TRAFFIC IMPACT STUDY FOR RESIDENTIAL DEVELOPMENT ON STANLEY ROAD

CITY OF DACULA, GEORGIA



Prepared for:

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1.0 INTRODUCTION

The purpose of this study is to determine the traffic impact that will result from the proposed residential development located on Stanley Road in City of Dacula, Georgia and to determine if left-turn lanes are warranted on Stanley Road at the two driveway intersections. The traffic analysis evaluates the current operations compared to the future conditions with the traffic generated by the development. The proposed development will consist of 173 units of single-family homes.



The development proposes access at the following locations:

- Site Driveway 1: Full-access western driveway on Stanley Road aligned with Jody Avenue
- Site Driveway 2: Full-access eastern driveway on Stanley Road

The AM and PM peak hours have been analyzed in this study.

Recommendations to improve traffic operations have been identified as appropriate and are discussed in detail in the following sections of the report. The location of the development and the surrounding roadway network is shown in Figure 1.



LOCATION MAP

2.0 EXISTING FACILITIES / CONDITIONS

2.1 Roadway Facilities

The following is a brief description of each of the roadway facilities located in proximity to the site:

2.1.1 Stanley Road

Stanley Road is an east-west, two-lane, undivided roadway with a posted speed limit of 25 mph.

2.1.2 Jody Avenue

Jody Avenue is a north-south, two-lane, undivided roadway with a posted speed limit of 25 mph.

3.0 STUDY METHODOLOGY

In this study, the methodology used for evaluating traffic operations at each of the subject intersections is based on the criteria set forth in the Transportation Research Board's Highway Capacity Manual, 6th edition (HCM 6). Synchro software, which utilizes the HCM methodology, was used for the analysis. The following is a description of the methodology employed for the analysis of unsignalized and signalized intersections.

3.1 Unsignalized Intersections

For unsignalized intersections at which the side street or minor street is controlled by a stop sign, the criteria for evaluating traffic operations are the level-of-service (LOS) for the turning movements at the intersection and the level-of-service for the overall intersection. Level-of-service is based on control delay incurred at the intersection. Control delay for unsignalized intersections includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Several factors affect the control delay for unsignalized intersections, such as the availability and distribution of gaps in the conflicting traffic stream, critical gaps, and follow-up time for a vehicle in the queue.

Level-of-service is assigned a letter designation from "A" through "F". Level-of-service "A" indicates excellent operations with little delay to motorists, while level-of-service "F" exists when there are insufficient gaps of acceptable size to allow vehicles on the side street to cross safely, resulting in extremely long total delays and long queues. The level-of-service criteria for two-way stop-controlled and all-way stop-controlled (unsignalized) intersections are given in Table 1.

TABLE 1 – LEVEL-OF-SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS			
Level-of-service	Control Delay (sec)		
А	≤ 10		
В	$>$ 10 and \leq 15		
С	$>$ 15 and \leq 25		
D	$>$ 25 and \leq 35		
E	$>$ 35 and \leq 50		
F	> 50		

Source: Highway Capacity Manual

3.2 Signalized Intersections

For signalized intersections, it is necessary to evaluate both capacity and level-of-service in order to evaluate the overall operation of the intersection. The capacity analysis of an intersection is performed by comparing the volume of traffic using the various lane groups at the intersection to the capacity of those lane groups. This results in a volume/capacity (v/c) ratio for each lane group. A v/c ratio greater than 1.0 indicates that the volume of traffic has exceeded the capacity available, resulting in a temporary excess of demand. Although the capacity of the entire intersection is not defined, a composite v/c ratio for the sum of the critical lane groups within the intersection is computed. This composite v/c ratio is an indication of the overall intersection sufficiency.

Level-of-service for a signalized intersection is defined in terms of control delay per vehicle, which is composed of initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The level-of-service criteria for signalized intersections, based on control delay, are shown in Table 2. Level-of-service "A" indicates operations with very low control delay, while level-of-service "F" describes operations with extremely high control delay. Level-of-service "E" is typically considered to be the limit of acceptable delay, and level-of-service "F" is considered unacceptable by most drivers.

TABLE 2 – LEVEL-OF-SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS				
Level-of-service	Control Delay (sec)			
А	≤ 10			
В	$>$ 10 and \leq 20			
С	$>$ 20 and \leq 35			
D	$>$ 35 and \leq 55			
E	$>$ 55 and \leq 80			
F	> 80			

Source: Highway Capacity Manual

4.0 EXISTING 2021 TRAFFIC ANALYSIS

4.1 Existing Traffic Volumes

Existing traffic counts were obtained at the following study intersection:

• Stanley Road at Jody Avenue

Turning movement counts were collected on Tuesday, October 26, 2021. All turning movement counts were recorded during the AM and PM peak hours between 7:00am to 9:00am and 4:00pm to 6:00pm, respectively. The four consecutive 15-minute interval volumes that summed to produce the highest volume at the intersection were then determined. These volumes make up the peak hour traffic volumes for the intersection counted and are shown in Figure 2.

A 24-hour bi-directional volume count was also collected on October 26, 2021, to determine the daily traffic on Stanley Road. The daily bi-directional volume on Stanley Road just east of Gregory Lane is 478. Raw traffic counts are included in the Appendix.



(AM) PM



EXISTING WEEKDAY PEAK-HOUR VOLUMES

FIGURE 2 A&R Engineering Inc.

4.2 Existing Traffic Operations

Existing 2021 traffic operations were analyzed at the study intersection in accordance with the HCM methodology. The results of the analysis are shown in Table 3. The existing traffic control and lane geometry for the intersection are shown in Figure 3.

TABLE 3 – EXISTING INTERSECTION OPERATIONS					
Intersection		Troffic Control	LOS (Delay)		
			AM Peak Hour	PM Peak Hour	
	Stanley Road @ Jody Avenue	Stan Controlled on			
1	-Eastbound Left	Stop Controlled on	A (0.0)	A (7.3)	
	-Southbound Approach	SE Approach	A (8.8)	A (8.7)	

The results of existing traffic operations analysis indicate that the study intersection is operating at satisfactory level of service "A" in both the AM and PM peak hours.







EXISTING TRAFFIC CONTROL AND LANE GEOMETRY

FIGURE 3 A&R Engineering Inc.

5.0 PROPOSED DEVELOPMENT

The proposed site will be located on Stanley Road in City of Dacula, Georgia. The development will consist of 173 units of single-family homes. A site plan is shown in Figure 4.

The development proposes access at the following locations:

- Site Driveway 1: Full-access western driveway on Stanley Road aligned with Jody Avenue
- Site Driveway 2: Full-access eastern driveway on Stanley Road

5.1 Trip Generation

Trip generation estimates for the project were based on the rates and equations published in the 11th edition of the Institute of Transportation Engineers (ITE) Trip Generation report. This reference contains traffic volume count data collected at similar facilities nationwide. The trip generation was based on the following ITE Land Use: 210 – Single-Family Detached Housing. The calculated total trip generation for the proposed development is shown in Table 4.

TABLE 4 – TRIP GENERATION								
Land Lico	Size	AM Peak Hour		PM Peak Hour		24 Hour		
Land Ose		Enter	Exit	Total	Enter	Exit	Total	Two-way
ITE 210 – Single-Family Detached Housing	173 units	32	91	123	104	62	166	1,671

5.2 Trip Distribution

The trip distribution describes how traffic arrives and departs from the site. An overall trip distribution was developed for the site based on a review of the existing travel patterns in the area and the locations of major roadways and highways that will serve the development. The site-generated peak hour traffic volumes, shown in Table 4, were assigned to the study area intersections based on this distribution. The outer-leg distribution and AM and PM peak hour new traffic generated by the site are shown in Figure 5.





(AM) PM



TRIP DISTRIBUTION AND SITE-GENERATED WEEKDAY PEAK HOUR VOLUMES FIGURE 5 A&R Engineering Inc.

