# -VERDAE-

# Legacy Square Due Diligence Community Update – November 15, 2023

The Legacy Square Advisory Group (LSAG) met on Tuesday, November 14<sup>th</sup> for their fourth monthly meeting. The group revisited the CM Zoning Uses to ensure each member has a clear understanding of the Use definition and applicable Use Standard from the City of Greenville Development Code. The group also finalized their discussion for the Market Study review. A recap of the meeting follows.

# November 14 Legacy Square Advisory Group Meeting Recap

- Campus Zoning (CM) allows for thirty-two allowable Uses and fifteen additional Uses that may be approved by special exception.
- The LSAG continues to review each CM Use carefully so that they can make a recommendation for additional deed restriction language to limit specific CM Zoning Uses to further support stakeholder interests.
- The LSAG also revisited the Market Study that has been completed for the Legacy Square Concept Plan. The author of the study, <u>RCLCO</u>, provided responses to questions that were presented by the group.
- Following this meeting, the LSAG will assist in creating a summary of the Market Study that will be shared with the community.



• A copy of the final Traffic Study summary can be found on pages 2-5.

VDI Concept Plan for Illustration Purposes Building Labels (A-F) are Used for Identification Purpose F&B = Food & Beverage

This update has been approved by the LSAG.

**Next Update:** The LSAG will conduct a special meeting to review a parking scenario for the Legacy Square Concept Plan in early December. The next monthly meeting will be held on December 12<sup>th</sup>. A recap of that meeting will be shared on or before Monday, December 18<sup>th</sup>.

If you have questions or comments, please email <u>AskVerdae@Verdae.com</u>. Thank you!



# Legacy Square Concept Plan AECOM Traffic Study Summary November 15, 2023

Earlier this year, a traffic impact study was conducted by <u>AECOM</u> to analyze the Legacy Square Concept Plan. The study assumed a timeline for project completion in 2026 and included the various land uses that have been depicted in the plan for new residential (single-family and multifamily), new commercial office, new retail, and new food & beverage. The final report evaluates the proposed buildout and provides a projection for additional traffic flow and turning movements at (8) intersections during peak times: AM Peak times of (7am-9am), Mid-day Peak times of (11:30am-1:30am), and PM Peak times of (4pm-6pm).

## Intersections Included in the Study

(labeled on illustration below – intersections 1 and 8 are outside of the concept plan)

- 1. SC 146 (Woodruff Road) at Rocky Slope Road
- 2. Rocky Slope Road at Algonquin Trail/Chadsworth Drive
- 3. Chadsworth Drive at Fulham Street/Cheddington Drive
- 4. Rocky Slope Road at Legacy Park Road/Sedley Road
- 5. Cheddington Drive at Sedley Road
- 6. Rocky Slope Road at Hollingsworth Drive/Darden Way
- 7. Cheddinton Drive at Darden Way
- 8. Verdae Boulevard at Rocky Slope Road



AECOM collected traffic count data in the field and utilized <u>Streetlight Data</u> to determine the amount of existing traffic in the Legacy Square area. Streetlight uses anonymized location records collected and processed from smartphones and navigation devices in vehicles to estimate traffic volumes, origination/destination, and speed. Using this existing traffic data and guidance found in the ITE Trip Generation Manual (11<sup>th</sup> Edition), ITE Trip Generation Handbook, and the Highway Capacity Manual (Version 6), AECOM was able to perform an impact analysis for the proposed buildout and show how the current level of service may or may not change.

## Defining the phrase *Level of Service*:

A road's ability to carry traffic is described by levels of service (LOS) that range from an LOS-A to an LOS-F. LOS-A represents unrestricted maneuverability and operating speeds. LOS-B represents reduced maneuverability and operating speeds. LOS-C represents restricted maneuverability and operating speeds closer to the speed limit. LOS-D represents severely restricted maneuverability and unstable, low operating speeds. LOS-E represents operating conditions at or near the capacity level. LOS-F represents breakdown conditions characterized by stop-and-go travel. The images below illustrate the conditions.

