DEVELOPMENT OF REGIONAL IMPACT (DRI) TRAFFIC IMPACT STUDY REPORT

SANY America

Peachtree City, Georgia

Prepared for:



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Executive Summary

Jacobs Carter Burgess has conducted an analysis of the existing and expected future traffic conditions and transportation requirements for the proposed SANY America development in Peachtree City, Georgia. SANY America is an industrial development that will employ 325 workers. The proposed development will have the following facilities: Office, approximately 139,930 square feet; Assembly/Painting, approximately 322,917 square feet; and Distribution Center, approximately 107,639 square feet. The SANY America development is expected to be completed in one phase with site build-out in 2010. The main access point will be on SR 74 at Cooper Circle (north) at an existing traffic signal. Secondary access will be provided on SR 74 at Cooper Circle (south).

Existing weekday traffic counts were taken during the peak periods and then used to evaluate the future impact of SANY America. Based on the results of the traffic analysis, no additional recommendations for the required lane geometry (without or with SANY America) were developed. The unsignalized intersection of Cooper Circle (south) remains LOS F under future conditions. However, increased side-street delays are typical of minor approaches with heavy mainline traffic volumes. Calculations indicate that comparing the left turn delay with the left turn volume does not indicate the need for a signal. Overall, traffic conditions are expected to be acceptable within the study area based on the corridor and intersection peak hour analyses.





1 Introduction

Jacobs Carter Burgess has conducted an analysis of the existing and expected future traffic conditions and transportation requirements for the proposed SANY America development in Peachtree City, Georgia. This report is provided to satisfy the detailed traffic impact study requirement for a Development of Regional Impact (DRI) Phase 2 submittal concerning the SANY America development.

The SANY America development is an industrial plant that specializes in manufacturing construction equipment. The plant will cover approximately 570,500 square feet of industrial space and employ approximately 325 employees. SANY America is expected to be completed in one phase with the expected site build-out in 2010. The main access point will be on Cooper Circle (north), off State Route (SR) 74 between SR 54 and SR 85. Secondary access will be provided on SR 74 at Cooper Circle (south).

Existing traffic counts were taken during the weekday AM and PM peak periods. Background growth was considered when projecting future traffic volumes. Existing and future (without and with SANY America) peak hour traffic volumes were analyzed using the methodologies contained in the 2000 Highway Capacity Manual (HCM 2000). Based on these volumes and results of the capacity analysis, recommendations for the required lane geometry (without and with SANY America) were developed.





2 SANY America

The proposed development will contain approximately 570,500 square feet of industrial development made up of the following facilities: Office, approximately 139,930 square feet; Assembly/Painting, approximately 322,917 square feet; and Distribution Center, approximately 107,639 square feet. This proposed manufacturing facility will make large-scale construction equipment, such as pumper trucks and cranes. The acreage for the SANY America site is approximately 228 acres. The proposed site is located to the southwest of SR 74 between Cooper Circle (north) and Cooper Circle (south). The SANY America development is expected to take one and a half to two years to complete. The expected build-out for this report is 2010. A public multi-use path connecting the development with a proposed multi-use tunnel is being provided adjacent to SR 74.

SITE PLAN

The SANY America site plan can be seen in Figure 1. The site location can be seen in Figure 2. An aerial photograph of the study area can be seen in Figure 3. The proposed site location presently has no active uses. The zoning for SANY America is currently GI (general industrial) and no zoning change is required for the SANY America development. The surrounding land uses are primarily industrial. SR 74 serves as an urban arterial and intersects both residential and commercial collectors. Off-street parking will be provided as surface parking lots with pedestrian crossings to buildings. A rendering of this site plan can be seen in Appendix A.

SITE ACCESS

The proposed development will have two access points to SR 74. The main access point will be on Cooper Circle (north), between SR 54 to the north and SR 85 to the south. Cooper Circle (north) consists of one entering lane and two exit lanes (one exclusive left turn and one shared through/right turn lane.) A secondary access point is south of the primary access at Cooper Circle (south) with one entry lane and two exit lanes (one shared left turn/through lane and one exclusive right turn lane.) A multi-use path is proposed to connect the site with a multi-use tunnel under SR 74 south of the development.

Currently, a CSX rail line runs in a north-south orientation to the west of the study site. This line connects Peachtree City with Atlanta, Georgia. As part of future development, the potential of a railroad spur to transport freight is being investigated.

BICYCLE AND PEDESTRIAN FACILITIES ON SITE

The proposed tunnel project south of the study site will allow alternate modes of transportation, including bicycles and golf carts, to the SANY America development. As part of the anticipated Leadership in Energy and Environmental (LEED) certification, bicycle racks and showers will be provided at SANY America. LEED certification provides independent, third-party verification that a building project meets the highest green building and performance measures and the nationally accepted benchmark for the design, construction, and operation of high performance green buildings.











TRANSIT ACCESS

No intra-city transit access is provided in Peachtree City that would serve the proposed development. GRTA vanpools do travel between downtown Atlanta and Peachtree City that could be used by visitors. No significant trip reduction from this transit use is expected.

PARKING

Approximately 361 parking spaces will be provided in surface lots for SANY America. Visitor and handicap parking will be available in a 32-vehicle parking lot at the office building, and most employee parking will be near Assembly Building 1. Of this parking, 36 spaces will be located near the distribution building. This parking provision is adequate for the City's requirements based on the number of employees at the plant. As part of seeking LEED certification, 20 separate parking spaces for golf carts will be provided, in addition to designated carpool and energy efficient parking. As part of the LEED certification, bicycle racks will also be provided.





3 Traffic Analyses Methodology and Assumptions

Analysis was first performed on the existing (2008) traffic conditions. The 2010 base year traffic volumes are the existing traffic volumes increased for background traffic growth. SANY America site-generated traffic volumes were then added to the base traffic volumes in order to obtain the 2010 future (with SANY America) traffic volumes. The following paragraphs present the assumptions used in calculating the background growth rate and site-generated traffic volumes, the data collection process in obtaining the existing traffic volumes, and the types of analyses used for intersection and segment traffic operations.

GROWTH RATE AND METHODOLOGY

To estimate future traffic volumes, the existing traffic volumes will be increased to account for background traffic growth not related directly to the proposed development. The following table comes from historical average daily traffic (ADT) volumes recorded by Georgia Department of Transportation (GDOT) count stations located in Fayette County. Jacobs Carter Burgess has performed a trend analysis, which conforms to specific *GDOT Design Policy Manual* guidance. Historical data from the closest GDOT count stations was analyzed, as shown in Table 1.

Table 1 Historical Traffic Growth						
5-Year10-Year15-YearGrowthGrowthGrowthCountyStationLocationRateRateRate						
Fayette	114	SR 74 south of Garner Park	-0.92%	3.65%	6.05%	
County	116	SR 74 south of Crosstown Rd	-5.78%	3.54%	4.63%	
5-Year, 10-Year, and 15-Year Averages			-3.35%	3.59%	5.34%	
Weighted Average				2.29%		

As a part of the concept development for SR 74 widening projects, GDOT Office of Environment/Location (OEL) has provided projected traffic volumes for the SR 74 corridor. These projected traffic volumes are included in Appendix B. An exponential annual traffic growth percentage was also calculated from the GDOT OEL projections, as shown in Table 2.

Table 2 GDOT OEL Traffic Growth						
Location	Location 2008 2028 Average Annual Grow					
SR 74 south of Dividend Drive	18,500	31,000	2.6%			

The SANY America development is currently scheduled to open in October 2009. However, this development schedule is considered aggressive. In order to remain conservative, the traffic study was completed for a Winter/Spring 2010 opening year. A background traffic growth of three percent (3%) will be applied as an exponential factor over two years, to increase traffic from existing (2008) to future (2010) conditions.





TRIP GENERATION FOR ADJACENT DEVELOPMENTS

No specific adjacent future developments were identified by Peachtree City in the vicinity of the SANY America development for inclusion in the DRI analysis.

TRAFFIC DATA COLLECTION

Jacobs Carter Burgess evaluated the roadway network in order to determine the intersections most likely to be impacted by the SANY America development. The proposed study intersections were discussed with Georgia Regional Transportation Authority (GRTA), Atlanta Regional Commission (ARC), and City of Peachtree City staff. Based on those discussions, the following locations were selected:

- SR 74 at Dividend Drive
- SR 74 at Cooper Circle (north)
- SR 74 at Cooper Circle (south)

Peak hour turning movement counts were performed on Thursday, March 27, 2008. All turning movement counts were recorded during the weekday morning (7:00 - 9:00 AM) and evening (4:00 - 6:00 PM) peak times. The four consecutive 15-minute interval volumes, summed to produce the highest volume at each intersection, were then determined. These volumes make up the peak hour traffic volumes for the intersection. These peak hour traffic counts will be used to determine existing and future traffic conditions using Synchro.

Additionally, twenty-four hour bidirectional traffic counts (vehicles per day) were taken on Tuesday, March 27, 2008, on SR 74 south of Cooper Circle (south.) Because of the existing construction on SR 74, this traffic count was taken to the south of the proposed development. Highway Capacity Software (HCS+) was then used to determine the segment level of service.

As a part of the concept development for SR 74 improvements between SR 54 and SR 85 (STP-209-1(1), 2(2), P.I. #322350 & 322355), GDOT OEL has provided projected traffic volumes for the SR 74 corridor. These projected traffic volumes are included in Appendix B and were used in calculations for background traffic growth, trip distribution, and initial study network confirmation. The projected volumes were then compared to the field count data taken as part of the data collection. Discrepancies were addressed as detailed in Section 7.

Construction has begun on the first phase (P.I. #322350) of the SR 74 improvements and improvements through the study intersections are currently scheduled for completion in October 2008. The second phase (P.I. #322355) is expected to be let in June 2008, and GDOT staff expects this project to be open to traffic two to three years after the let date. The study intersections are within the first phase of the SR 74 improvements. The intersection and roadway analysis for this DRI will assume that the first phase SR 74 roadway improvements are in place.

INTERSECTION TRAFFIC ANALYSIS

An analysis of existing peak hour traffic conditions was performed to determine the level of service (LOS) at the study intersections. LOS for an intersection is based on vehicular delay at the intersection and is a typical measure of effectiveness used to evaluate intersection operations. The HCM 2000 provides ranges of delay for each LOS definition, spanning from very minimal delays (LOS A) to high delays (LOS F). LOS F is considered unacceptable for most drivers.





For signalized intersections, Synchro software was used to determine LOS using the HCM 2000 methodology, based on the following input data:

- Intersection geometry
- Lane configuration
- Turning movement volumes
- Existing signal phasing
- Existing signal timing

For unsignalized intersections where side streets or minor streets are controlled by a stop sign, the criterion for evaluating traffic operations is the LOS for the controlled turning movements at the intersection. Synchro uses methodology from HCM 2000 to determine the delay and LOS for these turning movements as based on the following input data:

- Intersection geometry
- Lane configuration
- Turning movement volumes

This peak hour analysis was performed for the AM and PM peak traffic volumes for the existing (2008) conditions during construction, the AM and PM peak hour traffic volumes with post-construction geometry for the no-build (base 2010) conditions, and the AM and PM peak hour traffic volumes for the build (future 2010) conditions.

DETAILED SEGMENT TRAFFIC ANALYSIS

Two-lane and multi-lane roadway analyses were performed using HCS+, which utilizes the HCM 2000 methodology for determining acceptable LOS using the highest daily hour (PM) traffic counts. In twolane analysis, SR 74 is a Class I highway where motorists expect to travel at relatively high speeds. Class I facilities typically serve long-distance trips or provide links between facilities that serve long distance trips. For the multi-lane analysis, after the completion of SR 74 construction, the HCM 2000 operational segment analysis was used to determine the LOS.

TRIP GENERATION FOR SANY AMERICA

Phase I of the SANY America industrial development will consist of approximately 570,500 square feet of industrial space and employ approximately 325 employees. The trip generation for the proposed development was calculated from the number of total employees as based on the rates from the Institute of Transportation Engineers (ITE) *Trip Generation*, 7^{th} *Edition* report. The AM peak hour trip generation for the proposed industrial development was based on rates from *ITE Land Use 140 – Manufacturing*. Based on conversation with GRTA staff, the PM peak hour projections are based on *"Weekday, PM Peak Hour of Generator."*

Average daily trip (ADT) information for the SANY America site was calculated based on expected employee trips as discussed with GRTA and SANY America staff. The following assumptions were made:

- 325 employees
- 50 percent of employees with a mid-shift vehicle trip for eating
- 11 trucks per day







- 15 visitors per day
- 1.2 vehicle occupancy for employees (based on *ITE Trip Generation* data)

The results of this ADT trip calculation are more conservative than rates calculated from the ITE Trip Generation Report. The proposed trip generation results can be seen in Table 3. The resulting site-generated traffic volumes were distributed to the roadway network and added to the base 2010 traffic volumes in order to obtain the future (with SANY America development) 2010 traffic volumes.

Table 3 Trip Generation – SANY America								
A.M. Peak Hour P.M. Peak Hour						24-Hr.		
Land Use	Employees	Enter	Exit	Total	Enter	Exit	Total	2-Way
Manufacturing	325	95	35	130	62	68	130	865
Modal Split Reduction	-2%	-2	-1	-3	-1	<u>-1</u>	-2	<u>-17</u>
Total Manufacturing		93	34	127	61	67	128	848





4 Study Network

Existing roadway conditions and volumes, along with initial trip generation and trip distribution information, were considered in order to determine traffic operations within the study area. The following section presents gross trip generation, trip distribution, level of service standards, study network determination, study elements, and existing facilities.

GROSS TRIP GENERATION

The gross trip generation (before reductions) results for SANY America can be seen in Table 4.

Table 4 Gross Trip Generation – SANY America								
A.M. Peak Hour P.M. Peak Hour					24-Hr.			
Land Use	Employees	Enter	Exit	Total	Enter	Exit	Total	2-Way
Manufacturing	325	95	35	130	62	68	130	865

TRIP DISTRIBUTION

The trip distribution shown in Figure 4 will be applied for the SANY America DRI traffic impact study. Details of the calculation of this trip distribution are described in Section 6.

LEVEL OF SERVICE STANDARDS

Where the traffic analysis shows a change in LOS that provides worse than LOS D conditions in a location that was operating at LOS D or better in the existing condition, improvements will be tested and recommended, as appropriate to mitigate the effects of the development on LOS. Existing deficiencies and potential improvements will also be identified at locations with LOS E or LOS F during existing conditions.

STUDY NETWORK DETERMINATION

The GRTA *Technical Guidelines* define the determination of the study area by the seven percent (7%) rule as referenced below:

Where the trips generated by a proposed DRI exceed 7% of the two-way, daily service volumes at the appropriate level of service standard, the segment will be included in the study network.

The 2008 projected and two-way volumes were projected by GDOT as part of the existing widening projects. These volumes can be seen on the traffic flow diagrams for SR 74 in Appendix B. Based on the trip generation and the projected trip distribution, the study network meets the seven percent (7%) rule recommended in the GRTA *Technical Guidelines* shown in Table 5.



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Table 5 GRTA 7% Calculation							
Roadway Name	2008 Projected Volume	Two- Way Volume	7% of Two-Way Volume	Trip Generation ADT	80% of Trip Generation ADT		
SR 74 south of Dividend Drive	9,250	18,500	1,295	848	678		

STUDY ELEMENTS

An analysis of existing peak hour traffic conditions was performed to determine the LOS at the following study intersections:

- SR 74 at Dividend Drive
- SR 74 at Cooper Circle (north)
- SR 74 at Cooper Circle (south)

Roadway traffic analysis was also performed on SR 74 south of Cooper Circle (south.) Traffic analysis was performed for the typical peak periods. Pedestrian and truck data were also collected at the study intersections as part of the data collection process.

EXISTING FACILITIES

The roadway network was examined to evaluate the existing roadway conditions adjacent to the proposed site. SR 74 extends west to intersect with Interstate 85 and extends east to intersect with SR 85 before continuing toward Macon, Georgia. Within the study area, SR 74 changes directions, running north/south at Dividend Drive and northeast/southwest at Cooper Circle. SR 74 is analyzed as east/west at the two Cooper Circle intersections. SR 74 serves traffic as an urban principal arterial. Development along SR 74 is primarily commercial and industrial to the north of the study site. To the south within the study area, SR 74 has access to residential developments and some commercial developments. A baseball and soccer complex is located just south of the proposed SANY America site location. Currently the roadway is a two-lane undivided highway with a 45 mile per hour (mph) speed limit; however, two current projects along SR 74 between SR 54 and SR 85 will widen the facility into a four-lane divided highway with a 24-foot raised median. The project immediately adjacent to the proposed development will be complete by the end of 2008.

According to daily traffic counts taken near the proposed development, the ADT volume for SR 74 south of Cooper Circle (south) was 15,793 vehicles per day on Thursday, March 27, 2008. The ADT hourly distribution for SR 74 at this location can be seen in Figure 5. As can be seen in Figure 5, SR 74 experiences significant directionality during peak periods.

SR 54 extends from west of Interstate 85 to connect Peachtree City to Jonesboro, Georgia, before continuing toward Atlanta, Georgia. Near the study area, SR 54 transitions from a two-lane roadway in the west to a four-lane highway in the east.

Dividend Drive is a 40-mph urban minor arterial. After its T-intersection with SR 74, Dividend Drive changes directionality to run parallel to SR 74 and connect to Waterwood Bend. In the study area, Dividend Drive is a two-lane undivided roadway that primarily accesses industrial land uses.





Adjacent to the proposed SANY America development, Cooper Circle (north) is a local two-lane road that serves Cooper Lighting and Sigvaris and has a speed limit of 35 mph. It extends southwest from SR 74. Gardner Park extends as the northeast leg of the intersection and provides access to Gardner Denver development.

Cooper Circle (south) borders the proposed development to the south. This two-lane local roadway serves Cooper Wiring Devices and Storage Xxtra. The Federal Aviation Administration (FAA) driveway makes the fourth leg of the SR 74 at Cooper Circle (south) intersection.



