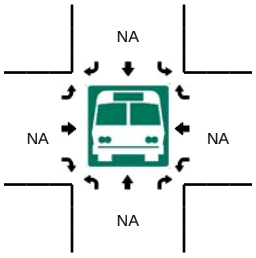












5-Min Count Period Beginning At	I-485 Outer Ramp (Northbound)				I-485 Outer Ramp (Southbound)				NC 218/Fairview Rd (Eastbound)				NC 218/Fairview Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	6	0	9	0	0	0	0	0	5	35	0	0	0	72	45	0	172	
7:05 AM	7	0	15	0	0	0	0	0	2	30	0	0	0	58	47	0	159	
7:10 AM	4	0	11	0	0	0	0	0	0	34	0	0	0	62	46	0	157	
7:15 AM	6	0	8	0	0	0	0	0	6	40	0	0	0	72	52	0	184	
7:20 AM	4	0	8	0	0	0	0	0	0	35	0	0	0	79	39	0	165	
7:25 AM	3	0	17	0	0	0	0	0	4	35	0	0	0	73	67	0	199	
7:30 AM	7	0	4	0	0	0	0	0	1	45	0	0	0	76	49	0	182	
7:35 AM	8	0	10	0	0	0	0	0	4	40	0	0	0	67	36	0	165	
7:40 AM	5	0	10	0	0	0	0	0	6	40	0	0	0	65	50	0	176	
7:45 AM	12	0	11	0	0	0	0	0	2	42	0	0	0	51	50	0	168	
7:50 AM	12	0	21	0	0	0	0	0	2	33	0	0	0	70	40	0	178	
7:55 AM	13	0	19	0	0	0	0	0	2	43	0	0	0	58	43	0	178	2083
8:00 AM	10	1	7	0	0	0	0	0	7	35	0	0	0	65	33	0	158	2069
8:05 AM	10	0	11	0	0	0	0	0	4	36	0	0	0	44	39	0	144	2054
8:10 AM	10	0	11	0	0	0	0	0	4	36	0	0	0	34	25	0	120	2017
8:15 AM	6	0	17	0	0	0	0	0	2	39	0	0	0	57	31	0	152	1985
8:20 AM	5	1	7	0	0	0	0	0	2	49	0	0	0	51	34	0	149	1969
8:25 AM	10	0	12	0	0	0	0	0	4	39	0	0	0	41	30	0	136	1906
8:30 AM	4	0	12	0	0	0	0	0	3	46	0	0	0	59	32	0	156	1880
8:35 AM	7	0	8	0	0	0	0	0	3	34	0	0	0	42	27	0	121	1836
8:40 AM	5	0	13	0	0	0	0	0	3	29	0	0	0	57	19	0	126	1786
8:45 AM	11	0	11	0	0	0	0	0	4	33	0	0	0	40	32	0	131	1749
8:50 AM	6	0	13	0	0	0	0	0	3	35	0	0	0	60	28	0	145	1716
8:55 AM	8	0	14	0	0	0	0	0	2	39	0	0	0	44	22	0	129	1667

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	52	0	132	0	0	0	0	0	40	440	0	0	0	896	632	0	2192
Heavy Trucks	0	0	0		0	0	0		0	60	0		0	32	100		192
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad Stopped Buses																	

Comments:

Report generated on 5/17/2017 1:09 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

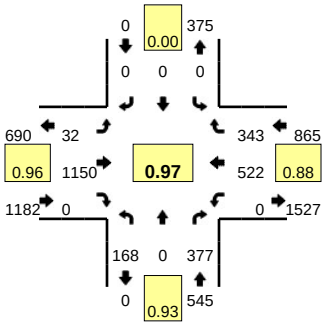
Method for determining peak hour: Total Entering Volume

LOCATION: I-485 Outer Ramp -- NC 218/Fairview Rd

CITY/STATE: Mint Hill, NC

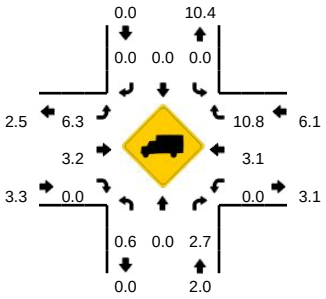
QC JOB #: 14407910

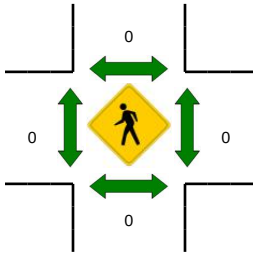
DATE: Thu, May 11 2017

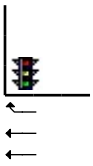


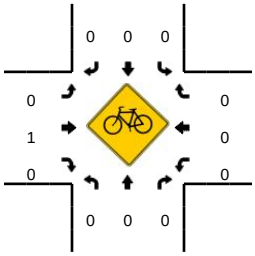
Peak-Hour: 4:50 PM -- 5:50 PM

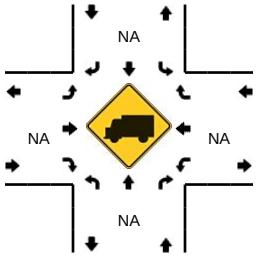
Peak 15-Min: 5:20 PM -- 5:35 PM

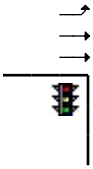


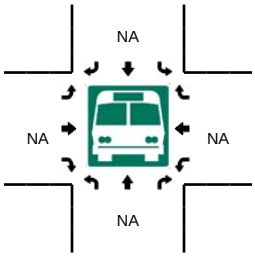












5-Min Count Period Beginning At	I-485 Outer Ramp (Northbound)				I-485 Outer Ramp (Southbound)				NC 218/Fairview Rd (Eastbound)				NC 218/Fairview Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	14	2	22	0	0	0	0	0	2	70	0	0	0	35	17	0	162	
4:05 PM	3	0	13	0	0	0	0	0	2	69	0	0	0	43	45	0	175	
4:10 PM	15	0	22	0	0	0	0	0	2	60	0	0	0	41	22	0	162	
4:15 PM	9	1	24	0	0	0	0	0	3	66	0	0	0	27	22	0	152	
4:20 PM	10	0	33	0	0	0	0	0	2	74	0	0	0	34	26	0	179	
4:25 PM	11	1	16	0	0	0	0	0	0	80	0	0	0	37	25	0	170	
4:30 PM	19	2	31	0	0	0	0	0	3	83	0	0	0	21	18	0	177	
4:35 PM	12	0	20	0	0	0	0	0	0	88	0	0	0	35	23	0	178	
4:40 PM	9	0	29	0	0	0	0	0	0	68	0	0	0	47	40	0	193	
4:45 PM	12	0	25	0	0	0	0	0	3	75	0	0	0	45	28	0	188	
4:50 PM	17	0	29	0	0	0	0	0	4	105	0	0	0	57	23	0	235	
4:55 PM	18	0	33	0	0	0	0	0	3	90	0	0	0	34	31	0	209	2180
5:00 PM	17	0	30	0	0	0	0	0	1	92	0	0	0	36	27	0	203	2221
5:05 PM	10	0	24	0	0	0	0	0	1	100	0	0	0	45	21	0	201	2247
5:10 PM	11	0	41	0	0	0	0	0	5	92	0	0	0	49	27	0	225	2310
5:15 PM	12	0	28	0	0	0	0	0	3	101	0	0	0	33	37	0	214	2372
5:20 PM	17	0	36	0	0	0	0	0	4	97	0	0	0	39	20	0	213	2406
5:25 PM	16	0	34	0	0	0	0	0	0	97	0	0	0	49	24	0	220	2456
5:30 PM	9	0	36	0	0	0	0	0	2	109	0	0	0	44	32	0	232	2511
5:35 PM	15	0	34	0	0	0	0	0	4	87	0	0	0	38	28	0	206	2539
5:40 PM	9	0	33	0	0	0	0	0	4	92	0	0	0	43	34	0	215	2561
5:45 PM	17	0	19	0	0	0	0	0	1	88	0	0	0	55	39	0	219	2592
5:50 PM	15	0	34	0	0	0	0	0	5	91	0	1	0	40	22	0	208	2565
5:55 PM	19	0	29	0	0	0	0	0	2	90	0	0	0	51	40	0	231	2587

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	168	0	424	0	0	0	0	0	24	1212	0	0	0	528	304	0	2660
Heavy Trucks	4	0	8		0	0	0		0	24	0		0	24	36		96
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	1	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 5/17/2017 1:09 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Appendix C

TURN LANE WARRANTS

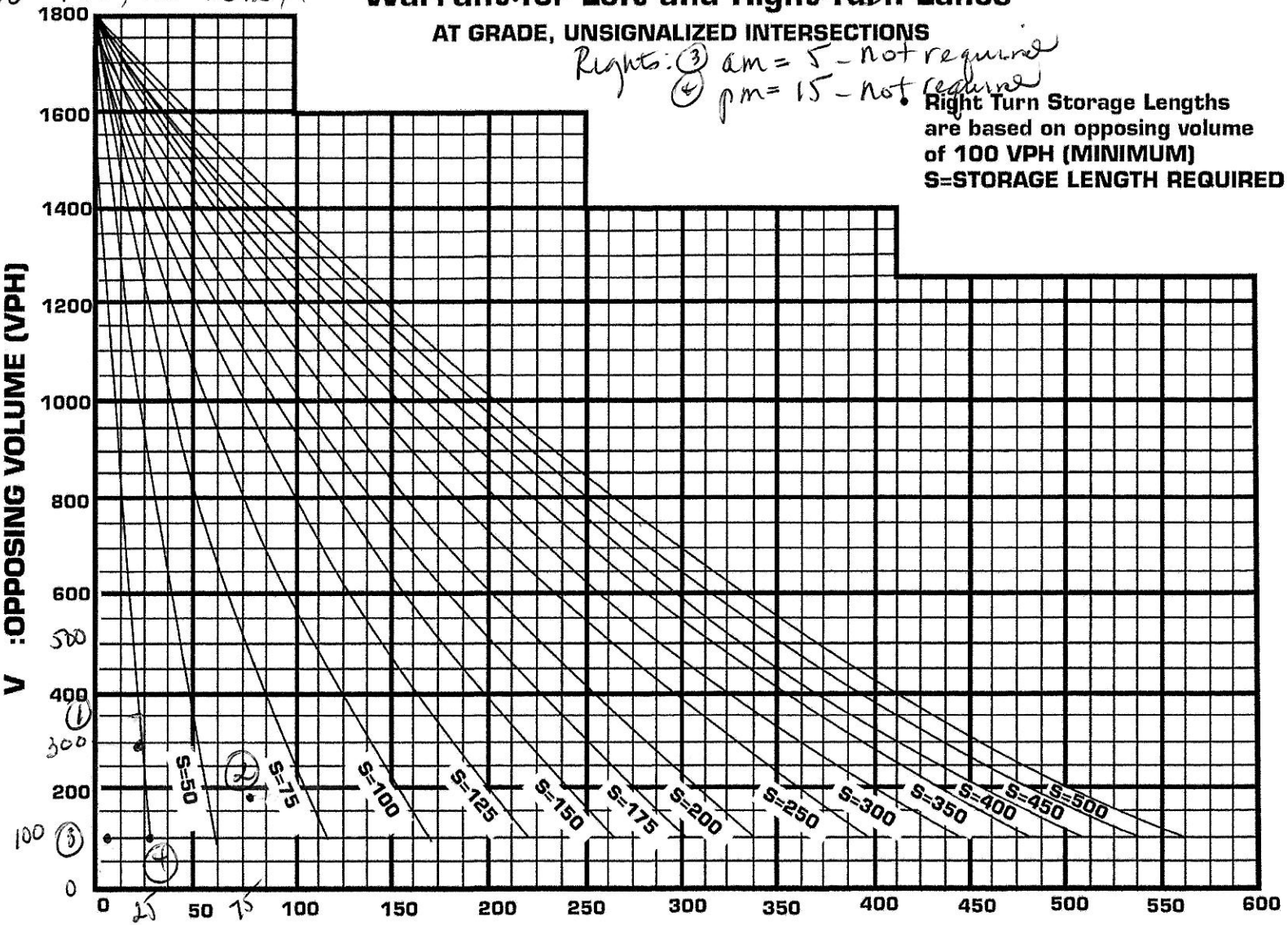
Bartlett Rd. Site Access - 2023 Build

Lefts: ① am → V_O = 293; V_N = 98; V_L = 22; % = 22% – not required
② pm → V_O = 177; V_N = 292; V_L = 76; % = 26% – required with 75' storage

