
Chalkville Road/ Chalkville Mountain Road Traffic Study

Trussville, Alabama

Advance Planning, Programming, and Logical
Engineering (APPLE) Program

Prepared for:



City of Trussville



RPCGB
REGIONAL PLANNING COMMISSION
OF GREATER BIRMINGHAM

Regional Planning
Commission of
Greater Birmingham

Prepared by:

SKIPPER
CONSULTING INC

January, 2023

CHALKVILLE ROAD/CHALKVILLE MOUNTAIN ROAD TRAFFIC STUDY TRUSSVILLE, ALABAMA

Advance Planning, Programming, and Logical Engineering (APPLE) Program

Prepared for:

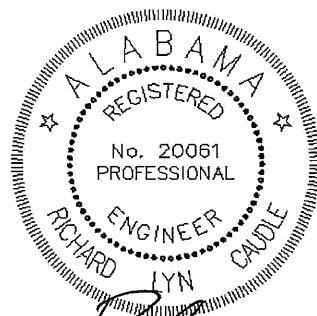
The City of Trussville
131 Main Street
Trussville, Alabama 35173

The Regional Planning Commission of Greater Birmingham
2 20th Street North, Suite 1200
Birmingham, Alabama 35203

Prepared by:

Skipper Consulting, Inc.
3644 Vann Road, Suite 100
Birmingham, Alabama 35235

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SIGNED: Richard Lyn Caudle
DATE: 1/23/23

January, 2023

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INTRODUCTION

This report documents the results of a project to perform a traffic study of Chalkville Road, Chalkville Mountain Road, and Sweeney Hollow Road in the City of Trussville and Jefferson County, Alabama. Limits of the project extend from the intersection of Poplar Street to the intersection of Tyler Loop Road. A general vicinity map is shown in Figure 1.

The purposes of this study are to:

- Document existing traffic conditions within the corridor, including the following elements:
 - Existing traffic counts
 - Existing traffic signal coordination programming
 - Existing drive times
 - Existing intersection capacity analyses
- Project future year traffic conditions within the corridor, including the following elements:
 - Historical traffic growth trends
 - Transportation demand model output
 - 2045 traffic projections
 - Planned and programmed roadway improvements
 - 2045 intersection capacity analyses
- Test various improvement concepts on Chalkville Road/Chalkville Mountain Road, including:
 - The need for a third southbound through lane on Chalkville Mountain Road north of I-59
 - The need for a second northbound through lane on Chalkville Road south of I-59
 - The need for a triple left turn lane exiting the I-59 northbound ramp
 - The need for a double left turn lane on Service Road
- Document specific project outcomes, including:
 - Conceptual design of proposed improvements

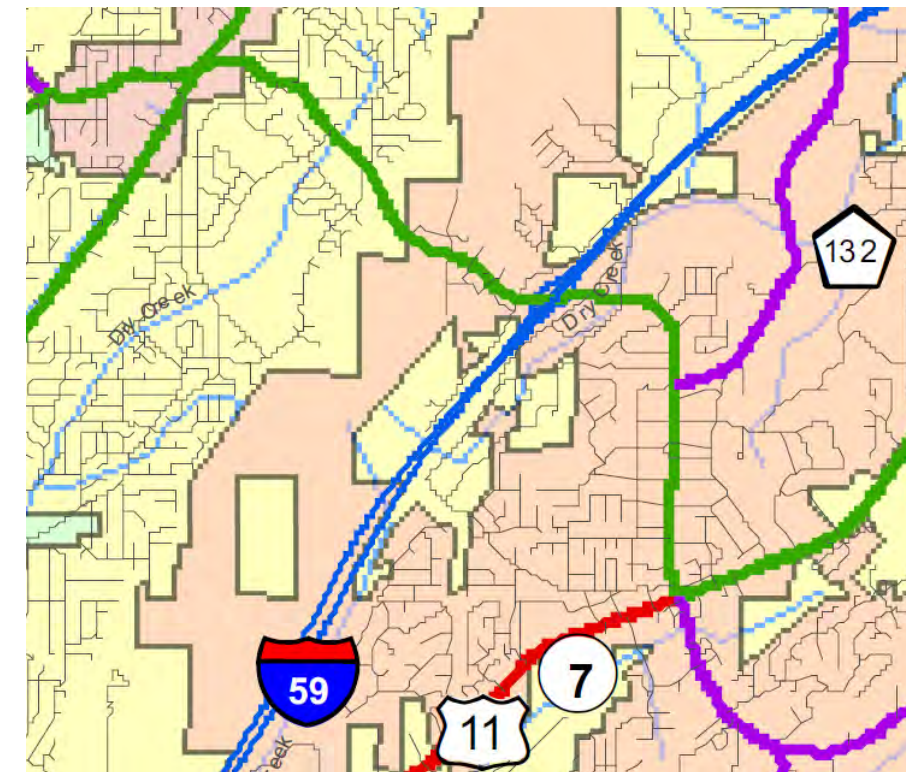
BACKGROUND INFORMATION

Study Corridor

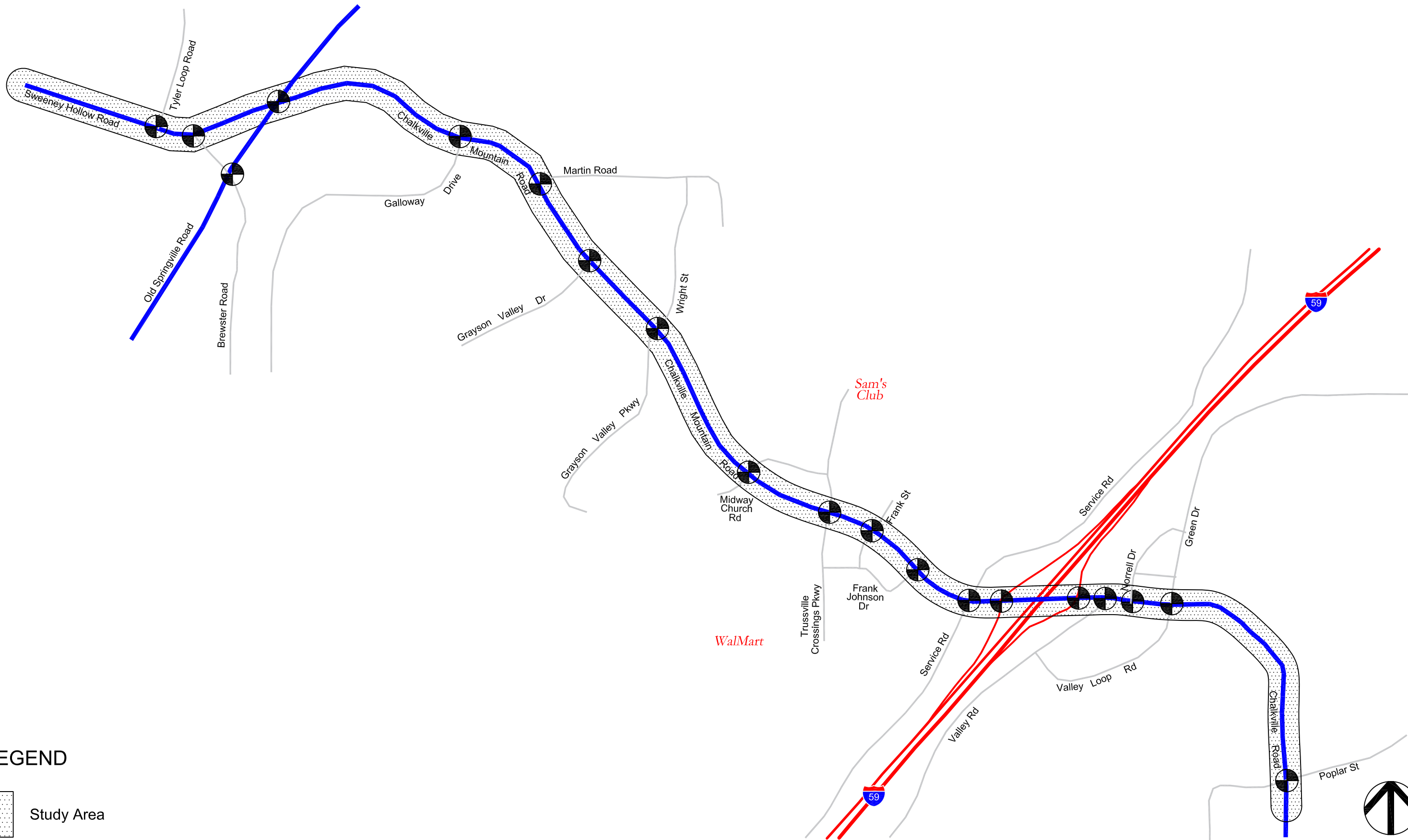
The study limits for the project are as follows:

- Chalkville Road, Chalkville Mountain Road, and Sweeney Hollow Road from Poplar Street to Tyler Loop Road, a distance of approximately 3.2 miles

South of I-59, Chalkville Road is a two to three lane undivided urban minor arterial roadway with a posted speed limit of 30 miles per hour. North of I-59, Chalkville Mountain Road is a four lane median divided urban minor arterial roadway with a posted speed limit of 40 miles per hour. Sweeney Hollow Road is a two to three lane urban minor arterial roadway between Old Springville Road and Tyler Loop Road. I-59 is a four lane median divided freeway with a posted speed limit of 70 miles per hour. Poplar Street is a two lane major collector roadway with a posted speed limit of 25 miles per hour. Old Springville Road is a two to three lane urban minor arterial roadway. All other roadways within the study area are local roads.



Functional Classification Map (Source: Alabama Department of Transportation)



LEGEND

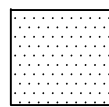

-  Study Area
-  Study Intersection



Figure 1 - Study Area

Chalkville Road APPLE - Trussville, Alabama

November 2021

Study Intersections

The intersections included for detailed study are as follows:

- Chalkville Road at Poplar Street/Rockridge Avenue (signalized)
- Chalkville Road at Green Drive/Pineview Road (signalized)
- Chalkville Road at Norrell Drive (side street stop)
- Chalkville Road at Valley Road (side street stop)
- Chalkville Road at I-59 Northbound Ramps (signalized)
- Chalkville Mountain Road at I-59 Southbound Ramps (signalized)
- Chalkville Mountain Road at Service Road (signalized)
- Chalkville Mountain Road at Frank Johnson Drive (signalized)
- Chalkville Mountain Road at Frank Street/Frank Johnson Drive (signalized)
- Chalkville Mountain Road at Trussville Crossings Parkway (signalized)
- Chalkville Mountain Road at Midway Church Road (signalized)
- Chalkville Mountain Road at Wright Street/Grayson Valley Parkway (signalized)
- Chalkville Mountain Road at Grayson Valley Drive (signalized)
- Chalkville Mountain Road at Martin Road (signalized)
- Chalkville Mountain Road at Galloway Drive (signalized)
- Old Springville Road at Chalkville Mountain Road/Sweeney Hollow Road (signalized)
- Sweeney Hollow Road at Brewster Road (signalized)
- Sweeney Hollow Road at Tyler Loop Road (signalized)
- Old Springville Road at Brewster Road (signalized)

EXISTING CONDITIONS ANALYSIS**Intersection Turning Movement Traffic Counts**

Intersection turning movement traffic counts were performed at the study intersections during the periods of Tuesday to Wednesday, October 6 to 14, 2020, Wednesday, September 22, 2021, Tuesday to Thursday, September 28 to 30, 2021, Tuesday to Wednesday, October 5 to 6, 2021, and Tuesday, October 12, 2021 during the hours of 7:00 to 9:00 a.m., 11:00 a.m. to 1:00 p.m., and 4:00 to 6:00 p.m. by Traffic Data, LLC and Jefferson County Roads and Transportation. The traffic count data is included in Appendix A. Peak hour turning movement traffic counts are shown in Figures 2A-2B.

Machine Traffic Counts

Existing machine traffic counts were performed at the following locations for seventy-two (72) continuous hours during the period Friday to Sunday, October 16 to 18, 2020 and October 23 to 25, 2020, by Traffic Data, LLC on behalf of Skipper Consulting, Inc.:

- Chalkville Mountain Road south of Midway Church Road
- Chalkville Road east of Green Drive

The machine traffic count data is included in Appendix B. Graphs of the traffic count data are shown on page 6.

LEGEND

AM(Midday)[PM]

