DEVELOPMENT OF REGIONAL IMPACT
(DRI #3488)

TRAFFIC STUDY
FOR
MERRILL PARK MIXED-USE DEVELOPMENT

CITY OF PALMETTO, GEORGIA

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March 17, 2022
A & R Project # 21-124

EXECUTIVE SUMMARY

Traffic impacts were evaluated for the proposed Merrill Park mixed-use development on Cochran Mill Road in the City of Palmetto, Georgia. The development will be located to the southeast of Cochran Mill Road / Wilkerson Mill Road and to the northwest and southwest of Rico Tatum Road / Cochran Mill Road. The development will consist of:

- Single-Family Detached Housing: 1,541 units
- Single-Family Attached Housing: 1,999 units
- Multifamily Housing: 960 units
- Elementary School: 1,000 students
- Worship Center: 15,000 sf
- Office space: 420,000 sf
- Retail space: 180,000 sf

The development proposes five full access driveways on Cochran Mill Road, three full access driveways on Phillips Road, one full access driveway on Wilkerson Mill Road, three full access driveways on Atlanta Newnan Road and eleven full access driveways on Rico Tatum Road.

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

1. SR 14/US 29 (Roosevelt Highway) @ SR 14 - Fairburn Industrial Boulevard Connector Ramp
2. Fairburn Industrial Boulevard @ SR 14 - Fairburn Industrial Boulevard Connector Ramp
3. Collinsworth Road @ I-85 Northbound Ramps
4. Collinsworth Road @ I-85 Southbound Ramps
5. Collinsworth Road @ Weldon Road
6. SR 14/US 29 (Main Street) @ Toombs Street/Fayetteville Road
7. SR 14/US 29 (Main Street/Roosevelt Highway) @ SR 154 (Cascade Palmetto Highway)
8. SR 14/US 29 (Roosevelt Highway) @ Wilkerson Mill Road/Tatum Road
9. SR 154 (Cascade Palmetto Highway) @ Wilkerson Mill Road
10. Wilkerson Mill Road @ Phillips Road
11. Wilkerson Mill Road @ Jenkins Road
12. Cochran Mill Road @ Wilkerson Mill Road
13. SR 70 (South Fulton Parkway) @ Cochran Mill Road
14. SR 70 (South Fulton Parkway) @ Rivertown Road
15. SR 70 (South Fulton Parkway) @ SR 154 (Cascade Palmetto Highway)
16. South Fulton Parkway @ Cedar Grove Road
17. Hutchesons Ferry Road @ Phillips Road
18. Hutchesons Ferry Road @ Cochran Mill Road
19. Hutchesons Ferry Road @ Atlanta Newnan Road
20. Hutchesons Ferry Road @ Rico Road
21. Cochran Mill Road @ Rico Tatum Road
22. Atlanta Newnan Road @ Rico Tatum Road
23. SR 154 (Cascade Palmetto Highway) @ Carlton Road

Traffic Operations Summary:

Table E-1 below provides a summary of traffic operations for "No-Build" conditions for the year 2032 with and without system improvements. Table E-2 provides a summary of "Build" conditions for three scenarios: without any improvements, with system improvements only, and with system improvements plus additional improvements. As per GRTA requirements, all approaches that do not meet the LOS standard (considered failing) are highlighted in Tables E-1 and E-2. Most of these approaches achieve the LOS standard after implementation of identified improvements. However, there are a few approaches where there are no feasible improvements for these approaches to meet the LOS standard. Table E-2 for "Build" conditions also includes the project's total added trip and the respective percentage of overall total "Build" condition approach traffic volume for all failing LOS approaches after all improvements are completed.

TABLE E1 – FUTURE FAILING "NO-BUILD" INTERSECTION OPERATIONS

Intersection		Intersection			
		NO IMPROVEMENTS		SYSTEM IMPROVEMENTS	
		AM Peak	PM Peak	AM Peak	PM Peak
1	**SR 14 @ SR 14 - Fairburn Industrial Blvd Connector Ramp**			**B (11.3)**	**B (14.0)**
	-Eastbound Left (*Approach*)	C (18.3)	F (54.2)	A (9.3)	B (11.2)
	-Southbound Approach	F (*)	F (*)	C (20.3)	C (33.5)
2	**Fairburn Industrial Blvd @ SR 14 - Fairburn Industrial Blvd Connector Ramp**			**B (17.9)**	**B (16.3)**
	-Eastbound Approach	F (*)	F (*)	D (35.8)	C (33.6)
3	**Collinsworth Road @ I-85 NB Ramps**	**C (27.7)**	**C (25.0)**	**C (22.8)**	**B (17.1)**
	-Northbound Approach	E (69.2)	E (69.4)	D (49.2)	D (49.3)
4	**Collinsworth Road @ I-85 SB Ramps**	**A (6.5)**	**C (32.0)**	**B (10.5)**	**C (21.0)**
	-Southbound Approach	E (59.1)	E (59.5)	D (48.5)	D (49.5)
5A	**Collinsworth Road @ Weldon Road (Without Realignment)**	**D (38.3)**	**F (114.3)**	*Reported in row 5B due to lane realignment configuration*	
	-Eastbound Approach	D (44.0)	C (33.4)		
	-Westbound Approach	C (28.0)	F (129.0)		
	-Northbound Approach	B (18.6)	C (21.6)		
	-Southbound Approach	D (47.0)	F (143.3)		
5B	**Collinsworth Road @ Weldon Road (With Realignment)**	*Reported in row 5A*		**A (7.0)**	**A (7.7)**
	-Eastbound Approach			C (20.3)	A (25.6)
	-Northbound Approach (Collinsworth Rd.)			-	-
	-Southbound Approach			A (4.1)	A (4.6)
				A (9.9)	A (11.5)

TABLE E1 – FUTURE FAILING "NO-BUILD" INTERSECTION OPERATIONS (CONTINUED)					
Intersection		**Intersection**			
		NO IMPROVEMENTS		SYSTEM IMPROVEMENTS	
		AM Peak	PM Peak	AM Peak	PM Peak
6	**SR 14 @ Toombs Street/Fayetteville Road**	**B (14.9)**	**B (17.0)**	**A (7.7)**	**A (8.6)**
	-Westbound Approach	E (55.6)	E (56.3)	B (15.2)	C (22.7)
7	**SR 14 @ SR 154 (Cascade Palmetto Hwy)**	**D (38.0)**	**E (65.4)**	**C (24.2)**	**C (25.2)**
	-Westbound Approach	D (40.2)	F (103.1)	B (12.4)	B (16.6)
8	**SR 14 @ Wilkerson Mill Road/Tatum Road**			**C (21.0)**	**B (17.6)**
	-Northbound Approach	F (*)	F (*)	C (32.4)	C (24.3)
	-Southbound Approach	F (*)	F (*)	C (30.1)	C (24.5)
9	**SR 154 (Cascade Palmetto Hwy) @ Wilkerson Mill Road**			**B (11.8)**	**B (12.1)**
	-Eastbound Approach	F (*)	F (275.3)	B (18.0)	C (24.8)
	-Westbound Approach	F (*)	F (*)	C (20.7)	C (21.4)
14	**SR 70 (South Fulton Pkwy) @ Rivertown Road**			**C (23.3)**	**C (30.9)**
	-Eastbound Approach	F (104.0)	F (*)	B (13.1)	C (22.1)
	-Westbound Approach	E (40.8)	F (*)	B (11.7)	C (26.4)
16	**South Fulton Pkwy @ Cedar Grove Road**	**D (36.6)**	**D (36.9)**	**C (30.9)**	**C (28.8)**
	-Northbound Approach	E (60.4)	E (59.0)	D (51.6)	D (49.7)
23	**SR 154 (Cascade Palmetto Hwy) @ Carlton Road****			**B (17.8)**	**B (15.6)**
	-Eastbound Approach	F (191.4)	F (299.0)	C (31.5)	C (32.5)

Table E-2 on the next page includes the traffic operations for the Future "Build" intersections.

TABLE E2 – FUTURE FAILLING"BUILD" INTERSECTION OPERATIONS

	Intersection	Build Condition: LOS (Delay)									
		NO IMPROVEMENTS		SYSTEM IMPROVEMENTS ONLY		SYSTEM AND SITE IMPROVEMENTS		SITE VOLUMES AT FAILING APPROACH BUILD WITH IMPROVEMENTS		PRECENT SITE TRIPS OF TOTAL APPRAOCH TRIPS AT FAILING APPROACHES	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
1	**SR 14 @ SR 14 - Fairburn Industrial Blvd Connector Ramp**			**B (14.7)**	**C (26.8)**	**B (13.4)**	**C (26.2)**				
	-Eastbound Left *(Approach)*	F (148.4)	F (*)	B (12.4)	C (27.6)	B (11.5)	C (26.4)	-	-	-	-
	-Southbound Approach	F (*)	F (*)	C (28.5)	D (44.2)	C (34.0)	D (43.8)	-	-	-	-
2	**Fairburn Industrial Blvd @ SR 14 - Fairburn Industrial Blvd Connector Ramp**			**C (26.4)**	**C (24.4)**	**C (26.8)**	**C (23.9)**				
	-Eastbound Approach	F (*)	F (*)	D (48.0)	D (40.0)	D (47.0)	D (41.5)	-	-	-	-
	-Northbound Left *(Approach)*	F (71.5)	F (52.1)	C (24.8)	C (22.3)	C (21.7)	B (19.9)	-	-	-	-
3	**Collinsworth Road @ I-85 NB Ramps**	**E (66.2)**	**E (68.1)**	**C (24.8)**	**C (23.5)**	**C (24.8)**	**C (23.5)**				
	-Eastbound Approach	D (54.4)	E (55.2)	B (17.2)	B (13.1)	B (17.2)	B (13.1)	-	-	-	-
	-Westbound Approach	E (61.4)	E (63.5)	C (23.3)	C (26.2)	C (23.3)	C (26.2)	-	-	-	-
	-Northbound Approach	F (112.5)	F (120.4)	D (52.3)	D (53.8)	D (52.3)	D (53.8)	-	-	-	-
4	**Collinsworth Road @ I-85 SB Ramps**	**A (5.3)**	**B (18.0)**	**B (16.0)**	**D (35.4)**	**B (16.0)**	**D (35.4)**				
	-Southbound Approach	E (59.1)	E (58.2)	D (48.5)	D (49.5)	D (48.5)	D (49.5)	-	-	-	-
5A	**Collinsworth Road @ Weldon Road (Without Realignment)**	**F (210.6)**	**F (295.3)**	*Reported in row 5B due to lane realignment configuration*							
	-Eastbound Approach	F (152.6)	D (36.6)					-	-	-	-
	-Westbound Approach	F (114.8)	F (*)					-	-	-	-
	-Northbound Approach	C (22.1)	B (19.2)					-	-	-	-
	-Southbound Approach	F (*)	F (*)					-	-	-	-
5B	**Collinsworth Road @ Weldon Road (With Realignment)**	*Reported in row 5A*		**A (7.2)**	**A (8.2)**	**A (7.3)**	**A (8.2)**				-
	-Eastbound Approach			C (24.5)	C (29.8)	C (24.6)	C (29.8)	-	-	-	-
	-Northbound Approach (Collinsworth Rd.)			A (4.4)	A (5.7)	A (4.5)	A (5.7)	-	-	-	
	-Southbound Approach			A (9.6)	B (11.2)	A (9.7)	B (11.2)	-	-	-	

TABLE E2 – FUTURE FAILING "BUILD" INTERSECTION OPERATIONS (CONTINUED)

	Intersection	Build Condition: LOS (Delay)									
		NO IMPROVEMENTS		SYSTEM IMPROVEMENTS ONLY		SYSTEM AND SITE IMPROVEMENTS		SITE VOLUMES AT FAILING APPROACH BUILD WITH IMPROVEMENTS		PRECENT SITE TRIPS OF TOTAL APPRAOCH TRIPS AT FAILING APPROACHES	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
6	**SR 14 @ Toombs Street/Fayetteville Road**	**F (119.0)**	**F (239.7)**	**B (19.8)**	**D (41.7)**	**B (16.9)**	**C (34.2)**				
	-Eastbound Approach	F (164.3)	F (*)	D (36.3)	D (53.5)	C (23.7)	D (41.4)	-	-	-	-
	-Southbound Approach	F (219.0)	F (*)	B (12.9)	D (45.1)	B (13.2)	D (35.6)	-	-	-	-
7	**SR 14 @ SR 154 (Cascade Palmetto Hwy)**	**F (98.1)**	**F (156.0)**	**C (28.5)**	**D (47.4)**	**C (28.2)**	**D (47.4)**				
	-Eastbound Approach	F (101.2)	F (100.8)	B (13.7)	C (34.9)	B (13.8)	C (34.9)	-	-	-	-
	-Westbound Approach	F (134.1)	F (253.7)	C (21.6)	D (54.2)	C (21.9)	D (54.2)	-	-	-	-
	-Southbound Approach	E (73.3)	F (112.8)	D (48.1)	D (54.2)	D (47.2)	D (54.2)	-	-	-	-
8	**SR 14 @ Wilkerson Mill Road/Tatum Road**			**D (47.8)**	**C (28.1)**	-	-				
	-Northbound Approach	F (*)	F (*)	D (52.3)	D (42.1)	-	-	-	-	-	-
	-Southbound Approach	F (*)	F (*)	D (53.4)	D (46.4)	-	-	-	-	-	-
9	**SR 154 (Cascade Palmetto Hwy) @ Wilkerson Mill Road**			**F (*)**	**F (*)**	**C (25.8)**	**C (30.6)**				
	-Eastbound Approach	F (*)	F (*)	F (*)	F (*)	C (25.7)	C (34.2)	-	-	-	-
	-Westbound Approach	F (*)	F (*)	D (54.9)	E (77.6)	C (34.5)	D (39.2)	-	-	-	-
12	**Cochran Mill Road @ Wilkerson Mill Road**					**B (13.1)**	**B (19.6)**				
	-Westbound Approach	F (*)	F (*)	F (*)	F (*)	B (16.7)	D (50.1)	-	-	-	-
13	**SR 70 (South Fulton Pkwy) @ Cochran Mill Road**					**B (13.3)**	**B (12.0)**				
	-Northbound Approach	F (*)	F (*)	F (*)	F (*)	C (21.3)	D (17.0)	-	-	-	-
	-Southbound Approach	F (90.6)	F (*)	F (90.6)	F (*)	B (18.2)	B (14.1)	-	-	-	-

TABLE E2 – FUTURE FAILING "BUILD" INTERSECTION OPERATIONS (CONTINUED)

	Intersection	Build Condition: LOS (Delay)									
		NO IMPROVEMENTS		SYSTEM IMPROVEMENTS ONLY		SYSTEM AND SITE IMPROVEMENTS		SITE VOLUMES AT FAILING APPROACH BUILD WITH IMPROVEMENTS		PRECENT SITE TRIPS OF TOTAL APPRAOCH TRIPS AT FAILING APPROACHES	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
17	**Hutchesons Ferry Road @ Phillips Road** -Southbound Approach	F (59.2)	F (71.3)	F (59.2)	F (71.3)	F (53.4)	F (54.0)	63	61	97%	94%
18	**Hutchesons Ferry Road @ Cochran Mill Road** -Southbound Approach	F (*)	F (*)	F (*)	F (*)	**B (14.6)** B (15.4)	**B (17.6)** C (20.2)	-	-	-	-
23	**SR 154 (Cascade Palmetto Hwy) @ Carlton Road**** -Eastbound Approach	F (*)	F (*)	**C (31.8)** C (31.3)	**C (26.6)** C (25.9)	**C (31.8)** C (31.3)	**C (26.6)** C (25.9)	-	-	-	-
25	**Cochran Mill Road @ Site Driveway 5 / Site Driveway 4** -Eastbound Approach -Westbound Approach	*Note: New intersection proposed by development*		D (31.2) F (258.3)	E (40.2) F (191.8)	181 172	164 114	100% 100%	100% 100%	100% 100%	100% 100%

The table below includes Synchro reported 95th percentile queue length for failing level-of-services approaches for the build condition with improvements that had site generated traffic. Queue length reports are included in the Appendix.

TABLE E3: FUTURE 95TH PERCENTILE QUEUES (FT) FOR FAILING APPROACHES

Intersection		Available Storage	Queue in feet	
			BUILD with Improvements	
			AM Peak	PM Peak
17	**Hutchesons Ferry Road @ Phillips Road**			
	--Southbound Right	150'	3'	10'
25	**Cochran Mill Road @ Site Driveway 5 / Site Driveway 4**			
	-Eastbound Right	100'	20'	22.5'
	-Westbound Right	100'	5.0'	5.0'
	-Southbound Left	150'	2.5'	2.5'
	-Northbound Left	150'	7.5'	12.5'

Although the approach level-of-service area failing for the approaches listed in Table E3, the queues do not extend beyond the available storage.

Recommended Site Access Configuration

The following access configuration is recommended for the proposed site driveway intersections. All site driveways are proposed to be full access.

- Site Driveway 1 on Cochran Mill Road, aligning across Rico Tatum Road
  - One entering and one exiting lane.
  - Single-lane roundabout

- Site Driveways 2 and 3 on Cochran Mill Road, south of Rico Tatum Road/Site Driveway 1 and aligning across each other
  - One entering and one exiting lane.
  - Single-lane roundabout

- Site Driveways 4 and 5 on Cochran Mill Road, south of Site Driveway 2/Site Driveway 3 and aligning across each other
  - One entering and two (shared through/left and right turn lanes) exiting lanes
  - Stop controlled on driveway approach with Cochran Mill Road remaining free flow
  - Northbound and southbound left and right lanes on Cochran Mill Road for entering traffic

- Site Driveways on Rico Tatum Road, Phillips Road, Atlanta Newnan Rd and Wilkerson Mill Road
  - One entering and one exiting lane
  - Stop controlled on driveway approach with the main road remaining free flow

Recommended System Improvements

The following are system improvements that were identified from the "No-Build" condition analysis.

SR 14/US 29 (Roosevelt Highway) @ SR 14 - Fairburn Industrial Boulevard Connector Ramp

- Installation of a traffic signal
- Addition of an eastbound left turn lane on SR 8/US 29 (Roosevelt Highway) to create dual left turn lanes with "protected" signal phasing
- Addition of a southbound right turn lane on connector ramp creating separate left and right turn lanes

Fairburn Industrial Boulevard @ SR 14 - Fairburn Industrial Boulevard Connector Ramp

- Installation of a traffic signal
- Addition of a northbound left turn lane on Fairburn Industrial Boulevard to create dual left turn lanes with "protected" phasing
- Addition of an eastbound right turn lane on connector ramp creating separate left and right turn lanes

Collinsworth Road @ I-85 Northbound Ramps

- Addition of an eastbound left turn lane on Collinsworth Road to create dual left turn lanes
- Change "protected + permissive" signal phasing to "protected" signal phasing for eastbound left turns
- Add a left turn lane on I-85 northbound off-ramp to create dual left turn lanes

Collinsworth Road @ I-85 Southbound Ramps

- Addition of a second westbound through lane on Collinsworth Road and carry the lanes to the Weldon Road intersection

Collinsworth Road @ Weldon Road

- Realign the SBS warehouse driveway to tie into Weldon Road to the west of the study intersection and signalize it
- Realign Collinsworth Road legs to become the through movement and Weldon Road to be the side street
- Addition of a second southbound through lane on Collinsworth Road
- Collinsworth Road northbound approach to have a left turn lane and a through lane
- Weldon Road to have a separate left turn lane and a channelized right turn lane

SR 14/US 29 (Main Street) @ Toombs Street/Fayetteville Road

- Addition of an eastbound left turn lane on Toombs Street
- Addition of a westbound right turn lane on Fayette Road
- Addition of a southbound left turn lane on Main Street

SR 14/US 29 (Main Street/Roosevelt Highway) @ SR 154 (Cascade Palmetto Highway)

- Remove northbound leg to the Church and add a northbound right-in/right-out access to the Church on SR 14/US 29. The Church has an existing full access driveway on a secondary street.
- Addition of a southbound left turn lane on SR 154 (Cascade Palmetto Highway) to create dual left turn lanes with "protected" signal phasing
- Addition a second receiving lane on the westbound leg of SR 14/US 29 (Roosevelt Highway) for the southbound dual left turn lanes
- Addition of a southbound right turn lane on SR 154 (Cascade Palmetto Highway)

SR 14/US 29 (Roosevelt Highway) @ Wilkerson Mill Road/Tatum Road

- Installation of a traffic signal
- Add southbound dual left turn lanes on Wilkerson Mill Road with "protected" signal phasing
- Add northbound left and right turn lanes on Tatum Road
- Provide "protected + permissive" phasing for westbound left turn movements on SR 14/US 29 (Roosevelt Highway)

SR 154 (Cascade Palmetto Highway) @ Wilkerson Mill Road

- Installation of a traffic signal
- Addition of a westbound right turn lane on Wilkerson Mill Road
- Addition of a southbound left turn lane on SR 154 (Cascade Palmetto Highway) with "protected + permissive" signal phasing

SR 70 (South Fulton Parkway) @ Rivertown Road

- Installation of a traffic signal

South Fulton Parkway @ Cedar Grove Road

- Addition of a northbound right turn lane on Cedar Grove Road

SR 154 (Cascade Palmetto Highway) @ Carlton Road

- Reconfigure the intersection to be a signalized High T-intersection (northbound through traffic would be free flow)
- Addition of a northbound left turn lane on SR 154 (Cascade Palmetto Highway)
- Install a raised median on SR 154 (Cascade Palmetto Highway) to separate the northbound through and left turn lanes
- Add a channelized eastbound right turn lane on Carlton Road

Recommended Site Mitigation Improvements

The following are improvements that were identified from the "Build" condition analysis and were a result of the addition of site generated traffic.