Rights: ③ am = 5 – not required
④ pm = 15 – not required

Warrant for Left and Right-Turn Lanes

AT GRADE, UNSIGNALIZED INTERSECTIONS



Right Turn Storage Lengths are based on opposing volume of 100 VPH (MINIMUM)
S=STORAGE LENGTH REQUIRED

V_L: LEFT TURNING VOLUME (VPH)
V_R: RIGHT TURNING VOLUME (VPH)

Note: Where adjacent signalization may provide opportunities for gaps in the traffic stream a reduction in the above storage values can be considered on a case by case basis.

Appendix D

CAPACITY ANALYSIS AND QUEUE REPORT PRINTOUTS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	152	130	341	237	58	89	299	128	73	432	20
Future Volume (veh/h)	28	152	130	341	237	58	89	299	128	73	432	20
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1818	1800	1872	1783	1757	1890	1872	1835	1818	1854	1835	1910
Adj Flow Rate, veh/h	31	169	144	379	263	64	99	332	142	81	480	22
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	4	5	1	6	7	7	1	3	4	3	4	4
Cap, veh/h	328	351	397	504	477	116	213	575	769	309	533	24
Arrive On Green	0.03	0.20	0.20	0.18	0.35	0.35	0.05	0.31	0.31	0.05	0.31	0.31
Sat Flow, veh/h	1731	1800	1591	1699	1366	332	1783	1835	1545	1766	1741	80
Grp Volume(v), veh/h	31	169	144	379	0	327	99	332	142	81	0	502
Grp Sat Flow(s),veh/h/ln	1731	1800	1591	1699	0	1699	1783	1835	1545	1766	0	1821
Q Serve(g_s), s	1.3	7.7	6.9	15.9	0.0	14.3	3.5	14.0	4.7	2.9	0.0	24.4
Cycle Q Clear(g_c), s	1.3	7.7	6.9	15.9	0.0	14.3	3.5	14.0	4.7	2.9	0.0	24.4
Prop In Lane	1.00		1.00	1.00		0.20	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	328	351	397	504	0	594	213	575	769	309	0	557
V/C Ratio(X)	0.09	0.48	0.36	0.75	0.00	0.55	0.46	0.58	0.18	0.26	0.00	0.90
Avail Cap(c_a), veh/h	390	351	397	504	0	594	232	597	787	340	0	592
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.2	33.0	28.6	22.1	0.0	24.2	23.6	26.6	12.8	21.3	0.0	30.7
Incr Delay (d2), s/veh	0.1	4.7	2.6	6.2	0.0	3.7	1.6	1.3	0.1	0.4	0.0	16.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.3	3.3	8.1	0.0	7.3	1.8	7.3	2.0	1.4	0.0	14.8
LnGrp Delay(d),s/veh	28.4	37.7	31.1	28.4	0.0	27.8	25.2	27.9	12.9	21.7	0.0	47.0
LnGrp LOS	C	D	C	C		C	C	C	B	C		D
Approach Vol, veh/h		344			706			573			583	
Approach Delay, s/veh		34.1			28.1			23.7			43.5	
Approach LOS		C			C			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.0	24.0	11.0	34.3	8.7	38.3	10.4	34.9
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	17.0	18.0	6.0	30.0	6.0	29.0	6.0	30.0
Max Q Clear Time (g_c+I1), s	17.9	9.7	5.5	26.4	3.3	16.3	4.9	16.0
Green Ext Time (p_c), s	0.0	2.2	0.0	1.9	0.0	2.8	0.0	4.8

Intersection Summary	
HCM 2010 Ctrl Delay	32.0
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	174	169	339	533	0	0	0	0	320	1	26
Future Volume (veh/h)	0	174	169	339	533	0	0	0	0	320	1	26
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1792	1937	1826	1809	0				1597	1764	1900
Adj Flow Rate, veh/h	0	187	182	365	573	0				344	1	28
Adj No. of Lanes	0	2	1	1	2	0				1	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	0	6	2	3	4	0				19	0	19
Cap, veh/h	0	963	466	651	1888	0				399	14	381
Arrive On Green	0.00	0.28	0.28	0.17	0.55	0.00				0.26	0.26	0.26
Sat Flow, veh/h	0	3495	1647	1739	3527	0				1521	52	1455
Grp Volume(v), veh/h	0	187	182	365	573	0				344	0	29
Grp Sat Flow(s),veh/h/ln	0	1703	1647	1739	1718	0				1521	0	1507
Q Serve(g_s), s	0.0	2.7	5.7	8.7	5.7	0.0				13.7	0.0	0.9
Cycle Q Clear(g_c), s	0.0	2.7	5.7	8.7	5.7	0.0				13.7	0.0	0.9
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.97
Lane Grp Cap(c), veh/h	0	963	466	651	1888	0				399	0	395
V/C Ratio(X)	0.00	0.19	0.39	0.56	0.30	0.00				0.86	0.00	0.07
Avail Cap(c_a), veh/h	0	963	466	707	1998	0				621	0	616
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.3	18.4	10.9	7.8	0.0				22.4	0.0	17.7
Incr Delay (d2), s/veh	0.0	0.4	2.5	0.8	0.1	0.0				7.6	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.3	2.9	4.2	2.7	0.0				6.6	0.0	0.4
LnGrp Delay(d),s/veh	0.0	17.8	20.9	11.7	7.8	0.0				30.0	0.0	17.7
LnGrp LOS		B	C	B	A					C		B
Approach Vol, veh/h		369			938						373	
Approach Delay, s/veh		19.3			9.4						29.0	
Approach LOS		B			A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	17.0	24.0		22.7		41.0		
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		
Max Green Setting (Gmax), s	13.0	18.0		26.0		37.0		
Max Q Clear Time (g_c+I1), s	10.7	7.7		15.7		7.7		
Green Ext Time (p_c), s	0.3	4.0		1.0		6.2		

Intersection Summary	
HCM 2010 Ctrl Delay	15.9
HCM 2010 LOS	B

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	452	0	0	803	564	81	0	143	0	0	0
Future Volume (veh/h)	34	452	0	0	803	564	81	0	143	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1881	1881	0	0	1826	1636	1881	1826	1791			
Adj Flow Rate, veh/h	36	476	0	0	845	594	85	0	151			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	0	0	0	0	3	15	5	0	5			
Cap, veh/h	329	2444	0	0	1929	773	233	0	204			
Arrive On Green	0.04	0.68	0.00	0.00	0.56	0.56	0.13	0.00	0.13			
Sat Flow, veh/h	1791	3668	0	0	3561	1390	1739	0	1523			
Grp Volume(v), veh/h	36	476	0	0	845	594	85	0	151			
Grp Sat Flow(s),veh/h/ln	1791	1787	0	0	1735	1390	1739	0	1523			
Q Serve(g_s), s	0.5	3.2	0.0	0.0	9.4	21.8	2.9	0.0	6.3			
Cycle Q Clear(g_c), s	0.5	3.2	0.0	0.0	9.4	21.8	2.9	0.0	6.3			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	329	2444	0	0	1929	773	233	0	204			
V/C Ratio(X)	0.11	0.19	0.00	0.00	0.44	0.77	0.36	0.00	0.74			
Avail Cap(c_a), veh/h	508	2444	0	0	1929	773	476	0	416			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	5.9	3.8	0.0	0.0	8.6	11.3	26.0	0.0	27.4			
Incr Delay (d2), s/veh	0.1	0.2	0.0	0.0	0.7	7.2	1.0	0.0	5.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.3	1.6	0.0	0.0	4.7	9.8	1.5	0.0	2.9			
LnGrp Delay(d),s/veh	6.0	4.0	0.0	0.0	9.3	18.6	26.9	0.0	32.6			
LnGrp LOS	A	A			A	B	C		C			
Approach Vol, veh/h		512			1439			236				
Approach Delay, s/veh		4.1			13.1			30.6				
Approach LOS		A			B			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		51.0			8.4	42.6		14.8
Change Period (Y+Rc), s		6.0			6.0	6.0		6.0
Max Green Setting (Gmax), s		45.0			9.0	30.0		18.0
Max Q Clear Time (g_c+I1), s		5.2			2.5	23.8		8.3
Green Ext Time (p_c), s		16.3			0.0	4.8		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	12.9
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	273	15	96	662	5	12	0	13	7	0	22
Future Vol, veh/h	8	273	15	96	662	5	12	0	13	7	0	22
Conflicting Peds, #/hr	2	0	3	3	0	2	1	0	1	1	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	305	-	-	145	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	2	-	-	0	-	-	4	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	6	0	0	4	40	0	0	0	0	0	5
Mvmt Flow	9	294	16	103	712	5	13	0	14	8	0	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	714	0	0	313	0	0	1253	1242	159	1085	1250	715
Stage 1	-	-	-	-	-	-	322	322	-	920	920	-
Stage 2	-	-	-	-	-	-	931	920	-	165	330	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.3	6.5	6.9	8.1	7.3	6.675
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.9	6.3	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	7.3	6.3	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3475
Pot Cap-1 Maneuver	895	-	-	1259	-	-	140	176	864	145	132	391
Stage 1	-	-	-	-	-	-	670	655	-	267	287	-
Stage 2	-	-	-	-	-	-	323	352	-	797	603	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	894	-	-	1258	-	-	122	159	861	132	119	390
Mov Cap-2 Maneuver	-	-	-	-	-	-	122	159	-	132	119	-
Stage 1	-	-	-	-	-	-	661	647	-	264	263	-
Stage 2	-	-	-	-	-	-	278	323	-	775	595	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	1	23.6	20.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	220	894	-	-	1258	-	-	265
HCM Lane V/C Ratio	0.122	0.01	-	-	0.082	-	-	0.118
HCM Control Delay (s)	23.6	9.1	-	-	8.1	-	-	20.4
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.4	0	-	-	0.3	-	-	0.4