# LEVEL OF SERVICEImage: Service of Service of A-BImage: Service of Service of

The following chart details the Level of Service Scores for Existing Traffic Conditions:

_	Intersection		HCM 6 Level of Service		Control Delay (sec/veh)		Volume to Capacity Ratio (V/C)	
D#		Approach						
			AM	PM	AM	PM	AM	PM
1		Overall	С	С	21.4	23.7	-	-
		EBL	В	В	16.1	17.5	0.52	0.34
		EBT	С	С	20.8	26.0	0.63	0.74
	SC 146 (Woodruff Rd) at Rocky Slope Rd (Signalized)	EBTR	С	С	20.8	26.0	0.63	0.74
		WBL	В	В	14.3	17.3	0.23	0.28
		WBT	С	С	23.8	26.9	0.76	0.77
		WBTR	С	С	23.8	27.0	0.76	0.77
		NBL	С	С	26.4	28.1	0.32	0.42
		NBTR	С	С	29.4	31.0	0.68	0.75
		SBL	В	С	19.6	20.7	0.17	0.51
		SBT	В	В	16.3	15.5	0.18	0.24
		SBR	В	В	11.2	12.2	0.14	0.36
	Rocky Slope Rd at Algonquin Tr/Chadsworth Dr (Unsignalized Roundabout)	Overall	Α	Α	3.8	4.2	-	-
		EB	Α	Α	3.6	3.5	0.033	0.029
2		WB	Α	Α	3.3	4.1	0.031	0.077
		NB	Α	Α	3.6	4.3	0.102	0.188
		SB	Α	Α	4.1	4.1	0.171	0.167
	Chadsworth Dr at Fulham St/Cheddington Dr (Unsignalized TWSC)	EB	Α	Α	7.2	7.2	0.001	0.003
3		WB	Α	Α	0.0	7.2	-	0.001
3		NB	Α	Α	8.7	8.8	0.012	0.017
		SB	Α	Α	9.0	9.3	0.009	0.009
		Overall	Α	Α	3.8	4.2	-	-
	Rocky Slope Rd at	EB	Α	Α	3.3	3.9	0.014	0.055
4	Legacy Square Rd/Sedley Rd (Unsignalized Roundabout)	WB	Α	Α	3.3	3.9	0.027	0.053
		NB	Α	Α	3.8	4.2	0.142	0.173
		SB	Α	Α	4.0	4.2	0.150	0.164
	Cheddington Dr at Sedley Rd (Unsignalized)	EB	Α	Α	8.3	8.7	0.004	0.012
5		NB	Α	Α	7.2	7.2	0.001	0.003
		SB	Α	Α	0.0	0.0	-	-
	Rocky Slope Rd at Hollingsworth Dr/Darden Way (Unsignalized TWSC)	EB	В	В	10.1	11.0	0.038	0.051
0		WB	Α	В	9.8	11.9	0.016	0.015
6		NB	Α	A	7.5	7.8	0.003	0.013
		SB	Α	Α	7.6	7.6	0.001	0.002
	Darden Way at Cheddington Dr (Unsignalized TWSC)	EB	Α	Α	7.2	0.0	0.002	-
-		WB	Α	Α	0.0	0.0	-	-
7		NB	A	A	0.0	8.8	-	0.012
		SB	A	A	0.0	8.9	-	0.013
8	Verdae Blvd at Rocky Slope Rd (Signalized)	Overall	A	A	6.2	8.5	-	-
		EBT	A	A	5.8	7.8	0.19	0.23
		EBL	A	A	4.5	5.4	0.29	0.34
		WBT	A	A	4.2	5.3	0.21	0.29
		WBR	A	A	4.1	4.8	0.15	0.13
		SBL	B	C	17.8	22.7	0.35	0.70
		SBR	B	c	19.3	20.7	0.52	0.53

Approach Definitions
EB – East Bound
WB – West Bound
NB – North Bound
SB – South Bound
R - Right
L – Left
T – Thru
TR – Shared Thru/Right Turn
TL – Shared Thru/Left Turn

#### Control Delay

Seconds Per Vehicle Includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

#### Volume to Capacity Ratio

100% planned capacity of a road = 1. A number less than 1 shows future capacity. A number greater than 1 represents failing conditions.