Figure 5 SR 74 Average Daily Traffic

The study intersections have the following roadway geometry while the widening project is under construction:

SR 74 at Cooper Circle (north)

- Northbound approach (Cooper Circle)
 - o one exclusive left turn lane
 - o one shared through/right turn lane
- Southbound approach (Gardner Park)
 - o one exclusive left turn lane
 - o one shared through/right turn lane





- Eastbound approach (SR 74)
 - o one exclusive left turn lane
 - o one exclusive through lane
 - o one exclusive right turn lane
- Westbound approach (SR 74)
 - o one exclusive left turn lane
 - \circ one exclusive through lane
 - $\circ \quad$ one exclusive right turn lane

SR 74 at Cooper Circle (south)

- Northbound approach (Cooper Circle)
 - o one shared through/left turn lane
 - o one exclusive right turn lane
- Southbound approach (FAA Driveway)
 - o one exclusive left turn lane
 - o one exclusive right turn lane
- Eastbound approach (SR 74)
 - one shared left turn/through lane
 - o one exclusive right turn lane
- Westbound approach (SR 74)
 - one exclusive through lane
 - o one exclusive right turn lane

SR 74 at Dividend Drive

- Northbound approach (SR 74)
 - o one exclusive left turn lane
 - o one exclusive through lane
 - o one exclusive right turn lane
- Southbound approach (SR 74)
 - o one exclusive left turn lane
 - o one exclusive through lane
 - \circ $\,$ one exclusive right turn lane
- Eastbound approach (Dividend Drive)
 - o one exclusive left turn lane
 - o one shared through/right turn lane
- Westbound approach (Panasonic Driveway)
 - o one shared left turn/through lane
 - o one exclusive right turn lane

The existing lane geometry during construction for the three study intersections can be seen in Figure 6.







The SR 74 improvements between SR 54 and SR 85 (STP-209-1(1), 2(2), P.I. #322350 & 322355) will have the most significant effect on the study area. The first phase (P.I. #322350) of the SR 74 improvements is already under construction and the second phase (P.I #322355) is expected to be let in 2008. These improvements will widen SR 74 from its existing two-lane undivided section to a four-lane divided highway within the study area. The study intersections will have the following roadway geometry:

SR 74 at Cooper Circle (north)

- Northbound approach (Cooper Circle)
 - o one exclusive left turn lane
 - o one shared through/right turn lane
- Southbound approach (Gardner Park)
 - o one exclusive left turn lane
 - o one shared through/right turn lane
- Eastbound approach (SR 74)
 - o one exclusive left turn lane
 - o two exclusive through lanes
 - o one exclusive right turn lane
- Westbound approach (SR 74)
 - o one exclusive left turn lane
 - o two exclusive through lanes
 - o one exclusive right turn lane

SR 74 at Cooper Circle (south)

- Northbound approach (Cooper Circle)
 - o one shared through/left turn lane
 - o one exclusive right turn lane
- Southbound approach (FAA Driveway)
 - o one exclusive left turn lane
 - o one exclusive right turn lane
- Eastbound approach (SR 74)
 - o one exclusive left turn lane
 - two exclusive through lanes
 - o one exclusive right turn lane
- Westbound approach (SR 74)
 - one exclusive left turn lane
 - two exclusive through lanes
 - o one exclusive right turn lane



SR 74 at Dividend Drive

- Northbound approach (SR 74)
 - o one exclusive left turn lane
 - \circ two exclusive through lanes
 - o one exclusive right turn lane
- Southbound approach (SR 74)
 - o one exclusive left turn lane
 - o two exclusive through lanes
 - o one exclusive right turn lane
- Eastbound approach (Dividend Drive)
 - o one exclusive left turn lane
 - one shared through/right turn lane
- Westbound approach (Panasonic Driveway)
 - o one exclusive left turn lane
 - o one shared through/right turn lane

The lane geometry after construction (base) for the three study intersections can be seen in Figure 7.









5 Trip Generation

No specific adjacent developments were considered for the SANY America traffic impact study. The proposed SANY America industrial development consists of the following land uses:

SANY America

- 139,930 square feet of office
- 322,917 square feet of assembly/painting
- 107,639 square feet of distribution center

The trip distribution and proposed site layout were used in assigning these site-generated trips to the roadway network. The resulting site-generated traffic volumes (after reductions) were used to determine the future traffic volumes.

INTERNAL CAPTURE

Because there is no mixed-use in this industrial development, no internal capture is applied.

ALTERNATIVE MODES OF TRANSPORTATION

The use of golf carts and bicycles are alternate modes of transportation other than passenger vehicles that were taken into consideration in determining the trip generation.

PASS-BY TRIPS

The trip generation for this development does not include any pass-by trip reductions. Pass-by trips are trips already on the roadway network that are diverted to the new development. Industrial land uses typically have a minimal percentage of pass-by trips.

FINAL TRIP GENERATION

A modal split reduction is the only trip reduction applied to the SANY America development. The final trip generation for the SANY America development can be seen in Table 6.

Table 6 Net Trip Generation – SANY America								
A.M. Peak Hour P.M. Peak Hour 24-Hr.								
Land Use	Employees	Enter	Exit	Total	Enter	Exit	Total	2-Way
Manufacturing	325	95	35	130	62	68	130	865
Modal Split Reduction	-2%	<u>-2</u>	<u>-1</u>	<u>-3</u>	<u>-1</u>	<u>-1</u>	<u>-2</u>	<u>-17</u>
Total: SANY America	93	34	127	61	67	128	848	



6 Trip Distribution and Assignment

The trip distribution is the percentage of site traffic that travels on each of the various roadways to and from a site. The proposed trip distribution was based on the GDOT projected 2008 traffic counts (located in Appendix B), as shown in Table 7:

Table 7								
Proposed Traffic Distribution								
Roadway Name	2008 Projected Volume	Two-Way Volume	Distribution					
SR 54 West	16,000	32,000	18%					
SR 74 North	17,750	35,500	20%					
SR 54 East	15,500	31,000	18%					
Paschall Road	1,200	2,400	1%					
Willow Road	1,300	2,600	1%					
Kelly Drive	1,400	2,800	2%					
McIntosh Trail	4,150	8,300	5%					
Crosstown Drive	10,500	21,000	12%					
Dividend Drive	2,250	4,500	3%					
Rockaway Road	1,750	3,500	2%					
Redwine Road	3,000	6,000	3%					
SR 85 East	6,250	12,500	7%					
SR 85 West	7,000	14,000	8%					

At the study intersections, these distributions summarize to the following, as shown in Figure 4:

North on SR 74:	77%
West on Dividend Drive:	3%
South on SR 74:	20%

Trip assignment uses the most likely path for the "distributed" vehicles to travel to and from the site. Based on discussions with Integrated Science & Engineering about the site layout, manufacturing employees, and truck traffic will be encouraged to use the northern (signalized) Cooper Circle intersection. The executives and visitors will primarily access their parking facilities from the southern (unsignalized) Cooper Circle intersection. The entering and existing traffic percentages for the specific traffic movements were found by applying the trip distribution and trip assignment calculations. The resulting site-generated traffic volumes for the SANY America development are shown in Figure 8.





7 Traffic Analysis

Existing roadway conditions and volumes were considered in order to determine the current traffic operations within the study area. The traffic operations were compared with base and future traffic operations to determine the expected impacts of the proposed development as well as the effort of expected background growth.

EXISTING TRAFFIC VOLUMES

Peak hour turning movement counts were performed in March 2008 at the following locations:

- SR 74 at Dividend Drive
- SR 74 at Cooper Circle (north)
- SR 74 at Cooper Circle (south)

Additionally, a daily traffic volume count was performed in March 2008 on SR 74 south of Cooper Circle. All turning movement counts were recorded during the weekday morning and evening peak times. The roadway ADT volume and the intersection peak hour volumes (determined by summing the four highest consecutive 15-minute intervals) are shown in Figure 9.

EXISTING TRAFFIC CONDITIONS

Synchro was used to estimate intersection LOS under existing conditions using the HCM 2000 methodology. The existing conditions include any congestion and delay that may be associated with the present construction. HCS+ was used to estimate segment LOS under existing conditions.

The results for existing conditions can be seen in Figure 10. The intersection traffic and roadway operations are also shown in Tables 8 and 9, respectively. As shown in the results, the two signalized study intersections operate acceptably (LOS C or better) during the weekday peak periods. However, at the unsignalized intersection of SR 74 at Cooper Circle (south), the northeast left turn movement from Cooper Circle to SR 74 operates at LOS F during the AM and PM peak periods.

Typically, unsignalized side-street approaches with a heavy mainline traffic volume will experience delays worse than LOS D during the weekday peak hours. However, SR 74 at Cooper Circle (south) is expected to experience significant delays (LOS F) under side-street stop control. In further evaluating this intersection, calculations indicated that the left turn delay multiplied by the left turn volume does not result in delays greater than four vehicle-hours (the signal warrant delay criteria) during the peak hours. These results indicate that this intersection may not meet signal warrant criteria during the existing conditions. Based on existing traffic volumes, no traffic signal is recommended.









Table 8 Existing Intersection Traffic Operations							
		Traffic O	perations				
Intersection	AM	Peak	PM	Peak			
	LOS	Delay (sec)	LOS	Delay (sec)			
SR 74 at Dividend Drive (s)	В	14	С	21			
SR 74 at Cooper Circle (north) (s)	В	11	С	27			
SR 74 at Cooper Circle (south) (u) Northwest Left Turn Southeast Left Turn Northeast Approach Southwest Approach	A A F A	0 0 54 0	A A F A	1 0 60 0			

(s) = signalized, (u) = unsignalized

Table 9 Existing Roadway Traffic Operations					
	Traffic Operations				
Roadway	Average Daily Volume	Peak Hour Volume (PM)	Measure (LOS)		
SR 74 south of Cooper Circle (south)	15,793	1,400	E		

EXISTING REQUIRED LANES

Although the two-way analysis on SR 74 yields LOS E, the roadway is currently under construction. Therefore, no additional analysis has been completed under existing conditions. It is expected that these volumes will meet acceptable LOS under four-lane conditions.

BASE TRAFFIC VOLUMES (NO-BUILD)

The increases in traffic volumes due to completed construction and background traffic growth were added to the existing volumes to determine the base conditions traffic volumes. These base traffic volumes are the traffic volumes expected to be on the roadway network in the full build-out year (2010) without considering additional trips from the proposed SANY America development.

The traffic volumes counted in March 2008 were compared with the GDOT OEL projected 2008 volumes for the SR 74 widening project. It was determined from this comparison that the existing ADT volumes along SR 74 are approximately 15 percent lower than the anticipated 2008 projected volumes. Because this difference is likely due to congestion in the construction area, Jacobs Carter Burgess increased the March 2008 counts by 15 percent to match the GDOT volumes.

The average growth rate on SR 74 and Dividend Drive (as determined in Section 3 of this report) is three percent (3%.) This average annual growth rate was applied as an exponential factor over two years for 2010 base conditions. The resulting 2010 base peak hour traffic volumes (after the increases for background growth and construction) are shown in Figure 11.







BASE TRAFFIC CONDITIONS (NO-BUILD)

The base conditions were assumed to use the road geometry after existing widening project construction has been completed, as shown in Figure 7. Each of the intersections included in this study were re-evaluated for the 2010 base conditions. The 2010 base (without SANY America) intersection traffic operations results are shown in Figure 12 and Table 10. The 2010 base roadway segment traffic operations are shown in Table 11.

Table 10 2010 Base Intersection Traffic Operations					
Intersection	Traffic Operations				
	AMI	Peak	PM Peak		
	LOS	Delay (sec)	LOS	Delay (sec)	
SR 74 at Dividend Drive (s)	В	11	В	18	
SR 74 at Cooper Circle (north) (s)	А	6	В	13	
SR 74 at Cooper Circle (south) (u) Northwest Left Turn Southeast Left Turn Northeast Approach Southwest Approach	B A F A	11 0 56 0	B A F A	11 0 68 0	

(s) = signalized, (u) = unsignalized

Table 11 2010 Base Roadway Traffic Operations					
	Traffic Operations				
Roadway	Average Daily Volume	Peak Hour Volume (PM)	Measure (LOS)		
SR 74 south of Cooper Circle (south)	19,267	1,708	В		

BASE LANE REQUIREMENTS (NO-BUILD)

Due to the current corridor widening projects along SR 74, no corridor or intersection improvements in the study area are being considered. The corridor and signalized intersections operate at acceptable LOS, and the unsignalized intersection does not experience undue delay when compared the traffic volumes. The product of the left turn delay and the left turn volume is less than the four vehicle hours required to warrant a signal; therefore, the intersection is not expected to warrant a signal under base conditions.







FUTURE TRAFFIC VOLUMES (BUILD)

The traffic volumes that will be generated from SANY America (Figure 8) were added to the 2010 base traffic volumes (Figure 11) to determine the impact of the proposed project at full build-out. These 2010 future traffic volumes are shown in Figure 13.

FUTURE TRAFFIC CONDITIONS (BUILD)

The intersection geometry used in the 2010 base conditions (Figure 7) and the 2010 future traffic volumes (Figure 13) were used to determine the 2010 future traffic operations. The 2010 future intersection traffic operations at each intersection evaluated are compared with the 2010 base intersection traffic operations in Table 12. The 2010 future roadway segment traffic operations are shown in Table 13. The 2010 future operations are also shown in Figure 14.

Table 12 2010 Base and 2010 Future Intersection Traffic Operations								
	2010 Base Conditions				2010 Future Conditions			
Intersection	AM Peak		PM Peak		AM Peak		PM Peak	
	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
SR 74 at Dividend Drive (s)	В	11	В	18	В	12	В	19
SR 74 at Cooper Circle (north) (s)	А	6	В	13	А	6	В	18
SR 74 at Cooper Circle (south) (u) Northwest Left Turn Southeast Left Turn Northeast Approach Southwest Approach	B A F A	11 0 56 0	B A F A	11 0 68 0	B A F A	11 0 70 0	B A F A	11 0 96 0

(s) = signalized, (u) = unsignalized

Table 13 2010 Future Roadway Traffic Operations					
	Traffic Operations				
Roadway	Average Daily Volume	Peak Hour Volume (PM)	Measure (LOS)		
SR 74 south of Cooper Circle (south)	19,945	1,816	В		

FUTURE LANE REQUIREMENTS (BUILD)

Due to the current corridor widening projects along SR 74, no corridor or intersection improvements in the study area are necessary. The four-lane divided highway will accommodate future traffic volumes including the addition of the SANY America development. The corridor and signalized intersections operate at acceptable LOS, and the unsignalized intersection does not have significant traffic volumes experiencing delays to anticipate the need for a traffic signal improvement.








8 Off-Site Facility Needs

The following conclusions are based on the collected data, intersection capacity analyses, and field observations of existing conditions and future conditions with the addition of development traffic.

MITIGATION MEASURES SUMMARY

Existing GDOT roadway projects are in the process of widening SR 74 to a four-lane divided highway. As part of these projects, exclusive left turn and right turn lanes will be provided at each of the study intersections along SR 74. These signalized intersections are expected to operate at acceptable LOS, as is the SR 74 segment.

The minor street approach for the unsignalized intersection of SR 74 at Cooper Circle (south) does operate at LOS F. However, unsignalized side-street approaches with a heavy mainline traffic volume typically experience delays worse than LOS D during the weekday peak hours. In further evaluating this intersection, calculations indicate that the left turn delay multiplied by the left turn volume does not result in delays greater than four vehicle-hours (the signal warrant delay criteria) during the peak hours, which indicates that the intersection may not meet signal warrant criteria during the future conditions.

The segment analysis and intersection analyses indicate acceptable operation; therefore, no additional mitigation is required.





9 Identification of Programmed Projects

Jacobs Carter Burgess reviewed the City of Peachtree City's 1992 Comprehensive Plan and 2008 Partial Plan Update, the *State Transportation Improvement Program*, ARC's *Envision6 Regional Transportation Plan* (RTP) (which includes the Transportation Improvement Program and Regional Development Plan), GDOT's *Construction Work Program*, and GDOT's *Transportation Explorer*.

One project is under construction along SR 74 as of the date of this report.

GDOT Project 322350: STP 00-0209-01(001)

- 1. Description: Widening SR 74 from just south of Crosstown Road northwest to SR 54
- 2. Construction Cost: \$30,861,668.10
- 3. Source of Funds: currently under construction
- 4. Open-to-Traffic Date: 2008
- 5. Project Contact: Clay Bastian, Design Group Manager, GDOT Office of Road & Airport Design, Phone 404-656-5400

Three projects will be under construction or completed along SR 74 by 2010.

GDOT Project 322355: STP 00-0209-01(002)

- 1. Description: Widening SR 74 from SR 85 to CS 597/Cooper Circle
- 2. Construction Cost: \$21,233,000
- 3. Source of Funds: L240 (ROW L240, PE STP)
- 4. Open-to-Traffic Date: 2010
- 5. Project Contact: Vinesha Pegram, GDOT Project Manager

GDOT Project 0006991: CSSTP-0006-00(991)

- 1. Description: SR 74 Multi-Use Tunnel
- 2. Construction Cost: \$57,000
- 3. Source of Funds: General Fund
- 4. Open-to-Traffic Date: 2009
- 5. Project Contact: David Borkowski, PE, City Engineer, City of Peachtree City, Phone 770-631-2538
- GDOT Project 0006816: (CSSTP-0006-00(816)
 - 1. Description: SR 74 South Multi-use Path Connections
 - 2. Construction Cost: \$250,000
 - 3. Source of Funds: L230
 - 4. Open-to-Traffic Date: 2010
 - 5. Project Contact: Bill Rountree, GDOT Project Manager





10 Ingress/Egress Analysis

SANY America will provide a ten-foot wide multi-use path along its frontage on Cooper Circle (south), joining with Peachtree City's proposed multi-use facilities and their associated access to adjacent properties and roadways.

The planned SR 74 North Multi-use Tunnel (CSSTP-0006-00(991), P.I. #0006991) is also expected to have a significant impact on the study area, as it will connect the proposed site to the extensive Peachtree City path project for golf cart, bicycle, or other pedestrian use. Other path improvements are expected in 2009 for the SR 74 area as part of the SR 74 South Multi-use Path Connections (CSSTP-0006-00(816), P.I. #0006816) project.