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	37	342	529	27	1	240
Future Vol, veh/h	37	342	529	27	1	240
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	255	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-2	2	-	-4	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	6	5	4	0	4
Mvmt Flow	41	380	588	30	1	267

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	618	0	-	0	875	309
Stage 1	-	-	-	-	603	-
Stage 2	-	-	-	-	272	-
Critical Hdwy	4.2	-	-	-	6	6.58
Critical Hdwy Stg 1	-	-	-	-	5	-
Critical Hdwy Stg 2	-	-	-	-	5	-
Follow-up Hdwy	2.25	-	-	-	3.5	3.34
Pot Cap-1 Maneuver	938	-	-	-	355	705
Stage 1	-	-	-	-	588	-
Stage 2	-	-	-	-	802	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	938	-	-	-	339	705
Mov Cap-2 Maneuver	-	-	-	-	339	-
Stage 1	-	-	-	-	588	-
Stage 2	-	-	-	-	767	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	13.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	938	-	-	-	702
HCM Lane V/C Ratio	0.044	-	-	-	0.381
HCM Control Delay (s)	9	-	-	-	13.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1.8

Intersection: 3: Blair Road & Fairview Road

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	TR	L	T	R	L	TR
Maximum Queue (ft)	106	179	95	195	372	224	337	208	182	440
Average Queue (ft)	22	89	46	137	147	62	149	39	51	211
95th Queue (ft)	65	162	84	214	285	141	265	107	151	334
Link Distance (ft)		289			4008		1411			1461
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	150		245	170		200		260	212	
Storage Blk Time (%)		1		5	3		2		0	8
Queuing Penalty (veh)		2		14	12		5		0	6

Intersection: 6: Park Driveway/Jefferson Colony Road & Fairview Road

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	T	LTR	LTR
Maximum Queue (ft)	29	9	49	17	38	51
Average Queue (ft)	4	0	16	1	16	15
95th Queue (ft)	19	5	42	9	39	40
Link Distance (ft)		4008		600	409	1651
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	305		145			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 9: Fairview Road & Bartlett Road

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	37	7	106
Average Queue (ft)	11	0	46
95th Queue (ft)	36	4	76
Link Distance (ft)		853	536
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	255		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: 485 Inner Loop Ramp & Fairview Road

Movement	EB	EB	EB	WB	WB	WB	SB	SB
Directions Served	T	T	R	L	T	T	L	TR
Maximum Queue (ft)	77	84	96	196	172	142	189	332
Average Queue (ft)	40	40	42	96	87	59	148	72
95th Queue (ft)	75	77	78	165	153	122	211	252
Link Distance (ft)	853	853			766	766		901
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			160	195			165	
Storage Blk Time (%)				0	0		8	0
Queuing Penalty (veh)				1	0		2	0

Intersection: 14: 485 Outer Loop Ramp & Fairview Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R
Maximum Queue (ft)	66	88	96	189	157	156	108	92
Average Queue (ft)	22	35	34	92	27	65	44	45
95th Queue (ft)	52	73	82	165	94	125	83	77
Link Distance (ft)		766	766	764	764		1127	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	245					150		155
Storage Blk Time (%)					0	0		
Queuing Penalty (veh)					0	1		

Network Summary

Network wide Queuing Penalty: 42

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	182	155	407	283	69	106	357	153	87	516	24
Future Volume (veh/h)	33	182	155	407	283	69	106	357	153	87	516	24
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1818	1800	1872	1783	1757	1890	1872	1835	1818	1854	1835	1910
Adj Flow Rate, veh/h	37	202	172	452	314	77	118	397	170	97	573	27
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	4	5	1	6	7	7	1	3	4	3	4	4
Cap, veh/h	265	341	401	464	458	112	187	596	779	286	550	26
Arrive On Green	0.03	0.19	0.19	0.18	0.34	0.34	0.06	0.32	0.32	0.05	0.32	0.32
Sat Flow, veh/h	1731	1800	1591	1699	1364	334	1783	1835	1545	1766	1739	82
Grp Volume(v), veh/h	37	202	172	452	0	391	118	397	170	97	0	600
Grp Sat Flow(s),veh/h/ln	1731	1800	1591	1699	0	1698	1783	1835	1545	1766	0	1821
Q Serve(g_s), s	1.6	9.7	8.6	17.0	0.0	18.9	4.2	17.7	5.8	3.5	0.0	30.0
Cycle Q Clear(g_c), s	1.6	9.7	8.6	17.0	0.0	18.9	4.2	17.7	5.8	3.5	0.0	30.0
Prop In Lane	1.00		1.00	1.00		0.20	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	265	341	401	464	0	571	187	596	779	286	0	576
V/C Ratio(X)	0.14	0.59	0.43	0.97	0.00	0.69	0.63	0.67	0.22	0.34	0.00	1.04
Avail Cap(c_a), veh/h	318	341	401	464	0	571	189	596	779	304	0	576
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.4	35.1	29.8	27.5	0.0	27.2	24.4	27.6	13.1	21.7	0.0	32.5
Incr Delay (d2), s/veh	0.2	7.3	3.3	35.0	0.0	6.6	6.6	2.8	0.1	0.7	0.0	49.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	5.5	4.1	8.4	0.0	9.8	2.4	9.4	2.5	1.7	0.0	22.9
LnGrp Delay(d),s/veh	29.7	42.4	33.1	62.5	0.0	33.8	30.9	30.4	13.3	22.3	0.0	81.5
LnGrp LOS	C	D	C	E		C	C	C	B	C		F
Approach Vol, veh/h		411			843			685			697	
Approach Delay, s/veh		37.4			49.2			26.2			73.3	
Approach LOS		D			D			C			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.0	24.0	11.9	36.0	9.1	37.9	11.1	36.8
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	17.0	18.0	6.0	30.0	6.0	29.0	6.0	30.0
Max Q Clear Time (g_c+I1), s	19.0	11.7	6.2	32.0	3.6	20.9	5.5	19.7
Green Ext Time (p_c), s	0.0	2.2	0.0	0.0	0.0	2.7	0.0	4.9

Intersection Summary	
HCM 2010 Ctrl Delay	47.7
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	208	202	405	636	0	0	0	0	382	1	31
Future Volume (veh/h)	0	208	202	405	636	0	0	0	0	382	1	31
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1792	1937	1826	1809	0				1597	1763	1900
Adj Flow Rate, veh/h	0	224	217	435	684	0				411	1	33
Adj No. of Lanes	0	2	1	1	2	0				1	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	0	6	2	3	4	0				19	0	19
Cap, veh/h	0	876	423	615	1816	0				456	13	439
Arrive On Green	0.00	0.26	0.26	0.19	0.53	0.00				0.30	0.30	0.30
Sat Flow, veh/h	0	3495	1647	1739	3527	0				1521	44	1461
Grp Volume(v), veh/h	0	224	217	435	684	0				411	0	34
Grp Sat Flow(s),veh/h/ln	0	1703	1647	1739	1718	0				1521	0	1505
Q Serve(g_s), s	0.0	3.7	7.9	12.3	8.2	0.0				18.1	0.0	1.1
Cycle Q Clear(g_c), s	0.0	3.7	7.9	12.3	8.2	0.0				18.1	0.0	1.1
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.97
Lane Grp Cap(c), veh/h	0	876	423	615	1816	0				456	0	452
V/C Ratio(X)	0.00	0.26	0.51	0.71	0.38	0.00				0.90	0.00	0.08
Avail Cap(c_a), veh/h	0	876	423	615	1816	0				565	0	559
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	20.7	22.3	13.5	9.7	0.0				23.5	0.0	17.5
Incr Delay (d2), s/veh	0.0	0.7	4.4	3.7	0.1	0.0				15.2	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.8	4.1	6.4	3.9	0.0				9.5	0.0	0.5
LnGrp Delay(d),s/veh	0.0	21.4	26.6	17.2	9.8	0.0				38.7	0.0	17.6
LnGrp LOS		C	C	B	A					D		B
Approach Vol, veh/h		441			1119						445	
Approach Delay, s/veh		24.0			12.7						37.1	
Approach LOS		C			B						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	19.0	24.0		27.0		43.0		
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		
Max Green Setting (Gmax), s	13.0	18.0		26.0		37.0		
Max Q Clear Time (g_c+I1), s	14.3	9.9		20.1		10.2		
Green Ext Time (p_c), s	0.0	4.1		0.9		7.5		

Intersection Summary	
HCM 2010 Ctrl Delay	20.6
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	540	0	0	959	673	104	0	171	0	0	0
Future Volume (veh/h)	41	540	0	0	959	673	104	0	171	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1881	1881	0	0	1826	1636	1881	1826	1791			
Adj Flow Rate, veh/h	43	568	0	0	1009	708	109	0	180			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	0	0	0	0	3	15	5	0	5			
Cap, veh/h	280	2387	0	0	1866	748	268	0	235			
Arrive On Green	0.04	0.67	0.00	0.00	0.54	0.54	0.15	0.00	0.15			
Sat Flow, veh/h	1791	3668	0	0	3561	1390	1739	0	1523			
Grp Volume(v), veh/h	43	568	0	0	1009	708	109	0	180			
Grp Sat Flow(s),veh/h/ln	1791	1787	0	0	1735	1390	1739	0	1523			
Q Serve(g_s), s	0.6	4.2	0.0	0.0	12.8	32.3	3.8	0.0	7.6			
Cycle Q Clear(g_c), s	0.6	4.2	0.0	0.0	12.8	32.3	3.8	0.0	7.6			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	280	2387	0	0	1866	748	268	0	235			
V/C Ratio(X)	0.15	0.24	0.00	0.00	0.54	0.95	0.41	0.00	0.77			
Avail Cap(c_a), veh/h	446	2387	0	0	1866	748	465	0	407			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	7.2	4.4	0.0	0.0	10.1	14.7	25.7	0.0	27.3			
Incr Delay (d2), s/veh	0.3	0.2	0.0	0.0	1.1	22.2	1.0	0.0	5.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.3	2.1	0.0	0.0	6.3	16.8	1.9	0.0	3.5			
LnGrp Delay(d),s/veh	7.4	4.7	0.0	0.0	11.3	36.9	26.7	0.0	32.6			
LnGrp LOS	A	A			B	D	C		C			
Approach Vol, veh/h		611			1717			289				
Approach Delay, s/veh		4.8			21.8			30.4				
Approach LOS		A			C			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		51.0			8.8	42.2		16.4
Change Period (Y+Rc), s		6.0			6.0	6.0		6.0
Max Green Setting (Gmax), s		45.0			9.0	30.0		18.0
Max Q Clear Time (g_c+I1), s		6.2			2.6	34.3		9.6
Green Ext Time (p_c), s		21.0			0.0	0.0		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	18.8
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	326	18	115	790	6	14	0	16	8	0	26
Future Vol, veh/h	10	326	18	115	790	6	14	0	16	8	0	26
Conflicting Peds, #/hr	2	0	3	3	0	2	1	0	1	1	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	305	-	-	145	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	2	-	-	0	-	-	4	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	6	0	0	4	40	0	0	0	0	0	5
Mvmt Flow	11	351	19	124	849	6	15	0	17	9	0	28