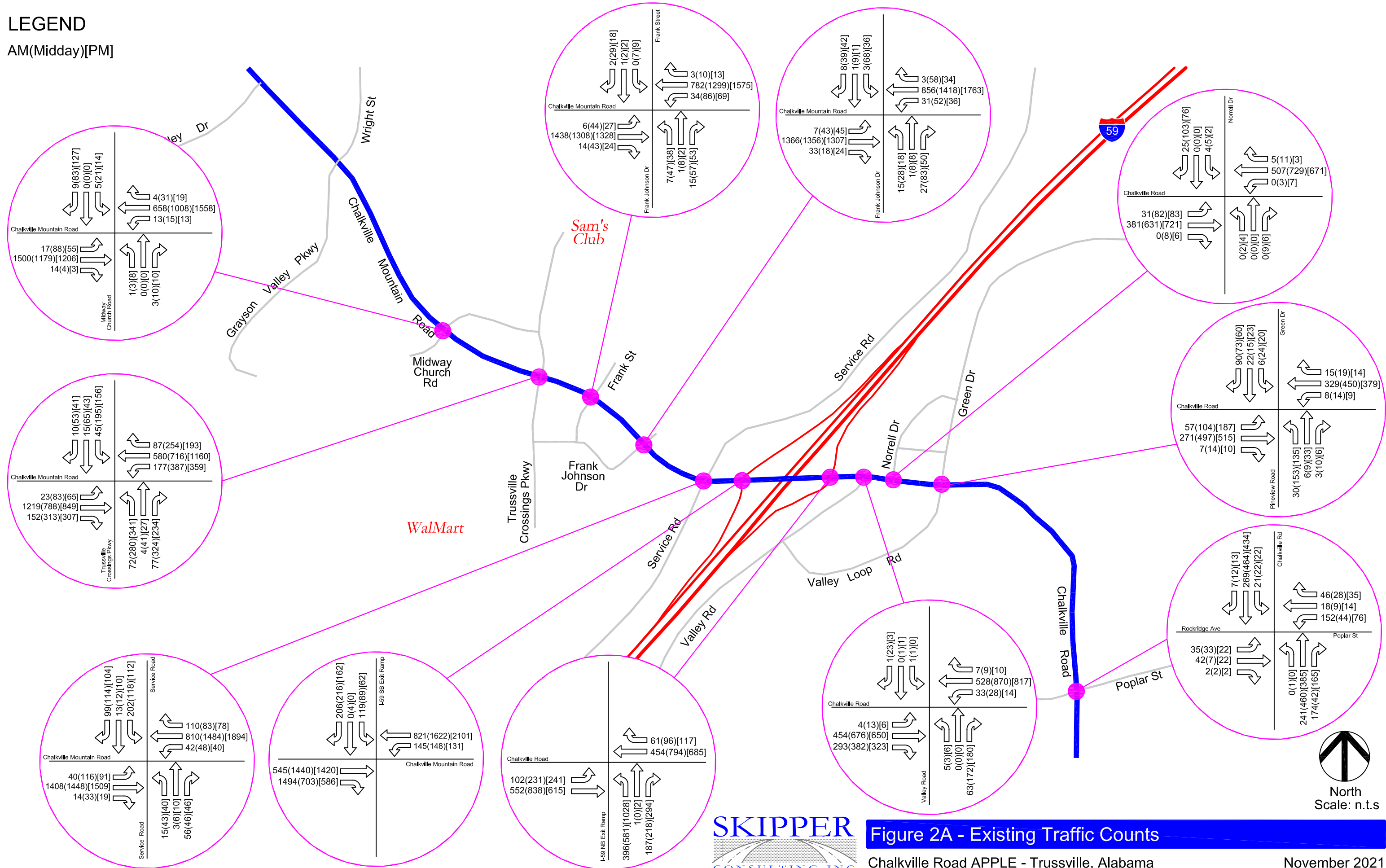


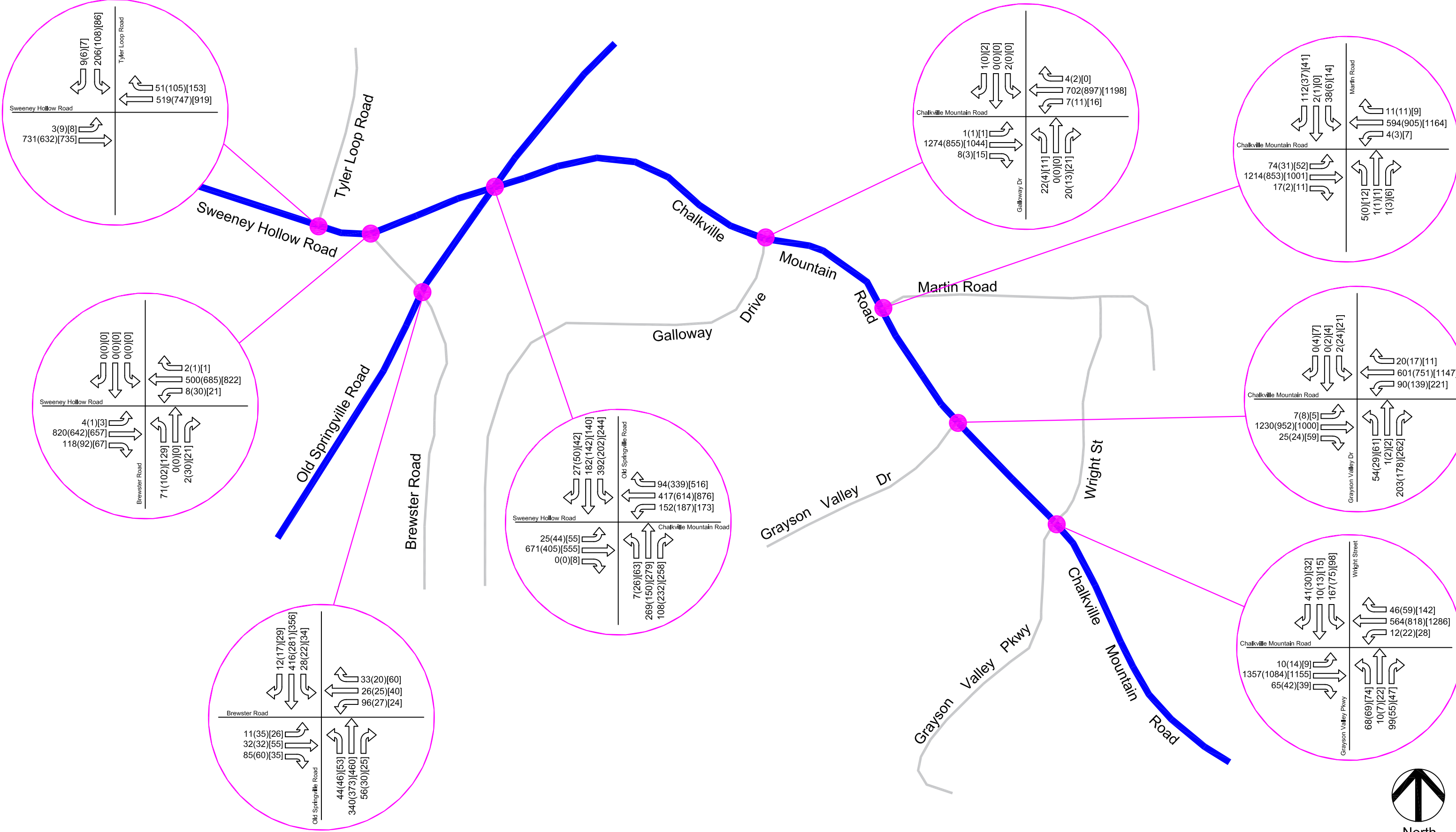
Figure 2A - Existing Traffic Counts

Chalkville Road APPLE - Trussville, Alabama

November 2021



North
Scale: n.t.s



North
Scale: n.t.s

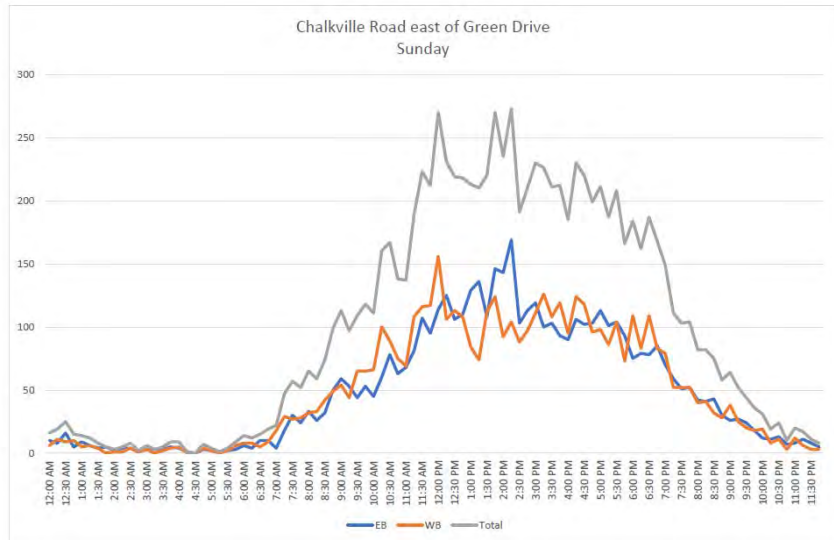
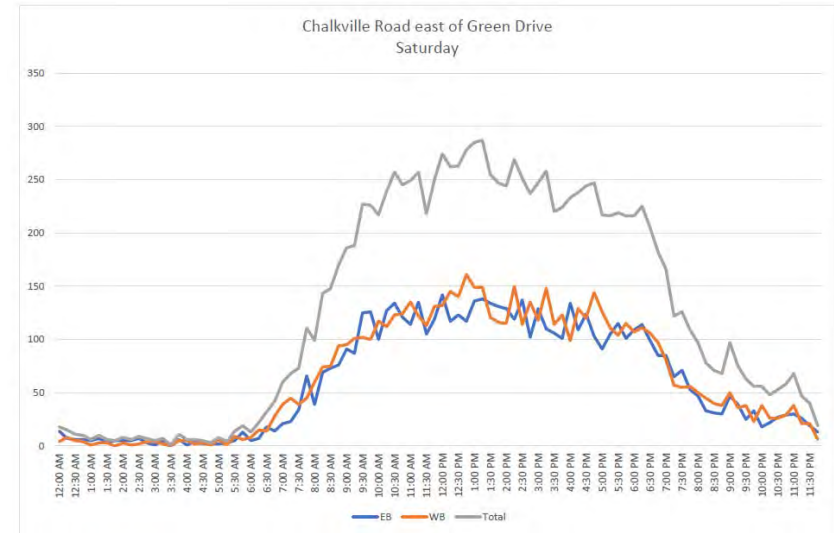
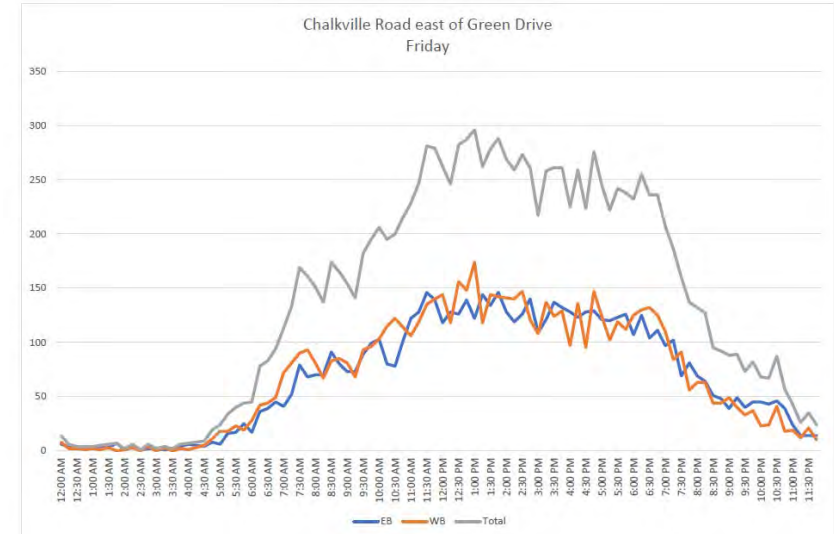
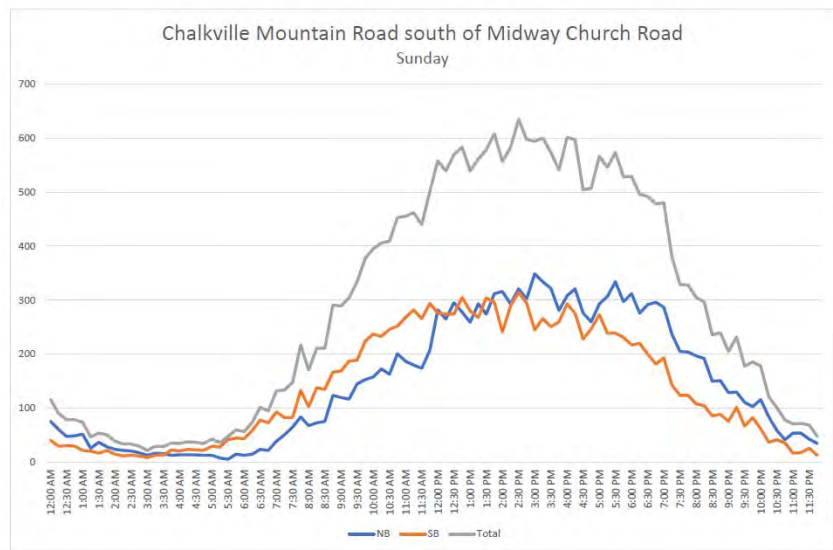
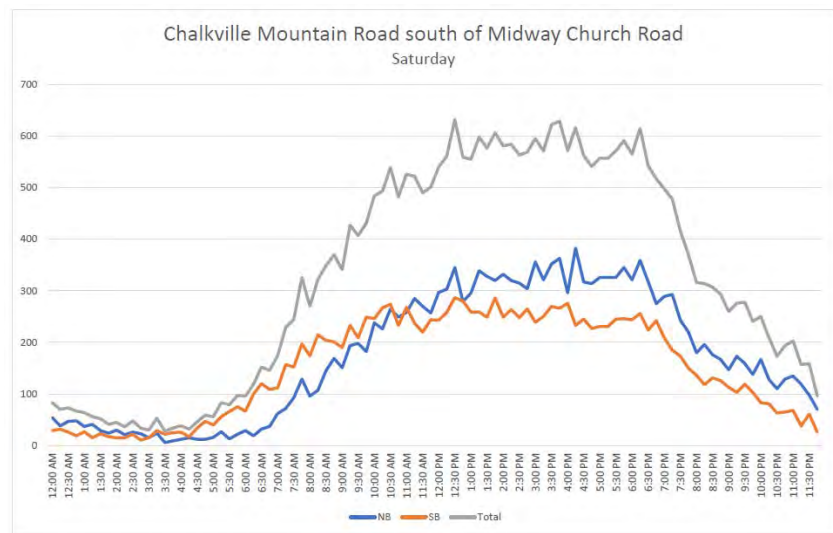
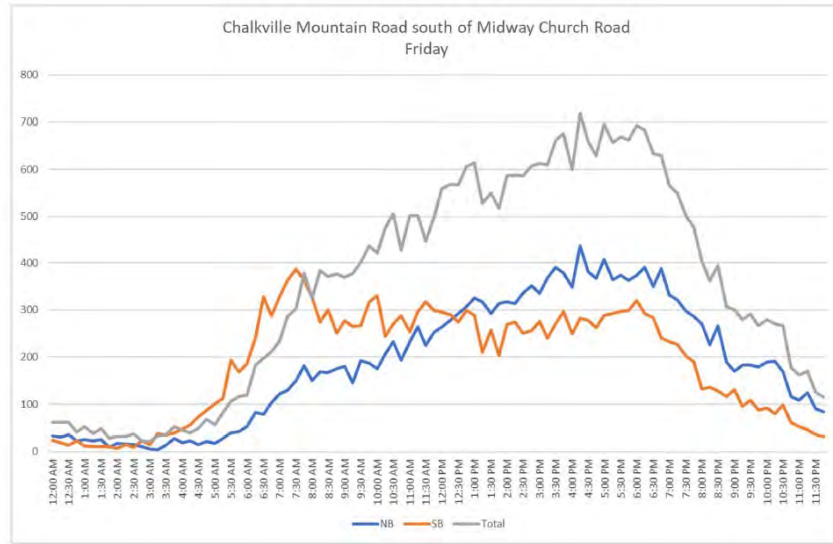
LEGEND
AM(Midday)[PM]



Figure 2B - Existing Traffic Counts

Chalkville Road APPLE - Trussville, Alabama

November 2021



Existing Traffic Signal Coordination Timings

Traffic signals on Chalkville Road/Chalkville Mountain Road from Green Drive to Martin Road are controlled by a time base coordination traffic signal system with GPS time clocks. The timing was developed and implements in 2015. The existing traffic signal coordination timings are shown in Table 1. The existing time clock is shown in Table 2. Note that the programming was developed for the intersection of Chalkville Mountain Road at Galloway Drive, but was never implemented due to incompatibility of the existing fire station preemption connector and the new controller.