6.0 FUTURE 2023 TRAFFIC ANALYSIS

The future 2023 traffic operations are analyzed for the "Build" and "No-Build" conditions.

6.1 Future "No-Build" Conditions

The "No-Build" (or background) conditions provide an assessment of how traffic will operate in the study horizon year without the study site being developed as proposed, with projected increases in through traffic volumes due to normal annual growth. The Future "No-Build" volumes consist of the existing traffic volumes (Figure 2) plus increases for annual growth of through traffic.

6.1.1 Annual Traffic Growth

In order to evaluate future traffic operations in this area, a projection of normal traffic growth was applied to the existing volumes. The Georgia Department of Transportation recorded average daily traffic volumes at several locations in the vicinity of the site. Reviewing the growth over the last three years revealed growth of approximately 1% in the area. This growth factor was applied to the existing traffic volumes between collector and arterial roadways in order to estimate the future year traffic volumes prior to the addition of site-generated traffic. The resulting Future "No-Build" volumes on the roadway are shown in Figure 6.

6.2 Future "Build" Conditions

The "Build" or development conditions include the estimated background traffic from the "No-Build" conditions plus the added traffic from the proposed development. In order to evaluate future traffic operations in this area, the additional traffic volumes from the site (Figure 5) were added to base traffic volumes (Figure 6) to calculate the future traffic volumes after the construction of the development. These total future "Build" traffic volumes are shown in Figure 7.



(AM) PM



FUTURE (NO-BUILD) WEEKDAY PEAK HOUR VOLUMES

FIGURE 6 A&R Engineering Inc.



(AM) PM



FUTURE (BUILD) WEEKDAY PEAK HOUR VOLUMES

FIGURE 7 A&R Engineering Inc.

6.3 Auxiliary Lane Analysis

Included below are analyses for left-turn lanes and deceleration lanes for all site driveways per GDOT standards. The analyses below are based off the trip distribution included in Section 5.2. According to the trip distribution, the 24-hour two-way volume entering and exiting of the site is 1,671 vehicles. A bidirectional count on Stanley Road collected on Tuesday, October 26, 2021, indicates that the ADT on Stanley Road is 478 vehicles.

6.3.1 Left Turn Lane Analysis

Gwinnett County Requirements for Left-Turn Lanes

According to <u>https://www.gwinnettcounty.com/.../Left_Turn_Lanes.pdf</u> the criteria and guidelines for a left turn lanes for multiple entry points of Gwinnett County Department of Transportation each entry point for a development shall be considered individually in the determination of the requirement for a left turn lane, based upon a reasonable distribution of entry volumes among the entry points. A left turn lane will be required at any entry point that meets the Gwinnett County thresholds for single-family residential development.

Gwinnett County – Residential Developments * Left Turn Lane Criteria

TABLE I

Posted Speed	2 Lane Routes ADT		More Than 2 Lar A	nes on Main Road DT
Limit (mph)	<6000	>=6000	<10,000	>=10,000
30 to 35	120 Lots	75 Lots	160 Lots	120 Lots
40 to 50	100 Lots	65 Lots	130 Lots	100 Lots
>= 55	75 lots	55 Lots	100 Lots	75 Lots

* Zoning Districts R-XX(X)

Stanley Road is a two-lane roadway with a posted speed limit of 25 mph and has a daily traffic of 478 trips. Based on this data, a left-turn lane will be warranted at any driveway that serves 120 lots or more per Gwinnett County standards. The proposed development, consisting of 173 single-family units has two full access driveways on Stanley Road. We have equally distributed the entry volumes at both the site driveways. Therefore, a total of 87 units ($173 \div 2 = 86.5$) will be assigned to each driveway. Since 87 lots is under the threshold of 120 lots, a left-turn lane is not required at any of the two site driveways per Gwinnett County standards.

GDOT Requirement for Left-Turn Lanes

Stanley Road is a two-lane roadway with a posted speed limit of 25 mph and has a daily traffic of 478 trips. For two lane roadways with AADT's less than 6,000 vehicles and a posted speed limit of 25 mph, the daily site generated traffic left-turn movements threshold to warrant a left-turn lane is 300 left-turning vehicles a day. The projected left-turn volumes per day for each driveway is included below.

TABLE 5 – GDOT REQUIREMENTS FOR LEFT TURN LANES					
Intersection	Left-turn traffic (% total entering)	Left-turn Volume (veh/day)	Roadway Speed/ # lanes	GDOT Threshold (veh/day)	
Stanley Road @ Jody Avenue/Site Driveway 1 (W)	20%	167 (Total trips) ÷ 2 × 0.2 = (1671) ÷ 2 × 0.2 = 167	25 mph / 2- lane / <6,000	300	
Stanley Road @ Site Driveway 2 (E)	20%	167 (Total trips) ÷ 2 × 0.2 = (1671) ÷ 2 × 0.2 = 167	25 mph / 2- lane / <6,000	300	

Since the projected number of left-turning vehicles at Site driveway 1 and Site driveway 2 does not exceed the threshold of 300 left turning vehicles, a left-turn lane is not warranted at both the Site Driveways per GDOT standards.

6.3.2 Deceleration Turn Lane Analysis

The development proposes to construct a deceleration lane at both the site driveways.

6.4 Future Traffic Operations

The future traffic operations were analyzed using the volumes in Figures 6 and 7 and the results are shown in Table 6 below. Recommendations on traffic control and lane geometry are shown graphically in Figure 8.

	TABLE 6 – FUTURE INTERSECTION OPERATIONS					
		No-Build Condition: LOS (Delay)				
	Intersection	NO-BU	JILD	BUILD		
		AM Peak	PM Peak	AM Peak	PM Peak	
	Stanley Road @ Jody Avenue/Site Driveway 1 (W)					
	-Eastbound Left	A (0.0)	A (7.3)	A (0.0)	A (7.3)	
1	-Westbound Left	-	-	A (7.3)	A (7.4)	
	-Northbound Approach	-	-	A (9.3)	A (9.3)	
	-Southbound Approach	A (8.8)	A (8.7)	A (9.6)	A (9.3)	
	Stanley Road @ Site Driveway 2 (E)					
2	-Westbound Left	-	-	A (7.3)	A (7.4)	
	-Northbound Approach			A (8.9)	A (9.1)	

The results of future traffic operations analysis indicate that all the study intersections will continue to operate at satisfactory level of service "A" in both the AM and PM peak hours. The impact of site generated traffic is insignificant.





FUTURE TRAFFIC CONTROL AND LANE GEOMETRY

FIGURE 8 A&R Engineering Inc.

7.0 CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study was to determine the traffic impact that will result from the proposed residential development that will be located on Stanley Road in City of Dacula, Georgia. The development will consist of 173 units of single-family homes.

The development proposes access at the following locations:

- Site Driveway 1: Full-access western driveway on Stanley Road aligned with Jody Avenue
- Site Driveway 2: Full-access eastern driveway on Stanley Road

Existing and future operations after completion of the project were analyzed at the intersections of:

- Stanley Road at Jody Avenue/Site Driveway 1 (W)
- Stanley Road at Site Driveway 2 (E)

The analysis included the evaluation of Future operations for "No-Build" and "Build" conditions, both of which account for increases in annual growth of through traffic.

7.1 Site Access Configuration

The following access configuration is recommended for the proposed site driveway intersections.

- Site Driveway 1: Full access western driveway on Stanley Road aligned with Jody Avenue
 - This driveway to consist of one entering and one exiting lane. The northbound (driveway) approach is to have a shared through/left / right-turn lane for exiting traffic.
 - The intersection to be unsignalized with STOP signs on the northbound and southbound approaches.
 - Entering left-turn movements to be made from the westbound through lane. A left-turn lane is not warranted as per Gwinnett County and GDOT standards. (See Section 6.3)
 - A deceleration lane to be constructed for entering traffic.
- Site Driveway 2: Full access eastern driveway on Stanley Road
 - This driveway to consist of one entering and one exiting lane. The northbound (driveway) approach is to have a shared left / right-turn lane for exiting traffic.
 - The intersection to be unsignalized with a STOP sign on the northbound approach.
 - Entering left-turn movements to be made from the westbound through lane. A left-turn lane is not warranted as per Gwinnett County and GDOT standards. (See Section 6.3)
 - A deceleration lane to be constructed for entering traffic.