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	851	0	0	373	0	0	1497	1484	189	1297	1493	852
Stage 1	-	-	-	-	-	-	385	385	-	1099	1099	-
Stage 2	-	-	-	-	-	-	1112	1099	-	198	394	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.3	6.5	6.9	8.1	7.3	6.675
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.9	6.3	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	7.3	6.3	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3475
Pot Cap-1 Maneuver	796	-	-	1197	-	-	94	126	827	98	89	321
Stage 1	-	-	-	-	-	-	615	614	-	204	228	-
Stage 2	-	-	-	-	-	-	256	291	-	757	558	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	795	-	-	1196	-	-	78	111	824	87	78	320
Mov Cap-2 Maneuver	-	-	-	-	-	-	78	111	-	87	78	-
Stage 1	-	-	-	-	-	-	605	604	-	201	204	-
Stage 2	-	-	-	-	-	-	209	260	-	730	549	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	1.1	35.2	27.5
HCM LOS			E	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	151	795	-	-	1196	-	-	196
HCM Lane V/C Ratio	0.214	0.014	-	-	0.103	-	-	0.187
HCM Control Delay (s)	35.2	9.6	-	-	8.4	-	-	27.5
HCM Lane LOS	E	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.8	0	-	-	0.3	-	-	0.7

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	44	408	632	32	1	287
Future Vol, veh/h	44	408	632	32	1	287
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	255	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-2	2	-	-4	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	6	5	4	0	4
Mvmt Flow	49	453	702	36	1	319

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	738	0	-	0	1044	369
Stage 1	-	-	-	-	720	-
Stage 2	-	-	-	-	324	-
Critical Hdwy	4.2	-	-	-	6	6.58
Critical Hdwy Stg 1	-	-	-	-	5	-
Critical Hdwy Stg 2	-	-	-	-	5	-
Follow-up Hdwy	2.25	-	-	-	3.5	3.34
Pot Cap-1 Maneuver	844	-	-	-	287	648
Stage 1	-	-	-	-	526	-
Stage 2	-	-	-	-	765	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	844	-	-	-	270	648
Mov Cap-2 Maneuver	-	-	-	-	270	-
Stage 1	-	-	-	-	526	-
Stage 2	-	-	-	-	721	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	16
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	844	-	-	-	645
HCM Lane V/C Ratio	0.058	-	-	-	0.496
HCM Control Delay (s)	9.5	-	-	-	16
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	2.8

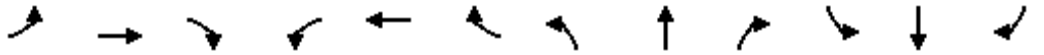
Intersection: 3: Blair Road & Fairview Road

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	TR	L	T	R	L	TR
Maximum Queue (ft)	174	252	193	195	1312	194	302	218	236	566
Average Queue (ft)	36	115	72	187	753	71	159	40	97	319
95th Queue (ft)	103	207	141	222	1853	145	253	110	234	514
Link Distance (ft)		289			4008		1411			1461
Upstream Blk Time (%)		0	0							
Queuing Penalty (veh)		0	0							
Storage Bay Dist (ft)	150		245	170		200		260	212	
Storage Blk Time (%)		5	0	40	6		4	0	0	29
Queuing Penalty (veh)		10	0	142	26		9	0	0	25

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	193	155	448	312	76	106	357	162	92	516	24
Future Volume (veh/h)	33	193	155	448	312	76	106	357	162	92	516	24
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1818	1800	1872	1783	1757	1890	1872	1835	1818	1854	1835	1910
Adj Flow Rate, veh/h	37	214	172	498	347	84	118	397	180	102	573	27
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	4	5	1	6	7	7	1	3	4	3	4	4
Cap, veh/h	235	341	401	457	459	111	187	592	775	287	550	26
Arrive On Green	0.03	0.19	0.19	0.18	0.34	0.34	0.06	0.32	0.32	0.06	0.32	0.32
Sat Flow, veh/h	1731	1800	1591	1699	1368	331	1783	1835	1545	1766	1739	82
Grp Volume(v), veh/h	37	214	172	498	0	431	118	397	180	102	0	600
Grp Sat Flow(s),veh/h/ln	1731	1800	1591	1699	0	1699	1783	1835	1545	1766	0	1821
Q Serve(g_s), s	1.6	10.4	8.6	17.0	0.0	21.4	4.2	17.7	6.2	3.7	0.0	30.0
Cycle Q Clear(g_c), s	1.6	10.4	8.6	17.0	0.0	21.4	4.2	17.7	6.2	3.7	0.0	30.0
Prop In Lane	1.00		1.00	1.00		0.19	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	235	341	401	457	0	571	187	592	775	287	0	576
V/C Ratio(X)	0.16	0.63	0.43	1.09	0.00	0.76	0.63	0.67	0.23	0.36	0.00	1.04
Avail Cap(c_a), veh/h	288	341	401	457	0	571	189	592	775	300	0	576
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.6	35.4	29.8	27.8	0.0	28.0	24.4	27.8	13.3	21.6	0.0	32.5
Incr Delay (d2), s/veh	0.3	8.4	3.3	68.9	0.0	9.0	6.6	2.9	0.2	0.7	0.0	49.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	6.0	4.1	8.7	0.0	11.5	2.4	9.4	2.7	1.8	0.0	22.9
LnGrp Delay(d),s/veh	29.9	43.8	33.1	96.8	0.0	37.0	30.9	30.7	13.5	22.4	0.0	81.5
LnGrp LOS	C	D	C	F		D	C	C	B	C		F
Approach Vol, veh/h		423			929			695			702	
Approach Delay, s/veh		38.2			69.0			26.3			72.9	
Approach LOS		D			E			C			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.0	24.0	11.9	36.0	9.1	37.9	11.3	36.6
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	17.0	18.0	6.0	30.0	6.0	29.0	6.0	30.0
Max Q Clear Time (g_c+I1), s	19.0	12.4	6.2	32.0	3.6	23.4	5.7	19.7
Green Ext Time (p_c), s	0.0	2.2	0.0	0.0	0.0	2.2	0.0	4.9

Intersection Summary	
HCM 2010 Ctrl Delay	54.5
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	233	226	405	651	0	0	0	0	382	1	32
Future Volume (veh/h)	0	233	226	405	651	0	0	0	0	382	1	32
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1792	1937	1826	1809	0				1597	1763	1900
Adj Flow Rate, veh/h	0	251	243	435	700	0				411	1	34
Adj No. of Lanes	0	2	1	1	2	0				1	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	0	6	2	3	4	0				19	0	19
Cap, veh/h	0	875	423	600	1816	0				457	13	439
Arrive On Green	0.00	0.26	0.26	0.19	0.53	0.00				0.30	0.30	0.30
Sat Flow, veh/h	0	3495	1647	1739	3527	0				1521	43	1462
Grp Volume(v), veh/h	0	251	243	435	700	0				411	0	35
Grp Sat Flow(s),veh/h/ln	0	1703	1647	1739	1718	0				1521	0	1505
Q Serve(g_s), s	0.0	4.1	9.0	12.3	8.4	0.0				18.1	0.0	1.2
Cycle Q Clear(g_c), s	0.0	4.1	9.0	12.3	8.4	0.0				18.1	0.0	1.2
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.97
Lane Grp Cap(c), veh/h	0	875	423	600	1816	0				457	0	452
V/C Ratio(X)	0.00	0.29	0.57	0.72	0.39	0.00				0.90	0.00	0.08
Avail Cap(c_a), veh/h	0	875	423	600	1816	0				565	0	559
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	20.9	22.7	13.6	9.8	0.0				23.5	0.0	17.6
Incr Delay (d2), s/veh	0.0	0.8	5.6	4.3	0.1	0.0				15.2	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.1	4.7	6.5	4.0	0.0				9.5	0.0	0.5
LnGrp Delay(d),s/veh	0.0	21.7	28.2	17.9	9.9	0.0				38.7	0.0	17.6
LnGrp LOS		C	C	B	A					D		B
Approach Vol, veh/h		494			1135						446	
Approach Delay, s/veh		24.9			13.0						37.1	
Approach LOS		C			B						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	19.0	24.0		27.0		43.0		
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		
Max Green Setting (Gmax), s	13.0	18.0		26.0		37.0		
Max Q Clear Time (g_c+I1), s	14.3	11.0		20.1		10.4		
Green Ext Time (p_c), s	0.0	3.8		0.9		8.0		

Intersection Summary	
HCM 2010 Ctrl Delay	21.0
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	560	0	0	972	673	106	0	171	0	0	0
Future Volume (veh/h)	46	560	0	0	972	673	106	0	171	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1881	1881	0	0	1826	1636	1881	1826	1791			
Adj Flow Rate, veh/h	48	589	0	0	1023	708	112	0	180			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	0	0	0	0	3	15	5	0	5			
Cap, veh/h	281	2386	0	0	1855	743	268	0	235			
Arrive On Green	0.04	0.67	0.00	0.00	0.53	0.53	0.15	0.00	0.15			
Sat Flow, veh/h	1791	3668	0	0	3561	1390	1739	0	1523			
Grp Volume(v), veh/h	48	589	0	0	1023	708	112	0	180			
Grp Sat Flow(s),veh/h/ln	1791	1787	0	0	1735	1390	1739	0	1523			
Q Serve(g_s), s	0.7	4.4	0.0	0.0	13.1	32.5	3.9	0.0	7.6			
Cycle Q Clear(g_c), s	0.7	4.4	0.0	0.0	13.1	32.5	3.9	0.0	7.6			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	281	2386	0	0	1855	743	268	0	235			
V/C Ratio(X)	0.17	0.25	0.00	0.00	0.55	0.95	0.42	0.00	0.77			
Avail Cap(c_a), veh/h	442	2386	0	0	1855	743	465	0	407			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	7.4	4.5	0.0	0.0	10.3	14.9	25.8	0.0	27.3			
Incr Delay (d2), s/veh	0.3	0.2	0.0	0.0	1.2	23.2	1.0	0.0	5.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.4	2.2	0.0	0.0	6.6	17.0	1.9	0.0	3.5			
LnGrp Delay(d),s/veh	7.6	4.7	0.0	0.0	11.5	38.1	26.8	0.0	32.5			
LnGrp LOS	A	A			B	D	C		C			
Approach Vol, veh/h		637			1731			292				
Approach Delay, s/veh		4.9			22.4			30.3				
Approach LOS		A			C			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		51.0			9.0	42.0		16.4
Change Period (Y+Rc), s		6.0			6.0	6.0		6.0
Max Green Setting (Gmax), s		45.0			9.0	30.0		18.0
Max Q Clear Time (g_c+I1), s		6.4			2.7	34.5		9.6
Green Ext Time (p_c), s		21.4			0.0	0.0		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	19.1
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	27	334	18	152	848	8	14	0	16	20	0	45
Future Vol, veh/h	27	334	18	152	848	8	14	0	16	20	0	45
Conflicting Peds, #/hr	2	0	3	3	0	2	1	0	1	1	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	305	-	-	145	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	2	-	-	0	-	-	4	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	6	0	0	4	40	0	0	0	0	0	5
Mvmt Flow	29	359	19	163	912	9	15	0	17	22	0	48