**Table 1
Existing Traffic Signal Coordination Timings**

Green Drive											
Pattern	DSO	Cycle	1	2	3	4	5	6	7	8	Offset
Off	1-1-1	120	0	93	0	27	15	78	0	27	10
Midday	2-1-1	120	0	90	0	30	15	75	0	30	100
Saturday	2-2-1	130	0	100	0	30	15	85	0	30	8
AM	3-1-1	150	0	125	0	25	17	108	0	25	41
PM	4-1-1	160	0	130	0	30	15	115	0	30	88
I-59 NB Ramps											
Pattern	DSO	Cycle	1	2	3	4					Offset
Off	1-1-1	120	22	63	0	35					26
Midday	2-1-1	120	25	55	0	40					3
Saturday	2-2-1	130	22	63	0	45					30
AM	3-1-1	150	22	88	0	40					58
PM	4-1-1	160	24	51	0	85					141
I-59 SB Ramps											
Pattern	DSO	Cycle	1	2	3	4					Offset
Off	1-1-1	120	25	70	0	25					14
Midday	2-1-1	120	25	68	0	27					117
Saturday	2-2-1	130	22	78	0	30					2
AM	3-1-1	150	25	90	0	35					43
PM	4-1-1	160	40	85	0	35					121
Service Road											
Pattern	DSO	Cycle	1	2	3	4	5	6	7	8	Offset
Off	1-1-1	120	20	70	0	30	15	75	0	30	119
Midday	2-1-1	120	20	68	0	32	15	73	0	32	106
Saturday	2-2-1	130	20	70	0	40	15	75	0	40	5
AM	3-1-1	150	15	95	0	40	22	88	0	40	32
PM	4-1-1	160	25	90	0	45	17	98	0	45	115

**Table 1 (continued)
Existing Traffic Signal Coordination Timings**

Frank Johnson Drive											
Pattern	DSO	Cycle	1	2	3	4	5	6	7	8	Offset
Off	1-1-1	120	22	68	0	30	15	75	0	30	1
Midday	2-1-1	120	25	60	0	35	15	70	0	35	103
Saturday	2-2-1	130	25	70	0	35	15	80	0	35	126
AM	3-1-1	150	18	102	0	30	15	105	0	30	17
PM	4-1-1	160	35	85	0	40	15	105	0	40	122
Frank Street											
Pattern	DSO	Cycle	1	2	3	4	5	6	7	8	Offset
Off	1-1-1	120	20	73	0	27	15	78	0	27	2
Midday	2-1-1	120	20	73	0	27	15	78	0	27	106
Saturday	2-2-1	130	20	75	0	35	15	80	0	35	124
AM	3-1-1	150	15	113	0	22	15	113	0	22	2
PM	4-1-1	160	15	110	0	35	22	103	0	35	131
Trussville Crossings Parkway											
Pattern	DSO	Cycle	1	2	3	4	5	6	7	8	Offset
Off	1-1-1	120	25	48	25	22	15	58	25	22	0
Midday	2-1-1	120	28	42	25	25	15	55	25	25	0
Saturday	2-2-1	130	30	50	30	20	15	65	30	20	0
AM	3-1-1	150	22	86	22	20	15	93	22	20	0
PM	4-1-1	160	38	62	35	25	15	85	30	30	0
Midway Church Road											
Pattern	DSO	Cycle	1	2	3	4	5	6	7	8	Offset
Off	1-1-1	120	15	75	0	30	20	70	0	30	119
Midday	2-1-1	120	15	80	0	25	20	75	0	25	111
Saturday	2-2-1	130	15	85	0	30	20	80	0	30	128
AM	3-1-1	150	17	103	0	30	17	103	0	30	134
PM	4-1-1	160	15	105	0	40	25	95	0	40	159
Wright Street/Grayson Valley Parkway											
Pattern	DSO	Cycle	1	2	3	4	5	6	7	8	Offset
Off	1-1-1	90	0	65	0	25	0	65	0	25	0
Midday	2-1-1	100	0	70	0	30	0	70	0	30	10
Saturday	2-2-1	100	0	75	0	25	0	75	0	25	2
AM	3-1-1	150	0	120	0	30	0	120	0	30	103
PM	4-1-1	160	0	120	0	40	0	120	0	40	30

Table 1 (continued)
Existing Traffic Signal Coordination Timings

Grayson Valley Drive											
Pattern	DSO	Cycle	1	2	3	4	5	6	7	8	Offset
Off	1-1-1	90	20	45	0	25	0	65	0	25	0
Midday	2-1-1	100	20	58	0	22	0	78	0	22	0
Saturday	2-2-1	100	20	55	0	25	0	75	0	25	0
AM	3-1-1	150	20	95	0	35	0	115	0	35	94
PM	4-1-1	160	40	85	0	35	0	125	0	35	25
Martin Road											
Pattern	DSO	Cycle	1	2	3	4	5	6	7	8	Offset
Off	1-1-1	90	0	68	0	22	0	68	0	22	5
Midday	2-1-1	100	0	78	0	22	0	78	0	22	9
Saturday	2-2-1	100	0	78	0	22	0	78	0	22	97
AM	3-1-1	150	0	120	0	30	0	120	0	30	97
PM	4-1-1	160	0	130	0	30	0	130	0	30	39
Galloway Drive											
Pattern	DSO	Cycle	1	2	3	4	5	6	7	8	Offset
Off	1-1-1	90	0	68	0	22	0	68	0	22	88
Midday	2-1-1	100	0	78	0	22	0	78	0	22	6
Saturday	2-2-1	100	0	78	0	22	0	78	0	22	0
AM	3-1-1	150	0	125	0	25	0	125	0	25	94
PM	4-1-1	160	0	130	0	30	0	130	0	30	38

Table 2
Existing Time Clock

Day(s) of Week	Time	Dial	Split	Offset	Pattern
Monday to Thursday	0000	0	0	4	Free
	0545	1	1	1	Off
	0645	3	1	1	AM
	0830	1	1	1	Off
	1115	2	1	1	Midday
	1530	4	1	1	PM
	1815	2	1	1	Midday
	1945	1	1	1	Off
	2145	0	0	4	Free
Friday	0000	0	0	4	Free
	0545	1	1	1	Off
	0645	3	1	1	AM
	0830	1	1	1	Off
	1030	2	1	1	Midday
	1530	4	1	1	PM
	1915	2	1	1	Midday
	2045	1	1	1	Off
2300	0	0	4	Free	
Saturday	0000	0	0	4	Free
	0715	1	1	1	Off
	0915	2	1	1	Midday
	1145	2	2	1	Saturday
	1845	2	1	1	Midday
	2045	1	1	1	Off
	2300	0	0	4	Free
Sunday	0000	0	0	4	Free
	0745	1	1	1	Off
	1045	2	1	1	Midday
	1800	1	1	1	Off
	1945	0	0	4	Free

Existing Drive Times

Existing drive times were performed on Chalkville Road/Chalkville Mountain Road from Midway Church Road to Green Drive on Wednesday, October 14, 2020 during the a.m., midday, and p.m. peak hours of traffic flow. The existing drive time summary is shown in Table 3.

**Table 3
Existing Drive Time Summary**

Date	Direction	Start Time	End Time	Elapsed Time (HH:MM:SS)	Elapsed Time (sec)	Distance (miles)	Distance (feet)	Speed (ft/s)	Speed (mph)
AM PEAK									
10/14/2020	southbound	7:00:17	7:02:04	0:01:47	107	1.14	6019	56	38
10/14/2020	southbound	7:08:20	7:10:02	0:01:42	102	1.13	5966	58	40
10/14/2020	southbound	7:14:20	7:16:57	0:02:37	157	1.14	6019	38	26
10/14/2020	southbound	7:21:49	7:24:22	0:02:33	153	1.14	6019	39	27
10/14/2020	southbound	7:43:18	7:45:03	0:01:45	105	1.14	6019	57	39
10/14/2020	southbound	7:49:22	7:51:46	0:02:24	144	1.13	5966	41	28
10/14/2020	southbound	8:14:44	8:16:41	0:01:57	117	1.14	6019	51	35
								average	33
10/14/2020	northbound	7:03:04	7:05:51	0:02:47	167	1.10	5808	35	24
10/14/2020	northbound	7:11:02	7:13:21	0:02:19	139	1.09	5755	41	28
10/14/2020	northbound	7:18:16	7:20:30	0:02:14	134	1.11	5861	44	30
10/14/2020	northbound	7:25:25	7:28:20	0:02:55	175	1.11	5861	33	23
10/14/2020	northbound	7:46:10	7:47:51	0:01:41	101	1.11	5861	58	39
10/14/2020	northbound	7:52:41	7:56:11	0:03:30	210	1.14	6019	29	19
10/14/2020	northbound	8:17:47	8:20:46	0:02:59	179	1.16	6125	34	23
								average	27
MIDDAY PEAK									
10/14/2020	southbound	11:00:49	11:03:43	0:02:54	174	1.16	6125	35	24
10/14/2020	southbound	11:15:45	11:19:40	0:03:55	235	1.20	6336	27	18
10/14/2020	southbound	11:25:41	11:29:41	0:04:00	240	1.19	6283	26	18
10/14/2020	southbound	11:35:15	11:38:46	0:03:31	211	1.15	6072	29	20
10/14/2020	southbound	11:45:40	11:49:39	0:03:59	239	1.25	6600	28	19
								average	20
10/14/2020	northbound	11:07:33	11:10:31	0:02:58	178	1.08	5702	32	22
10/14/2020	northbound	11:20:38	11:24:05	0:03:27	207	1.10	5808	28	19
10/14/2020	northbound	11:30:33	11:33:42	0:03:09	189	1.10	5808	31	21
10/14/2020	northbound	11:39:56	11:43:37	0:03:41	221	1.16	6125	28	19
10/14/2020	northbound	11:50:23	11:55:46	0:05:23	323	1.15	6072	19	13
								average	19

**Table 3 (continued)
Existing Drive Time Summary**

Date	Direction	Start Time	End Time	Elapsed Time (HH:MM:SS)	Elapsed Time (sec)	Distance (miles)	Distance (feet)	Speed (ft/s)	Speed (mph)
PM PEAK									
10/14/2020	southbound	16:01:32	16:05:34	0:04:02	242	1.24	6547	27	18
10/14/2020	southbound	16:15:41	16:18:29	0:02:48	168	1.16	6125	36	25
10/14/2020	southbound	16:28:55	16:31:47	0:02:52	172	1.13	5966	35	24
10/14/2020	southbound	16:39:48	16:42:37	0:02:49	169	1.14	6019	36	24
10/14/2020	southbound	16:49:43	16:53:46	0:04:03	243	1.17	6178	25	17
10/14/2020	southbound	17:01:05	17:03:51	0:02:46	166	1.14	6019	36	25
								average	22
10/14/2020	northbound	16:06:47	16:14:11	0:07:24	444	1.25	6600	15	10
10/14/2020	northbound	16:19:28	16:27:24	0:07:56	476	1.36	7181	15	10
10/14/2020	northbound	16:33:01	16:38:21	0:05:20	320	1.31	6917	22	15
10/14/2020	northbound	16:43:31	16:48:15	0:04:44	284	1.17	6178	22	15
10/14/2020	northbound	16:54:49	16:59:35	0:04:46	286	1.29	6811	24	16
10/14/2020	northbound	17:04:58	17:10:02	0:05:04	304	1.19	6283	21	14
								average	13

Existing Peak Hour Intersection Capacity Analyses

Existing peak hour intersection capacity analyses were performed for the study intersections using the method of analysis included in the 2000 *Highway Capacity Manual*, published by the Transportation Research Board. Capacities are expressed as levels of service, and range from a level of service “A” (highest quality of service) to a level of service “F” (jammed conditions). As a general rule, operation at a level of service “D” or better is considered acceptable. Operation at a level of service “E” is considered operating at capacity. Operation at a level of service “F” is considered failing. The results of the peak hour intersection capacity analyses are included in Appendix C and are summarized in Table 4.

Table 4
Existing Intersection Capacity Analysis

Intersection	Approach	Movement	Level of Service	
			AM Peak	PM Peak
Chalkville Road at Poplar Street/ Rockridge Avenue	Chalkville Road Eastbound	Left-Through-Right	A	A
	Chalkville Road Westbound	Left-Through-Right	A	A
	Rockridge Avenue Northbound	Left-Through-Right	B	B
	Poplar Street Southbound	Left-Through-Right	C	B
	Overall intersection		B	A
Chalkville Road at Green Drive/ Pineview Road	Chalkville Road Eastbound	Left	A	A
		Through-Right	A	A
		Overall approach	A	A
	Chalkville Road Westbound	Left-Through-Right	A	B
	Pineview Road Northbound	Left-Through-Right	F	F
	Green Drive Southbound	Left-Through-Right	E	D
Overall intersection		C	C	
Chalkville Road at Norrell Drive	Chalkville Road Eastbound	Left	A	A
	Chalkville Road Westbound	Left	--	A
	Driveway Northbound	Left-Through-Right	A	E
	Norrell Drive Southbound	Left	C	E
		Through-Right	B	C
		Overall approach	B	C
Chalkville Road at Valley Road	Chalkville Road Eastbound	Left	A	A
	Chalkville Road Westbound	Left	A	A
	Valley Road Northbound	Right	B	B
	Driveway Southbound	Left-Through-Right	C	C

Table 4 (continued)
Existing Intersection Capacity Analysis

Intersection	Approach	Movement	Level of Service	
			AM Peak	PM Peak
Chalkville Road at I-59 Northbound Ramps	Chalkville Road Eastbound	Left	A	D
		Through	A	C
		Overall approach	A	C
	Chalkville Road Westbound	Through-Right	B	D
	I-59 Northbound Ramps Northbound	Left	E	D
		Right	D	C
Overall approach		E	D	
Overall intersection		C	D	
Chalkville Road at I-59 Southbound Ramps	Chalkville Road Eastbound	Through-Right	D	F
	Chalkville Road Westbound	Left	D	C
		Through	A	B
		Overall approach	A	B
	I-59 Southbound Ramps Southbound	Left	E	E
		Right	E	F
Overall approach		E	E	
Overall intersection		D	F	
Chalkville Mountain Road at Service Road	Chalkville Mountain Road Eastbound	Left	B	C
		Through-Right	D	B
		Overall approach	C	B
	Chalkville Mountain Road Westbound	Left	D	A
		Through-Right	C	A
		Overall approach	C	A
	Service Road Northbound	Left	D	E
		Through-Right	F	E
		Overall approach	F	E
Service Road Southbound	Left	F	F	
	Through-Right	D	E	
	Overall approach	F	E	
Overall intersection		F	B	

Table 4 (continued)
Existing Intersection Capacity Analysis

Table 4 (continued)
Existing Intersection Capacity Analysis

Intersection	Approach	Movement	Level of Service	
			AM Peak	PM Peak
Chalkville Mountain Road at Frank Johnston Drive	Chalkville Mountain Road Eastbound	Left	A	A
		Through	A	A
		Right	A	A
		<i>Overall approach</i>	<i>A</i>	<i>A</i>
	Chalkville Mountain Road Westbound	Left	A	A
		Through-Right	A	A
		<i>Overall approach</i>	<i>A</i>	<i>A</i>
	Frank Johnston Drive Northbound	Left-Through-Right	E	E
	Shopping Center Driveway Southbound	Left	E	F
		Through-Right	E	E
		<i>Overall approach</i>	<i>E</i>	<i>F</i>
	Overall intersection			A
Chalkville Mountain Road at Frank Street	Chalkville Mountain Road Eastbound	Left	A	A
		Through	A	B
		Right	A	B
		<i>Overall approach</i>	<i>A</i>	<i>B</i>
	Chalkville Mountain Road Westbound	Left	B	A
		Through-Right	A	A
		<i>Overall approach</i>	<i>A</i>	<i>A</i>
	Frank Street Northbound	Left-Through-Right	E	F
	Frank Street Southbound	Left	--	E
		Through-Right	E	E
		<i>Overall approach</i>	<i>E</i>	<i>E</i>
	Overall intersection			A

