

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

OFFICE OF DESIGN POLICY & SUPPORT INTERDEPARTMENTAL CORRESPONDENCE

FILE P.I. # 0013369

OFFICE Design Policy & Support

Forsyth County
GDOT District 1 - Gainesville
SR 400 @ SR 369 Interchange

DATE 3/2/2016

FROM *Keith Posey*
for Brent Story, State Design Policy Engineer

TO SEE DISTRIBUTION

SUBJECT APPROVED CONCEPT REPORT

Attached is the approved Concept Report for the above subject project.

Attachment

DISTRIBUTION:

Hiral Patel, Director of Engineering
Joe Carpenter, Director of P3/Program Delivery
Genetha Rice-Singleton, Assistant Director of P3/Program Delivery
Albert Shelby, State Program Delivery Engineer
Darryl VanMeter, State Innovative Delivery Engineer
Bobby Hilliard, Program Control Administrator
Cindy VanDyke, State Transportation Planning Administrator
Eric Duff, State Environmental Administrator
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Andrew Heath, State Traffic Engineer
Angela Robinson, Financial Management Administrator
Lisa Myers, State Project Review Engineer
Charles "Chuck" Hasty, State Materials Engineer
Lee Upkins, State Utilities Engineer
Richard Cobb, Statewide Location Bureau Chief
Brent Cook, District Engineer
Brandon Kirby, District Preconstruction Engineer
Robby Oliver, District Utilities Engineer
Dylan Curtis, Project Manager
BOARD MEMBER - 9th Congressional District

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
LIMITED SCOPE PROJECT CONCEPT REPORT**

Project Type: <u>Interchange</u>	P.I. Number: <u>0013369</u>	
GDOT District: <u>1</u>	County: <u>Forsyth</u>	
Federal Route Number: <u>US 19</u>	State Route Number: <u>SR 400</u>	
Project Number: _____	N/A	

Project Description: This project proposes to upgrade the existing at-grade signalized intersection of US 19/SR 400 and SR 369/Brown's Bridge Road to a grade-separated, partial cloverleaf interchange.

Submitted for approval:

<u>Jon Fravel, AEI</u> Consultant Designer & Firm	<u>1-27-2016</u> Date
<u>Vin L Allen</u> Local Government Sponsor	<u>1-27-2016</u> Date
<u>Albert Shelby</u> State Program Delivery Engineer	<u>2-4-2016</u> Date
<u>TRC Corp</u> GDOT Project Manager	<u>1-28-2016</u> Date

Recommendation for approval:

State Environmental Administrator <u>ERIC DUFF*/EKP</u>	<u>2/24/2016</u> Date
for State Traffic Engineer <u>KEN WERHO*/EKP</u>	<u>1/28/2016</u> Date
State Bridge Engineer <u>BILL DUVALL*/EKP</u>	<u>2/3/2016</u> Date

- ☒ MPO Area: This project is consistent with the MPO adopted Regional Transportation Plan (RTP)/Long Range Transportation Plan (LRTP).
- ☐ Rural Area: This project is consistent with the goals outlined in the Statewide Transportation Plan (SWTP) and/or is included in the State Transportation Improvement Program (STIP).

State Transportation Planning Administrator <u>CINDY VON DYKE#</u>	<u>2/2/2016</u> Date
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Approval:

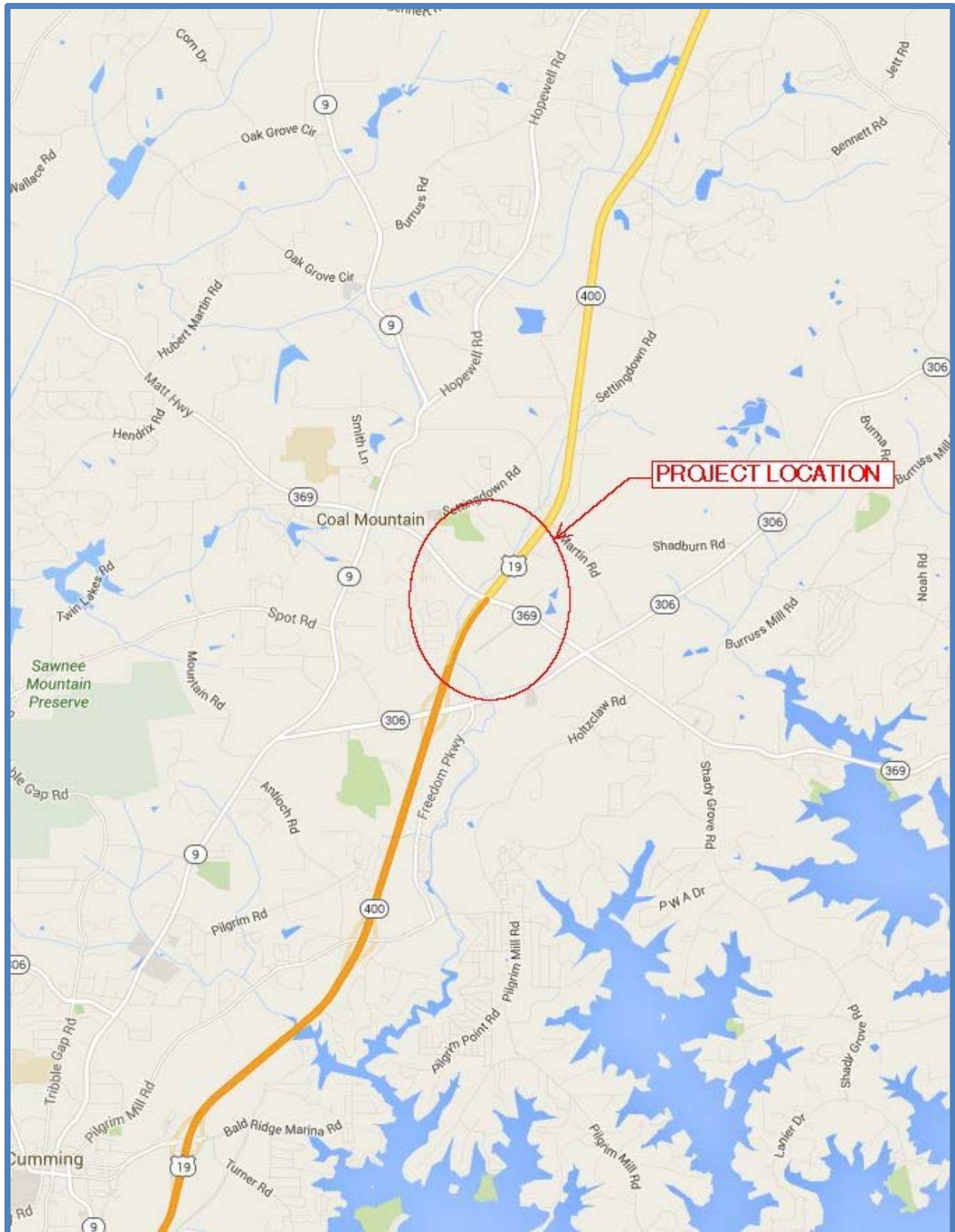
Concur: <u>Hilbert</u> GDOT Director of Engineering	<u>2-25-2016</u> Date
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Approve: <u>Margaret B. Purkey</u> GDOT Chief Engineer	<u>2-26-2016</u> Date
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** - RECOMMENDATION ON FILE*

THIS PROJECT IS NOT CURRENTLY IN THE RTP. IT IS IN THE DRAFT RTP, WHICH IS SCHEDULED FOR ADOPTION IN MARCH/APRIL 2016.

PROJECT LOCATION MAP:



PLANNING & BACKGROUND DATA

Project Justification Statement:

Forsyth County has been one of the fastest growing counties for more than 20-years in the State of Georgia and/or the Country. The county was ranked by Forbes Magazine to be the 7th fastest growing county in the US from 2010 to 2012. At 78.4%, the US Census ranks Forsyth County as the fastest growing county in Georgia from 2000 to 2010. This rate of growth is expected to continue according to the planners of Forsyth County through 2030 and years to follow. The population is anticipated to grow from 183,006 in 2010 to a towering 370,479 in 2030 as stated in the Forsyth County Comprehensive Plan.

Since the multi-phase construction of US 19/SR 400 in the 1970's, it has become the main artery between Forsyth County and Metro Atlanta. Massive commercial and residential growth along the US 19/SR 400 corridor has occurred since the introduction of the limited access facility. To facilitate this large growth, a number of projects have been constructed including interchange improvements at McFarland Parkway, SR 141, SR 20, the widening of US 19/SR 400 from 2 to 4 lanes north to McFarland Parkway, along with a number of North Fulton interchanges. In addition to these projects, the current widening of US 19/SR 400 to a three lane section from McFarland Parkway to SR 369/Brown's Bridge Road is under construction. Currently in the design phase is the SR 369/Brown's Bridge Road widening project, which will be upgrading SR 369 to a 4 lane divided highway starting just west of SR 9/Dahlonega Highway and ending slightly east of SR 306/Keith Bridge Road. With the stated improvements to the corridor, the traffic delays are relocated more north to the current at grade intersection of US 19/SR 400 and SR 369 which is controlled by a traffic signal.

Currently, the intersection of US19/SR 400 and SR 369/Brown's Bridge Road is very congested under existing traffic volumes. On US 19/SR 400, delays occur at AM peak hour on SB lanes and PM peak hour on the NB lanes. SR 369/Brown's Bridge Road has AM and PM peak hour delays due to volume accessing US 19/SR 400 and due to east-west travel on SR 369/Brown's Bridge Road in both directions from Canton to Gainesville. These volumes are expected to increase with commercial and residential growth in Forsyth County and other surrounding areas, along with the widening of US 19/SR 400 and SR 369.

Existing conditions:

US 19/SR 400 is classified as an Urban Freeway and Expressway south of SR 369/Brown's Bridge Road, and it is classified as a Urban Principle Arterial on the north side of SR 369/Brown's Bridge Road. US 19/SR 400 consists of 4-lanes (12-ft. travel lanes) with left and right turns lanes and 12-ft. outside shoulder, 10-ft. being paved, and a 10-ft. inside shoulder, 4-ft. being paved, and a 64-ft. depressed-grass median. These are current conditions in year 2016, however US 19/SR 400 Widening Project (P.I. 0013367) will construct an additional 11-ft. travel lane on the inside of both NB and SB US 19/SR 400 along with a 10-ft. inside shoulder (8-ft. paved) and an 11-ft. outside paved shoulder. US 19/SR 400 maintains full control of access prior to SR 369/Brown's Bridge Road and transitions into partial control of access at the intersection of SR 369.

SR 369/Brown's Bridge Road is classified as an Urban Major Collector. SR 369 throughout Forsyth County has both urban and rural characteristics with the majority having 2-lanes; however at the US 19/SR 400 intersection consists of three 11-ft. travel lanes (two WB lanes and one EB lane) with left and right turn lanes and minimal shoulder on both sides. A large retail development is currently being planned on the north and south side of SR 369 just west of the SR 400 at SR 369 intersection. This retail development will add a signalized intersection along SR 369, as well as, an additional lane configuration at the SR 400 at SR 369 intersection. These improvements are anticipated to begin construction in 2017, prior to the SR 369 Widening and/or SR 400 at SR 369 Interchange.

Other projects in the area:

P.I. 0013367

US 19/SR 400 Widening from CR 458/McFarland Parkway to SR 369/Brown's Bridge Road

Forsyth County

SR 369/Brown's Bridge Road Widening

Description of the proposed project:

MPO: Atlanta Regional Commission (ARC)

TIP #: N/A

MPO Name Congressional District(s): 9

Federal Oversight: ☐ Exempt ☒ State Funded ☒ Other (local funds)

SR 369 E/O SR 400

Projected Traffic: AADT 24 HR T: 19.62%
Current Year (2015): 11,910 Open Year (2019): 17,800 Design Year (2039): 37,170

SR 369 W/O SR 400

Projected Traffic: AADT 24 HR T: 17.77%
Current Year (2015): 14,630 Open Year (2019): 22,410 Design Year (2039): 46,800

SR 400 S/O SR 369

Projected Traffic: AADT 24 HR T: 7.37%
Current Year (2015): 48,200 Open Year (2019): 56,760 Design Year (2039): 118,520

Functional Classification (Mainline): Urban Freeway and Expressway

Complete Streets - Bicycle, Pedestrian, and/or Transit Standards Warrants:

Warrants met: ☐ None ☐ Bicycle ☒ Pedestrian (along SR 369) ☐ Transit

Pavement Evaluation and Recommendations

Preliminary Pavement Evaluation Summary Report Required? ☒ No ☐ Yes
Preliminary Pavement Type Selection Report Required? ☒ No ☐ Yes
Feasible Pavement Alternatives: ☐ HMA ☐ PCC ☒ HMA & PCC

DESIGN AND STRUCTURAL

Description of Proposed Project:

This project proposes to upgrade the existing at-grade signalized intersection of US 19/SR 400 and SR 369/Brown's Bridge Road to a grade-separated, partial cloverleaf interchange. The project will begin approximately 3500-ft. south of the existing intersection where it will tie into the existing NB entrance ramp from SR 306/Keith Bridge Road, the existing SB exit ramp to SR 306/Keith Bridge Road, and the proposed US 19/SR 400 widening project (P.I. 0013367). The project will end approximately 2700-ft. north of the existing intersection where it will tie into existing US 19/SR 400. The proposed interchange will tie into Forsyth County's local SR 369/Brown's Bridge Road widening project on the east and west sides.

Major Structures:

Structure ID	Description	Existing	Proposed
117-0018-0	SR 369/Brown's Bridge Rd @ Baldrige Creek Culvert	164' Triple 7'X5'	Retail development to extend in-kind on southside of SR 369 by 80', this project to extend in-kind on northside of SR 369 by 80'. Total = 324' Triple 7'X5'
117-0029-0	US 19/SR 400 @ Baldrige Creek Culvert	435' Triple 6'X6'	Extend in-kind on eastside of SR 400 by 50-ft. Total = 485' Triple 6'X6'

N/A (new structure)	Southbound SR 400 entrance ramp/SR 400 southbound exit loop ramp	N/A	350' Triple 7'X5' or 350' equivalent ARCH Culvert
N/A (new structure)	SR 369 over SR 400 Bridge	N/A	300' X 97'-11"

Design Features: US 19/SR 400 (Urban Freeway and Expressway)

Feature	Existing	Standard*	Proposed
Typical Section			
- Number of Lanes	6	4-6	Unchanged
- Lane Width(s)	11-12 ft.	12 feet	11-12 ft.
- Median Width & Type	42-ft. rural (depressed-grass)	Positive Barrier Separation for widths $\leq$ 52-ft.	Unchanged
- Outside Shoulder or Border Area Width	12-ft. (11 ft. paved)	10-ft. paved, min.	12-ft. (11 ft. paved)
- Outside Shoulder Slope	6%	6%	6%
- Inside Shoulder Width	10-ft. (8-ft. paved)	10-ft. paved, min.	Unchanged
Posted Speed	65 mph		65 mph
Design Speed	65 mph	65 mph	65 mph
Min Horizontal Curve Radius	$\geq$ 1660-ft.	1660-ft.	Unchanged
Maximum Superelevation Rate	$\leq$ 6%	6%	Unchanged
Maximum Grade	$\leq$ 4%	4%	Unchanged
Access Control	Full	Full	Full
Design Vehicle	WB-67	WB-67	WB-67
Pavement Type	PCC/HMA	HMA OR PCC	PCC/HMA

*According to current GDOT design policy if applicable

Design Features: SR 369/Brown's Bridge Road (Urban Major Collector)

Feature	Existing	Standard*	Proposed
Typical Section			
- Number of Lanes	2-3	2-6	4
- Lane Width(s)	12-ft.	12-ft.	12-ft.
- Shoulder or Border Area Width	Minimal	10-ft. paved, min.	16-ft. urban on northside, 18-ft. urban on southside
- Shoulder Slope	Variable	2%	2%
- Sidewalks	None	5-ft.	5-ft. on northside, 10-ft. multi-use trail on southside
- Bike Lanes	None	4-ft.	None
Posted Speed	45-mph		45-mph
Design Speed	45-mph	45-mph	45-mph
Min Horizontal Curve Radius	1775-ft.	711-ft.	1800-ft.
Maximum Superelevation Rate	9%	4%	4%
Maximum Grade	4%	9%	6%
Access Control	By Permit	By Permit	By Permit

Design Vehicle	WB-67	WB-67	WB-67
Pavement Type	HMA	HMA OR PCC	PCC/HMA

*According to current GDOT design policy if applicable

Major Interchanges/Intersections: SR 369 at SR 400

Lighting required: ☒ No ☐ Yes

Both traffic signals as part of this interchange project will have pedestrian lighting attached.

Transportation Management Plan [TMP] Required: ☒ No ☐ Yes

If Yes: Project classified as: ☐ Non-Significant ☐ Significant

TMP Components Anticipated: ☐ TTC ☐ TO ☐ PI

Traffic will be managed/controlled during construction.

Will Context Sensitive Solutions procedures be utilized? ☒ No ☐ Yes

Design Exceptions to FHWA/AASHTO controlling criteria anticipated: None currently anticipated

Design Variances to GDOT Standard Criteria anticipated: None currently anticipated

UTILITY AND PROPERTY

Temporary State Route Needed: ☒ No ☐ Yes ☐ Undetermined

Railroad Involvement: None, no railroad lines exist within the project corridor

Utility Involvements:

AT&T
Atlanta Gas Light
Sawnee EMC
Comcast
City of Cumming Water
Forsyth County Water & Sewer
Georgia Power
Georgia Transmission

SUE Required: ☒ No ☐ Yes

Public Interest Determination Policy and Procedure recommended? ☒ No ☐ Yes

Right-of-Way: (SR 400) Existing width: 340-470-ft. Proposed width: Unchanged
(SR 369) Existing width: 75-100-ft. Proposed width: 105-125ft.

Required Right-of-Way anticipated: ☐ No ☒ Yes ☐ Undetermined

Easements anticipated: ☐ None ☒ Temporary ☒ Permanent ☐ Utility ☐ Other

Anticipated total number of impacted parcels: 15
Displacements anticipated: Businesses: 3
Residences: 0
Other: 0
Total Displacements: 3

ENVIRONMENTAL AND PERMITS

Anticipated Environmental Document:

GEPA: ☒ **NEPA:** ☐ CE ☐ PCE

County: Forsyth

MS4 Compliance – Is the project located in an MS4 area? ☐ No ☒ Yes**Environmental Permits, Variances, Commitments, and Coordination anticipated:**

USACE Nationwide or Regional Section 404 Permit anticipated.

Stream Buffer Variance for GA EPD is anticipated.

Freshwater aquatic survey in Baldridge Creek will be performed.

Bat survey will be performed.

Cultural resource studies (Archaeology and History) will be performed.

No formal public meeting and/or open house will be conducted. The County is acquiring right-of-way in-house and thus County will inform public on a per parcel basis.

Air Quality:Is the project located in a PM 2.5 Non-attainment area? ☐ No ☒ YesIs the project located in an Ozone Non-attainment area? ☐ No ☒ YesCarbon Monoxide hotspot analysis: ☒ Required ☐ Not Required ☐ TBD*An air assessment for Carbon Monoxide and Ozone will be completed as per Georgia State Law requirements.***NEPA/GEPA Comments & Information:** No additional comments.**COORDINATION, ACTIVITIES, RESPONSIBILITIES, AND COSTS****Project Meetings:**

October 14, 2015 – Kick-off meeting conducted at Forsyth County.

Project Activity	Party Responsible for Performing Task(s)
Concept Development	American Engineers, Inc.
Design	American Engineers, Inc.
Right-of-Way Acquisition	Forsyth County
Utility Coordination (Preconstruction)	American Engineers, Inc.
Utility Relocation (Construction)	Utility Owners
Letting to Contract	Forsyth County
Construction Supervision	Forsyth County
Providing Material Pits	Contractor
Providing Detours	None anticipated
Environmental Studies, Documents, & Permits	American Engineers, Inc.
Environmental Mitigation	Forsyth County
Construction Inspection & Materials Testing	Forsyth County

Other coordination to date: Forsyth County will coordinate the purchase of ROW for this project with their SR 369 Widening Project from SR 9 to SR 306. The same Consultant (AEI) is designing both projects for the County for project continuity.

Project Cost Estimate and Funding Responsibilities:

	Breakdown of PE	ROW	Reimbursable Utility	CST*	Total Cost
Funded By	Forsyth County	Forsyth County	Forsyth County	Forsyth County and HB170	
\$ Amount	\$1,0313,481	\$11,767,000	\$1,546,000	\$14,478,299	\$28,804,780
Date of Estimate	12/18/2015	12/18/2015	12/18/2015	12/18/2015	

*CST Cost includes: Construction, Engineering and Inspection, Contingencies and Liquid AC Cost Adjustment. Estimates were prepared by AEI.