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	914	0	0	381	0	0	1694	1671	193	1480	1681	915
Stage 1	-	-	-	-	-	-	430	430	-	1241	1241	-
Stage 2	-	-	-	-	-	-	1264	1241	-	239	440	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.3	6.5	6.9	8.1	7.3	6.675
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.9	6.3	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	7.3	6.3	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3475
Pot Cap-1 Maneuver	754	-	-	1189	-	-	68	97	822	69	66	293
Stage 1	-	-	-	-	-	-	579	587	-	164	189	-
Stage 2	-	-	-	-	-	-	210	249	-	710	527	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	753	-	-	1188	-	-	49	80	819	59	54	292
Mov Cap-2 Maneuver	-	-	-	-	-	-	49	80	-	59	54	-
Stage 1	-	-	-	-	-	-	555	563	-	157	163	-
Stage 2	-	-	-	-	-	-	151	214	-	668	505	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	1.3	58.8	59.5
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	98	753	-	-	1188	-	-	132
HCM Lane V/C Ratio	0.329	0.039	-	-	0.138	-	-	0.529
HCM Control Delay (s)	58.8	10	-	-	8.5	-	-	59.5
HCM Lane LOS	F	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	1.3	0.1	-	-	0.5	-	-	2.5

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	52	457	634	46	1	382
Future Vol, veh/h	52	457	634	46	1	382
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	255	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-2	2	-	-4	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	6	5	4	0	4
Mvmt Flow	58	508	704	51	1	424

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	756	0	-	0	1099	378
Stage 1	-	-	-	-	730	-
Stage 2	-	-	-	-	369	-
Critical Hdwy	4.2	-	-	-	6	6.58
Critical Hdwy Stg 1	-	-	-	-	5	-
Critical Hdwy Stg 2	-	-	-	-	5	-
Follow-up Hdwy	2.25	-	-	-	3.5	3.34
Pot Cap-1 Maneuver	831	-	-	-	268	640
Stage 1	-	-	-	-	521	-
Stage 2	-	-	-	-	733	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	831	-	-	-	249	640
Mov Cap-2 Maneuver	-	-	-	-	249	-
Stage 1	-	-	-	-	521	-
Stage 2	-	-	-	-	682	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	21.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	831	-	-	-	637
HCM Lane V/C Ratio	0.07	-	-	-	0.668
HCM Control Delay (s)	9.7	-	-	-	21.3
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	5.1

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	95	22	76	288	5
Future Vol, veh/h	14	95	22	76	288	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	4	4	0
Mvmt Flow	16	106	24	84	320	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	456	323	326	0	-	0
Stage 1	323	-	-	-	-	-
Stage 2	133	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	566	723	1245	-	-	-
Stage 1	738	-	-	-	-	-
Stage 2	898	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	555	723	1245	-	-	-
Mov Cap-2 Maneuver	555	-	-	-	-	-
Stage 1	738	-	-	-	-	-
Stage 2	880	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.3	1.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1245	-	696	-	-
HCM Lane V/C Ratio	0.02	-	0.174	-	-
HCM Control Delay (s)	7.9	0	11.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

Intersection: 3: Blair Road & Fairview Road

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	TR	L	T	R	L	TR
Maximum Queue (ft)	99	258	222	195	2385	156	292	113	237	680
Average Queue (ft)	23	124	73	193	1561	61	155	39	130	395
95th Queue (ft)	72	217	158	201	3077	116	242	77	286	678
Link Distance (ft)		289			4008		1411			1461
Upstream Blk Time (%)		0	0							
Queuing Penalty (veh)		0	0							
Storage Bay Dist (ft)	150		245	170		200		260	212	
Storage Blk Time (%)		8	0	54	11		3		0	39
Queuing Penalty (veh)		16	0	209	50		7		0	36

Intersection: 6: Park Driveway/Jefferson Colony Road & Fairview Road

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	T	LTR	LTR
Maximum Queue (ft)	44	29	52	51	37	88
Average Queue (ft)	13	1	26	3	18	31
95th Queue (ft)	39	12	48	22	41	65
Link Distance (ft)		4008		599	409	1651
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	305		145			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 9: Fairview Road & Bartlett Road

Movement	EB	WB	WB	SB
Directions Served	L	T	TR	LR
Maximum Queue (ft)	73	28	6	188
Average Queue (ft)	27	1	0	83
95th Queue (ft)	64	11	4	152
Link Distance (ft)		856	856	781
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	255			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: 485 Inner Loop Ramp & Fairview Road

Movement	EB	EB	EB	WB	WB	WB	SB	SB
Directions Served	T	T	R	L	T	T	L	TR
Maximum Queue (ft)	104	98	114	217	293	234	189	361
Average Queue (ft)	52	47	53	141	128	87	160	96
95th Queue (ft)	92	86	94	224	244	188	215	299
Link Distance (ft)	856	856			766	766		901
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			160	195			165	
Storage Blk Time (%)				3	0		12	
Queuing Penalty (veh)				9	1		4	

Intersection: 14: 485 Outer Loop Ramp & Fairview Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R
Maximum Queue (ft)	60	103	104	317	238	174	140	130
Average Queue (ft)	30	46	46	142	62	90	60	53
95th Queue (ft)	57	89	89	246	189	166	108	94
Link Distance (ft)		766	766	764	764		1127	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	245					150		155
Storage Blk Time (%)					0	1	0	0
Queuing Penalty (veh)					1	7	0	0

Intersection: 17: Bartlett Road

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	67	31
Average Queue (ft)	33	4
95th Queue (ft)	53	20
Link Distance (ft)	526	781
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 341

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	331	127	312	192	40	117	426	440	118	406	40
Future Volume (veh/h)	74	331	127	312	192	40	117	426	440	118	406	40
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1835	1853	1890	1890	1860	1890	1872	1853	1872	1891	1892	1910
Adj Flow Rate, veh/h	77	345	132	325	200	42	122	444	458	123	423	42
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	1	1	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	2	0	0	2	2	1	2	1	1	1	1
Cap, veh/h	480	569	575	454	602	126	206	519	670	207	490	49
Arrive On Green	0.04	0.31	0.31	0.14	0.40	0.40	0.05	0.28	0.28	0.06	0.29	0.29
Sat Flow, veh/h	1748	1853	1596	1800	1490	313	1783	1853	1591	1801	1694	168
Grp Volume(v), veh/h	77	345	132	325	0	242	122	444	458	123	0	465
Grp Sat Flow(s),veh/h/ln	1748	1853	1596	1800	0	1803	1783	1853	1591	1801	0	1863
Q Serve(g_s), s	3.4	18.0	6.6	13.4	0.0	10.5	5.6	25.8	26.6	5.5	0.0	26.9
Cycle Q Clear(g_c), s	3.4	18.0	6.6	13.4	0.0	10.5	5.6	25.8	26.6	5.5	0.0	26.9
Prop In Lane	1.00		1.00	1.00		0.17	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	480	569	575	454	0	728	206	519	670	207	0	538
V/C Ratio(X)	0.16	0.61	0.23	0.72	0.00	0.33	0.59	0.86	0.68	0.59	0.00	0.86
Avail Cap(c_a), veh/h	496	569	575	565	0	728	206	554	699	207	0	573
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.1	33.6	25.5	22.6	0.0	23.3	30.6	38.8	26.8	30.1	0.0	38.4
Incr Delay (d2), s/veh	0.2	4.8	0.9	3.3	0.0	1.2	4.5	11.9	2.6	4.5	0.0	12.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	10.0	3.0	7.0	0.0	5.5	3.0	14.9	12.2	3.0	0.0	15.7
LnGrp Delay(d),s/veh	25.3	38.4	26.4	25.9	0.0	24.6	35.1	50.7	29.4	34.6	0.0	50.8
LnGrp LOS	C	D	C	C		C	D	D	C	C		D
Approach Vol, veh/h		554			567			1024			588	
Approach Delay, s/veh		33.7			25.3			39.3			47.4	
Approach LOS		C			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.0	40.9	12.0	38.9	10.9	52.0	13.0	37.9
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	23.0	29.0	6.0	35.0	6.0	46.0	7.0	34.0
Max Q Clear Time (g_c+I1), s	15.4	20.0	7.6	28.9	5.4	12.5	7.5	28.6
Green Ext Time (p_c), s	0.6	2.6	0.0	3.6	0.0	4.2	0.0	3.2

Intersection Summary	
HCM 2010 Ctrl Delay	37.0
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	682	86	231	468	0	0	0	0	495	1	58
Future Volume (veh/h)	0	682	86	231	468	0	0	0	0	495	1	58
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1881	1937	1809	1844	0				1792	1846	1900
Adj Flow Rate, veh/h	0	710	90	241	488	0				516	1	60
Adj No. of Lanes	0	2	1	1	2	0				1	1	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	1	2	4	2	0				6	0	6
Cap, veh/h	0	1166	537	391	1805	0				571	9	517
Arrive On Green	0.00	0.33	0.33	0.11	0.52	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3668	1647	1723	3596	0				1707	26	1547
Grp Volume(v), veh/h	0	710	90	241	488	0				516	0	61
Grp Sat Flow(s),veh/h/ln	0	1787	1647	1723	1752	0				1707	0	1573
Q Serve(g_s), s	0.0	13.3	3.1	6.9	6.3	0.0				23.0	0.0	2.1
Cycle Q Clear(g_c), s	0.0	13.3	3.1	6.9	6.3	0.0				23.0	0.0	2.1
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.98
Lane Grp Cap(c), veh/h	0	1166	537	391	1805	0				571	0	526
V/C Ratio(X)	0.00	0.61	0.17	0.62	0.27	0.00				0.90	0.00	0.12
Avail Cap(c_a), veh/h	0	1166	537	433	1891	0				750	0	691
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	22.6	19.1	15.6	10.9	0.0				25.3	0.0	18.4
Incr Delay (d2), s/veh	0.0	2.4	0.7	2.2	0.1	0.0				11.9	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.9	1.5	3.5	3.0	0.0				12.6	0.0	0.9
LnGrp Delay(d),s/veh	0.0	24.9	19.8	17.8	11.0	0.0				37.2	0.0	18.5
LnGrp LOS		C	B	B	B					D		B
Approach Vol, veh/h		800			729						577	
Approach Delay, s/veh		24.3			13.2						35.2	
Approach LOS		C			B						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	15.0	32.0		32.6		47.0		
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		
Max Green Setting (Gmax), s	11.0	26.0		35.0		43.0		
Max Q Clear Time (g_c+I1), s	8.9	15.3		25.0		8.3		
Green Ext Time (p_c), s	0.1	5.8		1.7		10.3		