Intersection	Approach	Movement	Level of Service	
			AM Peak	PM Peak
Chalkville Mountain Road at Trussville Crossings Parkway/ Trussville Crossings Boulevard	Chalkville Mountain Road Eastbound	Left	E	E
		Through	B	C
		Right	B	D
		<i>Overall approach</i>	<i>B</i>	<i>C</i>
	Chalkville Mountain Road Westbound	Left	D	E
		Through	A	B
		Right	B	C
		<i>Overall approach</i>	<i>B</i>	<i>C</i>
	Trussville Crossings Parkway Northbound	Left	E	E
		Through	E	E
		Right	E	E
		<i>Overall approach</i>	<i>E</i>	<i>E</i>
Trussville Crossings Boulevard Southbound	Left	E	E	
	Through	E	E	
	Right	E	E	
	<i>Overall approach</i>	<i>E</i>	<i>E</i>	
Overall intersection			C	D
Chalkville Mountain Road at Midway Church Road/ Trussville Crossings Boulevard	Chalkville Mountain Road Eastbound	Left	E	E
		Through	A	A
		Right	A	A
		<i>Overall approach</i>	<i>A</i>	<i>A</i>
	Chalkville Mountain Road Westbound	Left	E	F
		Through	A	A
		Right	A	A
	<i>Overall approach</i>	<i>A</i>	<i>A</i>	
	Midway Church Road Northbound	Left-Through-Right	E	E
	Trussville Crossings Boulevard Southbound	Left	E	E
		Through-Right	E	E
		<i>Overall approach</i>	<i>E</i>	<i>E</i>
Overall intersection			A	A

Table 4 (continued)
Existing Intersection Capacity Analysis

Table 4 (continued)
Existing Intersection Capacity Analysis

Intersection	Approach	Movement	Level of Service		
			AM Peak	PM Peak	
Chalkville Mountain Road at Wright Street/Grayson Valley Parkway	Chalkville Mountain Road Eastbound	Left	B	A	
		Through-Right	C	A	
		<i>Overall approach</i>	<i>C</i>	<i>A</i>	
	Chalkville Mountain Road Westbound	Left	B	A	
		Through-Right	B	A	
		<i>Overall approach</i>	<i>B</i>	<i>A</i>	
	Grayson Valley Parkway Northbound	Left	D	E	
		Through-Right	D	E	
		<i>Overall approach</i>	<i>D</i>	<i>E</i>	
	Wright Street Southbound	Left	D	F	
		Through	C	E	
		<i>Overall approach</i>	<i>D</i>	<i>F</i>	
Overall intersection			C	B	
Chalkville Mountain Road at Grayson Valley Drive	Chalkville Mountain Road Eastbound	Left	A	B	
		Through-Right	A	B	
		<i>Overall approach</i>	<i>A</i>	<i>B</i>	
	Chalkville Mountain Road Westbound	Left	A	B	
		Through-Right	A	B	
		<i>Overall approach</i>	<i>A</i>	<i>B</i>	
	Grayson Valley Drive Northbound	Left	E	D	
		Through-Right	E	D	
		<i>Overall approach</i>	<i>E</i>	<i>D</i>	
	Driveway Southbound	Left-Through-Right	E	D	
	Overall intersection			B	B
	Chalkville Mountain Road at Martin Road	Chalkville Mountain Road Eastbound	Left	A	A
Through-Right			A	A	
<i>Overall approach</i>			<i>A</i>	<i>A</i>	
Chalkville Mountain Road Westbound		Left	A	A	
		Through-Right	A	A	
		<i>Overall approach</i>	<i>A</i>	<i>A</i>	
Driveway Northbound		Left-Through-Right	E	E	
Martin Road Southbound		Left	E	E	
		Through-Right	E	E	
		<i>Overall approach</i>	<i>E</i>	<i>E</i>	
Overall intersection			A	A	

Intersection	Approach	Movement	Level of Service		
			AM Peak	PM Peak	
Chalkville Mountain Road at Galloway Drive	Chalkville Mountain Road Eastbound	Left-Through-Right	A	A	
	Chalkville Mountain Road Westbound	Left	A	A	
		Through-Right	A	A	
		<i>Overall approach</i>	<i>A</i>	<i>A</i>	
	Galloway Drive Northbound	Left- Through-Right	E	E	
	Fire Station Driveway Southbound	Left- Through-Right	E	E	
	Overall intersection			A	A
Chalkville Mountain Road/Sweeney Hollow Road at Old Springville Road	Sweeney Hollow Road Eastbound	Left	B	C	
		Through-Right	C	B	
		<i>Overall approach</i>	<i>C</i>	<i>B</i>	
	Chalkville Mountain Road Westbound	Left	C	B	
		Through	C	E	
		Right	B	B	
		<i>Overall approach</i>	<i>C</i>	<i>D</i>	
	Old Springville Road Northbound	Left	C	C	
		Through	C	D	
		Right	C	C	
	<i>Overall approach</i>			<i>C</i>	<i>D</i>
	Old Springville Road Southbound	Left	F	F	
Through-Right		B	C		
<i>Overall approach</i>		<i>E</i>	<i>E</i>		
Overall intersection			C	D	
Sweeney Hollow Road at Brewster Road	Sweeney Hollow Road Eastbound	Left	C	D	
		Through-Right	A	A	
		<i>Overall approach</i>	<i>A</i>	<i>A</i>	
	Sweeney Hollow Road Westbound	Left	B	B	
		Through-Right	B	E	
		<i>Overall approach</i>	<i>B</i>	<i>E</i>	
	Brewster Road Northbound	Left-Through-Right	C	C	
	Driveway Southbound	Left- Through-Right	A	A	
Overall intersection			B	C	

Table 4 (continued)
Existing Intersection Capacity Analysis

Intersection	Approach	Movement	Level of Service	
			AM Peak	PM Peak
Sweeney Hollow Road at Tyler Loop Road	Sweeney Hollow Road Eastbound	Left	A	B
		Through	C	C
		<i>Overall approach</i>	<i>C</i>	<i>C</i>
	Sweeney Hollow Road Westbound	Through	A	A
		Right	A	A
		<i>Overall approach</i>	<i>A</i>	<i>A</i>
	Tyler Loop Road Southbound	Left-Right	C	C
Overall intersection			B	B
Old Springville Road at Brewster Road	Brewster Road Eastbound	Left- Through-Right	B	B
	Brewster Road Westbound	Left- Through-Right	B	B
	Old Springville Road Northbound	Left	A	A
		Through-Right	B	A
		<i>Overall approach</i>	<i>B</i>	<i>A</i>
	Old Springville Road Southbound	Left	A	A
		Through-Right	B	A
		<i>Overall approach</i>	<i>B</i>	<i>A</i>
Overall intersection			B	A

FUTURE 2045 CONDITIONS ANALYSIS

Planned and Programmed Roadway Improvements

The current Transportation Improvement Program (TIP) FY 2020-2023, the 2045 Regional Transportation Plan (fiscally-constrained) and local roadway plans were reviewed for projects within the study area. Table 5 lists all planned and programmed projects within the study area through 2045.

**Table 5
Planned and Programmed Roadway Improvements**

FY2020-2023 Transportation Improvement Program							
Roadway	Limits		Scope	Phase	FY	Funds	Comments
Chalkville Road	at Green Drive/Pineview Road		Signalization	UT	2019	\$960,000	portion of Jefco TOPICS 7 - complete
				CN	2023	\$6.56 million	
I-59	I-459	Chalkville Road	Widening 4-6 lanes	CN	2021	\$5 million	
I-59	Chalkville Road	St. Clair County Line	Pavement Rehab	PE	2019	\$300,000	under construction
2045 Regional Transportation Plan							
Roadway	Limits		Scope	Phase	FY	Funds	Comments
Birmingham Northern Beltline	State Route 75	I-59	6 lane freeway	CN	2035	\$534.7 million	
I-59	I-459	Chalkville Road	Widening 4-6 lanes	CN	2024	\$5 million	in current TIP
I-59	I-459	Chalkville Road	Widening 6-8 lanes	CN	2030	\$44.8 million	
Local Projects							
Roadway	Limits		Scope	Phase	FY	Funds	Comments
Chalkville Road	Valley Road	Boulder Drive	Widening – 1 lane	CN	2024	unknown	Under design by Jefferson County

The Jefferson County project on Chalkville Road proposes to widen Chalkville Road from a two-lane to a three-lane cross section from Green Drive/Pineview Road to Boulder Drive and add one westbound through lane from Green Drive/Pineview Road to the beginning of the five lane section near Valley Road.

Historic Traffic Growth

An analysis was performed to determine the historical rate of traffic growth on roadways with the study area. Traffic count information from the Alabama Department of Transportation was obtained for the years 2014 through 2020 for Chalkville Road/Chalkville Mountain Road and I-59 in the vicinity of the study area. This information was analyzed to determine the rate of traffic growth in the area. The traffic count information and analysis is shown in Table 6.

**Table 6
Historical Traffic Growth**

Year	Chalkville Road/Chalkville Mountain Road								I-59				
	west of Midway Church Road		west of I-59		east of I-59		west of Poplar Street		south of Chalkville Road		north of Chalkville Road		
	ADT	Per Year Growth	ADT	Per Year Growth	ADT	Per Year Growth	ADT	Per Year Growth	ADT	Per Year Growth	ADT	Per Year Growth	
2014	28120		38470							60320		41130	
2015	30590	8.8%	38470	0.0%	16490		12430		61880	2.6%	41010	-0.3%	
2016	31340	2.5%	39410	2.4%	16890	2.4%	12730	2.4%	63060	1.9%	41790	1.9%	
2017	30850	-1.6%	39460	0.1%	16650	-1.4%	12730	0.0%	64120	1.7%	42450	1.6%	
2018	33057	7.2%	41129	4.2%	16000	-3.9%	13404	5.3%	64906	1.2%	45259	6.6%	
2019	34195	3.4%	42545	3.4%	16551	3.4%	13866	3.4%	64618	-0.4%	48473	7.1%	
2020	32124	-6.1%	39969	-6.1%	15549	-6.1%	13026	-6.1%	57307	-11.3%	46831	-3.4%	
average		2.4%		0.7%		-1.1%		1.0%		-0.7%		2.3%	
overall		2.4%		0.6%		-1.1%		1.0%		-0.8%		2.3%	
Average of all count stations: +0.8% per year													
Average of the overall rate at all count stations: +0.7% per year													

Regional Transportation Demand Model

The regional transportation demand model for the Birmingham area (maintained by the Regional Planning Commission of Greater Birmingham) was used to estimate future growth in traffic in the study area. Base year 2015 calibrated traffic volumes were compared to future year 2045 traffic forecasts for Chalkville Road and Chalkville Mountain Road. The output traffic volumes from the transportation demand model are shown in Figure 3. An analysis of the projected traffic growth in the study area based on the transportation demand model is included in Table 7.

It should be noted that the regional traffic demand model includes a segment of the Birmingham Northern Beltline from I-59 to I-65. This project has a tendency to decrease the growth in traffic volumes on Chalkville Mountain Road north of I-59.