ALTERNATIVES DISCUSSION

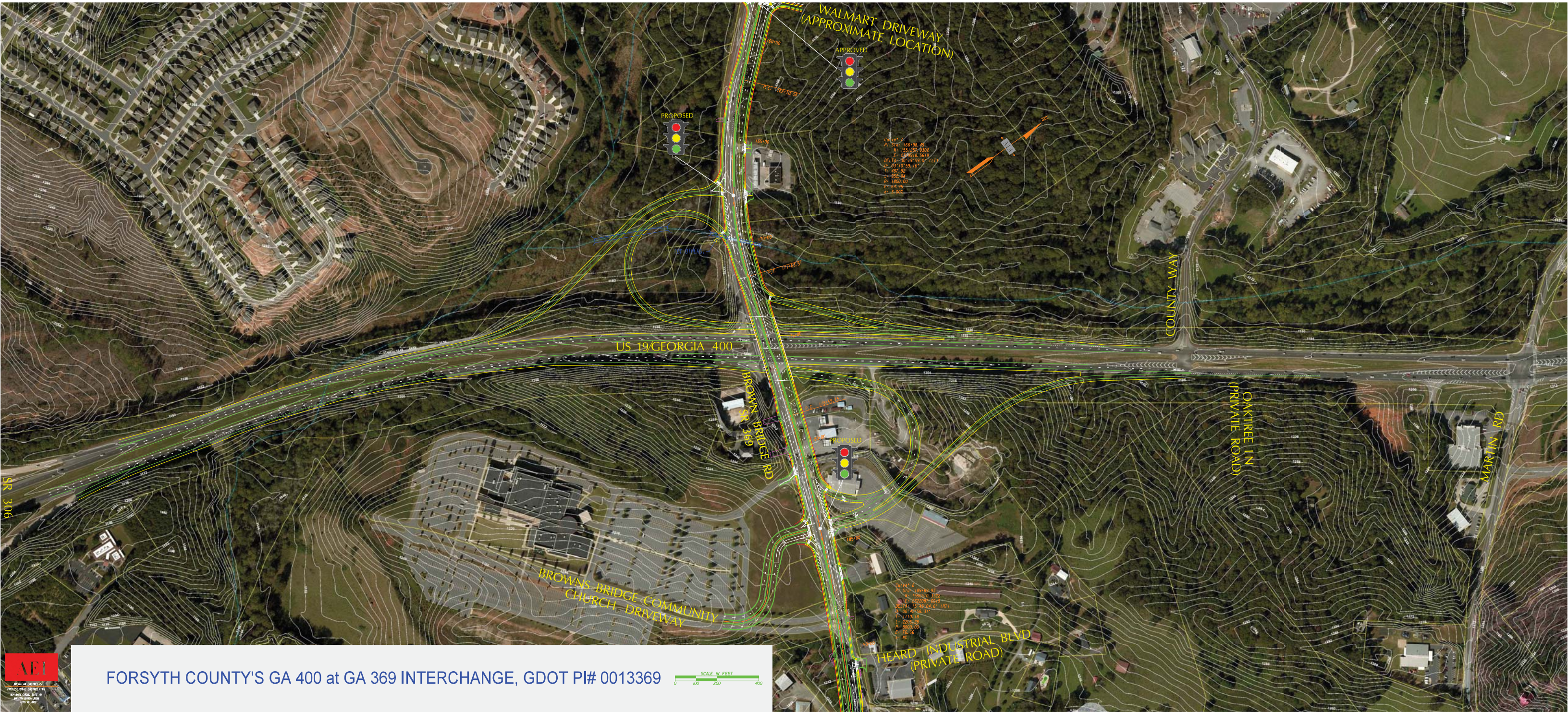
Preferred Alternative: Grade-separate SR 369 over SR 400 including partial cloverleaf on both southwest and northeast quadrants. This preferred alternate begins about 3500-ft. south of the existing intersection where it will tie into the existing NB entrance ramp from SR 306/Keith Bridge Road, the existing SB exit ramp to SR 306/Keith Bridge Road, and the proposed US 19/SR 400 widening project (P.I. 0013367). The project will end approximately 2700-ft. north of the existing intersection where it will tie into existing US 19/SR 400. The proposed interchange will tie into Forsyth County's local SR 369/Brown's Bridge Road widening project on the east and west sides.			
Estimated Property Impacts:	15	Estimated Total Cost:	\$28,804,780
Estimated ROW Cost:	\$11,767,000	Estimated CST Time:	24-months
Rationale: Most economical, minimized environmental impacts, and constructability.			
No-Build Alternative: <i>No improvements to SR 400 at SR 369.</i>			
Estimated Property Impacts:	0	Estimated Total Cost:	\$0
Estimated ROW Cost:	\$0	Estimated CST Time:	0 months
Rationale: This alternative would not address current and future trip delays/travel times along both SR 400 and SR 369.			

Alternative 1: Grade-separate SR 400 over SR 369.			
Estimated Property Impacts:	20	Estimated Total Cost:	NA at this time.
Estimated ROW Cost:	NA at this time.	Estimated CST Time:	30-months
Rationale: Least economical, additional environmental impacts, and difficult staging.			

Comments/Additional Information: The preferred alternates does not have any staging/constructability issues as the proposed bridge was offset 50-ft. to the north to minimize issues.

LIST OF ATTACHMENTS/SUPPORTING DATA

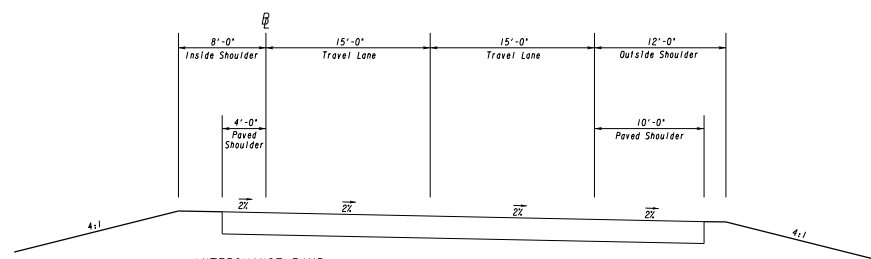
1. Concept Layout
2. Typical sections
3. Cost Estimate
4. Crash summaries
5. Traffic diagrams or projections
6. Capacity analysis summary
7. Meeting Minutes



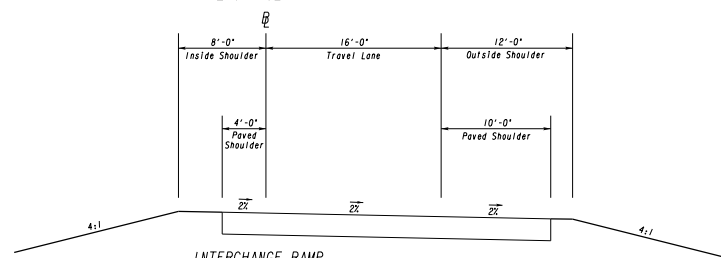
FORSYTH COUNTY'S GA 400 at GA 369 INTERCHANGE, GDOT PI# 0013369



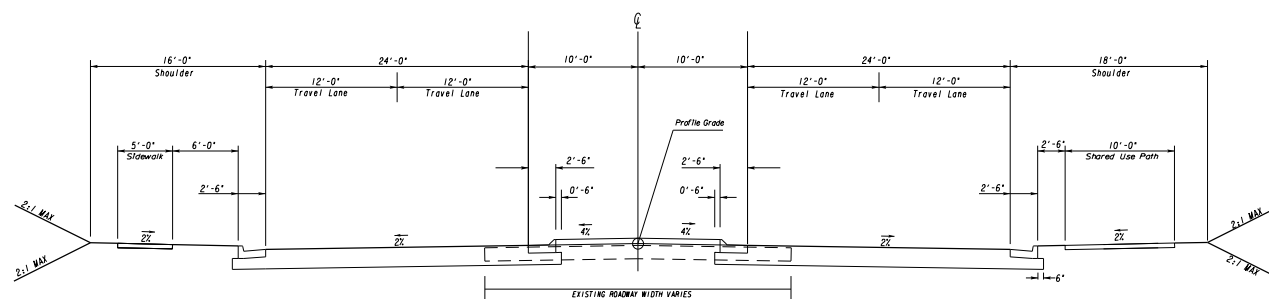
Appendix 2: Typical Sections



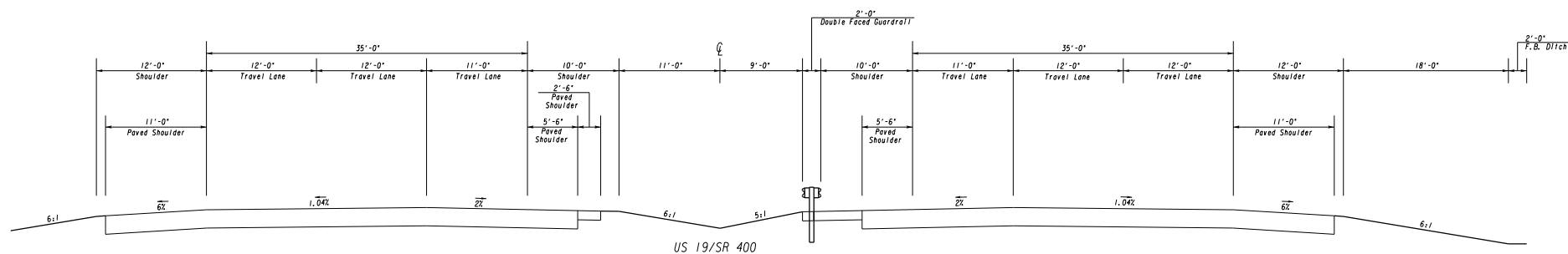
INTERCHANGE RAMP



INTERCHANGE RAMP



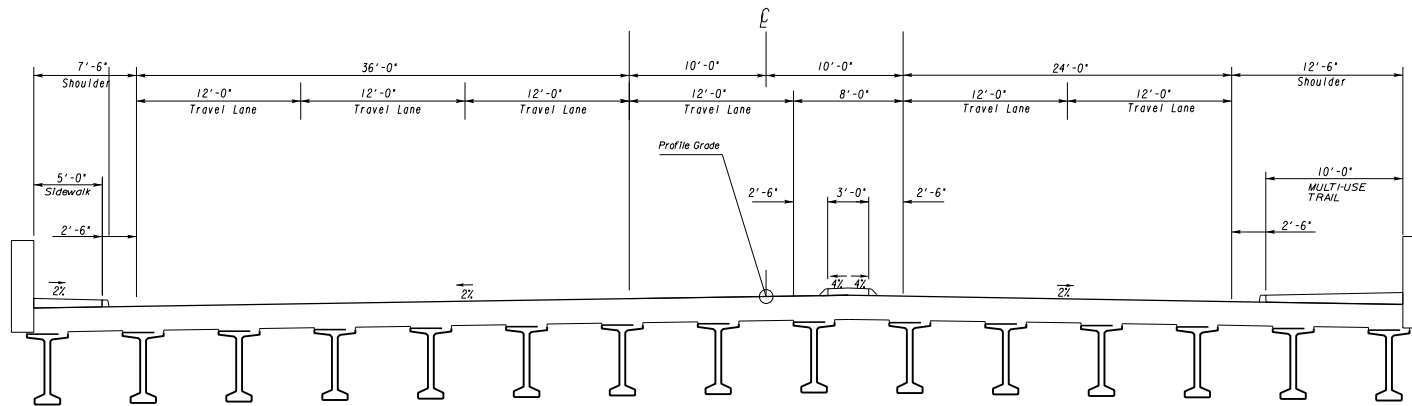
SR 369/BROWN'S BRIDGE ROAD



US 19/SR 400

NOT TO SCALE

Appendix 2: Typical Sections



SR 369/BROWN'S BRIDGE ROAD BRIDGE OVER US 19/SR 400

**DETAIL COST ESTIMATE
ALTERNATIVE 1 - SR 369 at SR 400
FORSYTH & FULTON COUNTIES, GA**

A. PROFESSIONAL ENGINEERING (7% OF CONSTRUCTION)

B. RIGHT-OF-WAY

3 DISPLACEMENTS	LS	1	\$10,700,000.00	\$	10,700,000.00
COMMERCIAL	AC	7.7	\$100,000.00	\$	770,000.00
RESIDENTIAL	AC	13.8	\$15,000.00	\$	207,000.00
INSTITUTIONAL	AC	0.9	\$100,000.00	\$	90,000.00
			SUBTOTAL		\$11,767,000.00

C.

REIMBURSABLE UTILITIES

TRANSMISSION POLE	EA	3	\$150,000.00	\$	450,000.00
NON TRANSMISSION	EA	13	\$50,000.00	\$	650,000.00
ATLANTA GAS LIGHT	LS	1	\$146,000.00	\$	146,000.00
GEORGIA POWER	LS	1	\$160,000.00	\$	160,000.00
AT&T	LS	1	\$140,000.00	\$	140,000.00
			SUBTOTAL		\$1,546,000.00

D.

MAJOR STRUCTURES

500-3800					
627-1000	CLASS A CONCRETE, INCL REINF STEEL	CY	400	\$	758.43
	MSE WALL FACE 0-20 FT HT, WALL	SF	40000	\$	45.00
	BRIDGE OVER GA 400	SF	44200	\$	100.00
			SUBTOTAL		\$6,523,372.00

E.

GRADING AND DRAINAGE

210-0100					
500-3800	GRADING COMPLETE -	LS	1	\$1,100,000.00	\$
550-1300	CLASS A CONCRETE, INCL REINF STEEL	CY	15	\$	758.43
550-1301	STORM DRAIN PIPE, 30 IN, H 1-10	LF	700	\$	50.65
550-1361	STORM DRAIN PIPE, 30 IN, H 10-15	LF	700	\$	54.09
550-1480	STORM DRAIN PIPE, 36 IN, H 10-15	LF	300	\$	59.38
550-1543	STORM DRAIN PIPE, 48 IN, H 1-10	LF	300	\$	91.96
668-1100	STORM DRAIN PIPE, 54 IN, H 20-25	LF	300	\$	120.00
500-3800	CATCH BASIN, GP 1	EA	13	\$	2,138.58
603-2036	CL A CONC, INCL REINF STEEL HEADWALLS	CY	30	\$	758.43
231-1250	STN DUMPED RIP RAP, TP1, 36"	SY	100	\$	44.57
	RURAL DRAINAGE	LUMP	1	\$	3,314.39
			SUBTOTAL		\$1,321,820.75

F.

BASE & PAVING

310-1101					
402-1812	GR AGGR BASE CRS, INCL MATL	TN	49324	\$	19.84
402-3113	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME	TN	500	\$	72.53
402-3121	RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 1 or 2, INCL BITUM	TN	5983	\$	65.98
402-3190	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM	TN	2066	\$	65.61
413-1000	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM	TN	7977	\$	73.45
	BITUM TACK COAT	GL	10092	\$	4.76
			SUBTOTAL		\$2,179,064.72

G.

CONCRETE ITEMS

439-0026					
441-0754	PLAIN PC CONC PVMT, CL 3 CONC, 12 INCH THK	SY	8556	\$	78.18
441-0016	CONCRETE MEDIAN PAVING, 7.5"	SY	6300	\$	46.27
441-0104	DRIVEWAY CONCRETE, 6 IN TK	SY	800	\$	35.05
441-6222	CONC SIDEWALK, 4 IN	SY	2222	\$	37.29
441-6740	CONC CURB & GUTTER, 8 IN X 30 IN, TP 2	LF	8000	\$	18.18
	CONC CURB & GUTTER, 8 IN X 30 IN, TP 7	LF	24800	\$	16.16
			SUBTOTAL		\$1,617,489.00

H.**SIGNING AND STRIPING AND SIGNALS**

636-1020							
636-1036	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 3	SF	70	\$	13.96	\$	977.20
636-1070	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 11	SF	120	\$	18.32	\$	2,198.40
636-2080	HIGHWAY SIGNS, ALUM EXTRUDED PANELS, REFL SHEETING, TP 2	SF	3550	\$	34.10	\$	121,055.00
636-2090	GALV STEEL POST, TP 8	LF	280	\$	7.46	\$	2,088.80
636-5010	GALV STEEL POST, TP 9	LF	130	\$	8.72	\$	1,133.60
636-5020	DELINEATOR, TP 1	EA	80	\$	47.39	\$	3,791.20
638-1001	DELINEATOR, TP 2	EA	40	\$	61.36	\$	2,454.40
638-1004	STR SUPPORT FOR OVERHEAD SIGN, TP I, GA 400 NB & SB EXITS	LUMP	3	\$	67,251.29	\$	201,753.87
638-1005	STR SUPPORT FOR OVERHEAD SIGN, TP III	LUMP	4	\$	30,153.26	\$	120,613.04
653-0120	STR SUPPORT FOR OVERHEAD SIGN, TP V	LUMP	4	\$	30,153.26	\$	120,613.04
653-0210	THERMOPLASTIC PVMT MARKING, ARROW, TP 2	EA	13	\$	74.73	\$	971.49
653-1501	THERMOPLASTIC PVMT MARKING, WORD, TP 1	EA	1	\$	113.53	\$	113.53
653-1502	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, WHITE	LF	17550	\$	0.57	\$	10,003.50
653-1704	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, YELLOW	LF	8500	\$	0.61	\$	5,185.00
653-1804	THERMOPLASTIC SOLID TRAF STRIPE, 24 IN, WHITE	LF	120	\$	5.12	\$	614.40
653-1810	THERMOPLASTIC SOLID TRAF STRIPE, 8 IN, WHITE	LF	850	\$	1.96	\$	1,666.00
653-3501	THERMOPLASTIC SOLID TRAF STRIPE, 10 IN WHITE	LF	3200	\$	1.97	\$	6,304.00
654-1001	THERMOPLASTIC SKIP TRAF STRIPE, 5 IN, WHITE	GLF	10450	\$	0.41	\$	4,284.50
654-1003	RAISED PVMT MARKERS TP 1	EA	25	\$	3.67	\$	91.75
655-5000	RAISED PVMT MARKERS TP 3	EA	250	\$	3.75	\$	937.50
	PVMT ARROW, THERMOPLASTIC, WITH RAISED REFLECTORS	EA	3	\$	539.32	\$	1,617.96
639-3004	SIGNALS						
647-1000	STEEL STRAIN POLE TYPE IV	EA	8	\$	10,000.00	\$	80,000.00
647-2170	TRAFFIC SIGNAL INSTALLATION NO.1-2	LUMP	2	\$	60,000.00	\$	120,000.00
682-6140	PULL BOX, ASSEMBLY, PB-7	EA	2	\$	1,205.68	\$	2,411.36
682-6233	CONDUIT, RIGID, 4 IN	LF	500	\$	26.50	\$	13,250.00
687-1000	CONDUIT, NON-METAL, TP 3, 2 IN	LF	800	\$	3.39	\$	2,712.00
935-1113	TRAFFIC SIGNAL TIMING	LUMP	2	\$	16,440.27	\$	32,880.54
935-1511	OUTSIDE PLANT FIBER OPTIC CABLE, LOOSE TUBE, SINGLE, 24-FIBER	LF	1500	\$	1.70	\$	2,550.00
935-3103	OUTSIDE PLANT FIBER OPTIC CABLE, DROP, SINGLE MODE 6 FIBER	LF	150	\$	1.70	\$	255.00
935-4010	FIBER OPTIC CLOSURE UNDERGROUND, 24-FIBER	EA	2	\$	531.13	\$	1,062.26
935-8000	FIBER OPTIC SPLICE, FUSION	EA	8	\$	41.41	\$	331.28
	TESTING - FIBER OPTIC	LUMP	1	\$	1,463.25	\$	1,463.25
	SUBTOTAL						\$865,383.87

I.**GUARDRAIL**

641-1100							
641-1200	GUARDRAIL, TP T	LF	280	\$	52.63	\$	14,736.40
641-5001	GUARDRAIL, TP W	LF	4000	\$	17.04	\$	68,160.00
641-5012	GUARDRAIL ANCHORAGE, TP 1	EA	12	\$	653.14	\$	7,837.68
	GUARDRAIL ANCHORAGE, TP 12	EA	12	\$	1,870.74	\$	22,448.88
	SUBTOTAL						\$113,182.96

J.**TRAFFIC CONTROL & MISCELLANEOUS**

150-1000							
153-1300	TRAFFIC CONTROL	LS	1	\$	200,000.00	\$	200,000.00
634-1200	FIELD OFFICE TP 3	EA	1	\$	83,157.23	\$	83,157.23
	RIGHT-OF-WAY MARKERS	EA	30	\$	104.12	\$	3,123.60

					SUBTOTAL	\$286,280.83
K.						
	EROSION CONTROL					
163-0240						
163-0232	MULCH	TN	155	\$	266.45	\$ 41,374.81
163-0300	TEMPORARY GRASSING	AC	17.3	\$	290.95	\$ 5,019.91
165-0010	CONSTRUCTION EXIT	EA	8	\$	1,164.94	\$ 9,319.52
165-0030	MAINTENANCE OF TEMPORARY SILT FENCE, TP A	LF	2,440	\$	0.82	\$ 2,001.09
165-0101	MAINTENANCE OF TEMPORARY SILT FENCE, TP C	LF	5,694	\$	0.70	\$ 3,985.91
167-1000	MAINTENANCE OF CONSTRUCTION EXIT	EA	8	\$	460.40	\$ 3,683.20
167-1500	WATER QUALITY MONITORING AND SAMPLING	EA	3	\$	309.15	\$ 927.45
171-0010	WATER QUALITY INSPECTIONS	MO	18	\$	586.95	\$ 10,565.10
171-0030	TEMPORARY SILT FENCE, TYPE A	LF	4,881	\$	1.58	\$ 7,711.51
603-2024	TEMPORARY SILT FENCE, TYPE C	LF	11,388	\$	2.77	\$ 31,545.59
603-7000	STN DUMPED RIP RAP, TP 1, 24 IN	SY	1675	\$	41.58	\$ 69,646.50
700-6910	PLASTIC FILTER FABRIC	SY	1675	\$	3.36	\$ 5,628.62
700-7000	PERMANENT GRASSING	AC	34.5	\$	729.40	\$ 25,169.44
700-7010	AGRICULTURAL LIME	TN	34.5	\$	82.46	\$ 2,845.45
700-8000	LIQUID LIME	GL	86.27	\$	24.04	\$ 2,073.87
700-8100	FERTILIZER MIXED GRADE	TN	3.45	\$	463.07	\$ 1,597.92
716-2000	FERTILIZER NITROGEN CONTENT	LB	0	\$	3.35	\$ -
	EROSION CONTROL MATS, SLOPES	SY	45000	\$	0.72	\$ 32,400.00
					SUBTOTAL	\$255,495.89

SUMMARY OF PROJECT COSTS
ALTERNATIVE 1 - NEW INTERCHANGE WITH AUXILIARY LANES
FORSYTH COUNTY, GA

NON-CONSTRUCTION COSTS

A.	PROFESSIONAL ENGINEERING	\$1,013,481
B.	RIGHT-OF-WAY	\$11,767,000
C.	REIMBURSABLE UTILITIES	\$1,546,000
	NON-CONSTRUCTION SUBTOTAL	\$14,326,481

CONSTRUCTION COSTS

D.	MAJOR STRUCTURES	\$6,523,372
E.	GRADING & DRAINAGE	\$1,321,821
F.	BASE AND PAVING	\$2,179,065
G.	CONCRETE ITEMS	\$1,617,489
H.	SIGNING, STRIPING AND SIGNALS	\$865,384
I.	GUARDRAIL	\$113,183
J.	TRAFFIC CONTROL & MISC.	\$286,281
K.	EROSION CONTROL	\$255,496
	CONSTRUCTION SUBTOTAL	\$13,162,090

ENGINEERING & CONSTRUCTION	\$1,316,209
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TOTAL CONSTRUCTION COSTS	\$14,478,299
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TOTAL PROJECT COSTS	\$28,804,780
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Appendix 4: Crash Summaries

Crash data reports for the years 2010 through 2014 are presented in Table 1. Crash data printouts are included in this appendix.

TABLE 1: CRASH SUMMARY

Year	Rear-end	Side-swipe	Angle	Head-on	Struck Object	Run off the Road	Total Accidents	Injuries	Fatalities
2014	99	7	5	0	1	3	115	37	0
2013	74	7	5	0	0	0	86	30	0
2012	92	5	0	0	2	2	101	37	0
2011	62	4	5	1	3	2	77	19	0
2010	59	5	3	0	0	0	67	14	0

According to the crash data, 386 of the 446 crashes (87%) reported in the past 5 years were rear-end crashes. Of these, 177 occurred on SR 369 and 209 on SR 400. Most crashes occurred in daylight and dry conditions. The main contributing factor of rear end crashes were drivers following too close. 103 of the 137 injuries that were reported were due to rear end crashes. The other 6% of the total crashes were sideswipe crashes, 4% were angle crashes, and 3% were either run off road crashes or struck object crashes. Due to the conversion of the intersection into an interchange, crash frequency should greatly reduce and crash patterns will change.