SR 154 (Cascade Palmetto Highway) @ Wilkerson Mill Road

- Addition of an eastbound left turn lane on Wilkerson Mill Road with "protected + permissive" phasing
- Addition of a northbound left turn lane on SR 154 (Cascade Palmetto Highway)
- Addition of a southbound right turn lane on SR 154 (Cascade Palmetto Highway)

Wilkerson Mill Road @ Phillips Road

- Addition of a westbound left turn lane on Wilkerson Mill Road

Cochran Mill Road @ Wilkerson Mill Road

- Installation of a traffic signal
- Addition of a northbound right and southbound left turn lanes on Cochran Mill Road
- Addition of a westbound left turn lane on Wilkerson Mill Road

SR 70 (South Fulton Parkway) @ Cochran Mill Road

- Installation of a traffic signal
- Addition of a westbound left turn lane on SR 70 (South Fulton Parkway) with "protected + permissive" signal phasing
- Addition of a northbound right turn lane on Cochran Mill Road

SR 70 (South Fulton Parkway) @ SR 154 (Cascade Palmetto Highway)

- Addition of a northbound right turn lane on SR 154 (Cascade Palmetto Highway)

Hutchesons Ferry Road @ Phillips Road

- Addition of a southbound right turn lane on Phillips Road

Hutchesons Ferry Road @ Cochran Mill Road

- Installation of a traffic signal
- Addition of an eastbound left turn lane on Hutchesons Ferry Road
- Addition of a westbound right turn lane on Hutchesons Ferry Road
- Addition of a southbound right turn lane on Cochran Mill Road

TABLE OF CONTENTS

LIST OF TABLES

Item **Page**

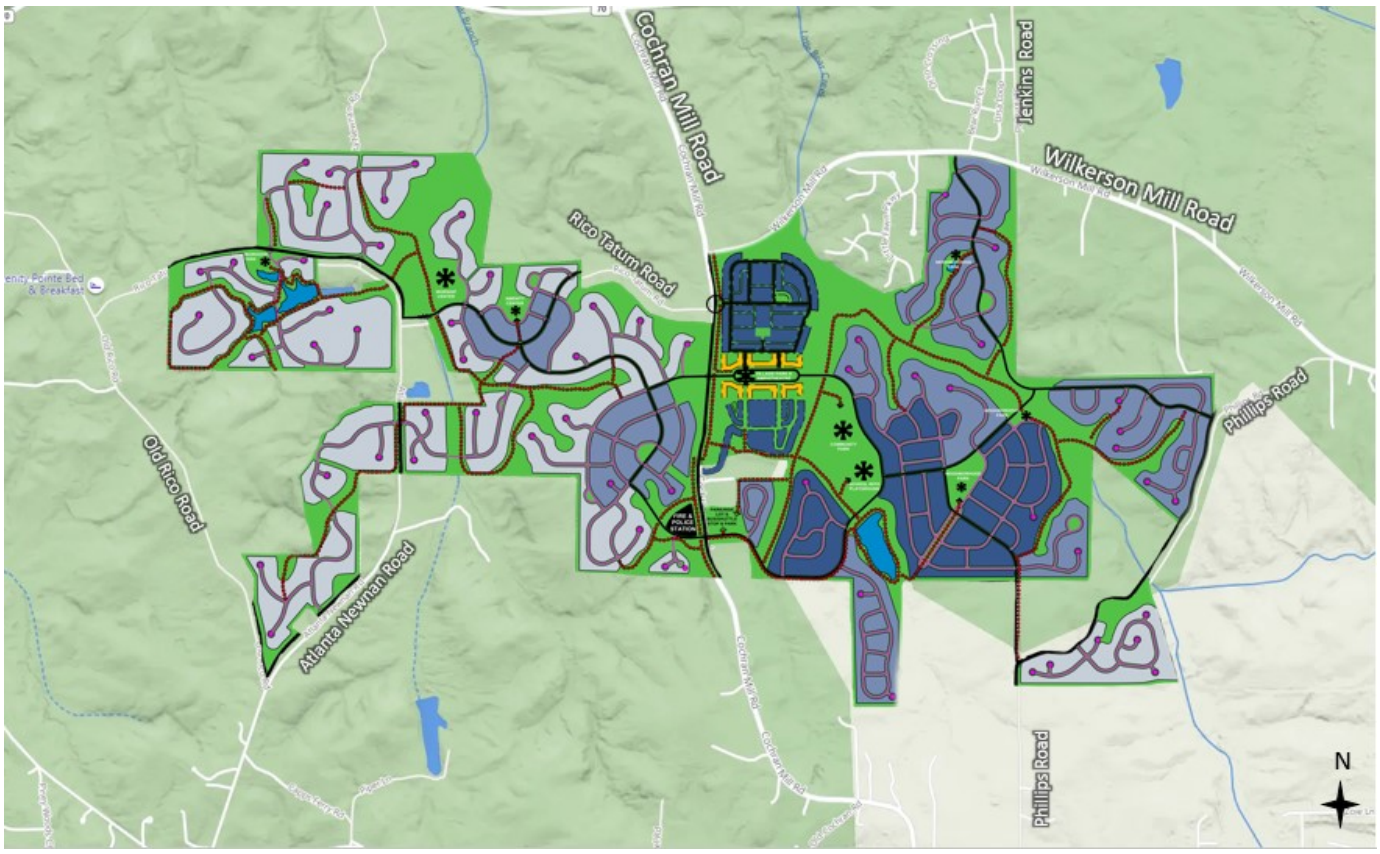
LIST OF FIGURES

Item **Page**

INTRODUCTION

The purpose of this study is to determine the traffic impact that will result from the proposed Merrill Park mixed-use development located on Cochran Mill Road in City of Palmetto, Georgia. The traffic analysis evaluates the current operations compared to the future conditions with the traffic generated by the development. The development will be located to the southeast of Cochran Mill Road and Wilkerson Mill Road. It will also be located to the northwest and southwest of Rico Tatum Road and Cochran Mill Road. The development will consist of:

- Single-Family Detached Housing: 1,541 units
- Single-Family Attached Housing: 1,999 units
- Multifamily Housing: 960 units
- Elementary School: 1,000 students
- Worship Center: 15,000 sf
- Office space: 420,000 sf
- Retail space: 180,000 sf



The development proposes five full access driveways on Cochran Mill Road, three full access driveways on Phillips Road, one full access driveway on Wilkerson Mill Road, three full access driveways on Atlanta Newnan Road and eleven full access driveways on Rico Tatum Road.

The AM and PM peak hours have been analyzed in this study. In addition to the site access points, this study includes the evaluation of traffic operations at the intersections of:

1. SR 14/US 29 (Roosevelt Highway) @ SR 14 - Fairburn Industrial Boulevard Connector Ramp
2. Fairburn Industrial Boulevard @ SR 14 - Fairburn Industrial Boulevard Connector Ramp
3. Collinsworth Road @ I-85 Northbound Ramps
4. Collinsworth Road @ I-85 Southbound Ramps
5. Collinsworth Road @ Weldon Road
6. SR 14/US 29 (Main Street) @ Toombs Street/Fayetteville Road
7. SR 14/US 29 (Main Street/Roosevelt Highway) @ SR 154 (Cascade Palmetto Highway)
8. SR 14/US 29 (Roosevelt Highway) @ Wilkerson Mill Road/Tatum Road
9. SR 154 (Cascade Palmetto Highway) @ Wilkerson Mill Road
10. Wilkerson Mill Road @ Phillips Road
11. Wilkerson Mill Road @ Jenkins Road
12. Cochran Mill Road @ Wilkerson Mill Road
13. SR 70 (South Fulton Parkway) @ Cochran Mill Road
14. SR 70 (South Fulton Parkway) @ Rivertown Road
15. SR 70 (South Fulton Parkway) @ SR 154 (Cascade Palmetto Highway)
16. South Fulton Parkway @ Cedar Grove Road
17. Hutchesons Ferry Road @ Phillips Road
18. Hutchesons Ferry Road @ Cochran Mill Road
19. Hutchesons Ferry Road @ Atlanta Newnan Road
20. Hutchesons Ferry Road @ Rico Road
21. Cochran Mill Road @ Rico Tatum Road
22. Atlanta Newnan Road @ Rico Tatum Road
23. SR 154 (Cascade Palmetto Highway) @ Carlton Road

Recommendations to improve traffic operations have been identified as appropriate and are discussed in detail in the following sections of the report.

STUDY NETWORK DETERMINATION

The study network was determined by evaluating the amount of traffic that the proposed development will add to each roadway segment in the area. According to GRTA requirements, a roadway segment carries a "significant" amount of traffic if the project contributes 7% or more trips to the two-way daily service volumes of the roadway at the appropriate level of service standard. Upon agreement with GRTA a level of service standard of "D" was used for determining the study area network.

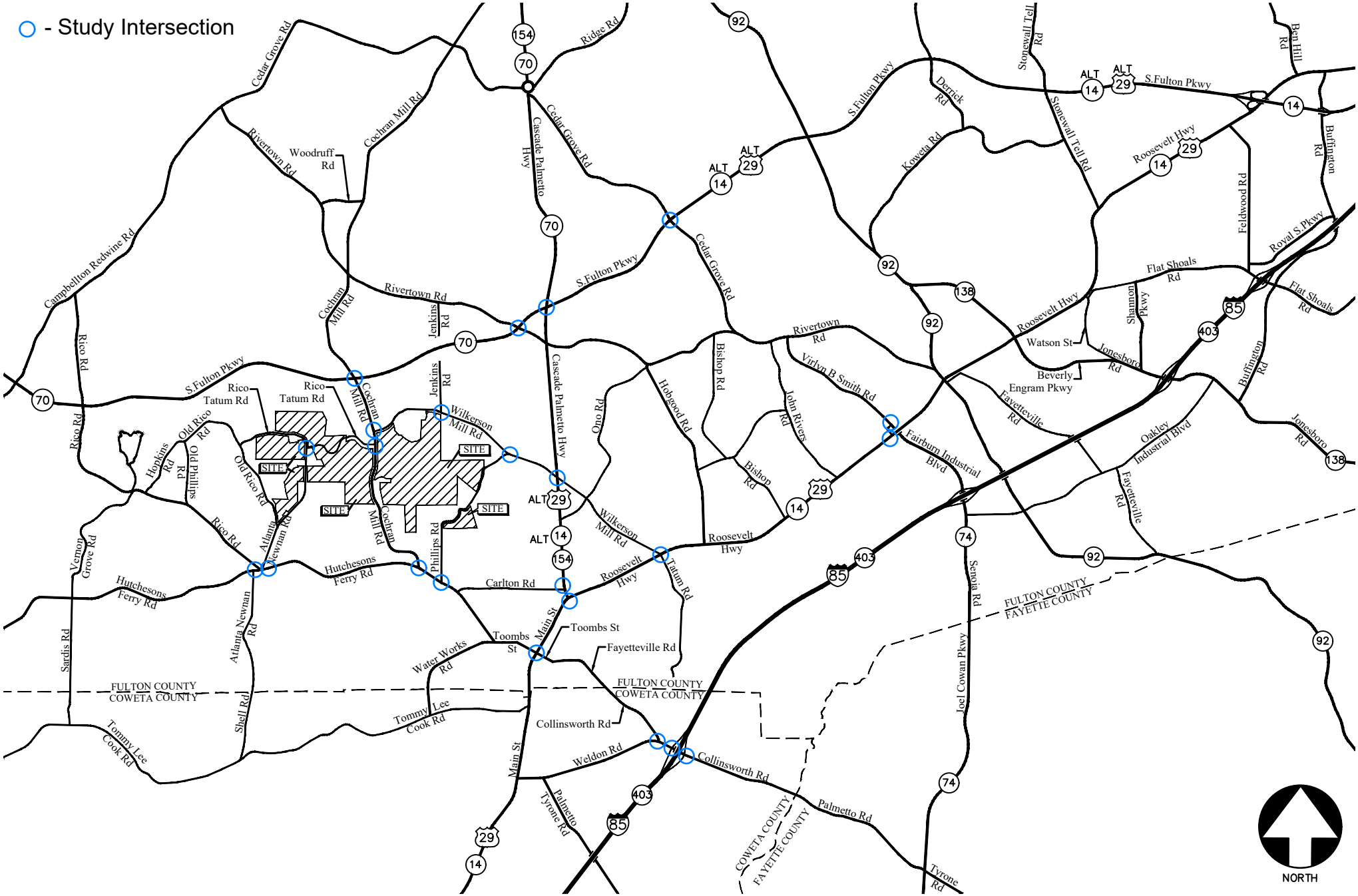
The traffic generated by the proposed project was then assigned to the area roadways using the trip distribution to determine the site-generated traffic on each roadway segment. The boundaries of the study network extend to the most distant intersections where at least 7% of the service volumes on the segment are attributed to project traffic. The following study intersections fell within the 7% rule and/or have been selected as being suitable for evaluation in discussions with ARC, GRTA, GDOT, Fulton County, City of Palmetto, and Fayette County:

1. SR 14/US 29 (Roosevelt Highway) @ SR 14 - Fairburn Industrial Boulevard Connector Ramp
2. Fairburn Industrial Boulevard @ SR 14 - Fairburn Industrial Boulevard Connector Ramp
3. Collinsworth Road @ I-85 Northbound Ramps
4. Collinsworth Road @ I-85 Southbound Ramps
5. Collinsworth Road @ Weldon Road
6. SR 14/US 29 (Main Street) @ Toombs Street/Fayetteville Road
7. SR 14/US 29 (Main Street/Roosevelt Highway) @ SR 154 (Cascade Palmetto Highway)
8. SR 14/US 29 (Roosevelt Highway) @ Wilkerson Mill Road/Tatum Road
9. SR 154 (Cascade Palmetto Highway) @ Wilkerson Mill Road
10. Wilkerson Mill Road @ Phillips Road
11. Wilkerson Mill Road @ Jenkins Road
12. Cochran Mill Road @ Wilkerson Mill Road
13. SR 70 (South Fulton Parkway) @ Cochran Mill Road
14. SR 70 (South Fulton Parkway) @ Rivertown Road
15. SR 70 (South Fulton Parkway) @ SR 154 (Cascade Palmetto Highway)
16. South Fulton Parkway @ Cedar Grove Road
17. Hutchesons Ferry Road @ Phillips Road
18. Hutchesons Ferry Road @ Cochran Mill Road
19. Hutchesons Ferry Road @ Atlanta Newnan Road
20. Hutchesons Ferry Road @ Rico Road
21. Cochran Mill Road @ Rico Tatum Road
22. Atlanta Newnan Road @ Rico Tatum Road
23. SR 154 (Cascade Palmetto Highway) @ Carlton Road

The location of the development and the surrounding study network is shown in Figure 1. Other intersections within this corridor, such as unsignalized side streets, right-in / right-out driveways or private driveways have not been included in the study network.

LEGEND

○ - Study Intersection



LOCATION MAP AND STUDY INTERSECTIONS

FIGURE 1

A&R Engineering Inc.

EXISTING ROADWAY FACILITIES

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

SR 14/US 29 (Roosevelt Highway)

SR 14/US 29 (Roosevelt Highway) is an east-west, four-lane roadway with a two-way left-turn lane in the vicinity of the site. SR 14/US 29 (Roosevelt Highway) is posted with a speed limit of 45 mph near SR 154 (Cascade Palmetto Highway) and 55 mph near and east of Wilkerson Mill Road. GDOT traffic counts (Station ID's 121-0174, 121-0178 & 121-0180) indicate that the daily traffic volume on SR 14/US 29 (Roosevelt Highway) in 2019 was 10,400 vehicles per day east of SR 154 (Cascade Palmetto Highway), 10,900 vehicles per day west of Johns River Road and 12,700 vehicles per day east of SR 74 (Fairburn Industrial Boulevard). GDOT classifies SR 14/US 29 (Roosevelt Highway) as an Urban Minor Arterial roadway.

SR 14/US 29 (Main Street)

SR 14/US 29 (Main Street) is a north-south, two-lane, undivided roadway with a posted speed limit of 25 mph in the vicinity of the site. GDOT traffic counts (Station ID's 121-0172, 077-0421 & 077-0217) indicate that the daily traffic volume on SR 14/US 29 (Main Street) in 2019 was 9,840 vehicles per day south of Church Street, 9,480 vehicles per day north of Lee Cook Road and 11,200 vehicles per day north of Johnston Circle. GDOT classifies SR 14/US 29 (Main Street) as an Urban Minor Arterial roadway.

Fairburn Industrial Boulevard

Fairburn Industrial Boulevard is a north-south, four-lane roadway with a posted speed limit of 45 mph. GDOT traffic counts (Station ID 121-0282) indicate that the daily traffic volume on Fairburn Industrial Boulevard in 2019 was 19,300 vehicles per day southeast of SR 14/US 29 (Roosevelt Highway). GDOT classifies Fairburn Industrial Boulevard as an Urban Principal Arterial roadway.

SR 14/US 29 - Fairburn Industrial Boulevard Connector Ramp

SR 14/US 29 - Fairburn Industrial Boulevard connector ramp is a two-lane, median-divided roadway with a posted speed limit of 35 mph.

Collinsworth Road

Collinsworth Road is a two-lane, undivided roadway with a posted speed limit of 55 mph to the east of Weldon Road and 45 mph to the north of Weldon Road. GDOT traffic counts (Station ID's 077-0292, 077-0295 & 077-0297) indicate that the daily traffic volume on Collinsworth Road in 2019 was 11,600 vehicles per day north of Weldon Road, 15,800 vehicles per day west of I-85 and 9,510 vehicles per day east of I-85. GDOT classifies Collinsworth Road as an Urban Minor Arterial roadway.

Interstate 85 (I-85)

Interstate 85 (I-85) is a north-south, eight-lane, median-divided freeway in the vicinity of the site. GDOT traffic counts (Station ID's 077-0165 & 077-0163) indicate that the daily traffic volume on I-85 in 2019

was 86,000 vehicles per day north of Collinsworth Road and 83,000 vehicles per day south of Collinsworth Road.

Weldon Road

Weldon Road is a two-lane, undivided roadway with a posted speed limit of 55 mph. GDOT traffic counts (Station ID's 077-0448 & 077-0310) indicate that the daily traffic volume on Weldon Road in 2019 was 4,900 vehicles per day east of Palmetto Tyrone Road and 8,100 vehicles per day west of Palmetto Tyrone Road. GDOT classifies Weldon Road as an Urban Minor Arterial roadway.

Toombs Street

Toombs Street is an east-west, two-lane, undivided roadway with a posted speed limit of 30 mph.

Fayetteville Road

Fayetteville Road is an east-west, two-lane, undivided roadway with a posted speed limit of 30 mph. GDOT traffic counts (Station ID 121-0763) indicate that the daily traffic volume on Fayetteville Road in 2019 was 2,710 vehicles per day west of School Street. GDOT classifies Fayetteville Road as an Urban Minor Arterial roadway.

SR 154 (Cascade Palmetto Highway)

SR 154 (Cascade Palmetto Highway) is a north-south, two-lane, undivided roadway with a posted speed limit of 55 mph in the vicinity of the site. GDOT traffic counts (Station ID 121-0366) indicate that the daily traffic volume on SR 154 (Cascade Palmetto Highway) in 2019 was 6,800 vehicles per day south of SR 70 (South Fulton Parkway). GDOT classifies SR 154 (Cascade Palmetto Highway) as an Urban Minor Arterial roadway.

Wilkerson Mill Road

Wilkerson Mill Road is a two-lane, undivided roadway with a posted speed limit of 45 mph. GDOT traffic counts (Station ID 121-7231) indicate that the daily traffic volume on Wilkerson Mill Road in 2019 was 1,230 vehicles per day east of Phillips Road. GDOT classifies Wilkerson Mill Road as an Urban Minor Collector roadway.

Tatum Road

Tatum Road is a north-south, two-lane, undivided roadway with a posted speed limit of 35 mph.

Jenkins Road

Jenkins Road is a north-south, two-lane, undivided roadway without any posted speed limit.

Cochran Mill Road

Cochran Mill Road is a north-south, two-lane, undivided roadway with a posted speed limit of 45 mph. GDOT traffic counts (Station ID 121-6048) indicate that the daily traffic volume on Cochran Mill Road in 2019 was 400 vehicles per day between South Fulton Parkway and Rivertown Road. GDOT classifies Cochran Mill Road as a Rural Major Collector roadway.

South Fulton Parkway

South Fulton Parkway is an east-west, two-lane, undivided roadway with a posted speed limit of 55 mph in the vicinity of the site. To the east of Rivertown Road, South Fulton Parkway is a four-lane, median-divided roadway. South Fulton Parkway is a state route to the west of SR 154 (Cascade Palmetto Highway). GDOT traffic counts (Station ID's 121-0249 & 121-6056) indicate that the daily traffic volume on South Fulton Parkway in 2019 was 4,900 vehicles per day west of Cochran Mill Road and 5,480 vehicles per day east of SR 154 (Cascade Palmetto Highway). GDOT classifies South Fulton Parkway as an Urban Principal Arterial roadway.

Rivertown Road

Rivertown Road is an east-west, two-lane, undivided roadway with a posted speed limit of 45 mph in the vicinity of the site. GDOT traffic counts (Station ID's 121-0765 & 121-0766) indicate that the daily traffic volume on Rivertown Road in 2019 was 1,640 vehicles per day west of SR 154 (Cascade Palmetto Highway) and 2,000 vehicles per day east of SR 154 (Cascade Palmetto Highway). GDOT classifies Rivertown Road as an Urban Minor Collector roadway west of SR 154 (Cascade Palmetto Highway) and as an Urban Minor Arterial roadway east of SR 154 (Cascade Palmetto Highway).

Cedar Grove Road

Cedar Grove Road is a north-south, two-lane, undivided roadway with a posted speed limit of 45 mph. GDOT traffic counts (Station ID's 121-0773 & 121-0772) indicate that the daily traffic volume on Cedar Grove Road in 2019 was 2,750 vehicles per day north of South Fulton Parkway and 5,700 vehicles per day south of South Fulton Parkway. GDOT classifies Cedar Grove Road as an Urban Minor Collector roadway.

Hutchesons Ferry Road

Hutchesons Ferry Road is an east-west, two-lane, undivided roadway with a posted speed limit of 45 mph in the vicinity of the site. GDOT traffic counts (Station ID's 121-0760 & 121-0761) indicate that the daily traffic volume on Hutchesons Ferry Road in 2019 was 2,720 vehicles per day east of Hearn Road and 3,050 vehicles per day north of Streed Road (Redwine Road). GDOT classifies Hutchesons Ferry Road as an Urban Minor Collector roadway near Hearn Road and as an Urban Minor Arterial roadway near Streed Road (Redwine Road).

Phillips Road

Phillips Road is a north-south, two-lane, undivided roadway without any posted speed limit. GDOT traffic counts (Station ID 121-8777) indicate that the daily traffic volume on Phillips Road in 2019 was 10 vehicles per day. GDOT classifies Phillips Road as an Urban Local roadway.

Atlanta Newnan Road

Atlanta Newnan Road is a north-south, two-lane, undivided roadway with a posted speed limit of 45 mph.

Rico Road

Rico Road is a north-south, two-lane, undivided roadway with a posted speed limit of 45 mph in the vicinity of the site. GDOT traffic counts (Station ID 121-0870) indicate that the daily traffic volume on Rico Road in 2019 was 890 vehicles per day between Hopkins Road and Old Phillips Road. GDOT classifies Rico Road as an Urban Minor Collector roadway.

Rico Tatum Road

Rico Tatum Road is an east-west, two-lane, undivided roadway. GDOT traffic counts (Station ID 121-8778) indicate that the daily traffic volume on Rico Tatum Road in 2015 was 70 vehicles per day between Cochran Mill Road and Atlanta Newnan Road. GDOT classifies Rico Tatum Road as a Rural Local roadway.

Carlton Road

Carlton Road is an east-west, two-lane, undivided roadway with a posted speed limit of 30 mph. GDOT traffic counts (Station ID 121-0756) indicate that the daily traffic volume on Carlton Road in 2019 was 2,710 vehicles per day east of Carlton Lane. GDOT classifies Carlton Road as an Urban Minor Collector roadway.

Existing Bicycle and Pedestrian Facilities

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

Nearby local or regional trails

Cochran Mill Park, Hutcheson Ferry Park, Wilkerson Mill Gardens, Little Bear Creek and Bear Creek are located in the vicinity of the proposed development.

Bicycle paths or sidewalks

No sidewalks, bike lanes/paths, or bus stops were identified in the vicinity of the proposed development. Crosswalks are not available at intersections near the site.

Existing Transit Facilities

- Existing transit routes were not identified in the study network.
- No high-capacity transit stations were identified in the vicinity of the proposed development.

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. At specific intersections in which HCM 6 is unable to report results, HCM 2000 will be used instead. The following is a description of the methodology employed for the analysis of unsignalized and signalized intersections.

Unsignalized Intersections

For unsignalized intersections controlled by a stop sign on minor streets, the level-of-service (LOS) for motor vehicles with controlled movements is determined by the computed control delay according to the thresholds stated in Table 1 below. LOS is determined for each minor street movement (or shared movement), as well as major street left turns. LOS is not defined for the intersection as a whole or for major street approaches. The LOS of any controlled movement which experiences a volume to capacity ratio greater than 1 is designed as "F" regardless of the control delay.

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 the main road without experiencing long total delays.

TABLE 1 – LEVEL-OF-SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

Control Delay (sec/vehicle)	LOS by Volume-to-Capacity Ratio*	
	v/c ≤ 1.0	**v/c ≥ 1.0**
≤ 10	A	F
> 10 and ≤ 15	B	F
> 15 and ≤ 25	C	F
> 25 and ≤ 35	D	F
> 35 and ≤ 50	E	F
> 50	F	F

*The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-street approaches or for the intersection.

Source: Highway Capacity Manual, 6th edition, Exhibit 20-2 *LOS Criteria: Motorized Vehicle Mode*

Signalized Intersections

According to HCM procedures, LOS can be calculated for the entire intersection, each intersection approach, and each lane group. HCM uses control delay alone to characterize LOS for the entire intersection or an approach. Control delay per vehicle is composed of initial deceleration delay, queue move-up time, stopped delay and final acceleration delay. Both control delay and volume-to-capacity ratio are used to characterize LOS for a lane group. A volume-to-capacity ratio of 1.0 or more for a lane group indicates failure from capacity perspective. Therefore, such a lane group is assigned LOS F regardless of the amount of control delay.

Table 2 below summarizes the LOS criteria from HCM for motorized vehicles at signalized intersections.