The results of future traffic operations analysis indicate that all the study intersections will continue to operate at satisfactory level of service "A" in both the AM and PM peak hours. The impact of site generated traffic is insignificant. Left-turn lanes are not warranted at both driveways based on both Gwinnett County and GDOT standards.

Appendix

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Existing Intersection Traffic Counts
Linear Regression of Daily Traffic
Existing Intersection Analysis
Future "No-Build" Intersection Analysis
Future "Build" Intersection Analysis
Traffic Volume Worksheets

EXISTING INTERSECTION TRAFFIC COUNTS

A & R Engineering, Inc.

2160 Kingston Court, Suite 'O' Marietta, GA 30067

TMC DATA Stanley Rd @ Jody Ave 7-9 am | 4-6 pm

File Name	: 20210347
Site Code	: 20210347
Start Date	: 10/26/2021
Page No	: 1

						Group	s Print	ed- Cars	, Buse	s & Tru	ucks						
						Jod	y Ave			Stan	ley Rd			Stan	ley Rd		
		North	bound			South	bound			East	bound			Westbound			
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	2	2	0	2	0	2	0	3	1	4	8
07:15 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	2	0	2	4
07:30 AM	0	0	0	0	1	0	0	1	0	6	0	6	0	1	0	1	8
07:45 AM	0	0	0	0	0	0	0	0	0	3	0	3	0	3	0	3	6
Total	0	0	0	0	1	0	2	3	0	13	0	13	0	9	1	10	26
08:00 AM	0	0	0	0	3	0	0	3	0	3	0	3	0	7	0	7	13
08:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2
08:30 AM	0	0	0	0	1	0	0	1	0	1	0	1	0	1	0	1	3
08:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	0	0	0	4	0	0	4	0	6	0	6	0	9	0	9	19
*** BREAK ***																	
	1							1				1					1
04:00 PM	0	0	0	0	2	0	0	2	2	5	0	7	0	5	1	6	15
04:15 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	1	1	2	4
04:30 PM	0	0	0	0	1	0	1	2	0	6	0	6	0	2	0	2	10
04:45 PM	0	0	0	0	2	0	0	2	0	5	0	5	0	5	2	7	14
Total	0	0	0	0	5	0	1	6	2	18	0	20	0	13	4	17	43
								1				1					
05:00 PM	0	0	0	0	2	0	0	2	0	3	0	3	0	5	2	7	12
05:15 PM	0	0	0	0	1	0	1	2	1	3	0	4	0	5	2	7	13
05:30 PM	0	0	0	0	0	0	2	2	2	4	0	6	0	2	3	5	13
05:45 PM	0	0	0	0	2	0	1	3	0	3	0	3	0	1	1	2	8
Total	0	0	0	0	5	0	4	9	3	13	0	16	0	13	8	21	46
Grand Total	0	0	0	0	15	0	7	22	5	50	0	55	0	44	13	57	134
Apprch %	0	0	0		68.2	0	31.8		9.1	90.9	0		0	77.2	22.8		
Total %	0	0	0	0	11.2	0	5.2	16.4	3.7	37.3	0	41	0	32.8	9.7	42.5	

A & R Engineering, Inc.

2160 Kingston Court, Suite 'O' Marietta, GA 30067

TMC DATA Stanley Rd @ Jody Ave 7-9 am | 4-6 pm File Name : 20210347 Site Code : 20210347 Start Date : 10/26/2021 Page No : 2

						Jody	y Ave			Stan	ley Rd	y Rd Stanle			ley Rd		
		North	bound			South	bound	1		East	bound		Westboun				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Ana	alysis F	rom 07:	:00 AM	to 08:45	AM - P	eak 1 o	f 1										
Peak Hour for	Entire I	ntersec	tion Be	gins at 0	7:15 AN	1											
07:15 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	2	0	2	4
07:30 AM	0	0	0	0	1	0	0	1	0	6	0	6	0	1	0	1	8
07:45 AM	0	0	0	0	0	0	0	0	0	3	0	3	0	3	0	3	6
08:00 AM	0	0	0	0	3	0	0	3	0	3	0	3	0	7	0	7	13
Total Volume	0	0	0	0	4	0	0	4	0	14	0	14	0	13	0	13	31
% App. Total	0	0	0		100	0	0		0	100	0		0	100	0		
PHF	.000	.000	.000	.000	.333	.000	.000	.333	.000	.583	.000	.583	.000	.464	.000	.464	.596



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TMC DATA Stanley Rd @ Jody Ave 7-9 am | 4-6 pm File Name : 20210347 Site Code : 20210347 Start Date : 10/26/2021 Page No : 3

		North	bound			Jod South	y Ave bound	I		Stan East	ley Rd bound			Stan West	ley Rd		
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Ana	alysis F	rom 04:	00 PM	to 05:45	PM - P	eak 1 o	f 1										
Peak Hour for	Entire I	ntersec	tion Be	gins at 0	4:45 PN	1											
04:45 PM	0	0	0	0	2	0	0	2	0	5	0	5	0	5	2	7	14
05:00 PM	0	0	0	0	2	0	0	2	0	3	0	3	0	5	2	7	12
05:15 PM	0	0	0	0	1	0	1	2	1	3	0	4	0	5	2	7	13
05:30 PM	0	0	0	0	0	0	2	2	2	4	0	6	0	2	3	5	13
Total Volume	0	0	0	0	5	0	3	8	3	15	0	18	0	17	9	26	52
% App. Total	0	0	0		62.5	0	37.5		16.7	83.3	0		0	65.4	34.6		
PHF	.000	.000	.000	.000	.625	.000	.375	1.00	.375	.750	.000	.750	.750 .000 .850 .750 .92				.929



A&R Engineering, Inc. 2160 Kingston Court, Suite O Marietta, GA 30067

24-Hour Bi-Directional Volume Count on Stanley Road West of Gregory Lane Site Code: 20210350 Date Start: 26-Oct-21 Date End: 26-Oct-21

Start	26-Oct-21									
Time	Tue	Eastboun	Westboun							Total
12:00 AM		1	1							2
01:00		3	3							6
02:00		1	0							1
03:00		2	0							2
04:00		7	4							11
05:00		10	10							20
06:00		11	15							26
07:00		14	10							24
08:00		10	9							19
09:00		10	9							19
10:00		8	10							18
11:00		9	10							19
12:00 PM		14	11							25
01:00		18	14							32
02:00		19	22							41
03:00		22	21							43
04:00		24	18							42
05:00		18	21							39
06:00		9	15							24
07:00		11	9							20
08:00		12	8							20
09:00		6	5							11
10:00		3	6							9
11:00		1	4							5
Total		243	235							478
Percent		50.8%	49.2%							
AM Peak	-	07:00	06:00	-	-	-	-	-	-	06:00
Vol.	-	14	15	-	-	-	-	-	-	26
PM Peak	-	16:00	14:00	-	-	-	-	-	-	15:00
Vol.	-	24	22	-	-	-	-			43
Grand		243	235							478
Percent		50.8%	10 2%							
reicent		50.076	43.270							
ADT		ADT 478		AADT 478						