Intersection Summary	
HCM 2010 Ctrl Delay	23.5
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	1150	0	0	522	343	168	0	377	0	0	0
Future Volume (veh/h)	32	1150	0	0	522	343	168	0	377	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1775	1826	0	0	1826	1695	1881	1862	1826			
Adj Flow Rate, veh/h	33	1186	0	0	538	354	173	0	389			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	6	3	0	0	3	11	3	0	3			
Cap, veh/h	356	1963	0	0	1594	662	509	0	445			
Arrive On Green	0.03	0.57	0.00	0.00	0.46	0.46	0.29	0.00	0.29			
Sat Flow, veh/h	1690	3561	0	0	3561	1440	1774	0	1552			
Grp Volume(v), veh/h	33	1186	0	0	538	354	173	0	389			
Grp Sat Flow(s),veh/h/ln	1690	1735	0	0	1735	1440	1774	0	1552			
Q Serve(g_s), s	0.8	18.3	0.0	0.0	8.1	14.3	6.3	0.0	19.4			
Cycle Q Clear(g_c), s	0.8	18.3	0.0	0.0	8.1	14.3	6.3	0.0	19.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	356	1963	0	0	1594	662	509	0	445			
V/C Ratio(X)	0.09	0.60	0.00	0.00	0.34	0.53	0.34	0.00	0.87			
Avail Cap(c_a), veh/h	406	1963	0	0	1594	662	698	0	611			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	10.4	11.7	0.0	0.0	14.1	15.7	22.9	0.0	27.6			
Incr Delay (d2), s/veh	0.1	1.4	0.0	0.0	0.6	3.1	0.4	0.0	10.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.4	9.1	0.0	0.0	3.9	6.3	3.1	0.0	9.6			
LnGrp Delay(d),s/veh	10.5	13.0	0.0	0.0	14.6	18.8	23.3	0.0	37.8			
LnGrp LOS	B	B			B	B	C		D			
Approach Vol, veh/h		1219			892			562				
Approach Delay, s/veh		13.0			16.3			33.3				
Approach LOS		B			B			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		52.0			8.6	43.4		29.3
Change Period (Y+Rc), s		6.0			6.0	6.0		6.0
Max Green Setting (Gmax), s		46.0			5.0	35.0		32.0
Max Q Clear Time (g_c+I1), s		20.3			2.8	16.3		21.4
Green Ext Time (p_c), s		15.8			0.0	12.7		1.9

Intersection Summary	
HCM 2010 Ctrl Delay	18.4
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	812	61	86	496	9	21	0	30	3	0	7
Future Vol, veh/h	16	812	61	86	496	9	21	0	30	3	0	7
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	305	-	-	145	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	2	-	-	0	-	-	4	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	2	0	2	2	0	0	0	3	0	0	0
Mvmt Flow	17	864	65	91	528	10	22	0	32	3	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	529	0	0	930	0	0	1645	1643	465	1178	1676	529
Stage 1	-	-	-	-	-	-	931	931	-	712	712	-
Stage 2	-	-	-	-	-	-	714	712	-	466	964	-
Critical Hdwy	4.1	-	-	4.13	-	-	7.3	6.5	6.945	8.1	7.3	6.6
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.9	6.3	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	7.3	6.3	-
Follow-up Hdwy	2.2	-	-	2.219	-	-	3.5	4	3.3285	3.5	4	3.3
Pot Cap-1 Maneuver	1048	-	-	733	-	-	73	101	543	122	66	522
Stage 1	-	-	-	-	-	-	291	348	-	364	375	-
Stage 2	-	-	-	-	-	-	425	439	-	497	271	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1048	-	-	733	-	-	64	87	542	103	57	522
Mov Cap-2 Maneuver	-	-	-	-	-	-	64	87	-	103	57	-
Stage 1	-	-	-	-	-	-	286	342	-	358	328	-
Stage 2	-	-	-	-	-	-	367	384	-	460	266	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	1.5	49.6	21
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	133	1048	-	-	733	-	-	235
HCM Lane V/C Ratio	0.408	0.016	-	-	0.125	-	-	0.045
HCM Control Delay (s)	49.6	8.5	-	-	10.6	-	-	21
HCM Lane LOS	E	A	-	-	B	-	-	C
HCM 95th %tile Q(veh)	1.8	0.1	-	-	0.4	-	-	0.1

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	127	761	469	54	0	136
Future Vol, veh/h	127	761	469	54	0	136
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	255	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-2	2	-	-4	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	1	1	2	4	0	2
Mvmt Flow	131	785	484	56	0	140

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	539	0	-	0	1165	270
Stage 1	-	-	-	-	511	-
Stage 2	-	-	-	-	654	-
Critical Hdwy	4.12	-	-	-	6	6.54
Critical Hdwy Stg 1	-	-	-	-	5	-
Critical Hdwy Stg 2	-	-	-	-	5	-
Follow-up Hdwy	2.21	-	-	-	3.5	3.32
Pot Cap-1 Maneuver	1032	-	-	-	247	750
Stage 1	-	-	-	-	642	-
Stage 2	-	-	-	-	560	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1032	-	-	-	216	750
Mov Cap-2 Maneuver	-	-	-	-	216	-
Stage 1	-	-	-	-	642	-
Stage 2	-	-	-	-	489	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1032	-	-	-	750
HCM Lane V/C Ratio	0.127	-	-	-	0.187
HCM Control Delay (s)	9	-	-	-	10.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.7

Intersection: 3: Blair Road & Fairview Road

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	TR	L	T	R	L	TR
Maximum Queue (ft)	174	304	270	195	362	225	1037	285	237	590
Average Queue (ft)	80	212	78	149	134	149	622	207	134	299
95th Queue (ft)	183	333	217	219	309	276	1412	380	273	505
Link Distance (ft)		289			4008		1411			1461
Upstream Blk Time (%)		8	0				10			
Queuing Penalty (veh)		0	0				0			
Storage Bay Dist (ft)	150		245	170		200		260	212	
Storage Blk Time (%)	0	26	0	10	2	0	32	0	1	24
Queuing Penalty (veh)	1	51	0	24	5	0	177	2	3	29

Intersection: 6: Park Driveway/Jefferson Colony Road & Fairview Road

Movement	EB	EB	WB	NB	SB
Directions Served	L	TR	L	LTR	LTR
Maximum Queue (ft)	29	12	65	65	30
Average Queue (ft)	4	1	26	27	5
95th Queue (ft)	20	6	53	54	20
Link Distance (ft)		4008		409	1651
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	305		145		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 9: Fairview Road & Bartlett Road

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	83	7	90
Average Queue (ft)	30	0	34
95th Queue (ft)	66	4	59
Link Distance (ft)		856	775
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	255		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: 485 Inner Loop Ramp & Fairview Road

Movement	EB	EB	EB	WB	WB	WB	SB	SB
Directions Served	T	T	R	L	T	T	L	TR
Maximum Queue (ft)	298	286	185	188	206	189	189	430
Average Queue (ft)	139	145	49	95	91	62	175	188
95th Queue (ft)	227	230	149	161	164	133	219	421
Link Distance (ft)	856	856			766	766		901
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			160	195			165	
Storage Blk Time (%)		6	0	0	0		23	0
Queuing Penalty (veh)		5	0	1	0		13	0

Intersection: 14: 485 Outer Loop Ramp & Fairview Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R
Maximum Queue (ft)	58	237	264	185	132	118	271	180
Average Queue (ft)	22	127	135	89	27	40	88	125
95th Queue (ft)	52	221	233	164	81	78	179	191
Link Distance (ft)		766	766	764	764		1127	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	245					150		155
Storage Blk Time (%)		0			0		0	5
Queuing Penalty (veh)		0			0		1	8

Network Summary

Network wide Queuing Penalty: 320

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	395	152	373	229	48	140	509	525	141	485	48
Future Volume (veh/h)	88	395	152	373	229	48	140	509	525	141	485	48
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1835	1853	1890	1890	1860	1890	1872	1853	1872	1891	1892	1910
Adj Flow Rate, veh/h	92	411	158	389	239	50	146	530	547	147	505	50
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	1	1	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	2	0	0	2	2	1	2	1	1	1	1
Cap, veh/h	444	510	521	425	586	123	154	539	732	173	507	50
Arrive On Green	0.05	0.28	0.28	0.17	0.39	0.39	0.05	0.29	0.29	0.06	0.30	0.30
Sat Flow, veh/h	1748	1853	1595	1800	1491	312	1783	1853	1591	1801	1695	168
Grp Volume(v), veh/h	92	411	158	389	0	289	146	530	547	147	0	555
Grp Sat Flow(s),veh/h/ln	1748	1853	1595	1800	0	1803	1783	1853	1591	1801	0	1863
Q Serve(g_s), s	4.4	24.2	8.7	17.4	0.0	13.6	6.0	33.2	33.1	6.8	0.0	34.8
Cycle Q Clear(g_c), s	4.4	24.2	8.7	17.4	0.0	13.6	6.0	33.2	33.1	6.8	0.0	34.8
Prop In Lane	1.00		1.00	1.00		0.17	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	444	510	521	425	0	709	154	539	732	173	0	557
V/C Ratio(X)	0.21	0.81	0.30	0.92	0.00	0.41	0.95	0.98	0.75	0.85	0.00	1.00
Avail Cap(c_a), veh/h	444	510	521	474	0	709	154	539	732	173	0	557
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.0	39.5	29.5	26.0	0.0	25.7	35.3	41.2	26.0	31.8	0.0	40.9
Incr Delay (d2), s/veh	0.2	12.8	1.5	21.2	0.0	1.7	56.2	34.6	4.2	31.2	0.0	37.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	14.1	4.0	11.0	0.0	7.1	4.2	22.1	15.3	4.8	0.0	23.6
LnGrp Delay(d),s/veh	28.3	52.3	31.0	47.2	0.0	27.4	91.6	75.8	30.2	63.0	0.0	78.0
LnGrp LOS	C	D	C	D		C	F	E	C	E		E
Approach Vol, veh/h		661			678			1223			702	
Approach Delay, s/veh		43.9			38.8			57.3			74.8	
Approach LOS		D			D			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.8	38.2	12.0	41.0	12.0	52.0	13.0	40.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	23.0	29.0	6.0	35.0	6.0	46.0	7.0	34.0
Max Q Clear Time (g_c+I1), s	19.4	26.2	8.0	36.8	6.4	15.6	8.8	35.2
Green Ext Time (p_c), s	0.5	1.3	0.0	0.0	0.0	5.2	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	54.5
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	814	103	276	559	0	0	0	0	591	1	69
Future Volume (veh/h)	0	814	103	276	559	0	0	0	0	591	1	69
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1881	1937	1809	1844	0				1792	1845	1900
Adj Flow Rate, veh/h	0	848	107	288	582	0				616	1	72
Adj No. of Lanes	0	2	1	1	2	0				1	1	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	1	2	4	2	0				6	0	6
Cap, veh/h	0	1048	483	337	1699	0				648	8	589
Arrive On Green	0.00	0.29	0.29	0.12	0.48	0.00				0.38	0.38	0.38
Sat Flow, veh/h	0	3668	1647	1723	3596	0				1707	22	1550
Grp Volume(v), veh/h	0	848	107	288	582	0				616	0	73
Grp Sat Flow(s),veh/h/ln	0	1787	1647	1723	1752	0				1707	0	1572
Q Serve(g_s), s	0.0	19.5	4.4	10.0	9.1	0.0				31.1	0.0	2.7
Cycle Q Clear(g_c), s	0.0	19.5	4.4	10.0	9.1	0.0				31.1	0.0	2.7
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.99
Lane Grp Cap(c), veh/h	0	1048	483	337	1699	0				648	0	597
V/C Ratio(X)	0.00	0.81	0.22	0.86	0.34	0.00				0.95	0.00	0.12
Avail Cap(c_a), veh/h	0	1048	483	337	1699	0				674	0	620
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	29.0	23.7	20.7	14.1	0.0				26.7	0.0	17.9
Incr Delay (d2), s/veh	0.0	6.8	1.1	19.0	0.1	0.0				22.7	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.5	2.1	6.4	4.4	0.0				18.6	0.0	1.2
LnGrp Delay(d),s/veh	0.0	35.8	24.7	39.7	14.2	0.0				49.4	0.0	18.0
LnGrp LOS		D	C	D	B					D		B
Approach Vol, veh/h		955			870						689	
Approach Delay, s/veh		34.6			22.6						46.1	
Approach LOS		C			C						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	17.0	32.0		39.7		49.0		
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		
Max Green Setting (Gmax), s	11.0	26.0		35.0		43.0		
Max Q Clear Time (g_c+I1), s	12.0	21.5		33.1		11.1		
Green Ext Time (p_c), s	0.0	3.3		0.6		12.7		