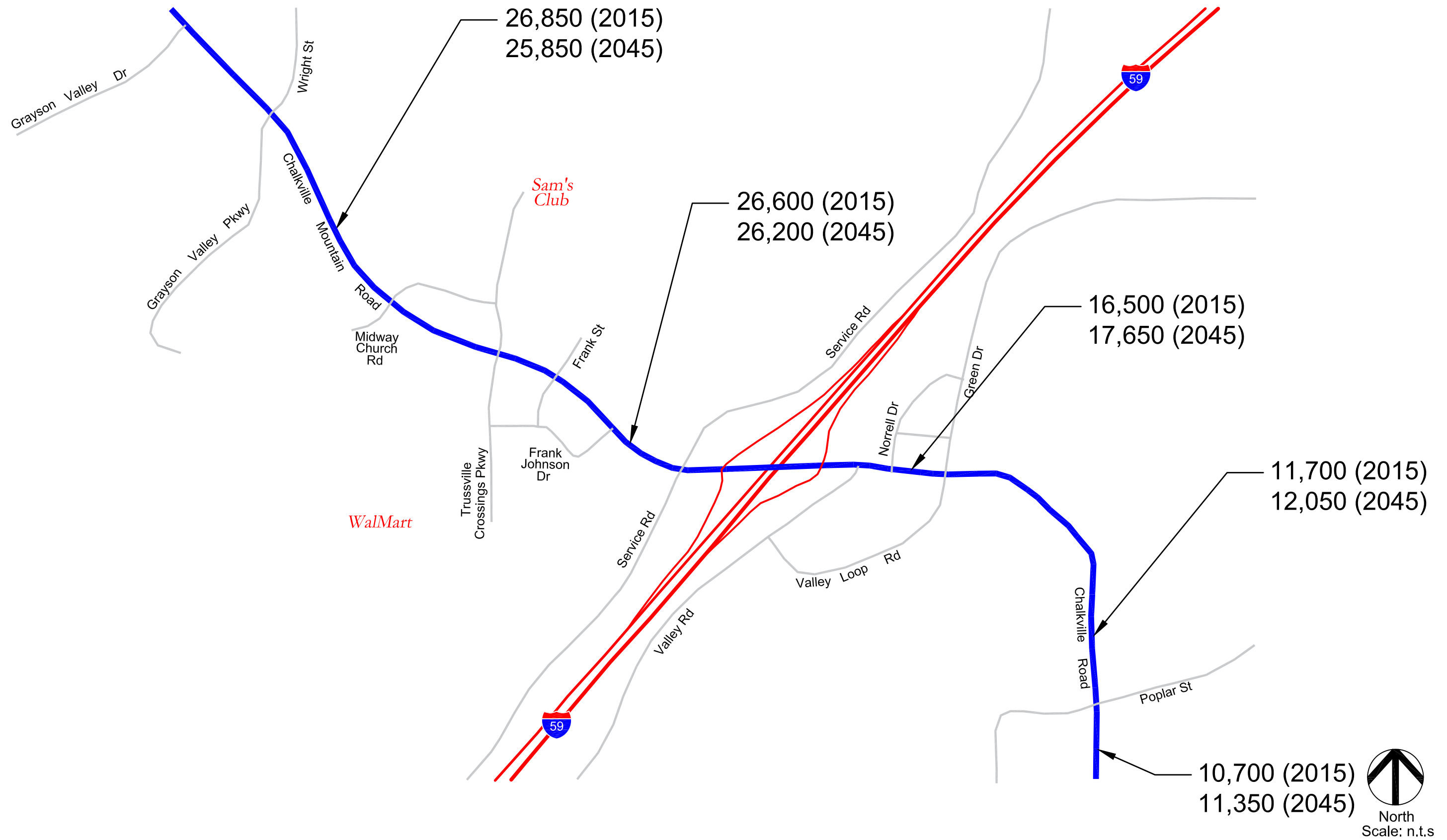


Figure 3 - Transportation Demand Model Output

Chalkville Road APPLE - Trussville, Alabama

November 2021



Table 7
Transportation Demand Model Growth

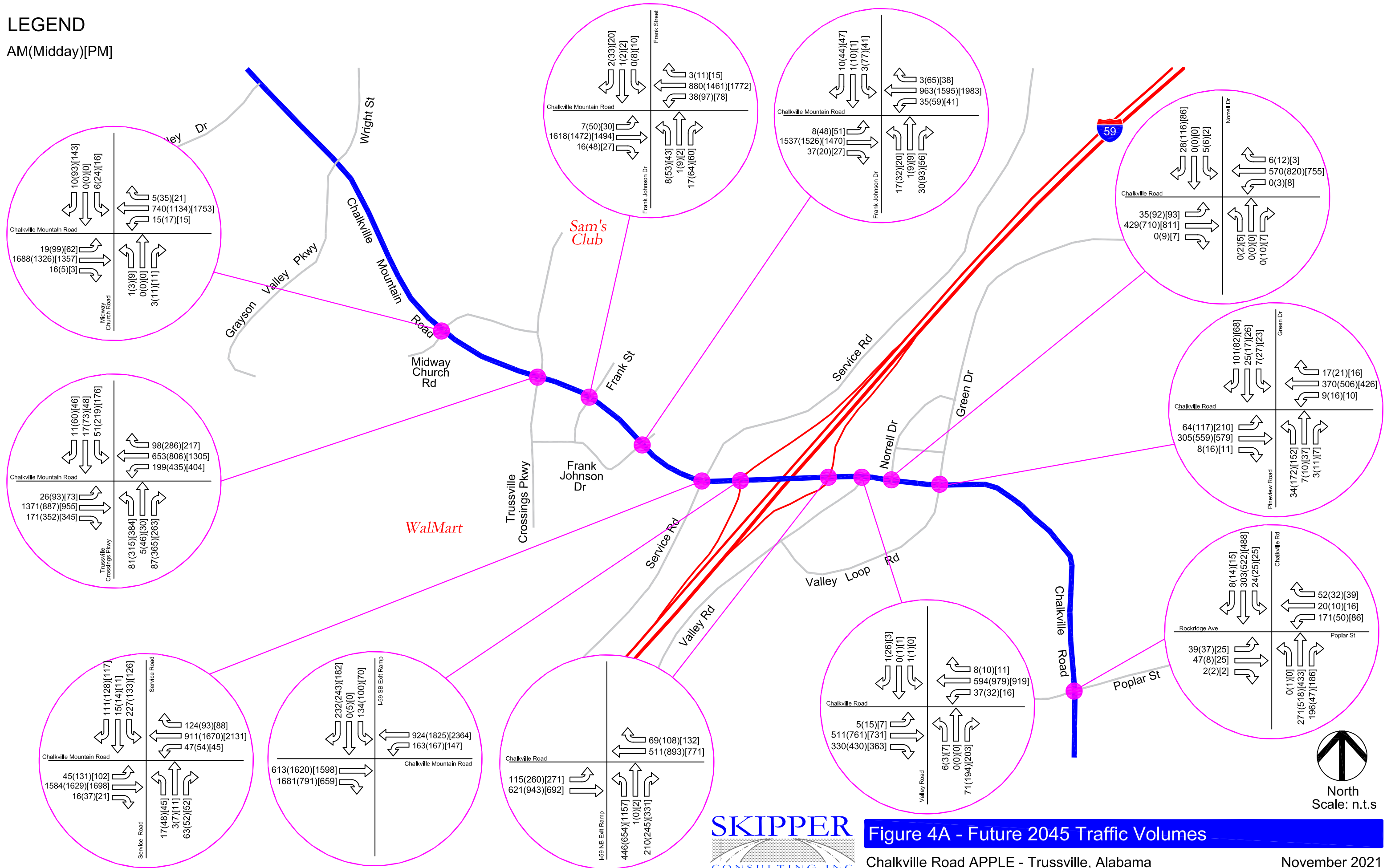
<i>Roadway</i>	<i>Location</i>	<i>2015 Calibrated Volume</i>	<i>2045 Forecasted Volume</i>	<i>Percent Growth Per Year</i>
Chalkville Mountain Road	At west end of study area	26,850	25,850	-0.0%
	North of I-59	26,600	26,200	-0.1%
Chalkville Road	South of I-59	16,500	17,650	+0.2%
	North of Poplar Street	11,700	12,050	+0.1%
	South of Poplar Street	10,700	11,350	+0.2%

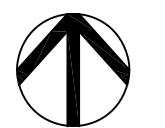
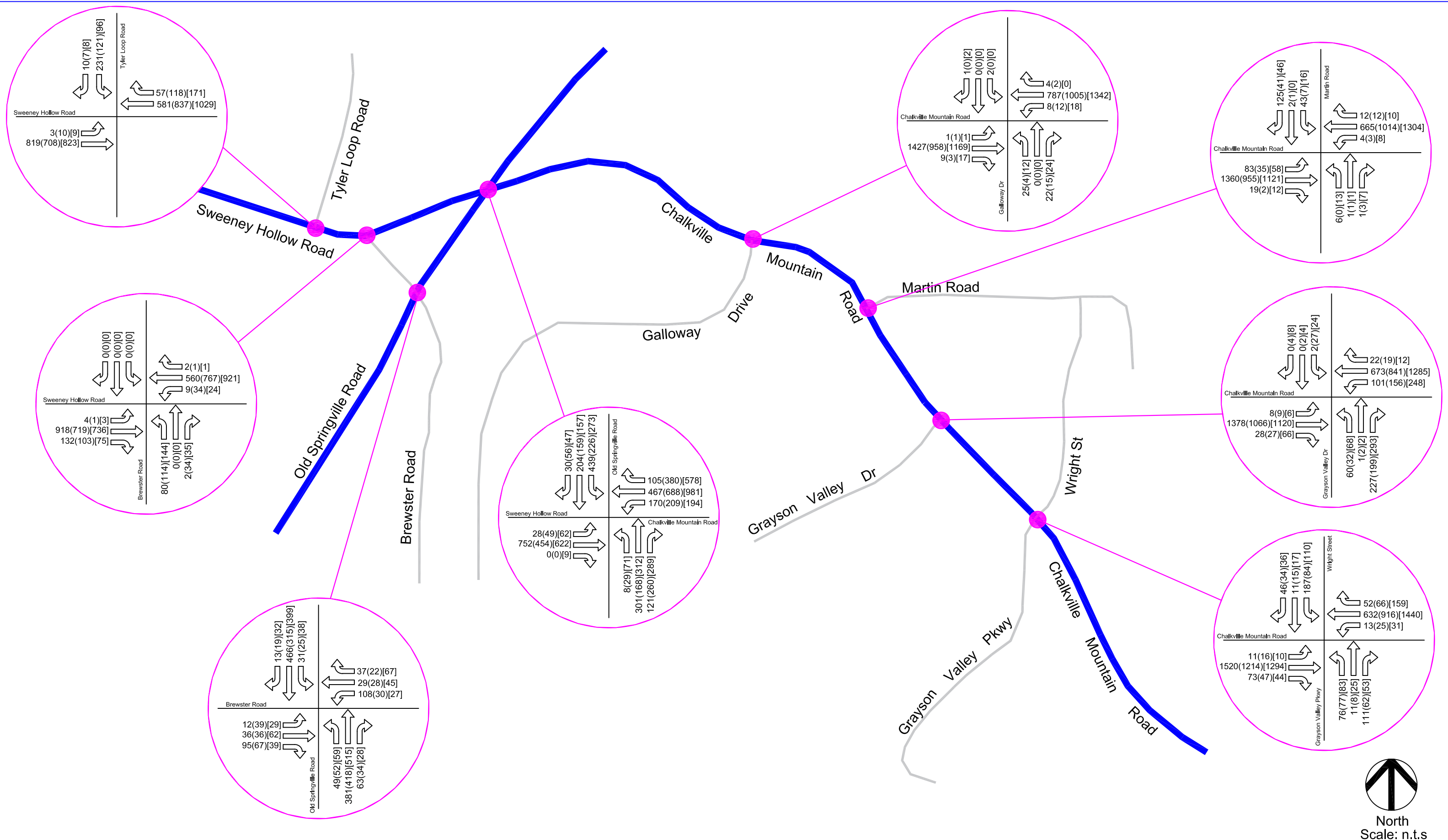
Traffic Growth Forecast

Combining the results of the historical traffic growth and the traffic growth projected by the regional transportation demand model, a per year growth rate in traffic of +0.5% per year was calculated. The +0.5% per year historical traffic growth rate was applied to existing traffic counts to develop future year 2045 traffic volumes. The anticipated future traffic volumes in the year 2045 are shown in Figures 4A and 4B.

LEGEND

AM(Midday)[PM]





North
Scale: n.t.s

LEGEND
AM(Midday)[PM]



Figure 4B - Future 2045 Traffic Volumes

Chalkville Road APPLE - Trussville, Alabama

November 2021

Future 2045 Peak Hour Intersection Capacity Analysis

Peak hour intersection capacity analyses were performed for future year 2045 traffic conditions. The results are included in Appendix D and are summarized in Table 8. Note that the Future 2045 intersection capacity analyses include optimized signal timings but do not include any roadway improvements.

**Table 8
Future 2045 Intersection Capacity Analysis**

Intersection	Approach	Movement	Level of Service	
			AM Peak	PM Peak
Chalkville Road at Poplar Street/ Rockridge Avenue	Chalkville Road Eastbound	Left-Through-Right	B	A
	Chalkville Road Westbound	Left-Through-Right	A	A
	Rockridge Avenue Northbound	Left-Through-Right	B	B
	Poplar Street Southbound	Left-Through-Right	C	B
	Overall intersection			B
Chalkville Road at Green Drive/ Pineview Road	Chalkville Road Eastbound	Left	A	B
		Through-Right	A	B
		<i>Overall approach</i>	A	B
	Chalkville Road Westbound	Left-Through-Right	A	C
	Pineview Road Northbound	Left-Through-Right	F	F
	Green Drive Southbound	Left-Through-Right	E	D
Overall intersection			C	C
Chalkville Road at Norrell Drive	Chalkville Road Eastbound	Left	A	B
	Chalkville Road Westbound	Left	--	A
	Driveway Northbound	Left-Through-Right	A	F
	Norrell Drive Southbound	Left	D	F
		Through-Right	B	C
		<i>Overall approach</i>	C	C
Chalkville Road at Valley Road	Chalkville Road Eastbound	Left	A	B
	Chalkville Road Westbound	Left	B	A
	Valley Road Northbound	Right	C	B
	Driveway Southbound	Left-Through-Right	D	D

**Table 8 (continued)
Future 2045 Intersection Capacity Analysis**

Intersection	Approach	Movement	Level of Service		
			AM Peak	PM Peak	
Chalkville Road at I-59 Northbound Ramps	Chalkville Road Eastbound	Left	A	F	
		Through	A	C	
		<i>Overall approach</i>	A	D	
	Chalkville Road Westbound	Through-Right	B	D	
		I-59 Northbound Ramps Northbound	Left	E	D
			Right	D	C
<i>Overall approach</i>			E	D	
Overall intersection			C	D	
Chalkville Road at I-59 Southbound Ramps	Chalkville Road Eastbound	Through-Right	F	F	
		Chalkville Road Westbound	Left	D	C
			Through	A	B
	<i>Overall approach</i>			A	B
	I-59 Southbound Ramps Southbound	Left	E	E	
		Right	E	F	
		<i>Overall approach</i>	E	E	
Overall intersection			F	F	
Chalkville Mountain Road at Service Road	Chalkville Mountain Road Eastbound	Left	A	D	
		Through-Right	C	B	
		<i>Overall approach</i>	C	C	
	Chalkville Mountain Road Westbound	Left	D	A	
		Through-Right	C	A	
		<i>Overall approach</i>	C	A	
	Service Road Northbound	Left	D	E	
		Through-Right	D	E	
		<i>Overall approach</i>	D	E	
	Service Road Southbound	Left	F	F	
Through-Right		D	E		
<i>Overall approach</i>		E	E		
Overall intersection			C	B	

Table 8 (continued)
Future 2045 Intersection Capacity Analysis

Intersection	Approach	Movement	Level of Service	
			AM Peak	PM Peak
Chalkville Mountain Road at Frank Johnston Drive	Chalkville Mountain Road Eastbound	Left	A	A
		Through	A	A
		Right	A	A
		<i>Overall approach</i>	<i>A</i>	<i>A</i>
	Chalkville Mountain Road Westbound	Left	A	A
		Through-Right	A	A
		<i>Overall approach</i>	<i>A</i>	<i>A</i>
	Frank Johnston Drive Northbound	Left-Through-Right	E	E
	Shopping Center Driveway Southbound	Left	E	F
		Through-Right	E	E
		<i>Overall approach</i>	<i>E</i>	<i>F</i>
	Overall intersection			A
Chalkville Mountain Road at Frank Street	Chalkville Mountain Road Eastbound	Left	A	A
		Through	A	B
		Right	A	B
		<i>Overall approach</i>	<i>A</i>	<i>B</i>
	Chalkville Mountain Road Westbound	Left	C	A
		Through-Right	A	A
		<i>Overall approach</i>	<i>A</i>	<i>A</i>
	Frank Street Northbound	Left-Through-Right	E	F
	Frank Street Southbound	Left	--	E
		Through-Right	E	E
		<i>Overall approach</i>	<i>E</i>	<i>E</i>
	Overall intersection			A

Table 8 (continued)
Future 2045 Intersection Capacity Analysis

Intersection	Approach	Movement	Level of Service	
			AM Peak	PM Peak
Chalkville Mountain Road at Trussville Crossings Parkway/ Trussville Crossings Boulevard	Chalkville Mountain Road Eastbound	Left	E	E
		Through	B	C
		Right	A	C
		<i>Overall approach</i>	<i>B</i>	<i>C</i>
	Chalkville Mountain Road Westbound	Left	D	E
		Through	A	B
		Right	B	C
		<i>Overall approach</i>	<i>B</i>	<i>C</i>
	Trussville Crossings Parkway Northbound	Left	E	E
		Through	E	E
		Right	E	E
		<i>Overall approach</i>	<i>E</i>	<i>E</i>
Trussville Crossings Boulevard Southbound	Left	E	E	
	Through	E	E	
	Right	E	E	
	<i>Overall approach</i>	<i>E</i>	<i>E</i>	
Overall intersection			C	D
Chalkville Mountain Road at Midway Church Road/ Trussville Crossings Boulevard	Chalkville Mountain Road Eastbound	Left	E	E
		Through	A	A
		Right	A	A
		<i>Overall approach</i>	<i>A</i>	<i>A</i>
	Chalkville Mountain Road Westbound	Left	E	F
		Through	A	A
		Right	A	A
	<i>Overall approach</i>	<i>A</i>	<i>A</i>	
	Midway Church Road Northbound	Left-Through-Right	E	E
	Trussville Crossings Boulevard Southbound	Left	E	E
		Through-Right	E	E
		<i>Overall approach</i>	<i>E</i>	<i>E</i>
Overall intersection			A	A