ADT

LINEAR REGRESSION OF DAILY TRAFFIC

Location	Growth Rate R	Squared	Station ID	Route	2017	2018	2019
R 8 (Winder Hwy), E of Village	-0.5%	0.25	135-0040	00000800	10,700	10,500	10,600
8 (Winder Hwy), W of Still Rd	5.5%	0.81	135-0041	00000800	10,500	11,600	11,700
covy Rd, E of Alcovy Woods D	1.7%	1.00	135-0693	00023500	4,290	4,360	4,440
niversity Pkwy, w or Sugarioar	0.7%	0.05	155-0255	00031000	40,800	40,700	41,400
Weighted Average	1.4%	1.00	Sum of Count	Stations =	66,290	67,160	68,140
Location			Traffic Counter	RCLINK	2017	2018	2019
SR 8 (Winder Hwy), E of Villa	ge Broad St		135-0040	00000800	10,700	10,500	10,600
Winder Highway	9,740		10,800	Tre	nd Line		
			· 월 10,700				
//	1 de		₩ 10,600		· · · · ·		
	Allage				\sim		
	beard		10,400	2017	2010	20	10
	82			2017	2018	20	19
Growth	Rate		-0.5%	Intercept	111,500	Slope	-50.00
Trend	Line				10,650	10,600	10,550
1							
SR 8 (Winder Hwy) W of	Still Rd		135-0041	RCLINK	10 500	11 600	11 700
			135-0041	Tre	nd Line	11,600	11,700
	and .	still Rd	12,000				
•			€ 11,500		1		
10,60	00		₩ 10,500				
			₹ 10,000				
in the second			9,500				
Windo				2017	2018	20	19
<u>Growth</u> Trend	Rate Line		5.5%	Intercept	-1,199,533 10,667	Slope 11,267	600.00 11,86
Location			Traffic Counter	RCLINK	2017	2018	2019
Alcovy Rd, E of Alcovy W	oods Dr		135-0693	00023500	4,290	4,360	4,440
	RK .						
Ale	45 Mg			Tre	nd Line		
P Bd	Ingst		4,500				
upet pont	Dive		a 4 400				•
SW0			12 4,400		_		
6	TT		¥ 4,300				
-	130		4,200				
Alcovy Ro 4,	130 12 62			2017	2018	20	019
			1 801				
Growth	Line		1.7%	Intercept	-146,987	4 363	/5.00
rend							
Irend							
Location	-		Traffic Counter	RCLINK	2017	2018	2019
Location University Pkwy, W of Sugar	rloaf Pkwy	_	Traffic Counter 135-0253	RCLINK 00031600	2017 40,800	2018 40,700	2019 41,400
Location University Pkwy, W of Sugar	rloaf Pkwy		Traffic Counter 135-0253	RCLINK 00031600	2017 40,800	2018 40,700	2019 41,400
Location University Pkwy, W of Sugar	rloaf Pkwy		Traffic Counter 135-0253	RCLINK 00031600 Tre	2017 40,800 nd Line	2018 40,700	2019 41,400
Location University Pkwy, W of Sugar	rloaf Pkwy		Traffic Counter 135-0253 41,500	RCLINK 00031600 Tre	2017 40,800 nd Line	2018 40,700	2019 41,40
Location University Pkwy, W of Sugar	rloaf Pkwy	D	Aug Aug <td>RCLINK 00031600 Tre</td> <td>2017 40,800 nd Line</td> <td>2018 40,700</td> <td>2019 41,40</td>	RCLINK 00031600 Tre	2017 40,800 nd Line	2018 40,700	2019 41,40
Location University Pkwy, W of Sugar	siloo 3,710 4,000	D	41,500 # 41,000 # # 40,000 # # 40,000 # # 40,000 # # 40,000 # # 40,000 # # 40,000 # # 40,000 # # 40,000 # # 40,000 # # # 40,000 #	RCLINK 00031600 Tre	2017 40,800 nd Line	2018 40,700	2019 41,40
Location University Pkwy, W of Sugar	rloaf Pkwy 3,100 3,710 4,000	0	41,500 41,000<	RCLINK 00031600 Tre	2017 40,800 nd Line	2018 40,700	2019 41,40
Location University Pkwy, W of Sugar	rloaf Pkwy 9,100 3,710 4,000	0	Traffic Counter 135-0253 41,500 ¥1,500 ¥41,000 ¥40,500 40,000	RCLINK 00031600 Tre	2017 40,800 nd Line	2018 40,700	2019 41,40
Location University Pkwy, W of Sugar	rioaf Pkwy 0,100 3,710 4,000	D	Traffic Counter 135-0253 41,500 аналования 41,500 аналования 40,000	RCLINK 00031600 Tre 2017	2017 40,800 nd Line 2018	2018 40,700	2019 41,40
Location University Pkwy, W of Suga 38 38 50 50 50 50 50 50 50 50 50 50 50 50 50	rloaf Pkwy 9,100 3,770 4,000 8,000	D	Traffic Counter 135-0253 41,500 a) 41,000 a) 40,000 xe 40,000 0.7%	RCLINK 00031600 Tre 2017 Intercept	2017 40,800 nd Line 2018 -564,433	2018 40,700 20 20	2019 41,40
Location University Pkwy, W of Sugar Se Growth Trend	rloaf Pkwy 9,100 3,710 4,000 1 4,000 1 1 1 1 1 1 1 1 1 1 1 1 1	D	Traffic Counter 135-0253 41,500 ait 41,000 ait 40,000 St 40,000 0.7%	RCLINK 00031600 Tre 2017 Intercept	2017 40,800 nd Line 2018 -564,433 40,667	2018 40,700 20 20 Slope 40,967	2019 41,40
Location University Pkwy, W of Sugar se Growth Trend	rioaf Pkwy 9100 3,710 4,000 8,100 4,000 8,0000 8,0000 8,000 8,000 8,000 8,000 8,000 8,0000 8,000	D	Traffic Counter 135-0253 41,500 ai 41,000 bit 41,000 vit 40,500 40,500 0.7%	RCLINK 00031600 Tre 2017 Intercept	2017 40,800 nd Line 2018 -564,433 40,667	2018 40,700 20 Slope 40,967	2019 41,400
Location University Pkwy, W of Sugar Se Se Growth Trend Location 0	rloaf Pkwy 9,000 3,710 4,000 8,000 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0	araffic Counter 135-0253 41,500 at 41,000 at 41,000 at 40,500 40,500 40,000 0.7%	RCLINK 00031600 Tre 2017 Intercept RCLINK 0	2017 40,800 nd Line 2018 -564,433 40,667 2017 0	2018 40,700 20 20 20 20 20 20 20 20 20 20 20 20 2	2019 41,40 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
Location University Pkwy, W of Sugar 38 38 38 38 38 38 38 38 38 38 38 38 38	rloaf Pkwy 3,710 4,000 Rate Line	0	Traffic Counter 135-0253 41,500 ⊕ 41,000 ⊕ 40,500 40,000 0.7%	RCLINK 00031600 Tre 2017 Intercept RCLINK 0	2017 40,800 nd Line 2018 -564,433 40,667 2017 0	2018 40,700 2018 2018 0	2019 41,40 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
Location University Pkwy, W of Sugar 38 Growth Trend Location 0	rloaf Pkwy 0,100 3,710 4,000 1,100 1,000 1,100 1,100 1,00	0	Traffic Counter 135-0253 41,500 at 41,500 at 41,000 at 40,000 at 7,7% Traffic Counter 0	RCLINK 00031600 Tre 2017 Intercept RCLINK 0 Tre	2017 40,800 nd Line 2018 -564,433 40,667 2017 0 nd Line	2018 40,700 2018 2018 0	2019 41,40 019 300.0 41,26 2019 0
Location University Pkwy, W of Suga 38 38 50 50 50 50 50 50 50 50 50 50 50 50 50	rloaf Pkwy 9,100 3,710 4,000 1 1 1 1 1 1 1 1 1 1 1 1 1	0	Traffic Counter 135-0253 41,500 41,500 9 41,000 9 9 40,500 40,000 40 0.7% 7	RCLINK 00031600 Tre 2017 Intercept RCLINK 0 Tre	2017 40,800 nd Line 2018 -564,433 40,667 2017 0 nd Line	2018 40,700 2018 2018 0	2019 41,40 019 300.0 41,26 2019 0
Location University Pkwy, W of Sugar 38 Srowth Trend Location 0	rloaf Pkwy 9100 3,710 4,000 8. 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 9 10 9 10	0	Traffic Counter 135-0253 41,500 41,400 40,000 40,000 40,000 0.7% 0	RCLINK 00031600 Tre 2017 Intercept RCLINK 0 Tre	2017 40,800 nd Line 2018 -564,433 40,667 2017 0 nd Line	2018 40,700 21 21 21 21 20 8 0 2018 0	2019 41,40 019 300.0 41,26 2019 0
Location University Pkwy, W of Sugar Second Second	rloaf Pkwy 9100 3,710 4,000 8,710 8,0000 8,0000 8,000 8,000 8,000 8,000 8,000 8,000 8,0000		Traffic Counter 135-0253 41,500 ai 41,000 bit 40,000 View 40,500 40,000	RCLINK 00031600 Tre 2017 Intercept RCLINK 0 Tre	2017 40,800 nd Line 2018 -564,433 40,667 0 nd Line	2018 40,700 2018 2018 0	2019 41,40 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
Location University Pkwy, W of Sugar 38 38 38 38 38 38 38 38 38 38 38 38 38	rloaf Pkwy 9,100 3,710 4,000 8,0000 8,0000 8,000 8,000 8,000 8,000 8,000 8,000 8,000	0	Traffic Counter 135-0253 41,500 41,500 41,000 94,41,000 40,000 94,0,000 40,000 0.7% 1 1 1 1 1 1 1 1 1 1 1 9 0	RCLINK 00031600 Tre 2017 Intercept RCLINK 0 Tre	2017 40,800 nd Line 2018 -564,433 40,667 2017 0 nd Line	2018 40,700 2018 40,967 2018 0	2019 41,40 019 300.0 41,26 0
Location University Pkwy, W of Sugar Second Growth Trend Location 0	rloaf Pkwy	0	Traffic Counter 135-0253 41,500 at 41,000 at 41,000 at 41,000 at 41,000 at 40,000 0 0.7%	RCLINK 00031600 Tre 2017 Intercept RCLINK 0 Tre	2017 40,800 nd Line 2018 -564,433 40,667 2017 0 nd Line	2018 40,700 2018 40,967 2018 0	2019 41,400 5 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
Location University Pkwy, W of Suga 38 Growth Trend Location 0	rloaf Pkwy	0	Traffic Counter 135-0253 41,500 41,400 - 41,000 - 441,000 - 40,000 - 0.7% - 0 - 1 - 1 - 1 - 0 - 0 -	RCLINK 00031600 Tre 2017 Intercept RCLINK 0 Tre 2017	2017 40,800 nd Line 2018 -564,433 40,667 2017 0 nd Line 2018	2018 40,700 20 Slope 40,967 2018 0	2019 41,400 5 300.00 41,26 2019 0 0