The SANY America main driveway will access SR 74 at an existing traffic signal. Secondary access is provided to SR 74 at an existing curb cut. Traffic operations at both locations are expected to operate in a safe and efficient manner and at acceptable levels of service, although left turn vehicles from the unsignalized driveway will experience some delays during the peak hours. At Cooper Circle (north), entering queues are expected to remain approximately 100 feet or less, and exiting queues are expected to remain under 80 feet, based on 95% queue length analysis. For Cooper Circle (south), entering queues are expected to remain less than 50 feet with exiting queues less than 20 feet.

SANY America site plan vehicle ingress/egress appears satisfactory. Care should be taken so that the streetscape design does not obscure driveway line-of-sight.





11 Internal Circulation Analysis

SANY America will provide five-foot wide sidewalks and crosswalks through the parking lots and at any point that conflicts with vehicular traffic to promote safe on-site pedestrian movements. Entrances to parking facilities are expected to operate acceptably and at relatively low volumes. Appropriate signing should be provided at all vehicle-pedestrian conflict points. Efficient vehicle movement internal to the site is provided with the two-way main access. If necessary, the gate separating the main parking from the visitor/executive parking can be opened, allowing access from either connection on SR 74.







12 Compliance with Comprehensive Plan Analysis

As mentioned previously, Jacobs Carter Burgess reviewed the City of Peachtree City 1992 Comprehensive Plan and 2008 Partial Plan Update, the *State Transportation Improvement Program*, ARC's *Envision6 Regional Transportation Plan* (RTP) (which includes the Transportation Improvement Program and Regional Development Plan), GDOT's *Construction Work Program*, and GDOT's *Transportation Explorer*. Two roadway projects planned or programmed within the study network by 2010 were identified, as previously discussed.

In reviewing the City of Peachtree City's *1992 Comprehensive Plan* and *2008 Partial Plan Update*, several elements of SANY America were found to be in line with its measures and policies. The industrial nature of the SANY America development matches the land use plan for the development site. The addition of this international industry to the industrial park encourages the development of local jobs for residents.

In the Plan's Transportation section, the City requests minimal curb cuts on SR 74. SANY America will use existing curb cuts for access to its development. It will also promote alternative transportation options, such as bicycling or electric golf cart use, for employees to travel to work. SANY America will provide connection to the City's existing 90 miles of multi-use paths, in accordance with the comprehensive plan. The SANY America development complements these transportation policies and guidelines.

Part of the comprehensive plan involves protecting the natural environment. SANY America has taken steps to achieve LEED certification, which indicates that a building is reducing negative impacts on the environment through its design.

The zoning for SANY America is currently GI and no zoning change is required. The current land use and future land use category is general industry. The development site is part of Peachtree City's Industrial Park and is classified on the Character Area Map as employment center – industrial.





13 Answer Criteria

The following eight criteria are answered for SANY America:

Quality, Character, Convenience, and Flexibility of Transportation Options

In order to promote improved regional mobility in terms of the quality, character, convenience, and flexibility of transportation options, SANY America has explored the following transportation options. As alternative options to travel to the site without using a personal vehicle, workers may take advantage of the proposed multi-use tunnel via low-speed motor vehicle, motorized cart, golf cart, or bicycle. Peachtree City currently has over 7,500 registered golf carts residents use for everyday transportation needs, along with a 90-mile network of multi-use paths that is continually expanding. The SANY America development will be designed for LEED certification, including not only 20 spaces for golf carts and bicycle facilities, but also carpool and energy-efficient parking spaces.

Vehicle Miles Traveled

The proposed DRI is likely to promote regional mobility by reducing vehicle miles of travel. The trip generation for this development includes a two percent modal split reduction. Workers living within the Area of Influence (AOI) have the opportunity to choose an alternate mode of transportation (bicycle, golf cart, carpool, or energy-efficient vehicle) which will decrease the number of vehicle miles on the roadways.

Additionally, US Census (2000) and ARC Regional Employment (2000) data show the current jobs-tohousing unit ratio for the AOI is approximately 1.24, which is lower than the typical balanced ratio of 1.5 jobs to 1 housing unit. The additional job opportunities created by "exclusively employment" developments such as SANY America will increase the potential of balancing the jobs-to-housing unit ratio. This balance can lead to shorter work trips and improve the balance of land uses within the AOI.

Relationship Between Location of Proposed DRI and Regional Mobility

The proposed DRI is likely to promote improved regional mobility because it is located along a state route (SR 74), which is currently being widened to a four-lane divided highway. This corridor provides connection to I-85, SR 85, and SR 54. The town center is just east on SR 54, less than five miles north of the development. The site location is currently zoned as "general industrial" with "industrial" land use according to the Peachtree City Land Use Plan.

Relationship Between Proposed DRI and Existing or Planned Transit Facilities

Peachtree City has no existing, planned, or proposed transit facilities near the proposed DRI. A vanpool ride share program in available for Peachtree City residents commuting to Atlanta through the Midtown Alliance. *Envision6* includes planned transit services (express bus) between Peachtree City and downtown Atlanta by 2020. These transit facilities have limited effect on the proposed DRI but could be utilized for visitors to the SANY America site.

Transportation Management Area Designation

There are no currently established Transportation Management Associations (TMAs) for Peachtree City.





Offsite Trip Reduction and Trip Reduction Techniques

Offsite trip generation is being reduced by two percent due to modal reductions. The proposed tunnel and subsequent multi-use path along SR 74 will allow employees to commute via golf cart, bicycle, or other non-passenger vehicular methods.

Because the SANY America development is single-use (industrial) and is located in a smaller urban area with no existing intra-city transit facilities, further trip reduction percentages were considered too aggressive for the prevailing conditions.

Balance of Land Uses – Jobs/Housing Balance

US Census (2000) and ARC Regional Employment (2000) data show the current jobs-to-housing unit ratio for the AOI is approximately 1.24, which is lower than the typical balanced ratio of 1.5 jobs to 1 housing unit. As a comparison, the jobs-to-housing unit ratio using the ARC 20 County 2005 Regional Travel Demand Model socioeconomic data for both households and employment was calculated and was also determined to be 1.24.

The additional job opportunities created by "exclusively employment" developments such as SANY America will increase the potential of balancing the jobs-to-housing unit ratio. This balance can lead to shorter work trips and improve the balance of land uses within the AOI. Therefore, SANY America is located in an AOI where the proposed DRI is reasonably anticipated to contribute to a balancing of land uses within the AOI such that twenty-five (25%) of the persons who are reasonably anticipated to be employed in the proposed DRI have an opportunity to live within the AOI.

Relationship Between Proposed DRI and Existing Development and Infrastructure

The proposed DRI is not located in an area where the existing level of development and availability of infrastructure within the Area of Influence would result in an unplanned and poorly served development until adequate public facilities are available. The existing vehicular infrastructure serving the study area is more than adequate to meet the needs of the proposed DRI. The proposed multi-use path and tunnel will accommodate alternative forms of transportation to the DRI. The existing amount of commercial, residential, and office land uses within the study area is sufficient to help support the SANY America development. Additionally, the land use plan for Peachtree City includes this study area as part of the Industrial Village, so it is appropriate that industry be built on the proposed site.





Appendix A SANY America Rendering





P E R K I N S + W I L L



Appendix B GDOT OEL Traffic Projections









Appendix C Count Data



All Traffic Data Services, Inc. 1336 Farmer Road Conyers, GA 30012

www.alltrafficdata.net

Site Code: 3 Station ID: 3 SR 74 SOUTH OF COOPER CIRCLE SOUTH Latitude: 0' 0.000 Undefined

Start	26-Mar-08	NB		Hour T	otals
Time	Wed	Morning	Afternoon	Morning	Afternoon
12:0	0	6	108		
12:1	5	7	108		
12:3	0	1	122		
12:4	5	3	124	17	462
01:0	0	3	126		
01:1	5	2	112		
01:3	0	3	123		
01:4	5	4	93	12	454
02:0	0	2	106		
02:1	5	4	110		
02:3	0	3	106		
02:4	5	2	100	11	422
03:0	0	3	92		
03:1	5	4	112		
03:3	0	17	116		
03:4	5	18	110	42	430
04:0	0	8	90		
04:1	5	13	101		
04:3	0	28	102		
04:4	5	28	98	77	391
05:0	0	27	97		
05:1	5	52	85		
05:3	0	91	92		
05:4	5	124	93	294	367
06:0	0	138	106		
06:1	5	142	86		
06:3	0	243	90		
06:4	5	226	88	749	370
07:0	0	144	73		
07:1	5	199	60		
07:3	0	262	44		
07:4	5	312	83	917	260
08:0	0	262	84		
08:1	5	166	54		
08:3	0	179	43		
08:4	5	148	47	755	228
09:0	0	116	28		
09:1	5	113	43		
09:3	0	91	20		
09:4	5	102	24	422	115
10:0	0	74	45		
10:1	5	82	35		
10:3	0	74	28		
10:4	5	67	18	297	126
11:0	0	85	6		
11:1	5	77	6		
11:3	0	86	13		
11:4	5	107	6	355	31
Tota	al	3948	3656		
Percer	nt	51.9%	48.1%		
Grand Tota	al	3948	3656		
Percer	nt	51.9%	48.1%		

ADT 7,604

ADT

AADT 7,604

All Traffic Data Services, Inc. 1336 Farmer Road Conyers, GA 30012

www.alltrafficdata.net

Site Code: 3.5 Station ID: 3.5 SR 74 SOUTH OF COOPER CIRCLE SOUTH Latitude: 0' 0.000 Undefined

Start	26-Mar-08	SB		Hour T	otals
Time	Wed	Morning	Afternoon	Morning	Afternoon
12:00	0	25	144		
12:15	5	16	114		
12:30	0	25	108		
12:45	5	9	101	75	467
01:00	0	13	102		
01:15	5	7	93		
01:30	0	8	131		
01:45	5	10	118	38	444
02:00	0	11	110		
02:15	5	9	123		
02:30	0	6	140		
02:45	5	3	125	29	498
03:00	0	3	130		
03:15	5	4	151		
03:30	0	3	194		
03:45	5	9	212	19	687
04:00	0	4	225		
04:15	5	3	192		
04:30	0	5	232		
04:45	5	3	198	15	847
05:00	0	8	300		
05:15	5	8	260		
05:30	0	12	221		
05:45	5	13	252	41	1033
06:00	0	28	215		
06:15	5	24	188		
06:30	0	23	161		
06:45	5	39	134	114	698
07:00	0	50	140		
07:15	5	89	108		
07:30	0	88	111		
07:45	5	60	96	287	455
08:00	0	68	108		
08:15	5	84	118		
08:30	0	58	108		
08:45	5	76	85	286	419
09:00)	60	64		
09:15	5	75	80		
09:30	0	80	48		
09:45	5	81	54	296	246
10:00)	78	36		
10:15	5	117	40		
10:30	0	120	27		
10:45	5	135	19	450	122
11:00	<u> </u>	120	43		
11:15		152	20		
11:30	J	122	18		
11:45		126	22	520	103
Tota		2170	6019		
Percen	t	26.5%	73.5%		
Grand Tota		2170	6019		
Percen	τ	26.5%	73.5%		

ADT

AADT 8,189

1336 Farmer Road Conyers, GA 30012 **404-374-1283**

File Name : CooperNorth@SR74AM Site Code : 00000000 Start Date : 3/27/2008 Page No : 1

								G	roups I	Printed-	Cars -	Truck	S								
			SR 7	4		CO	OPER	CIRC	LE NO	RTH			SR 74	1		CO	OPER	CIRC	LE NO	RTH	
		S	outhbo	ound			N	/estbo	und			N	orthbo	und			E	astbou	und		
Start Time	Left	Thru	Rght	Other	App. Total	Left	Thru	Rght	Other	App. Total	Left	Thru	Rght	Other	App. Total	Left	Thru	Rght	Other	App. Total	Int. Total
07:00 AM	8	59	9	0	76	1	0	2	0	3	7	129	5	0	141	0	0	0	0	0	220
07:15 AM	4	107	15	0	126	0	0	2	0	2	10	168	3	0	181	2	0	0	0	2	311
07:30 AM	3	124	23	0	150	0	0	2	0	2	18	209	2	0	229	2	0	1	0	3	384
07:45 AM	3	161	31	0	195	0	0	2	0	2	26	218	4	0	248	7	0	0	0	7	452
Total	18	451	78	0	547	1	0	8	0	9	61	724	14	0	799	11	0	1	0	12	1367
08:00 AM	5	192	23	0	220	1	0	3	0	4	24	191	4	0	219	4	0	1	0	5	448
08:15 AM	4	134	26	0	164	2	0	2	0	4	23	185	6	0	214	5	0	0	0	5	387
08:30 AM	3	76	22	0	101	0	0	1	0	1	22	168	4	0	194	2	0	1	0	3	299
08:45 AM	5	67	24	0	96	1	0	2	0	3	18	158	5	0	181	3	0	0	0	3	283
Total	17	469	95	0	581	4	0	8	0	12	87	702	19	0	808	14	0	2	0	16	1417
Grand Total	35	920	173	0	1128	5	0	16	0	21	148	1426	33	0	1607	25	0	3	0	28	2784
Apprch %	3.1	81.6	15.3	0		23.8	0	76.2	0		9.2	88.7	2.1	0		89.3	0	10.7	0		
Total %	1.3	33	6.2	0	40.5	0.2	0	0.6	0	0.8	5.3	51.2	1.2	0	57.7	0.9	0	0.1	0	1	
Cars	35	878	173	0	1086	5	0	16	0	21	148	1324	33	0	1505	25	0	3	0	28	2640
% Cars	100	95.4	100	0	96.3	100	0	100	0	100	100	92.8	100	0	93.7	100	0	100	0	100	94.8
Trucks	0	42	0	0	42	0	0	0	0	0	0	102	0	0	102	0	0	0	0	0	144
% Trucks	0	4.6	0	0	3.7	0	0	0	0	0	0	7.2	0	0	6.3	0	0	0	0	0	5.2



1336 Farmer Road Conyers, GA 30012 **404-374-1283**

File Name : CooperNorth@SR74AM Site Code : 00000000 Start Date : 3/27/2008 Page No : 2

			SR 74	1		CO	OPER	CIRC	LE NO	RTH			SR 74	1		CO	OPER		LE NO	RTH	
		Sc	outhbo	und			N	estbo	und			N	orthbo	und			E	astbou	und		
Start Time	Left	Thru	Rght	Other	App. Total	Left	Thru	Rght	Other	App. Total	Left	Thru	Rght	Other	App. Total	Left	Thru	Rght	Other	App. Total	Int. Total
Peak Hour A	nalysis	From (07:00 A	AM to C	8:45 AN	1 - Pea	k 1 of	1													
Peak Hour fo	r Entire	e Inters	ection	Begins	at 07:3	0 AM															
07:30 AM	3	124	23	0	150	0	0	2	0	2	18	209	2	0	229	2	0	1	0	3	384
07:45 AM	3	161	31	0	195	0	0	2	0	2	26	218	4	0	248	7	0	0	0	7	452
08:00 AM	5	192	23	0	220	1	0	3	0	4	24	191	4	0	219	4	0	1	0	5	448
08:15 AM	4	134	26	0	164	2	0	2	0	4	23	185	6	0	214	5	0	0	0	5	387
Total Volume	15	611	103	0	729	3	0	9	0	12	91	803	16	0	910	18	0	2	0	20	1671
% App. Total	2.1	83.8	14.1	0		25	0	75	0		10	88.2	1.8	0		90	0	10	0		
PHF	.750	.796	.831	.000	.828	.375	.000	.750	.000	.750	.875	.921	.667	.000	.917	.643	.000	.500	.000	.714	.924
Cars	15	584	103	0	702	3	0	9	0	12	91	755	16	0	862	18	0	2	0	20	1596
% Cars	100	95.6	100	0	96.3	100	0	100	0	100	100	94.0	100	0	94.7	100	0	100	0	100	95.5
Trucks	0	27	0	0	27	0	0	0	0	0	0	48	0	0	48	0	0	0	0	0	75
% Trucks	0	4.4	0	0	3.7	0	0	0	0	0	0	6.0	0	0	5.3	0	0	0	0	0	4.5



1336 Farmer Road Conyers, GA 30012 **404-374-1283**

File Name : CooperNorth@SR74PM Site Code : 00000000 Start Date : 3/27/2008 Page No : 1

								Gi	roups F	Printed-	<u>Cars -</u>	Trucks	S								
			SR 7	4		CO	OPER	CIRC	LE NO	RTH			SR 74	1		CO	OPER	CIRC	LE NO	RTH	
		S	outhbo	und			N	estbo	und			N	orthbo	und			E	astbou	und		
Start Time	Left	Thru	Rght	Other	App. Total	Left	Thru	Rght	Other	App. Total	Left	Thru	Rght	Other	App. Total	Left	Thru	Rght	Other	App. Total	Int. Total
04:00 PM	4	224	3	0	231	3	2	6	0	11	0	102	1	0	103	13	0	3	0	16	361
04:15 PM	1	181	2	0	184	1	1	2	0	4	1	118	0	0	119	12	0	2	0	14	321
04:30 PM	0	226	2	0	228	9	0	4	0	13	2	115	2	0	119	15	0	3	0	18	378
04:45 PM	0	199	3	0	202	6	0	6	0	12	0	113	1	0	114	12	0	2	0	14	342
Total	5	830	10	0	845	19	3	18	0	40	3	448	4	0	455	52	0	10	0	62	1402
05:00 PM	0	240	2	0	242	8	1	11	0	20	0	131	0	0	131	52	0	9	0	61	454
05:15 PM	0	214	3	0	217	6	0	10	0	16	0	110	0	0	110	41	0	8	0	49	392
05:30 PM	0	213	2	0	215	2	1	5	0	8	0	111	1	0	112	35	0	8	0	43	378
05:45 PM	1	234	2	0	237	5	0	3	0	8	1	115	0	0	116	24	0	6	0	30	391
Total	1	901	9	0	911	21	2	29	0	52	1	467	1	0	469	152	0	31	0	183	1615
Grand Total	6	1731	19	0	1756	40	5	47	0	92	4	915	5	0	924	204	0	41	0	245	3017
Apprch %	0.3	98.6	1.1	0		43.5	5.4	51.1	0		0.4	99	0.5	0		83.3	0	16.7	0		
Total %	0.2	57.4	0.6	0	58.2	1.3	0.2	1.6	0	3	0.1	30.3	0.2	0	30.6	6.8	0	1.4	0	8.1	
Cars	6	1629	16	0	1651	40	5	47	0	92	4	860	5	0	869	204	0	41	0	245	2857
% Cars	100	94.1	84.2	0	94	100	100	100	0	100	100	94	100	0	94	100	0	100	0	100	94.7
Trucks	0	102	3	0	105	0	0	0	0	0	0	55	0	0	55	0	0	0	0	0	160
% Trucks	0	5.9	15.8	0	6	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	5.3