Table 8 (continued)
Future 2045 Intersection Capacity Analysis

Table 8 (continued)
Future 2045 Intersection Capacity Analysis

Intersection	Approach	Movement	Level of Service		
			AM Peak	PM Peak	
Chalkville Mountain Road at Wright Street/Grayson Valley Parkway	Chalkville Mountain Road Eastbound	Left	A	A	
		Through-Right	C	A	
		<i>Overall approach</i>	<i>C</i>	<i>A</i>	
	Chalkville Mountain Road Westbound	Left	B	A	
		Through-Right	B	A	
		<i>Overall approach</i>	<i>B</i>	<i>A</i>	
	Grayson Valley Parkway Northbound	Left	D	E	
		Through-Right	D	E	
		<i>Overall approach</i>	<i>D</i>	<i>E</i>	
	Wright Street Southbound	Left	D	F	
		Through	D	E	
		<i>Overall approach</i>	<i>D</i>	<i>F</i>	
Overall intersection			C	B	
Chalkville Mountain Road at Grayson Valley Drive	Chalkville Mountain Road Eastbound	Left	A	B	
		Through-Right	B	C	
		<i>Overall approach</i>	<i>B</i>	<i>C</i>	
	Chalkville Mountain Road Westbound	Left	B	D	
		Through-Right	A	B	
		<i>Overall approach</i>	<i>A</i>	<i>B</i>	
	Grayson Valley Drive Northbound	Left	E	D	
		Through-Right	E	D	
		<i>Overall approach</i>	<i>E</i>	<i>D</i>	
	Driveway Southbound	Left-Through-Right	E	D	
	Overall intersection			B	C
	Chalkville Mountain Road at Martin Road	Chalkville Mountain Road Eastbound	Left	A	A
Through-Right			A	A	
<i>Overall approach</i>			<i>A</i>	<i>A</i>	
Chalkville Mountain Road Westbound		Left	A	A	
		Through-Right	A	A	
		<i>Overall approach</i>	<i>A</i>	<i>A</i>	
Driveway Northbound		Left-Through-Right	E	E	
Martin Road Southbound		Left	E	E	
		Through-Right	E	E	
		<i>Overall approach</i>	<i>E</i>	<i>E</i>	
Overall intersection			A	A	

Intersection	Approach	Movement	Level of Service	
			AM Peak	PM Peak
Chalkville Mountain Road at Galloway Drive	Chalkville Mountain Road Eastbound	Left-Through-Right	A	A
	Chalkville Mountain Road Westbound	Left	A	A
		Through-Right	A	A
		<i>Overall approach</i>	<i>A</i>	<i>A</i>
	Galloway Drive Northbound	Left- Through-Right	E	E
	Fire Station Driveway Southbound	Left- Through-Right	E	E
	Overall intersection			A
Chalkville Mountain Road/Sweeney Hollow Road at Old Springville Road	Sweeney Hollow Road Eastbound	Left	C	C
		Through-Right	C	B
		<i>Overall approach</i>	<i>C</i>	<i>B</i>
	Chalkville Mountain Road Westbound	Left	D	B
		Through	C	E
		Right	B	B
		<i>Overall approach</i>	<i>C</i>	<i>D</i>
	Old Springville Road Northbound	Left	C	D
		Through	D	F
		Right	C	D
	<i>Overall approach</i>	<i>D</i>	<i>E</i>	
	Old Springville Road Southbound	Left	E	F
Through-Right		B	D	
<i>Overall approach</i>		<i>D</i>	<i>E</i>	
Overall intersection			D	D
Sweeney Hollow Road at Brewster Road	Sweeney Hollow Road Eastbound	Left	D	D
		Through-Right	A	A
		<i>Overall approach</i>	<i>A</i>	<i>A</i>
	Sweeney Hollow Road Westbound	Left	B	B
		Through-Right	B	E
		<i>Overall approach</i>	<i>B</i>	<i>E</i>
	Brewster Road Northbound	Left-Through-Right	C	D
Driveway Southbound	Left- Through-Right	A	A	
Overall intersection			B	D

Table 8 (continued)
Future 2045 Intersection Capacity Analysis

Intersection	Approach	Movement	Level of Service	
			AM Peak	PM Peak
Sweeney Hollow Road at Tyler Loop Road	Sweeney Hollow Road Eastbound	Left	A	B
		Through	C	C
		<i>Overall approach</i>	<i>C</i>	<i>C</i>
	Sweeney Hollow Road Westbound	Through	A	A
		Right	A	A
		<i>Overall approach</i>	<i>A</i>	<i>A</i>
	Tyler Loop Road Southbound	Left-Right	D	D
Overall intersection			B	B
Old Springville Road at Brewster Road	Brewster Road Eastbound	Left- Through-Right	B	B
	Brewster Road Westbound	Left- Through-Right	C	B
	Old Springville Road Northbound	Left	A	A
		Through-Right	B	A
		<i>Overall approach</i>	<i>B</i>	<i>A</i>
	Old Springville Road Southbound	Left	A	A
		Through-Right	B	A
		<i>Overall approach</i>	<i>B</i>	<i>A</i>
Overall intersection			B	A

ANALYSIS OF IMPROVEMENTS

Improvement Concepts

The following improvement concepts were developed and tested:

- a third southbound through lane on Chalkville Mountain Road north of I-59 ending as an exclusive right turn onto the I-59 southbound entrance ramp
- a second northbound through lane on Chalkville Road south of I-59 beginning near Boulder Circle
- a double left turn lane on Service Road westbound and modification of the signal phasing to allow a protected left turn phase from Service Road southbound onto Chalkville Mountain Road
- a right turn from Chalkville Road northbound onto the I-59 northbound entrance ramp
- an exclusive left turn lane on Pineview Road and modification of the signal phasing to allow a protected-permissive left turn from Pineview Road onto Chalkville Road

Drawings of the proposed improvements are included in Figure 5A-5N.

Future 2045 Peak Hour Intersection Capacity Analysis with Improvements

Peak hour intersection capacity analyses were performed for future year 2045 traffic conditions. The results are included in Appendix E and are summarized in Table 9.

Table 9
Future 2045 Intersection Capacity Analysis with Improvements

Intersection	Approach	Movement	Level of Service	
			AM Peak	PM Peak
Chalkville Road at Poplar Street/ Rockridge Avenue	Chalkville Road Eastbound	Left-Through-Right	B	A
	Chalkville Road Westbound	Left-Through-Right	A	A
	Rockridge Avenue Northbound	Left-Through-Right	B	B
	Poplar Street Southbound	Left-Through-Right	C	B
	Overall intersection			B
Chalkville Road at Green Drive/ Pineview Road	Chalkville Road Eastbound	Left	A	B
		Through-Right	A	B
		Overall approach	A	B
	Chalkville Road Westbound	Left-Through-Right	A	B
		Pineview Road Northbound	Left	E
	Through-Right		D	D
	Overall approach		E	D
Green Drive Southbound	Left-Through-Right	E	F	
Overall intersection			B	C
Chalkville Road at Norrell Drive	Chalkville Road Eastbound	Left	A	A
	Chalkville Road Westbound	Left	--	A
	Driveway Northbound	Left-Through-Right	A	D
	Norrell Drive Southbound	Left	D	F
		Through-Right	B	B
Overall approach			B	B
Chalkville Road at Valley Road	Chalkville Road Eastbound	Left	A	A
	Chalkville Road Westbound	Left	B	A
	Valley Road Northbound	Right	C	B
	Driveway Southbound	Left-Through-Right	D	C

Table 9 (continued)
Future 2045 Intersection Capacity Analysis with Improvements

Intersection	Approach	Movement	Level of Service	
			AM Peak	PM Peak
Chalkville Road at I-59 Northbound Ramps	Chalkville Road Eastbound	Left	A	E
		Through	A	C
		<i>Overall approach</i>	A	C
	Chalkville Road Westbound	Through	B	D
		Right	C	C
		<i>Overall approach</i>	B	D
	I-59 Northbound Ramps Northbound	Left	E	D
		Right	D	C
		<i>Overall approach</i>	E	D
Overall intersection			C	D
Chalkville Road at I-59 Southbound Ramps	Chalkville Road Eastbound	Through	B	D
		Right	F	D
		<i>Overall approach</i>	F	D
	Chalkville Road Westbound	Left	A	C
		Through	A	B
		<i>Overall approach</i>	A	B
	I-59 Southbound Ramps Southbound	Left	E	E
		Right	E	F
		<i>Overall approach</i>	E	E
Overall intersection			F	C
Chalkville Mountain Road at Service Road	Chalkville Mountain Road Eastbound	Left	A	D
		Through-Right	B	C
		<i>Overall approach</i>	B	C
	Chalkville Mountain Road Westbound	Left	A	B
		Through-Right	A	C
		<i>Overall approach</i>	A	C
	Service Road Northbound	Left	E	F
		Through-Right	E	E
		<i>Overall approach</i>	E	E
	Service Road Southbound	Left	E	E
		Through-Right	D	D
		<i>Overall approach</i>	E	E
Overall intersection			B	C

Table 9 (continued)
Future 2045 Intersection Capacity Analysis with improvements

Intersection	Approach	Movement	Level of Service		
			AM Peak	PM Peak	
Chalkville Mountain Road at Frank Johnston Drive	Chalkville Mountain Road Eastbound	Left	A	B	
		Through-Right	A	A	
		<i>Overall approach</i>	A	A	
	Chalkville Mountain Road Westbound	Left	A	A	
		Through-Right	A	B	
		<i>Overall approach</i>	A	B	
	Frank Johnston Drive Northbound	Left-Through-Right	E	E	
		Shopping Center Driveway Southbound	Left	E	F
			Through-Right	E	E
<i>Overall approach</i>	E		F		
Overall intersection			A	B	
Chalkville Mountain Road at Frank Street	Chalkville Mountain Road Eastbound	Left	A	A	
		Through-Right	A	B	
		<i>Overall approach</i>	A	B	
	Chalkville Mountain Road Westbound	Left	A	A	
		Through-Right	A	A	
		<i>Overall approach</i>	A	A	
	Frank Street Northbound	Left-Through-Right	E	F	
		Frank Street Southbound	Left	--	E
			Through-Right	E	E
<i>Overall approach</i>	E		E		
Overall intersection			A	B	

Table 9 (continued)
Future 2045 Intersection Capacity Analysis with improvements

Intersection	Approach	Movement	Level of Service	
			AM Peak	PM Peak
Chalkville Mountain Road at Trussville Crossings Parkway/ Trussville Crossings Boulevard	Chalkville Mountain Road Eastbound	Left	E	E
		Through	B	C
		Right	A	C
		<i>Overall approach</i>	<i>B</i>	<i>C</i>
	Chalkville Mountain Road Westbound	Left	E	E
		Through	B	C
		Right	C	E
		<i>Overall approach</i>	<i>C</i>	<i>D</i>
	Trussville Crossings Parkway Northbound	Left	E	E
		Through	E	E
		Right	E	E
		<i>Overall approach</i>	<i>E</i>	<i>E</i>
	Trussville Crossings Boulevard Southbound	Left	E	E
		Through	E	E
		Right	E	E
<i>Overall approach</i>		<i>E</i>	<i>E</i>	
	Overall intersection	C	D	
Chalkville Mountain Road at Midway Church Road/ Trussville Crossings Boulevard	Chalkville Mountain Road Eastbound	Left	E	E
		Through	A	A
		Right	A	A
		<i>Overall approach</i>	<i>A</i>	<i>A</i>
	Chalkville Mountain Road Westbound	Left	E	F
		Through	A	A
		Right	A	A
		<i>Overall approach</i>	<i>A</i>	<i>A</i>
	Midway Church Road Northbound	Left-Through-Right	E	E
	Trussville Crossings Boulevard Southbound	Left	E	E
		Through-Right	E	E
		<i>Overall approach</i>	<i>E</i>	<i>E</i>
		Overall intersection	A	A

Table 9 (continued)
Future 2045 Intersection Capacity Analysis with Improvements

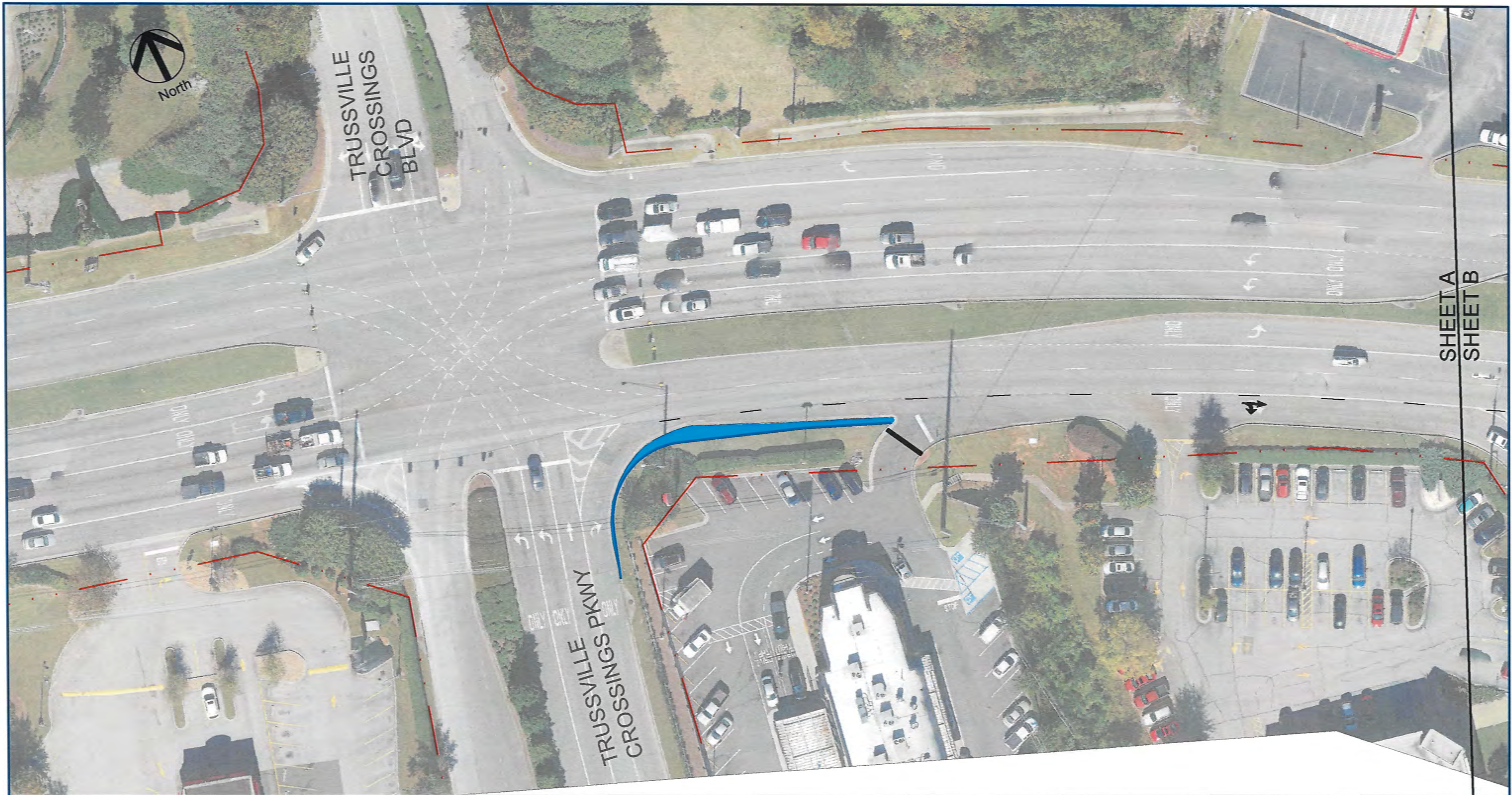
Intersection	Approach	Movement	Level of Service	
			AM Peak	PM Peak
Chalkville Mountain Road at Wright Street/Grayson Valley Parkway	Chalkville Mountain Road Eastbound	Left	A	A
		Through-Right	C	A
		<i>Overall approach</i>	<i>C</i>	<i>A</i>
	Chalkville Mountain Road Westbound	Left	B	A
		Through-Right	B	A
		<i>Overall approach</i>	<i>B</i>	<i>A</i>
	Grayson Valley Parkway Northbound	Left	D	E
		Through-Right	D	E
		<i>Overall approach</i>	<i>D</i>	<i>E</i>
	Wright Street Southbound	Left	D	F
		Through	D	E
		<i>Overall approach</i>	<i>D</i>	<i>F</i>
	Overall intersection	C	B	
Chalkville Mountain Road at Grayson Valley Drive	Chalkville Mountain Road Eastbound	Left	A	B
		Through-Right	B	C
		<i>Overall approach</i>	<i>B</i>	<i>C</i>
	Chalkville Mountain Road Westbound	Left	B	D
		Through-Right	A	B
		<i>Overall approach</i>	<i>A</i>	<i>B</i>
	Grayson Valley Drive Northbound	Left	E	D
		Through-Right	E	D
		<i>Overall approach</i>	<i>E</i>	<i>D</i>
	Driveway Southbound	Left-Through-Right	E	D
	Overall intersection	B	C	
Chalkville Mountain Road at Martin Road	Chalkville Mountain Road Eastbound	Left	A	A
		Through-Right	A	A
		<i>Overall approach</i>	<i>A</i>	<i>A</i>
	Chalkville Mountain Road Westbound	Left	A	A
		Through-Right	A	A
		<i>Overall approach</i>	<i>A</i>	<i>A</i>
	Driveway Northbound	Left-Through-Right	E	E
	Martin Road Southbound	Left	E	E
		Through-Right	E	E
		<i>Overall approach</i>	<i>E</i>	<i>E</i>
	Overall intersection	A	A	