Intersection Summary	
HCM 2010 Ctrl Delay	33.6
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	1373	0	0	623	410	201	0	450	0	0	0
Future Volume (veh/h)	38	1373	0	0	623	410	201	0	450	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1775	1826	0	0	1826	1695	1881	1862	1826			
Adj Flow Rate, veh/h	39	1415	0	0	642	423	207	0	464			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	6	3	0	0	3	11	3	0	3			
Cap, veh/h	293	1850	0	0	1487	617	581	0	509			
Arrive On Green	0.04	0.53	0.00	0.00	0.43	0.43	0.33	0.00	0.33			
Sat Flow, veh/h	1690	3561	0	0	3561	1440	1774	0	1552			
Grp Volume(v), veh/h	39	1415	0	0	642	423	207	0	464			
Grp Sat Flow(s),veh/h/ln	1690	1735	0	0	1735	1440	1774	0	1552			
Q Serve(g_s), s	1.0	27.7	0.0	0.0	11.2	20.5	7.7	0.0	24.7			
Cycle Q Clear(g_c), s	1.0	27.7	0.0	0.0	11.2	20.5	7.7	0.0	24.7			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	293	1850	0	0	1487	617	581	0	509			
V/C Ratio(X)	0.13	0.76	0.00	0.00	0.43	0.69	0.36	0.00	0.91			
Avail Cap(c_a), veh/h	332	1850	0	0	1487	617	658	0	576			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	12.7	15.9	0.0	0.0	17.3	19.9	22.1	0.0	27.8			
Incr Delay (d2), s/veh	0.2	3.1	0.0	0.0	0.9	6.1	0.4	0.0	17.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.5	14.0	0.0	0.0	5.5	9.2	3.8	0.0	13.1			
LnGrp Delay(d),s/veh	12.9	18.9	0.0	0.0	18.2	26.0	22.4	0.0	45.5			
LnGrp LOS	B	B			B	C	C		D			
Approach Vol, veh/h		1454			1065			671				
Approach Delay, s/veh		18.8			21.3			38.4				
Approach LOS		B			C			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		52.0			9.0	43.0		34.3
Change Period (Y+Rc), s		6.0			6.0	6.0		6.0
Max Green Setting (Gmax), s		46.0			5.0	35.0		32.0
Max Q Clear Time (g_c+I1), s		29.7			3.0	22.5		26.7
Green Ext Time (p_c), s		13.1			0.0	10.5		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	23.7
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	970	73	103	592	11	25	0	36	4	0	8
Future Vol, veh/h	19	970	73	103	592	11	25	0	36	4	0	8
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	305	-	-	145	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	2	-	-	0	-	-	4	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	2	0	2	2	0	0	0	3	0	0	0
Mvmt Flow	20	1032	78	110	630	12	27	0	38	4	0	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	631	0	0	1111	0	0	1965	1962	556	1406	2001	631
Stage 1	-	-	-	-	-	-	1112	1112	-	850	850	-
Stage 2	-	-	-	-	-	-	853	850	-	556	1151	-
Critical Hdwy	4.1	-	-	4.13	-	-	7.3	6.5	6.945	8.1	7.3	6.6
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.9	6.3	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	7.3	6.3	-
Follow-up Hdwy	2.2	-	-	2.219	-	-	3.5	4	3.3285	3.5	4	3.3
Pot Cap-1 Maneuver	961	-	-	626	-	-	43	64	473	80	39	452
Stage 1	-	-	-	-	-	-	226	287	-	296	314	-
Stage 2	-	-	-	-	-	-	357	380	-	431	213	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	961	-	-	626	-	-	36	52	473	63	31	452
Mov Cap-2 Maneuver	-	-	-	-	-	-	36	52	-	63	31	-
Stage 1	-	-	-	-	-	-	221	281	-	290	259	-
Stage 2	-	-	-	-	-	-	289	313	-	388	208	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	1.7	146.3	31.6
HCM LOS			F	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	79	961	-	-	626	-	-	148
HCM Lane V/C Ratio	0.821	0.021	-	-	0.175	-	-	0.086
HCM Control Delay (s)	146.3	8.8	-	-	12	-	-	31.6
HCM Lane LOS	F	A	-	-	B	-	-	D
HCM 95th %tile Q(veh)	4.1	0.1	-	-	0.6	-	-	0.3

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	152	909	560	64	0	162
Future Vol, veh/h	152	909	560	64	0	162
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	255	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-2	2	-	-4	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	1	1	2	4	0	2
Mvmt Flow	157	937	577	66	0	167

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	643	0	-	0	1392	322
Stage 1	-	-	-	-	610	-
Stage 2	-	-	-	-	782	-
Critical Hdwy	4.12	-	-	-	6	6.54
Critical Hdwy Stg 1	-	-	-	-	5	-
Critical Hdwy Stg 2	-	-	-	-	5	-
Follow-up Hdwy	2.21	-	-	-	3.5	3.32
Pot Cap-1 Maneuver	945	-	-	-	184	698
Stage 1	-	-	-	-	584	-
Stage 2	-	-	-	-	496	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	945	-	-	-	153	698
Mov Cap-2 Maneuver	-	-	-	-	153	-
Stage 1	-	-	-	-	584	-
Stage 2	-	-	-	-	414	-

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	11.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	945	-	-	-	698
HCM Lane V/C Ratio	0.166	-	-	-	0.239
HCM Control Delay (s)	9.6	-	-	-	11.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.6	-	-	-	0.9

Intersection: 3: Blair Road & Fairview Road

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	TR	L	T	R	L	TR
Maximum Queue (ft)	175	328	270	195	719	225	1453	285	237	1030
Average Queue (ft)	107	295	201	181	330	170	1294	280	199	721
95th Queue (ft)	220	361	363	223	673	286	1758	333	307	1061
Link Distance (ft)		289			4008		1411			1461
Upstream Blk Time (%)		49	0				45			
Queuing Penalty (veh)		0	0				0			
Storage Bay Dist (ft)	150		245	170		200		260	212	
Storage Blk Time (%)	0	62	0	36	2	6	49	1	3	62
Queuing Penalty (veh)	0	149	0	100	8	63	326	5	15	87

Intersection: 6: Park Driveway/Jefferson Colony Road & Fairview Road

Movement	EB	EB	WB	NB	SB
Directions Served	L	TR	L	LTR	LTR
Maximum Queue (ft)	37	18	88	75	23
Average Queue (ft)	8	1	33	33	6
95th Queue (ft)	30	9	65	62	21
Link Distance (ft)		4008		409	1651
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	305		145		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 9: Fairview Road & Bartlett Road

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	124	29	70
Average Queue (ft)	43	1	37
95th Queue (ft)	92	11	61
Link Distance (ft)		856	775
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	255		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: 485 Inner Loop Ramp & Fairview Road

Movement	EB	EB	EB	WB	WB	WB	SB	SB
Directions Served	T	T	R	L	T	T	L	TR
Maximum Queue (ft)	272	277	185	219	283	202	190	772
Average Queue (ft)	167	180	73	127	117	85	188	412
95th Queue (ft)	252	272	193	206	213	170	197	761
Link Distance (ft)	856	856			766	766		901
Upstream Blk Time (%)								2
Queuing Penalty (veh)								0
Storage Bay Dist (ft)			160	195			165	
Storage Blk Time (%)		13	0	3	0		46	0
Queuing Penalty (veh)		13	0	7	0		32	0

Intersection: 14: 485 Outer Loop Ramp & Fairview Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R
Maximum Queue (ft)	60	322	354	244	216	136	407	180
Average Queue (ft)	22	177	187	140	60	55	195	155
95th Queue (ft)	52	286	311	223	161	110	360	214
Link Distance (ft)		766	766	764	764		1127	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	245					150		155
Storage Blk Time (%)		3			0	0	2	16
Queuing Penalty (veh)		1			1	0	11	31