TABLE 2 – LEVEL-OF-SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS

Control Delay (sec/vehicle)*	LOS for Lane Group by Volume-to-Capacity Ratio*	
	v/c ≤ 1.0	**v/c ≥ 1.0**
≤ 10	A	F
> 10 and ≤ 20	B	F
> 20 and ≤ 35	C	F
> 35 and ≤ 55	D	F
> 55 and ≤ 80	E	F
> 80	F	F

*For approach-based and intersection wide assessments, LOS is defined solely by control delay

Source: Highway Capacity Manual, 6th edition, Exhibit 19-8 *LOS Criteria: Motorized Vehicle Mode*

LOS A is typically assigned when the volume-to-capacity (v/c) ratio is low and either progression is exceptionally favorable, or the cycle length is very short. LOS B is typically assigned when the v/c ratio is low and either progression is highly favorable, or the cycle length is short. However, more vehicles are stopped than with LOS A. LOS C is typically assigned when progression is favorable, or the cycle length is moderate. Individual cycle failures (one or more queued vehicles are not able to depart because of insufficient capacity during the cycle) may begin to appear at this level. Many vehicles still pass through the intersection without stopping, but the number of vehicles stopping is significant. LOS D is typically assigned when the v/c ratio is high and either progression is ineffective, or the cycle length is long. There are many vehicle-stops and individual cycle failures are noticeable. LOS E is typically assigned when the v/c ratio is high, progression is very poor, the cycle length is long, and individual cycle failures are frequent. LOS F is typically assigned when the v/c ratio is very high, progression is very poor, the cycle length is long, and most cycles fail to clear the queue.

EXISTING 2022 TRAFFIC ANALYSIS

Existing Traffic Volumes

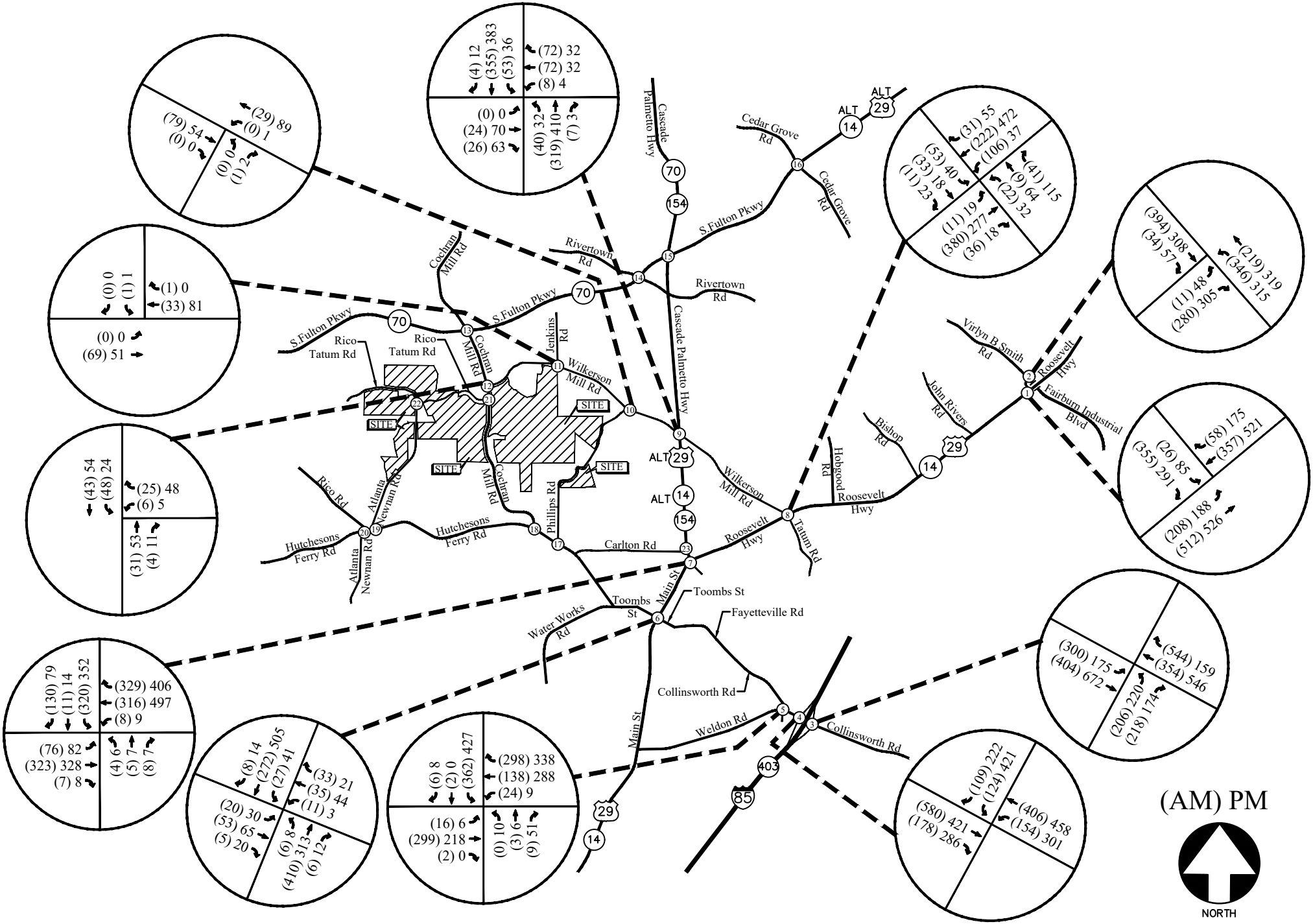
Existing traffic counts were obtained at the following study intersections:

1. SR 14/US 29 (Roosevelt Highway) @ SR 14 - Fairburn Industrial Boulevard Connector Ramp
2. Fairburn Industrial Boulevard @ SR 14 - Fairburn Industrial Boulevard Connector Ramp
3. Collinsworth Road @ I-85 Northbound Ramps
4. Collinsworth Road @ I-85 Southbound Ramps
5. Collinsworth Road @ Weldon Road
6. SR 14/US 29 (Main Street) @ Toombs Street/Fayetteville Road
7. SR 14/US 29 (Main Street/Roosevelt Highway) @ SR 154 (Cascade Palmetto Highway)
8. SR 14/US 29 (Roosevelt Highway) @ Wilkerson Mill Road/Tatum Road
9. SR 154 (Cascade Palmetto Highway) @ Wilkerson Mill Road
10. Wilkerson Mill Road @ Phillips Road
11. Wilkerson Mill Road @ Jenkins Road
12. Cochran Mill Road @ Wilkerson Mill Road
13. SR 70 (South Fulton Parkway) @ Cochran Mill Road
14. SR 70 (South Fulton Parkway) @ Rivertown Road
15. SR 70 (South Fulton Parkway) @ SR 154 (Cascade Palmetto Highway)
16. South Fulton Parkway @ Cedar Grove Road
17. Hutchesons Ferry Road @ Phillips Road
18. Hutchesons Ferry Road @ Cochran Mill Road
19. Hutchesons Ferry Road @ Atlanta Newnan Road
20. Hutchesons Ferry Road @ Rico Road
21. Cochran Mill Road @ Rico Tatum Road
22. Atlanta Newnan Road @ Rico Tatum Road
23. SR 154 (Cascade Palmetto Highway) @ Carlton Road

Turning movement counts were collected on the following days:

- Thursday, September 30, 2021 (intersections #7, 23),
- Thursday, November 11, 2021 (intersections #8, 9, 10, 11, 12, 17, 18, 21, 22),
- Tuesday, November 16, 2021 (intersections #14, 15,16),
- Wednesday, November 17, 2021 (intersections # 6,13,19,20),
- Thursday, November 18, 2021 (intersections # 3,4,5) and
- Friday, November 19, 2021 (intersections # 1, 2).

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



EXISTING WEEKDAY PEAK HOUR VOLUMES 1 OF 2

FIGURE 2A

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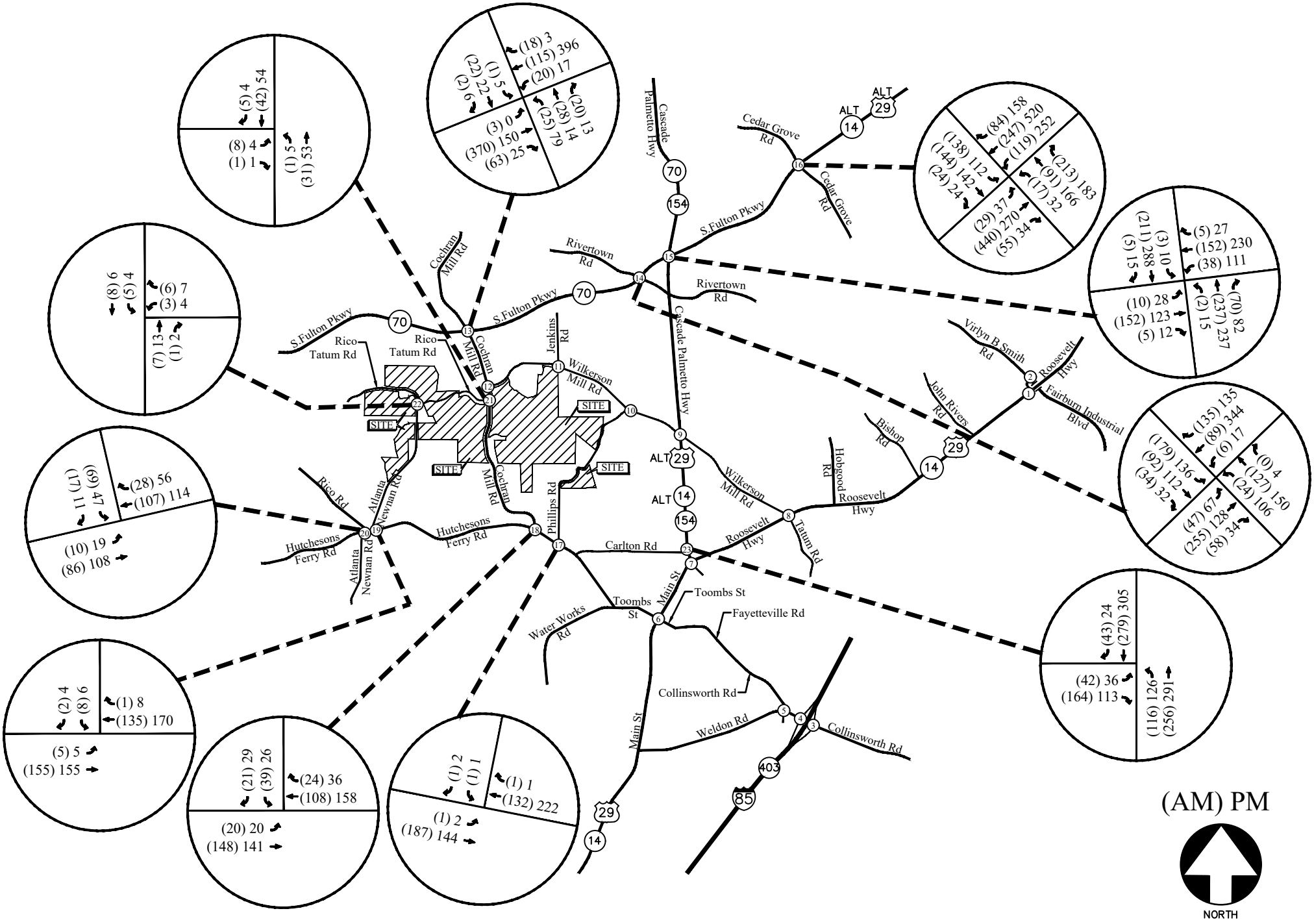


EXISTING WEEKDAY PEAK HOUR VOLUMES 2 OF 2

FIGURE 2B

A&R Engineering Inc.

Existing Traffic Operations

Existing 2021 traffic operations were analyzed at the study intersections in accordance with the HCM methodology. The results of the analyses are shown in Table 3.

TABLE 3 – EXISTING INTERSECTION OPERATIONS

	Intersection	Traffic Control	AM Peak	PM Peak	LOS Standard
1	**SR 14 @ SR 14 - Fairburn Industrial Blvd Connector Ramp** -Eastbound Left -Southbound Approach	Stop Controlled on SB Approach	 A (8.8) B (13.4)	 A (9.5) E (38.2)	 D / D D / E
2	**Fairburn Industrial Blvd @ SR 14 - Fairburn Industrial Blvd Connector Ramp** -Eastbound Approach -Northbound Left	Stop Controlled on EB Approach	 C (16.7) B (10.1)	 B (13.0) A (9.2)	 D / D D / D
3	**Collinsworth Road @ I-85 NB Ramps** -Eastbound Approach -Westbound Approach -Northbound Approach	Signalized	**B (19.6)** B (11.8) B (10.8) E (61.6)	**B (12.7)** A (1.5) B (10.9) E (60.5)	**D / D** D/D D/D D/D
4	**Collinsworth Road @ I-85 SB Ramps** -Eastbound Approach -Westbound Approach -Southbound Approach	Signalized	**A (6.7)** A (0.9) A (0.9) E (59.8)	**C (23.7)** C (27.8) A (4.1) D (54.8)	**D / D** D/D D/D D/D
5	**Collinsworth Road @ Weldon Road** -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	Signalized	**C (20.8)** B (18.5) A (2.9) C (27.7) D (44.7)	**D (37.0)** C (20.2) D (37.5) C (23.8) D (47.0)	**D / D** D/D D/D D/D
6	**SR 14 @ Toombs Street/Fayetteville Road** -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	Signalized	**B (12.2)** E (57.6) E (58.3) A (2.5) A (2.2)	**B (12.3)** E (56.8) D (52.9) A (2.9) A (3.8)	**D / D** D/D D/D D/D
7	**SR 14 @ SR 154 (Cascade Palmetto Hwy)** -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	Signalized	**C (24.0)** B (13.0) B (15.2) C (32.4) D (45.6)	**C (26.0)** B (14.8) B (20.0) C (30.6) D (46.5)	**D / D** D/D D/D D/D
8	**SR 14 @ Wilkerson Mill Road/Tatum Road** -Eastbound Left -Westbound Left -Northbound Approach -Southbound Approach	Stop Controlled on NB and SB Approaches	 A (7.8) A (8.6) B (13.6) D (25.9)	 A (8.4) A (7.9) B (14.3) C (22.5)	 D / D D / D D / D D / D

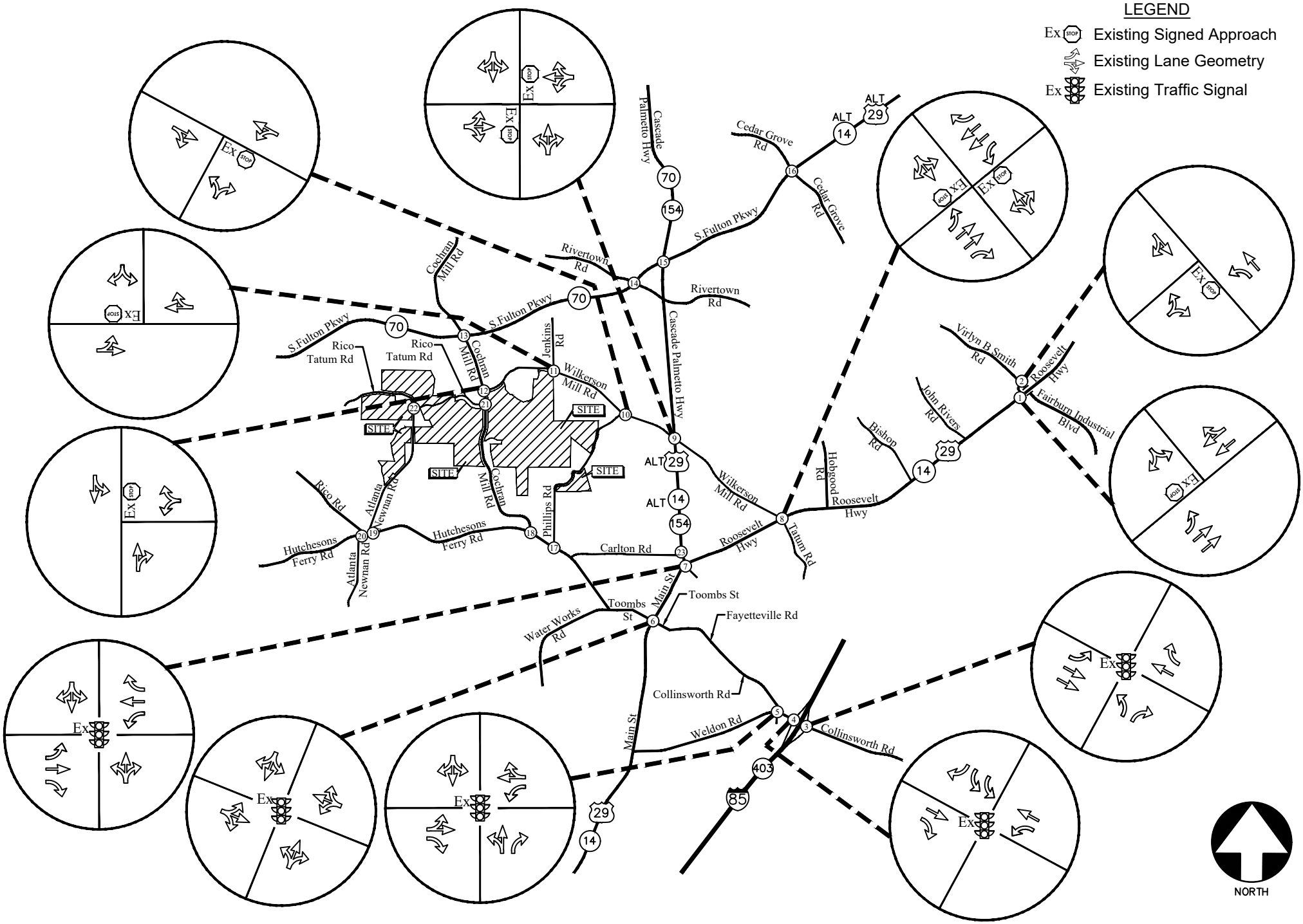
TABLE 3 – EXISTING INTERSECTION OPERATIONS (CONTINUED)					
	Intersection	Traffic Control	AM Peak	PM Peak	LOS Standard
9	**SR 154 (Cascade Palmetto Hwy) @ Wilkerson Mill Road** -Eastbound Approach -Westbound Approach -Northbound Left -Southbound Left	Stop Controlled on EB and WB Approaches	 C (16.9) C (24.9) A (8.2) A (8.1)	 C (22.5) C (19.6) A (8.2) A (8.3)	 D / D D / D D / D D / D
10	**Wilkerson Mill Road @ Phillips Road** -Westbound Left -Northbound Approach	Stop Controlled on NB Approach	 A (0.0) A (8.7)	 A (7.4) A (8.6)	 D / D D / D
11	**Wilkerson Mill Road @ Jenkins Road** -Eastbound Left -Southbound Approach	Stop Controlled on SB Approach	 A (0.0) A (9.0)	 A (0.0) A (9.3)	 D / D D / D
12	**Cochran Mill Road @ Wilkerson Mill Road** -Westbound Approach -Southbound Left	Stop Controlled on WB Approach	 A (8.9) A (7.4)	 A (8.9) A (7.4)	 D / D D / D
13	**SR 70 (South Fulton Pkwy) @ Cochran Mill Road** -Eastbound Left -Westbound Left -Northbound Approach -Southbound Approach	Stop Controlled on NB and SB Approaches	 A (7.5) A (8.2) B (12.6) B (13.6)	 A (0.0) A (7.6) C (16.7) B (13.2)	 D / D D / D D / D D / D
14	**SR 70 (South Fulton Pkwy) @ Rivertown Road** -Eastbound Approach -Westbound Approach -Northbound Left -Southbound Left	Stop Controlled on EB and WB Approaches	 C (20.8) C (18.7) A (7.5) A (7.8)	 D (32.7) F (67.7) A (8.2) A (7.5)	 D / D D / E D / D D / D
15	**SR 70 (South Fulton Pkwy) @ SR 154 (Cascade Palmetto Hwy)** -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	Signalized	**D (36.5)** B (13.3) C (21.9) D (52.2) D (44.1)	**D (39.0)** C (23.3) C (27.4) D (50.1) D (47.4)	**D / D** D/D D/D D/D
16	**South Fulton Pkwy @ Cedar Grove Road** -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	Signalized	**C (30.4)** C (21.1) B (17.3) D (53.7) D (35.8)	**C (30.0)** C (22.9) B (18.8) D (54.6) D (35.4)	**D / D** D/D D/D D/D
17	**Hutchesons Ferry Road @ Phillips Road** -Eastbound Left -Southbound Approach	Stop Controlled on SB Approach	 A (7.5) A (9.7)	 A (7.7) B (10.0)	 D / D D / D

TABLE 3 – EXISTING INTERSECTION OPERATIONS (CONTINUED)					
	Intersection	Traffic Control	AM Peak	PM Peak	LOS Standard
18	**Hutchesons Ferry Road @ Cochran Mill Road** -Eastbound Left -Southbound Approach	Stop Controlled on SB Approach	A (7.5) B (10.4)	A (7.7) B (10.4)	D / D D / D
19	**Hutchesons Ferry Road @ Atlanta Newnan Road** -Eastbound Left -Southbound Approach	Stop Controlled on SB Approach	A (7.6) B (10.5)	A (7.6) B (10.2)	D / D D / D
20	**Hutchesons Ferry Road @ Rico Road** -Eastbound Left -Southbound Approach	Stop Controlled on SB Approach	A (7.6) B (10.9)	A (7.6) B (10.7)	D / D D / D
21	**Cochran Mill Road @ Rico Tatum Road** -Eastbound Approach -Northbound Left	Stop Controlled on EB Approach	A (9.0) A (7.3)	A (9.1) A (7.4)	D / D D / D
22	**Atlanta Newnan Road @ Rico Tatum Road** -Westbound Approach -Southbound Left	Stop Controlled on WB Approach	A (8.5) A (7.2)	A (8.5) A (7.3)	D / D D / D
23	**SR 154 (Cascade Palmetto Hwy) @ Carlton Road** -Eastbound Approach -Northbound Left	Stop Controlled on EB Approach	C (16.8) A (8.4)	C (16.9) A (8.5)	D / D D / D

The results of existing traffic operations analysis indicate that all the signalized study intersections are operating at an overall level-of-service "D" or better in both the AM and PM peak hours. The following two unsignalized intersections are operating at level-of-service "E" or "F" in the PM peak hour for the stop-controlled approaches:

- Intersection 1: SR 14/US 29 (Roosevelt Highway) @ SR 14 - Fairburn Industrial Boulevard Connector Ramp
- Intersection 14: SR 70 (South Fulton Parkway) @ Rivertown Road

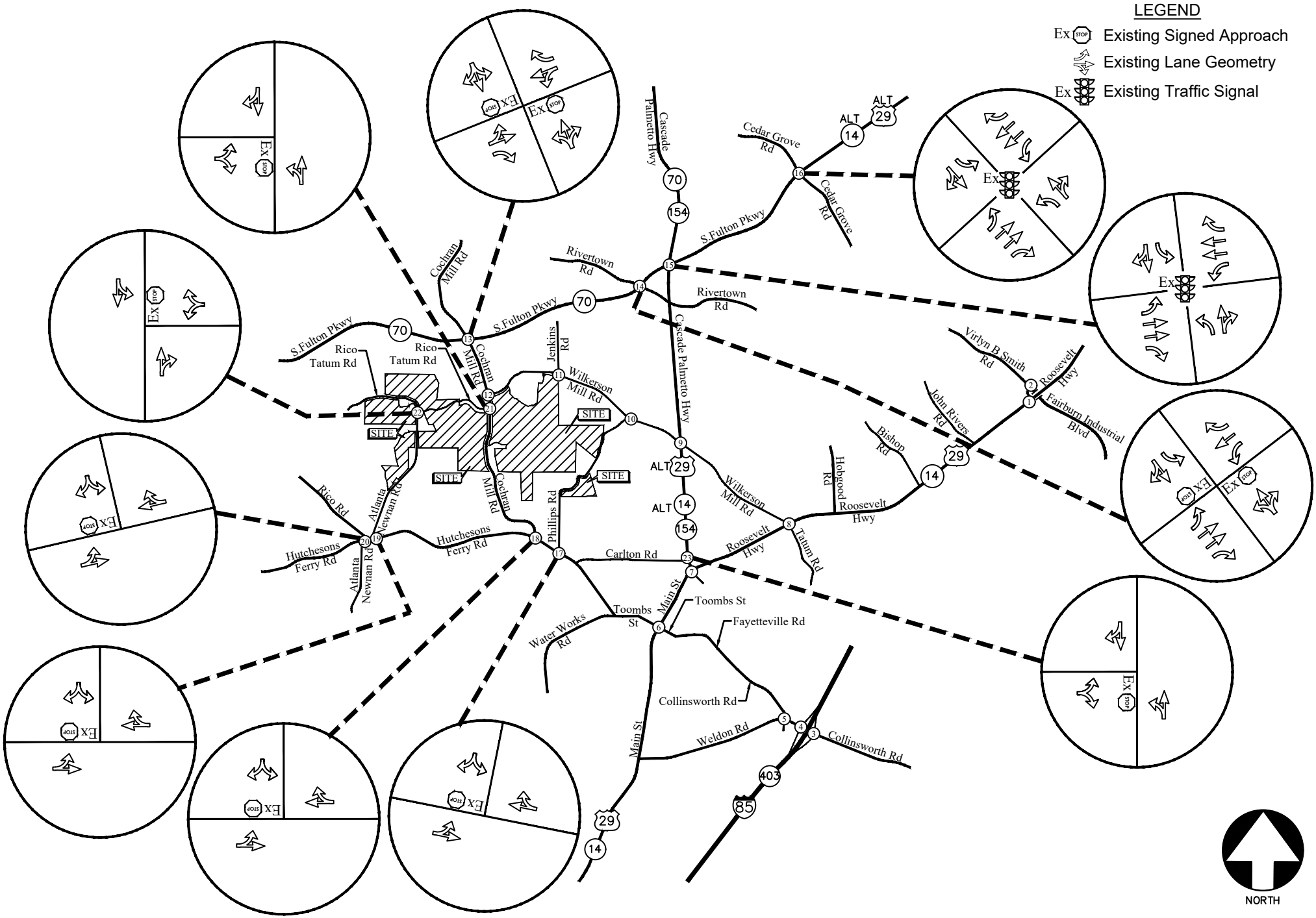
These areas are addressed in the Future Traffic Operations section. The existing traffic control and lane geometry for the intersections are shown in Figure 3A and Figure 3B.