1336 Farmer Road Conyers, GA 30012 **404-374-1283**

File Name : CooperNorth@SR74PM Site Code : 00000000 Start Date : 3/27/2008 Page No : 2

			SR 74	1		CO	OPER	CIRC	LE NO	RTH			SR 74	1		CO	OPER	CIRC	LE NO	RTH	ĺ
		Sc	outhbo	und			W	estbou	und			N	orthbo	und			E	astbou	und		
Start Time	Left	Thru	Rght	Other	App. Total	Left	Thru	Rght	Other	App. Total	Left	Thru	Rght	Other	App. Total	Left	Thru	Rght	Other	App. Total	Int. Total
Peak Hour Ar	nalysis	From (04:00 F	PM to 0	5:45 PN	1 - Peal	k 1 of ′	1													
Peak Hour fo	r Entire	e Inters	ection	Begins	at 05:0	D PM															
05:00 PM	0	240	2	0	242	8	1	11	0	20	0	131	0	0	131	52	0	9	0	61	454
05:15 PM	0	214	3	0	217	6	0	10	0	16	0	110	0	0	110	41	0	8	0	49	392
05:30 PM	0	213	2	0	215	2	1	5	0	8	0	111	1	0	112	35	0	8	0	43	378
05:45 PM	1	234	2	0	237	5	0	3	0	8	1	115	0	0	116	24	0	6	0	30	391
Total Volume	1	901	9	0	911	21	2	29	0	52	1	467	1	0	469	152	0	31	0	183	1615
% App. Total	0.1	98.9	1	0		40.4	3.8	55.8	0		0.2	99.6	0.2	0		83.1	0	16.9	0		
PHF	.250	.939	.750	.000	.941	.656	.500	.659	.000	.650	.250	.891	.250	.000	.895	.731	.000	.861	.000	.750	.889
Cars	1	848	8	0	857	21	2	29	0	52	1	433	1	0	435	152	0	31	0	183	1527
% Cars	100	94.1	88.9	0	94.1	100	100	100	0	100	100	92.7	100	0	92.8	100	0	100	0	100	94.6
Trucks	0	53	1	0	54	0	0	0	0	0	0	34	0	0	34	0	0	0	0	0	88
% Trucks	0	5.9	11.1	0	5.9	0	0	0	0	0	0	7.3	0	0	7.2	0	0	0	0	0	5.4



1336 Farmer Road Conyers, GA 30012 **404-374-1283**

File Name : CooperSouth@SR74AM Site Code : 00000000 Start Date : 3/27/2008 Page No : 1

								G	roups I	Printed-	Cars -	Truck	S								
			SR 74	4			FAA	DRIV	EWAY				SR 74	1		CO	OPER	CIRC	LE SO	UTH	
		S	outhbo	und			V	/estbo	und			N	orthbo	und			E	astbou	und		
Start Time	Left	Thru	Rght	Other	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Other	App. Total	Left	Thru	Rght	Other	App. Total	Int. Total
07:00 AM	0	75	3	0	78	0	0	0	0	0	0	134	0	0	134	3	0	1	0	4	216
07:15 AM	0	127	3	0	130	0	0	0	0	0	1	169	0	0	170	0	0	2	0	2	302
07:30 AM	0	149	1	0	150	0	0	0	0	0	1	206	0	0	207	2	0	2	0	4	361
07:45 AM	0	192	1	0	193	0	0	0	0	0	3	210	0	0	213	2	0	0	0	2	408
Total	0	543	8	0	551	0	0	0	0	0	5	719	0	0	724	7	0	5	0	12	1287
08:00 AM	0	217	4	0	221	0	0	0	0	0	1	192	0	0	193	2	0	1	0	3	417
08:15 AM	0	164	4	0	168	0	0	0	0	0	3	187	0	0	190	3	0	2	0	5	363
08:30 AM	0	103	4	0	107	0	0	0	0	0	1	169	0	0	170	2	0	0	0	2	279
08:45 AM	0	98	1	0	99	0	0	0	0	0	0	160	0	0	160	3	0	1	0	4	263
Total	0	582	13	0	595	0	0	0	0	0	5	708	0	0	713	10	0	4	0	14	1322
Grand Total	0	1125	21	0	1146	0	0	0	0	0	10	1427	0	0	1437	17	0	9	0	26	2609
Apprch %	0	98.2	1.8	0		0	0	0	0		0.7	99.3	0	0		65.4	0	34.6	0		
Total %	0	43.1	0.8	0	43.9	0	0	0	0	0	0.4	54.7	0	0	55.1	0.7	0	0.3	0	1	
Cars	0	1080	18	0	1098	0	0	0	0	0	10	1321	0	0	1331	14	0	6	0	20	2449
% Cars	0	96	85.7	0	95.8	0	0	0	0	0	100	92.6	0	0	92.6	82.4	0	66.7	0	76.9	93.9
Trucks	0	45	3	0	48	0	0	0	0	0	0	106	0	0	106	3	0	3	0	6	160
% Trucks	0	4	14.3	0	4.2	0	0	0	0	0	0	7.4	0	0	7.4	17.6	0	33.3	0	23.1	6.1



1336 Farmer Road Conyers, GA 30012 **404-374-1283**

File Name : CooperSouth@SR74AM Site Code : 00000000 Start Date : 3/27/2008 Page No : 2

			SR 74	ŀ			FAA	DRIVE	EWAY				SR 74	ł		CO	OPER	CIRC	LE SO	UTH	
		Sc	outhbo	und			W	/estbou	und			N	orthbo	und			E	astbou	ind		
Start Time	Left	Thru	Rght	Other	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Other	App. Total	Left	Thru	Rght	Other	App. Total	Int. Total
Peak Hour Ar	nalysis	From (07:00 A	M to 0	8:45 AN	1 - Peal	< 1 of 1	1													
Peak Hour fo	r Entire	e Inters	ection	Begins	at 07:3	0 AM															
07:30 AM	0	149	1	0	150	0	0	0	0	0	1	206	0	0	207	2	0	2	0	4	361
07:45 AM	0	192	1	0	193	0	0	0	0	0	3	210	0	0	213	2	0	0	0	2	408
08:00 AM	0	217	4	0	221	0	0	0	0	0	1	192	0	0	193	2	0	1	0	3	417
08:15 AM	0	164	4	0	168	0	0	0	0	0	3	187	0	0	190	3	0	2	0	5	363
Total Volume	0	722	10	0	732	0	0	0	0	0	8	795	0	0	803	9	0	5	0	14	1549
% App. Total	0	98.6	1.4	0		0	0	0	0		1	99	0	0		64.3	0	35.7	0		
PHF	.000	.832	.625	.000	.828	.000	.000	.000	.000	.000	.667	.946	.000	.000	.942	.750	.000	.625	.000	.700	.929
Cars	0	694	8	0	702	0	0	0	0	0	8	745	0	0	753	7	0	2	0	9	1464
% Cars	0	96.1	80.0	0	95.9	0	0	0	0	0	100	93.7	0	0	93.8	77.8	0	40.0	0	64.3	94.5
Trucks	0	28	2	0	30	0	0	0	0	0	0	50	0	0	50	2	0	3	0	5	85
% Trucks	0	3.9	20.0	0	4.1	0	0	0	0	0	0	6.3	0	0	6.2	22.2	0	60.0	0	35.7	5.5



1336 Farmer Road Conyers, GA 30012 **404-374-1283**

File Name : CooperSouth@SR74PM Site Code : 00000000 Start Date : 3/27/2008 Page No : 1

								G	roups I	Printed-	<u>Cars -</u>	Truck	s								
			SR 74	4			FAA	DRIV	EWAY				SR 74	1		CO	OPER	CIRC	LE SO	UTH	
		S	outhbo	und			V	Vestbo	und			N	orthbo	und			E	astbou	und		
Start Time	Left	Thru	Rght	Other	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Other	App. Total	Left	Thru	Rght	Other	App. Total	Int. Total
04:00 PM	0	221	2	0	223	0	0	0	0	0	1	120	0	0	121	3	0	5	0	8	352
04:15 PM	0	178	0	0	178	0	0	0	0	0	1	128	0	0	129	3	0	2	0	5	312
04:30 PM	0	231	0	0	231	0	0	0	0	0	1	133	0	0	134	2	0	1	0	3	368
04:45 PM	0	208	0	0	208	0	0	0	0	0	0	126	0	0	126	2	0	1	0	3	337
Total	0	838	2	0	840	0	0	0	0	0	3	507	0	0	510	10	0	9	0	19	1369
05:00 PM	0	238	1	0	239	0	0	0	0	0	0	196	0	0	196	3	0	0	0	3	438
05:15 PM	0	214	2	0	216	0	0	0	0	0	0	154	0	0	154	2	0	4	0	6	376
05:30 PM	0	208	1	0	209	0	0	0	0	0	1	138	0	0	139	2	0	0	0	2	350
05:45 PM	0	236	0	0	236	0	0	0	0	0	3	139	0	0	142	5	0	3	0	8	386
Total	0	896	4	0	900	0	0	0	0	0	4	627	0	0	631	12	0	7	0	19	1550
Grand Total	0	1734	6	0	1740	0	0	0	0	0	7	1134	0	0	1141	22	0	16	0	38	2919
Apprch %	0	99.7	0.3	0		0	0	0	0		0.6	99.4	0	0		57.9	0	42.1	0		
Total %	0	59.4	0.2	0	59.6	0	0	0	0	0	0.2	38.8	0	0	39.1	0.8	0	0.5	0	1.3	
Cars	0	1630	6	0	1636	0	0	0	0	0	7	1078	0	0	1085	19	0	10	0	29	2750
% Cars	0	94	100	0	94	0	0	0	0	0	100	95.1	0	0	95.1	86.4	0	62.5	0	76.3	94.2
Trucks	0	104	0	0	104	0	0	0	0	0	0	56	0	0	56	3	0	6	0	9	169
% Trucks	0	6	0	0	6	0	0	0	0	0	0	4.9	0	0	4.9	13.6	0	37.5	0	23.7	5.8



1336 Farmer Road Conyers, GA 30012 **404-374-1283**

File Name : CooperSouth@SR74PM Site Code : 00000000 Start Date : 3/27/2008 Page No : 2

			SR 74	1			FAA	DRIVE	EWAY				SR 74	1		CO	OPER	CIRC	LE SO	UTH	ĺ
		Sc	outhbo	und			N	/estbou	und			N	orthbo	und			E	astbou	und		
Start Time	Left	Thru	Rght	Other	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Other	App. Total	Left	Thru	Rght	Other	App. Total	Int. Total
Peak Hour A	nalysis	From	04:00 F	PM to C	5:45 PN	1 - Pea	k 1 of	1													
Peak Hour fo	r Entire	e Inters	ection	Begins	at 05:0	0 PM															
05:00 PM	0	238	1	0	239	0	0	0	0	0	0	196	0	0	196	3	0	0	0	3	438
05:15 PM	0	214	2	0	216	0	0	0	0	0	0	154	0	0	154	2	0	4	0	6	376
05:30 PM	0	208	1	0	209	0	0	0	0	0	1	138	0	0	139	2	0	0	0	2	350
05:45 PM	0	236	0	0	236	0	0	0	0	0	3	139	0	0	142	5	0	3	0	8	386
Total Volume	0	896	4	0	900	0	0	0	0	0	4	627	0	0	631	12	0	7	0	19	1550
% App. Total	0	99.6	0.4	0		0	0	0	0		0.6	99.4	0	0		63.2	0	36.8	0		
PHF	.000	.941	.500	.000	.941	.000	.000	.000	.000	.000	.333	.800	.000	.000	.805	.600	.000	.438	.000	.594	.885
Cars	0	842	4	0	846	0	0	0	0	0	4	592	0	0	596	10	0	5	0	15	1457
% Cars	0	94.0	100	0	94.0	0	0	0	0	0	100	94.4	0	0	94.5	83.3	0	71.4	0	78.9	94.0
Trucks	0	54	0	0	54	0	0	0	0	0	0	35	0	0	35	2	0	2	0	4	93
% Trucks	0	6.0	0	0	6.0	0	0	0	0	0	0	5.6	0	0	5.5	16.7	0	28.6	0	21.1	6.0



1336 Farmer Road Conyers, GA 30012 **404-374-1283**

File Name : DividendDr@SR74AM Site Code : 00000000 Start Date : 3/27/2008 Page No : 1

								G	roups I	Printed-	Cars -	Truck	S								
			SR 74	4		IN	DUSTR	RIAL D	RIVE	VAY			SR 74	4			DIVI	DEND	DRIVE		
		S	outhbo	und			N	/estbo	und			N	orthbo	und			E	astbou	und		
Start Time	Left	Thru	Rght	Other	App. Total	Left	Thru	Rght	Other	App. Total	Left	Thru	Rght	Other	App. Total	Left	Thru	Rght	Other	App. Total	Int. Total
07:00 AM	17	72	1	0	90	2	1	1	0	4	15	109	11	0	135	1	3	26	0	30	259
07:15 AM	7	106	1	0	114	0	2	1	0	3	31	130	5	0	166	0	3	31	0	34	317
07:30 AM	15	121	1	0	137	0	0	0	0	0	45	149	10	0	204	3	6	33	0	42	383
07:45 AM	38	144	4	0	186	1	0	1	0	2	74	119	13	0	206	1	10	43	0	54	448
Total	77	443	7	0	527	3	3	3	0	9	165	507	39	0	711	5	22	133	0	160	1407
08:00 AM	30	173	2	0	205	0	0	3	0	3	51	136	6	0	193	1	2	46	0	49	450
08:15 AM	17	123	6	0	146	0	0	2	0	2	44	140	6	0	190	0	5	46	0	51	389
08:30 AM	21	79	2	0	102	0	0	2	0	2	29	134	2	0	165	3	4	28	0	35	304
08:45 AM	35	79	4	0	118	1	0	1	0	2	18	139	3	0	160	1	4	21	0	26	306
Total	103	454	14	0	571	1	0	8	0	9	142	549	17	0	708	5	15	141	0	161	1449
Grand Total	180	897	21	0	1098	4	3	11	0	18	307	1056	56	0	1419	10	37	274	0	321	2856
Apprch %	16.4	81.7	1.9	0		22.2	16.7	61.1	0		21.6	74.4	3.9	0		3.1	11.5	85.4	0		
Total %	6.3	31.4	0.7	0	38.4	0.1	0.1	0.4	0	0.6	10.7	37	2	0	49.7	0.4	1.3	9.6	0	11.2	
Cars	180	853	21	0	1054	4	3	11	0	18	307	952	56	0	1315	10	37	255	0	302	2689
% Cars	100	95.1	100	0	96	100	100	100	0	100	100	90.2	100	0	92.7	100	100	93.1	0	94.1	94.2
Trucks	0	44	0	0	44	0	0	0	0	0	0	104	0	0	104	0	0	19	0	19	167
% Trucks	0	4.9	0	0	4	0	0	0	0	0	0	9.8	0	0	7.3	0	0	6.9	0	5.9	5.8



1336 Farmer Road Conyers, GA 30012 **404-374-1283**

File Name : DividendDr@SR74AM Site Code : 00000000 Start Date : 3/27/2008 Page No : 2

			SR 74	ł		INE	DUSTF	RIAL D	RIVEV	VAY			SR 74	1			DIVI	DEND	DRIVE		ĺ
		Sc	outhbo	und			W	/estbou	und			N	orthbo	und			E	astbou	und		
Start Time	Left	Thru	Rght	Other	App. Total	Left	Thru	Rght	Other	App. Total	Left	Thru	Rght	Other	App. Total	Left	Thru	Rght	Other	App. Total	Int. Total
Peak Hour Ar	nalysis	From (07:00 A	M to 0	8:45 AN	1 - Peal	k 1 of ′	1													
Peak Hour fo	r Entire	Inters	ection	Begins	at 07:3	0 AM															
07:30 AM	15	121	1	0	137	0	0	0	0	0	45	149	10	0	204	3	6	33	0	42	383
07:45 AM	38	144	4	0	186	1	0	1	0	2	74	119	13	0	206	1	10	43	0	54	448
08:00 AM	30	173	2	0	205	0	0	3	0	3	51	136	6	0	193	1	2	46	0	49	450
08:15 AM	17	123	6	0	146	0	0	2	0	2	44	140	6	0	190	0	5	46	0	51	389
Total Volume	100	561	13	0	674	1	0	6	0	7	214	544	35	0	793	5	23	168	0	196	1670
% App. Total	14.8	83.2	1.9	0		14.3	0	85.7	0		27	68.6	4.4	0		2.6	11.7	85.7	0		
PHF	.658	.811	.542	.000	.822	.250	.000	.500	.000	.583	.723	.913	.673	.000	.962	.417	.575	.913	.000	.907	.928
Cars	100	536	13	0	649	1	0	6	0	7	214	494	35	0	743	5	23	158	0	186	1585
% Cars	100	95.5	100	0	96.3	100	0	100	0	100	100	90.8	100	0	93.7	100	100	94.0	0	94.9	94.9
Trucks	0	25	0	0	25	0	0	0	0	0	0	50	0	0	50	0	0	10	0	10	85
% Trucks	0	4.5	0	0	3.7	0	0	0	0	0	0	9.2	0	0	6.3	0	0	6.0	0	5.1	5.1



1336 Farmer Road Conyers, GA 30012 **404-374-1283**

File Name : DividendDr@SR74PM Site Code : 00000000 Start Date : 3/27/2008 Page No : 1