Date	Time	Route	IntersectingRoute	Injuries	Fatalities	MannerOfCollision	LocationOfImpact	FirstHarmfulEvent	Light	Surface	DriverAge1	DriverAge2	DriverSafetyEquip1	DriverSafetyEquip2	VehType1	VehType2	DirVeh1	DirVeh2	MnvrVeh1	MnvrVeh2	U1Factors	U2Factors	
1/4/2010	15:08:00	SR 369	HWY 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	62	68	Lap and Shoulder Belt	Lap and Shoulder Belt	Tractor/Trailer	Passenger Car	Southeast	Southeast	Straight	Straight	Following too Close	No Contributing Factors	
1/5/2010	12:46:00	SR 369	SR 400	0	0	Sideswipe-Same Direction	On Roadway	Motor Vehicle In Motion	Daylight	Dry	17	70	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Van	East	East	Changing Lanes	Stopped	Changed Lanes Improperly	No Contributing Factors	
1/6/2010	7:35:00	SR 400	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dawn	Dry	32	28	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Utility Passenger Vehicle	Northeast	Northeast	Turning Right	Turning Right	Other	Other	
1/7/2010	14:36:00	HWY 400 SR	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Wet	17	50	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	North	North	Straight	Straight	Following too Close	No Contributing Factors	
1/13/2010	9:05:00	SR 369	HWY 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	68	36	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Van	Northeast	Northeast	Turning Right	Turning Right	Following too Close	No Contributing Factors	
1/25/2010	17:02:00	SR 369 E	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	25	28	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Passenger Car	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors	
1/27/2010	17:01:00	SR 400 S	BROWNS BRIDGE RD	1	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	51	61	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	Northeast	Northeast	Straight	Stopped	Following too Close	No Contributing Factors	
2/4/2010	13:52:00	BROWNS BRIDGE RD	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Wet	19	64	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Passenger Car	Southeast	Southeast	Turning Right	Turning Right	Following too Close	No Contributing Factors	
2/18/2010	16:29:00	SR 369	SR 400	0	0	Angle	On Roadway	Motor Vehicle In Motion	Daylight	Dry	109	57	Unknown	Shoulder Belt	Pickup Truck	Passenger Car	North	Southeast	Turning Left	Turning Left	Failed to Yield	Other	
2/18/2010	6:55:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	51	47	Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Pickup Truck	East	East	Straight	Stopped	Following too Close	No Contributing Factors	
2/22/2010	17:23:00	SR 369	SR 400	1	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Wet	21	47	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Utility Passenger Vehicle	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors	
2/22/2010	19:41:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Dry	41	26	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Passenger Car	Southeast	North	Turning Right	Turning Right	Following too Close	Other	
2/26/2010	18:57:00	HWY 400 N	HWY 369	1	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Dry	52	43	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Van	North	North	Straight	Straight	Following too Close	No Contributing Factors	
3/5/2010	19:07:00	HIGHWAY 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Dry	26	109	Unknown	Unknown	Passenger Car	Utility Passenger Vehicle	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors	
3/7/2010	19:20:00	ST RTE 369	ST RTE 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Dry	67	32	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Passenger Car	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors	
3/14/2010	20:10:00	400	369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Lighted	Wet	29	38	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Utility Passenger Vehicle	North	North	Straight	Stopped	Following too Close	No Contributing Factors	
3/18/2010	8:54:00	BROWNS BRIDGE ROAD HWY	SR 400	1	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	40	32	Unknown	Lap and Shoulder Belt	Passenger Car	Passenger Car	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors	
3/21/2010	13:58:00	STATE ROAD 369	HIGHWAY 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Wet	53	55	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Passenger Car	Southeast	Southeast	Turning Right	Turning Right	Following too Close	No Contributing Factors	
3/26/2010	14:03:00	HWY 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	18	26	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors	
4/8/2010	15:18:00	BROWNS BRIDGE RD	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Wet	43	62	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Pickup Truck	East	East	Straight	Stopped	Following too Close	No Contributing Factors	
4/21/2010	10:25:00	SR 400	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	48	39	Lap and Shoulder Belt	Lap and Shoulder Belt	Single Unit Truck	Passenger Car	Northeast	Northeast	Turning Right	Turning Right	Other	No Contributing Factors	
5/3/2010	7:51:00	HIGHWAY 400 SR S	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Wet	35	44	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	Northeast	Northeast	Straight	Stopped	Weather Conditions	No Contributing Factors	
5/12/2010	5:43:00	SR 400 S	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Wet	34	62	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	Northeast	Northeast	Turning Right	Turning Right	Distracted	No Contributing Factors	
5/18/2010	12:38:00	HWY 369 BROWNS BRIDGE RD	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	28	36	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Pickup Truck	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors	
5/29/2010	19:14:00	HWY 400 SR S	BROWNS BRIDGE RD	1	0	Angle	On Shoulder	Motor Vehicle In Motion	Dawn	Dry	50	22	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	Northeast	Northeast	Straight	Stopped	Following too Close	No Contributing Factors	
6/2/2010	14:40:00	BROWNS BRIDGE RD	GA 400 S	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	59	67	Lap and Shoulder Belt	Unknown	Pickup Truck	Passenger Car	Northeast	Northeast	Turning Right	Turning Right	Following too Close	No Contributing Factors	
6/18/2010	12:13:00	STATE ROUTE 400	ST RT 369	0	0	Sideswipe-Same Direction	On Roadway	Motor Vehicle In Motion	Daylight	Dry	99	34	Unknown	Lap and Shoulder Belt	Pickup Truck	Pickup Truck	Northeast	Northeast	Changing Lanes	Straight	Misjudged Clearance	No Contributing Factors	
6/19/2010	20:23:00	GA SR 400 SB	GA SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	30	24	Unknown	Lap and Shoulder Belt	Pickup Truck	Stopped	Utility Passenger Vehicle	Northeast	Northeast	Straight	Stopped	Following too Close	No Contributing Factors
7/4/2010	17:25:00	GA 400 SB S	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	18	29	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Utility Passenger Vehicle	Northeast	Northeast	Straight	Straight	Following too Close	No Contributing Factors	
7/4/2010	17:10:00	ST RT 400	ST RT 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	41	30	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	Northeast	Northeast	Straight	Straight	Following too Close	No Contributing Factors	
7/13/2010	17:36:00	HIGHWAY 369 SR	HIGHWAY 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Wet	27	57	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	Southeast	Southeast	Turning Right	Turning Right	Distracted	No Contributing Factors	
7/19/2010	15:57:00	SR RT 369	ST RT 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	18	35	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors	
7/20/2010	9:54:00	SR 369	GA 400 S	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	41	55	Lap and Shoulder Belt	Lap and Shoulder Belt	Van	Passenger Car	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors	
8/6/2010	15:38:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Wet	40	43	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Van	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors	
8/8/2010	9:54:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	20	20	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Passenger Car	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors	
9/4/2010	21:36:00	SR 400	SR 369	4	0	Angle	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Dry	32	19	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	South	East	Straight	Straight	Disregard Stop Sign/Signal	No Contributing Factors	
9/10/2010	15:53:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	34	29	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car		East	None	Turning Right	Stopped	Following too Close	No Contributing Factors	
9/11/2010	17:16:00	BROWNS BRIDGE RD	HIGHWAY 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	39	32	Shoulder Belt	Lap and Shoulder Belt			South	South	Turning Right	Turning Right	Following too Close	No Contributing Factors	
9/11/2010	13:50:00	STATE ROUTE 369	STATE ROUTE 400	0	0	Sideswipe-Same Direction	On Roadway	Motor Vehicle In Motion	Daylight	Dry	47	38	Lap and Shoulder Belt	Lap and Shoulder Belt	Van	Passenger Car	Southeast	Southeast	Straight	Straight	Misjudged Clearance	Inattentive	
9/13/2010	17:26:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	37	56	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Pickup Truck	East	East	Turning Right	Turning Right	Distracted	No Contributing Factors	
9/17/2010	11:12:00	ST RT 369	ST RT 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	28	34	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car		East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors	
9/25/2010	7:20:00	HIGHWAY 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry		47		Lap and Shoulder Belt			East	East		Stopped	Improper Backing	No Contributing Factors	
9/30/2010	16:16:00	HWY 369	ST RT 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Wet	48	27	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Pickup Truck	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors	
10/6/2010	22:10:00	SR 400 S	HWY 369	2	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Dry	76	21	Unknown	Unknown	Van	Passenger Car	South	South	Straight	Straight	Distracted	No Contributing Factors	
10/11/2010	10:06:00	ST RT 369	ST RT 400 SB	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	40	21	Lap and Shoulder Belt	Lap and Shoulder Belt	Van	Van	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors	
10/12/2010	9:52:00	BROWNS BRIDGE RD	GA 400 S	0	0	Sideswipe-Same Direction	Off Roadway	Motor Vehicle In Motion	Daylight	Dry	22	65	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Utility Passenger Vehicle	East	East	Passing	Turning Left	Improper Passing	No Contributing Factors	
10/16/2010	10:40:00	STATE RTE 400	STATE RTE 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	24	58	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Pickup Truck	North	North	Straight	Stopped	Following too Close	No Contributing Factors	
10/19/2010	12:56:00	HIGHWAY 369	STATE ROUTE 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	22	29	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Utility Passenger Vehicle	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors	
10/21/2010	20:20:00	GA 369 BROWNS BRIDGE ROAD	GA 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Dry	67	39	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Van	East	East	Backing	Stopped	Improper Backing	No Contributing Factors	
10/23/2010	14:17:00	GA HIGHWAY 400 SOUTHBOUND	GA HIGHWAY 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	80	44	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Utility Passenger Vehicle	Northeast	Northeast	Straight	Stopped	Following too Close	No Contributing Factors	
10/24/2010	16:57:00	GA HIGHWAY 400 NORTHBOUND	GA HIGHWAY 369 EAST	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	41	18	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Utility Passenger Vehicle	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors	
11/12/2010	15:53:00	SR 400	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	20	54	Unknown	Lap and Shoulder Belt	Passenger Car	Pickup Truck	East	East	Turning Right	Turning Right	D.U.I.,Other	No Contributing Factors	
11/15/2010	16:10:00	SR 400 N	HIGHWAY 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Wet	26	21	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	North	North	Straight	Stopped	Following too Close	No Contributing Factors	
11/15/2010	6:20:00	SR 400	SR 369	1	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Wet	38	43	Lap and Shoulder Belt	Lap and Shoulder Belt		Passenger Car	South	South	Straight	Stopped	Following too Close	No Contributing Factors	
11/15/2010	9:27:00	NBORTH SR 400	SR 369	1	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Wet	47	41	Lap and Shoulder Belt	Lap and Shoulder Belt		Passenger Car	North	North	Straight	Stopped	Following too Close	No Contributing Factors	
11/22/2010	8:11:00	SR 400	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	23	58	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car		South	South	Straight	Straight	Following too Close	No Contributing Factors	
11/24/2010	16:28:00	HWY 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	48	69	Lap and Shoulder Belt	Lap and Shoulder Belt		Passenger Car	South	South	Turning Right	Turning Right	Following too Close	No Contributing Factors	
11/29/2010	18:55:00	SR 400 S	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Wet	35	29	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	South	South	Straight	Straight	Distracted	No Contributing Factors	
11/30/2010	8:28:00	SR 400 S	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Wet	21	25	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	South	South	Straight	Stopped	Too Fast For Conditions	No Contributing Factors	
12/1/2010	17:43:00	SR 400 N	BROWNS BRIDGE RD	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Dry	26	50	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	North	North	Straight	Straight	Following too Close	No Contributing Factors	
12/1/2010	16:13:00	ST RT 400 S BOUND	ST RT 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	54	68	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car		South	South	Straight	Stopped	Following too Close	No Contributing Factors	
12/8/2010	8:34:00	HIGHWAY 369	HIGHWAY400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	46	34	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Van	South	South	Turning Right	Stopped	Following too Close	No Contributing Factors	
12/10/2010	9:33:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	20	39	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car		East	East	Turning Right	Stopped	Distracted	No Contributing Factors	
12/12/2010	15:20:00	ST RT 369	ST RT 400 S BOUND	0	0	Rear End	On Roadway	Motor Vehicle															

4/18/2011	16:16:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	50	48 Lap and Shoulder Belt	Lap and Shoulder Belt		Passenger Car	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors
4/27/2011	13:20:00	HIGHWAY 369 BROWNS BRIDGE RD	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	53	59 Lap and Shoulder Belt	Motorcycle Helmet			East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors
5/6/2011	13:14:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	25	56 Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car		East	East	Straight	Stopped	Following too Close	No Contributing Factors
5/9/2011	8:37:00	ST RT 369	ST RT 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	20	34 Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors
5/19/2011	17:59:00	HWY 400 S	HIGHWAY 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	43	30 Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car		South	South	Straight	Stopped	Following too Close	No Contributing Factors
5/19/2011	8:45:00	ST RT 369	ST RT 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	40	33 Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors
5/22/2011	14:04:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	35	21 Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car		East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors
6/4/2011	10:40:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	37	34 Lap and Shoulder Belt	Lap and Shoulder Belt	Van	Van	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors
6/8/2011	21:34:00	SR 400 N	SR 369	2	0	Angle	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Dry	40	26 Lap and Shoulder Belt	Unknown	Pickup Truck	Passenger Car	North	West	Straight	Straight	Disregard Stop Sign/Signal	No Contributing Factors
6/10/2011	12:08:00	ST RT 369	ST RT 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	37	60 Lap and Shoulder Belt	Lap and Shoulder Belt			East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors
6/17/2011	8:11:00	SR 400	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	43	69 Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Passenger Car	South	South	Straight	Stopped	Following too Close	No Contributing Factors
6/24/2011	23:04:00	N BOUND SR 400	SR 369	0	0	Angle	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Wet	82	19 Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	North	West	Straight	Straight	Disregard Stop Sign/Signal	No Contributing Factors
7/2/2011	11:05:00	HIGHWAY 369 BROWNS BRIDGE RD	SR 400	1	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	48	37 Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Pickup Truck	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors
7/14/2011	10:05:00	ST RT369	ST RT 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	39	16 Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Pickup Truck	East	South	Turning Right	Turning Right	Following too Close	No Contributing Factors
7/20/2011	10:45:00	HIGHWAY 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	28	39 Lap and Shoulder Belt	Lap and Shoulder Belt	Vehicle With Trailer	Passenger Car	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors
7/21/2011	16:00:00	SR 400	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	63	54 Lap and Shoulder Belt	Lap and Shoulder Belt			South	South	Straight	Stopped	Following too Close	No Contributing Factors
8/19/2011	19:00:00	BROWNS BRIDGE RD	HWY 400	0	0	Sideswipe-Same Direction	On Roadway	Motor Vehicle In Motion	Daylight	Dry	65	29 Lap and Shoulder Belt	Lap and Shoulder Belt	Tractor/Trailer	Passenger Car	West	West	Changing Lanes	Straight	Failed to Yield	No Contributing Factors
8/19/2011	20:17:00	BROWNS BRIDGE RD	SR 400	0	0	Sideswipe-Same Direction	On Roadway	Motor Vehicle In Motion	Daylight	Dry	51	18 Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car		West	West	Changing Lanes	Straight	No Signal/Improper Signal	No Contributing Factors
8/28/2011	9:34:00	SR 400	SR 369	1	0	Not A Collision with Motor Vehicle	Median	Animal	Daylight	Dry	21	Lap and Shoulder Belt		Passenger Car		North		Straight		Object Or Animal	
8/28/2011	8:50:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	58	49 Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car		South	South	Turning Right	Turning Right	Following too Close	No Contributing Factors
8/29/2011	15:01:00	S R 400 SR	S R 369	1	0	Not A Collision with Motor Vehicle	On Roadway	Other Non-Collision	Daylight	Dry	53	Motorcycle Helmet				North		Straight		Driver Lost Control	
8/29/2011	18:31:00	SR 369	SR 400	1	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	20	24 Lap and Shoulder Belt	Lap and Shoulder Belt		Pickup Truck	West	West	Straight	Straight	Following too Close	No Contributing Factors
8/30/2011	11:18:00	S R 400 SR N	S R 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	40	59 Lap and Shoulder Belt	Lap and Shoulder Belt		Pickup Truck	North	North	Stopped	Stopped	Inattentive	No Contributing Factors
9/1/2011	9:00:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	40	51 Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	East	East	Turning Right	Turning Right	Inattentive	No Contributing Factors
9/3/2011	8:05:00	SR 400	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	39	30 Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Pickup Truck	South	South	Straight	Stopped	Following too Close	No Contributing Factors
9/6/2011	7:09:00	SR 400 S	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Wet	36	27 Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	South	South	Changing Lanes	Stopped	Changed Lanes Improperly	No Contributing Factors
9/21/2011	18:34:00	SR 400	SR 369	1	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	18	49 Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	North	North	Straight	Stopped	Following too Close	No Contributing Factors
9/28/2011	11:21:00	SR 369	SR 400	0	0	Sideswipe-Same Direction	On Roadway	Motor Vehicle In Motion	Daylight	Dry	72	36 Lap and Shoulder Belt	Lap and Shoulder Belt		Passenger Car	East	East	Turning Left	Straight	Failed to Yield	No Contributing Factors
9/30/2011	15:40:00	SR 400 N	SR 369	0	0	Not A Collision with Motor Vehicle	On Roadway	Other - Fixed Object	Daylight	Dry	24	Lap and Shoulder Belt		Passenger Car		North		Straight		Driver Lost Control	
10/7/2011	16:17:00	N BOUND SR 400	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	25	26 Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	North	North	Straight	Straight	Following too Close	No Contributing Factors
10/12/2011	6:25:00	SR 400	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Wet	26	21 Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Passenger Car	South	South	Straight	Straight	Following too Close	No Contributing Factors
10/22/2011	14:36:00	SR 400	SR 369	0	0	Not A Collision with Motor Vehicle	Off Roadway	Guard Rail Face	Daylight	Dry	24	Lap and Shoulder Belt				North		Straight		Following too Close	
10/24/2011	12:37:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	55	54 Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car		East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors
10/24/2011	14:06:00	BROWNS BRIDGE RD	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	54	64 Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck		North	North	Turning Right	Turning Right	Following too Close	No Contributing Factors
10/27/2011	20:40:00	HIGHWAY 369 SR	HIGHWAY 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Dry	43	43 Lap and Shoulder Belt	Lap and Shoulder Belt		Passenger Car	East	East	Turning Right	Stopped	Following too Close	No Contributing Factors
11/12/2011	16:38:00	SR 369	SR 400	1	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	17	47 Lap and Shoulder Belt	Lap and Shoulder Belt	Bus	Passenger Car	East	East	Straight	Parked	Following too Close	No Contributing Factors
11/13/2011	11:01:00	BROWNS BRIDGE RD	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	28	25 Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car		East	East	Straight	Stopped	Following too Close	No Contributing Factors
12/1/2011	6:40:00	SR 400	BROWNS BRIDGE RD	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Dry	32	40 Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	South	South	Straight	Stopped	Following too Close	No Contributing Factors
12/1/2011	7:40:00	SR 400	BROWNS BRIDGE RD	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Dry	18	50 Lap and Shoulder Belt	Lap and Shoulder Belt	Van	Passenger Car	South	South	Straight	Stopped	Following too Close	No Contributing Factors
12/11/2011	14:25:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	24	27 Lap and Shoulder Belt	Lap and Shoulder Belt	Van	Passenger Car	West	West	Straight	Stopped	Following too Close	No Contributing Factors
12/20/2011	18:04:00	SR 400	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Wet	37	48 Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Passenger Car	North	North	Straight	Stopped	Following too Close	No Contributing Factors
12/21/2011	10:03:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Wet	26	34 Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Passenger Car	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors
12/23/2011	15:16:00	SR 400	SR 369	3	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	22	23 None Used	Lap and Shoulder Belt	Pickup Truck	Passenger Car	North	North	Straight	Stopped	Following too Close	No Contributing Factors
12/31/2011	23:01:00	HIGHWAY 400 SR S	HIGHWAY 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Dry	18	50 Lap and Shoulder Belt	Lap and Shoulder Belt	Van	Passenger Car	South	South	Straight	Stopped	Distracted	No Contributing Factors
1/1/2012	18:31:00	SR 400	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Dry	20	21 Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	South	South	Straight	Straight	Following too Close	No Contributing Factors
1/8/2012	14:38:00	SR 400	SR 369	0	0	Sideswipe-Same Direction	On Roadway	Motor Vehicle In Motion	Daylight	Wet	18	41 Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car		North	North	Changing Lanes	Straight	Changed Lanes Improperly	No Contributing Factors
1/8/2012	19:42:00	BROWNS BRIDGE RD	SR 400	2	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Wet	25	64 Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car		West	West	Straight	Stopped	Following too Close	No Contributing Factors
1/24/2012	8:45:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	28	58 Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Pickup Truck	South	South	Turning Right	Turning Right	Following too Close	No Contributing Factors
1/26/2012	19:09:00	SR 369	SR 400	2	0	Rear End	On Roadway	Motor Vehicle In Motion - In Other Road	Dark-Not Lighted	Wet	38	18 Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Passenger Car	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors
1/29/2012	13:00:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	21	45 Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Van	East	East	Straight	Stopped	Following too Close	No Contributing Factors
1/31/2012	22:02:00	SR 400 N	BROWNS BRIDGE SR369	0	0	Not A Collision with Motor Vehicle	Off Roadway	Median Barrier	Dark-Not Lighted	Dry	17	Lap and Shoulder Belt		Pickup Truck		North		Straight		Mechanical Or Vehicle Failure	
2/6/2012	9:39:00	SR 400	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	30	57 Lap and Shoulder Belt	Lap and Shoulder Belt			South	South	Straight	Stopped	Following too Close	No Contributing Factors
2/14/2012	16:32:00	SR 400	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	41	67 Lap and Shoulder Belt	Lap and Shoulder Belt			North	North	Straight	Stopped	Following too Close	No Contributing Factors
2/16/2012	6:00:00	SR 400	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Wet	32	28 Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Van	South	South	Straight	Stopped	Following too Close	No Contributing Factors
2/23/2012	5:23:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Wet	39	42 Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Pickup Truck	South	South	Turning Right	Turning Right	Following too Close	No Contributing Factors
3/3/2012	10:40:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Wet	32	63 Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	South	South	Straight	Stopped	Following too Close	No Contributing Factors
3/5/2012	9:30:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	59	36 Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Passenger Car	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors
3/14/2012	12:00:00	SR 400	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	28	21 Lap and Shoulder Belt	Lap and Shoulder Belt		Passenger Car	North	North	Straight	Stopped	Following too Close	No Contributing Factors
3/15/2012	14:08:00	369	400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	17	52 Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Pickup Truck	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors
3/18/2012	10:32:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	45	57 Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	West	West	Turning Right	Turning Right	Following too Close	No Contributing Factors
3/19/2012	14:31:00	SR 369	GA400	1	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	19	47 Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Van	East	East	Turning Right	Stopped	Following too Close	No Contributing Factors
3/20/2012	8:56:00	SR 400 S	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	38	49 Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	South	South	Turning Right	Turning Right	Following too Close	No Contributing Factors
3/22/2012	11:10:00	BROWNS BRIDGE RD	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Other	57	53 Lap and Shoulder Belt	Lap Belt	Pickup Truck	Single Unit Truck	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors
3/25/2012	12:56:00	SR 400 N	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry		61 Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Van	North	North	Straight	Stopped	Following too Close	No Contributing Factors
3/26/2012	18:19:00	SR 400	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	31	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Van	North	North	Straight	Stopped	Following too Close	No Contributing Factors
3/31/2012	10:45:00	HWY 400 N	BRONS BRIDGE ROAD SR369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	40	40 Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Van	North	North	Straight	Straight	Following too Close	No Contributing Factors
4/1/2012	15:23:00	SR 400 S	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	18	22 Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	South	South	Straight	Stopped	Following too Close	No Contributing Factors
4/12/2012	8:10:00	400	369</																		