EXISTING TRAFFIC CONTROL AND LANE GEOMETRY 1 OF 2

FIGURE 3A

A&R Engineering Inc.



EXISTING TRAFFIC CONTROL AND LANE GEOMETRY 2 OF 2

FIGURE 3B

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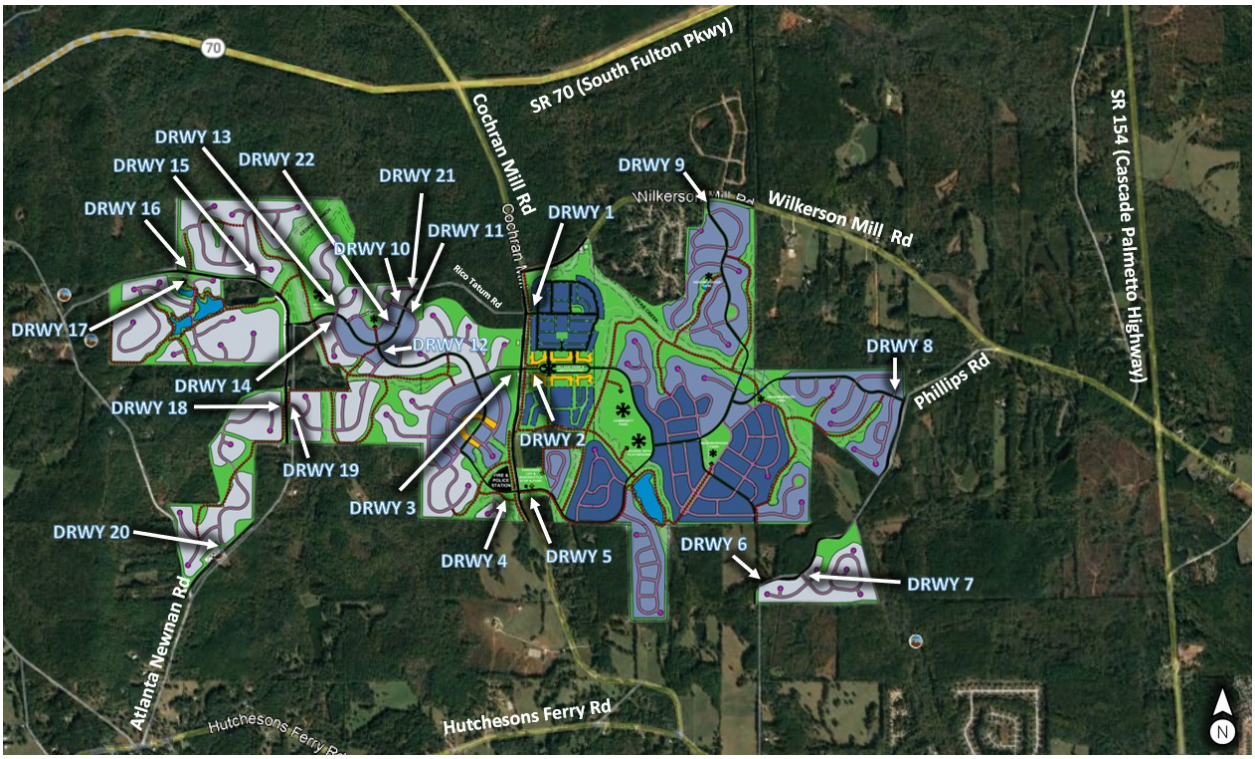
PROJECT DESCRIPTION

The proposed Merrill Park mixed-use development will be located to the southeast of Cochran Mill Road and Wilkerson Mill Road in City of Palmetto, Georgia. It will also be located to the northwest and southwest of Rico Tatum Road and Cochran Mill Road. The development will consist of:

- Single-Family Detached Housing: 1,541 units
- Single-Family Attached Housing: 1,999 units
- Multifamily Housing: 960 units
- Elementary School: 1,000 students
- Worship Center: 15,000 sf
- Office space: 420,000 sf
- Retail space: 180,000 sf



The development proposes access at the following locations:

Driveway #	Access Type	Driveway Approach	Location
Driveway 1	Roundabout leg	Westbound	Cochran Mill Road and Rico Tatum Road
Driveway 2	Roundabout leg	Westbound	Cochran Mill Road and proposed Village Park Road, to align with Driveway 3
Driveway 3	Roundabout leg	Eastbound	Cochran Mill Road and proposed Village Park Road, to align with Driveway 2
Driveway 4	Full Access	Eastbound	Cochran Mill Road and southern entrance of proposed development, to align with

			Driveway 5
Driveway 5	Full Access	Westbound	Cochran Mill Road and southern entrance of proposed development, to align with Driveway 4
Driveway 6	Full Access	Southbound	Proposed connection to Phillips Road
Driveway 7	Full Access	Westbound	Proposed connection to Phillips Road
Driveway 8	Full Access	Eastbound	Proposed connection to Phillips Road
Driveway 9	Full Access	Northbound	Proposed connection to Wilkerson Mill Road that is proposed to align with Jenkins Road
Driveway 10	Full Access	Eastbound	Proposed to connect to Rico Tatum Road
Driveway 11	Full Access	Westbound	Proposed to connect to Rico Tatum Road and to align with Driveway 10
Driveway 12	Full Access	Northbound	Proposed to connect to Rico Tatum Road
Driveway 13	Full Access	Southbound	Proposed to connect to Rico Tatum Road and to align with Driveway 14
Driveway 14	Full Access	Northbound	Proposed to connect to Rico Tatum Road and to align with Driveway 13
Driveway 15	Full Access	Southbound	Proposed to connect to Rico Tatum Road
Driveway 16	Full Access	Southbound	Proposed to connect to Rico Tatum Road and to align with Driveway 17
Driveway 17	Full Access	Northbound	Proposed to connect to Rico Tatum Road and to align with Driveway 16
Driveway 18	Full Access	Westbound	Proposed to connect to Atlanta Newnan Road and to align with Driveway 19
Driveway 19	Full Access	Eastbound	Proposed to connect to Atlanta Newnan Road and to align with Driveway 18
Driveway 20	Full Access	Eastbound	Proposed to connect to Atlanta Newnan Road
Driveway 21	Full Access	Eastbound	Proposed to connect to Rico Tatum Road
Driveway 22	Full Access	Eastbound	Proposed to connect to Rico Tatum Road

Site Plan

A site plan is shown in Figure 4. A digital copy of the site plan is also provided with this report.

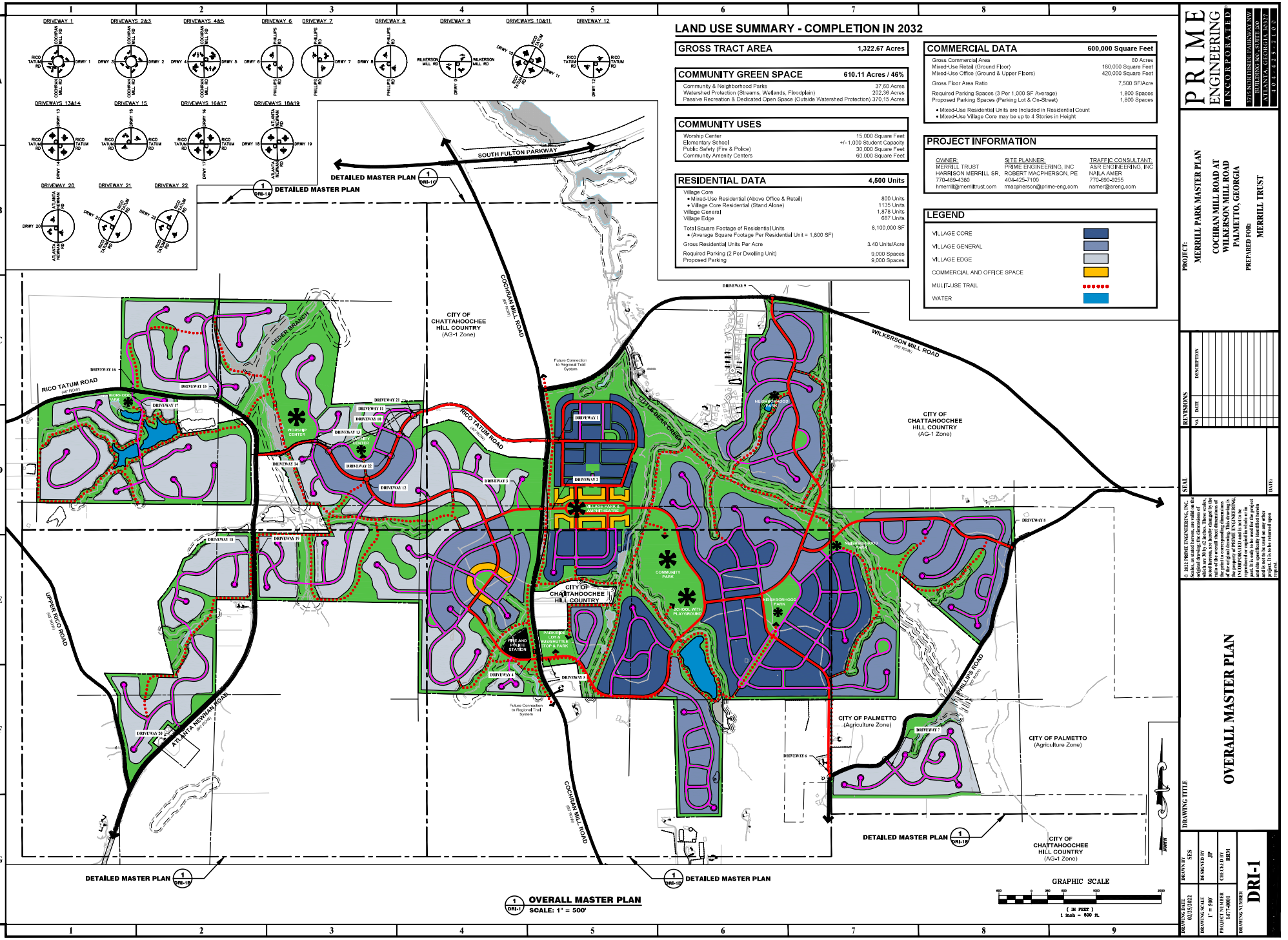


FIGURE 4
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Planned Bicycle and Pedestrian Facilities

The on and/or off-site provisions for non-motorized travel included in the planned construction of the proposed development are as follows:

- Pedestrian sidewalks will be provided throughout the development.
- The development plan includes several design elements that enhance the character and quality the site by incorporating building orientation, parking locations, bicycle, and pedestrian facilities.

Pedestrian sidewalks and trails will be provided throughout the development. The western and eastern portions of the development will be connected via pedestrian facilities.

Planned Transit Facilities

There is no existing or planned public transit service near the proposed development. An alternate mode of transportation reduction of 4% was considered in the trip generation analysis based on discussions with ARC/GRTA and local reviewing agencies based on the proximity of pedestrian destinations near the site.

Consistency with Adopted Comprehensive Plan

The vision for the City of Palmetto and in particular, the area of the proposed site, the land use vision and goal are to attract new businesses and jobs, focus on quality growth, and in quality of life and innovation. The proposed Merrill Park development is consistent with the land use vision and goals adopted by the City of Palmetto.

Project Phasing

This project has been evaluated for the complete build-out of the development in 2032.

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 Uses: *210 – Single-Family Detached Housing, 215 – Single-Family Attached Housing, 221 – Multifamily Housing (Mid-Rise) - Not Close to Rail Transit, 520 – Elementary School, 560 – Church, 710 – General Office Building* and *820 – Shopping Center (>150k).* Due to the nature of the development, pass-by and mixed-use reductions have been applied per ITE standards. A 4% alternate mode reduction was also applied. The calculated total trip generation for the proposed development is shown in Table 4.

TABLE 4 – TRIP GENERATION

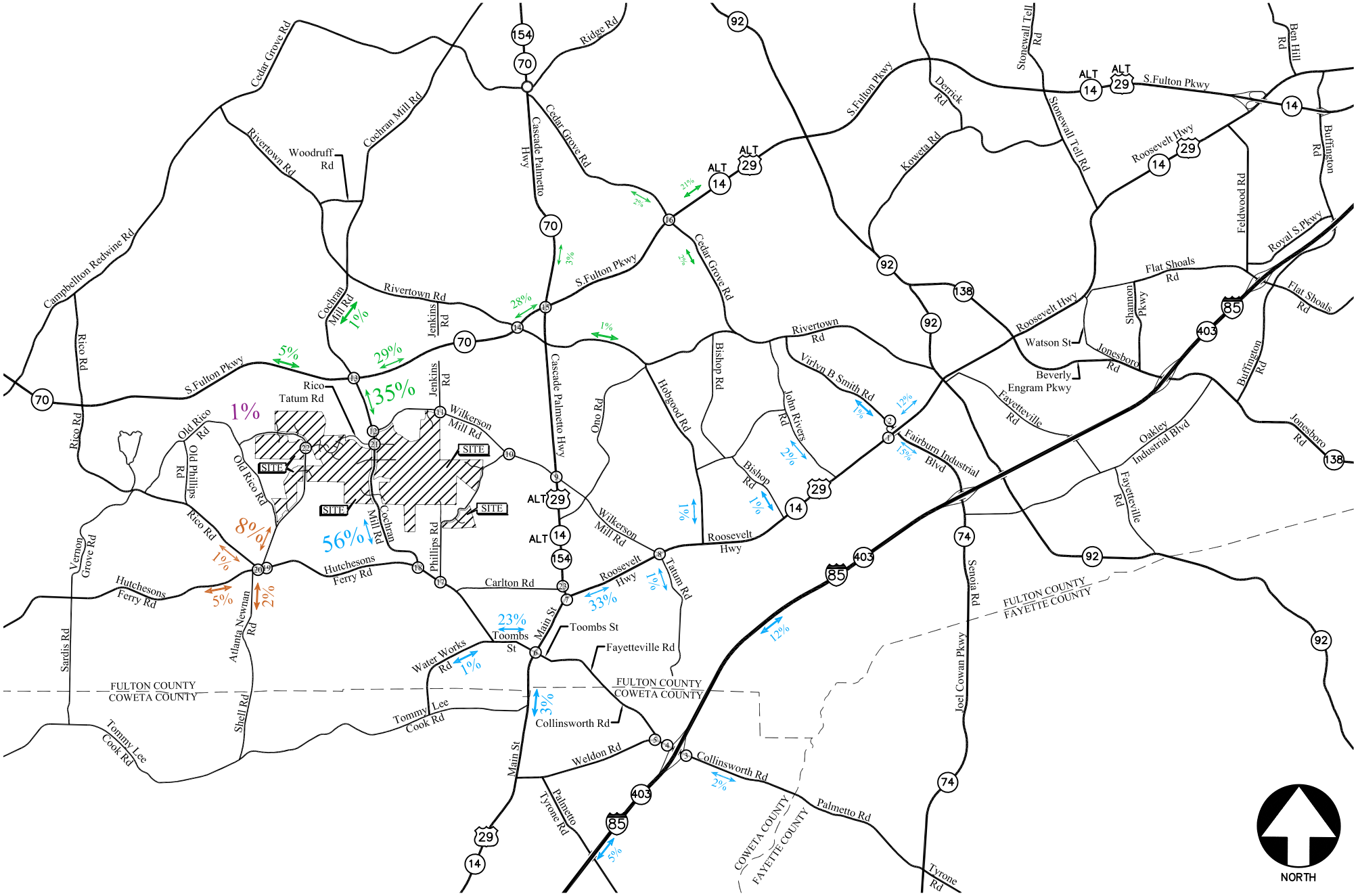
Land Use	Size	AM Peak Hour			PM Peak Hour			24-Hour
		Enter	Exit	Total	Enter	Exit	Total	2-way
Single-Family Detached Housing	1,541 Units	233	664	897	819	481	1,300	12,494
Mixed-Use Reduction		-5	-5	-10	-24	-15	-39	-430
Single-Family Attached Housing	1,999 Units	320	714	1,034	681	514	1,195	15,182
Mixed-Use Reduction		-6	-7	-13	-30	-18	-48	-156
Multifamily Housing (Mid-Rise) - Not Close to Rail Transit	960 Units	94	317	411	229	146	375	4,533
Mixed-Use Reduction		-1	-2	-3	-9	-5	-14	-523
Elementary School	1,000 Students	405	345	750	74	86	160	2,270
Mixed-Use Reduction		-203	-173	-376	-37	-43	-80	-1,135
Church	15,000 SF	2	2	4	4	6	10	132
Mixed-Use Reduction		0	0	0	-1	-1	-2	-18
General Office Building	420,000 SF	506	69	575	92	454	546	4,044
Mixed-Use Reduction		-3	-4	-7	-14	-17	-31	-414
Shopping Center (>150k)	180,000 SF	149	91	240	414	448	862	10,564
Mixed-Use Reduction		-17	-14	-31	-45	-67	-112	-1,425
Pass-by Trips (0%) 29%		0	0	0	-107	-110	-217	-2,170
Alternate Mode of Reduction (4%)		-59	-80	-139	-82	-74	-156	-1,718
Total Site Trips (without Reductions)		**1,709**	**2,202**	**3,911**	**2,313**	**2,135**	**4,448**	**49,219**
New External Site Trips (with Reductions)		**1,415**	**1,917**	**3,332**	**1,964**	**1,785**	**3,749**	**41,230**

* pass-by trips (AM) PM; Daily pass-by reduction estimated to be ten times the PM pass-by volume

** 50 percent of school trips assumed to be generated within the development

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 GDOT ADT volumes and the locations of major roadways and highways that will serve the development and is shown in Figure 5. The site-generated peak hour traffic volumes, shown in Table 4, were assigned to the study area intersections based on this distribution. The total AM and PM peak hour new traffic generated by the site is shown in Figures 6A, 6B and 6C. Pass-by volumes are shown in Figure 7.



OUTER LEG TRIP DISTRIBUTION

FIGURE 5

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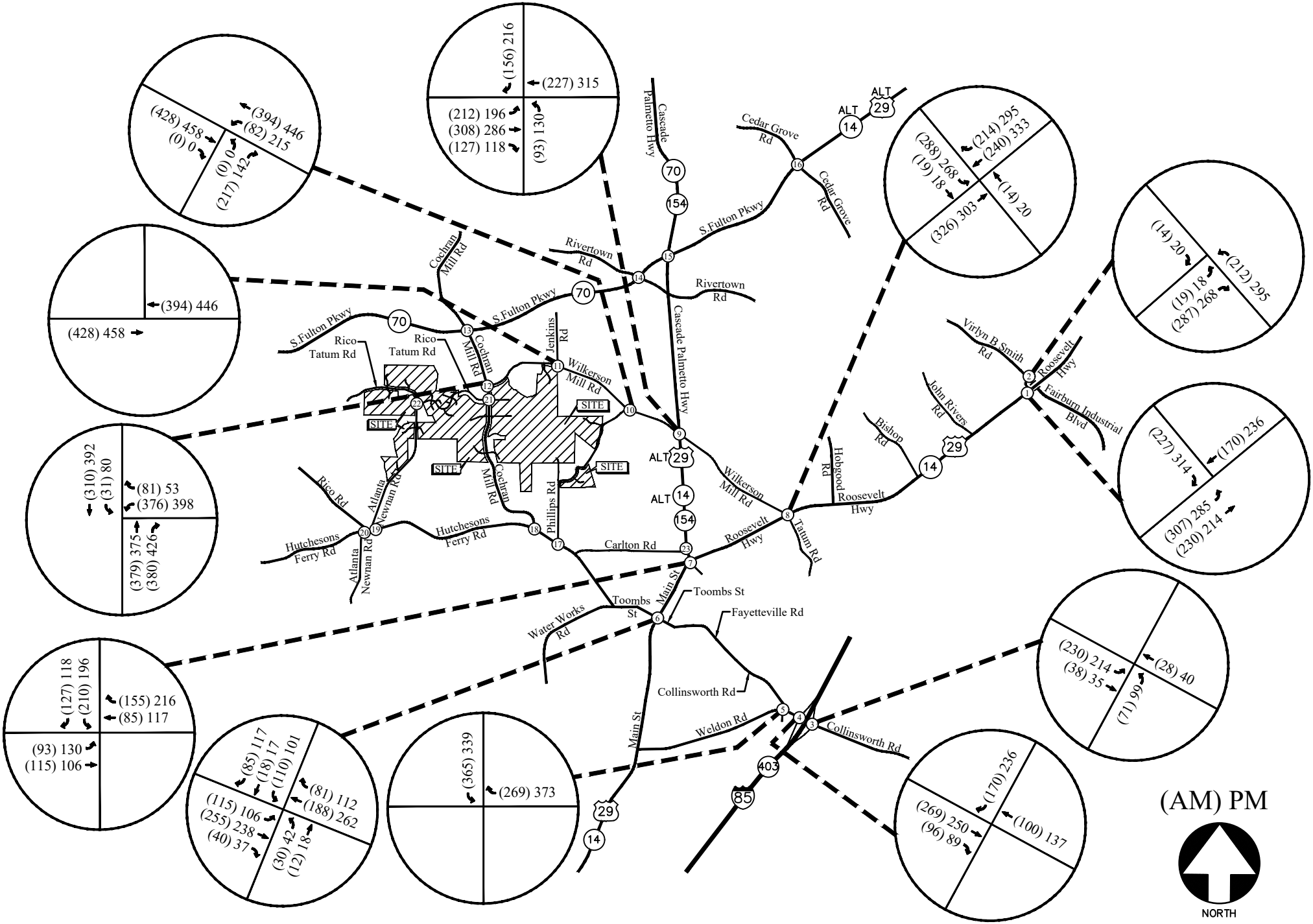