# The charts below detail future conditions following the completion of the proposed buildout.

ID#	Intersection	Approach	HCM 6 Level of Service		Control Delay (sec/veh)		Volume to Capacity Ratio (V/C)	
			AM	PM	AM	PM	AM	PM
		Overall	С	С	24.9	29.1	-	-
		EBL	В	В	18.8	19.7	0.60	0.40
		EBT	С	С	24.8	33.7	0.73	0.82
		EBTR	С	С	24.9	33.9	0.73	0.82
	SC 146 (Woodruff Rd) at	WBL	В	С	16.0	20.3	0.34	0.44
		WBT	С	С	27.5	31.6	0.79	0.79
1	Rocky Slope Rd	WBTR	С	С	27.6	31.8	0.80	0.79
	(Signalized)	NBL	С	С	21.3	21.6	0.32	0.41
		NBTR	С	С	31.0	33.8	0.76	0.82
		SBL	С	С	21.2	24.5	0.19	0.59
		SBT	С	С	25.0	25.9	0.34	0.42
		SBR	В	С	18.4	22.1	0.22	0.54
		Overall	Α	Α	4.4	5.1	-	-
	Rocky Slope Rd at Algonquin Tr/Chadsworth Dr (Unsignalized Roundabout)	EB	Α	Α	4.0	4.1	0.041	0.039
2		WB	Α	Α	4.0	5.2	0.108	0.179
		NB	Α	Α	4.2	5.1	0.145	0.249
		SB	Α	Α	4.8	5.0	0.241	0.249
	Chadsworth Dr at Fulham St/Cheddington Dr (Unsignalized TWSC)	EB	Α	Α	7.2	7.2	0.002	0.005
3		WB	A	Α	0.0	7.2	-	0.001
3		NB	A	A	8.7	8.9	0.012	0.017
	(Unsignalized TWSC)	SB	Α	Α	8.9	9.0	0.010	0.013
	Rocky Slope Rd at Legacy Square Rd/Sedley Rd (Unsignalized Roundabout)	Overall	Α	Α	4.5	4.7	-	-
		EB	Α	A	3.8	4.2	0.018	0.063
4		WB	A	Α	4.3	4.5	0.139	0.116
		NB	Α	Α	4.3	4.8	0.188	0.229
		SB	Α	A	4.7	4.8	0.202	0.217
	Cheddington Dr at Sedley Rd (Unsignalized)	EB	Α	Α	8.3	8.7	0.004	0.012
5		NB	Α	Α	7.2	7.2	0.001	0.003
		SB	A	Α	0.0	0.0	-	-
	Rocky Slope Rd at Hollingsworth Dr/Darden Way (Unsignalized TWSC)	EB	В	В	11.2	12.3	0.055	0.071
6		WB	В	С	12.9	15.2	0.132	0.089
0		NB	A	Α	7.7	7.9	0.003	0.015
		SB	Α	Α	7.7	7.8	0.003	0.005
_	Intersection		HCM 6		Contro	Delay	Volume to Capacity	
ID#		Approach	Level of Service		(sec/		Ratio (V/C)	
			AM	РМ	AM	PM	AM	РМ
		EB	Α	А	7.2	0.0	0.002	-
-	Darden Way at	WB	Α	Α	0.0	0.0	-	-
7	Cheddington Dr	NB	A	A	0.0	8.8	-	0.012

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# Control Delay

Seconds Per Vehicle Includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

# Volume to Capacity Ratio

100% planned capacity of a road = 1. A number less than 1 shows additional capacity. A number greater than 1 represents failing conditions.