	Groups Printed- Cars - Trucks																				
			SR 74	4		INI	DUSTR	RIAL D	RIVEV	VAY			SR 74	1			DIVI	DEND	DRIVE		
		S	outhbo	und			N	/estbo	und			N	orthbo	und			E	astbou	und		
Start Time	Left	Thru	Rght	Other	App. Total	Left	Thru	Rght	Other	App. Total	Left	Thru	Rght	Other	App. Total	Left	Thru	Rght	Other	App. Total	Int. Total
04:00 PM	1	150	0	0	151	23	5	16	0	44	20	103	1	0	124	4	2	51	0	57	376
04:15 PM	0	134	0	0	134	11	2	14	0	27	28	103	1	0	132	1	0	35	0	36	329
04:30 PM	7	177	1	0	185	16	7	27	0	50	23	111	1	0	135	0	0	34	0	34	404
04:45 PM	1	160	1	0	162	7	5	20	0	32	20	109	1	0	130	1	0	43	0	44	368
Total	9	621	2	0	632	57	19	77	0	153	91	426	4	0	521	6	2	163	0	171	1477
05:00 PM	1	150	0	0	151	15	10	37	0	62	35	155	2	0	192	0	0	77	0	77	482
05:15 PM	1	161	3	0	165	13	6	25	0	44	30	123	1	0	154	3	2	42	0	47	410
05:30 PM	0	139	2	0	141	16	9	33	0	58	29	112	0	0	141	4	2	55	0	61	401
05:45 PM	0	179	1	0	180	8	3	30	0	41	33	106	0	0	139	1	0	53	0	54	414
Total	2	629	6	0	637	52	28	125	0	205	127	496	3	0	626	8	4	227	0	239	1707
Grand Total	11	1250	8	0	1269	109	47	202	0	358	218	922	7	0	1147	14	6	390	0	410	3184
Apprch %	0.9	98.5	0.6	0		30.4	13.1	56.4	0		19	80.4	0.6	0		3.4	1.5	95.1	0		
Total %	0.3	39.3	0.3	0	39.9	3.4	1.5	6.3	0	11.2	6.8	29	0.2	0	36	0.4	0.2	12.2	0	12.9	
Cars	11	1140	8	0	1159	109	47	202	0	358	218	862	7	0	1087	14	6	383	0	403	3007
% Cars	100	91.2	100	0	91.3	100	100	100	0	100	100	93.5	100	0	94.8	100	100	98.2	0	98.3	94.4
Trucks	0	110	0	0	110	0	0	0	0	0	0	60	0	0	60	0	0	7	0	7	177
% Trucks	0	8.8	0	0	8.7	0	0	0	0	0	0	6.5	0	0	5.2	0	0	1.8	0	1.7	5.6



1336 Farmer Road Conyers, GA 30012 **404-374-1283**

File Name : DividendDr@SR74PM Site Code : 00000000 Start Date : 3/27/2008 Page No : 2

	SR 74					IND	DUSTF	RIAL D	RIVEV	VAY	SR 74					DIVIDEND DRIVE					
		Sc	outhbo	und			W	/estbou	und			N	orthbo	und			E	astbou	und		
Start Time	Left	Thru	Rght	Other	App. Total	Left	Thru	Rght	Other	App. Total	Left	Thru	Rght	Other	App. Total	Left	Thru	Rght	Other	App. Total	Int. Total
Peak Hour Ar	nalysis	From (04:00 F	PM to 0	5:45 PN	1 - Peal	k 1 of ′	1													
Peak Hour fo	r Entire	Inters	ection	Begins	at 05:00	D PM															
05:00 PM	1	150	0	0	151	15	10	37	0	62	35	155	2	0	192	0	0	77	0	77	482
05:15 PM	1	161	3	0	165	13	6	25	0	44	30	123	1	0	154	3	2	42	0	47	410
05:30 PM	0	139	2	0	141	16	9	33	0	58	29	112	0	0	141	4	2	55	0	61	401
05:45 PM	0	179	1	0	180	8	3	30	0	41	33	106	0	0	139	1	0	53	0	54	414
Total Volume	2	629	6	0	637	52	28	125	0	205	127	496	3	0	626	8	4	227	0	239	1707
% App. Total	0.3	98.7	0.9	0		25.4	13.7	61	0		20.3	79.2	0.5	0		3.3	1.7	95	0		
PHF	.500	.878	.500	.000	.885	.813	.700	.845	.000	.827	.907	.800	.375	.000	.815	.500	.500	.737	.000	.776	.885
Cars	2	573	6	0	581	52	28	125	0	205	127	462	3	0	592	8	4	223	0	235	1613
% Cars	100	91.1	100	0	91.2	100	100	100	0	100	100	93.1	100	0	94.6	100	100	98.2	0	98.3	94.5
Trucks	0	56	0	0	56	0	0	0	0	0	0	34	0	0	34	0	0	4	0	4	94
% Trucks	0	8.9	0	0	8.8	0	0	0	0	0	0	6.9	0	0	5.4	0	0	1.8	0	1.7	5.5





Appendix D LOS Analysis



HCM Signalized Intersection Capacity Analysis 1: SR 74 & Gardner Park

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Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	۲	•	1	٦	•	1	٦	ef 👘		۲	¢Î,	
Volume (vph)	15	611	103	91	803	16	18	0	2	3	0	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	5.5	5.5	4.5	5.5	5.5	4.5	5.5		4.5	5.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1827	1583	1770	1792	1583	1770	1583		1770	1583	
Flt Permitted	0.21	1.00	1.00	0.22	1.00	1.00	0.67	1.00		0.76	1.00	
Satd. Flow (perm)	388	1827	1583	410	1792	1583	1241	1583		1407	1583	
Peak-hour factor, PHF	0.75	0.80	0.83	0.88	0.92	0.67	0.64	0.92	0.50	0.38	0.92	0.75
Adj. Flow (vph)	20	764	124	103	873	24	28	0	4	8	0	12
RTOR Reduction (vph)	0	0	37	0	0	7	0	4	0	0	11	0
Lane Group Flow (vph)	20	764	87	103	873	17	28	0	0	8	1	0
Heavy Vehicles (%)	2%	4%	2%	2%	6%	2%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt		Perm	pm+pt		Perm	pm+pt			pm+pt		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2		2	4			8		
Actuated Green, G (s)	53.7	51.3	51.3	60.3	54.6	54.6	8.8	7.2		7.2	6.4	
Effective Green, g (s)	53.7	51.3	51.3	60.3	54.6	54.6	8.8	7.2		7.2	6.4	
Actuated g/C Ratio	0.63	0.60	0.60	0.71	0.64	0.64	0.10	0.08		0.08	0.08	
Clearance Time (s)	4.5	5.5	5.5	4.5	5.5	5.5	4.5	5.5		4.5	5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	284	1103	955	382	1151	1017	138	134		123	119	
v/s Ratio Prot	0.00	0.42		c0.02	c0.49		c0.00	0.00		0.00	0.00	
v/s Ratio Perm	0.04		0.06	0.17		0.01	c0.02			0.00		
v/c Ratio	0.07	0.69	0.09	0.27	0.76	0.02	0.20	0.00		0.07	0.01	
Uniform Delay, d1	8.2	11.5	7.1	7.3	10.6	5.5	34.7	35.6		35.8	36.4	
Progression Factor	0.50	0.30	0.13	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	2.9	0.2	0.4	4.7	0.0	0.7	0.0		0.2	0.0	
Delay (s)	4.2	6.4	1.1	7.7	15.3	5.5	35.4	35.6		36.0	36.4	
Level of Service	А	Α	A	А	В	A	D	D		D	D	
Approach Delay (s)		5.6			14.3			35.5			36.2	
Approach LOS		A			В			D			D	
Intersection Summary	ntersection Summary											
HCM Average Control Delay 10.8		10.8	Н	CM Level	of Service	ce	В					
HCM Volume to Capacity rat	io		0.63									
Actuated Cycle Length (s)	Actuated Cycle Length (s) 85.		85.0	0 Sum of lost time (s)				14.5				
Intersection Capacity Utilizat	ntersection Capacity Utilization		66.2%	36.2% ICU Level of Service C								
Analysis Period (min)			15									

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis 2: SR 74 & FAA Driveway

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Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		र्भ	1		ب	1		र्भ	1	٦		1
Volume (veh/h)	0	722	10	8	795	0	9	0	5	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.83	0.63	0.67	0.95	0.92	0.75	0.92	0.63	0.92	0.92	0.92
Hourly flow rate (vph)	0	870	16	12	837	0	12	0	8	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									8			
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	837			870			1731	1731	870	1731	1731	837
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	837			870			1731	1731	870	1731	1731	837
tC, single (s)	4.1			4.1			7.3	6.5	6.8	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.7	4.0	3.8	3.5	4.0	3.3
p0 queue free %	100			98			80	100	97	100	100	100
cM capacity (veh/h)	797			775			61	87	278	66	87	367
Direction, Lane #	SE 1	SE 2	NW 1	NW 2	NE 1	SW 1	SW 2					
Volume Total	870	16	849	0	20	0	0					
Volume Left	0	0	12	0	12	0	0					
Volume Right	0	16	0	0	8	0	0					
cSH	797	1700	775	1700	101	1700	1700					
Volume to Capacity	0.00	0.01	0.02	0.00	0.20	0.00	0.00					
Queue Length 95th (ft)	0	0	1	0	17	0	0					
Control Delay (s)	0.0	0.0	0.4	0.0	54.2	0.0	0.0					
Lane LOS			А		F	А	Α					
Approach Delay (s)	0.0		0.4		54.2	0.0						
Approach LOS					F	А						
Intersection Summary												
Average Delay			0.8									
Intersection Capacity Utilization	1		58.2%	IC	CU Level	of Service			В			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis 3: Dividend Dr & SR 74

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	۲	eî 👘			र्स	1	٦	1	1	۲	†	1
Volume (vph)	5	23	168	1	0	6	214	544	35	100	561	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	9	8	12	12	9	12	12	10
Total Lost time (s)	5.5	5.5			5.5	5.5	4.5	5.5	5.5	4.5	5.5	5.5
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.88			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00			0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1582			1593	1372	1770	1743	1425	1770	1810	1478
Flt Permitted	0.76	1.00			0.44	1.00	0.25	1.00	1.00	0.38	1.00	1.00
Satd. Flow (perm)	1407	1582			745	1372	474	1743	1425	702	1810	1478
Peak-hour factor, PHF	0.42	0.58	0.91	0.25	0.92	0.50	0.72	0.91	0.67	0.66	0.81	0.54
Adj. Flow (vph)	12	40	185	4	0	12	297	598	52	152	693	24
RTOR Reduction (vph)	0	165	0	0	0	11	0	0	19	0	0	6
Lane Group Flow (vph)	12	60	0	0	4	1	297	598	33	152	693	18
Heavy Vehicles (%)	2%	2%	6%	2%	2%	2%	2%	9%	2%	2%	5%	2%
Turn Type	Perm			Perm		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)	9.0	9.0			9.0	9.0	63.7	53.3	53.3	57.3	50.1	50.1
Effective Green, g (s)	9.0	9.0			9.0	9.0	63.7	53.3	53.3	57.3	50.1	50.1
Actuated g/C Ratio	0.11	0.11			0.11	0.11	0.75	0.63	0.63	0.67	0.59	0.59
Clearance Time (s)	5.5	5.5			5.5	5.5	4.5	5.5	5.5	4.5	5.5	5.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	149	168			79	145	514	1093	894	564	1067	871
v/s Ratio Prot		c0.04					c0.07	0.34		0.02	c0.38	
v/s Ratio Perm	0.01				0.01	0.00	0.36		0.02	0.16		0.01
v/c Ratio	0.08	0.35			0.05	0.01	0.58	0.55	0.04	0.27	0.65	0.02
Uniform Delay, d1	34.3	35.3			34.2	34.0	6.9	9.0	6.0	5.3	11.6	7.3
Progression Factor	1.00	1.00			1.00	1.00	1.78	0.58	0.34	1.00	1.00	1.00
Incremental Delay, d2	0.2	1.3			0.3	0.0	1.2	1.5	0.1	0.3	3.1	0.0
Delay (s)	34.5	36.6			34.4	34.0	13.6	6.7	2.1	5.6	14.7	7.3
Level of Service	С	D			С	С	В	А	А	А	В	А
Approach Delay (s)		36.5			34.1			8.6			12.9	
Approach LOS		D			С			А			В	
Intersection Summary												
HCM Average Control Delay 13.8				Н	CM Level	l of Servi	ce		В			
HCM Volume to Capacity ratio 0.64			0.64									
Actuated Cycle Length (s) 85.0			85.0	S	um of lost	t time (s)			20.0			
Intersection Capacity Utilization 65.9%				IC	CU Level of	of Service	9		С			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 1: SR 74 & Gardner Park

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Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	ľ	†	1	۲	•	1	۲	el 🗍		۲	f,	
Volume (vph)	1	901	9	1	467	1	152	0	31	21	2	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	5.5	5.5	4.5	5.5	5.5	4.5	5.5		4.5	5.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.85		1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1792	1455	1770	1776	1583	1770	1583		1770	1607	
Flt Permitted	0.38	1.00	1.00	0.09	1.00	1.00	0.56	1.00		0.73	1.00	
Satd. Flow (perm)	714	1792	1455	164	1776	1583	1051	1583		1367	1607	
Peak-hour factor, PHF	0.25	0.94	0.75	0.25	0.89	0.25	0.73	0.92	0.86	0.66	0.50	0.66
Adj. Flow (vph)	4	959	12	4	525	4	208	0	36	32	4	44
RTOR Reduction (vph)	0	0	3	0	0	2	0	31	0	0	39	0
Lane Group Flow (vph)	4	959	9	4	525	2	208	5	0	32	9	0
Heavy Vehicles (%)	2%	6%	11%	2%	7%	2%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt		Perm	pm+pt		Perm	pm+pt			pm+pt		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2		2	4			8		
Actuated Green, G (s)	46.8	46.1	46.1	46.8	46.1	46.1	15.8	11.7		10.6	9.1	
Effective Green, g (s)	46.8	46.1	46.1	46.8	46.1	46.1	15.8	11.7		10.6	9.1	
Actuated g/C Ratio	0.58	0.58	0.58	0.58	0.58	0.58	0.20	0.15		0.13	0.11	
Clearance Time (s)	4.5	5.5	5.5	4.5	5.5	5.5	4.5	5.5		4.5	5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	427	1033	838	110	1023	912	244	232		189	183	
v/s Ratio Prot	0.00	c0.54		c0.00	0.30		c0.04	0.00		0.00	0.01	
v/s Ratio Perm	0.01		0.01	0.02		0.00	c0.12			0.02		
v/c Ratio	0.01	0.93	0.01	0.04	0.51	0.00	0.85	0.02		0.17	0.05	
Uniform Delay, d1	7.4	15.4	7.2	13.8	10.2	7.2	30.9	29.3		30.7	31.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	13.8	0.0	0.1	0.4	0.0	23.8	0.0		0.4	0.1	
Delay (s)	7.4	29.2	7.2	14.0	10.6	7.2	54.7	29.3		31.1	31.7	
Level of Service	A	C	A	В	В	A	D	C		С	C	
Approach Delay (s)		28.9			10.6			51.0			31.5	
Approach LOS		С			В			D			С	
Intersection Summary												
HCM Average Control Delay			26.6	Н	CM Level	of Servi	ce		С			
HCM Volume to Capacity ratio 0.9			0.92									
Actuated Cycle Length (s) 80			80.0	S	um of lost	t time (s)			19.0			
Intersection Capacity Utilization 71			71.7%	IC	CU Level of	of Service)		С			
Analysis Period (min)			15									

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis 2: SR 74 & FAA Driveway

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Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		ર્સ	1		र्स	1		र्भ	1	ሻ		1
Volume (veh/h)	0	896	4	4	627	0	12	0	7	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.94	0.50	0.33	0.80	0.92	0.60	0.92	0.44	0.92	0.92	0.92
Hourly flow rate (vph)	0	953	8	12	784	0	20	0	16	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									8			
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	784			953			1761	1761	953	1761	1761	784
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	784			953			1761	1761	953	1761	1761	784
tC, single (s)	4.1			4.1			7.3	6.5	6.5	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.7	4.0	3.6	3.5	4.0	3.3
p0 queue free %	100			98			66	100	94	100	100	100
cM capacity (veh/h)	835			721			60	83	280	61	83	393
Direction, Lane #	SE 1	SE 2	NW 1	NW 2	NE 1	SW 1	SW 2					
Volume Total	953	8	796	0	36	0	0					
Volume Left	0	0	12	0	20	0	0					
Volume Right	0	8	0	0	16	0	0					
cSH	835	1700	721	1700	107	1700	1700					
Volume to Capacity	0.00	0.00	0.02	0.00	0.34	0.00	0.00					
Queue Length 95th (ft)	0	0	1	0	33	0	0					
Control Delay (s)	0.0	0.0	0.5	0.0	60.2	0.0	0.0					
Lane LOS			А		F	А	А					
Approach Delay (s)	0.0		0.5		60.2	0.0						
Approach LOS					F	А						
Intersection Summary												
Average Delay			1.4									
Intersection Capacity Utilizat	tion		57.2%	IC	U Level	of Service			В			
Analysis Period (min)			15									
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HCM Signalized Intersection Capacity Analysis 3: Dividend Dr & SR 74