Location University Pkwy, W of Suga 38 Growth Location 0	rloaf Pkwy	0	Traffic Counter 135-0253 41,500 aji 41,000 aji 41,000 aji 40,000 aji 40,000 0.7% 0.7%	RCLINK 00031600 Tre 2017 Intercept RCLINK 0 Tre	2017 40,800 nd Line 2018 -564,433 40,667 2017 0 nd Line 2018 2018	2018 40,700 24 Slope 40,967 2018 0	20199 41,400 51 300.00 41,26 0 0
Location University Pkwy, W of Suga 38 <u>Growth</u> Location 0	Rate Line		Traffic Counter 135-0253 41,500 aj 41,000 aj 41,000 aj 41,000 aj 40,500 40,000 aj 40,000 0.7% aj 40,000 1 aj 1 1 aj 1 1 aj 1 9 0 0 aj 1 1 aj 1	RCLINK 00031600 Tre 2017 Intercept RCLINK 0 Tre	2017 40,800 nd Line 2018 -564,433 40,667 2017 0 nd Line 2018 0 0	2018 40,700 201 Slope 40,967 2018 0 201 Slope 0	2019 41,40 300,00 41,26 2019 0 0 0
Location University Pkwy, W of Sugar Second Growth Location 0	Rate Line		Traffic Counter 135-0253 41,500 41,500 41,000 41,000 40,000 0.7% 0.7%	RCLINK 00031600 Tre 2017 Intercept RCLINK 0 Tre	2017 40,800 nd Line 2018 -564,433 40,667 0 nd Line 2018 0 0 0	2018 40,700 2018 2018 0 2018 0 2018 2018 0 2019 2019 2019 2019 2019 2019 2019 20	2019 41,400 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
Location University Pkwy, W of Suga as <u>Growth</u> <u>Location</u> 0	Rate Line Rate Line Weighted Ave	erage	Traffic Counter 135-0253 41,500 ai 41,000 we 40,500 40,000 0.7%	RCLINK 00031600 Tre 2017 Intercept RCLINK 0 Tre 2017 Intercept	2017 40,800 nd Line 2018 -564,433 40,667 0 nd Line 2017 0 2018 0 0 0	2018 40,700 2018 40,967 2018 0 2018	2019 41,400 019 300.00 41,261 0 0 0 0 9 0 0 0 0 0 0 0 0 0 0 0
Location University Pkwy, W of Suga 38 Growth Location 0 Growth Trend	Rate Line Rate Line Weighted Ave Sum of Count S	erage tations	Traffic Counter 135-0253 41,500 at 41,000 at 40,000 0.7% Traffic Counter 0 1 at 1 at 1 at 2 at 2 at 3 at 4	RCLINK 00031600 Tre 2017 Intercept RCLINK 0 Tre 2017 Intercept	2017 40,800 nd Line 2018 -564,433 40,667 2017 0 nd Line 2018 0 0 2018	2018 40,700 201 201 2018 0 2018 0 2018 0 2018 67,160	2019 41,400 519 300.00 41,26 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Location University Pkwy, W of Suga Signature Growth Location 0	Rate Line Weighted Ave Sum of Count S	erage tations	Traffic Counter 135-0253 41,500 # 41,000 # 41,000 # 40,500 40,000 0.7% Traffic Counter 0 1 <td>RCLINK 00031600 Tre 2017 Intercept RCLINK 0 Tre 2017 Intercept</td> <td>2017 40,800 nd Line 2018 -564,433 40,667 2017 0 nd Line 2018 0 0 2018 0 0</td> <td>2018 40,700 20 Slope 40,967 2018 0 2017 Slope 0 2018 67,160</td> <td>2019 41,400 5 300.00 41,26 2019 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td>	RCLINK 00031600 Tre 2017 Intercept RCLINK 0 Tre 2017 Intercept	2017 40,800 nd Line 2018 -564,433 40,667 2017 0 nd Line 2018 0 0 2018 0 0	2018 40,700 20 Slope 40,967 2018 0 2017 Slope 0 2018 67,160	2019 41,400 5 300.00 41,26 2019 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Location University Pkwy, W of Suga 38 Growth Trend Location 0	Rate Line Weighted Ave Sum of Count S	erage tations Tret	Traffic Counter 135-0253 41,500 at 41,500 at 41,000 at 41,000 at 40,000 0 40,500 40,000 0.7%	RCLINK 00031600 Tre 2017 Intercept RCLINK 0 Tre 2017 Intercept	2017 40,800 nd Line 2018 -564,433 40,667 2017 0 nd Line 2018 0 0 2018 0 0	2018 40,700 24 Slope 40,967 2018 0 2018 5lope 0 2018 67,160	2019 300.0.4 41,40 300.0.4 41,26 2019 0 0 0 0 0 0 0 0 0 0 0 0 0
Location University Pkwy, W of Suga Second Content of Suga Content of Suga Con	Rate Line Weighted Ave Sum of Count S	erage tations Trer	Traffic Counter 135-0253 41,500 ai 41,000 ai 41,000 view 40,500 40,000 0.7% Traffic Counter 0 1 1 1 1 1 1 0 0 #DIV/01	RCLINK 00031600 Tre 2017 Intercept RCLINK 0 Tre 2017 Intercept	2017 40,800 nd Line 2018 -564,433 40,667 2017 0 nd Line 2018 0 0 2018 0 0	2018 40,700 2018 40,967 2018 0 2018 67,160	2019 41,40 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
Location University Pkwy, W of Suga 38 Growth Trend 0 Growth Trend	Rate Line Weighted Ave Sum of Count S	erage tations Tree	Traffic Counter 135-0253 41,500 41,000 40,000 0.7% Traffic Counter 0 0 1 1 1 1 9 0 0 0 HDIV/0! HDIV/0!	RCLINK 00031600 Tre 2017 Intercept RCLINK 0 Tre 2017 Intercept	2017 40,800 nd Line 2018 -564,433 40,667 0 nd Line 2017 0 2018 0 0 2017 66,290	2018 40,700 2018 0 2018 0 2018 67,160	2019 41,40 019 300.00 41,26 2019 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Location University Pkwy, W of Suga Second Growth Trend Location 0	Rate Line Weighted Ave Sum of Count S	erage tations Tret	Traffic Counter 135-0253 41,500 at 41,000 at 40,000 0.7% Traffic Counter 0 1 at 1 at 2 at 2 at 3 at 4	RCLINK 00031600 Tre 2017 Intercept RCLINK 0 Tre 2017 Intercept	2017 40,800 nd Line 2018 -564,433 40,667 2017 0 nd Line 2018 0 0 0 2017 66,290	2018 40,700 20 3lope 40,967 2018 0 201 3lope 0 2018 67,160	2019 41,400 5 300.00 41,26 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Location University Pkwy, W of Suga 38 Growth Trend Location 0 Srowth Trend	Rate Line Weighted Ave Sum of Count S	erage tations Tree	Traffic Counter 135-0253 41,500 aj 41,000 aj 41,000 aj 40,000 0.7%	RCLINK 00031600 Tre 2017 Intercept RCLINK 0 Tre 2017 Intercept	2017 40,800 nd Line 2018 -564,433 40,667 2017 0 nd Line 2018 0 0 2018 66,290	2018 40,700 20 Slope 40,967 2018 0 2017 Slope 0 2018 67,160	2019 41,400 2019 300.00 41,26 2019 0 0 0 0 2019 68,14
Location University Pkwy, W of Suga 38 Growth Trend Location 0 Growth Trend	Rate Line Weighted Ave Sum of Count S	erage tations Tret	Traffic Counter 135-0253 41,500 at 41,000 at 40,000 0.7%	RCLINK 00031600 Tre 2017 Intercept RCLINK 0 Tre	2017 40,800 nd Line 2018 -564,433 40,667 2017 0 nd Line 2018 0 0 2018 0 0	2018 40,700 24 Slope 40,967 2018 0 2018 67,160	2019 300.0.4 41,40 300.0.4 41,26 2019 0 0 0 0 0 0 0 0 0 0 0 0 0
Location University Pkwy, W of Suga Second Construction C	Rate Line Weighted Ave Sum of Count S	erage tations Tree	Traffic Counter 135-0253 41,500 41,000 40,000 0.7% Traffic Counter 0 1 1 1 1 1 1 1 1 1 1 1 1 1	RCLINK 00031600 Tre 2017 Intercept RCLINK 0 Tre 2017 Intercept	2017 40,800 nd Line 2018 -564,433 40,667 2017 0 nd Line 2018 0 0 2018 0 0	2018 40,700 2018 300pe 40,967 2018 0 2018 67,160 2018	2019 41,400 519 300,00 41,261 2019 0 0 0 0 0 0 0 0 0 0 0 0 0
Location University Pkwy, W of Suga Second Growth Trend Location 0 Scowth Trend 69,000 68,000 65,000 55,000 2 Growth	Rate Line Weighted Ave Sum of Count S	erage tations Tree	Traffic Counter 135-0253 41,500 41,000 40,000 0.7% Traffic Counter 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1	RCLINK 00031600 Tre 2017 Intercept RCLINK 0 Tre 2017 Intercept	2017 40,800 nd Line 2018 -564,433 40,667 0 nd Line 2018 0 0 2017 66,290 2017 66,290	2018 40,700 201 201 2018 0 2018 0 2018 67,160 2019 Slope 0 2019	2019 41,400 019 300.00 41,267 2019 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Location University Pkwy, W of Suga Signature Growth Trend Location 0 Scrowth Trend 60,000 55,000 Crowth Trend	Rate Line Weighted Ave Sum of Count S	erage tations Tre	Traffic Counter 135-0253 41,500 at 41,500 at 41,000 at 41,000 at 41,000 at 40,000 0.7% Traffic Counter 0 1 1 1 1 1 at 1 at 2 md Line 2018	RCLINK 00031600 Tre 2017 Intercept 2017 Intercept	2017 40,800 nd Line 2018 -564,433 40,667 2017 0 nd Line 2018 0 0 2018 0 0 2017 66,290	2018 40,700 20 Slope 40,967 2018 0 201 Slope 0 2018 67,160	2019 41,40 41,40 300.0 41,26 2019 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