SITE-GENERATED WEEKDAY PEAK HOUR VOLUMES 1 OF 3

FIGURE 6A

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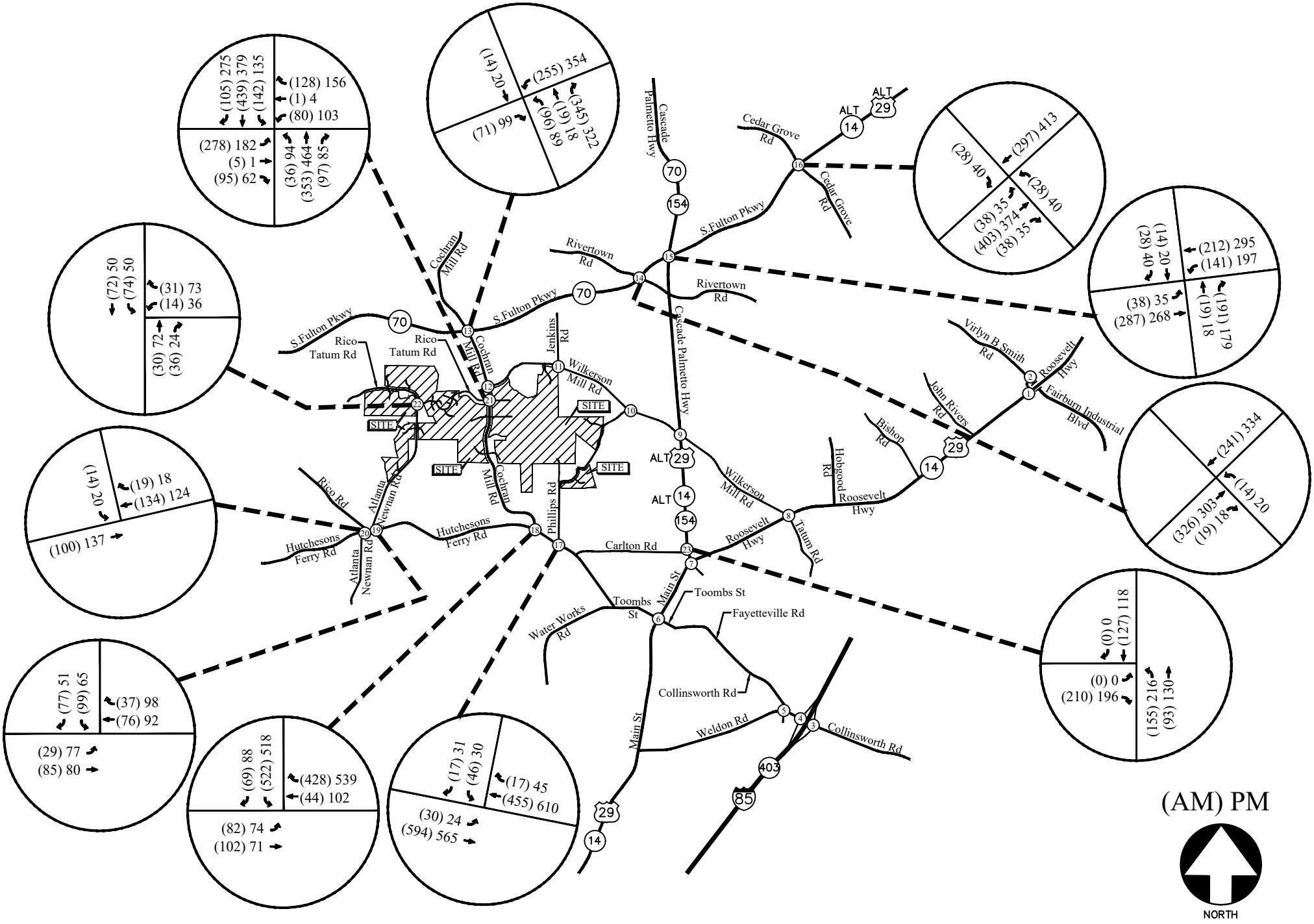
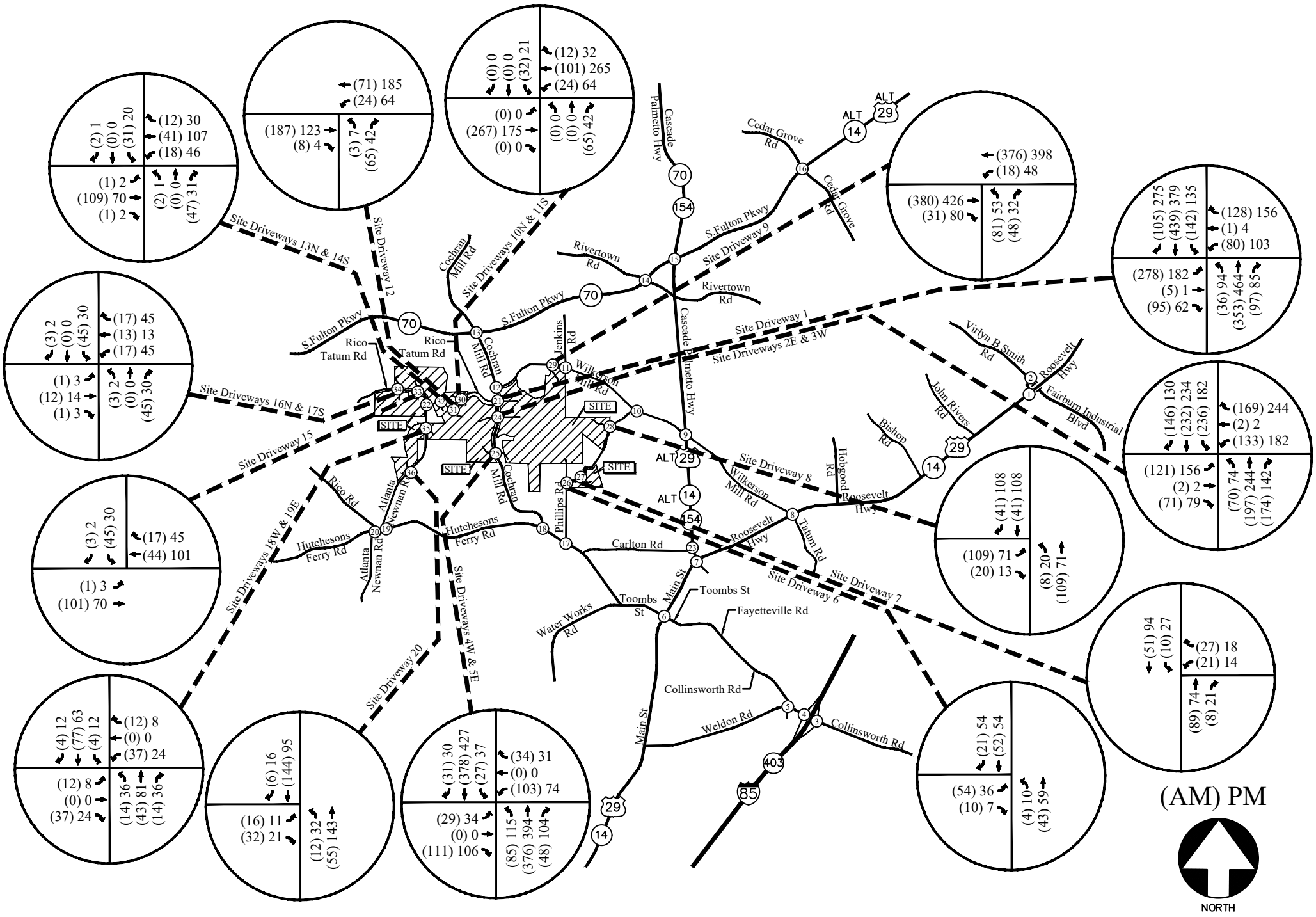


SITE-GENERATED WEEKDAY PEAK HOUR VOLUMES 2 OF 3

FIGURE 6B

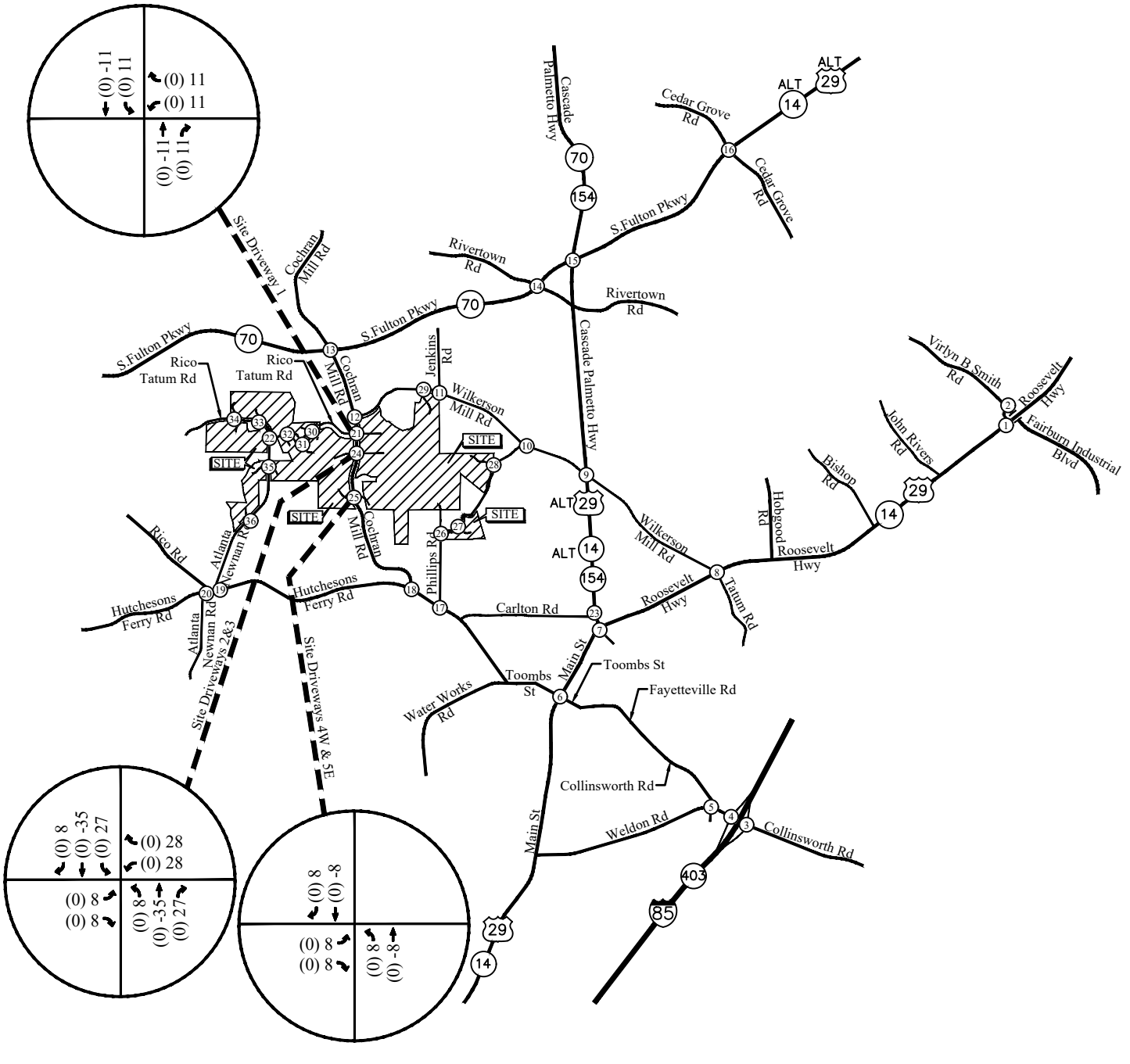
A&R Engineering Inc.



SITE-GENERATED WEEKDAY PEAK HOUR VOLUMES 3 OF 3

FIGURE 6C

A&R Engineering Inc.



WEEKDAY PEAK HOUR PASS-BY VOLUMES

FIGURE 7

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FUTURE 2032 TRAFFIC ANALYSIS

The future 2032 traffic operations are analyzed for the "Build" and "No-Build" conditions. This provides a basis of reference for determining both the contribution of the site to overall traffic conditions and the additional improvements needed to provide sufficient site access and capacity for passing traffic. Note that survey and construction drawings would be needed to verify the feasibility and extent of additional right-of-way required for any recommended improvements.

Improvements that are identified as "System Improvements" address deficiencies that are found within the existing road network prior to any impacts from the proposed development's added traffic. Improvements that are identified as "Site Mitigation Improvements" address further impacts that are a result of the proposed development's added traffic.

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 and due to other planned developments in the area. The Future "No-Build" volumes consist of the existing traffic volumes (Figures 2A and 2B) plus increases for annual growth of traffic and traffic from other planned developments.

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 (2017-2019) years revealed growth of approximately 2.8% in the area. This growth factor was applied to the existing traffic volumes to estimate the future year traffic volumes prior to the addition of site-generated traffic.

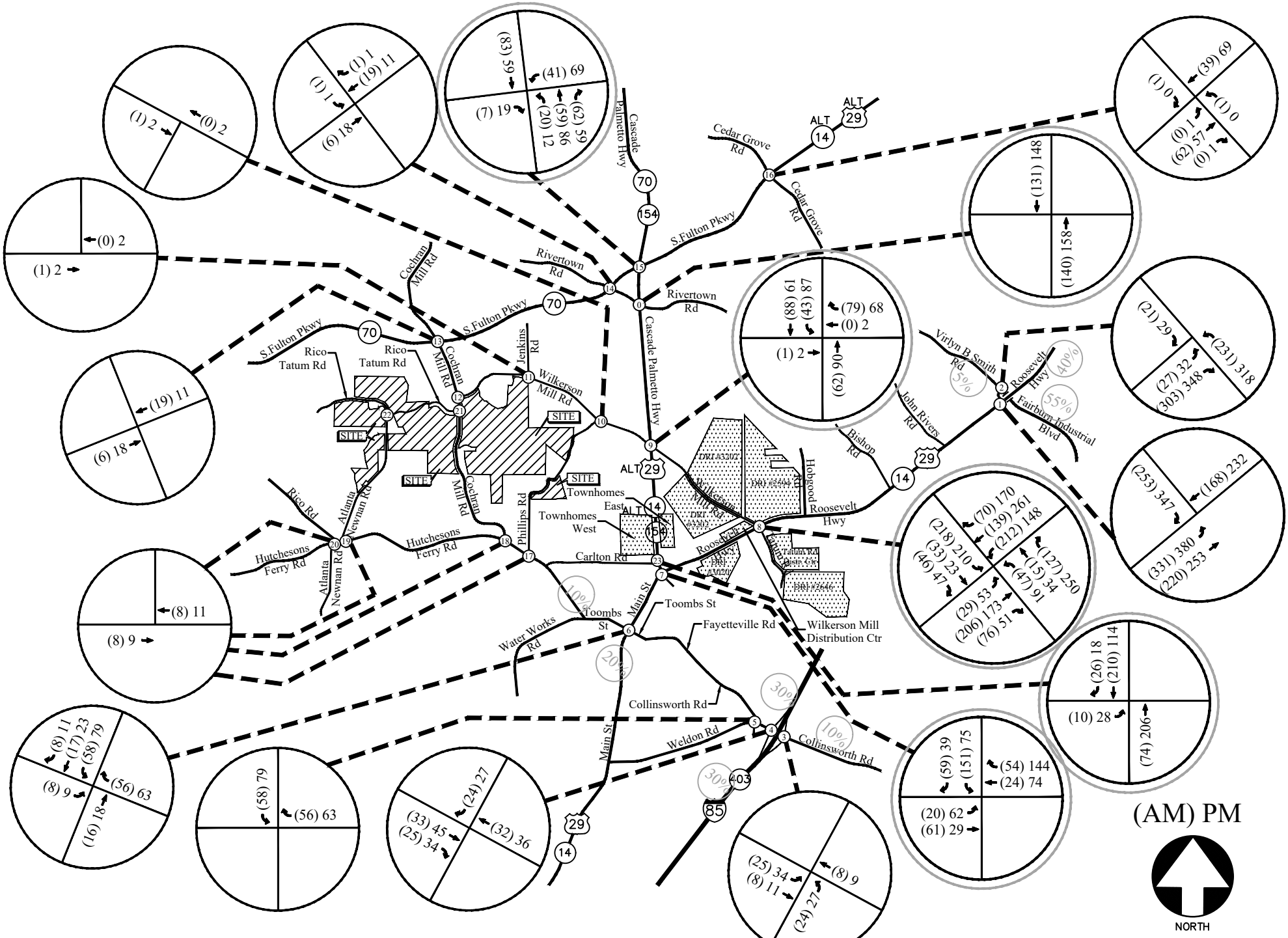
Nearby Planned Developments

There are 8 planned developments in the vicinity of the proposed Merrill Park site near the intersection of SR 14/US 29 (Main Street/Roosevelt Highway) and Wilkerson Mill Road:

1. Palmetto Distribution Center DRI #2594
2. Saben Tatum Road Industrial Development DRI #2646
3. Palmetto Site DRI DRI #3020
4. Tatum Road Distribution Center
5. Wilkerson Mill Road Distribution Center
6. Palmetto Downs DRI #3202
7. Townhomes West
8. Townhomes East

Figure 7-- 8 planned nearby developments

The site-generated trips from each of these developments were obtained from the DRI 3202 Palmetto Downs study dated March 2021. The total trips from all the 8 projects at the study intersections are shown in Figure 8. These volumes were added to the future year traffic volumes prior to the addition of Merrill Park-generated traffic. The resulting Future "No-Build" volumes on the roadway are shown in Figures 9A and 9B.



NEARBY DEVELOPMENTS' PEAK HOUR VOLUMES

FIGURE 8

Data from DRI 3202 Palmetto Downs Study

Other DRI Traffic coming through Study Network

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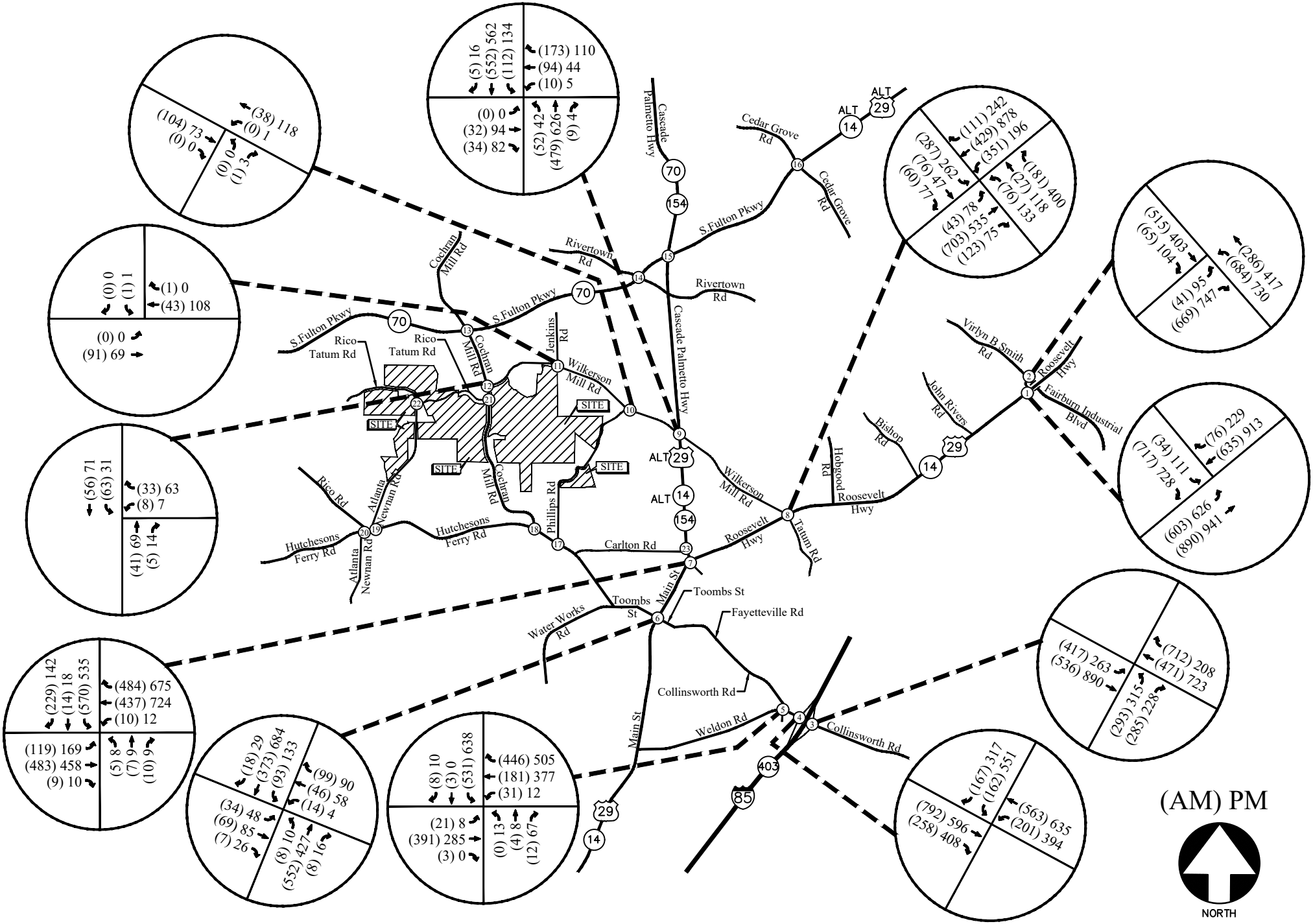

FUTURE (NO-BUILD) WEEKDAY PEAK HOUR VOLUMES 1 OF 2

FIGURE 9A

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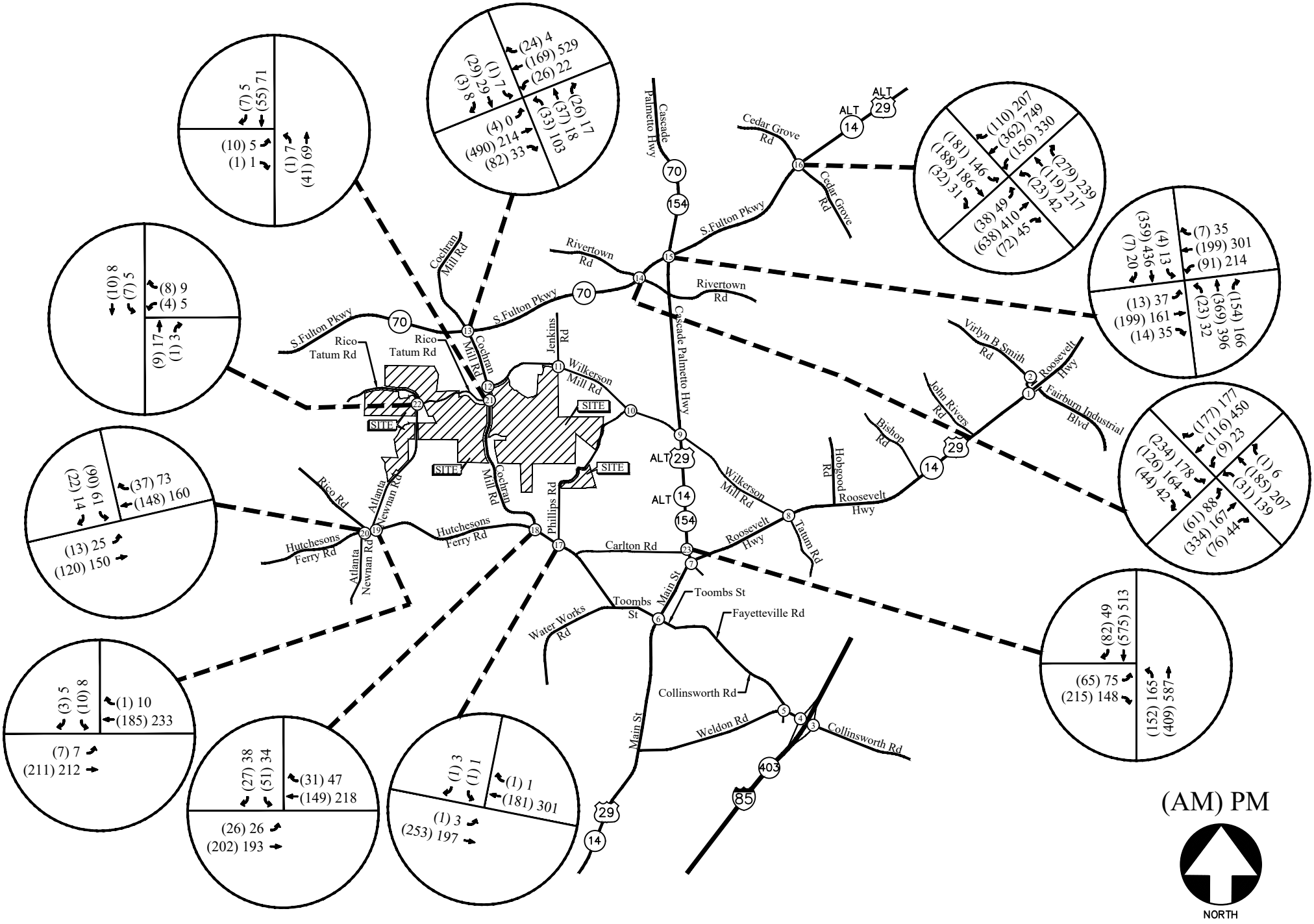

FUTURE (NO-BUILD) WEEKDAY PEAK HOUR VOLUMES 2 OF 2

FIGURE 9B

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Planned and Programmed Improvements in Study Area

TABLE 5 – PLANNED AND PROGRAMMED IMPROVEMENTS								
Item #	Project Name	From / To Points:	Sponsor	GDOT PI #	ARC ID # (TIP)	Design FY	ROW / UTL FY	CST FY
1	South Fulton Scenic Byway Multi-use Trail	From Cochran Mill Park to Phillips Road	Chattahoochee Hills	0009643	FS-209		2017	2020
2	Oakley Industrial Boulevard New Alignment	From Oakley Ind Blvd to Creekwood Drive to near Gullatt Road and Cleckler Road	City of Fairburn	N/A	FS-202E	2026-2030		
3	Fayette County Resurfacing Program	Tryone Road	Fayette County	0016083	FA-100B			2020
4	I-85 South Interchange Improvements at SR 74	At interchange (adding turn lanes at the ends of the exit ramps and widening SR 74 bridge)	City of Fairburn	0007841	FS-AR-182	2021	2019	2022
5	I-85 South Interchange Improvements at SR 138	I-85 South at SR 138 (adding turn lanes at exit ramps and widening of SR 138 bridge to include turn lanes)	GDOT	0007842	FS-AR-183	2019	2021	2026-2030

The I-85 South Interstate improvement projects at SR 74 and SR 138 will interact with 2 of the proposed study intersections. None of the above projects affect the study intersections.