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	۲	eî 👘			र्स	1	۲	1	1	۲	1	1
Volume (vph)	8	4	227	52	28	125	127	496	3	2	629	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	9	8	12	12	9	12	12	10
Total Lost time (s)	5.5	5.5			5.5	5.5	4.5	5.5	5.5	4.5	5.5	5.5
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00			0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1590			1626	1372	1770	1776	1425	1770	1743	1478
Flt Permitted	0.69	1.00			0.35	1.00	0.20	1.00	1.00	0.34	1.00	1.00
Satd. Flow (perm)	1285	1590			588	1372	381	1776	1425	631	1743	1478
Peak-hour factor, PHF	0.50	0.50	0.74	0.81	0.70	0.85	0.91	0.80	0.38	0.50	0.88	0.50
Adj. Flow (vph)	16	8	307	64	40	147	140	620	8	4	715	12
RTOR Reduction (vph)	0	204	0	0	0	119	0	0	4	0	0	4
Lane Group Flow (vph)	16	111	0	0	104	28	140	620	4	4	715	8
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	7%	2%	2%	9%	2%
Turn Type	Perm			Perm		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)	11.8	11.8			11.8	11.8	37.9	34.9	34.9	33.3	32.6	32.6
Effective Green, g (s)	11.8	11.8			11.8	11.8	37.9	34.9	34.9	33.3	32.6	32.6
Actuated g/C Ratio	0.19	0.19			0.19	0.19	0.60	0.55	0.55	0.53	0.52	0.52
Clearance Time (s)	5.5	5.5			5.5	5.5	4.5	5.5	5.5	4.5	5.5	5.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	241	298			110	257	296	985	791	347	903	766
v/s Ratio Prot		0.07					c0.02	0.35		0.00	c0.41	
v/s Ratio Perm	0.01				c0.18	0.02	0.26		0.00	0.01		0.01
v/c Ratio	0.07	0.37			0.95	0.11	0.47	0.63	0.01	0.01	0.79	0.01
Uniform Delay, d1	21.0	22.3			25.2	21.2	8.2	9.6	6.3	7.4	12.4	7.3
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.8			68.0	0.2	1.2	3.0	0.0	0.0	7.1	0.0
Delay (s)	21.1	23.1			93.2	21.4	9.4	12.6	6.3	7.4	19.4	7.4
Level of Service	С	С			F	С	A	В	A	A	В	A
Approach Delay (s)		23.0			51.1			12.0			19.2	
Approach LOS		С			D			В			В	
Intersection Summary									_			
HCM Average Control Delay 21.0			21.0	Н	CM Level	l of Servi	ce		С			
HCM Volume to Capacity ratio 0.89			0.89									
Actuated Cycle Length (s) 62.9			62.9	S	um of lost	t time (s)			20.0			
Intersection Capacity Utilization 76.3%			IC	CU Level o	of Service	e		D				
Analysis Period (min)			15									
c Critical Lane Group												
HCM Signalized Intersection Capacity Analysis 1: SR 74 & Cooper Circle

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Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	٦	<u></u>	1	٦	<u></u>	1	٦	el 🕺		۲	4Î	
Volume (vph)	15	611	103	91	803	16	18	0	2	3	0	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	5.5	5.5	4.5	5.5	5.5	4.5	5.5		4.5	5.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3471	1583	1770	3406	1583	1770	1583		1770	1583	
Flt Permitted	0.25	1.00	1.00	0.25	1.00	1.00	0.70	1.00		0.91	1.00	
Satd. Flow (perm)	458	3471	1583	474	3406	1583	1307	1583		1693	1583	
Peak-hour factor, PHF	0.75	0.80	0.83	0.88	0.92	0.67	0.64	0.92	0.50	0.50	0.92	0.75
Growth Factor (vph)	100%	122%	100%	100%	122%	100%	100%	100%	100%	100%	100%	100%
Adj. Flow (vph)	20	932	124	103	1065	24	28	0	4	6	0	12
RTOR Reduction (vph)	0	0	47	0	0	8	0	4	0	0	11	0
Lane Group Flow (vph)	20	932	77	103	1065	16	28	0	0	6	1	0
Heavy Vehicles (%)	2%	4%	2%	2%	6%	2%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt		Perm	pm+pt		Perm	pm+pt			pm+pt		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2		2	4			8		
Actuated Green, G (s)	55.4	53.0	53.0	61.6	56.1	56.1	7.8	5.7		5.2	4.4	
Effective Green, g (s)	55.4	53.0	53.0	61.6	56.1	56.1	7.8	5.7		5.2	4.4	
Actuated g/C Ratio	0.65	0.62	0.62	0.72	0.66	0.66	0.09	0.07		0.06	0.05	
Clearance Time (s)	4.5	5.5	5.5	4.5	5.5	5.5	4.5	5.5		4.5	5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	336	2164	987	427	2248	1045	131	106		104	82	
v/s Ratio Prot	0.00	0.27		c0.02	c0.31		c0.01	0.00		0.00	0.00	
v/s Ratio Perm	0.04		0.05	0.16		0.01	c0.01			0.00		
v/c Ratio	0.06	0.43	0.08	0.24	0.47	0.02	0.21	0.00		0.06	0.01	
Uniform Delay, d1	5.3	8.2	6.3	4.1	7.1	5.0	35.6	37.0		37.6	38.2	
Progression Factor	0.32	0.27	0.05	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.6	0.1	0.3	0.7	0.0	0.8	0.0		0.2	0.0	
Delay (s)	1.8	2.8	0.4	4.4	7.9	5.0	36.5	37.0		37.8	38.3	
Level of Service	А	А	A	A	А	A	D	D		D	D	
Approach Delay (s)		2.5			7.5			36.5			38.1	
Approach LOS		A			A			D			D	
Intersection Summary												
HCM Average Control Delay	1		5.8	Н	CM Leve	of Servi	ce		A			
HCM Volume to Capacity rat	tio		0.41									
Actuated Cycle Length (s)			85.0	S	um of los	t time (s)			13.5			
Intersection Capacity Utilizat	tion		51.0%	IC	CU Level	of Service	e		А			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 2: SR 74 & FAA Driveway

4/17/2008

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Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	۲	<u></u>	1	۲	††	1		र्स	1	۲		1
Volume (veh/h)	0	722	10	8	795	0	9	0	5	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.83	0.63	0.67	0.95	0.92	0.75	0.92	0.63	0.92	0.92	0.92
Hourly flow rate (vph)	0	1061	16	12	1021	0	12	0	8	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									11			
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1021			1061			1596	2106	531	1575	2106	510
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1021			1061			1596	2106	531	1575	2106	510
tC, single (s)	4.1			4.1			7.9	6.5	8.1	7.5	6.5	6.9
tC, 2 stage (s)							0 7	1.0		0.5		
t⊢ (s)	2.2			2.2			3.7	4.0	3.9	3.5	4.0	3.3
p0 queue free %	100			98			79	100	98	100	100	100
civi capacity (ven/n)	6/5			652			58	50	368	71	50	508
Direction, Lane #	SE 1	SE 2	SE 3	SE 4	NW 1	NW 2	NW 3	NW 4	NE 1	SW 1	SW 2	
Volume Total	0	531	531	16	12	510	510	0	20	0	0	
Volume Left	0	0	0	0	12	0	0	0	12	0	0	
Volume Right	0	0	0	16	0	0	0	0	8	0	0	
cSH	1700	1700	1700	1700	652	1700	1700	1700	96	1700	1700	
Volume to Capacity	0.00	0.31	0.31	0.01	0.02	0.30	0.30	0.00	0.21	0.00	0.00	
Queue Length 95th (ft)	0	0	0	0	1	0	0	0	18	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	10.6	0.0	0.0	0.0	56.0	0.0	0.0	
Lane LOS					В				F	A	A	
Approach Delay (s)	0.0				0.1				56.0	0.0		
Approach LOS									F	A		
Intersection Summary												
Average Delay			0.6									
Intersection Capacity Utilization	n		36.8%	IC	CU Level	of Service			А			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis 3: Dividend Dr & SR 74

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		र्भ	1		र्स	1	ሻ	<u></u>	1	ሻ	<u></u>	7
Volume (vph)	5	23	168	1	0	6	214	544	35	100	561	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5		5.5	5.5	4.5	5.5	5.5	4.5	5.5	5.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1841	1524		1770	1583	1770	3312	1583	1770	3438	1583
Flt Permitted		0.92	1.00		0.72	1.00	0.26	1.00	1.00	0.37	1.00	1.00
Satd. Flow (perm)		1718	1524		1347	1583	490	3312	1583	698	3438	1583
Peak-hour factor, PHF	0.50	0.58	0.91	0.50	0.92	0.50	0.72	0.91	0.67	0.66	0.81	0.54
Growth Factor (vph)	122%	100%	122%	100%	100%	100%	122%	122%	100%	100%	122%	122%
Adj. Flow (vph)	12	40	225	2	0	12	363	729	52	152	845	29
RTOR Reduction (vph)	0	0	203	0	0	11	0	0	19	0	0	11
Lane Group Flow (vph)	0	52	23	0	2	1	363	729	33	152	845	18
Heavy Vehicles (%)	2%	2%	6%	2%	2%	2%	2%	9%	2%	2%	5%	2%
Turn Type	Perm		Perm	Perm		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)		8.5	8.5		8.5	8.5	65.5	53.6	53.6	55.4	48.0	48.0
Effective Green, g (s)		8.5	8.5		8.5	8.5	65.5	53.6	53.6	55.4	48.0	48.0
Actuated g/C Ratio		0.10	0.10		0.10	0.10	0.77	0.63	0.63	0.65	0.56	0.56
Clearance Time (s)		5.5	5.5		5.5	5.5	4.5	5.5	5.5	4.5	5.5	5.5
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		172	152		135	158	573	2089	998	548	1941	894
v/s Ratio Prot							c0.10	0.22		0.02	0.25	
v/s Ratio Perm		c0.03	0.01		0.00	0.00	c0.39		0.02	0.16		0.01
v/c Ratio		0.30	0.15		0.01	0.01	0.63	0.35	0.03	0.28	0.44	0.02
Uniform Delay, d1		35.5	34.9		34.5	34.5	4.6	7.4	5.9	5.6	10.7	8.1
Progression Factor		1.00	1.00		1.00	1.00	1.49	0.43	0.24	1.00	1.00	1.00
Incremental Delay, d2		1.0	0.5		0.0	0.0	2.1	0.4	0.1	0.3	0.7	0.0
Delay (s)		36.5	35.4		34.5	34.5	9.0	3.6	1.5	5.9	11.4	8.2
Level of Service		D	D		С	С	А	А	А	А	В	A
Approach Delay (s)		35.6			34.5			5.2			10.5	
Approach LOS		D			С			А			В	
Intersection Summary												
HCM Average Control Delay			11.0	Н	CM Leve	l of Servi	се		В			
HCM Volume to Capacity ratio			0.58									
Actuated Cycle Length (s)			85.0	S	um of los	t time (s)			10.0			
Intersection Capacity Utilization	۱		52.8%	IC	CU Level	of Service	Э		A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 1: SR 74 & Gardner Park

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Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	۲	<u>†</u> †	1	ሻ	† †	1	٦	eî 👘		۲	eî 👘	
Volume (vph)	1	901	9	1	467	1	152	0	31	21	2	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	5.5	5.5	4.5	5.5	5.5	4.5	5.5		4.5	5.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.85		1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3406	1455	1770	3374	1583	1770	1583		1770	1607	
Flt Permitted	0.39	1.00	1.00	0.19	1.00	1.00	0.45	1.00		0.93	1.00	
Satd. Flow (perm)	723	3406	1455	346	3374	1583	847	1583		1733	1607	
Peak-hour factor, PHF	0.50	0.94	0.75	0.50	0.89	0.50	0.73	0.92	0.86	0.66	0.50	0.66
Growth Factor (vph)	100%	122%	100%	100%	122%	100%	100%	100%	100%	100%	100%	100%
Adj. Flow (vph)	2	1169	12	2	640	2	208	0	36	32	4	44
RTOR Reduction (vph)	0	0	5	0	0	1	0	31	0	0	42	0
Lane Group Flow (vph)	2	1169	7	2	640	1	208	5	0	32	6	0
Heavy Vehicles (%)	2%	6%	11%	2%	7%	2%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt		Perm	pm+pt		Perm	pm+pt			pm+pt		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2		2	4			8		
Actuated Green, G (s)	59.3	58.2	58.2	59.3	58.2	58.2	20.2	13.3		6.7	4.3	
Effective Green, g (s)	59.3	58.2	58.2	59.3	58.2	58.2	20.2	13.3		6.7	4.3	
Actuated g/C Ratio	0.62	0.61	0.61	0.62	0.61	0.61	0.21	0.14		0.07	0.05	
Clearance Time (s)	4.5	5.5	5.5	4.5	5.5	5.5	4.5	5.5		4.5	5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	463	2087	891	232	2067	970	291	222		123	73	
v/s Ratio Prot	0.00	c0.34		c0.00	0.19		c0.09	0.00		0.01	0.00	
v/s Ratio Perm	0.00		0.01	0.01		0.00	c0.07			0.01		
v/c Ratio	0.00	0.56	0.01	0.01	0.31	0.00	0.71	0.02		0.26	0.08	
Uniform Delay, d1	6.8	10.9	7.2	7.7	8.8	7.1	33.5	35.2		41.8	43.5	
Progression Factor	0.78	0.60	0.67	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	1.0	0.0	0.0	0.4	0.0	8.1	0.0		1.1	0.5	
Delay (s)	5.2	7.5	4.8	7.7	9.2	7.1	41.6	35.3		42.9	43.9	
Level of Service	А	А	A	A	А	А	D	D		D	D	
Approach Delay (s)		7.4			9.2			40.6			43.5	
Approach LOS		A			A			D			D	
Intersection Summary												
HCM Average Control Delay			13.1	Н	CM Leve	l of Servio	ce		В			
HCM Volume to Capacity rat	io		0.58									
Actuated Cycle Length (s)			95.0	S	um of los	t time (s)			14.5			
Intersection Capacity Utilizat	ion		54.6%	IC	CU Level	of Service	9		А			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 2: SR 74 & FAA Driveway

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Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	5	<u></u>	1	ľ	<u></u>	1		ا	1	ľ		1
Volume (veh/h)	0	896	4	4	627	0	12	0	7	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.94	0.50	0.50	0.80	0.92	0.60	0.92	0.50	0.92	0.92	0.92
Hourly flow rate (vph)	0	1163	8	8	956	0	20	0	14	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									11			
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	956			1163			1657	2135	581	1554	2135	478
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	956			1163			1657	2135	581	1554	2135	478
tC, single (s)	4.1			4.1			7.8	6.5	7.5	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.7	4.0	3.6	3.5	4.0	3.3
p0 queue free %	100			99			63	100	96	100	100	100
cM capacity (veh/h)	715			596			54	48	395	73	48	533
Direction, Lane #	SE 1	SE 2	SE 3	SE 4	NW 1	NW 2	NW 3	NW 4	NE 1	SW 1	SW 2	
Volume Total	0	581	581	8	8	478	478	0	34	0	0	
Volume Left	0	0	0	0	8	0	0	0	20	0	0	
Volume Right	0	0	0	8	0	0	0	0	14	0	0	
cSH	1700	1700	1700	1700	596	1700	1700	1700	93	1700	1700	
Volume to Capacity	0.00	0.34	0.34	0.00	0.01	0.28	0.28	0.00	0.37	0.00	0.00	
Queue Length 95th (ft)	0	0	0	0	1	0	0	0	36	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	11.1	0.0	0.0	0.0	67.9	0.0	0.0	
Lane LOS					В				F	Α	А	
Approach Delay (s)	0.0				0.1				67.9	0.0		
Approach LOS									F	A		
Intersection Summary												
Average Delay			1.1									
Intersection Capacity Utilization	ı		40.2%	IC	CU Level	of Service			А			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis 3: Dividend Dr & SR 74

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		ર્સ	1		નુ	1	۲	† †	*	۲	^	1
Volume (vph)	8	4	227	52	28	125	127	496	3	2	629	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5		5.5	5.5	4.5	5.5	5.5	4.5	5.5	5.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97	1.00		0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1799	1583		1807	1583	1770	3374	1583	1770	3312	1583
Flt Permitted		0.78	1.00		0.80	1.00	0.26	1.00	1.00	0.36	1.00	1.00
Satd. Flow (perm)		1462	1583		1482	1583	475	3374	1583	680	3312	1583
Peak-hour factor, PHF	0.50	0.50	0.74	0.81	0.70	0.85	0.91	0.80	0.50	0.50	0.88	0.50
Growth Factor (vph)	122%	100%	122%	100%	100%	100%	122%	122%	100%	100%	122%	122%
Adj. Flow (vph)	20	8	374	64	40	147	170	756	6	4	872	15
RTOR Reduction (vph)	0	0	183	0	0	122	0	0	2	0	0	6
Lane Group Flow (vph)	0	28	191	0	104	25	170	756	4	4	872	9
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	7%	2%	2%	9%	2%
Turn Type	Perm		Perm	Perm		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)		16.2	16.2		16.2	16.2	67.8	62.1	62.1	55.9	54.7	54.7
Effective Green, g (s)		16.2	16.2		16.2	16.2	67.8	62.1	62.1	55.9	54.7	54.7
Actuated g/C Ratio		0.17	0.17		0.17	0.17	0.71	0.65	0.65	0.59	0.58	0.58
Clearance Time (s)		5.5	5.5		5.5	5.5	4.5	5.5	5.5	4.5	5.5	5.5
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		249	270		253	270	456	2206	1035	414	1907	911
v/s Ratio Prot							c0.03	0.22		0.00	c0.26	
v/s Ratio Perm		0.02	c0.12		0.07	0.02	0.23		0.00	0.01		0.01
v/c Ratio		0.11	0.71		0.41	0.09	0.37	0.34	0.00	0.01	0.46	0.01
Uniform Delay, d1		33.3	37.2		35.1	33.2	5.5	7.3	5.7	8.1	11.6	8.6
Progression Factor		1.00	1.00		1.00	1.00	1.03	1.12	0.95	1.00	1.00	1.00
Incremental Delay, d2		0.2	8.2		1.1	0.2	0.5	0.4	0.0	0.0	0.8	0.0
Delay (s)		33.5	45.3		36.2	33.4	6.1	8.6	5.4	8.1	12.4	8.6
Level of Service		С	D		D	С	Α	А	А	А	В	A
Approach Delay (s)		44.5			34.5			8.2			12.3	
Approach LOS		D			С			А			В	
Intersection Summary												
HCM Average Control Delay			18.2	Н	CM Leve	I of Servio	ce		В			
HCM Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			95.0	S	um of los	t time (s)			15.5			
Intersection Capacity Utilizatio	n		56.5%	IC	CU Level	of Service	9		В			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 1: SR 74 & Cooper Circle