Table 9 (continued)
Future 2045 Intersection Capacity Analysis with Improvements

Intersection	Approach	Movement	Level of Service	
			AM Peak	PM Peak
Chalkville Mountain Road at Galloway Drive	Chalkville Mountain Road Eastbound	Left-Through-Right	A	A
	Chalkville Mountain Road Westbound	Left	A	A
		Through-Right	A	A
		<i>Overall approach</i>	A	A
	Galloway Drive Northbound	Left- Through-Right	E	E
	Fire Station Driveway Southbound	Left- Through-Right	E	E
Overall intersection			A	A
Chalkville Mountain Road/Sweeney Hollow Road at Old Springville Road	Sweeney Hollow Road Eastbound	Left	C	C
		Through-Right	C	B
		<i>Overall approach</i>	C	B
	Chalkville Mountain Road Westbound	Left	D	B
		Through	C	E
		Right	B	B
		<i>Overall approach</i>	C	D
	Old Springville Road Northbound	Left	C	D
		Through	D	F
		Right	C	D
		<i>Overall approach</i>	D	E
	Old Springville Road Southbound	Left	E	F
		Through-Right	B	D
		<i>Overall approach</i>	D	E
	Overall intersection			D
Sweeney Hollow Road at Brewster Road	Sweeney Hollow Road Eastbound	Left	D	D
		Through-Right	A	A
		<i>Overall approach</i>	A	A
	Sweeney Hollow Road Westbound	Left	B	B
		Through-Right	B	E
		<i>Overall approach</i>	B	E
	Brewster Road Northbound	Left-Through-Right	C	D
	Driveway Southbound	Left- Through-Right	A	A
	Overall intersection			B

Table 9 (continued)
Future 2045 Intersection Capacity Analysis with Improvements

Intersection	Approach	Movement	Level of Service	
			AM Peak	PM Peak
Sweeney Hollow Road at Tyler Loop Road	Sweeney Hollow Road Eastbound	Left	A	B
		Through	C	C
		<i>Overall approach</i>	C	C
	Sweeney Hollow Road Westbound	Through	A	A
		Right	A	A
		<i>Overall approach</i>	A	A
	Tyler Loop Road Southbound	Left-Right	D	D
Overall intersection			B	B
Old Springville Road at Brewster Road	Brewster Road Eastbound	Left- Through-Right	B	B
	Brewster Road Westbound	Left- Through-Right	C	B
	Old Springville Road Northbound	Left	A	A
		Through-Right	B	A
		<i>Overall approach</i>	B	A
	Old Springville Road Southbound	Left	A	A
		Through-Right	B	A
		<i>Overall approach</i>	B	A
	Overall intersection			B



SHEET A
SHEET B

LEGEND

- Existing Bridge Rail
- New Edge of Pavement
- New Island
- New Paving
- - - Existing ROW

Scale: 1"=50'



Figure 5A - Improvement Concept

Chalkville Road APPLE - Trussville, Alabama

November 2021



LEGEND

- Existing Bridge Rail
- New Edge of Pavement
- New Island
- New Paving
- - - Existing ROW

Scale: 1"=50'



Figure 5B - Improvement Concept

Chalkville Road APPLE - Trussville, Alabama

November 2021



LEGEND

- Existing Bridge Rail
- New Edge of Pavement
- New Island
- New Paving
- Existing ROW

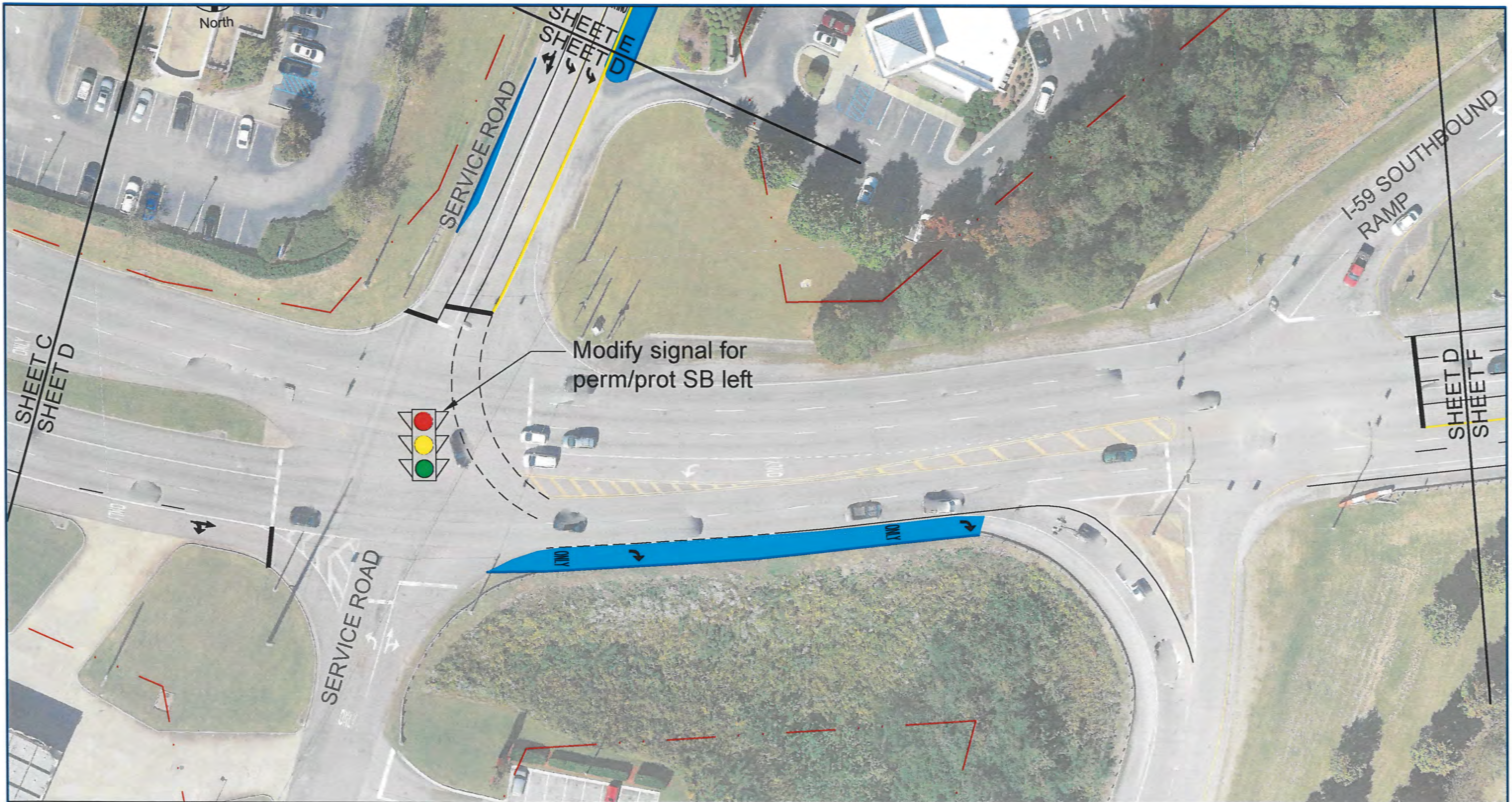
Scale: 1"=50'



Figure 5C - Improvement Concept

Chalkville Road APPLE - Trussville, Alabama

November 2021



LEGEND

- Existing Bridge Rail
- New Edge of Pavement
- New Island
- New Paving
- - - Existing ROW

Scale: 1"=50'



Figure 5D - Improvement Concept

Chalkville Road APPLE - Trussville, Alabama

November 2021



LEGEND

-  Existing Bridge Rail
-  New Edge of Pavement
-  New Island
-  New Paving
-  Existing ROW

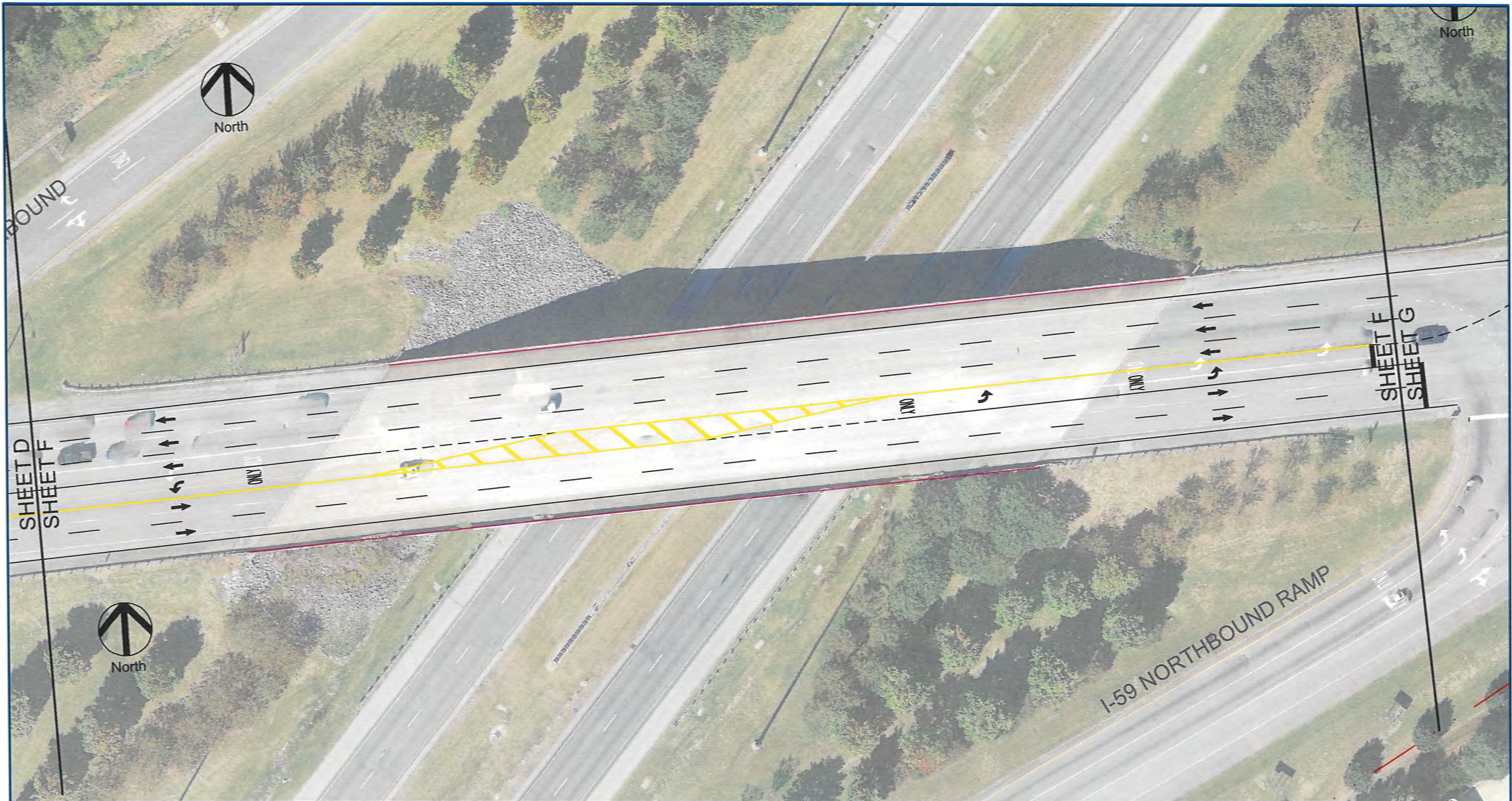
Scale: 1:50'



Figure 5E - Improvement Concept

Chalkville Road APPLE - Trussville, Alabama

November 2021



LEGEND

- Existing Bridge Rail
- New Edge of Pavement
- New Island
- New Paving
- Existing ROW