EXISTING INTERSECTION ANALYSIS

Int	ore	Actic	n
	.010	COLIC	/11

Int Delay, s/veh	1.1						
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		÷.	et 👘		Y		
Traffic Vol, veh/h	0	14	13	0	4	0	
Future Vol, veh/h	0	14	13	0	4	0	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	-	-	-	0	-	
Veh in Median Storage	, # -	0	0	-	0	-	
Grade, %	-	0	0	-	0	-	
Peak Hour Factor	60	60	60	60	60	60	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	0	23	22	0	7	0	

Major1	Ν	/lajor2	I	Minor2	
22	0	-	0	45	22
-	-	-	-	22	-
-	-	-	-	23	-
4.12	-	-	-	6.42	6.22
-	-	-	-	5.42	-
-	-	-	-	5.42	-
2.218	-	-	-	3.518	3.318
1593	-	-	-	965	1055
-	-	-	-	1001	-
-	-	-	-	1000	-
	-	-	-		
1593	-	-	-	965	1055
• -	-	-	-	965	-
-	-	-	-	1001	-
-	-	-	-	1000	-
EB		WB		SB	
; 0		0		8.8	
				А	
mt	FBI	FBT	WBT	WBR	SBI n1
	1503		-	-	965
	1000	_	_	_	0.007
					0.007
:)	0	_	-	-	88
6)	0 A	-	-	-	8.8 A
	Major1 22 4.12 2.218 1593 - 1593 - 1593 - - - - - - - - - - - - - - - - - - -	Major1 N 22 0 - - 4.12 - - - 2.218 - 1593 - 1593 - - - 1593 - - - 1593 - - </td <td>Major1 Major2 22 0 - - - - - - - 4.12 - - - - - 2.218 - - 2.218 - - 1593 - - 1593 - - 1593 - - 1593 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 0</td> <td>Major1 Major2 22 0 - 0 - - - - - - - - 4.12 - - - - - - - 2.218 - - - 2.218 - - - 1593 - - - 1593 - - - - - - - - 1593 - - - - - - - - - - 1593 -</td> <td>Major1 Major2 Minor2 22 0 - 0 45 - - - 22 - - - 22 - - - 22 - - - 23 4.12 - - 6.42 - - 5.42 2.218 - - 5.42 2.218 - - 3.518 1593 - - 965 - - 1001 - - - 1000 - - - 965 - - - 1000 - - - 1001 - - - 1000 EB WB SB 0 0 8.8 A A 1593 - - 1593 - - -</td>	Major1 Major2 22 0 - - - - - - - 4.12 - - - - - 2.218 - - 2.218 - - 1593 - - 1593 - - 1593 - - 1593 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 0	Major1 Major2 22 0 - 0 - - - - - - - - 4.12 - - - - - - - 2.218 - - - 2.218 - - - 1593 - - - 1593 - - - - - - - - 1593 - - - - - - - - - - 1593 -	Major1 Major2 Minor2 22 0 - 0 45 - - - 22 - - - 22 - - - 22 - - - 23 4.12 - - 6.42 - - 5.42 2.218 - - 5.42 2.218 - - 3.518 1593 - - 965 - - 1001 - - - 1000 - - - 965 - - - 1000 - - - 1001 - - - 1000 EB WB SB 0 0 8.8 A A 1593 - - 1593 - - -