9/25/2012 17:47:00 BROWNS BRIDGE RD	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	18	23	Shoulder Belt	Shoulder Belt	Passenger Car	Passenger Car	East	East	Straight	Stopped	Following too Close,Inattentive	No Contributing Factors
9/30/2012 11:23:00 HIGHWAY 400 SR S	HIGHWAY 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	39	45	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Utility Passenger Vehicle	East	South	Turning Right	Turning Right	Following too Close	No Contributing Factors
9/30/2012 15:02:00 SR 400 N	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	35	36	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Passenger Car	North	North	Straight	Stopped	Following too Close	No Contributing Factors
10/3/2012 13:00:00 SR 400	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	72	68	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	North	North	Straight	Stopped	Following too Close	No Contributing Factors
10/3/2012 20:00:00 SR 400	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Dry	47	43	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Utility Passenger Vehicle	North	North	Straight	Stopped	Following too Close	No Contributing Factors
10/12/2012 16:05:00 SR 400 N	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	52	27	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Passenger Car	North	North	Straight	Stopped	No Contributing Factors	No Contributing Factors
10/14/2012 11:13:00 SR 369	SR 400	1	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	64	45	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	East	East	Straight	Stopped	Following too Close,Inattentive	No Contributing Factors
10/19/2012 14:37:00 400	369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	45	37	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Utility Passenger Vehicle	South	South	Straight	Stopped	Following too Close	No Contributing Factors
10/19/2012 15:47:00 400 N BOUND	369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	52	32	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Passenger Car	North	North	Straight	Stopped	Following too Close,Distracted	No Contributing Factors
10/20/2012 9:44:00 369	400	1	0	Sideswipe-Opposite Direction	On Roadway	Motor Vehicle In Motion	Daylight	Dry	61	38	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Utility Passenger Vehicle	West	East	Turning Right	Stopped	Driver Lost Control,Driver Condition	No Contributing Factors
10/21/2012 17:27:00 369	400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	36	37	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Pickup Truck	East	East	Straight	Straight	Following too Close	No Contributing Factors
10/22/2012 17:06:00 SR 400 S	HWY 369	2	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	30	39	Lap and Shoulder Belt	Lap and Shoulder Belt	Van	Pickup Truck	South	South	Straight	Stopped	Following too Close	No Contributing Factors
10/26/2012 19:28:00 SR 400 N	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Lighted	Dry	25	61	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Other	North	North	Straight	Straight	Following too Close,Distracted	No Contributing Factors
10/26/2012 10:39:00 SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	18	53	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Utility Passenger Vehicle	East	East	Straight	Straight	Following too Close	No Contributing Factors
10/27/2012 12:48:00 SR 400 S	HWY 369	1	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	41	56	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Pickup Truck	South	South	Straight	Stopped	D.U.I.,Following too Close,Driver Condition	No Contributing Factors
10/27/2012 12:28:00 SR 400 N	SR 369	6	0	Not A Collision with Motor Vehicle	Off Roadway	Guard Rail Face	Daylight	Dry	24	41	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Passenger Car	North	North	Straight	Stopped	Following too Close,Distracted	No Contributing Factors
10/27/2012 13:55:00 SR 400 N	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	47	30	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	North	North	Straight	Stopped	Following too Close	No Contributing Factors
10/27/2012 14:22:00 STATEM ROUTE 400 N	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	63	53	Lap and Shoulder Belt	Lap and Shoulder Belt	Van	Passenger Car	North	North	Straight	Stopped	Following too Close	No Contributing Factors
10/28/2012 12:10:00 SR 400	SR 369	1	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Wet	55	59	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Pickup Truck	South	South	Straight	Stopped	Following too Close	No Contributing Factors
11/3/2012 12:53:00 400	369	1	0	Not A Collision with Motor Vehicle	On Roadway	Other Non-Collision	Daylight	Dry	32	None Used			Motorcycle, Scooter, Minibike		North		Straight		Driver Lost Control	
11/7/2012 15:46:00 400 N BOUND	369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Wet	51	50	Lap and Shoulder Belt	Lap and Shoulder Belt	Van	Passenger Car	North	North	Straight	Stopped	Following too Close	No Contributing Factors
11/8/2012 16:41:00 400	369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dusk	Dry	80	43	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Utility Passenger Vehicle	East	East	Turning Right	Stopped	Following too Close	No Contributing Factors
11/8/2012 13:39:00 400	369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	66	58	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Utility Passenger Vehicle	North	North	Straight	Stopped	Following too Close,Driver Condition	No Contributing Factors
11/13/2012 10:25:00 369	400	0	0	Sideswipe-Same Direction	On Roadway	Motor Vehicle In Motion	Daylight	Dry	31	52	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Passenger Car	South	South	Turning Right	Turning Right	Following too Close	No Contributing Factors
11/16/2012 8:31:00 400 N	369	1	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	29	49	Lap and Shoulder Belt	Lap and Shoulder Belt	Van	Utility Passenger Vehicle	North	North	Straight	Stopped	Following too Close	No Contributing Factors
11/21/2012 13:34:00 400	369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	20	60	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Utility Passenger Vehicle	North	North	Straight	Straight	Following too Close	No Contributing Factors
11/23/2012 12:41:00 SR 400 N	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	48	32	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Passenger Car	North	North	Straight	Stopped	Following too Close	No Contributing Factors
11/23/2012 6:43:00 SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dawn	Dry	39	48	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	East	East	Stopped	Turning Right	No Contributing Factors	Following too Close
11/23/2012 10:00:00 SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	42	52	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	East	East	Straight	Stopped	Following too Close	No Contributing Factors
12/2/2012 16:25:00 400	369	1	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	51	48	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	South	South	Straight	Stopped	Following too Close	No Contributing Factors
12/7/2012 16:06:00 STATE ROUTE369	HIGHWAY400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	17	17	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Utility Passenger Vehicle	East	East	Turning Right	Stopped	Following too Close	No Contributing Factors
12/12/2012 7:56:00 HWY 400 S	BROWNS BRIDGE RD	1	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	20	44	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Utility Passenger Vehicle	South	South	Straight	Stopped	Following too Close	No Contributing Factors
12/14/2012 11:27:00 400	369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	18	19	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Pickup Truck	South	South	Straight	Stopped	Following too Close,Inattentive	No Contributing Factors
12/15/2012 12:56:00 400	369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	20	19	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Passenger Car	North	North	Straight	Straight	Following too Close	Following too Close
12/15/2012 8:43:00 369	400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	23	47	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Utility Passenger Vehicle	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors
12/15/2012 17:57:00 SR 400 S	SR 369	1	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Dry	37	32	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Utility Passenger Vehicle	South	South	Straight	Straight	Following too Close	No Contributing Factors
12/17/2012 7:27:00 HWY400 SR S	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Wet	59	28	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	South	South	Straight	Straight	Following too Close	No Contributing Factors
12/20/2012 11:19:00 400 N	369	0	0	Not A Collision with Motor Vehicle	Median	Median Barrier	Daylight	Wet	18		Lap and Shoulder Belt		Utility Passenger Vehicle		North		Straight		Weather Conditions,Other	
12/21/2012 19:17:00 HIGHWAY 369 SR	HIGHWAY 400	1	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Dry	50	44	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Utility Passenger Vehicle	East	East	Straight	Stopped	Following too Close	No Contributing Factors
12/21/2012 11:40:00 SR 369	SR 400	1	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	44	39	Lap and Shoulder Belt	Lap and Shoulder Belt	Van	Passenger Car	West	West	Turning Right	Stopped	Following too Close	No Contributing Factors
12/28/2012 14:05:00 400	369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	85	59	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Passenger Car	South	South	Straight	Stopped	Following too Close	No Contributing Factors
12/28/2012 18:35:00 SR 4000 S	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Lighted	Wet	51	62	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	South	South	Turning Right	Turning Right	Following too Close,Inattentive	No Contributing Factors
12/30/2012 20:54:00 369	400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Dry	18	49	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Utility Passenger Vehicle	South	South	Turning Right	Turning Right	Following too Close,Inattentive	No Contributing Factors
12/31/2012 14:09:00 SR 369 E	HWY 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	64	32	Lap and Shoulder Belt	Lap and Shoulder Belt	Van	Passenger Car	South	South	Straight	Straight	Following too Close	No Contributing Factors
1/4/2013 13:11:00 HIGHWAYYY 400 S	BROWNS BRIDGE RD	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	22	22	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Utility Passenger Vehicle	South	South	Straight	Stopped	Following too Close	No Contributing Factors
2/5/2013 16:07:00 369	400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	30	30	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Passenger Car	East	East	Straight	Stopped	Following too Close	No Contributing Factors
2/5/2013 18:29:00 SR 400 N	SR 369	0	0	Rear End	On Shoulder	Motor Vehicle In Motion	Dusk	Dry	65	29	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Passenger Car	South	South	Turning Right	Turning Right	Following too Close,Inattentive	No Contributing Factors
2/8/2013 16:14:00 SR 369	SR 400	0	0	Sideswipe-Same Direction	On Roadway	Motor Vehicle In Motion	Daylight	Dry		59	Unknown	Lap and Shoulder Belt	Utility Passenger Vehicle	Utility Passenger Vehicle	South	South	Turning Right	Turning Right	Improper Passing	No Contributing Factors
2/11/2013 6:24:00 SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Wet	34	52	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Pickup Truck	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors
2/13/2013 16:20:00 369	400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	25	69	Lap and Shoulder Belt	Lap and Shoulder Belt	Van	Utility Passenger Vehicle	East	East	Turning Right	Stopped	Following too Close	No Contributing Factors
2/13/2013 7:37:00 SR 400	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Wet	47	24	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	West	North	Turning Right	Straight	Failed to Yield	No Contributing Factors
2/14/2013 15:52:00 400	369	0	0	Sideswipe-Same Direction	On Roadway	Motor Vehicle In Motion	Daylight	Dry	40	53	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Tractor/Trailer	North	North	Turning Left	Turning Left	Inattentive	Inattentive
2/15/2013 16:16:00 HIGHWAY 400 N	BROWNS BRIDGE RO	2	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	41	74	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Passenger Car	North	North	Straight	Stopped	Following too Close	No Contributing Factors
2/18/2013 6:58:00 SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	35	48	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Utility Passenger Vehicle	East	East	Straight	Stopped	Following too Close	No Contributing Factors
2/19/2013 6:13:00 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Wet	31	45	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Passenger Car	East	East	Straight	Stopped	Following too Close	No Contributing Factors
2/21/2013 5:23:00 SR 369	HIGHWAY 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Lighted	Dry	25	58	Lap Belt	Lap and Shoulder Belt	Passenger Car	Utility Passenger Vehicle	East	East	Turning Right	Turning Right	Following too Close,Distracted	No Contributing Factors
2/28/2013 16:52:00 369	400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	49	35	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Utility Passenger Vehicle	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors
2/28/2013 13:19:00 SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	18	21	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Passenger Car	East	East	Straight	Stopped	No Contributing Factors	No Contributing Factors
3/2/2013 15:45:00 SR 400	SR 369	2	0	Angle	On Roadway	Motor Vehicle In Motion	Daylight	Dry	28	37	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	South	East	Straight	Turning Left	Disregard Stop Sign/Signal,Inattentive	No Contributing Factors
3/4/2013 15:05:00 369	400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	20	23	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	South	South	Turning Right	Stopped	Following too Close	No Contributing Factors
3/16/2013 20:01:00 SR 400	SR 369	3	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Dry	57	41	Lap and Shoulder Belt	Lap and Shoulder Belt	Van	Pickup Truck	North	North	Straight	Stopped	Other,Inattentive	No Contributing Factors
3/23/2013 17:28:00 SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	44	42	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Utility Passenger Vehicle	East	East	Straight	Stopped	No Contributing Factors	No Contributing Factors
3/24/2013 16:45:00 SR 400 S	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	68	36	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Passenger Car	South	North	Straight	Stopped	No Contributing Factors	No Contributing Factors
3/27/2013 16:45:00 SR 400 S	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	42	25	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Passenger Car	South	South	Turning Right	Stopped	No Contributing Factors	No Contributing Factors
4/10/2013 12:10:00 SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	56	32	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	East	West	Turning Right	Stopped	No Contributing Factors	No Contributing Factors
4/12/2013 10:30:00 SR 369	SR 400	1	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	67	55	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Utility Passenger Vehicle	East	East	Straight	Stopped	No Contributing Factors	No Contributing Factors
4/19/2013 10:32:00 SR 369	SR 400	1	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Wet	53	30	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Passenger Car	East	East	Straight	Stopped	No Contributing Factors	No Contributing Factors
4/27/2013 6:40:00 SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dawn	Wet	29	42	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Van	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors
5/15/2013 16:48:00 SR 400 N	BROWNS BRIDGE RD	0	0</																	

9/20/2013	16:15:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	16	41	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Utility Passenger Vehicle	East	East	Straight	Stopped	No Contributing Factors	No Contributing Factors	
9/22/2013	20:18:00	SR 400	SR 369	3	0	Angle	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Dry	30	24	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Pickup Truck	North	West	Straight	Straight	No Contributing Factors	No Contributing Factors	
9/24/2013	13:35:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	24	52	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Pickup Truck	West	West	Turning Right	Turning Right	Following too Close	No Contributing Factors	
9/25/2013	7:04:00	BROWNS BRIDGE ROAD	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dawn	Wet	19	61	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Van	West	West	Stopped	Stopped	No Contributing Factors	No Contributing Factors
10/1/2013	13:07:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	17	42	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Utility Passenger Vehicle	East	East	Straight	Stopped	No Contributing Factors	No Contributing Factors	
10/8/2013	19:25:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Dry	33	52	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Passenger Car	East	East	Turning Right	Stopped	No Contributing Factors	No Contributing Factors	
10/11/2013	6:55:00	SR 369	SR 400	1	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Dry	32	54	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	East	East	Turning Right	Stopped	No Contributing Factors	No Contributing Factors	
10/15/2013	17:25:00	SR 400 N	SR 369	1	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	31	56	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Passenger Car	North	North	Straight	Stopped	No Contributing Factors	No Contributing Factors	
11/2/2013	8:00:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	29	31	Lap and Shoulder Belt	Lap and Shoulder Belt	Van	Utility Passenger Vehicle	East	East	Turning Right	Turning Right	No Contributing Factors	No Contributing Factors	
11/3/2013	13:50:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	29	24	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Van	East	East	Turning Right	Turning Right	No Contributing Factors	No Contributing Factors	
11/7/2013	9:50:00	SR 369	SR 400	1	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Wet	35	48	Lap and Shoulder Belt	Lap and Shoulder Belt	Van	Utility Passenger Vehicle	East	East	Turning Right	Stopped	No Contributing Factors	No Contributing Factors	
11/8/2013	18:09:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Dry	25	28	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Passenger Car	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors	
11/9/2013	13:30:00	SR 400 N	S OF SR369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	54	33	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	North	North	Straight	Stopped	No Contributing Factors	No Contributing Factors	
11/15/2013	22:45:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Dry	21	42	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Passenger Car	East	East	Straight	Stopped	No Contributing Factors	No Contributing Factors	
11/16/2013	14:50:00	SR 400 S	N OF SR369	1	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Wet	62	45	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Passenger Car	South	South	Straight	Stopped	No Contributing Factors	No Contributing Factors	
11/19/2013	13:45:00	SR400SB US 19	BROWN BRIDGE ROAD	SR 369	0	0	Sideswipe-Same Direction	On Roadway	Motor Vehicle In Motion	Daylight	Dry	45	50	Lap and Shoulder Belt	Lap and Shoulder Belt	Van	Passenger Car	South	South	Changing Lanes	Straight	No Contributing Factors	No Contributing Factors
11/20/2013	10:15:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	28	68	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Passenger Car	East	East	Turning Right	Stopped	No Contributing Factors	No Contributing Factors	
11/22/2013	5:57:00	400	369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Wet	38	66	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Pickup Truck	South	South	Straight	Stopped	Following too Close	No Contributing Factors	
11/22/2013	5:57:00	400	369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Wet	49	38	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Pickup Truck	South	South	Changing Lanes	Stopped	Following too Close	No Contributing Factors	
11/27/2013	10:03:00	SR 400	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Wet	18	51	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	South	South	Straight	Stopped	Following too Close,Inattentive	No Contributing Factors	
12/4/2013	9:30:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Wet	57	55	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Utility Passenger Vehicle	East	East	Turning Right	Turning Right	No Contributing Factors	No Contributing Factors	
12/12/2013	18:20:00	SR 369	400S	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Dry	56	52	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Passenger Car	East	East	Turning Right	Turning Right	No Contributing Factors	No Contributing Factors	
12/12/2013	15:45:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	23	46	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Utility Passenger Vehicle	East	East	Straight	Stopped	No Contributing Factors	No Contributing Factors	
12/13/2013	21:28:00	HWY 400 N	BROWNS BRIDGE RD	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Lighted	Dry	23	47	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Single Unit Truck	West	West	Turning Right	Stopped	Following too Close	No Contributing Factors	
12/14/2013	17:40:00	SR 400 S	SR 369	3	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Wet	22	34	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	South	South	Straight	Stopped	No Contributing Factors	No Contributing Factors	
12/14/2013	18:54:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion - In Other Road	Dark-Not Lighted	Wet	21	21	Unknown	Lap and Shoulder Belt	Tractor/Trailer	Passenger Car	West	West	Backing	Stopped	Improper Backing	No Contributing Factors	
12/16/2013	19:30:00	SR 400 N	SR 369	2	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Dry	40	22	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Utility Passenger Vehicle	North	North	Straight	Stopped	No Contributing Factors	No Contributing Factors	
12/21/2013	17:03:00	400	369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dusk	Wet	21	31	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	South	South	Straight	Straight	Following too Close,Inattentive	No Contributing Factors	
12/26/2013	9:40:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	41	45	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Passenger Car	East	East	Turning Right	Stopped	No Contributing Factors	No Contributing Factors	
1/3/2014	14:40:00	SR 400 S	SR 369	0	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	0	18		Lap and Shoulder Belt		Passenger Car		South		Stopped		No Contributing Factors	
1/10/2014	14:05:00	SR 369	SR 400	0	0	Sideswipe-Same Direction	On Roadway	Other Object (Not Fixed)	Daylight	Wet	18	18	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	East	East	Turning Right	Stopped	No Contributing Factors	No Contributing Factors	
1/18/2014	16:00:00	SR 400 N	SR 369	0	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	54	44	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Passenger Car	North	North	Straight	Stopped	No Contributing Factors	No Contributing Factors	
1/22/2014	12:30:00	SR 400 S	SR 369	1	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	51	53	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Utility Passenger Vehicle	South	South	Straight	Stopped	No Contributing Factors	No Contributing Factors	
1/23/2014	18:40:00	SR 369	SR 400	1	0	Rear End	On Roadway	Other Object (Not Fixed)	Dark-Not Lighted	Dry	64	26	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Pickup Truck	East	East	Turning Right	Stopped	No Contributing Factors	No Contributing Factors	
1/26/2014	14:40:00	SR 369	SR 400	0	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	45	58	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Utility Passenger Vehicle	West	West	Turning Right	Stopped	No Contributing Factors	No Contributing Factors	
1/28/2014	16:20:00	SB SR 400	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Icy	46	28	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Pickup Truck	South	South	Stopped	Stopped	Weather Conditions	No Contributing Factors	
1/30/2014	16:25:00	SR 400 N	SR 369	0	0	Not A Collision with Motor Vehicle	Median	Ditch	Daylight	Dry	26		Lap and Shoulder Belt		Passenger Car		North		Negotiating A Curve		No Contributing Factors	No Contributing Factors	
2/3/2014	9:35:00	SR 400 S	SR 369	0	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	34	78	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Van	South	South	Straight	Stopped	No Contributing Factors	No Contributing Factors	
2/6/2014	8:50:00	BROWNS BRIDGE SR 369 RD	SR 400	0	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	27	48	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	East	East	Turning Right	Stopped	No Contributing Factors	No Contributing Factors	
2/7/2014	19:10:00	SR 400 S	SR 369	1	0	Rear End	On Roadway	Other Object (Not Fixed)	Dark-Not Lighted	Dry	67	57	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Utility Passenger Vehicle	South	South	Turning Right	Turning Right	No Contributing Factors	No Contributing Factors	
2/7/2014	21:27:00	400 S	SR 369	2	0	Angle	On Roadway	Other Object (Not Fixed)	Dark-Not Lighted	Dry	25	35	None Used	Lap and Shoulder Belt	Passenger Car	Utility Passenger Vehicle	South	East	Straight	Turning Left	No Contributing Factors	No Contributing Factors	
2/8/2014	10:50:00	SR 400 S	N OF SR369	0	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	23	34	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Utility Passenger Vehicle	South	South	Straight	Stopped	No Contributing Factors	No Contributing Factors	
2/16/2014	0:37:00	SR 400 S	SR 369	0	0	Sideswipe-Same Direction	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Dry	23	44	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Tractor/Trailer	South	South	Passing	Straight	Other	No Contributing Factors	
2/17/2014	16:38:00	400 S	SR 369	0	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	24	29	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Pickup Truck	South	South	Straight	Stopped	No Contributing Factors	No Contributing Factors	
2/18/2014	21:04:00	SR 400	SR 369	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Wet		20	Unknown	Lap and Shoulder Belt	Passenger Car	Passenger Car	North	North	Straight	Stopped	Following too Close,Weather Conditions,1	No Contributing Factors	
2/18/2014	16:10:00	SR 369	SR 400	0	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	62	22	Shoulder Belt	Shoulder Belt	Utility Passenger Vehicle	Passenger Car	East	East	Straight	Stopped	No Contributing Factors	No Contributing Factors	
2/21/2014	17:30:00	SR 369	SR 400	0	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	63	29	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Utility Passenger Vehicle	East	East	Turning Right	Stopped	No Contributing Factors	No Contributing Factors	
2/23/2014	17:25:00	SR 369	SR 400	1	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	63	47	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Utility Passenger Vehicle	East	East	Turning Right	Stopped	No Contributing Factors	No Contributing Factors	
3/8/2014	7:29:00	369	400	1	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	18	17	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Passenger Car	West	West	Straight	Stopped	Following too Close,Inattentive	No Contributing Factors	
3/19/2014	10:05:00	SR 400	SR 369	0	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	46	22	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Passenger Car	South	South	Straight	Stopped	No Contributing Factors	No Contributing Factors	
3/19/2014	14:30:00	SR 369	SR 400	0	0	Rear End	Ramp	Motor Vehicle In Motion	Daylight	Dry	51	72	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	South	South	Straight	Stopped	Following too Close	No Contributing Factors	
3/19/2014	16:56:00	SR 369	W OF SR400	1	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	55	20	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	East	East	Straight	Stopped	No Contributing Factors	No Contributing Factors	
3/24/2014	17:10:00	SR 400 N	S R 369	0	0	Not A Collision with Motor Vehicle	Off Roadway	Other - Fixed Object	Daylight	Dry			Lap and Shoulder Belt		Utility Passenger Vehicle		North		Straight		Distacted	No Contributing Factors	
3/24/2014	7:35:00	SR 400	SR 369	1	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	27	31	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Passenger Car	South	South	Straight	Stopped	No Contributing Factors	No Contributing Factors	
3/26/2014	18:23:00	SR 369	HIGHWAY 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	18	52	Lap and Shoulder Belt	Lap and Shoulder Belt	Single Unit Truck	Single Unit Truck	East	East	Turning Right	Stopped	Following too Close	No Contributing Factors	
3/28/2014	16:45:00	SR 400 S	N OF SR369	2	0	Not A Collision with Motor Vehicle	On Shoulder	Embankment	Daylight	Wet	17		Lap and Shoulder Belt		Passenger Car		South		Straight		No Contributing Factors	No Contributing Factors	
3/31/2014	15:06:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry		55		Lap and Shoulder Belt	Van	Van	East	East	Backing	Stopped		No Contributing Factors	
4/4/2014	18:30:00	SR 369	SR 400	0	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	72	39	Unknown	Lap and Shoulder Belt	Utility Passenger Vehicle	Passenger Car	North	West	Turning Right	Turning Right	D.U.I.,Other	No Contributing Factors	
4/6/2014	12:45:00	3842 BROWNS BRIDGE RD	E OF SR400	0	0	Angle	On Roadway	Other Object (Not Fixed)	Daylight	Dry	53	35	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Van	East	West	Turning Left	Straight	No Contributing Factors	No Contributing Factors	
4/20/2014	21:00:00	SR 369 E	SR 400	3	0	Rear End	On Roadway	Other Object (Not Fixed)	Dark-Not Lighted	Dry	20	26	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	East	East	Turning Right	Stopped	No Contributing Factors	No Contributing Factors	
4/22/2014	16:06:00	SR 369	SR 400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	54	66	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Pickup Truck	West	West	Straight	Stopped	Following too Close	No Contributing Factors	
4/23/2014	16:50:00	SR 369	SR 400	0	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	20	50	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Passenger Car	West	West	Straight	Stopped	No Contributing Factors	No Contributing Factors	
4/26/2014	11:10:00	SR 369	SR 400	1	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	17	44	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	West	West	Straight	Stopped	No Contributing Factors	No Contributing Factors	
4/29/2014	8:15:00	SR 400	SR 369	0	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Wet	60	48	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Utility Passenger Vehicle	North	North	Straight	Stopped	No Contributing Factors	No Contributing Factors	
4/30/2014	12:08:00	369	400	0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	23	19	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	West</						