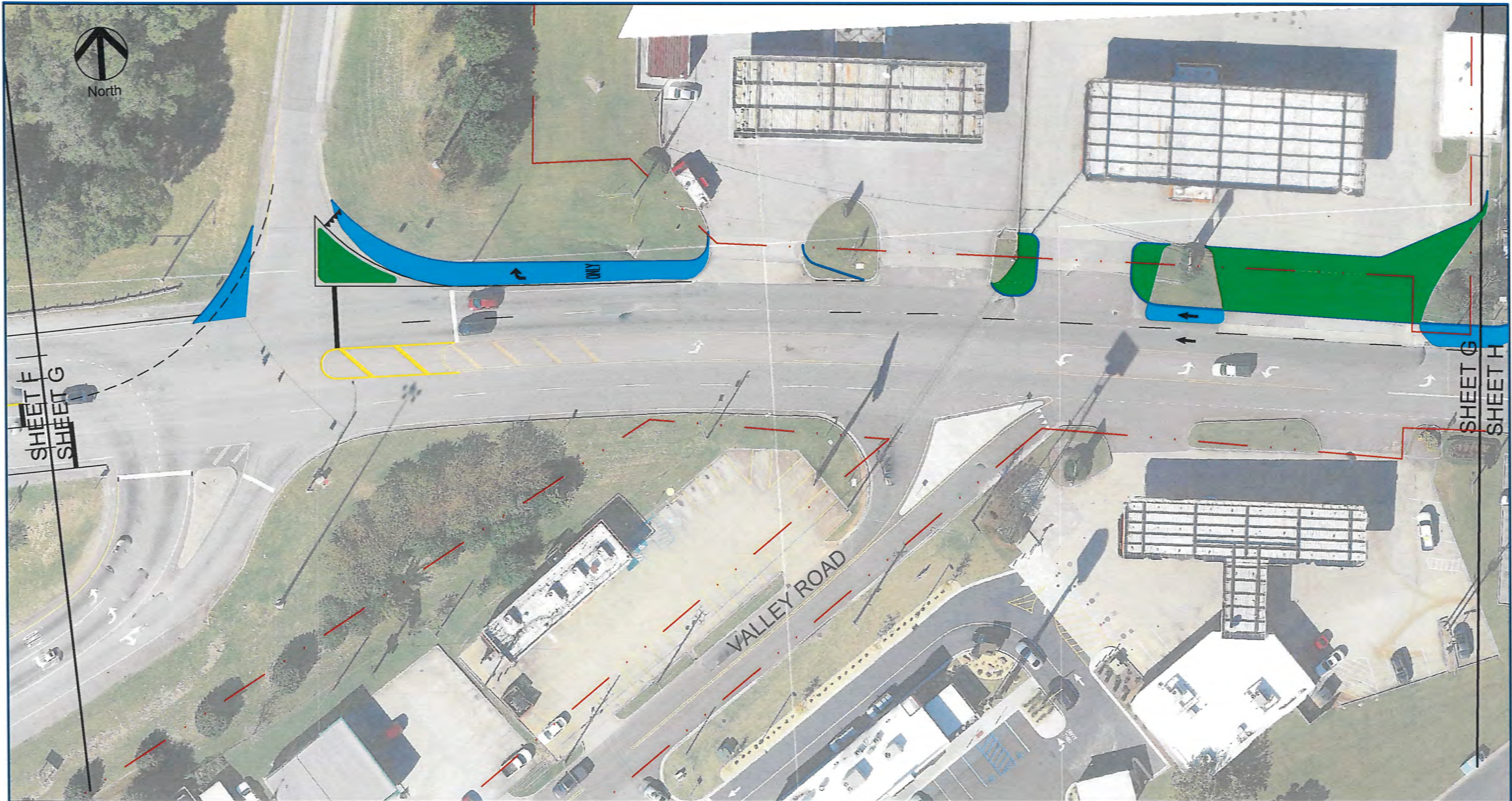
Scale: 1"=50'



Figure 5F - Improvement Concept

Chalkville Road APPLE - Trussville, Alabama

November 2021



LEGEND

- Existing Bridge Rail
- New Edge of Pavement
- New Island
- New Paving
- - - Existing ROW

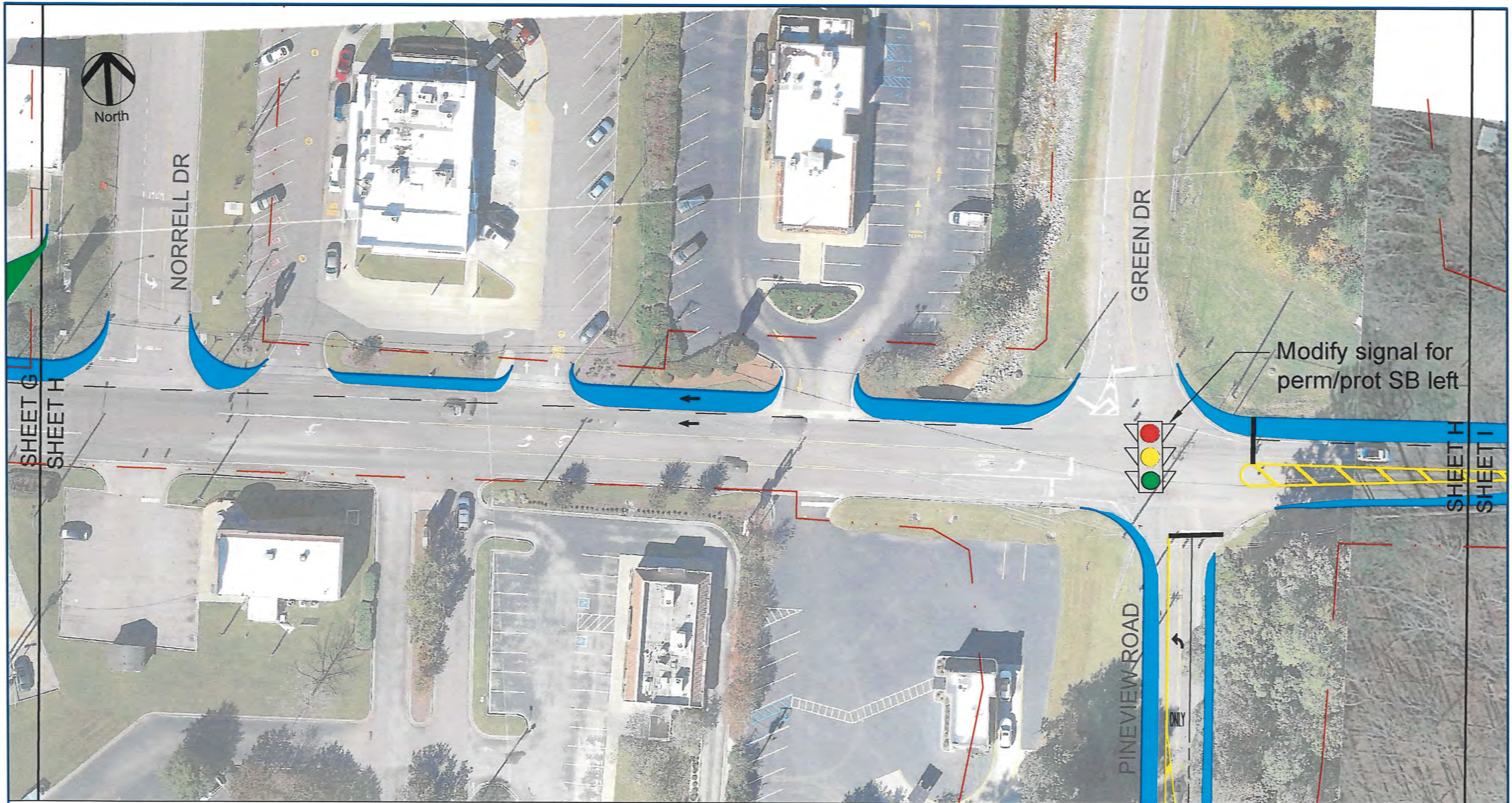
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Figure 5G - Improvement Concept

Chalkville Road APPLE - Trussville, Alabama

November 2021



Modify signal for perm/prot SB left

SHEET G
SHEET H

SHEET H
SHEET I

LEGEND

- Existing Bridge Rail
- New Edge of Pavement
- New Island
- New Paving
- Existing ROW

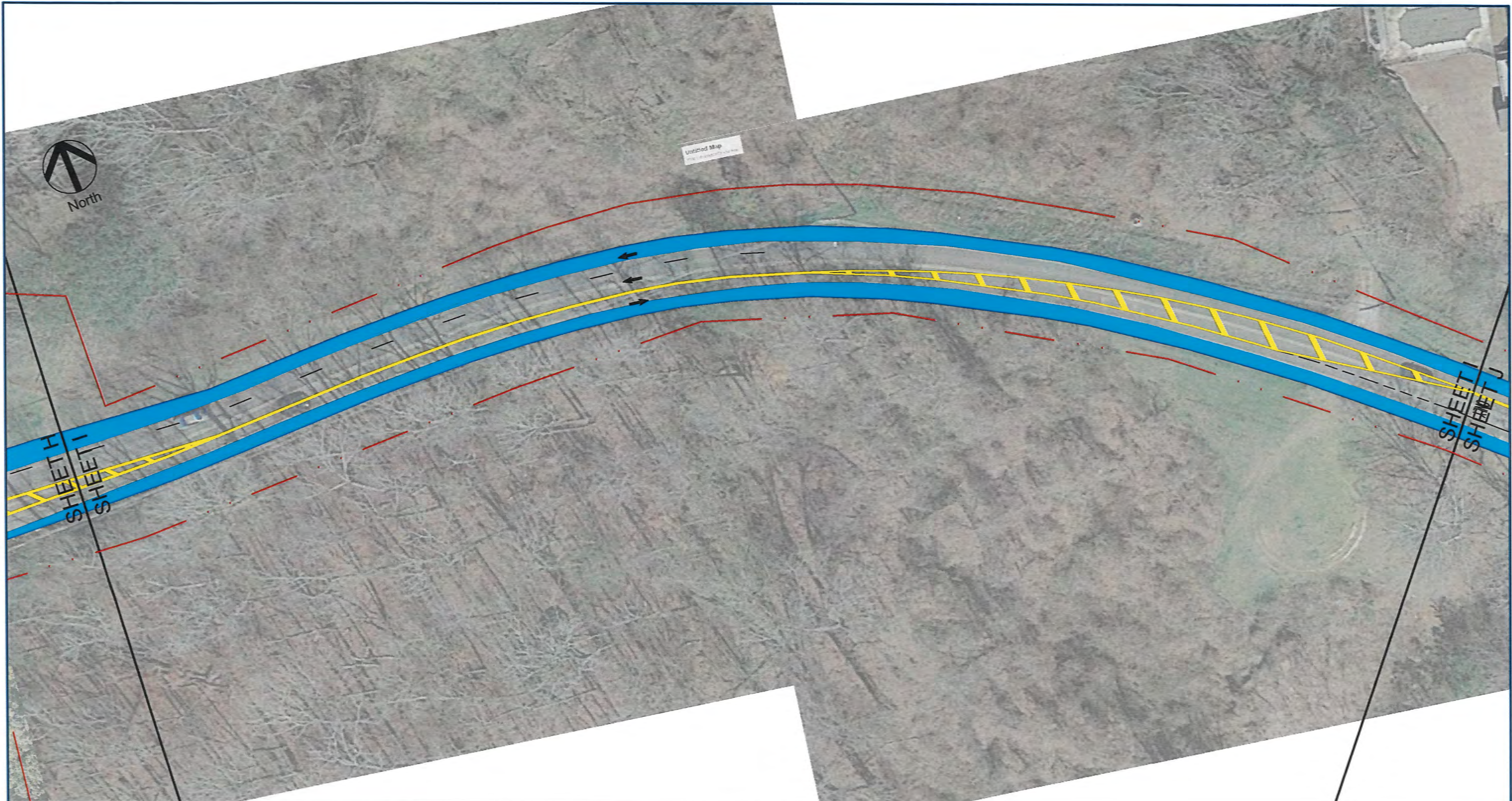
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Figure 5H - Improvement Concept

Chalkville Road APPLE - Trussville, Alabama

November 2021



LEGEND

- Existing Bridge Rail
- New Edge of Pavement
- New Island
- New Paving
- - - Existing ROW

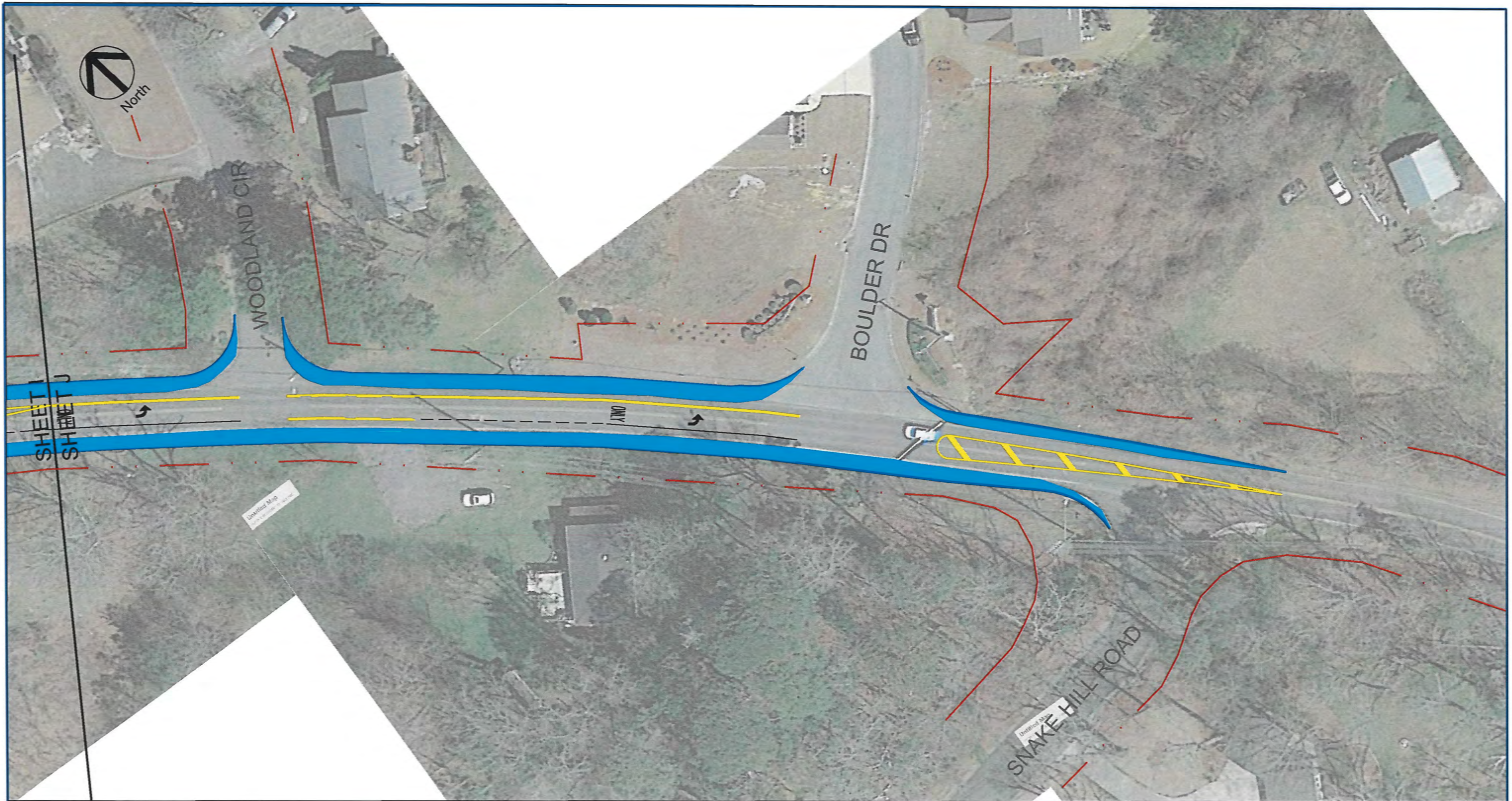
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Figure 5I - Improvement Concept

Chalkville Road APPLE - Trussville, Alabama

November 2021



LEGEND

- Existing Bridge Rail
- New Edge of Pavement
- New Island
- New Paving
- - - Existing ROW

Scale: 1"=50'



Figure 5J - Improvement Concept

Chalkville Road APPLE - Trussville, Alabama

November 2021