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Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	۲	† †	1	٦	††	1	٦	f,		۲	f,	
Volume (vph)	15	751	171	108	986	16	39	0	7	3	0	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	5.5	5.5	4.5	5.5	5.5	4.5	5.5		4.5	5.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3471	1583	1770	3406	1583	1770	1583		1770	1583	
Flt Permitted	0.24	1.00	1.00	0.25	1.00	1.00	0.66	1.00		1.00	1.00	
Satd. Flow (perm)	454	3471	1583	464	3406	1583	1221	1583		1863	1583	
Peak-hour factor, PHF	0.75	0.80	0.83	0.88	0.92	0.67	0.64	0.92	0.50	0.50	0.92	0.75
Adj. Flow (vph)	20	939	206	123	1072	24	61	0	14	6	0	12
RTOR Reduction (vph)	0	0	79	0	0	8	0	13	0	0	12	0
Lane Group Flow (vph)	20	939	127	123	1072	16	61	1	0	6	0	0
Heavy Vehicles (%)	2%	4%	2%	2%	6%	2%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt		Perm	pm+pt		Perm	pm+pt			pm+pt		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2		2	4			8		
Actuated Green, G (s)	54.8	52.4	52.4	61.4	55.7	55.7	10.8	6.1		3.0	2.2	
Effective Green, g (s)	54.8	52.4	52.4	61.4	55.7	55.7	10.8	6.1		3.0	2.2	
Actuated g/C Ratio	0.64	0.62	0.62	0.72	0.66	0.66	0.13	0.07		0.04	0.03	
Clearance Time (s)	4.5	5.5	5.5	4.5	5.5	5.5	4.5	5.5		4.5	5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	330	2140	976	423	2232	1037	185	114		65	41	
v/s Ratio Prot	0.00	0.27		c0.02	c0.31		c0.02	0.00		0.00	0.00	
v/s Ratio Perm	0.04		0.08	0.19		0.01	c0.02			0.00		
v/c Ratio	0.06	0.44	0.13	0.29	0.48	0.02	0.33	0.01		0.09	0.01	
Uniform Delay, d1	5.6	8.6	6.8	4.3	7.4	5.1	33.6	36.6		39.7	40.3	
Progression Factor	0.27	0.22	0.04	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.6	0.2	0.4	0.7	0.0	1.0	0.0		0.6	0.1	
Delay (s)	1.6	2.5	0.5	4.7	8.1	5.1	34.7	36.7		40.3	40.4	
Level of Service	A	A	A	A	A	A	С	D		D	D	
Approach Delay (s)		2.1			1.1			35.1			40.4	
Approach LOS		A			A			D			D	
Intersection Summary												
HCM Average Control Delay			6.2	Н	CM Level	of Service	ce		Α			
HCM Volume to Capacity rat	tio		0.47									
Actuated Cycle Length (s)			85.0	S	um of lost	t time (s)			18.0			
Intersection Capacity Utilizat	ion		52.3%	IC	CU Level	of Service)		А			
Analysis Period (min)			15									

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis 2: SR 74 & FAA Driveway

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Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	1	<u></u>	1	1	<u></u>	1		ŧ	1	ľ		1
Volume (veh/h)	0	886	16	10	987	0	15	0	7	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.83	0.63	0.67	0.95	0.92	0.75	0.92	0.63	0.92	0.92	0.92
Hourly flow rate (vph)	0	1067	25	15	1039	0	20	0	11	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									11			
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1039			1067			1617	2136	534	1603	2136	519
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1039			1067			1617	2136	534	1603	2136	519
tC, single (s)	4.1			4.1			7.9	6.5	7.8	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.7	4.0	3.7	3.5	4.0	3.3
p0 queue free %	100			98			65	100	97	100	100	100
cM capacity (veh/h)	665			649			56	47	398	67	47	501
Direction, Lane #	SE 1	SE 2	SE 3	SE 4	NW 1	NW 2	NW 3	NW 4	NE 1	SW 1	SW 2	
Volume Total	0	534	534	25	15	519	519	0	31	0	0	
Volume Left	0	0	0	0	15	0	0	0	20	0	0	
Volume Right	0	0	0	25	0	0	0	0	11	0	0	
cSH	1700	1700	1700	1700	649	1700	1700	1700	88	1700	1700	
Volume to Capacity	0.00	0.31	0.31	0.01	0.02	0.31	0.31	0.00	0.35	0.00	0.00	
Queue Length 95th (ft)	0	0	0	0	2	0	0	0	34	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	10.7	0.0	0.0	0.0	69.6	0.0	0.0	
Lane LOS					В				F	А	А	
Approach Delay (s)	0.0				0.2				69.6	0.0		
Approach LOS									F	А		
Intersection Summary												
Average Delay			1.1									
Intersection Capacity Utiliz	zation		37.3%	IC	CU Level	of Service			А			
Analysis Period (min)			15									
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HCM Signalized Intersection Capacity Analysis 3: Dividend Dr & SR 74

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		र्स	1		र्स	1	۲	<u>^</u>	1	<u>۲</u>	<u></u>	1
Volume (vph)	6	23	208	1	Ō	6	262	690	35	100	755	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5		5.5	5.5	4.5	5.5	5.5	4.5	5.5	5.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1841	1524		1770	1583	1770	3312	1583	1770	3438	1583
Flt Permitted		0.92	1.00		0.72	1.00	0.23	1.00	1.00	0.36	1.00	1.00
Satd. Flow (perm)		1718	1524		1347	1583	424	3312	1583	678	3438	1583
Peak-hour factor, PHF	0.50	0.58	0.91	0.50	0.92	0.50	0.72	0.91	0.67	0.66	0.81	0.54
Adj. Flow (vph)	12	40	229	2	0	12	364	758	52	152	932	30
RTOR Reduction (vph)	0	0	206	0	0	11	0	0	19	0	0	11
Lane Group Flow (vph)	0	52	23	0	2	1	364	758	33	152	932	19
Heavy Vehicles (%)	2%	2%	6%	2%	2%	2%	2%	9%	2%	2%	5%	2%
Turn Type	Perm		Perm	Perm		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)		8.5	8.5		8.5	8.5	65.5	53.6	53.6	54.3	46.9	46.9
Effective Green, g (s)		8.5	8.5		8.5	8.5	65.5	53.6	53.6	54.3	46.9	46.9
Actuated g/C Ratio		0.10	0.10		0.10	0.10	0.77	0.63	0.63	0.64	0.55	0.55
Clearance Time (s)		5.5	5.5		5.5	5.5	4.5	5.5	5.5	4.5	5.5	5.5
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		172	152		135	158	550	2089	998	528	1897	873
v/s Ratio Prot							c0.11	0.23		0.03	0.27	
v/s Ratio Perm		c0.03	0.02		0.00	0.00	c0.40		0.02	0.16		0.01
v/c Ratio		0.30	0.15		0.01	0.01	0.66	0.36	0.03	0.29	0.49	0.02
Uniform Delay, d1		35.5	35.0		34.5	34.5	5.7	7.5	5.9	6.1	11.7	8.6
Progression Factor		1.00	1.00		1.00	1.00	1.41	0.50	0.22	1.00	1.00	1.00
Incremental Delay, d2		1.0	0.5		0.0	0.0	2.8	0.5	0.1	0.3	0.9	0.0
Delay (s)		36.5	35.4		34.5	34.5	10.8	4.2	1.4	6.4	12.6	8.7
Level of Service		D	D		С	С	В	A	А	A	В	A
Approach Delay (s)		35.6			34.5			6.1			11.7	
Approach LOS		D			С			A			В	
Intersection Summary												
HCM Average Control Delay			11.9	Н	CM Level	l of Servi	ce		В			
HCM Volume to Capacity ratio			0.60									
Actuated Cycle Length (s)			85.0	S	um of lost	t time (s)			10.0			
Intersection Capacity Utilization	۱		54.7%	IC	CU Level o	of Service	Э		Α			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis 1: SR 74 & Gardner Park

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Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	٦	† †	1	ሻ	† †	1	ሻ	eî 👘		ሻ	eî 👘	
Volume (vph)	1	1105	51	12	576	1	199	0	43	21	2	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	5.5	5.5	4.5	5.5	5.5	4.5	5.5		4.5	5.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.85		1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3406	1455	1770	3374	1583	1770	1583		1770	1607	
Flt Permitted	0.39	1.00	1.00	0.16	1.00	1.00	0.42	1.00		0.72	1.00	
Satd. Flow (perm)	730	3406	1455	304	3374	1583	789	1583		1349	1607	
Peak-hour factor, PHF	0.50	0.94	0.75	0.50	0.89	0.50	0.73	0.92	0.86	0.66	0.50	0.66
Adj. Flow (vph)	2	1176	68	24	647	2	273	0	50	32	4	44
RTOR Reduction (vph)	0	0	25	0	0	1	0	41	0	0	42	0
Lane Group Flow (vph)	2	1176	43	24	647	1	273	9	0	32	6	0
Heavy Vehicles (%)	2%	6%	11%	2%	7%	2%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt		Perm	pm+pt		Perm	pm+pt			pm+pt		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2		2	4			8		
Actuated Green, G (s)	68.1	67.0	67.0	73.5	69.7	69.7	28.7	21.7		8.8	6.3	
Effective Green, g (s)	68.1	67.0	67.0	73.5	69.7	69.7	28.7	21.7		8.8	6.3	
Actuated g/C Ratio	0.59	0.58	0.58	0.64	0.61	0.61	0.25	0.19		0.08	0.05	
Clearance Time (s)	4.5	5.5	5.5	4.5	5.5	5.5	4.5	5.5		4.5	5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	442	1984	848	243	2045	959	350	299		112	88	
v/s Ratio Prot	0.00	c0.35		c0.00	0.19		c0.12	0.01		0.01	0.00	
v/s Ratio Perm	0.00		0.03	0.06		0.00	c0.07			0.02		
v/c Ratio	0.00	0.59	0.05	0.10	0.32	0.00	0.78	0.03		0.29	0.07	
Uniform Delay, d1	9.6	15.3	10.3	9.9	11.0	8.9	38.4	38.1		49.9	51.6	
Progression Factor	0.74	0.74	0.66	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	1.2	0.1	0.2	0.4	0.0	10.7	0.0		1.4	0.4	
Delay (s)	7.1	12.5	6.9	10.1	11.4	8.9	49.1	38.1		51.3	51.9	
Level of Service	A	В	A	В	В	A	D	D		D	D	
Approach Delay (s)		12.2			11.4			47.4			51.7	
Approach LOS		В			В			D			D	
Intersection Summary												
HCM Average Control Delay			18.2	Н	CM Level	of Servio	ce		В			
HCM Volume to Capacity rat	io		0.64									
Actuated Cycle Length (s)			115.0	S	um of lost	t time (s)			19.0			
Intersection Capacity Utilizat	ion		57.4%	IC	CU Level	of Service)		В			
Analysis Period (min)			15									

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis 2: SR 74 & FAA Driveway

	4	\mathbf{x}	2	*	×	۲	3	*	~	í,	×	*-
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	۳.	- † †	1	٦	<u></u>	1		र्भ	1	٦		1
Volume (veh/h)	0	1105	10	6	776	0	18	0	9	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.94	0.50	0.50	0.80	0.92	0.60	0.92	0.50	0.92	0.92	0.92
Hourly flow rate (vph)	0	1176	20	12	970	0	30	0	18	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									11			
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	970			1176			1685	2170	588	1582	2170	485
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	970			1176			1685	2170	588	1582	2170	485
tC, single (s)	4.1			4.1			7.8	6.5	7.3	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.7	4.0	3.5	3.5	4.0	3.3
p0 queue free %	100			98			42	100	96	100	100	100
cM capacity (veh/h)	706			590			52	45	406	69	45	528
Direction, Lane #	SE 1	SE 2	SE 3	SE 4	NW 1	NW 2	NW 3	NW 4	NE 1	SW 1	SW 2	
Volume Total	0	588	588	20	12	485	485	0	48	0	0	
Volume Left	0	0	0	0	12	0	0	0	30	0	0	
Volume Right	0	0	0	20	0	0	0	0	18	0	0	
cSH	1700	1700	1700	1700	590	1700	1700	1700	83	1700	1700	
Volume to Capacity	0.00	0.35	0.35	0.01	0.02	0.29	0.29	0.00	0.58	0.00	0.00	
Queue Length 95th (ft)	0	0	0	0	2	0	0	0	65	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	11.2	0.0	0.0	0.0	96.2	0.0	0.0	
Lane LOS					В				F	А	А	
Approach Delay (s)	0.0				0.1				96.2	0.0		
Approach LOS									F	А		
Intersection Summary												
Average Delay			2.1									
Intersection Capacity Utilizatio	n		40.5%	IC	CU Level	of Service			А			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis 3: Dividend Dr & SR 74

1, 10, 2000	4/1	8	/20	80
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		र्भ	1		र्स	1	۲	† †	1	۲	<u>†</u> †	7
Volume (vph)	10	4	279	52	28	125	157	656	3	2	813	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5		5.5	5.5	4.5	5.5	5.5	4.5	5.5	5.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97	1.00		0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1799	1583		1807	1583	1770	3374	1583	1770	3312	1583
Flt Permitted		0.78	1.00		0.80	1.00	0.24	1.00	1.00	0.34	1.00	1.00
Satd. Flow (perm)		1460	1583		1482	1583	452	3374	1583	638	3312	1583
Peak-hour factor, PHF	0.50	0.50	0.74	0.81	0.70	0.85	0.91	0.80	0.50	0.50	0.86	0.50
Adj. Flow (vph)	20	8	377	64	40	147	173	820	6	4	945	14
RTOR Reduction (vph)	0	0	195	0	0	106	0	0	2	0	0	3
Lane Group Flow (vph)	0	28	182	0	104	41	173	820	4	4	945	11
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	7%	2%	2%	9%	2%
Turn Type	Perm		Perm	Perm		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)		18.1	18.1		18.1	18.1	85.9	80.2	80.2	73.7	72.5	72.5
Effective Green, g (s)		18.1	18.1		18.1	18.1	85.9	80.2	80.2	73.7	72.5	72.5
Actuated g/C Ratio		0.16	0.16		0.16	0.16	0.75	0.70	0.70	0.64	0.63	0.63
Clearance Time (s)		5.5	5.5		5.5	5.5	4.5	5.5	5.5	4.5	5.5	5.5
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		230	249		233	249	440	2353	1104	421	2088	998
v/s Ratio Prot							c0.03	0.24		0.00	c0.29	
v/s Ratio Perm		0.02	c0.11		0.07	0.03	0.26		0.00	0.01		0.01
v/c Ratio		0.12	0.73		0.45	0.16	0.39	0.35	0.00	0.01	0.45	0.01
Uniform Delay, d1		41.6	46.1		43.9	41.9	5.5	7.0	5.3	7.4	11.0	7.9
Progression Factor		1.00	1.00		1.00	1.00	1.31	0.82	0.96	1.00	1.00	1.00
Incremental Delay, d2		0.2	10.2		1.4	0.3	0.5	0.4	0.0	0.0	0.7	0.0
Delay (s)		41.9	56.3		45.3	42.2	7.8	6.1	5.1	7.4	11.7	7.9
Level of Service		D	E		D	D	А	А	А	А	В	A
Approach Delay (s)		55.3			43.5			6.4			11.6	
Approach LOS		E			D			А			В	
Intersection Summary												
HCM Average Control Delay			19.4	Н	CM Leve	l of Servie	ce		В			
HCM Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			115.0	S	um of los	t time (s)			15.5			
Intersection Capacity Utilization)		57.9%	IC	CU Level of	of Service	e		В			
Analysis Period (min)			15									

c Critical Lane Group

Phone: Fax: E-Mail: _____Two-Way Two-Lane Highway Segment Analysis_____ Analyst EMB Jacobs Carter Burgess Agency/Co. Agency/Co.Jacous CoDate Performed4/8/2008Analysis Time PeriodAM Jurisdiction SANY America Analysis Year 2008 Description Friction Description Existing (Construction) Geometry and Volumes _____Input Data_____ Highway class Class 1 Highway class Class 1Shoulder width4.0ftPeak-hour factor, PHF0.89Lane width12.0ft% Trucks and buses6%Segment length2.1mi% Recreational vehicles0%Terrain typeLevel% No-passing zones100%Grade:LengthmiAccess points/mi5/mi Up/down 00 Two-way hourly volume, V 1400 veh/h Directional split 74 / 26 % _____Average Travel Speed_____ Grade adjustment factor, fG 1.00 PCE for trucks, ET 1.1 PCE for RVs, ER 1.0 Heavy-vehicle adjustment factor, 0.994 Two-way flow rate,(note-1) vp 1582 pc/h Highest directional split proportion (note-2) 1171 pc/h Free-Flow Speed from Field Measurement: mi/h Field measured speed, SFM -_ Observed volume, Vf veh/h Estimated Free-Flow Speed: 52.0 mi/h 1.3 mi/h Base free-flow speed, BFFS Adj. for lane and shoulder width, fLS Adj. for access points, fA 1.3 mi/h Free-flow speed, FFS 49.5 mi/h Adjustment for no-passing zones, fnp1.5mi/hAverage travel speed, ATS35.7mi/h

Grade adjustment factor, fG PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor fHV	1.00 1.0 1.0	
Two-way flow rate, (note-1) vp Highest directional split proportion (note-2)	1573 1164	pc/h
Base percent time-spent-following, BPTSF Adj.for directional distribution and no-passing zones, fd/np	74.9 7.5	010
Percent time-spent-following, PTSF	82.4	00
Level of service, LOS	E	
Volume to capacity ratio, v/c	0.49	
Peak 15-min vehicle-miles of travel, VMT15	826	veh-mi
Peak-hour vehicle-miles of travel, VMT60	2940	veh-mi woh-h
reak is min cocar craver cime, 1115	23.2	v 011 11

Notes:

 If vp >= 3200 pc/h, terminate analysis-the LOS is F.
If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: E-mail: Fax:

_____OPERATIONAL ANALYSIS______

Analyst: Agency/Co: Date: Analysis Period: Highway: From/To: Jurisdiction: Analysis Year: Project ID:	EMB Jacobs Carter 4/8/2008 PM SR 74 south of Coope SANY America 2010 Base Geometry	Burgess er Circle (south and Volumes; D:	n) irection	1=NB, Direc	ction 2=SB
		FREE-FLOW SPEEI)		
	Direction	1		2	
Lane width	DITECTION	12.0	ft	12.0	f†
Lateral clearance	<u>م</u> •	12.0	10	12.0	I C
Right edge		6.0	ft	6.0	ft
Left edge		6.0	ft	6.0	ft
Total later	al clearance	12.0	ft.	12.0	ft.
Access points pe	r mile	4		5	
Median type		Divided		Divided	
Free-flow speed:		Base		Base	
FFS or BFFS		52.0	mph	52.0	mph
Lane width adjus	tment, FLW	0.0	mph	0.0	mph
Lateral clearance	, e adiustment, E	TLC 0.0	mph	0.0	mph
Median type adju	stment, FM	0.0	mph	0.0	mph
Access points ad	iustment, FA	1.0	mph	1.3	mph
Free-flow speed	,	51.0	mph	50.8	mph
		VOLUME			
	Direction	1		2	
Volume, V		448	vph	1260	vph
Peak-hour factor	, PHF	0.89		0.94	
Peak 15-minute v	olume, v15	126		335	
Trucks and buses		7	00	6	010
Recreational veh	icles	0	00	0	010
Terrain type		Level		Level	
Grade		0.00	00	0.00	olo
Segment leng	th	0.00	mi	0.00	mi
Number of lanes		2		2	
Driver population	n adjustment, f	EP 1.00		1.00	
Trucks and buses	PCE, ET	1.5		1.5	
Recreational veh	icles PCE, ER	1.2		1.2	
Heavy vehicle ad	justment, fHV	0.966		0.971	
Flow rate, vp		260	pcphpl	690	pcphpl
		RESULTS			

Direction	1		2	
Flow rate, vp	260	pcphpl	690	pcphpl
Free-flow speed, FFS	51.0	mph	50.8	mph
Avg. passenger-car travel speed, S	51.0	mph	50.8	mph
Level of service, LOS	A		В	
Density, D	5.1	pc/mi/ln	13.6	pc/mi/ln

Overall results are not computed when free-flow speed is less than 45 mph.