Network Summary

Network wide Queuing Penalty: 851

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	426	152	401	246	52	140	509	567	152	485	48
Future Volume (veh/h)	88	426	152	401	246	52	140	509	567	152	485	48
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1835	1853	1890	1890	1860	1890	1872	1853	1872	1891	1892	1910
Adj Flow Rate, veh/h	92	444	158	418	256	54	146	530	591	158	505	50
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	1	1	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	2	0	0	2	2	1	2	1	1	1	1
Cap, veh/h	410	459	477	425	585	123	154	539	775	173	507	50
Arrive On Green	0.05	0.25	0.25	0.20	0.39	0.39	0.05	0.29	0.29	0.06	0.30	0.30
Sat Flow, veh/h	1748	1853	1594	1800	1489	314	1783	1853	1591	1801	1695	168
Grp Volume(v), veh/h	92	444	158	418	0	310	146	530	591	158	0	555
Grp Sat Flow(s),veh/h/ln	1748	1853	1594	1800	0	1802	1783	1853	1591	1801	0	1863
Q Serve(g_s), s	4.6	27.7	9.0	22.4	0.0	14.7	6.0	33.2	34.0	7.0	0.0	34.8
Cycle Q Clear(g_c), s	4.6	27.7	9.0	22.4	0.0	14.7	6.0	33.2	34.0	7.0	0.0	34.8
Prop In Lane	1.00		1.00	1.00		0.17	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	410	459	477	425	0	709	154	539	775	173	0	557
V/C Ratio(X)	0.22	0.97	0.33	0.98	0.00	0.44	0.95	0.98	0.76	0.92	0.00	1.00
Avail Cap(c_a), veh/h	410	459	477	425	0	709	154	539	775	173	0	557
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.3	43.5	31.9	34.2	0.0	26.0	35.3	41.2	24.5	32.9	0.0	40.9
Incr Delay (d2), s/veh	0.3	34.4	1.9	39.5	0.0	2.0	56.2	34.6	4.5	45.0	0.0	37.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	18.6	4.2	18.1	0.0	7.7	4.2	22.1	16.4	3.8	0.0	23.6
LnGrp Delay(d),s/veh	30.6	77.9	33.7	73.7	0.0	28.0	91.6	75.8	29.0	77.9	0.0	78.0
LnGrp LOS	C	E	C	E		C	F	E	C	E		E
Approach Vol, veh/h		694			728			1267			713	
Approach Delay, s/veh		61.6			54.3			55.8			78.0	
Approach LOS		E			D			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	29.0	35.0	12.0	41.0	12.0	52.0	13.0	40.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	23.0	29.0	6.0	35.0	6.0	46.0	7.0	34.0
Max Q Clear Time (g_c+I1), s	24.4	29.7	8.0	36.8	6.6	16.7	9.0	36.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	61.3
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	841	107	276	606	0	0	0	0	591	1	75
Future Volume (veh/h)	0	841	107	276	606	0	0	0	0	591	1	75
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1881	1937	1809	1844	0				1792	1845	1900
Adj Flow Rate, veh/h	0	876	111	288	631	0				616	1	78
Adj No. of Lanes	0	2	1	1	2	0				1	1	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	1	2	4	2	0				6	0	6
Cap, veh/h	0	1048	483	330	1699	0				648	8	589
Arrive On Green	0.00	0.29	0.29	0.12	0.48	0.00				0.38	0.38	0.38
Sat Flow, veh/h	0	3668	1647	1723	3596	0				1707	20	1552
Grp Volume(v), veh/h	0	876	111	288	631	0				616	0	79
Grp Sat Flow(s),veh/h/ln	0	1787	1647	1723	1752	0				1707	0	1572
Q Serve(g_s), s	0.0	20.4	4.5	10.0	10.0	0.0				31.1	0.0	2.9
Cycle Q Clear(g_c), s	0.0	20.4	4.5	10.0	10.0	0.0				31.1	0.0	2.9
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.99
Lane Grp Cap(c), veh/h	0	1048	483	330	1699	0				648	0	597
V/C Ratio(X)	0.00	0.84	0.23	0.87	0.37	0.00				0.95	0.00	0.13
Avail Cap(c_a), veh/h	0	1048	483	330	1699	0				674	0	620
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	29.3	23.8	20.8	14.4	0.0				26.7	0.0	18.0
Incr Delay (d2), s/veh	0.0	7.9	1.1	21.7	0.1	0.0				22.7	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	11.1	2.2	6.6	4.9	0.0				18.6	0.0	1.3
LnGrp Delay(d),s/veh	0.0	37.3	24.9	42.5	14.5	0.0				49.4	0.0	18.1
LnGrp LOS		D	C	D	B					D		B
Approach Vol, veh/h		987			919						695	
Approach Delay, s/veh		35.9			23.3						45.8	
Approach LOS		D			C						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	17.0	32.0		39.7		49.0		
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		
Max Green Setting (Gmax), s	11.0	26.0		35.0		43.0		
Max Q Clear Time (g_c+I1), s	12.0	22.4		33.1		12.0		
Green Ext Time (p_c), s	0.0	2.8		0.6		13.4		

Intersection Summary	
HCM 2010 Ctrl Delay	34.1
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	1399	0	0	653	410	218	0	450	0	0	0
Future Volume (veh/h)	39	1399	0	0	653	410	218	0	450	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1775	1826	0	0	1826	1695	1881	1862	1826			
Adj Flow Rate, veh/h	40	1442	0	0	673	423	225	0	464			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	6	3	0	0	3	11	3	0	3			
Cap, veh/h	285	1849	0	0	1484	616	582	0	509			
Arrive On Green	0.04	0.53	0.00	0.00	0.43	0.43	0.33	0.00	0.33			
Sat Flow, veh/h	1690	3561	0	0	3561	1440	1774	0	1552			
Grp Volume(v), veh/h	40	1442	0	0	673	423	225	0	464			
Grp Sat Flow(s),veh/h/ln	1690	1735	0	0	1735	1440	1774	0	1552			
Q Serve(g_s), s	1.1	28.7	0.0	0.0	11.9	20.5	8.4	0.0	24.7			
Cycle Q Clear(g_c), s	1.1	28.7	0.0	0.0	11.9	20.5	8.4	0.0	24.7			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	285	1849	0	0	1484	616	582	0	509			
V/C Ratio(X)	0.14	0.78	0.00	0.00	0.45	0.69	0.39	0.00	0.91			
Avail Cap(c_a), veh/h	323	1849	0	0	1484	616	657	0	575			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	12.9	16.1	0.0	0.0	17.5	20.0	22.3	0.0	27.8			
Incr Delay (d2), s/veh	0.2	3.3	0.0	0.0	1.0	6.1	0.4	0.0	17.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.5	14.5	0.0	0.0	5.9	9.2	4.2	0.0	13.0			
LnGrp Delay(d),s/veh	13.1	19.5	0.0	0.0	18.5	26.2	22.7	0.0	45.3			
LnGrp LOS	B	B			B	C	C		D			
Approach Vol, veh/h		1482			1096			689				
Approach Delay, s/veh		19.3			21.5			37.9				
Approach LOS		B			C			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		52.0			9.1	42.9		34.3
Change Period (Y+Rc), s		6.0			6.0	6.0		6.0
Max Green Setting (Gmax), s		46.0			5.0	35.0		32.0
Max Q Clear Time (g_c+I1), s		30.7			3.1	22.5		26.7
Green Ext Time (p_c), s		12.7			0.0	10.6		1.6

Intersection Summary	
HCM 2010 Ctrl Delay	24.0
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	14

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	75	998	73	126	629	16	25	0	36	12	0	20
Future Vol, veh/h	75	998	73	126	629	16	25	0	36	12	0	20
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	305	-	-	145	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	2	-	-	0	-	-	4	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	2	0	2	2	0	0	0	3	0	0	0
Mvmt Flow	80	1062	78	134	669	17	27	0	38	13	0	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	670	0	0	1140	0	0	2209	2199	571	1628	2238	670
Stage 1	-	-	-	-	-	-	1261	1261	-	938	938	-
Stage 2	-	-	-	-	-	-	948	938	-	690	1300	-
Critical Hdwy	4.1	-	-	4.13	-	-	7.3	6.5	6.945	8.1	7.3	6.6
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.9	6.3	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	7.3	6.3	-
Follow-up Hdwy	2.2	-	-	2.219	-	-	3.5	4	3.3285	3.5	4	3.3
Pot Cap-1 Maneuver	930	-	-	611	-	-	28	45	463	53	26	427
Stage 1	-	-	-	-	-	-	183	244	-	260	281	-
Stage 2	-	-	-	-	-	-	316	346	-	348	175	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	930	-	-	611	-	-	~ 21	32	463	38	19	427
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 21	32	-	38	19	-
Stage 1	-	-	-	-	-	-	167	223	-	237	219	-
Stage 2	-	-	-	-	-	-	234	270	-	292	160	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	2	$ 387	69.7
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	48	930	-	-	611	-	-	88
HCM Lane V/C Ratio	1.352	0.086	-	-	0.219	-	-	0.387
HCM Control Delay (s)	$ 387	9.2	-	-	12.5	-	-	69.7
HCM Lane LOS	F	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	6.1	0.3	-	-	0.8	-	-	1.5

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

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	180	940	565	112	0	222
Future Vol, veh/h	180	940	565	112	0	222
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	255	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-2	2	-	-4	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	1	1	2	4	0	2
Mvmt Flow	186	969	582	115	0	229

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	698	0	-	0	1496	349
Stage 1	-	-	-	-	640	-
Stage 2	-	-	-	-	856	-
Critical Hdwy	4.12	-	-	-	6	6.54
Critical Hdwy Stg 1	-	-	-	-	5	-
Critical Hdwy Stg 2	-	-	-	-	5	-
Follow-up Hdwy	2.21	-	-	-	3.5	3.32
Pot Cap-1 Maneuver	901	-	-	-	161	673
Stage 1	-	-	-	-	568	-
Stage 2	-	-	-	-	461	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	901	-	-	-	128	673
Mov Cap-2 Maneuver	-	-	-	-	128	-
Stage 1	-	-	-	-	568	-
Stage 2	-	-	-	-	366	-

Approach	EB	WB	SB
HCM Control Delay, s	1.6	0	13.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	901	-	-	-	673
HCM Lane V/C Ratio	0.206	-	-	-	0.34
HCM Control Delay (s)	10	-	-	-	13.1
HCM Lane LOS	B	-	-	-	B
HCM 95th %tile Q(veh)	0.8	-	-	-	1.5

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	60	76	216	162	15
Future Vol, veh/h	9	60	76	216	162	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	2	2	0
Mvmt Flow	9	62	78	223	167	15

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	554	175	182	0	-	0
Stage 1	175	-	-	-	-	-
Stage 2	379	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	497	874	1405	-	-	-
Stage 1	860	-	-	-	-	-
Stage 2	696	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	466	874	1405	-	-	-
Mov Cap-2 Maneuver	466	-	-	-	-	-
Stage 1	860	-	-	-	-	-
Stage 2	652	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1405	-	784	-	-
HCM Lane V/C Ratio	0.056	-	0.091	-	-
HCM Control Delay (s)	7.7	0	10.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.3	-	-

Intersection: 3: Blair Road & Fairview Road

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	TR	L	T	R	L	TR
Maximum Queue (ft)	174	312	270	195	626	225	1459	285	236	1154
Average Queue (ft)	103	299	206	180	309	187	1348	279	169	624
95th Queue (ft)	215	334	368	223	591	279	1687	331	304	1101
Link Distance (ft)		289			4008		1411			1461
Upstream Blk Time (%)		53	0				44			
Queuing Penalty (veh)		0	0				0			
Storage Bay Dist (ft)	150		245	170		200		260	212	
Storage Blk Time (%)	0	66	0	36	2	13	45	1	0	53
Queuing Penalty (veh)	2	159	1	108	6	141	318	6	0	80