	Intersection		HCM 6		Control Delay		Volume to Capacity	
ID#		Approach	Level of Service		(sec/veh)		Ratio (V/C)	
			AM	PM	AM	PM	AM	PM
7	Darden Way at Cheddington Dr (Unsignalized TWSC)	EB	Α	Α	7.2	0.0	0.002	-
		WB	Α	Α	0.0	0.0	-	-
		NB	Α	Α	0.0	8.8	-	0.012
		SB	Α	Α	0.0	8.9	-	0.013
	Verdae Blvd at Rocky Slope Rd <i>(Signalized)</i>	Overall	Α	Α	6.9	9.2	-	-
		EBL	Α	В	6.7	10.7	0.26	0.35
		EBT	Α	Α	4.7	6.5	0.31	0.40
8		WBT	Α	Α	4.4	6.1	0.23	0.34
		WBR	Α	Α	4.4	5.6	0.19	0.19
		SBL	В	В	18.3	19.8	0.45	0.71
		SBR	С	В	20.4	18.3	0.63	0.57
	Rocky Slope Rd at Site Dwy #1 (Unsignalized TWSC)	WB	В	В	10.0	10.8	0.011	0.016
9		NB	Α	Α	0.0	0.0	-	-
		SB	Α	Α	7.7	8.0	0.004	0.005
	Cheddington Dr at Site Dwy #2 (Unsignalized TWSC)	EB	Α	Α	8.3	8.3	0.001	0.001
10		NB	Α	Α	7.2	7.2	0.001	0.001
		SB	Α	Α	0.0	0.0	-	-
	Chadsworth Dr at Site Dwy #3 / Site Dwy #4 <i>(Unsignalized TWSC)</i>	EB	Α	Α	7.3	7.3	0.007	0.008
11		WB	Α	Α	0.0	0.0	-	-
		NB	Α	Α	9.4	9.7	0.066	0.115
		SB	Α	Α	8.4	8.4	0.010	0.011
	Sedley Dr at Site Dwy #5 / Site Dwy #6 (Unsignalized TWSC)	EB	Α	Α	7.3	7.3	0.035	0.027
12		WB	Α	Α	0.0	0.0	-	-
12		NB	Α	В	9.9	10.0	0.034	0.059
		SB	Α	Α	8.4	8.5	0.031	0.049
	Darden Way at Site Dwy #7 (Unsignalized TWSC)	EB	Α	Α	7.3	7.3	0.013	0.016
13		WB	Α	Α	0.0	0.0	-	-
		SB	Α	Α	8.4	8.4	0.020	0.021

# Key Findings in the Report:

- Based on the traffic impact analysis for the completion of the proposed buildout in the Legacy Square concept plan, most intersections and central driveways within Legacy Square remain at a Level of A or B Service during peak hours. Intersection 1 (Woodruff/Rocky Slope) remains at a Level C, considered an acceptable condition by the City of Greenville.
- On a typical weekday, the data from the study indicated that Rocky Slope Road is currently being used as a cut through by approximately 15-20% of vehicles entering either end of Rocky Slope Road.

- Streetlight Data was used to determine the average speeds. It's important to note that the existing raised traffic calming features and the roundabouts help control speed.
  - The Average speed from Woodruff Road to Algonquin Trail (at roundabout) = 18mph
  - The Average speed from Algonquin Trail (at roundabout) to Legacy Park Road (at roundabout) = 17mph
  - The Average speed from Legacy Park Road to Verdae Boulevard = 19mph

The Legacy Square Advisory Group reviewed the complete traffic study and met with AECOM to discuss the findings. Currently, the group is completing their review of the Market Study and will move to a Parking Study evaluation for Legacy Square. Once complete, the group will participate in the creation of summary documents for each study so that they can be shared with the community through ImagineVerdae.com.

Have questions or comments? Please email <u>AskVerdae@Verdae.com</u>.

This document has been approved by the LSAG.