9/2/2014	20:40:00	SR 400		S OF BROWNS BRIDGE RD	0	0	Rear End	On Roadway	Other Object (Not Fixed)	Dark-Not Lighted	Dry	19	42	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	North	North	Straight	Stopped	No Contributing Factors	No Contributing Factors
9/5/2014	9:30:00	BROWNS BRIDGE ROAD SR369	SR 400		0	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	24	52	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Single Unit Truck	West	West	Stopped	Straight	No Contributing Factors	No Contributing Factors
9/7/2014	18:36:00	S R 369	SR 400		0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry		26	Unknown	Lap and Shoulder Belt	Passenger Car	Passenger Car	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors
9/8/2014	13:00:00	SR 400	SR 369		0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	44	36	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Single Unit Truck	South	South	Straight	Stopped	Following too Close	No Contributing Factors
9/12/2014	18:35:00	SR 369	SR 400		0	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	55	18	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Pickup Truck	East	East	Straight	Stopped	No Contributing Factors	No Contributing Factors
9/16/2014	14:30:00	SR 369 E	SR 400		0	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	18	41	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Utility Passenger Vehicle	East	East	Negotiating A Curve	Stopped	No Contributing Factors	No Contributing Factors
9/20/2014	18:53:00	HWY 400 N	SR 369		0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	19	49	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Utility Passenger Vehicle	East	East	Turning Left	Turning Left	Following too Close	No Contributing Factors
9/20/2014	17:10:00	SR 369 E	SR 400		0	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	32	26	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Passenger Car	East	East	Negotiating A Curve	Stopped	No Contributing Factors	No Contributing Factors
9/24/2014	11:24:00	SR 369	SR 400		0	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	51	64	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Passenger Car	West	West	Turning Right	Turning Right	No Contributing Factors	No Contributing Factors
9/27/2014	9:48:00	SR 400		S OF SR369	2	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	51	66	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Utility Passenger Vehicle	North	North	Straight	Stopped	No Contributing Factors	No Contributing Factors
9/27/2014	10:38:00	SR 400	SR 369		0	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	20	65	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	North	North	Straight	Stopped	No Contributing Factors	No Contributing Factors
9/29/2014	17:30:00	SR 400 N		S OF SR369	0	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	17	31	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Utility Passenger Vehicle	North	North	Straight	Stopped	No Contributing Factors	No Contributing Factors
10/5/2014	12:40:00	SR 369	SR 400		0	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	17	30	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Utility Passenger Vehicle	East	East	Turning Right	Stopped	No Contributing Factors	No Contributing Factors
10/6/2014	12:29:00	BROWNS BRIDGE RD	SR 400		0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	37	67	Lap and Shoulder Belt	Lap and Shoulder Belt	Van	Passenger Car	South	South	Negotiating A Curve	Negotiating A Curve	Following too Close	No Contributing Factors
10/11/2014	10:19:00	400 N	369		0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Wet	36	41	Unknown	Unknown	Passenger Car	Utility Passenger Vehicle	North	North	Straight	Straight	Following too Close	No Contributing Factors
10/17/2014	6:35:00	SR 400	SR 369		0	0	Rear End	On Roadway	Other Object (Not Fixed)	Dark-Not Lighted	Dry	44	27	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	South	South	Straight	Stopped	No Contributing Factors	No Contributing Factors
10/24/2014	14:39:00	SR 369	SR 400		0	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	26	44	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	East	East	Stopped	Turning Right	No Contributing Factors	No Contributing Factors
10/31/2014	6:40:00	369	400		0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Dry	20	28	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Pickup Truck	East	East	Turning Right	Stopped	Following too Close	No Contributing Factors
10/31/2014	20:25:00	SR 400 N	SR 369		1	0	Rear End	On Roadway	Other Object (Not Fixed)	Dark-Not Lighted	Dry	19	19	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	North	North	Stopped	Straight	No Contributing Factors	No Contributing Factors
11/2/2014	11:29:00	400	369		0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	30	36	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Van	North	North	Straight	Stopped	Following too Close	No Contributing Factors
11/4/2014	14:12:00	369	400		0	0	Sideswipe-Same Direction	On Roadway	Motor Vehicle In Motion	Daylight	Dry	41	41	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Van	East	East	Turning Left	Turning Left	Misjudged Clearance	Misjudged Clearance
11/11/2014	19:03:00	SR 369	SR 400		0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dusk	Dry	42	47	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Utility Passenger Vehicle	East	East	Straight	Straight	Following too Close,Inattentive	No Contributing Factors
11/12/2014	12:50:00	SR 369	SR 400		0	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	31	56	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Passenger Car	East	East	Stopped	Turning Right	No Contributing Factors	No Contributing Factors
11/13/2014	17:11:00	369	400		0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	33	41	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Utility Passenger Vehicle	East	East	Turning Right	Stopped	Following too Close	No Contributing Factors
11/18/2014	17:26:00	SR 369	SR 400		0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	38	27	Lap and Shoulder Belt	Lap and Shoulder Belt	Van	Pickup Truck	East	East	Turning Right	Turning Right	Following too Close	No Contributing Factors
11/19/2014	14:53:00	400	369		0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	23	37	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Passenger Car	South	South	Straight	Straight	Following too Close	No Contributing Factors
11/21/2014	12:00:00	SR 400	SR 369		0	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	66	57	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Pickup Truck	South	South	Stopped	Turning Right	No Contributing Factors	No Contributing Factors
12/1/2014	18:36:00	SR 400	SR 369		1	0	Not A Collision with Motor Vehicle	On Roadway	Other Non-Collision	Dark-Not Lighted	Dry	29		Motorcycle Helmet		Motorcycle, Scooter, Minibike		North		Straight		Object Or Animal	
12/4/2014	14:00:00	SR 400	SR 369		0	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Wet	28	25	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Passenger Car	South	South	Straight	Stopped	No Contributing Factors	No Contributing Factors
12/5/2014	7:36:00	SR 369 E	SR 400		0	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Wet	24	29	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	East	East	Stopped	Turning Right	No Contributing Factors	No Contributing Factors
12/7/2014	19:11:00	369	400		0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Dry	20	73	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	North	North	Turning Right	Turning Right	Following too Close	No Contributing Factors
12/9/2014	13:30:00	SR 400	369		0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	47	70	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Utility Passenger Vehicle	South	South	Straight	Straight	Following too Close	No Contributing Factors
12/9/2014	17:35:00	SR 400 N	SR 369		3	0	Rear End	On Roadway	Other Object (Not Fixed)	Dark-Not Lighted	Dry	44	34	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	North	North	Stopped	Stopped	No Contributing Factors	No Contributing Factors
12/10/2014	9:20:00	SR 369	SR 400		0	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	69	39	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Passenger Car	East	East	Turning Right	Stopped	No Contributing Factors	No Contributing Factors
12/12/2014	21:48:00	S R 369	S R 400		0	0	Angle	On Roadway	Motor Vehicle In Motion	Dark-Not Lighted	Dry	30	45	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Passenger Car	South	East	Straight	Straight	Disregard Stop Sign/Signal,Distracted	No Contributing Factors
12/12/2014	13:47:00	SR 369	SR 400		1	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Dry	43	44	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	East	East	Stopped	Turning Right	No Contributing Factors	No Contributing Factors
12/13/2014	17:20:00	SR 400	SR 369		0	0	Rear End	On Roadway	Other Object (Not Fixed)	Dark-Not Lighted	Dry	34	22	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Passenger Car	South	South	Stopped	Straight	No Contributing Factors	No Contributing Factors
12/20/2014	15:15:00	SR 400	SR 369		2	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Wet	38	61	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	South	South	Stopped	Stopped	No Contributing Factors	No Contributing Factors
12/25/2014	16:32:00	400	369		1	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	31	40	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Passenger Car	South	South	Straight	Straight	Too Fast For Conditions	No Contributing Factors
12/28/2014	15:20:00	SR 400 S	SR 369		0	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Wet	36	46	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Utility Passenger Vehicle	South	South	Stopped	Stopped	No Contributing Factors	No Contributing Factors
12/28/2014	10:45:00	SR 369	SR 400		0	0	Rear End	On Roadway	Other Object (Not Fixed)	Daylight	Wet	74	33	Lap and Shoulder Belt	Lap and Shoulder Belt	Passenger Car	Utility Passenger Vehicle	East	East	Stopped	Turning Right	No Contributing Factors	No Contributing Factors
12/30/2014	14:27:00	SR 400	SR 369		0	0	Rear End	On Roadway	Motor Vehicle In Motion	Daylight	Dry	52	52	Lap and Shoulder Belt	Lap and Shoulder Belt	Pickup Truck	Pickup Truck	South	South	Straight	Stopped	Following too Close,Inattentive	No Contributing Factors
12/31/2014	19:02:00	SR 400 S	SR 369		0	0	Rear End	On Roadway	Motor Vehicle In Motion	Dark-Lighted	Dry	19	20	Lap and Shoulder Belt	Lap and Shoulder Belt	Utility Passenger Vehicle	Passenger Car	South	South	Straight	Stopped	Following too Close	No Contributing Factors

Appendix 5: Traffic Diagrams / Projections

Traffic Volumes

On Tuesday November 3rd, 2015 twelve hour turning movement counts were performed from 7:00 AM to 7:00 PM at the intersection of SR 400 and SR 369, as well as 24-hour bi-directional counts on SR 400. On Tuesday May 19th, 2015 24-hour bi-directional counts were taken on SR 369. The Average Daily Traffic was converted to Annual Average Daily Traffic and the turning movement counts were calculated for daily volumes.

Existing Year (2015) volumes are shown in a single intersection in the traffic diagrams, Base Year (2019) and Design Year (2039) shows the existing year volumes projected and distributed to the proposed interchange intersections. Traffic diagrams as well as the traffic counts are included in this appendix.

Growth Rate

A growth rate of 3.75% per year is expected from the Existing Year (2015) to Base Year (2019) and Base Year (2019) to Design Year (2039). Several factors such as historic counts and trends were utilized to arrive at the future annual growth rate. The various resources used to estimate the growth rate are summarized in Table 1 and include the following:

- US Census 2000 and 2010 population statistics
- Forsyth County Comprehensive Plan 2012-2032
- GDOT: Transmetric Public Count Database for Georgia DOT
- Georgia Office of Planning and Budget: Georgia 2030 Population Projections

TABLE 1: GROWTH RATE SUMMARY

Description	Year Range	Past Growth	Future Projected Growth Rate
GDOT TCDS Area Traffic Volume Trend			
Last 3 Years	2012-2014	5.3%	
Last 5 Years	2010-2014	5.8%	
Population Growth			
Cumming, GA (Census)	2000-2010	5.1%	
Forsyth County, GA (Census)	2000-2010	6.0%	
Forsyth County, GA (Forsyth CP)	2000-2015	5.0%	
Forsyth County, GA (Census Snapshot)	2011-2014	3.8%	
Population Projections			
Forsyth County, GA (Forsyth CP)	2010-2015		2.3%
Forsyth County, GA (Forsyth CP)	2015-2020		4.1%
Forsyth County, GA (Forsyth CP)	2020-2025		4.1%
Forsyth County, GA (Forsyth CP)	2025-2030		4.0%
Forsyth County, GA (Georgia 2030 Population Projections)	2010-2015		3.8%
Forsyth County, GA (Georgia 2030 Population Projections)	2015-2020		3.7%
Forsyth County, GA (Georgia 2030 Population Projections)	2020-2025		3.5%
Forsyth County, GA (Georgia 2030 Population Projections)	2025-2030		3.4%

Location: GA 400 & SR 369_Browns Bridge Rd
City: Cumming

Day: Tuesday
Date: 11/3/2015

Peak Start Times	
AM	7:00 AM
MD	12:00 AM
PM	4:00 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks

	GA 400 Southbound					SR 369 Browns Bridge Rd Westbound					GA 400 Northbound					SR 369 Browns Bridge Rd Eastbound					
Start Time	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Int. Total
7:00 AM	9	507	11	0	527	10	47	24	0	81	15	117	25	0	157	93	49	5	0	147	912
7:15 AM	9	516	8	0	533	10	62	39	0	111	20	148	36	0	204	78	47	5	0	130	978
7:30 AM	14	503	8	0	525	11	88	45	0	144	22	149	34	0	205	106	44	13	0	163	1037
7:45 AM	17	488	8	0	513	13	60	27	0	100	23	167	36	0	226	87	49	14	0	150	989
Total	49	2014	35	0	2098	44	257	135	0	436	80	581	131	0	792	364	189	37	0	590	3916
8:00 AM	11	416	16	0	443	10	56	37	0	103	23	156	24	0	203	94	57	18	0	169	918
8:15 AM	15	386	16	0	417	9	39	48	0	96	37	170	34	0	241	84	58	8	0	150	904
8:30 AM	14	341	10	0	365	15	58	34	0	107	33	160	43	0	236	108	71	10	0	189	897
8:45 AM	16	318	19	0	353	8	50	39	0	97	30	173	52	0	255	73	44	11	0	128	833
Total	56	1461	61	0	1578	42	203	158	0	403	123	659	153	0	935	359	230	47	0	636	3552
BREAK																					
4:00 PM	14	197	20	0	231	28	68	33	0	129	49	389	113	0	551	41	64	9	0	114	1025
4:15 PM	9	223	12	0	244	26	57	29	0	112	48	465	88	0	601	77	48	5	0	130	1087
4:30 PM	11	231	11	0	253	26	64	29	0	119	46	457	70	0	573	52	64	13	0	129	1074
4:45 PM	14	232	11	0	257	16	60	38	0	114	39	441	105	0	585	79	60	8	0	147	1103
Total	48	883	54	0	985	96	249	129	0	474	182	1752	376	0	2310	249	236	35	0	520	4289
5:00 PM	18	236	10	0	264	18	69	19	0	106	46	474	93	0	613	62	51	13	0	126	1109
5:15 PM	14	222	17	0	253	23	89	27	0	139	41	439	78	0	558	39	46	10	0	95	1045
5:30 PM	17	233	9	0	259	25	83	34	0	142	42	471	84	0	597	32	39	4	0	75	1073
5:45 PM	10	222	6	0	238	19	52	27	0	98	50	377	92	0	519	60	59	12	0	131	986
Total	59	913	42	0	1014	85	293	107	0	485	179	1761	347	0	2287	193	195	39	0	427	4213
Grand Total	212	5271	192	0	5675	267	1002	529	0	1798	564	4753	1007	0	6324	1165	850	158	0	2173	15970
Apprch %	3.7	92.9	3.4	0.0		14.8	55.7	29.4	0.0		8.9	75.2	15.9	0.0		53.6	39.1	7.3	0.0		
Total %	1.3	33.0	1.2	0.0	35.5	1.7	6.3	3.3	0.0	11.3	3.5	29.8	6.3	0.0	39.6	7.3	5.3	1.0	0.0	13.6	
Cars, PU, Vans	212	5271	192	0	5675	267	1002	529	0	1798	564	4753	1007	0	6324	1165	850	158	0	2173	15970
% Cars, PU, Vans	####	####	####	0.0	100.0	####	####	100.0	0.0	100.0	####	100.0	####	0.0	100.0	100.0	100.0	####	0.0	100.0	100.0
Heavy Trucks	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0
%Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Day: Tuesday
Date: 11/3/2015

Day: Tuesday
Date: 11/3/2015

[illegible]

AM Peak Hour			10:15	07:15	07:00	PM Peak Hour			16:45	17:00	17:00
AM Pk Volume			359	467	754	PM Pk Volume			418	544	998
Pk Hr Factor			0.880	0.840	0.885	Pk Hr Factor			0.893	0.935	0.933
7 - 9 Volume	0	0	626	854	1480	4 - 6 Volume	0	0	871	1032	1903
7 - 9 Peak Hour			08:00	07:15	07:00	4 - 6 Peak Hour			16:15	16:30	16:30
7 - 9 Pk Volume	0	0	324	467	754	4 - 6 Pk Volume	0	0	457	544	998
Pk Hr Factor	0.000	0.000	0.779	0.840	0.885	Pk Hr Factor	0.000	0.000	0.859	0.986	0.921

CLASSIFICATION

SR 369 E/O SR 400

Day: Tuesday

Date: 5/19/2015

City: Cumming

Project #: GA15_9197_002

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	32	8	1	6	1	0	3	5	0	0	0	0	56
01:00	0	18	4	0	2	1	0	0	6	0	0	0	0	31
02:00	0	19	4	1	2	1	0	2	3	0	0	0	0	32
03:00	0	15	6	0	5	1	0	2	7	0	0	0	0	36
04:00	0	41	6	0	16	1	0	6	8	0	0	0	0	78
05:00	1	162	52	2	41	2	0	5	10	0	0	0	0	275
06:00	2	308	101	7	57	15	1	7	23	1	0	0	0	522
07:00	1	489	116	7	88	14	0	9	30	0	0	0	0	754
08:00	2	446	114	10	103	9	0	14	28	0	0	0	0	726
09:00	2	383	99	12	90	13	1	15	38	0	0	0	0	653
10:00	5	405	130	10	94	10	0	17	35	2	0	0	0	708
11:00	1	430	133	10	98	15	0	11	32	0	0	0	0	730
12:00 PM	5	452	108	6	84	10	0	10	29	0	0	0	0	704
13:00	2	450	112	5	101	16	0	14	28	1	0	0	0	729
14:00	4	510	104	8	115	3	0	14	30	0	0	0	0	788
15:00	3	553	134	13	119	12	0	12	43	2	0	0	0	891
16:00	3	676	138	6	103	14	0	8	21	1	0	0	0	970
17:00	2	644	132	7	107	6	1	7	27	0	0	0	0	933
18:00	0	591	110	1	73	2	0	8	14	0	0	0	0	799
19:00	0	451	77	2	56	3	0	6	19	0	0	0	0	614
20:00	3	320	60	2	40	4	0	6	10	0	0	0	0	445
21:00	0	216	38	1	22	1	0	6	8	0	0	0	0	292
22:00	0	136	25	1	15	0	0	1	3	0	0	0	0	181
23:00	0	71	13	0	4	1	0	1	4	0	0	0	0	94
Totals	36	7818	1824	112	1441	155	3	184	461	7				12041
% of Totals	0%	65%	15%	1%	12%	1%	0%	2%	4%	0%				100%

AM Volumes	14	2748	773	60	602	83	2	91	225	3	0	0	0	4601
% AM	0%	23%	6%	0%	5%	1%	0%	1%	2%	0%				38%
AM Peak Hour	10:00	07:00	11:00	09:00	08:00	06:00	06:00	10:00	09:00	10:00				07:00
Volume	5	489	133	12	103	15	1	17	38	2				754
PM Volumes	22	5070	1051	52	839	72	1	93	236	4	0	0	0	7440
% PM	0%	42%	9%	0%	7%	1%	0%	1%	2%	0%				62%
PM Peak Hour	12:00	16:00	16:00	15:00	15:00	13:00	17:00	13:00	15:00	15:00				16:00
Volume	5	676	138	13	119	16	1	14	43	2				970
Directional Peak Periods		AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes						
All Classes		Volume	%	Volume	%	Volume	%	Volume	%					
		1480	↔ 12%	1433	↔ 12%	1903	↔ 16%	7225	↔ 60%					

Classification Definitions

1 Motorcycles	4 Buses	7 >=4-Axle Single Units	10 >=6-Axle Single Trailers	13 >=7-Axle Multi-Trailers
2 Passenger Cars	5 2-Axle, 6-Tire Single Units	8 <=4-Axle Single Trailers	11 <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	6 3-Axle Single Units	9 5-Axle Single Trailers	12 6-Axle Multi-Trailers	