Future "No-Build" Traffic Operations

The future "No-Build" traffic operations were analyzed using the volumes in Figures 9A and 9B and the results are shown in Table 6.

TABLE 6 – FUTURE "NO-BUILD" INTERSECTION OPERATIONS

Intersection		Intersection			
		NO IMPROVEMENTS		SYSTEM IMPROVEMENTS	
		AM Peak	PM Peak	AM Peak	PM Peak
1	**SR 14 @ SR 14 - Fairburn Industrial Blvd Connector Ramp**	C (18.3)	F (54.2)	**B (11.3)**	**B (14.0)**
	-Eastbound Left (*Approach*)	-	-	A (9.3)	B (11.2)
	-*Westbound Approach*	F (*)	F (*)	A (15.4)	B (16.4)
	-Southbound Approach			C (20.3)	C (33.5)
2	**Fairburn Industrial Blvd @ SR 14 - Fairburn Industrial Blvd Connector Ramp**			**B (17.9)**	**B (16.3)**
	-Eastbound Approach	F (*)	F (*)	D (35.8)	C (33.6)
	-Northbound Left (*Approach*)	C (22.7)	C (16.4)	B (16.4)	B (13.6)
	-*Southbound Approach*	-	-	B (19.1)	B (18.9)
3	**Collinsworth Road @ I-85 NB Ramps**	**C (27.7)**	**C (25.0)**	**C (22.8)**	**B (17.1)**
	-Eastbound Approach	B (18.8)	B (15.5)	B (18.6)	A (9.6)
	-Westbound Approach	B (19.9)	C (20.8)	B (14.7)	B (15.2)
	-Northbound Approach	E (69.2)	E (69.4)	D (49.2)	D (49.3)
4	**Collinsworth Road @ I-85 SB Ramps**	**A (6.5)**	**C (32.0)**	**B (10.5)**	**C (21.0)**
	-Eastbound Approach	A (1.0)	D (37.9)	B (10.5)	C (21.0)
	-Westbound Approach	A (1.0)	B (13.8)	A (2.4)	A (5.8)
	-Southbound Approach	E (59.1)	E (59.5)	D (48.5)	D (49.5)
5A	**Collinsworth Road @ Weldon Road (Without Realignment)**	**D (38.3)**	**F (114.3)**		
	-Eastbound Approach	D (44.0)	C (33.4)		
	-Westbound Approach	C (28.0)	F (129.0)	*Reported in row 5B due to lane realignment configuration*	
	-Northbound Approach	B (18.6)	C (21.6)		
	-Southbound Approach	D (47.0)	F (143.3)		
5B	**Collinsworth Road @ Weldon Road (With Realignment)**			**A (7.0)**	**A (7.7)**
	-Eastbound Approach	*Reported in row 5A*		C (20.3)	A (25.6)
	-Northbound Approach (Collinsworth Rd.)			-	-
	-Southbound Approach			A (4.1)	A (4.6)
				A (9.9)	A (11.5)
6	**SR 14 @ Toombs Street/Fayetteville Road**	**B (14.9)**	**B (17.0)**	**A (7.7)**	**A (8.6)**
	-Eastbound Approach	D (51.8)	E (56.3)	B (15.2)	C (22.7)
	-Westbound Approach	E (55.6)	D (52.4)	B (15.6)	C (21.8)
	-Northbound Approach	A (4.9)	A (4.8)	A (6.3)	A (4.4)
	-Southbound Approach	A (4.9)	A (9.9)	A (5.1)	A (5.8)
7	**SR 14 @ SR 154 (Cascade Palmetto Hwy)**	**D (38.0)**	**E (65.4)**	**C (24.2)**	**C (25.2)**
	-Eastbound Approach	C (33.8)	D (38.4)	A (7.9)	A (8.3)
	-Westbound Approach	D (40.2)	F (103.1)	B (12.4)	B (16.6)
	-*Northbound Approach*	B (18.0)	C (20.6)	-	-
	-Southbound Approach	D (41.4)	D (47.9)	D (50.5)	E (56.7)

TABLE 6 – FUTURE "NO-BUILD" INTERSECTION OPERATIONS (CONTINUED)					
	Intersection	**Intersection**			
		NO IMPROVEMENTS		SYSTEM IMPROVEMENTS	
		AM Peak	PM Peak	AM Peak	PM Peak
8	**SR 14 @ Wilkerson Mill Road/Tatum Road**			**C (21.0)**	**B (17.6)**
	-Eastbound Left (*Approach*)	A (8.5)	B (10.5)	C (23.9)	C (20.4)
	-Westbound Left *(Approach*)	B (13.3)	A (9.5)	B (12.6)	B (12.5)
	-Northbound Approach	F (*)	F (*)	C (32.4)	C (24.3)
	-Southbound Approach	F (*)	F (*)	C (30.1)	C (24.5)
9	**SR 154 (Cascade Palmetto Hwy) @ Wilkerson Mill Road**			**B (11.8)**	**B (12.1)**
	-Eastbound Approach	F (*)	F (275.3)	B (18.0)	C (24.8)
	-Westbound Approach	F (*)	F (*)	C (20.7)	C (21.4)
	-Northbound Left (*Approach*)	A (8.9)	A (8.8)	B (13.8)	B (13.8)
	-Southbound Left (*Approach*)	A (8.9)	A (9.5)	A (6.0)	A (5.3)
10	**Wilkerson Mill Road @ Phillips Road**				
	-Westbound Left	A (0.0)	A (7.4)	A (0.0)	A (7.4)
	-Northbound Approach	A (8.9)	A (8.8)	A (8.9)	A (8.8)
11	**Wilkerson Mill Road @ Jenkins Road**				
	-Eastbound Left	A (0.0)	A (0.0)	A (0.0)	A (0.0)
	-Southbound Approach	A (9.2)	A (9.6)	A (9.2)	A (9.6)
12	**Cochran Mill Road @ Wilkerson Mill Road**				
	-Westbound Approach	A (9.1)	A (9.2)	A (9.1)	A (9.2)
	-Southbound Left	A (7.5)	A (7.5)	A (7.5)	A (7.5)
13	**SR 70 (South Fulton Pkwy) @ Cochran Mill Road**	A (7.6)	A (0.0)	A (7.6)	A (0.0)
	-Eastbound Left	A (8.6)	A (7.7)	A (8.6)	A (7.7)
	-Westbound Left	C (17.4)	D (30.8)	C (17.4)	D (30.8)
	-Northbound Approach	C (16.9)	C (17.1)	C (16.9)	C (17.1)
	-Southbound Approach				
14	**SR 70 (South Fulton Pkwy) @ Rivertown Road**			**C (23.3)**	**C (30.9)**
	-Eastbound Approach	F (104.0)	F (*)	B (13.1)	C (22.1)
	-Westbound Approach	E (40.8)	F (*)	B (11.7)	C (26.4)
	-Northbound Left (*Approach)*	A (7.6)	A (8.6)	C (33.1)	C (28.0)
	-Southbound Left (*Approach*)	A (8.1)	A (7.6)	D (41.6)	D (42.1)
15	**SR 70 (South Fulton Pkwy) @ SR 154 (Cascade Palmetto Hwy)**	**D (36.2)**	**D (39.8)**	**D (36.2)**	**D (39.8)**
	-Eastbound Approach	C (23.5)	D (36.0)	C (23.5)	D (35.8)
	-Westbound Approach	C (32.1)	D (38.0)	C (32.1)	D (38.0)
	-Northbound Approach	D (45.5)	D (46.8)	D (45.5)	D (46.8)
	-Southbound Approach	C (33.0)	C (34.4)	C (33.0)	C (34.4)
16	**South Fulton Pkwy @ Cedar Grove Road**	**D (36.6)**	**D (36.9)**	**C (30.9)**	**C (28.8)**
	-Eastbound Approach	C (31.9)	D (35.5)	C (25.3)	C (22.8)
	-Westbound Approach	C (24.2)	C (28.4)	B (19.4)	B (18.0)
	-Northbound Approach	E (60.4)	E (59.0)	D (51.6)	D (49.7)
	-Southbound Approach	D (35.6)	C (33.7)	C (33.3)	D (40.0)
17	**Hutchesons Ferry Road @ Phillips Road**				
	-Eastbound Left	A (7.6)	A (7.9)	A (7.6)	A (7.9)
	-Southbound Approach	B (10.4)	B (10.6)	B (10.4)	B (10.6)

TABLE 6 – FUTURE "NO-BUILD" INTERSECTION OPERATIONS (CONTINUED)					
Intersection		**Intersection**			
		NO IMPROVEMENTS		SYSTEM IMPROVEMENTS	
		AM Peak	PM Peak	AM Peak	PM Peak
18	**Hutchesons Ferry Road @ Cochran Mill Road** -Eastbound Left -Southbound Approach	 A (7.7) B (11.5)	 A (7.9) B (11.5)	 A (7.7) B (11.5)	 A (7.9) B (11.5)
19	**Hutchesons Ferry Road @ Atlanta Newnan Road** -Eastbound Left -Southbound Approach	 A (7.7) B (11.5)	 A (7.8) B (11.2)	 A (7.7) B (11.5)	 A (7.8) B (11.2)
20	**Hutchesons Ferry Road @ Rico Road** -Eastbound Left -Southbound Approach	 A (7.7) B (12.5)	 A (7.8) B (12.0)	 A (7.7) B (12.5)	 A (7.8) B (12.0)
21	**Cochran Mill Road @ Rico Tatum Road** -Eastbound Approach -Northbound Left	 A (9.2) A (7.4)	 A (9.4) A (7.4)	 A (9.2) A (7.4)	 A (9.4) A (7.4)
22	**Atlanta Newnan Road @ Rico Tatum Road** -Westbound Approach -Southbound Left	 A (8.5) A (7.3)	 A (8.6) A (7.3)	 A (8.5) A (7.3)	 A (8.6) A (7.3)
23	**SR 154 (Cascade Palmetto Hwy) @ Carlton Road**** -Eastbound Approach -Northbound Left (*Approach*) *-Southbound Approach*	 F (191.4) B (10.2) -	 F (299.0) A (9.8) -	**B (17.8)** C (31.5) B (13.1) B (16.0)	**B (15.6)** C (32.5) B (11.0) B (15.1)

* Delay exceeds 300 seconds

** HCM 2000 results in future conditions for High-T intersection

The results of future "No-Build" traffic operations show that the following intersections have LOS "E" or "F" for one or more approaches:

- SR 14/US 29 (Roosevelt Highway) @ SR 14 - Fairburn Industrial Boulevard Connector Ramp
- Fairburn Industrial Boulevard @ SR 14 - Fairburn Industrial Boulevard Connector Ramp
- Collinsworth Road @ I-85 Northbound Ramps
- Collinsworth Road @ I-85 Southbound Ramps
- Collinsworth Road @ Weldon Road
- SR 14/US 29 (Main Street) @ Toombs Street/Fayetteville Road
- SR 14/US 29 (Main Street/Roosevelt Highway) @ SR 154 (Cascade Palmetto Highway)
- SR 14/US 29 (Roosevelt Highway) @ Wilkerson Mill Road/Tatum Road
- SR 154 (Cascade Palmetto Highway) @ Wilkerson Mill Road
- SR 70 (South Fulton Parkway) @ Rivertown Road
- South Fulton Parkway @ Cedar Grove Road
- SR 154 (Cascade Palmetto Highway) @ Carlton Road

Following system improvements are identified to improve the traffic operations at the above intersections.

SR 14/US 29 (Roosevelt Highway) @ SR 14 - Fairburn Industrial Boulevard Connector Ramp

- Installation of a traffic signal
- Addition of an eastbound left turn lane on SR 8/US 29 (Roosevelt Highway) to create dual left turn lanes with "protected" signal phasing
- Addition of a southbound right turn lane on connector ramp creating separate left and right turn lanes

Fairburn Industrial Boulevard @ SR 14 - Fairburn Industrial Boulevard Connector Ramp

- Installation of a traffic signal
- Addition of a northbound left turn lane on Fairburn Industrial Boulevard to create dual left turn lanes with "protected" phasing
- Addition of an eastbound right turn lane on connector ramp creating separate left and right turn lanes

Collinsworth Road @ I-85 Northbound Ramps

- Addition of an eastbound left turn lane on Collinsworth Road to create dual left turn lanes
- Change "protected + permissive" signal phasing to "protected" signal phasing for eastbound left turns
- Add a left turn lane on I-85 northbound off-ramp to create dual left turn lanes

Collinsworth Road @ I-85 Southbound Ramps

- Addition of a second westbound through lane on Collinsworth Road and carry the lanes to the Weldon Road intersection

Collinsworth Road @ Weldon Road

- Realign the SBS warehouse driveway to tie into Weldon Road to the west of the study intersection and signalize it
- Realign Collinsworth Road legs to become the through movement and Weldon Road to be the side street
- Addition of a second southbound through lane on Collinsworth Road
- Collinsworth Road northbound approach to have a left turn lane and a through lane
- Weldon Road to have a separate left turn lane and a channelized right turn lane

SR 14/US 29 (Main Street) @ Toombs Street/Fayetteville Road

- Addition of an eastbound left turn lane on Toombs Street
- Addition of a westbound right turn lane on Fayette Road

SR 14/US 29 (Main Street/Roosevelt Highway) @ SR 154 (Cascade Palmetto Highway)

- Remove northbound leg to the Church and add a northbound right-in/right-out access to the Church on SR 14/US 29. The Church has an existing full access driveway on a secondary street.
- Addition of a southbound left turn lane on SR 154 (Cascade Palmetto Highway) to create dual left turn lanes with "protected" signal phasing

- Addition a second receiving lane on the westbound leg of SR 14/US 29 (Roosevelt Highway) for the southbound dual left turn lanes
- Addition of a southbound right turn lane on SR 154 (Cascade Palmetto Highway)

SR 14/US 29 (Roosevelt Highway) @ Wilkerson Mill Road/Tatum Road

- Installation of a traffic signal
- Add southbound dual left turn lanes on Wilkerson Mill Road with "protected" signal phasing
- Add northbound left and right turn lanes on Tatum Road
- Provide "protected + permissive" phasing for westbound left turn movements on SR 14/US 29 (Roosevelt Highway)

SR 154 (Cascade Palmetto Highway) @ Wilkerson Mill Road

- Installation of a traffic signal
- Addition of a westbound right turn lane on Wilkerson Mill Road
- Addition of a southbound left turn lane on SR 154 (Cascade Palmetto Highway) with "protected + permissive" signal phasing

SR 70 (South Fulton Parkway) @ Rivertown Road

- Installation of a traffic signal

South Fulton Parkway @ Cedar Grove Road

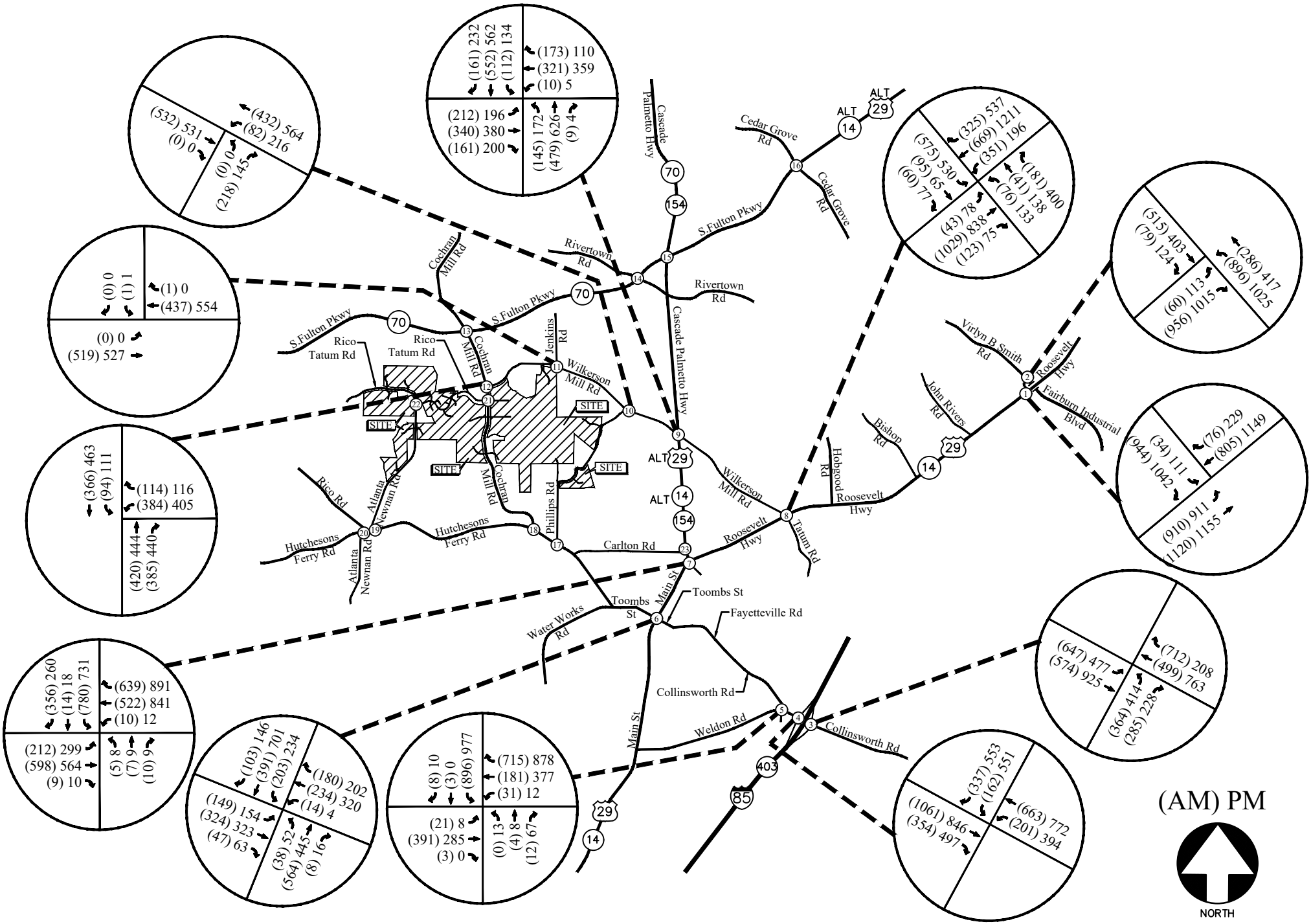
- Addition of a northbound right turn lane on Cedar Grove Road

SR 154 (Cascade Palmetto Highway) @ Carlton Road

- Reconfigure the intersection to be a signalized High T-intersection (northbound through traffic would be free flow)
- Addition of a northbound left turn lane on SR 154 (Cascade Palmetto Highway)
- Install a raised median on SR 154 (Cascade Palmetto Highway) to separate the northbound through and left turn lanes
- Add a channelized eastbound right turn lane on Carlton Road

Future "Build" Conditions

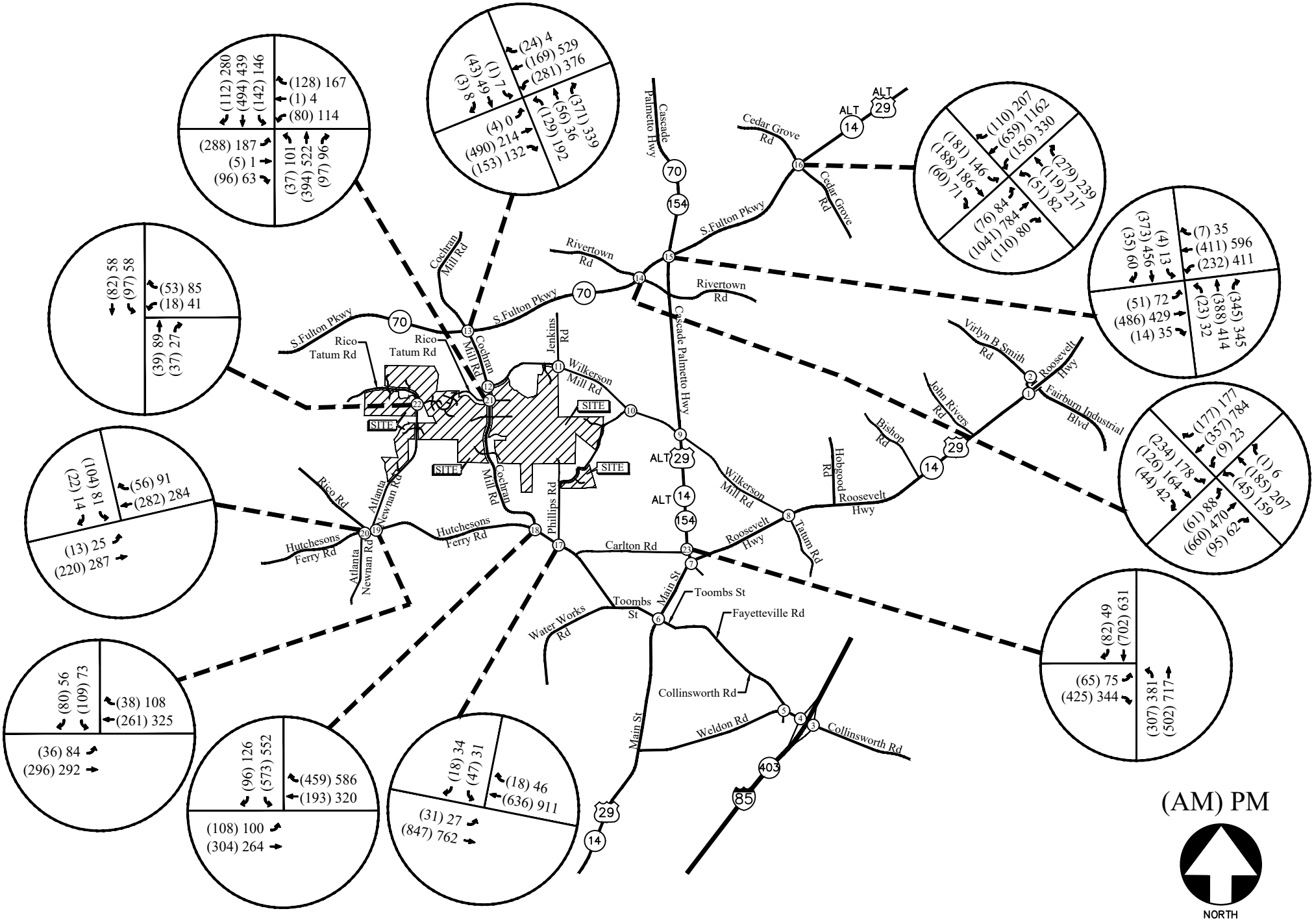
The "Build" or development conditions include the estimated background traffic from the "No-Build" conditions plus the added traffic from the proposed development. In order to evaluate future traffic operations in this area, the additional traffic volumes from the site (Figures 6A, 6B and 6C) and pass-by volumes (Figure 7) were added to base traffic volumes (Figure 9A and 9B) to calculate the future traffic volumes after the construction of the development. These total future traffic volumes are shown in Figures 10A, 10B and 10C.