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		- स ी	4		۰¥	
Traffic Vol, veh/h	3	15	17	9	5	3
Future Vol, veh/h	3	15	17	9	5	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage	e, # -	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	16	18	10	5	3

Major/Minor	Major1	Ν	/lajor2		Minor2				
Conflicting Flow All	28	0	- -	0	45	23			
Stage 1	-	-	-	-	23	-			
Stage 2	-	-	-	-	22	-			
Critical Hdwy	4.12	-	-	-	6.42	6.22			
Critical Hdwy Stg 1	-	-	-	-	5.42	-			
Critical Hdwy Stg 2	-	-	-	-	5.42	-			
Follow-up Hdwy	2.218	-	-	-	3.518	3.318			
Pot Cap-1 Maneuver	1585	-	-	-	965	1054			
Stage 1	-	-	-	-	1000	-			
Stage 2	-	-	-	-	1001	-			
Platoon blocked, %		-	-	-					
Mov Cap-1 Maneuver	1585	-	-	-	963	1054			
Mov Cap-2 Maneuver	-	-	-	-	963	-			
Stage 1	-	-	-	-	998	-			
Stage 2	-	-	-	-	1001	-			
Approach	EB		WB		SB				
HCM Control Delay, s	1.2		0		8.7				
HCM LOS					А				
Minor Lane/Major Mvn	nt	EBL	EBT	WBT	WBR	SBLn1			
Capacity (veh/h)		1585	-	-	-	995			
HCM Lane V/C Ratio		0.002	-	-	-	0.009			
HCM Control Delay (s)	7.3	0	-	-	8.7			
HCM Lane LOS		А	A	-	-	Α			
HCM 95th %tile Q(veh	ו)	0	-	-	-	0			

FUTURE "NO-BUILD" INTERSECTION ANALYSIS

						1.11	•		
I	n	T	ρ	r٩	ρ	<u>ct</u>	In	n	
			v	10	v	υu	i U		

Int Delay, s/veh	1.1						
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		्र	4		- ¥		
Traffic Vol, veh/h	0	14	13	0	4	0	
Future Vol, veh/h	0	14	13	0	4	0	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	-	-	-	0	-	
Veh in Median Storage	, # -	0	0	-	0	-	
Grade, %	-	0	0	-	0	-	
Peak Hour Factor	60	60	60	60	60	60	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	0	23	22	0	7	0	

Major/Minor	Major1	Ν	1ajor2		Minor2			
Conflicting Flow All	22	0	-	0	45	22		
Stage 1	-	-	-	-	22	-		
Stage 2	-	-	-	-	23	-		
Critical Hdwy	4.12	-	-	-	6.42	6.22		
Critical Hdwy Stg 1	-	-	-	-	5.42	-		
Critical Hdwy Stg 2	-	-	-	-	5.42	-		
Follow-up Hdwy	2.218	-	-	-	3.518	3.318		
Pot Cap-1 Maneuver	1593	-	-	-	965	1055		
Stage 1	-	-	-	-	1001	-		
Stage 2	-	-	-	-	1000	-		
Platoon blocked, %		-	-	-				
Mov Cap-1 Maneuver	1593	-	-	-	965	1055		
Mov Cap-2 Maneuver	· _	-	-	-	965	-		
Stage 1	-	-	-	-	1001	-		
Stage 2	-	-	-	-	1000	-		
Approach	EB		WB		SB			
HCM Control Delay, s	; 0		0		8.8			
HCM LOS					А			
Minor Lane/Major Mv	mt	EBL	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)		1593	_	-	_	965		
HCM Lane V/C Ratio		-	_	-	-	0.007		
HCM Control Delay (s	3)	0	-	-	-	8.8		
HCM Lane LOS	/	Ă	-	-	-	A		
HCM 95th %tile Q(vel	h)	0	-	-	-	0		

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		र्च	ર્લ		Y	
Traffic Vol, veh/h	3	15	17	9	5	3
Future Vol, veh/h	3	15	17	9	5	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage,	# -	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mymt Flow	3	16	18	10	5	3

Major/Minor	Major1	Ν	/lajor2		Minor2		
Conflicting Flow All	28	0	-	0	45	23	
Stage 1	-	-	-	-	23	-	
Stage 2	-	-	-	-	22	-	
Critical Hdwy	4.12	-	-	-	6.42	6.22	
Critical Hdwy Stg 1	-	-	-	-	5.42	-	
Critical Hdwy Stg 2	-	-	-	-	5.42	-	
Follow-up Hdwy	2.218	-	-	-	3.518	3.318	
Pot Cap-1 Maneuver	1585	-	-	-	965	1054	
Stage 1	-	-	-	-	1000	-	
Stage 2	-	-	-	-	1001	-	
Platoon blocked, %		-	-	-			
Mov Cap-1 Maneuver	1585	-	-	-	963	1054	
Mov Cap-2 Maneuver	• -	-	-	-	963	-	
Stage 1	-	-	-	-	998	-	
Stage 2	-	-	-	-	1001	-	
Approach	EB		WB		SB		
HCM Control Delay, s	1.2		0		8.7		
HCM LOS					A		
Mineral and /Mair M			EDT			0014	
Minor Lane/Major Mvi	mt	EBL	FRI	WRI	WBR	SBLn1	
Capacity (veh/h)		1585	-	-	-	995	
HCM Lane V/C Ratio		0.002	-	-	-	0.009	
HCM Control Delay (s	6)	7.3	0	-	-	8.7	
HCM Lane LOS		A	A	-	-	A	
HCM 95th %tile Q(vel	h)	0	-	-	-	0	

FUTURE "BUILD" INTERSECTION ANALYSIS

3.9

Intersection

Int Delay, s/veh

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		- सी	1		4			4			4	
Traffic Vol, veh/h	0	24	10	6	40	0	27	0	18	4	0	0
Future Vol, veh/h	0	24	10	6	40	0	27	0	18	4	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	75	-	-	-	-	-	-	-	-	-
Veh in Median Storage,	# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	60	60	60	60	60	60	60	60	60	60	60	60
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	40	17	10	67	0	45	0	30	7	0	0

Major/Minor	Major1		Ν	/lajor2			Minor1		I	Minor2			
Conflicting Flow All	67	0	0	57	0	0	127	127	40	151	144	67	
Stage 1	-	-	-	-	-	-	40	40	-	87	87	-	
Stage 2	-	-	-	-	-	-	87	87	-	64	57	-	
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22	
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-	
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318	
Pot Cap-1 Maneuver	1535	-	-	1547	-	-	846	764	1031	816	747	997	
Stage 1	-	-	-	-	-	-	975	862	-	921	823	-	
Stage 2	-	-	-	-	-	-	921	823	-	947	847	-	
Platoon blocked, %		-	-		-	-							
Mov Cap-1 Maneuver	1535	-	-	1547	-	-	842	759	1031	788	742	997	
Mov Cap-2 Maneuver	-	-	-	-	-	-	842	759	-	788	742	-	
Stage 1	-	-	-	-	-	-	975	862	-	921	817	-	
Stage 2	-	-	-	-	-	-	915	817	-	919	847	-	
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0			1			9.3			9.6			
HCM LOS							А			А			
Minor Lane/Major Mvm	nt N	BLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)		909	1535	-	-	1547	-	-	788				
		0.000				0.000			0.000				