Phone: E-mail: Fax:

_____OPERATIONAL ANALYSIS______

Analyst: Agency/Co: Date: Analysis Period: Highway: From/To: Jurisdiction: Analysis Year: Project ID:	EMB Jacobs Carter 4/8/2008 PM SR 74 south of Coop SANY America 2010	Burges	ss cle (south	1) Direction	1-NR D;	roction 2-SB
IIOJECC ID.	rucure Geomet	.ry and	vorumes,	DILECTION	1-ND, D1	16661011 2-55
		FREE-E	LOW SPEEI)		
	Direction		1		2	
Lane width			12.0	ft	12.0	ft
Lateral clearance	:		C O	C .	C O	5 .
Right edge			6.0	ft	6.0	ft
Leit edge	1 . 1		6.0	it	6.0	it
lotal latera	l clearance		12.0	It	12.0	It
Access points per	mile		4 Dissided		Dissided	
Free flow greed.			Divided		Divided	
FFS or BFFS			52 0	mph	52 0	mph
Lane width adjust	ment. FLW		0.0	mph	0.0	mph
Lateral clearance	adiustment,	FLC	0.0	mph	0.0	mph
Median type adjus	tment, FM	1 2 0	0.0	mph	0.0	mph
Access points adj	ustment, FA		1.0	mph	1.3	mph
Free-flow speed			51.0	mph	50.8	mph
		//	OLUME			
	Direction		1		2	
Volume, V			506	vph	1310	vph
Peak-hour factor,	PHF		0.89		0.94	
Peak 15-minute vo	lume, v15		142		348	
Trucks and buses			7	00	6	00
Recreational vehi	cles		0	010	0	010
Terrain type			Level		Level	
Grade			0.00	00	0.00	00
Segment lengt	h		0.00	mı	0.00	mı
Number of lanes		fD	2		2	
Driver population	adjustment,	ΓĽ	1 5		1.UU	
Pogroational wobi	CL, LI		1 2		1 2	
Heavy vehicle add	USTMONT FUN		⊥.∠ N 966		⊥•∠ ∩ 971	
Flow rate, vp	as chieffer, LIIV		294	pcphpl	717	pcphpl
· -		F	RESULTS	±		

Direction	1		2	
Flow rate, vp	294	pcphpl	717	pcphpl
Free-flow speed, FFS	51.0	mph	50.8	mph
Avg. passenger-car travel speed, S	51.0	mph	50.8	mph
Level of service, LOS	A		В	
Density, D	5.8	pc/mi/ln	14.1	pc/mi/ln

Overall results are not computed when free-flow speed is less than 45 mph.



Appendix E ARC VMT Reduction Analysis





From ARC's Fact Sheet: Using Air Quality Benchmarks for DRI Evaluations, Nov. 11, 2005:

Reductions in VMT are directly linked to improvements in air quality. There is a strong relationship between a vehicle mile of travel and NOx emissions. A decrease in VMT results in a direct decrease in NOx emissions. Therefore, a 15% reduction in VMT is appropriate to reduce NOx emissions in the amount by which the Atlanta region exceeds federal air quality standards. An assortment of measures may be incorporated in project design and implementation that will help achieve the needed reduction in mobile source emissions (VMT 'credits').

VMT Credits for SANY America

- For projects where Industrial is the exclusive use:
 - If the facility utilizes clean-fueled vehicles (over 50% of fleet estimated to qualify) (-10%)
- Transportation management association or parking management program (-3%)
- Bike/pedestrian networks connecting to land uses adjoining the site (-2%)

Total: 15% Reduction





Appendix F AOI Analysis



DEVELOPMENT OF REGIONAL IMPACT (DRI) AREA OF INFLUENCE REPORT

SANY America

Peachtree City, Georgia

Prepared for:



Prepared by:



1718 Peachtree Street NW, Suite 400 Atlanta, Georgia 30309 Phone: (404) 249-7550 Fax: (404) 249-7705 www.c-b.com

April 2008



INTRODUCTION

Jacobs Carter Burgess (JCB) has conducted an analysis of the Area of Influence (AOI) requirements for the proposed SANY America development in Peachtree City, Georgia, to satisfy the AOI requirements of the Development of Regional Impact (DRI) submission process. SANY America is an industrial development employing approximately 325 people for Phase 1. The proposed development will have the following facilities: Office, approximately 139,930 square feet; Assembly/Painting, approximately 322,917 square feet; and Distribution Center, 107,639 square feet. Using guidelines from the Georgia Regional Transportation Authority (GRTA) *Area of Influence (AOI) Guidebook for Non-Expedited Reviews*, the SANY America development is being classified as "exclusively employment" with 325 employees and no residential component. Using this classification, the following AOI analysis will compare the characteristics of SANY America's employees with residential opportunities in the AOI using Rule Subsection 3-103.A.7.b.

AREA OF INFLUENCE OVERVIEW

The SANY America AOI, as shown in Figure 1, is defined as an area located within six (6) road miles of the project site. The AOI boundary for the SANY America development was created using ESRI's ArcInfo version of ArcMap GIS software. An area-based adjustment was also performed for data in census tracts that lie only partially within the AOI. The SANY America AOI includes portions of Fayette and Coweta Counties and has an estimated population of 29,861 based on US Census (2000) data.

CRITERION FOR RULE SUBSECTION 3-103.A.7.B

Rule Subsection 3-103.A.7.b of Area of Influence (AOI) Guidebook for Non-Expedited Reviews states:

The proposed DRI is located in an Area of Influence where the proposed DRI is reasonably anticipated to contribute to a balancing of land uses within the Area of Influence such that twenty-five percent (25%) of the persons who are reasonably anticipated to be employed in the proposed DRI have the opportunity to live within the Area of Influence.

Therefore, the SANY America AOI analysis examines the opportunity for workers who are employed in the proposed DRI to live within the AOI in accordance with the *Area of Influence* (AOI) Guidebook for Non-Expedited Reviews guidelines.

Probable Occupations of DRI Employees

The proposed SANY America DRI development will have industrial land uses and associated office support. Using values obtained from SANY America, types of occupations are listed in Table 1 along with the estimated number of employees for each type of occupation. The estimated average monthly salary for each type of job by occupation, the associated monthly household salary, and affordable monthly housing payment are also presented in Table 1.







Table 1								
Employmen	Employment, Salary, and Affordable Housing Payment by Occupation							
in S	SANY America	Developmer	nt (Industrial Lan	d Use)				
			Monthly	Affordable Monthly				
		Monthly	Household	Housing				
Type of	Number of	Employee	Salary	Payment for				
Occupation	Employees	Salary	(1.5 times	Household				
		Salary	Employee	(30% of Monthly				
			Salary)	Household Salary)				
Shift Leader	25	\$6,250.00	\$9,375.00	\$2,812.50				
Skilled Worker	50	\$4,583.33	\$6,875.00	\$2,062.50				
Standard Worker	125	\$3,333.33	\$5,000.00	\$1,500.00				
Executive	15	\$10,416.67	\$15,625.00	\$4,687.50				
Manager	20	\$7,083.33	\$10,625.00	\$3,187.50				
Standard Office								
Worker	40	\$4,166.67	\$6,250.00	\$1,875.00				
Manager	10	\$8,333.33	\$12,500.00	\$3,750.00				
Standard Salesman	40	\$6,250.00	\$9,375.00	\$2,812.50				
Total Employment	325							

Occupied Housing Units

Using data from the US Census, the number of owner-occupied housing units, including housing units with a mortgage and housing units without a mortgage, in the AOI and the number of renter-occupied housing units in AOI were determined by selected monthly costs. These values for occupied housing in the AOI are listed in Table 2.

Table 2 Selected Monthly Costs For All Occupied Housing Units in the AOI							
Monthly	Owner-Occupied	Renter-Occupied	Total Occupied				
Dollar	Housing Units in	Housing Units in	Housing Units in				
Range	the AOI	the AOI	the AOI				
\$499 or less	1,010	195	1,205				
\$500 to \$599	169	73	242				
\$600 to \$699	306	202	508				
\$700 to \$799	280	205	485				
\$800 to \$899	350	239	589				
\$900 to \$999	421	209	630				
\$1,000 to \$1,249	1,207	306	1,513				
\$1,250 to \$1,499	1,404	70	1,474				
\$1,500 to \$1,999	1,930	64	1,994				
\$2,000 or more	1,464	2	1,466				
Total	8,541	1,565	10,106				





Comparison of Household Income and Housing Cost

Using values determined from SANY America, the number of households with one or more workers working in the DRI was determined. This value was compared with the total occupied housing units in the AOI. Table 3 shows the difference between the number of occupied housing units in the AOI and the number of households with one or more workers working in the DRI.

	Table 3							
Compai	Comparison of Monthly Household Incomes of Households							
	With One or Mo	re Workers in the A						
W	ith Monthly Costs o	of Housing Units in	the AOI					
		Number of	Difference Between the					
Monthly	Total Occupied	Households With	Number of Occupied					
Dollar	Housing Units in	One or More	Housing Units in the AOI and					
Bange	the AOI	Workers	the Number of Households					
		Working in the	With One or More Workers					
		DRI	Working in the DRI					
\$499 or less	1,205	0	1,205					
\$500 to \$599	242	0	242					
\$600 to \$699	508	0	508					
\$700 to \$799	485	0	485					
\$800 to \$899	589	0	589					
\$900 to \$999	630	0	630					
\$1,000 to \$1,249	1,513	0	1,513					
\$1,250 to \$1,499	1,474	0	1,474					
\$1,500 to \$1,999	1,994	165	1,829					
\$2,000 or more	1,466	160	1,306					
Total	10,106	325	9,781					

Conclusions

The GRTA AOI methodology requires an evaluation of whether 25% or more of the persons (households) employed in the proposed DRI have the opportunity to live within the AOI. In the comparison shown in Table 4, 100% of the SANY America DRI employees can afford to live in the associated AOI. US Census (2000) and ARC Regional Employment (2000) data show the current jobs-to-housing unit ratio for the AOI is approximately 1.24, which is lower than the typical balanced ratio of 1.5 jobs to 1 housing unit. As a comparison, the jobs-to-housing unit ratio using the ARC 20 County 2005 Regional Travel Demand Model socioeconomic data for both households and employment was calculated and was also determined to be 1.24.

The additional job opportunities created by "exclusively employment" developments such as SANY America will increase the potential of balancing the jobs-to-housing unit ratio. This balance can lead to shorter work trips and improve the balance of land uses within the AOI. Based on these conclusions, SANY America is located in an AOI where the proposed DRI is reasonably anticipated to contribute to a balancing of land uses within the AOI such that twenty-five (25%) of the persons who are reasonably anticipated to be employed in the proposed DRI have an opportunity to live within the AOI.





Appendix G LEED Summary





LEED for New Construction v2.2 Registered Project Checklist

Project: Sany America - PTC Manufacturing Facility Project Address: Cooper Loop Road, Peachtree City, Georgia PRELIMINARY Yes ? No

Sustainable Sites 8 6 14 Points **Construction Activity Pollution Prevention** Required Prerea 1 Credit 1 Site Selection 1 1 Credit 2 **Development Density & Community Connectivity** 1 1 Credit 3 **Brownfield Redevelopment** 1 1 Credit 4.1 Alternative Transportation, Public Transportation Access 1 1 1 Credit 4.2 Alternative Transportation, Bicycle Storage & Changing Rooms 1 Credit 4.3 Alternative Transportation, Low-Emitting & Fuel-Efficient Vehicles 1 Credit 4.4 Alternative Transportation, Parking Capacity 1 Credit 5 1 Site Development, Protect or Restore Habitat 1 1 1 Credit 5.2 Site Development, Maximize Open Space Credit 6.1 Stormwater Design, Quantity Control 1 Credit 6.2 Stormwater Design, Quality Control 1 1 1 Credit 7.1 Heat Island Effect. Non-Roof 1 Credit 7.2 Heat Island Effect, Roof 1 1 Credit 8 **Light Pollution Reduction** No Yes Water Efficiency 5 Points 4 1 Credit 1.1 Water Efficient Landscaping, Reduce by 50% 1 1 Credit 1.2 Water Efficient Landscaping, No Potable Use or No Irrigation 1 1 **Innovative Wastewater Technologies** Credit 2 1 Credit 3.1 Water Use Reduction, 20% Reduction 1 1 Credit 3.2 Water Use Reduction, 30% Reduction 6 3 8 **Energy & Atmosphere** 17 Points Prerea 1 Fundamental Commissioning of the Building Energy Systems Required Prereg 2 **Minimum Energy Performance** Required Required **Fundamental Refrigerant Management** Prereq 3 All LEED for New Construction projects registered after June 26th, 2007 are required to achieve at least two (2) points under EAc1. **Optimize Energy Performance** Credit 1 1 to 10 10.5% New Buildings or 3.5% Existing Building Renovations 1 2 14% New Buildings or 7% Existing Building Renovations 2 17.5% New Buildings or 10.5% Existing Building Renovations 3 21% New Buildings or 14% Existing Building Renovations 4 24.5% New Buildings or 17.5% Existing Building Renovations 5 28% New Buildings or 21% Existing Building Renovations 6 31.5% New Buildings or 24.5% Existing Building Renovations 7 35% New Buildings or 28% Existing Building Renovations 8 38.5% New Buildings or 31.5% Existing Building Renovations 9 42% New Buildings or 35% Existing Building Renovations 10 1 2 Credit 2 On-Site Renewable Energy 1 to 3 2.5% Renewable Energy 1 7.5% Renewable Energy 2 12.5% Renewable Energy 3 Credit 3 Enhanced Commissioning 1 Credit 4 **Enhanced Refrigerant Management** 1 Credit 5 **Measurement & Verification** 1 Credit 6 **Green Power** 1

continued...

Yes	?	No			
5	2	6	Mate	rials & Resources	13 Points
		_			
Υ			Prereq 1	Storage & Collection of Recyclables	Required
		1	Credit 1.1	Building Reuse, Maintain 75% of Existing Walls, Floors & Roof	1
		1	Credit 1.2	Building Reuse, Maintain 100% of Existing Walls, Floors & Roof	1
		1	Credit 1.3	Building Reuse, Maintain 50% of Interior Non-Structural Elements	1
1			Credit 2.1	Construction Waste Management, Divert 50% from Disposal	1
1			Credit 2.2	Construction Waste Management, Divert 75% from Disposal	1
		1	Credit 3.1	Materials Reuse, 5%	1
		1	Credit 3.2	Materials Reuse, 10%	1
1			Credit 4.1	Recycled Content , 10% (post-consumer + ½ pre-consumer)	1
1			Credit 4.2	Recycled Content , 20% (post-consumer + ½ pre-consumer)	1
1			Credit 5.1	Regional Materials, 10% Extracted, Processed & Manufactured Regio	1
	1		Credit 5.2	Regional Materials, 20% Extracted, Processed & Manufactured Regio	1
		1	Credit 6	Rapidly Renewable Materials	1
N	1	NIa	Credit 7	Certified Wood	1
Yes	? 0	INO	land as		
9	3	3	Indoc	or Environmental Quality	15 Points
V	1		Prorog 1	Minimum IAO Porformanoa	Poquirod
V			Prereq 1	Environmental Tobacco Smoke (ETS) Control	Required
1				Outdoor Air Delivery Monitoring	nequireu 1
	-1		Credit 2	Increased Ventilation	1
1	-		Credit 3 1	Construction IAO Management Plan During Construction	1
1			Credit 3.2	Construction IAO Management Plan Before Occupancy	1
1			Credit 4 1	Low-Emitting Materials Adhesives & Sealants	1
1			Credit 4 2	Low-Emitting Materials, Adhesives & Coatings	1
1			Credit 4.3	Low-Emitting Materials, Carpet Systems	1
1			Credit 4.4	Low-Emitting Materials, Composite Wood & Agrifiber Products	1
	1		Credit 5	Indoor Chemical & Pollutant Source Control	1
		1	Credit 6.1	Controllability of Systems. Lighting	1
		1	Credit 6.2	Controllability of Systems, Thermal Comfort	1
1			Credit 7.1	Thermal Comfort, Design	1
1			Credit 7.2	Thermal Comfort, Verification	1
	1		Credit 8.1	Daylight & Views, Daylight 75% of Spaces	1
		1	Credit 8.2	Daylight & Views, Views for 90% of Spaces	1
Yes	?	No			
4	1		Innov	vation & Design Process	5 Points
_			1		
1			Credit 1.1	Innovation in Design: Provide Specific Title	1
1			Credit 1.2	Innovation in Design: Provide Specific Title	1
1			Credit 1.3	Innovation in Design: Provide Specific Title	1
	1		Credit 1.4	Innovation in Design: Provide Specific Title	1
1			Credit 2	LEED [®] Accredited Professional	1
Yes	?	No			
36	10	23	Proje	ct Totals (pre-certification estimates)	69 Points
			0		

Certified: 26-32 points, Silver: 33-38 points, Gold: 39-51 points, Platinum: 52-69 pc