FUTURE (BUILD) WEEKDAY PEAK HOUR VOLUMES 1 OF 3

FIGURE 10A

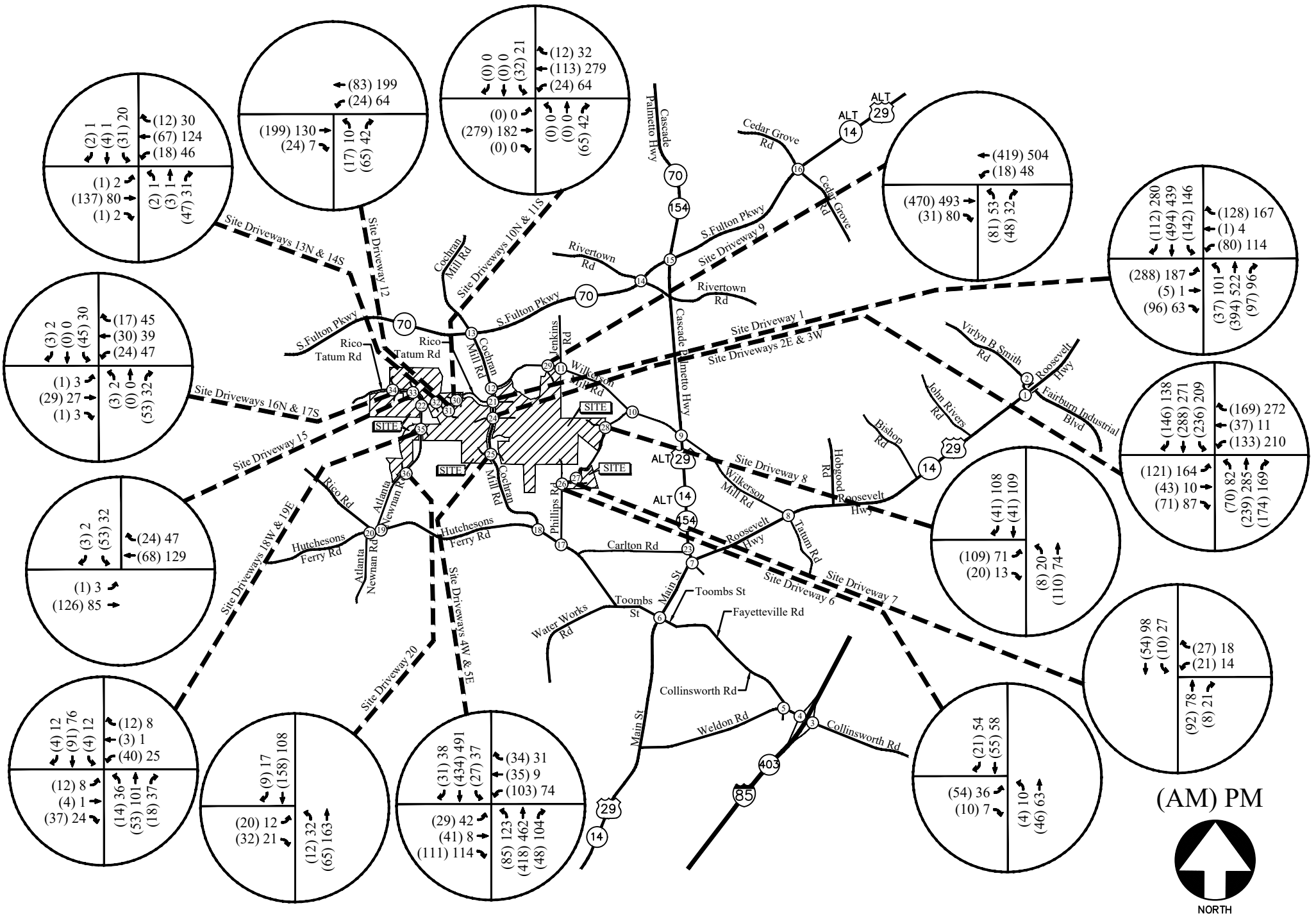
A&R Engineering Inc.



FUTURE (BUILD) WEEKDAY PEAK HOUR VOLUMES 2 OF 3

FIGURE 10B

A&R Engineering Inc.



FUTURE (BUILD) WEEKDAY PEAK HOUR VOLUMES 3 OF 3

FIGURE 10C

A&R Engineering Inc.

Future "Build" Traffic Operations

The future "Build" traffic operations were analyzed using the volumes in Figures 10A, 10B and 10C. The results of the future "Build" traffic operations analysis are shown in Table 7.

TABLE 7 – FUTURE "BUILD" INTERSECTION OPERATIONS

	Intersection	Build Condition: LOS (Delay)					
		NO IMPROVEMENTS		SYSTEM IMPROVEMENTS ONLY		SYSTEM AND SITE IMPROVEMENTS	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
1	**SR 14 @ SR 14 - Fairburn Industrial Blvd Connector Ramp** -Eastbound Left *(Approach)* *-Westbound Approach* -Southbound Approach	F (148.4) - F (*)	F (*) - F (*)	**B (14.7)** B (12.4) B (19.9) C (28.5)	**C (26.8)** C (27.6) C (23.7) D (44.2)	**B (13.4)** B (11.5) B (17.3) C (34.0)	**C (26.2)** C (26.4) C (24.3) D (43.8)
2	**Fairburn Industrial Blvd @ SR 14 - Fairburn Industrial Blvd Connector Ramp** -Eastbound Approach -Northbound Left *(Approach)* *- Southbound Approach*	F (*) F (71.5) -	F (*) F (52.1) -	**C (26.4)** D (48.0) C (24.8) C (27.4)	**C (24.4)** D (40.0) C (22.3) C (26.7)	**C (26.8)** D (47.0) C (21.7) D (35.0)	**C (23.9)** D (41.5) B (19.9) C (30.9)
3	**Collinsworth Road @ I-85 NB Ramps** -Eastbound Approach -Westbound Approach -Northbound Approach	**E (66.2)** D (54.4) E (61.4) F (112.5)	**E (68.1)** E (55.2) E (63.5) F (120.4)	**C (24.8)** B (17.2) C (23.3) D (52.3)	**C (23.5)** B (13.1) C (26.2) D (53.8)	**C (24.8)** B (17.2) C (23.3) D (52.3)	**C (23.5)** B (13.1) C (26.2) D (53.8)
4	**Collinsworth Road @ I-85 SB Ramps** -Eastbound Approach -Westbound Approach -Southbound Approach	**A (5.3)** A (0.8) A (0.7) E (59.1)	**B (18.0)** A (5.7) A (8.0) E (58.2)	**B (16.0)** B (18.9) A (6.3) D (48.5)	**D (35.4)** D (39.8) C (25.6) D (49.5)	**B (16.0)** B (18.9) A (6.3) D (48.5)	**D (35.4)** D (39.8) C (25.6) D (49.5)
5A	**Collinsworth Road @ Weldon Road (Without Realignment)** -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	**F (210.6)** F (152.6) F (114.8) C (22.1) F (*)	**F (295.3)** D (36.6) F (*) B (19.2) F (*)	*Reported in row 5B due to lane realignment configuration*			
5B	**Collinsworth Road @ Weldon Road (With Realignment)** -Eastbound Approach -Northbound Approach (Collinsworth Rd.) -Southbound Approach	*Reported in row 5A*	**A (7.2)** C (24.5) A (4.4) A (9.6)	**A (8.2)** C (29.8) A (5.7) B (11.2)	**A (7.3)** C (24.6) A (4.5) A (9.7)	**A (8.2)** C (29.8) A (5.7) B (11.2)	

TABLE 7 – FUTURE "BUILD" INTERSECTION OPERATIONS (CONTINUED)

	Intersection	Build Condition: LOS (Delay)					
		NO IMPROVEMENTS		SYSTEM IMPROVEMENTS ONLY		SYSTEM AND SITE IMPROVEMENTS	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
6	**SR 14 @ Toombs Street/Fayetteville Road**	**F (119.0)**	**F (239.7)**	**B (19.8)**	**D (41.7)**	**B (16.9)**	**C (34.2)**
	-Eastbound Approach	F (164.3)	F (*)	D (36.3)	D (53.5)	C (23.7)	D (41.4)
	-Westbound Approach	C (33.0)	D (39.7)	B (20.8)	C (31.3)	B (20.0)	C (31.8)
	-Northbound Approach	C (26.5)	C (24.8)	B (12.9)	C (32.9)	B (13.3)	C (26.2)
	-Southbound Approach	F (219.0)	F (*)	B (12.9)	D (45.1)	B (13.2)	D (35.6)
7	**SR 14 @ SR 154 (Cascade Palmetto Hwy)**	**F (98.1)**	**F (156.0)**	**C (28.5)**	**D (47.4)**	**C (28.2)**	**D (47.4)**
	-Eastbound Approach	F (101.2)	F (100.8)	B (13.7)	C (34.9)	B (13.8)	C (34.9)
	-Westbound Approach	F (134.1)	F (253.7)	C (21.6)	D (54.2)	C (21.9)	D (54.2)
	-Northbound Approach	B (13.5)	B (18.7)	-	-	-	-
	-Southbound Approach	E (73.3)	F (112.8)	D (48.1)	D (54.2)	D (47.2)	D (54.2)
8	**SR 14 @ Wilkerson Mill Road/Tatum Road**			**D (47.8)**	**C (28.1)**		
	-Eastbound Left *(Approach)*	A (9.5)	B (12.7)	D (54.0)	C (26.8)		
	-Westbound Left *(Approach)*	C (21.8)	B (11.4)	D (37.2)	B (18.6)		
	-Northbound Approach	F (*)	F (*)	D (52.3)	D (42.1)		
	-Southbound Approach	F (*)	F (*)	D (53.4)	D (46.4)		
9	**SR 154 (Cascade Palmetto Hwy) @ Wilkerson Mill Road**			**F (*)**	**F (*)**	**C (25.8)**	**C (30.6)**
	-Eastbound Approach	F (*)	F (*)	F (*)	F (*)	C (25.7)	C (34.2)
	-Westbound Approach	F (*)	F (*)	D (54.9)	E (77.6)	C (34.5)	D (39.2)
	-Northbound Left *(Approach)*	B (10.2)	B (10.6)	C (31.7)	F (88.8)	C (29.4)	D (36.8)
	-Southbound Left *(Approach)*	A (8.9)	A (9.5)	A (8.5)	A (8.9)	B (17.8)	B (17.9)
10	**Wilkerson Mill Road @ Phillips Road**						
	-Westbound Left	A (9.2)	B (10.7)	A (9.2)	B (10.7)	A (9.2)	B (10.7)
	-Northbound Approach	C (20.5)	C (18.5)	C (20.5)	C (18.5)	C (20.5)	C (18.5)
11	**Wilkerson Mill Road @ Jenkins Road**						
	-Eastbound Left	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
	-Southbound Approach	C (18.3)	C (23.5)	C (18.3)	C (23.5)	C (18.3)	C (23.5)
12	**Cochran Mill Road @ Wilkerson Mill Road**	F (*)	F (*)	F (*)	F (*)	**B (13.1)**	**B (19.6)**
	-Westbound Approach	-	-	-	-	B (16.7)	D (50.1)
	-*Northbound Approach*	B (11.3)	B (11.2)	B (11.3)	B (11.2)	B (11.5)	A (8.5)
	-Southbound Left *(Approach)*					B (11.9)	A (9.0)
13	**SR 70 (South Fulton Pkwy) @ Cochran Mill Road**					**B (13.3)**	**B (12.0)**
	-Eastbound Left *(Approach)*	A (7.6)	A (0.0)	A (7.6)	A (0.0)	B (16.4)	B (19.5)
	-Westbound Left *(Approach*	A (10.0)	A (8.9)	A (10.0)	A (8.9)	A (6.2)	A (8.8)
	-Northbound Approach	F (*)	F (*)	F (*)	F (*)	C (21.3)	D (17.0)
	-Southbound Approach	F (90.6)	F (*)	F (90.6)	F (*)	B (18.2)	B (14.1)

TABLE 7 – FUTURE "BUILD" INTERSECTION OPERATIONS (CONTINUED)

	Intersection	Build Condition: LOS (Delay)					
		NO IMPROVEMENTS		SYSTEM IMPROVEMENTS ONLY		SYSTEM AND SITE IMPROVEMENTS	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
14	**SR 70 (South Fulton Pkwy) @ Rivertown Road**			**C (25.6)**	**D (38.0)**	**C (26.7)**	**D (38.3)**
	-Eastbound Approach	F (*)	F (*)	C (21.8)	C (29.8)	D (41.3)	C (36.5)
	-Westbound Approach	F (*)	F (*)	B (19.1)	D (41.0)	C (34.9)	E (35.8)
	-Northbound Left *(Approach)*	A (8.3)	A (9.9)	C (27.4)	C (24.9)	B (12.9)	B (17.4)
	-Southbound Left *(Approach)*	A (9.2)	A (8.4)	C (29.9)	D (49.3)	C (34.3)	D (41.2)
15	**SR 70 (South Fulton Pkwy) @ SR 154 (Cascade Palmetto Hwy)**	**D (45.1)**	**E (55.0)**			**C (33.1)**	**D (41.4)**
	-Eastbound Approach	D (49.9)	E (61.5)	-	-	B (13.8)	D (44.6)
	-Westbound Approach	D (47.6)	D (50.3)	-	-	C (32.5)	D (45.1)
	-Northbound Approach	D (52.2)	E (74.5)	-	-	D (42.0)	C (34.5)
	-Southbound Approach	C (22.0)	C (28.9)	-	-	D (43.1)	D (41.8)
16	**South Fulton Pkwy @ Cedar Grove Road**	**D (41.5)**	**D (46.8)**	**C (33.2)**	**C (31.6)**	**C (31.9)**	**C (31.6)**
	-Eastbound Approach	D (40.8)	D (45.1)	C (32.2)	C (27.1)	C (29.1)	C (26.9)
	-Westbound Approach	C (29.9)	D (45.9)	C (24.3)	C (24.7)	C (21.9)	C (24.8)
	-Northbound Approach	E (60.3)	E (60.2)	D (50.6)	D (48.9)	D (51.4)	D (49.1)
	-Southbound Approach	D (45.6)	D (35.6)	C (34.7)	D (43.8)	D (37.4)	D (43.5)
17	**Hutchesons Ferry Road @ Phillips Road**	A (9.1)	B (10.6)	A (9.1)	B (10.6)	A (9.1)	B (10.6)
	-Eastbound Left	F (59.2)	F (71.3)	F (59.2)	F (71.3)	F (53.4)	F (54.0)
	-Southbound Approach						
18	**Hutchesons Ferry Road @ Cochran Mill Road**					**B (14.6)**	**B (17.6)**
	-Eastbound Left (*Approach)*	A (9.6)	B (10.9)	A (9.6)	B (10.9)	B (12.5)	B (12.5)
	-*Westbound Approach*	-	-	-	-	B (15.1)	B (17.7)
	-Southbound Approach	F (*)	F (*)	F (*)	F (*)	B (15.4)	C (20.2)
19	**Hutchesons Ferry Road @ Atlanta Newnan Road**						
	-Eastbound Left	A (8.1)	A (8.6)	A (8.1)	A (8.6)	A (8.1)	A (8.6)
	-Southbound Approach	C (22.6)	C (21.4)	C (22.6)	C (21.4)	C (22.6)	C (21.4)
20	**Hutchesons Ferry Road @ Rico Road**						
	-Eastbound Left	A (8.3)	A (8.2)	A (8.3)	A (8.2)	A (8.3)	A (8.2)
	-Southbound Approach	C (19.2)	C (16.9)	C (19.2)	C (16.9)	C (19.2)	C (16.9)
21	**Cochran Mill Road @ Rico Tatum Road / Site Driveway 1**	*Note: Roundabout proposed by proposed development*				**C (19.8)**	**D (27.1)**
	-Eastbound Approach					B (14.8)	A (8.6)
	-*Westbound Approach*					C (15.1)	C (20.1)
	-Northbound Left (*Approach)*					D (28.3)	D (29.3)
	-*Southbound Approach*					C (17.8)	D (32.9)

TABLE 7 – FUTURE "BUILD" INTERSECTION OPERATIONS (CONTINUED)							
Intersection		Build Condition: LOS (Delay)					
		NO IMPROVEMENTS		SYSTEM IMPROVEMENTS ONLY		SYSTEM AND SITE IMPROVEMENTS	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
22	**Atlanta Newnan Road @ Rico Tatum Road** -Westbound Approach -Southbound Left	 A (9.9) A (7.6)	 B (10.6) A (7.6)	 A (9.9) A (7.6)	 B (10.6) A (7.6)	 A (9.9) A (7.6)	 B (10.6) A (7.6)
23	**SR 154 (Cascade Palmetto Hwy) @ Carlton Road**** -Eastbound Approach -Northbound Left (Approach) -Southbound Approach	 F (*) B (13.5) -	 F (*) B (13.7) -	**C (31.8)** C (31.3) C (28.4) D (35.7)	**C (26.6)** C (25.9) C (21.0) D (36.2)	**C (31.8)** C (31.3) C (28.4) D (35.7)	**C (26.6)** C (25.9) C (21.0) D (36.2)
24	**Cochran Mill Road @ Site Driveway 2 / Site Driveway 3** -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Left Approach	*Note: Roundabout proposed by proposed development*				**B (13.1)** B (11.3) A (10.0) B (13.6) B (15.0)	**C (16.3)** B (13.0) C (20.1) C (15.2) C (15.5)
25	**Cochran Mill Road @ Site Driveway 5 / Site Driveway 4** -Eastbound Approach -Westbound Approach -Northbound Left -Southbound Left	*Note: New intersection proposed by development*				D (31.2) F (258.3) A (8.7) A (8.5)	E (40.2) F (191.8) A (9.2) A (8.9)
26	**Phillips Road @ Site Driveway 6** -Eastbound Approach -Northbound Left	 A (9.4) A (7.4)	 A (9.6) A (7.5)	 A (9.4) A (7.4)	 A (9.6) A (7.5)	 A (9.4) A (7.4)	 A (9.6) A (7.5)
27	**Phillips Road @ Site Driveway 7** -Westbound Approach -Southbound Left	 A (9.4) A (7.4)	 A (9.5) A (7.5)	 A (9.4) A (7.4)	 A (9.5) A (7.5)	 A (9.4) A (7.4)	 A (9.5) A (7.5)
28	**Phillips Road @ Site Driveway 8** -Eastbound Approach -Northbound Left	 B (10.4) A (7.4)	 B (10.9) A (7.7)	 B (10.4) A (7.4)	 B (10.9) A (7.7)	 B (10.4) A (7.4)	 B (10.9) A (7.7)
29	**Wilkerson Mill Road @ Site Driveway 9** -Westbound Left -Northbound Approach	A (8.6) D (25.0)	A (9.0) D (29.2)	A (8.6) C (25.0)	A (9.0) D (29.2)	A (8.6) C (24.0)	A (9.0) B (26.4)
30	**Rico Tatum Road @ Site Driveway 10 / Site Driveway 11** -Eastbound Left -Westbound Left -Northbound Approach -Southbound Approach	 A (0.0) A (7.9) B (10.5) B (14.6)	 A (0.0) A (7.8) A (9.5) C (17.0)	 A (7.5) A (7.9) B (10.7) B (14.5)	 A (8.0) A (7.8) B (10.2) C (16.6)	 A (7.5) A (7.9) B (10.7) B (14.5)	 A (8.0) A (7.8) B (10.2) C (16.6)
31	**Rico Tatum Road @ Site Driveway 12** -Westbound Left -Northbound Approach	 A (7.8) B (10.4)	 A (7.6) A (9.7)	 A (7.8) B (10.4)	 A (7.6) A (9.7)	 A (7.8) B (10.4)	 A (7.6) A (9.7)

TABLE 7– FUTURE "BUILD" INTERSECTION OPERATIONS (CONTINUED)							
Intersection		Build Condition: LOS (Delay)					
		NO IMPROVEMENTS		SYSTEM IMPROVEMENTS ONLY		SYSTEM AND SITE IMPROVEMENTS	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
32	**Rico Tatum Road @ Site Driveway 13 / Site Driveway 14**						
	-Eastbound Left	A (7.4)	A (7.6)	A (7.4)	A (7.6)	A (7.4)	A (7.6)
	-Westbound Left	A (7.6)	A (7.5)	A (7.6)	A (7.5)	A (7.6)	A (7.5)
	-Northbound Approach	A (9.5)	A (9.0)	A (9.5)	A (9.0)	A (9.5)	A (9.0)
	-Southbound Approach	B (11.2)	B (11.6)	B (11.2)	B (11.6)	B (11.2)	B (11.6)
33	**Rico Tatum Road @ Site Driveway 15**						
	-Eastbound Left	A (7.4)	A (7.6)	A (7.4)	A (7.6)	A (7.4)	A (7.6)
	-Southbound Approach	B (10.1)	B (10.2)	B (10.1)	B (10.2)	B (10.1)	B (10.2)
34	**Rico Tatum Road @ Site Driveway 16 / Site Driveway 17**						
	-Eastbound Left	A (7.3)	A (7.4)	A (7.3)	A (7.4)	A (7.3)	A (7.4)
	-Westbound Left	A (7.3)	A (7.4)	A (7.3)	A (7.4)	A (7.3)	A (7.4)
	-Northbound Approach	A (8.7)	A (8.7)	A (8.7)	A (8.7)	A (8.7)	A (8.7)
	-Southbound Approach	B (10.0)	B (10.4)	B (10.0)	B (10.4)	B (10.0)	B (10.4)
35	**Atlanta Newnan Road @ Site Driveway 18 / Site Driveway 19**						
	-Eastbound Approach	A (9.5)	A (9.6)	A (9.5)	A (9.6)	A (9.5)	A (9.6)
	-Westbound Approach	B (10.3)	B (11.0)	B (10.3)	B (11.0)	B (10.3)	B (11.0)
	-Northbound Left	A (7.4)	A (7.5)	A (7.4)	A (7.5)	A (7.4)	A (7.5)
	-Southbound Left	A (7.4)	A (7.5)	A (7.4)	A (7.5)	A (7.4)	A (7.5)
36	**Atlanta Newnan Road @ Site Driveway 20**						
	-Eastbound Approach	A (9.9)	A (9.8)	A (9.9)	A (9.8)	A (9.9)	A (9.8)
	-Northbound Left	A (7.6)	A (7.5)	A (7.6)	A (7.5)	A (7.6)	A 97.5)

* Delay exceeds 300 seconds

** HCM 2000 results in future conditions for High-T intersection

The results of the "Build" traffic operations show that the following intersections have LOS "E" or "F" for one or more approaches:

- SR 14/US 29 (Roosevelt Highway) @ SR 14 - Fairburn Industrial Boulevard Connector Ramp
- Fairburn Industrial Boulevard @ SR 14 - Fairburn Industrial Boulevard Connector Ramp
- Collinsworth Road @ I-85 Northbound Ramps
- Collinsworth Road @ I-85 Southbound Ramps
- Collinsworth Road @ Weldon Road
- SR 14/US 29 (Main Street/Roosevelt Highway) @ SR 154 (Cascade Palmetto Highway)
- SR 14/US 29 (Roosevelt Highway) @ Wilkerson Mill Road/Tatum Road
- SR 154 (Cascade Palmetto Highway) @ Wilkerson Mill Road
- Cochran Mill Road @ Wilkerson Mill Road
- SR 70 (South Fulton Parkway) @ Cochran Mill Road

- SR 70 (South Fulton Parkway) @ Rivertown Road
- SR 70 (South Fulton Parkway) @ SR 154 (Cascade Palmetto Highway)
- South Fulton Parkway @ Cedar Grove Road
- Hutchesons Ferry Road @ Phillips Road
- Hutchesons Ferry Road @ Cochran Mill Road
- Cochran Mill Road @ Rico Tatum Road
- SR 154 (Cascade Palmetto Highway) @ Carlton Road
- Cochran Mill Road @ Site Driveway 4 / Site Driveway 5

Following are the site improvements identified for the above intersections apart from the system improvements mentioned in the previous section.