VOLUME
SR 369 W/O SR 400

Day: Tuesday
Date: 5/19/2015

City: Cumming
Project #: GA15_9197_001

DAILY TOTALS					NB	SB						EB	WB						Total
					0	0						9,281	9,462						18,743
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL							TOTAL
00:00	0	0	25	30	55		12:00	0	0	139	125	264							264
00:15	0	0	16	19	35		12:15	0	0	155	138	293							293
00:30	0	0	9	15	24		12:30	0	0	137	117	254							254
00:45	0	0	7	57	10	74	12:45	0	0	134	565	131	511	265	1076				
01:00	0	0	9	9	18		13:00	0	0	130	146	276							276
01:15	0	0	4	17	21		13:15	0	0	118	138	256							256
01:30	0	0	4	16	20		13:30	0	0	114	174	288							288
01:45	0	0	3	20	7	49	13:45	0	0	141	503	128	586	269	1089				
02:00	0	0	12	10	22		14:00	0	0	123	129	252							252
02:15	0	0	10	5	15		14:15	0	0	142	161	303							303
02:30	0	0	6	5	11		14:30	0	0	143	150	293							293
02:45	0	0	3	31	7	27	14:45	0	0	135	543	134	574	269	1117				
03:00	0	0	6	5	11		15:00	0	0	120	151	271							271
03:15	0	0	5	8	13		15:15	0	0	115	190	305							305
03:30	0	0	19	6	25		15:30	0	0	125	167	292							292
03:45	0	0	14	44	3	22	15:45	0	0	126	486	162	670	288	1156				
04:00	0	0	20	10	30		16:00	0	0	126	177	303							303
04:15	0	0	29	7	36		16:15	0	0	122	161	283							283
04:30	0	0	35	16	51		16:30	0	0	119	186	305							305
04:45	0	0	53	137	13	46	16:45	0	0	103	470	182	706	285	1176				
05:00	0	0	48	26	74		17:00	0	0	116	189	305							305
05:15	0	0	99	33	132		17:15	0	0	95	181	276							276
05:30	0	0	134	22	156		17:30	0	0	127	193	320							320
05:45	0	0	167	448	45	126	17:45	0	0	125	463	153	716	278	1179				
06:00	0	0	199	43	242		18:00	0	0	130	180	310							310
06:15	0	0	185	65	250		18:15	0	0	93	173	266							266
06:30	0	0	171	60	231		18:30	0	0	127	171	298							298
06:45	0	0	193	748	81	249	18:45	0	0	99	449	167	691	266	1140				
07:00	0	0	158	134	292		19:00	0	0	110	153	263							263
07:15	0	0	150	141	291		19:15	0	0	130	171	301							301
07:30	0	0	151	159	310		19:30	0	0	128	157	285							285
07:45	0	0	147	606	150	584	19:45	0	0	97	465	153	634	250	1099				
08:00	0	0	144	123	267		20:00	0	0	101	141	242							242
08:15	0	0	144	144	288		20:15	0	0	111	137	248							248
08:30	0	0	132	120	252		20:30	0	0	72	125	197							197
08:45	0	0	144	564	124	511	20:45	0	0	96	380	134	537	230	917				
09:00	0	0	161	115	276		21:00	0	0	84	99	183							183
09:15	0	0	135	98	233		21:15	0	0	91	80	171							171
09:30	0	0	181	102	283		21:30	0	0	63	102	165							165
09:45	0	0	144	621	104	419	21:45	0	0	59	297	90	371	149	668				
10:00	0	0	152	105	257		22:00	0	0	43	92	135							135
10:15	0	0	150	115	265		22:15	0	0	36	66	102							102
10:30	0	0	155	124	279		22:30	0	0	24	48	72							72
10:45	0	0	141	598	131	475	22:45	0	0	27	130	52	258	79	388				
11:00	0	0	144	123	267		23:00	0	0	16	52	68							68
11:15	0	0	146	97	243		23:15	0	0	29	45	74							74
11:30	0	0	158	142	300		23:30	0	0	18	32	50							50
11:45	0	0	132	580	112	474	23:45	0	0	13	76	23	152	36	228				
TOTALS			4454	3056	7510		TOTALS			4827	6406	11233							
SPLIT %			59.3%	40.7%	40.1%		SPLIT %			43.0%	57.0%	59.9%							

DAILY TOTALS			NB	SB	EB			WB			Total
			0	0							9,281
AM Peak Hour			06:00	07:00	07:00	PM Peak Hour			12:00	17:15	15:45
AM Pk Volume			748	584	1190	PM Pk Volume			565	745	1188
Pk Hr Factor			0.940	0.918	0.960	Pk Hr Factor			0.911	0.916	0.966
7 - 9 Volume	0	0	1170	1095	2265	4 - 6 Volume	0	0	933	1422	2355
7 - 9 Peak Hour			07:00	07:00	07:00	4 - 6 Peak Hour			16:00	16:45	16:45
7 - 9 Pk Volume	0	0	606	584	1190	4 - 6 Pk Volume	0	0	470	745	1186
Pk Hr Factor	0.000	0.000	0.959	0.918	0.960	Pk Hr Factor	0.000	0.000	0.933	0.965	0.927

CLASSIFICATION SR 369 W/O SR 400

Day: Tuesday
Date: 5/19/2015

City: Cumming
Project #: GA15_9197_001

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	95	16	0	7	3	0	4	6	0	0	0	0	131
01:00	0	47	13	0	3	0	0	2	4	0	0	0	0	69
02:00	0	34	4	0	2	4	0	1	13	0	0	0	0	58
03:00	1	40	6	0	8	1	0	2	8	0	0	0	0	66
04:00	0	110	20	1	19	6	0	9	18	0	0	0	0	183
05:00	3	336	100	4	77	22	0	10	22	0	0	0	0	574
06:00	3	606	163	12	131	33	0	17	32	0	0	0	0	997
07:00	1	796	178	7	138	12	0	15	43	0	0	0	0	1190
08:00	7	652	167	12	155	13	1	17	51	0	0	0	0	1075
09:00	6	638	168	14	134	16	0	21	43	0	0	0	0	1040
10:00	4	681	155	10	126	22	0	24	51	0	0	0	0	1073
11:00	9	655	180	4	116	27	1	33	29	0	0	0	0	1054
12:00 PM	2	687	182	7	120	17	0	24	37	0	0	0	0	1076
13:00	6	702	160	6	132	20	0	18	45	0	0	0	0	1089
14:00	4	753	159	6	114	18	0	28	35	0	0	0	0	1117
15:00	8	770	154	7	123	16	2	29	47	0	0	0	0	1156
16:00	5	819	172	5	110	16	6	18	25	0	0	0	0	1176
17:00	7	881	128	15	102	15	8	6	17	0	0	0	0	1179
18:00	7	859	143	8	91	10	3	12	7	0	0	0	0	1140
19:00	4	818	124	1	122	2	0	17	11	0	0	0	0	1099
20:00	3	692	113	0	94	4	0	6	5	0	0	0	0	917
21:00	2	520	79	1	51	2	1	6	6	0	0	0	0	668
22:00	0	302	44	1	29	2	0	5	5	0	0	0	0	388
23:00	0	184	26	0	11	2	0	1	4	0	0	0	0	228
Totals	82	12677	2654	121	2015	283	22	325	564					18743
% of Totals	0%	68%	14%	1%	11%	2%	0%	2%	3%					100%

AM Volumes	34	4690	1170	64	916	159	2	155	320	0	0	0	0	7510
% AM	0%	25%	6%	0%	5%	1%	0%	1%	2%					40%
AM Peak Hour	11:00	07:00	11:00	09:00	08:00	06:00	08:00	11:00	08:00					07:00
Volume	9	796	180	14	155	33	1	33	51					1190
PM Volumes	48	7987	1484	57	1099	124	20	170	244	0	0	0	0	11233
% PM	0%	43%	8%	0%	6%	1%	0%	1%	1%					60%
PM Peak Hour	15:00	17:00	12:00	17:00	13:00	13:00	17:00	15:00	15:00					17:00
Volume	8	881	182	15	132	20	8	29	47					1179
Directional Peak Periods		AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes						
All Classes		Volume	%	Volume	%	Volume	%	Volume	%					
		2265	12%	2165	12%	2355	13%	11958	64%					

Classification Definitions

1 Motorcycles	4 Buses	7 >=4-Axle Single Units	10 >=6-Axle Single Trailers	13 >=7-Axle Multi-Trailers
2 Passenger Cars	5 2-Axle, 6-Tire Single Units	8 <=4-Axle Single Trailers	11 <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	6 3-Axle Single Units	9 5-Axle Single Trailers	12 6-Axle Multi-Trailers	

VOLUME

GA 400 N/O SR 369/Browns Bridge Rd

Day: Tuesday
Date: 11/3/2015City: Cumming
Project #: GA15_9393_001

DAILY TOTALS					NB	SB	EB					WB	Total
					18,503	19,398						0	0
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL	
00:00	17	22			39		12:00	295	297			592	
00:15	23	19			42		12:15	272	267			539	
00:30	20	24			44		12:30	311	319			630	
00:45	12	72	25	90	37	162	12:45	257	1135	256	1139	513	2274
01:00	11	22			33		13:00	328	284			612	
01:15	16	23			39		13:15	275	275			550	
01:30	18	28			46		13:30	324	297			621	
01:45	7	52	9	82	16	134	13:45	297	1224	266	1122	563	2346
02:00	13	11			24		14:00	321	267			588	
02:15	8	6			14		14:15	369	283			652	
02:30	8	7			15		14:30	339	268			607	
02:45	12	41	15	39	27	80	14:45	380	1409	253	1071	633	2480
03:00	13	12			25		15:00	379	254			633	
03:15	6	29			35		15:15	333	238			571	
03:30	6	15			21		15:30	349	280			629	
03:45	11	36	31	87	42	123	15:45	459	1520	254	1026	713	2546
04:00	10	35			45		16:00	446	238			684	
04:15	6	68			74		16:15	482	246			728	
04:30	13	73			86		16:30	507	248			755	
04:45	20	49	109	285	129	334	16:45	463	1898	268	1000	731	2898
05:00	13	144			157		17:00	521	254			775	
05:15	21	220			241		17:15	466	262			728	
05:30	31	302			333		17:30	508	270			778	
05:45	41	106	390	1056	431	1162	17:45	408	1903	238	1024	646	2927
06:00	55	450			505		18:00	380	255			635	
06:15	90	453			543		18:15	411	234			645	
06:30	122	468			590		18:30	385	222			607	
06:45	149	416	516	1887	665	2303	18:45	370	1546	177	888	547	2434
07:00	135	535			670		19:00	329	173			502	
07:15	172	536			708		19:15	281	121			402	
07:30	176	534			710		19:30	243	108			351	
07:45	196	679	508	2113	704	2792	19:45	214	1067	91	493	305	1560
08:00	173	431			604		20:00	197	89			286	
08:15	194	408			602		20:15	210	87			297	
08:30	181	387			568		20:30	203	88			291	
08:45	203	751	355	1581	558	2332	20:45	153	763	72	336	225	1099
09:00	170	346			516		21:00	148	55			203	
09:15	187	340			527		21:15	151	76			227	
09:30	178	330			508		21:30	123	61			184	
09:45	216	751	319	1335	535	2086	21:45	108	530	48	240	156	770
10:00	221	265			486		22:00	103	43			146	
10:15	237	309			546		22:15	85	34			119	
10:30	297	304			601		22:30	69	37			106	
10:45	250	1005	295	1173	545	2178	22:45	62	319	33	147	95	466
11:00	248	275			523		23:00	59	39			98	
11:15	276	289			565		23:15	60	33			93	
11:30	237	241			478		23:30	50	27			77	
11:45	257	1018	252	1057	509	2075	23:45	44	213	28	127	72	340
TOTALS	4976	10785			15761		TOTALS	13527	8613			22140	
SPLIT %	31.6%	68.4%			41.6%		SPLIT %	61.1%	38.9%			58.4%	

DAILY TOTALS					NB	SB	EB					WB	Total	
					18,503	19,398						0		
AM Peak Hour	11:45	06:45			07:00	PM Peak Hour	16:15	12:00			16:45			
AM Pk Volume	1135	2121			2792	PM Pk Volume	1973	1139			3012			
Pk Hr Factor	0.912	0.989			0.983	Pk Hr Factor	0.947	0.893			0.968			
7 - 9 Volume	1430	3694	0	0	5124	4 - 6 Volume	3801	2024	0	0	5825			
7 - 9 Peak Hour	08:00	07:00			07:00	4 - 6 Peak Hour	16:15	16:45			16:45			
7 - 9 Pk Volume	751	2113	0	0	2792	4 - 6 Pk Volume	1973	1054	0	0	3012			
Pk Hr Factor	0.925	0.986	0.000	0.000	0.983	Pk Hr Factor	0.947	0.976	0.000	0.000	0.968			

VOLUME

GA 400 S/O SR 369/Brown Bridge Rd

Day: Tuesday
Date: 11/3/2015

City: Cumming
Project #: GA15_9393_002

DAILY TOTALS					NB	SB	EB					WB	Total				
					23,467	24,820						0					
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL					
00:00	31	18	0	0	49		12:00	360	399	0	0	759					
00:15	27	23	0	0	50		12:15	358	366	0	0	724					
00:30	25	13	0	0	38		12:30	381	416	0	0	797					
00:45	30	113	20	74	0	0	12:45	356	1455	330	1511	0	0	686	2966		
01:00	15	9	0	0	24		13:00	389	376	0	0	765					
01:15	17	18	0	0	35		13:15	381	353	0	0	734					
01:30	25	10	0	0	35		13:30	385	410	0	0	795					
01:45	11	68	14	51	0	0	13:45	405	1560	322	1461	0	0	727	3021		
02:00	17	23	0	0	40		14:00	399	363	0	0	762					
02:15	13	12	0	0	25		14:15	435	332	0	0	767					
02:30	14	17	0	0	31		14:30	436	329	0	0	765					
02:45	14	58	18	70	0	0	14:45	458	1728	353	1377	0	0	811	3105		
03:00	13	13	0	0	26		15:00	494	291	0	0	785					
03:15	9	31	0	0	40		15:15	408	324	0	0	732					
03:30	9	25	0	0	34		15:30	392	328	0	0	720					
03:45	12	43	43	112	0	0	15:45	540	1834	285	1228	0	0	825	3062		
04:00	13	50	0	0	63		16:00	551	286	0	0	837					
04:15	6	98	0	0	104		16:15	609	313	0	0	922					
04:30	18	106	0	0	124		16:30	566	330	0	0	896					
04:45	18	55	143	397	0	0	16:45	600	2326	323	1252	0	0	923	3578		
05:00	27	196	0	0	223		17:00	595	323	0	0	918					
05:15	34	291	0	0	325		17:15	574	294	0	0	868					
05:30	43	427	0	0	470		17:30	597	330	0	0	927					
05:45	61	165	552	1466	0	0	17:45	514	2280	291	1238	0	0	805	3518		
06:00	70	601	0	0	671		18:00	505	323	0	0	828					
06:15	104	617	0	0	721		18:15	533	316	0	0	849					
06:30	161	586	0	0	747		18:30	561	286	0	0	847					
06:45	181	516	629	2433	0	0	18:45	525	2124	239	1164	0	0	764	3288		
07:00	168	624	0	0	792		19:00	437	225	0	0	662					
07:15	197	641	0	0	838		19:15	384	167	0	0	551					
07:30	213	647	0	0	860		19:30	362	125	0	0	487					
07:45	233	811	604	2516	0	0	19:45	319	1502	117	634	0	0	436	2136		
08:00	203	533	0	0	736		20:00	290	116	0	0	406					
08:15	245	513	0	0	758		20:15	291	109	0	0	400					
08:30	252	474	0	0	726		20:30	262	143	0	0	405					
08:45	245	945	446	1966	0	0	20:45	226	1069	104	472	0	0	330	1541		
09:00	234	440	0	0	674		21:00	211	74	0	0	285					
09:15	262	432	0	0	694		21:15	204	94	0	0	298					
09:30	242	436	0	0	678		21:30	183	70	0	0	253					
09:45	268	1006	436	1744	0	0	21:45	144	742	74	312	0	0	218	1054		
10:00	283	362	0	0	645		22:00	140	52	0	0	192					
10:15	296	377	0	0	673		22:15	130	45	0	0	175					
10:30	335	427	0	0	762		22:30	84	42	0	0	126					
10:45	321	1235	401	1567	0	0	22:45	77	431	39	178	0	0	116	609		
11:00	311	363	0	0	674		23:00	58	52	0	0	110					
11:15	316	377	0	0	693		23:15	39	33	0	0	72					
11:30	314	380	0	0	694		23:30	24	24	0	0	48					
11:45	320	1261	348	1468	0	0	23:45	19	140	20	129	0	0	39	269		
TOTALS	6276		13864		20140		TOTALS	17191		10956		28147					
SPLIT %	31.2%		68.8%		41.7%		SPLIT %	61.1%		38.9%		58.3%					

DAILY TOTALS					NB	SB						EB	WB						Total
					23,467	24,820						0	0						48,287
AM Peak Hour	11:45	06:45			07:00		PM Peak Hour	16:45	12:00			16:45							
AM Pk Volume	1419	2541			3327		PM Pk Volume	2370	1511			3659							
Pk Hr Factor	0.931	0.982			0.967		Pk Hr Factor	0.986	0.908			0.981							
7 - 9 Volume	1756	4482	0	0	6238		4 - 6 Volume	4606	2490	0	0	7096							
7 - 9 Peak Hour	08:00	07:00			07:00		4 - 6 Peak Hour	16:15	16:15			16:15							
7 - 9 Pk Volume	945	2516			3327		4 - 6 Pk Volume	2370	1289			3659							
Pk Hr Factor	0.938	0.972	0.000	0.000	0.967		Pk Hr Factor	0.973	0.977	0.000	0.000	0.991							

CLASSIFICATION

GA 400 S/O SR 369/Brown Bridge Rd

Day: Tuesday

Date: 11/3/2015

City: Cumming

Project #: GA15_9393_002

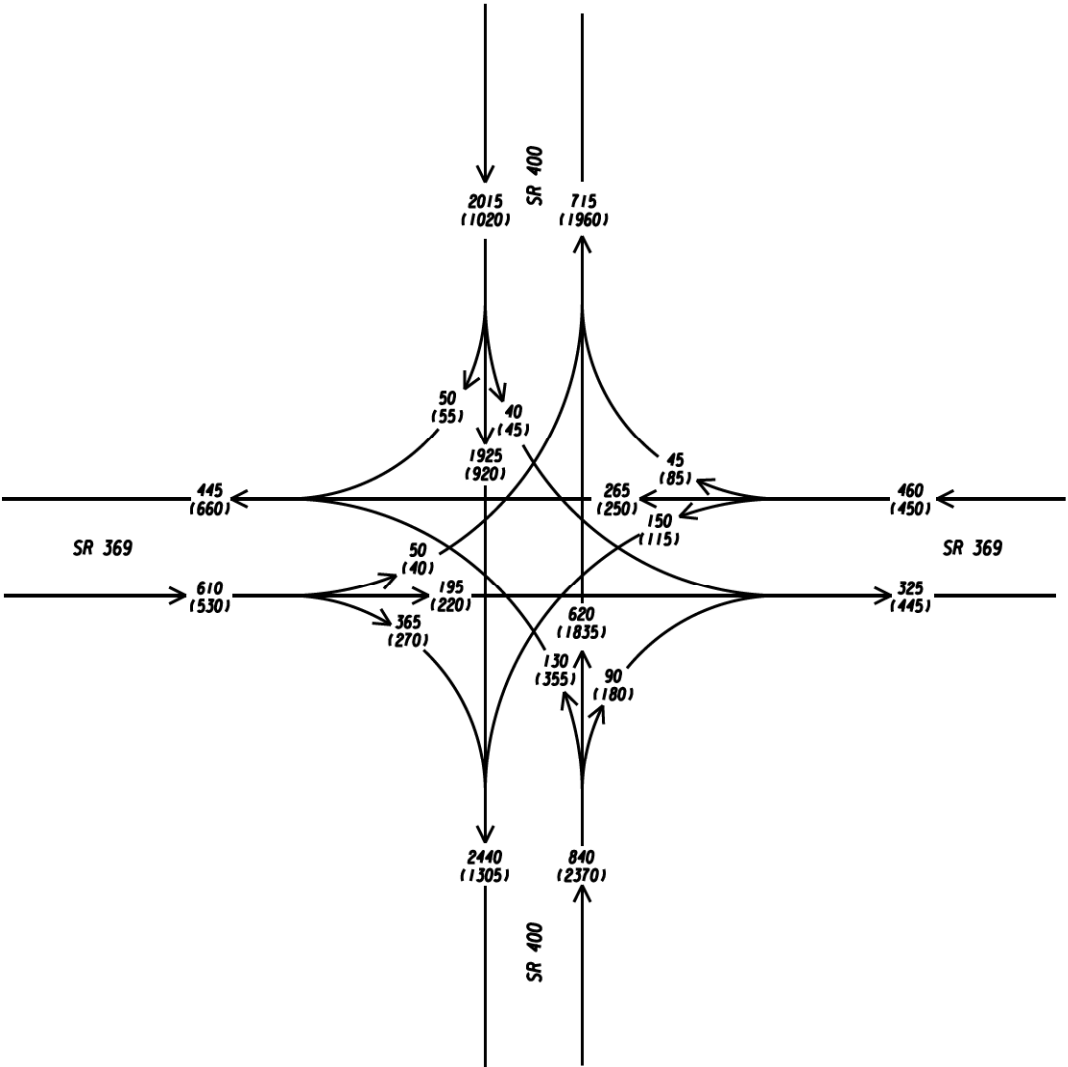
Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	1	143	29	0	14	0	0	0	0	0	0	0	0	187
01:00	0	92	17	0	5	0	0	5	0	0	0	0	0	119
02:00	0	99	12	1	11	0	0	5	0	0	0	0	0	128
03:00	0	120	15	0	12	1	0	7	0	0	0	0	0	155
04:00	0	344	66	0	25	2	0	15	0	0	0	0	0	452
05:00	1	1216	278	3	119	2	0	10	2	0	0	0	0	1631
06:00	8	2263	445	5	208	4	0	16	0	0	0	0	0	2949
07:00	6	2593	481	7	215	6	0	16	3	0	0	0	0	3327
08:00	5	2265	405	6	206	8	0	15	1	0	0	0	0	2911
09:00	7	2117	400	6	199	2	0	18	1	0	0	0	0	2750
10:00	10	2173	417	7	166	8	0	20	1	0	0	0	0	2802
11:00	6	2134	383	6	165	9	1	24	1	0	0	0	0	2729
12:00 PM	5	2306	448	6	177	5	0	17	2	0	0	0	0	2966
13:00	10	2346	435	8	201	5	0	16	0	0	0	0	0	3021
14:00	3	2409	467	5	180	9	1	25	6	0	0	0	0	3105
15:00	7	2414	432	9	177	8	2	12	1	0	0	0	0	3062
16:00	5	2801	531	8	212	8	4	4	5	0	0	0	0	3578
17:00	2	2796	500	1	203	8	0	8	0	0	0	0	0	3518
18:00	4	2585	468	3	216	5	0	7	0	0	0	0	0	3288
19:00	0	1681	299	3	137	4	0	9	3	0	0	0	0	2136
20:00	0	1215	215	2	100	1	0	8	0	0	0	0	0	1541
21:00	1	843	135	2	69	1	0	3	0	0	0	0	0	1054
22:00	0	476	93	0	37	0	0	3	0	0	0	0	0	609
23:00	1	204	42	0	15	0	3	3	1	0	0	0	0	269
Totals	82	37635	7013	88	3069	96	11	266	27					48287
% of Totals	0%	78%	15%	0%	6%	0%	0%	1%	0%					100%