HCIVI Lane V/C Ratio	0.083	-	-	- 0	.006	-	- 1	0.008	
HCM Control Delay (s)	9.3	0	-	-	7.3	0	-	9.6	
HCM Lane LOS	А	А	-	-	А	А	-	Α	
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0	

Intersection

Int Delay, s/veh	3.8						
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑	1		्र	- ¥		
Traffic Vol, veh/h	36	10	6	19	27	18	
Future Vol, veh/h	36	10	6	19	27	18	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	75	-	-	0	-	
Veh in Median Storage	,# 0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	39	11	7	21	29	20	

Maior/Minor	Maior1		Maior2		Minor1	
Conflicting Flow All	0	0	50	0	74	39
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	35	-
Critical Hdwv	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1557	-	930	1033
Stage 1	-	-	-	-	983	-
Stage 2	-	-	-	-	987	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1557	-	925	1033
Mov Cap-2 Maneuver	-	-	-	-	925	-
Stage 1	-	-	-	-	983	-
Stage 2	-	-	-	-	982	-
Approach	FB		WB		NB	
HCM Control Delay s	0		1.8		89	
HCM LOS	Ū		1.0		0.0 A	
Minor Lane/Major Mvn	nt l	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)		965	-	-	1557	-
HCM Lane V/C Ratio		0.051	-	-	0.004	-
HCM Control Delay (s))	8.9	-	-	7.3	0

HCM Lane LOS А А А --HCM 95th %tile Q(veh) 0.2 0 ---

2.9

Intersection

Int Delay, s/veh

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		र्स	1		4			4			4	
Traffic Vol, veh/h	3	46	31	21	36	9	19	0	12	5	0	3
Future Vol, veh/h	3	46	31	21	36	9	19	0	12	5	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	75	-	-	-	-	-	-	-	-	-
Veh in Median Storage,	,# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	49	33	23	39	10	20	0	13	5	0	3

Major/Minor	Major1		1	Major2			Minor1		l	Minor2			
Conflicting Flow All	49	0	0	82	0	0	147	150	49	168	178	44	
Stage 1	-	-	-	-	-	-	55	55	-	90	90	-	
Stage 2	-	-	-	-	-	-	92	95	-	78	88	-	
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22	
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-	
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318	
Pot Cap-1 Maneuver	1558	-	-	1515	-	-	821	742	1020	796	716	1026	
Stage 1	-	-	-	-	-	-	957	849	-	917	820	-	
Stage 2	-	-	-	-	-	-	915	816	-	931	822	-	
Platoon blocked, %		-	-		-	-							
Mov Cap-1 Maneuver	1558	-	-	1515	-	-	807	729	1020	775	703	1026	
Mov Cap-2 Maneuver	-	-	-	-	-	-	807	729	-	775	703	-	
Stage 1	-	-	-	-	-	-	955	847	-	915	807	-	
Stage 2	-	-	-	-	-	-	898	803	-	917	820	-	
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0.3			2.4			9.3			9.3			
HCM LOS							А			А			
Minor Lane/Maior Mym	nt	NBLn1	EBL	EBT	EBR	WBI	WBT	WBR	SBLn1				
Capacity (veh/h)		878	1558			1515			853				
HCM Lane V/C Ratio		0.038	0.002			0.015	_	_	0.01				

	0.000	0.002			0.010			0.01
HCM Control Delay (s)	9.3	7.3	0	-	7.4	0	-	9.3
HCM Lane LOS	A	А	Α	-	А	Α	-	А
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection

Int Delay, s/veh	2.7						
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑	1		्र	- ¥		
Traffic Vol, veh/h	32	31	21	48	19	12	
Future Vol, veh/h	32	31	21	48	19	12	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	75	-	-	0	-	
Veh in Median Storage	e, # 0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	35	34	23	52	21	13	

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	69	0	133	35
Stage 1	-	-	-	-	35	-
Stage 2	-	-	-	-	98	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1532	-	861	1038
Stage 1	-	-	-	-	987	-
Stage 2	-	-	-	-	926	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	· -	-	1532	-	848	1038
Mov Cap-2 Maneuver	· _	-	-	-	848	-
Stage 1	-	-	-	-	987	-
Stage 2	-	-	-	-	912	-
-						
Anna a ah						
Approach	EB		VVB		INB	
HCM Control Delay, s	; 0		2.2		9.1	
HCM LOS					A	
Minor Lane/Major Mvi	mt N	IBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)		913	_	_	1532	_
HCM Lane V/C Ratio		0.037	_	-	0.015	-
HCM Control Delay (s	;)	9.1	-	_	7.4	0
HCM Lane LOS		A	-	-	A	A

0.1

0

-

HCM 95th %tile Q(veh)

TRAFFIC VOLUME WORKSHEETS

nt on Stanley Road, City of Dacula	
- Residential Developme	olumes
21-173 -	Traffic Vo

A&R Engineering November 2021

> 1. Stanley Rd @ Drwy 1 (W) A.M. Peak Hour

Tot Stanley Road Westbound Ч ---------Tot Stanley Road Eastbound R -Ξ --Tot Jody Avenue Southbound Ч ----P.M. Peak Hour ------Tot Site Driveway 1 (W) Northbound $\frac{18}{18}$ -. -Future 2023 Traffic Volumes: No-Build 2023 Volumes: Existing 2021 Counts: Growth Factor (%): Total New Trips: Condition

					1 'INI' I	UULI AD	-									
	Sit	e Drivev	/ay 1 (W	(Jody A	venue			Stanley	r Road			Stanle	r Road	
		Northb	puno			South	punoc			Eastb	puno			Westl	puno	
Condition	L	H	К	Tot	Γ	н	Ч	Tot	Γ	н	Я	Tot	Г	Н	Ч	Tot
Existing 2021 Counts:	0	0	0	0	ß	0	б	×	б	15	0	18	0	17	6	26
Growth Factor (%):	-	1	1		Н	Ч	1		1	÷			-	Ч	÷	
No-Build 2023 Volumes:	0	0	0	0	IJ	0	Э	œ	ю	15	0	18	0	17	6	26
Total New Trips:	19	0	12	31	0	0	0	0	0	31	31	62	21	19	0	40
Future 2023 Traffic Volumes:	19	0	12	31	ß	0	ю	×	б	46	31	80	21	36	6	99

esidential Development on Stanley Koad, City of Dacula	mes
21-173 - Kesiden	Fraffic Volumes

A&R Engineering November 2021 Tot

N 0 1 0 0 0

Tot

-

Stanley Road Westbound 9 9

2. Stanley Rd @ Drwy 2 (E) A.M. Peak Hour

Stanley Road Eastbound Ч -H , - -Tot Southbound ---1, 11, ----P M Pa Tot Site Driveway 2 (E) Northbound ---Future 2023 Traffic Volumes: No-Build 2023 Volumes: Existing 2021 Counts: Growth Factor (%): Total New Trips: Condition

				4	.M. Fea	k Hour										
	Si	te Drivev	vay 2 (E)			•				Stanley	Road			Stanley	Road	
		Northb	puno			Southbe	puno			Eastbo	pune			Westbo	pund	
Condition	L	Г	R	Tot	L	Г	R	Tot	Г	Г	R	Tot	Γ	H	R	Tot
Existing 2021 Counts:	0	0	0	0	0	0	0	0	0	20	0	20	0	26	0	26
Growth Factor (%):	, .	-	1		1	H	1		H	-	1		Н		1	
No-Build 2023 Volumes:	0	0	0	0	0	0	0	0	0	20	0	20	0	27	0	27
Total New Trips:	19	0	12	31	0	0	0	0	0	12	31	43	21	21	0	42
Future 2023 Traffic Volumes:	19	0	12	31	0	0	0	0	0	32	31	63	21	48	0	69