SR 154 (Cascade Palmetto Highway) @ Wilkerson Mill Road

- Addition of an eastbound left turn lane on Wilkerson Mill Road with "protected + permissive" phasing
- Addition of a northbound left turn lane on SR 154 (Cascade Palmetto Highway)
- Addition of a southbound right turn lane on SR 154 (Cascade Palmetto Highway)

Wilkerson Mill Road @ Phillips Road

- Addition of a westbound left turn lane on Wilkerson Mill Road

Cochran Mill Road @ Wilkerson Mill Road

- Installation of a traffic signal
- Addition of a northbound right and southbound left turn lanes on Cochran Mill Road
- Addition of a westbound left turn lane on Wilkerson Mill Road

SR 70 (South Fulton Parkway) @ Cochran Mill Road

- Installation of a traffic signal
- Addition of a westbound left turn lane on SR 70 (South Fulton Parkway) with "protected + permissive" signal phasing
- Addition of a northbound right turn lane on Cochran Mill Road

SR 70 (South Fulton Parkway) @ SR 154 (Cascade Palmetto Highway)

- Addition of a northbound right turn lane on SR 154 (Cascade Palmetto Highway)

Hutchesons Ferry Road @ Phillips Road

- Addition of a southbound right turn lane on Phillips Road

Hutchesons Ferry Road @ Cochran Mill Road

- Installation of a traffic signal
- Addition of an eastbound left turn lane on Hutchesons Ferry Road
- Addition of a westbound right turn lane on Hutchesons Ferry Road
- Addition of a southbound right turn lane on Cochran Mill Road

Cochran Mill Road @ Rico Tatum Road / Site Driveway 1

- Construction of a single-lane roundabout

Cochran Mill Road @ Rico Tatum Road / Site Driveway 2 and 3

- Construction of a single-lane roundabout

Cochran Mill Road @ Site Driveway 4 / Site Driveway 5

- Stop-sign controlled on minor street approaches
- Addition of an eastbound right turn lane
- Addition of a westbound right turn lane
- Addition of a northbound left lane and northbound right turn lane
- Addition of a southbound left turn lane and southbound right turn lane

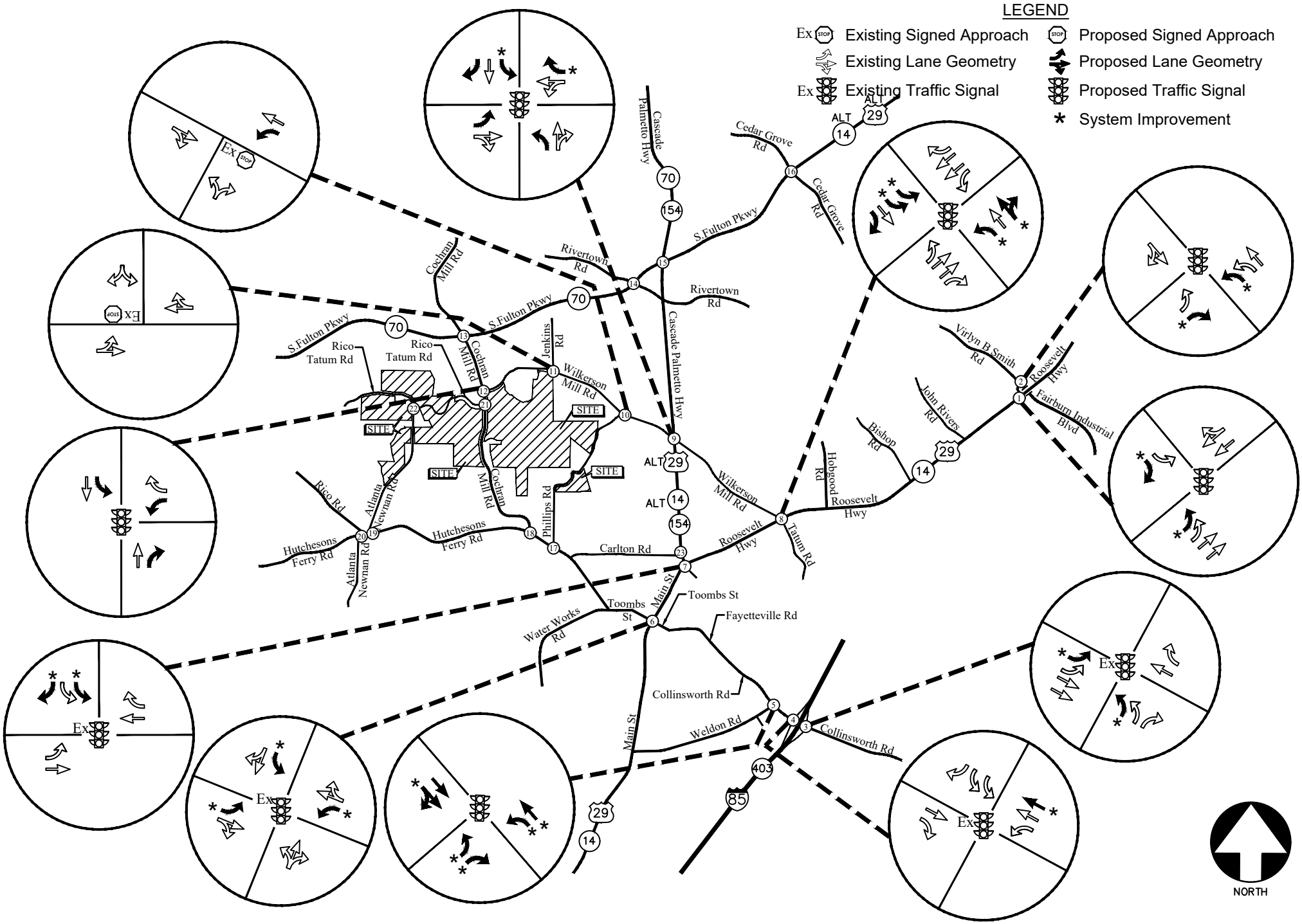
Wilkerson Mill Road @ Site Driveway 9

- Stop-sign controlled on minor street approaches
- Addition of an eastbound right turn lane
- Addition of a westbound left turn lane

Site Driveways 6-8 and 10-22

- Stop-sign controlled on minor street approaches

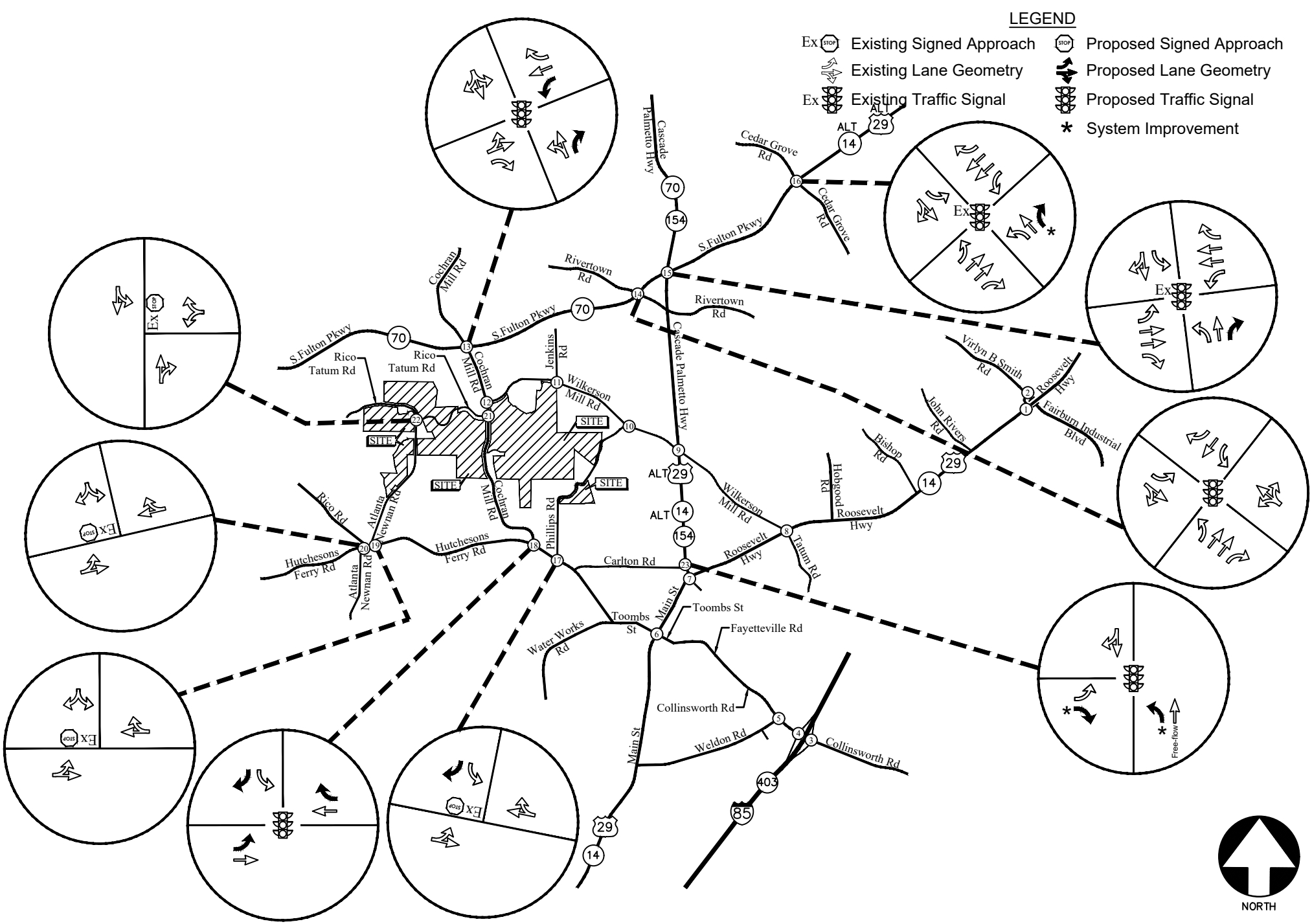
Recommendations for future traffic control and lane geometry are shown in Figures 11A, 11B and 11C.



FUTURE TRAFFIC CONTROL AND LANE GEOMETRY 1 OF 3

FIGURE 11A

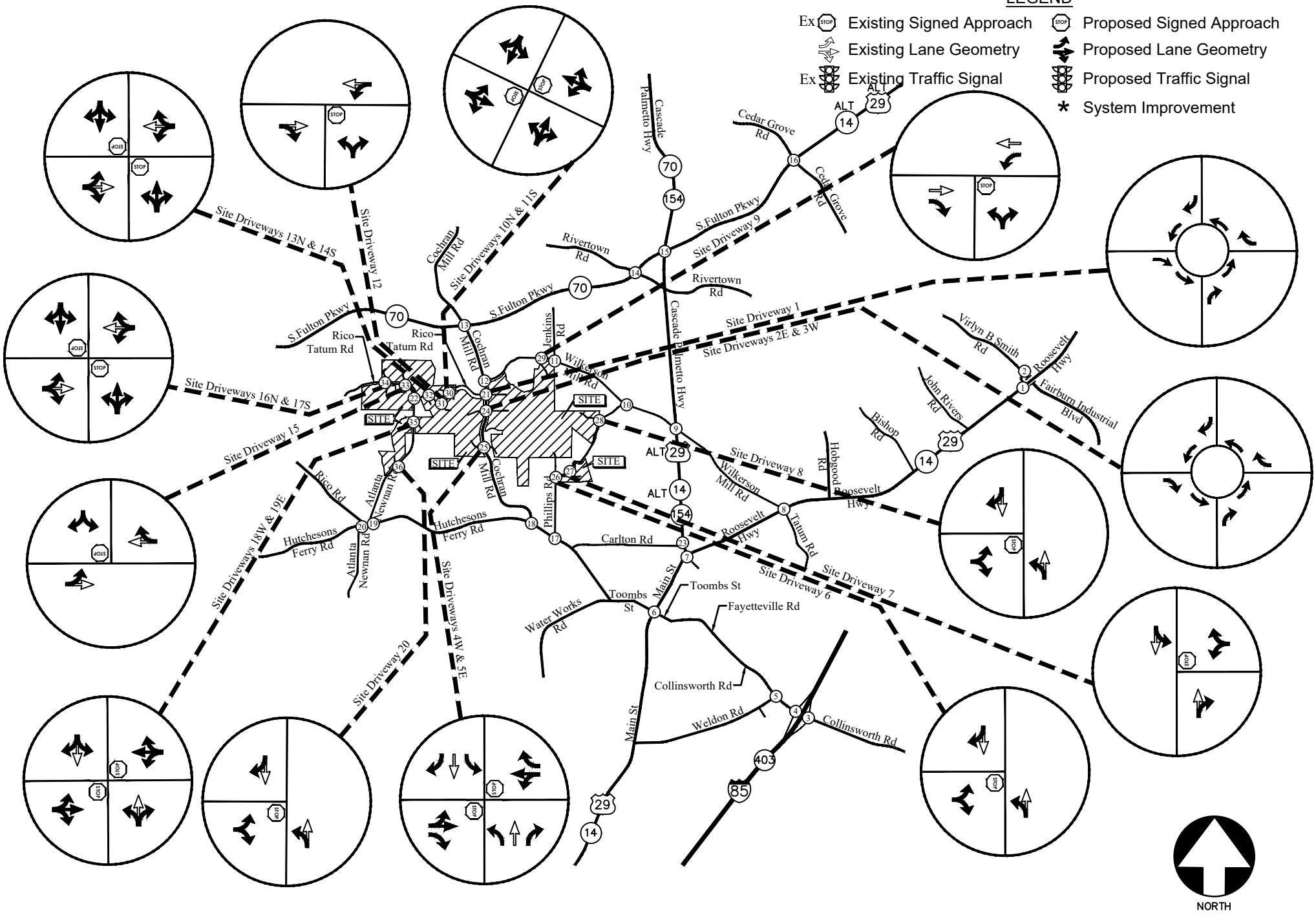
A&R Engineering Inc.



FUTURE TRAFFIC CONTROL AND LANE GEOMETRY 2 OF 3

FIGURE 11B

A&R Engineering Inc.



FUTURE TRAFFIC CONTROL AND LANE GEOMETRY 3 OF 3

FIGURE 11C

A&R Engineering Inc.

CONCLUSIONS AND RECOMMENDATIONS

Traffic impacts were evaluated for the proposed Merrill Park mixed-use development located on Cochran Mill Road in City of Palmetto, Georgia.

The development proposes five full access driveways on Cochran Mill Road, three full access driveways on Phillips Road, one full access driveway on Wilkerson Mill Road, three full access driveways on Atlanta Newnan Road and eleven full access driveways on Rico Tatum Road.

The AM and PM peak hours have been analyzed in this study. In addition to the site access points, this study includes the evaluation of traffic operations at the intersections of:

1. SR 14/US 29 (Roosevelt Highway) @ SR 14 - Fairburn Industrial Boulevard Connector Ramp
2. Fairburn Industrial Boulevard @ SR 14 - Fairburn Industrial Boulevard Connector Ramp
3. Collinsworth Road @ I-85 Northbound Ramps
4. Collinsworth Road @ I-85 Southbound Ramps
5. Collinsworth Road @ Weldon Road
6. SR 14/US 29 (Main Street) @ Toombs Street/Fayetteville Road
7. SR 14/US 29 (Main Street/Roosevelt Highway) @ SR 154 (Cascade Palmetto Highway)
8. SR 14/US 29 (Roosevelt Highway) @ Wilkerson Mill Road/Tatum Road
9. SR 154 (Cascade Palmetto Highway) @ Wilkerson Mill Road
10. Wilkerson Mill Road @ Phillips Road
11. Wilkerson Mill Road @ Jenkins Road
12. Cochran Mill Road @ Wilkerson Mill Road
13. SR 70 (South Fulton Parkway) @ Cochran Mill Road
14. SR 70 (South Fulton Parkway) @ Rivertown Road
15. SR 70 (South Fulton Parkway) @ SR 154 (Cascade Palmetto Highway)
16. South Fulton Parkway @ Cedar Grove Road
17. Hutchesons Ferry Road @ Phillips Road
18. Hutchesons Ferry Road @ Cochran Mill Road
19. Hutchesons Ferry Road @ Atlanta Newnan Road
20. Hutchesons Ferry Road @ Rico Road
21. Cochran Mill Road @ Rico Tatum Road
22. Atlanta Newnan Road @ Rico Tatum Road
23. SR 154 (Cascade Palmetto Highway) @ Carlton Road

Recommended Site Access Configuration

The following access configuration is recommended for the proposed site driveway intersections. All site driveways are proposed to be full access.

- Site Driveway 1 on Cochran Mill Road, aligning across Rico Tatum Road
    - One entering and one exiting lane.
    - Single-lane roundabout

- Site Driveways 2 and 3 on Cochran Mill Road, south of Rico Tatum Road/Site Driveway 1 and aligning across each other
    - One entering and one exiting lane.
    - Single-lane roundabout

- Site Driveways 4 and 5 on Cochran Mill Road, south of Site Driveway 2/Site Driveway 3 and aligning across each other
    - One entering and two (shared through/left and right turn lanes) exiting lanes
    - Stop controlled on driveway approach with Cochran Mill Road remaining free flow
    - Northbound and southbound auxiliary lanes on Cochran Mill Road for entering traffic

- Site Driveways on Rico Tatum Road, Phillips Road, Atlanta Newnan Rd and Wilkerson Mill Road
    - One entering and one exiting lane
    - Stop controlled on driveway approach with the main road remaining free flow

Recommended System Improvements

The following are system improvements that were identified from the "No-Build" condition analysis.

SR 14/US 29 (Roosevelt Highway) @ SR 14 - Fairburn Industrial Boulevard Connector Ramp

- Installation of a traffic signal
- Addition of an eastbound left turn lane on SR 8/US 29 (Roosevelt Highway) to create dual left turn lanes with "protected" signal phasing
- Addition of a southbound right turn lane on connector ramp creating separate left and right turn lanes

Fairburn Industrial Boulevard @ SR 14 - Fairburn Industrial Boulevard Connector Ramp

- Installation of a traffic signal
- Addition of a northbound left turn lane on Fairburn Industrial Boulevard to create dual left turn lanes with "protected" phasing
- Addition of an eastbound right turn lane on connector ramp creating separate left and right turn lanes

Collinsworth Road @ I-85 Northbound Ramps

- Addition of an eastbound left turn lane on Collinsworth Road to create dual left turn lanes
- Change "protected + permissive" signal phasing to "protected" signal phasing for eastbound left turns
- Add a left turn lane on I-85 northbound off-ramp to create dual left turn lanes

Collinsworth Road @ I-85 Southbound Ramps

- Addition of a second westbound through lane on Collinsworth Road and carry the lanes to the Weldon Road intersection

Collinsworth Road @ Weldon Road

- Realign the SBS warehouse driveway to tie into Weldon Road to the west of the study intersection and signalize it
- Realign Collinsworth Road legs to become the through movement and Weldon Road to be the side street
- Addition of a second southbound through lane on Collinsworth Road
- Collinsworth Road northbound approach to have a left turn lane and a through lane
- Weldon Road to have a separate left turn lane and a channelized right turn lane

SR 14/US 29 (Main Street) @ Toombs Street/Fayetteville Road

- Addition of an eastbound left turn lane on Toombs Street
- Addition of a westbound right turn lane on Fayette Road

SR 14/US 29 (Main Street/Roosevelt Highway) @ SR 154 (Cascade Palmetto Highway)

- Remove northbound leg to the Church and add a northbound right-in/right-out access to the Church on SR 14/US 29. The Church has an existing full access driveway on a secondary street.
- Addition of a southbound left turn lane on SR 154 (Cascade Palmetto Highway) to create dual left turn lanes with "protected" signal phasing
- Addition a second receiving lane on the westbound leg of SR 14/US 29 (Roosevelt Highway) for the southbound dual left turn lanes
- Addition of a southbound right turn lane on SR 154 (Cascade Palmetto Highway)

SR 14/US 29 (Roosevelt Highway) @ Wilkerson Mill Road/Tatum Road

- Installation of a traffic signal
- Add southbound dual left turn lanes on Wilkerson Mill Road with "protected" signal phasing
- Add northbound left and right turn lanes on Tatum Road
- Provide "protected + permissive" phasing for westbound left turn movements on SR 14/US 29 (Roosevelt Highway)

SR 154 (Cascade Palmetto Highway) @ Wilkerson Mill Road

- Installation of a traffic signal
- Addition of a westbound right turn lane on Wilkerson Mill Road

- Addition of a southbound left turn lane on SR 154 (Cascade Palmetto Highway) with "protected + permissive" signal phasing

SR 70 (South Fulton Parkway) @ Rivertown Road

- Installation of a traffic signal

South Fulton Parkway @ Cedar Grove Road

- Addition of a northbound right turn lane on Cedar Grove Road

SR 154 (Cascade Palmetto Highway) @ Carlton Road

- Reconfigure the intersection to be a signalized High T-intersection (northbound through traffic would be free flow)
- Addition of a northbound left turn lane on SR 154 (Cascade Palmetto Highway)
- Install a raised median on SR 154 (Cascade Palmetto Highway) to separate the northbound through and left turn lanes
- Add a channelized eastbound right turn lane on Carlton Road

Recommended Site Mitigation Improvements

The following are improvements that were identified from the "Build" condition analysis and were a result of the addition of site generated traffic.

SR 154 (Cascade Palmetto Highway) @ Wilkerson Mill Road

- Addition of an eastbound left turn lane on Wilkerson Mill Road with "protected + permissive" phasing
- Addition of a northbound left turn lane on SR 154 (Cascade Palmetto Highway)
- Addition of a southbound right turn lane on SR 154 (Cascade Palmetto Highway)

Wilkerson Mill Road @ Phillips Road

- Addition of a westbound left turn lane on Wilkerson Mill Road

Cochran Mill Road @ Wilkerson Mill Road

- Installation of a traffic signal
- Addition of a northbound right and southbound left turn lanes on Cochran Mill Road
- Addition of a westbound left turn lane on Wilkerson Mill Road

SR 70 (South Fulton Parkway) @ Cochran Mill Road

- Installation of a traffic signal
- Addition of a westbound left turn lane on SR 70 (South Fulton Parkway) with "protected + permissive" signal phasing
- Addition of a northbound right turn lane on Cochran Mill Road

SR 70 (South Fulton Parkway) @ SR 154 (Cascade Palmetto Highway)

- Addition of a northbound right turn lane on SR 154 (Cascade Palmetto Highway)

Hutchesons Ferry Road @ Phillips Road

- Addition of a southbound right turn lane on Phillips Road

Hutchesons Ferry Road @ Cochran Mill Road

- Installation of a traffic signal
- Addition of an eastbound left turn lane on Hutchesons Ferry Road
- Addition of a westbound right turn lane on Hutchesons Ferry Road
- Addition of a southbound right turn lane on Cochran Mill Road