AM Volumes	44	15559	2948	41	1345	42	1	151	9	0	0	0	0	20140	
% AM	0%	32%	6%	0%	3%	0%	0%	0%	0%					42%	
AM Peak Hour	10:00	07:00	07:00	07:00	07:00	11:00	11:00	11:00	07:00					07:00	
Volume	10	2593	481	7	215	9	1	24	3					3327	
PM Volumes	38	22076	4065	47	1724	54	10	115	18	0	0	0	0	28147	
% PM	0%	46%	8%	0%	4%	0%	0%	0%	0%					58%	
PM Peak Hour	13:00	16:00	16:00	15:00	18:00	14:00	16:00	14:00	14:00					16:00	
Volume	10	2801	531	9	216	9	4	25	6					3578	
Directional Peak Periods All Classes		AM 7-9				NOON 12-2				PM 4-6				Off Peak Volumes	
		Volume		%		Volume		%		Volume		%		Volume	%
		6238	↔	13%		5987	↔	12%		7096	↔	15%		28966	↔ 60%

Classification Definitions

1 Motorcycles	4 Buses	7 >=4-Axle Single Units	10 >=6-Axle Single Trailers	13 >=7-Axle Multi-Trailers
2 Passenger Cars	5 2-Axle, 6-Tire Single Units	8 <=4-Axle Single Trailers	11 <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	6 3-Axle Single Units	9 5-Axle Single Trailers	12 6-Axle Multi-Trailers	



P. I. *0013369
FORSYTH COUNTY
SR 369 / SR 400 INTERCHANGE

EXISTING 2015 DMV
AM(PM)

FORESITE
group

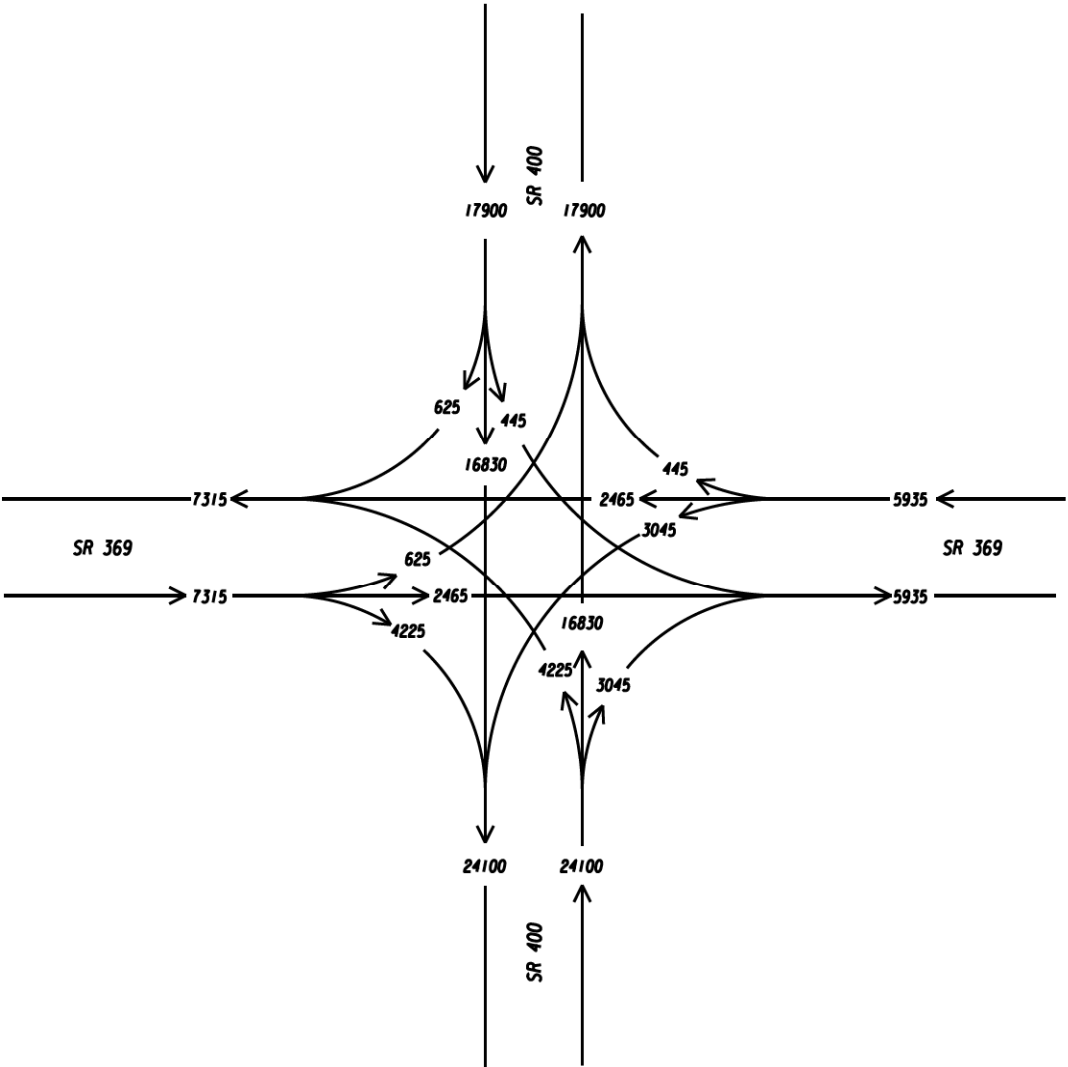
ForeSITE Group, Inc.
5185 Peachtree Pkwy.
Suite 240
Norcross, GA 30092
o | 770.368.1399
f | 770.368.1944
w | www.fg-inc.net

REVISION DATES

TRAFFIC DIAGRAM

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	
CORRECTED:	DATE:	
VERIFIED:	DATE:	

10-1



P. I. *0013369
FORSYTH COUNTY
SR 369 / SR 400 INTERCHANGE

EXISTING 2015
AADT

FORESITE
group

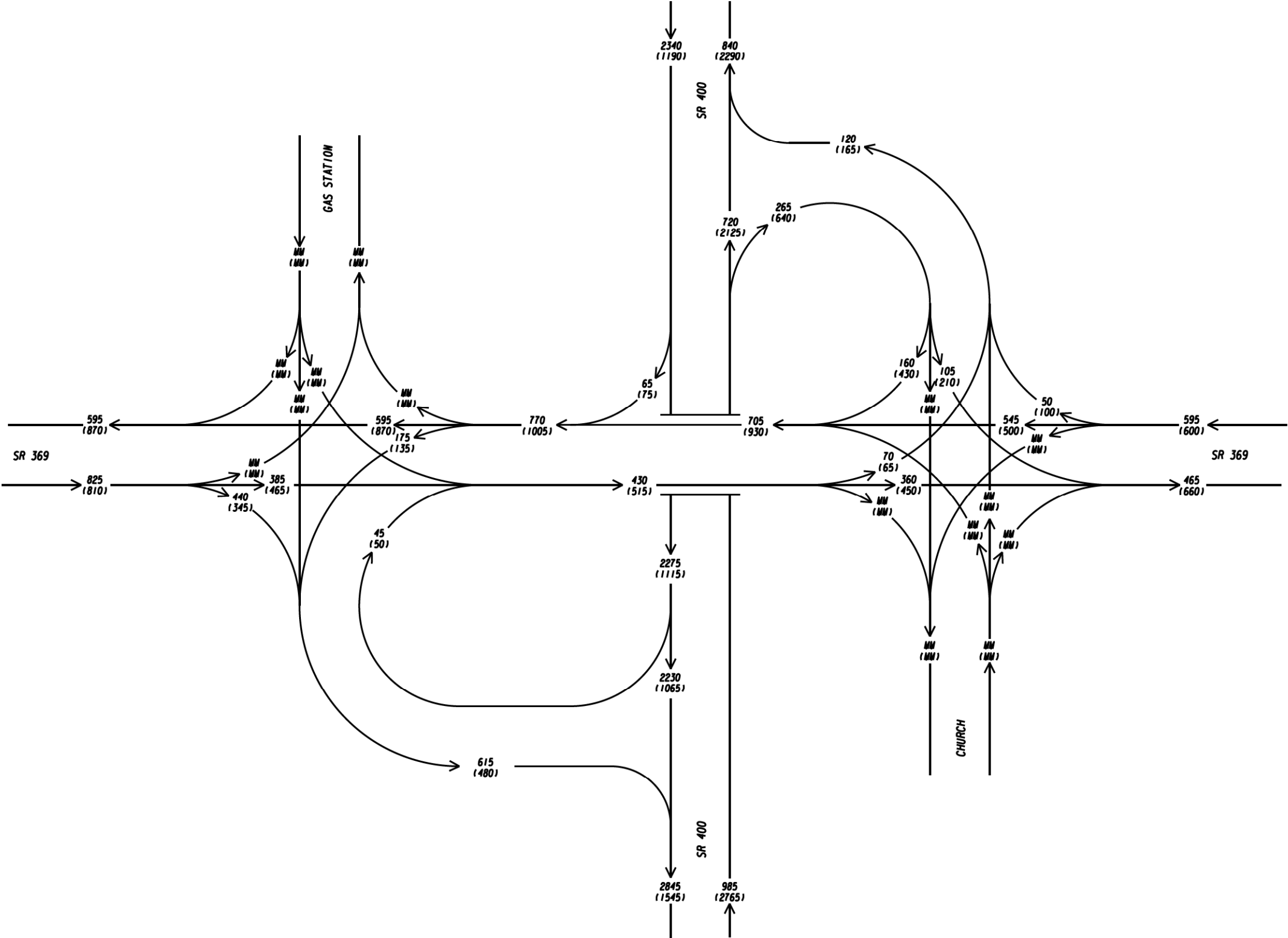
Foresite Group, Inc.
5185 Peachtree Pkwy.
Suite 240
Norcross, GA 30092
o | 770.368.1399
f | 770.368.1944
w | www.fg-inc.net

REVISION DATES

TRAFFIC DIAGRAM

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BACKCHECKED:	DATE:	
CORRECTED:	DATE:	
VERIFIED:	DATE:	

10-2



P. I. *0013369
FORSYTH COUNTY
SR 369 / SR 400 INTERCHANGE

BUILD 2019 DNV
AM(PM)

FORESITE
group

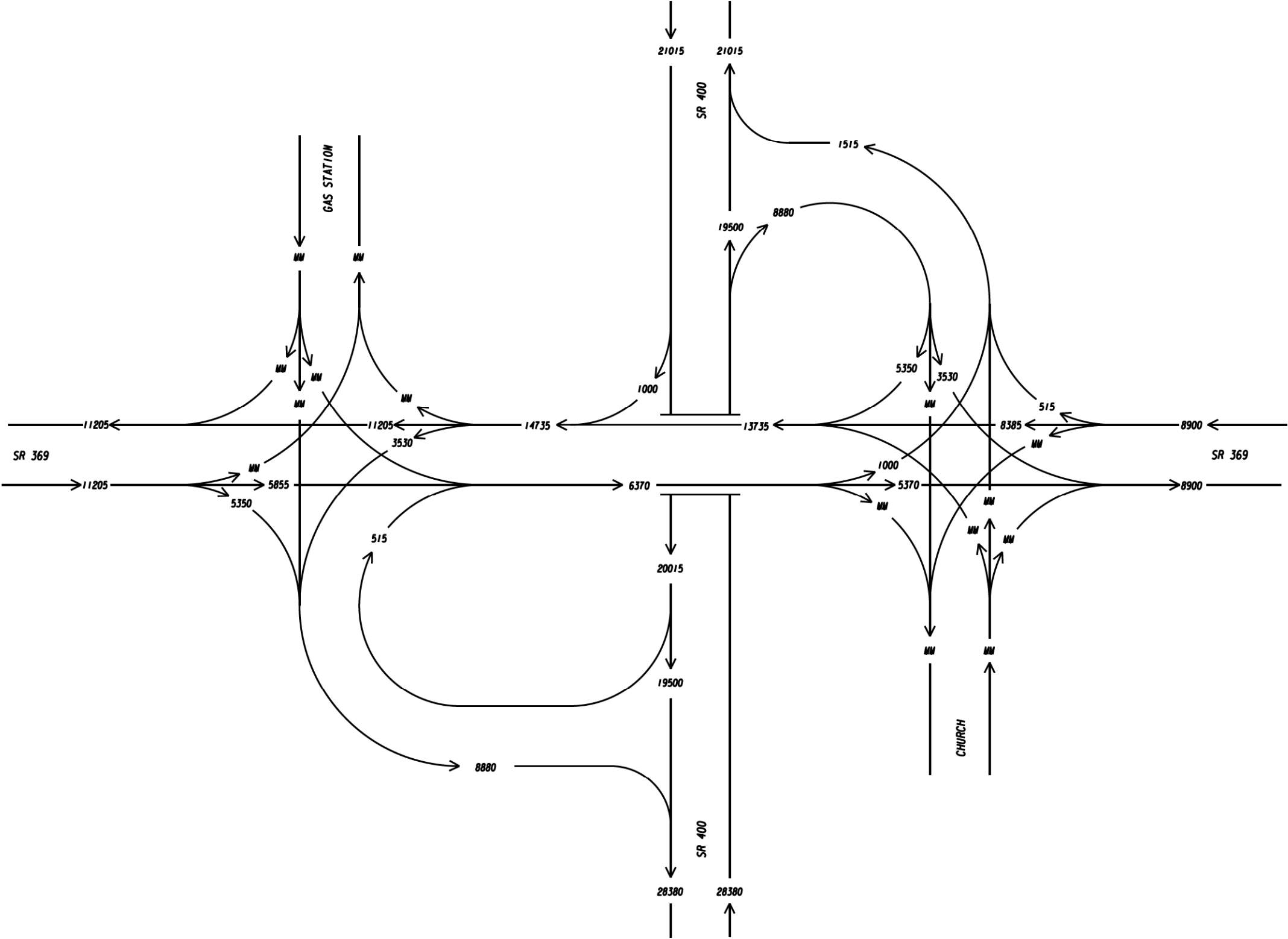
Foresite Group, Inc.
5185 Peachtree Pkwy.
Suite 240
Norcross, GA 30092
o | 770.368.1399
f | 770.368.1944
w | www.fg-inc.net

REVISION DATES

TRAFFIC DIAGRAM

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	
CORRECTED:	DATE:	
VERIFIED:	DATE:	

10-3



P. I. *0013369
FORSYTH COUNTY
SR 369 / SR 400 INTERCHANGE

BUILD 2019
AADT

FORESITE
group

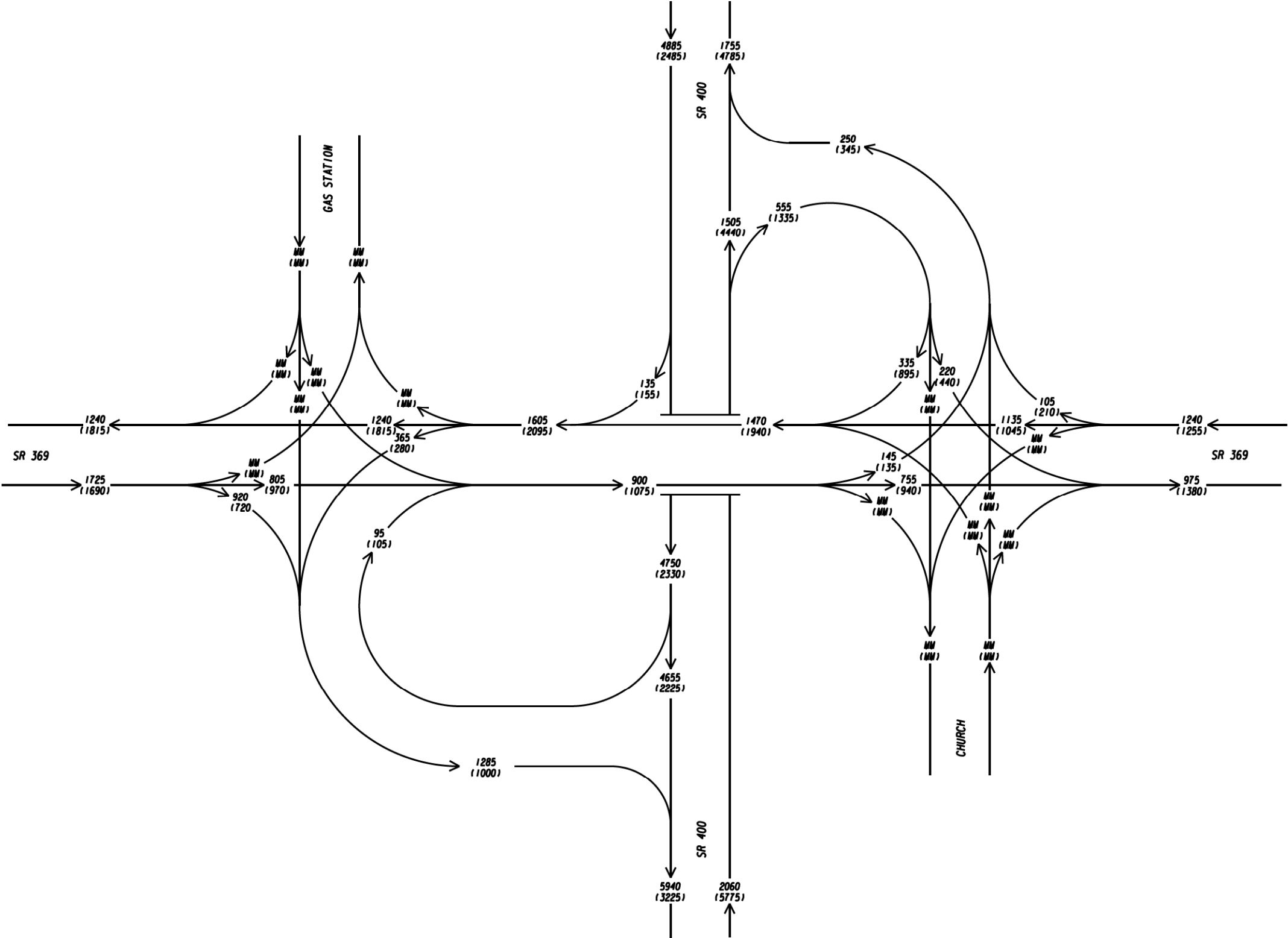
Foresite Group, Inc.
5185 Peachtree Pkwy.
Suite 240
Norcross, GA 30092
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f | 770.368.1944
w | www.fg-inc.net

REVISION DATES

TRAFFIC DIAGRAM

CHECKED:		DATE:		DRAWING No.
BACKCHECKED:		DATE:		
CORRECTED:		DATE:		
VERIFIED:		DATE:		

10-4



P. I. *0013369
FORSYTH COUNTY
SR 369 / SR 400 INTERCHANGE

BUILD 2039 DHV
AM(PM)

FORESITE
group

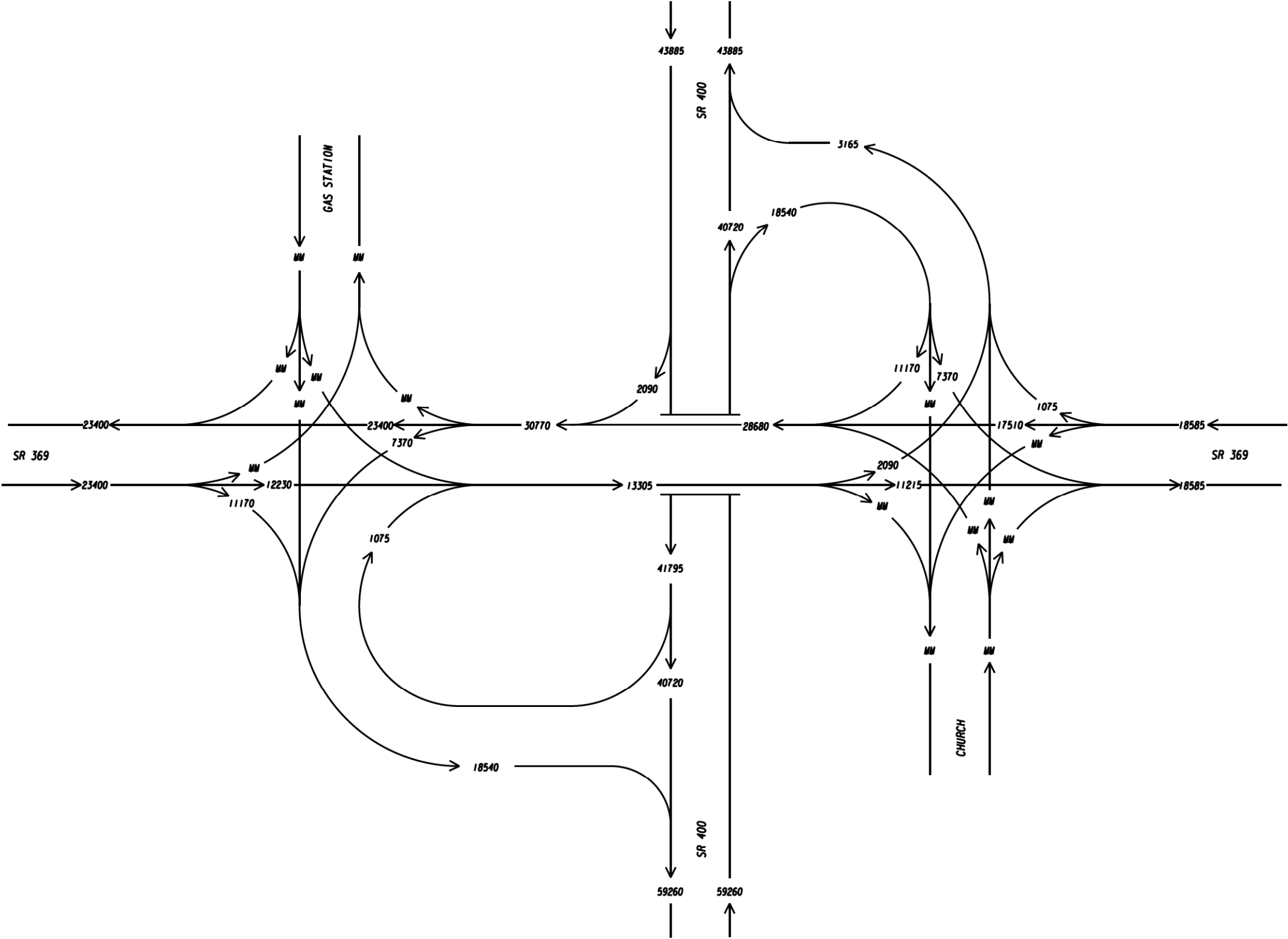
ForeSITE Group, Inc.
5185 Peachtree Pkwy.
Suite 240
Norcross, GA 30092
o | 770.368.1399
f | 770.368.1944
w | www.fg-inc.net

REVISION DATES

TRAFFIC DIAGRAM

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	
CORRECTED:	DATE:	
VERIFIED:	DATE:	

10-5



P. I. *0013369
FORSYTH COUNTY
SR 369 / SR 400 INTERCHANGE

BUILD 2039
AADT

FORESITE
group

Foresite Group, Inc.
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REVISION DATES

TRAFFIC DIAGRAM

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	
CORRECTED:	DATE:	
VERIFIED:	DATE:	

10-6

Appendix 6: Capacity Analysis Summary

Base Year (2019) Capacity Analysis

Existing Year (2015) traffic volumes were grown at a 3.75% per year growth rate to Base Year (2019). A proposed development, which includes a large department store and other small retail shops, is expected to be located about 0.32 miles to the west of the intersection between SR 369 and SR 400. The development is expected to be complete by 2019. Expected trips generated to / from this site were added to the system.

Base Year (2019) traffic volumes were entered into a *Synchro 9.0* model to perform capacity analysis of future conditions during the AM and PM peak periods. Signal timings at the intersections were optimized at 120 second cycles for both peak hours. Left turn phase warrants were met for the WBL at the intersection of SB SR 400 ramp and SR 369. A protected phase was used instead of a protected/permissive in order to provide more time for the heavy EBR volumes to access SR 400 South. Left turn phase warrants were also met for EBL at the intersection of the SR 400 NB ramp and SR 369. Hence, protected/permissive phasing was used for this movement. Lane configuration on the northbound and southbound approaches required split phasing to be used.

The results of the capacity analysis are shown by lane group movement in Table 1. Average vehicular delays in seconds per vehicle and level-of-service (LOS) are reported, as defined by the Highway Capacity Manual (HCM) 2010. A *SimTraffic 9.0* model was used to perform queueing analysis and the results are shown as the 95th percentile queue in feet. Full synchro analysis is provided at the end of the appendix.

TABLE 1: BASE YEAR (2019) CAPACITY ANALYSIS

Intersection	Control	Lane Group Movement	AM Peak Hour			PM Peak Hour		
			Delay (s/veh)	LOS	95 th % Queue (ft)	Delay (s/veh)	LOS	95 th % Queue (ft)
SR 369 at SR 400 SB Ramp	Signal Control	EBL	0.0	A	0	0.0	A	0
		EBT	3.6	A	76	3.0	A	83
		EBR	4.7	A	0	3.5	A	0
		WBL	54.4	D	230	54.8	D	191
		WBT/R	0.1	A	0	0.1	A	0
		NBR	0.0	A	0	0.0	A	0
		SBL/T/R	0.0	A	0	0.0	A	0
SR 369 at SR 400 NB Ramp	Signal Control	EBL	5.2	A	57	6.6	A	42
		EBT	5.0	A	78	6.8	A	83
		EBR	0.0	A	0	0.0	A	0
		WBL	0.0	A	0	0.0	A	0
		WBT	9.4	A	117	11.6	B	142
		WBR	7.9	A	0	10.1	B	0
		NBL	0.0	A	0	0.0	A	0
		NBL/T	0.0	A	0	0.0	A	0
		NBR	0.0	A	0	0.0	A	0
		SBL	41.3	D	87	39.2	D	116
		SBL/T	41.3	D	77	39.2	D	126
		SBR	0.1	A	0	0.5	A	49

The Base Year capacity analysis shows that both intersections will be operating at an acceptable level of service of D or better. Some delays are expected in the southbound movements at the intersection of SR 400 North Ramp and SR 369 because of the split-phased nature. Expected queues at the intersections are not significant.

Design Year (2039) Capacity Analysis

Base Year (2019) traffic volumes were grown by 3.75% per year to Design Year (2039). Capacity analysis was performed for Design Year and is shown in Table 2. Cycle lengths were kept at 120 seconds and splits were optimized for each peak hour. Phasing was kept the same as the Base Year (2019) scenario.

TABLE 2: DESIGN YEAR (2039) CAPACITY ANALYSIS

Intersection	Control	Lane Group Movement	AM Peak Hour			PM Peak Hour		
			Delay (s/veh)	LOS	95 th % Queue (ft)	Delay (s/veh)	LOS	95 th % Queue (ft)
SR 369 at SR 400 SB Ramp	Signal Control	EBL	0.0	A	0	0.0	A	0
		EBT	10.5	B	502	7.7	A	157
		EBR	22.6	C	630	10.3	B	263
		WBL	54.6	D	321	54.6	D	296
		WBT/R	0.1	A	124	0.2	A	0
		NBR	0.1	A	0	0.1	A	0
		SBL/T/R	0.0	A	0	0.0	A	0
SR 369 at SR 400 NB Ramp	Signal Control	EBL	27.9	C	111	20.4	C	131
		EBT	4.2	A	82	7.1	A	160
		EBR	0.0	A	0	0.0	A	0
		WBL	0.0	A	0	0.0	A	0
		WBT	11.7	B	206	16.2	B	139
		WBR	7.6	A	0	11.9	B	0
		NBL	0.0	A	0	0.0	A	0
		NBL/T	0.0	A	0	0.0	A	0
		NBR	0.0	A	0	0.0	A	0
		SBL	52.9	D	128	50.8	D	178
		SBL/T	53.0	D	161	50.8	D	194
		SBR	0.3	A	88	1.8	A	164

Design Year capacity analysis shows that both intersections will operate at an acceptable level of service of D or better. Although the signalized intersections operate at acceptable level of services the volumes on SR 400 North cause some concern. There is expected delay for vehicles entering northbound onto SR 400 North due to the lane reduction from three lanes to two lanes and heavy projected volumes on SR 400 North. Additionally the upstream signal of SR 400 and Martin Rd will cause additional delay with the congested roadway. For the purposes of this analysis it is assumed that future improvements in the area will allow vehicles to enter SR 400 North without significant delay affecting the operations of the ramp signalized intersection.

Ramp Capacity Analysis

A capacity analysis was performed in SR 400 between the existing SR 306 interchange and the proposed SR 369 interchange. The peak hour was analyzed for each segment to determine the expected level of service (LOS). The peak hour for northbound traffic was during the PM peak hour while the peak hour for southbound traffic was during the AM peak hour.

Due to the lane geometry on NB SR 400, merging analysis was performed for the SR 306 on-ramp and diverge analysis was performed SR 369 off-ramp. For SR 400 South a weaving analysis was performed between the two ramps. Ramp and weaving analysis was evaluated with McTrans Highway Capacity Software (HCS) 2010. Summarized results are presented in Table 3 and full analysis printouts are attached. Since PHF and truck percentages for interchange ramps were not available, 0.94 and 4% respectively were assumed.

TABLE 3: RAMP CAPACITY ANALYSIS

Year	Peak Hour	Direction	Movement	Freeway	Ramp	LOS for Area of Influence
2019	PM	NB	Merge	SR 400	SR 306 On-Ramp	B
2019	PM	NB	Diverge	SR 400	SR 369 Off-Ramp	B
2039	PM	NB	Merge	SR 400	SR 306 On-Ramp	D
2039	PM	NB	Diverge	SR 400	SR 369 Off-Ramp	D
2019	AM	SB	Weaving	SR 400	Between SR 369 On-Ramp and SR 306 Off-Ramp	B
2039	AM	SB	Weaving	SR 400	Between SR 369 On-Ramp and SR 306 Off-Ramp	F

Capacity analysis shows that the NB On-Ramp at SR 306 and Off-Ramp at SR 369 will operate at acceptable levels of service B for projected volumes in 2019 and D for 2039 projected volumes.

For 2019 projected volumes, weaving analysis between at SR 369 and SR 306 shows that this segment will operate at an acceptable level of service B during the AM peak hour. However, the level of service is expected to drop to LOS E and F after year 2035. This drop in level is due to the heavy volumes expected at the segment and the close proximity between both ramps.

HCM Signalized Intersection Capacity Analysis

41: SR 400 SB & SR 369

1/12/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	385	440	175	595	0	0	0	45	0	0	0
Future Volume (vph)	0	385	440	175	595	0	0	0	45	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5				4.5			
Lane Util. Factor		0.95	1.00	1.00	0.91				1.00			
Frt		1.00	0.85	1.00	1.00				0.86			
Flt Protected		1.00	1.00	0.95	1.00				1.00			
Satd. Flow (prot)		3539	1583	1770	5085				1611			
Flt Permitted		1.00	1.00	0.95	1.00				1.00			
Satd. Flow (perm)		3539	1583	1770	5085				1611			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	418	478	190	647	0	0	0	49	0	0	0
RTOR Reduction (vph)	0	0	108	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	418	370	190	647	0	0	0	49	0	0	0
Turn Type	Perm	NA	Perm	Prot	NA				Perm			
Protected Phases		2		1	6						4	
Permitted Phases	2		2						6	4		
Actuated Green, G (s)		92.8	92.8	18.2	120.0				120.0			
Effective Green, g (s)		92.8	92.8	18.2	120.0				120.0			
Actuated g/C Ratio		0.77	0.77	0.15	1.00				1.00			
Clearance Time (s)		4.5	4.5	4.5	4.5				4.5			
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0			
Lane Grp Cap (vph)		2736	1224	268	5085				1611			
v/s Ratio Prot		0.12		c0.11	0.13							
v/s Ratio Perm			c0.23						0.03			
v/c Ratio		0.15	0.30	0.71	0.13				0.03			
Uniform Delay, d1		3.5	4.0	48.4	0.0				0.0			
Progression Factor		1.00	1.00	0.95	1.00				1.00			
Incremental Delay, d2		0.1	0.6	8.2	0.1				0.0			
Delay (s)		3.6	4.7	54.4	0.1				0.0			
Level of Service		A	A	D	A				A			
Approach Delay (s)		4.2			12.4			0.0			0.0	
Approach LOS		A			B			A			A	
Intersection Summary												
HCM 2000 Control Delay			7.9			HCM 2000 Level of Service			A			
HCM 2000 Volume to Capacity ratio			0.38									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			13.5			
Intersection Capacity Utilization			44.4%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

42: SR 369 & SR 400 NB

1/12/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	360	0	0	545	50	0	0	0	105	0	160
Future Volume (vph)	70	360	0	0	545	50	0	0	0	105	0	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5				4.5	4.5	4.0
Lane Util. Factor	1.00	0.95			0.95	1.00				0.95	0.95	1.00
Frt	1.00	1.00			1.00	0.85				1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00				0.95	0.95	1.00
Satd. Flow (prot)	1770	3539			3539	1583				1681	1681	1583
Flt Permitted	0.38	1.00			1.00	1.00				0.95	0.95	1.00
Satd. Flow (perm)	711	3539			3539	1583				1681	1681	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	391	0	0	592	54	0	0	0	114	0	174
RTOR Reduction (vph)	0	0	0	0	0	19	0	0	0	0	0	0
Lane Group Flow (vph)	76	391	0	0	592	35	0	0	0	57	57	174
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Split		Perm	Split	NA	Free
Protected Phases	5	2			6		8	8		4	4	
Permitted Phases	2		2	6		6			8			Free
Actuated Green, G (s)	87.5	87.5			77.2	77.2				23.5	23.5	120.0
Effective Green, g (s)	87.5	87.5			77.2	77.2				23.5	23.5	120.0
Actuated g/C Ratio	0.73	0.73			0.64	0.64				0.20	0.20	1.00
Clearance Time (s)	4.5	4.5			4.5	4.5				4.5	4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0				3.0	3.0	
Lane Grp Cap (vph)	569	2580			2276	1018				329	329	1583
v/s Ratio Prot	0.01	c0.11			c0.17					c0.03	0.03	
v/s Ratio Perm	0.09					0.02						0.11
v/c Ratio	0.13	0.15			0.26	0.03				0.17	0.17	0.11
Uniform Delay, d1	5.0	4.9			9.2	7.8				40.2	40.2	0.0
Progression Factor	1.02	0.99			1.00	1.00				1.00	1.00	1.00
Incremental Delay, d2	0.1	0.1			0.3	0.1				1.1	1.1	0.1
Delay (s)	5.2	5.0			9.4	7.9				41.3	41.3	0.1
Level of Service	A	A			A	A				D	D	A
Approach Delay (s)		5.0			9.3			0.0			16.4	
Approach LOS		A			A			A			B	
Intersection Summary												
HCM 2000 Control Delay			9.4				HCM 2000 Level of Service			A		
HCM 2000 Volume to Capacity ratio			0.25									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			33.8%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

Intersection: 41: SR 400 SB & SR 369

Movement	EB	EB	WB
Directions Served	T	T	L
Maximum Queue (ft)	74	53	280
Average Queue (ft)	34	11	142
95th Queue (ft)	76	39	230
Link Distance (ft)	1201	1201	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			235
Storage Blk Time (%)			1
Queuing Penalty (veh)			2

Intersection: 42: SR 369 & SR 400 NB

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	T	T	L	LT
Maximum Queue (ft)	72	93	96	116	120	95	75
Average Queue (ft)	26	30	32	70	33	46	39
95th Queue (ft)	57	64	78	117	86	87	77
Link Distance (ft)		1058	1058	1613	1613	1360	1360
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	235						
Storage Blk Time (%)							
Queuing Penalty (veh)							

HCM Signalized Intersection Capacity Analysis

41: SR 400 SB & SR 369

1/12/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	465	345	135	870	0	0	0	50	0	0	0
Future Volume (vph)	0	465	345	135	870	0	0	0	50	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5				4.5			
Lane Util. Factor		0.95	1.00	1.00	0.91				1.00			
Frt		1.00	0.85	1.00	1.00				0.86			
Flt Protected		1.00	1.00	0.95	1.00				1.00			
Satd. Flow (prot)		3539	1583	1770	5085				1611			
Flt Permitted		1.00	1.00	0.95	1.00				1.00			
Satd. Flow (perm)		3539	1583	1770	5085				1611			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	505	375	147	946	0	0	0	54	0	0	0
RTOR Reduction (vph)	0	0	76	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	505	299	147	946	0	0	0	54	0	0	0
Turn Type	Perm	NA	Perm	Prot	NA				Perm			
Protected Phases		2		1	6						4	
Permitted Phases	2		2						6	4		
Actuated Green, G (s)		95.7	95.7	15.3	120.0				120.0			
Effective Green, g (s)		95.7	95.7	15.3	120.0				120.0			
Actuated g/C Ratio		0.80	0.80	0.13	1.00				1.00			
Clearance Time (s)		4.5	4.5	4.5	4.5				4.5			
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0			
Lane Grp Cap (vph)		2822	1262	225	5085				1611			
v/s Ratio Prot		0.14		c0.08	0.19							
v/s Ratio Perm			c0.19						0.03			
v/c Ratio		0.18	0.24	0.65	0.19				0.03			
Uniform Delay, d1		2.9	3.0	49.8	0.0				0.0			
Progression Factor		1.00	1.00	0.97	1.00				1.00			
Incremental Delay, d2		0.1	0.4	6.5	0.1				0.0			
Delay (s)		3.0	3.5	54.8	0.1				0.0			
Level of Service		A	A	D	A				A			
Approach Delay (s)		3.2			7.4			0.0			0.0	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM 2000 Control Delay			5.4			HCM 2000 Level of Service			A			
HCM 2000 Volume to Capacity ratio			0.31									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			13.5			
Intersection Capacity Utilization			36.3%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

42: SR 369 & SR 400 NB

1/12/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	450	0	0	500	100	0	0	0	210	0	430
Future Volume (vph)	65	450	0	0	500	100	0	0	0	210	0	430
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5				4.5	4.5	4.0
Lane Util. Factor	1.00	0.95			0.95	1.00				0.95	0.95	1.00
Frt	1.00	1.00			1.00	0.85				1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00				0.95	0.95	1.00
Satd. Flow (prot)	1770	3539			3539	1583				1681	1681	1583
Flt Permitted	0.40	1.00			1.00	1.00				0.95	0.95	1.00
Satd. Flow (perm)	738	3539			3539	1583				1681	1681	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	71	489	0	0	543	109	0	0	0	228	0	467
RTOR Reduction (vph)	0	0	0	0	0	44	0	0	0	0	0	0
Lane Group Flow (vph)	71	489	0	0	543	65	0	0	0	114	114	467
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Split		Perm	Split	NA	Free
Protected Phases	5	2			6		8	8		4	4	
Permitted Phases	2		2	6		6			8			Free
Actuated Green, G (s)	82.5	82.5			72.1	72.1				28.5	28.5	120.0
Effective Green, g (s)	82.5	82.5			72.1	72.1				28.5	28.5	120.0
Actuated g/C Ratio	0.69	0.69			0.60	0.60				0.24	0.24	1.00
Clearance Time (s)	4.5	4.5			4.5	4.5				4.5	4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0				3.0	3.0	
Lane Grp Cap (vph)	558	2433			2126	951				399	399	1583
v/s Ratio Prot	0.01	0.14			0.15					0.07	0.07	
v/s Ratio Perm	0.08					0.04						c0.29
v/c Ratio	0.13	0.20			0.26	0.07				0.29	0.29	0.30
Uniform Delay, d1	6.5	6.8			11.3	10.0				37.4	37.4	0.0
Progression Factor	1.01	0.98			1.00	1.00				1.00	1.00	1.00
Incremental Delay, d2	0.1	0.2			0.3	0.1				1.8	1.8	0.5
Delay (s)	6.6	6.8			11.6	10.1				39.2	39.2	0.5
Level of Service	A	A			B	B				D	D	A
Approach Delay (s)		6.8			11.3			0.0			13.2	
Approach LOS		A			B			A			B	
Intersection Summary												
HCM 2000 Control Delay			10.7				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.35									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			35.1%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

Intersection: 41: SR 400 SB & SR 369

Movement	EB	EB	WB
Directions Served	T	T	L
Maximum Queue (ft)	115	53	243
Average Queue (ft)	37	14	105
95th Queue (ft)	83	44	191
Link Distance (ft)	1201	1201	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			235
Storage Blk Time (%)			0
Queuing Penalty (veh)			0

Intersection: 42: SR 369 & SR 400 NB

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	L	T	T	T	T	L	LT	R
Maximum Queue (ft)	48	73	96	158	152	139	158	150
Average Queue (ft)	21	43	51	86	47	68	69	5
95th Queue (ft)	42	77	83	142	106	116	126	49
Link Distance (ft)		1058	1058	1613	1613	1360	1360	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	235							100
Storage Blk Time (%)							2	
Queuing Penalty (veh)							10	

HCM Signalized Intersection Capacity Analysis

41: SR 400 SB & SR 369

1/12/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	805	920	365	1240	0	0	0	95	0	0	0
Future Volume (vph)	0	805	920	365	1240	0	0	0	95	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5				4.5			
Lane Util. Factor		0.95	1.00	1.00	0.91				1.00			
Frt		1.00	0.85	1.00	1.00				0.86			
Flt Protected		1.00	1.00	0.95	1.00				1.00			
Satd. Flow (prot)		3539	1583	1770	5085				1611			
Flt Permitted		1.00	1.00	0.95	1.00				1.00			
Satd. Flow (perm)		3539	1583	1770	5085				1611			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	875	1000	397	1348	0	0	0	103	0	0	0
RTOR Reduction (vph)	0	0	176	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	875	824	397	1348	0	0	0	103	0	0	0
Turn Type	Perm	NA	Perm	Prot	NA				Perm			
Protected Phases		2		1	6						4	
Permitted Phases	2		2						6	4		
Actuated Green, G (s)		77.4	77.4	33.6	120.0				120.0			
Effective Green, g (s)		77.4	77.4	33.6	120.0				120.0			
Actuated g/C Ratio		0.65	0.65	0.28	1.00				1.00			
Clearance Time (s)		4.5	4.5	4.5	4.5				4.5			
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0			
Lane Grp Cap (vph)		2282	1021	495	5085				1611			
v/s Ratio Prot		0.25		c0.22	0.27							
v/s Ratio Perm			c0.52						0.06			
v/c Ratio		0.38	0.81	0.80	0.27				0.06			
Uniform Delay, d1		10.0	15.8	40.1	0.0				0.0			
Progression Factor		1.00	1.00	1.15	1.00				1.00			
Incremental Delay, d2		0.5	6.8	8.4	0.1				0.1			
Delay (s)		10.5	22.6	54.6	0.1				0.1			
Level of Service		B	C	D	A				A			
Approach Delay (s)		17.0			12.5			0.1			0.0	
Approach LOS		B			B			A			A	
Intersection Summary												
HCM 2000 Control Delay			14.4			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.84									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)				13.5		
Intersection Capacity Utilization			84.7%			ICU Level of Service				E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

42: SR 369 & SR 400 NB

1/12/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (vph)	145	755	0	0	1135	105	0	0	0	220	0	335
Future Volume (vph)	145	755	0	0	1135	105	0	0	0	220	0	335
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5				4.5	4.5	4.0
Lane Util. Factor	1.00	0.95			0.95	1.00				0.95	0.95	1.00
Frt	1.00	1.00			1.00	0.85				1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00				0.95	0.95	1.00
Satd. Flow (prot)	1770	3539			3539	1583				1681	1681	1583
Flt Permitted	0.16	1.00			1.00	1.00				0.95	0.95	1.00
Satd. Flow (perm)	305	3539			3539	1583				1681	1681	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	158	821	0	0	1234	114	0	0	0	239	0	364
RTOR Reduction (vph)	0	0	0	0	0	33	0	0	0	0	0	0
Lane Group Flow (vph)	158	821	0	0	1234	81	0	0	0	119	120	364
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Split		Perm	Split	NA	Free
Protected Phases	5	2			6		8	8		4	4	
Permitted Phases	2		2	6		6			8			Free
Actuated Green, G (s)	93.0	93.0			78.8	78.8				18.0	18.0	120.0
Effective Green, g (s)	93.0	93.0			78.8	78.8				18.0	18.0	120.0
Actuated g/C Ratio	0.78	0.78			0.66	0.66				0.15	0.15	1.00
Clearance Time (s)	4.5	4.5			4.5	4.5				4.5	4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0				3.0	3.0	
Lane Grp Cap (vph)	354	2742			2323	1039				252	252	1583
v/s Ratio Prot	c0.04	0.23			c0.35					0.07	c0.07	
v/s Ratio Perm	0.31					0.05						0.23
v/c Ratio	0.45	0.30			0.53	0.08				0.47	0.48	0.23
Uniform Delay, d1	6.9	4.0			10.9	7.5				46.7	46.7	0.0
Progression Factor	3.91	0.99			1.00	1.00				1.00	1.00	1.00
Incremental Delay, d2	0.9	0.3			0.9	0.1				6.2	6.3	0.3
Delay (s)	27.9	4.2			11.7	7.6				52.9	53.0	0.3
Level of Service	C	A			B	A				D	D	A
Approach Delay (s)		8.0			11.4			0.0			21.2	
Approach LOS		A			B			A			C	
Intersection Summary												
HCM 2000 Control Delay		12.3			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.54										
Actuated Cycle Length (s)		120.0			Sum of lost time (s)			18.0				
Intersection Capacity Utilization		56.8%			ICU Level of Service			B				
Analysis Period (min)		15										
c Critical Lane Group												

Intersection: 41: SR 400 SB & SR 369

Movement	EB	EB	EB	WB	WB
Directions Served	T	T	R	L	T
Maximum Queue (ft)	729	848	600	334	377
Average Queue (ft)	153	132	356	239	13
95th Queue (ft)	407	502	630	321	124
Link Distance (ft)	1201	1201			486
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			500	235	
Storage Blk Time (%)			6	8	
Queuing Penalty (veh)			23	32	

Intersection: 42: SR 369 & SR 400 NB

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	L	T	T	T	T	L	LT	R
Maximum Queue (ft)	163	75	74	266	231	137	200	150
Average Queue (ft)	62	45	45	130	94	88	95	15
95th Queue (ft)	111	71	82	206	196	128	161	88
Link Distance (ft)		1058	1058	1613	1613	1360	1360	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	235							100
Storage Blk Time (%)				0	1		7	
Queuing Penalty (veh)				0	1		24	

HCM Signalized Intersection Capacity Analysis

41: SR 400 SB & SR 369

1/12/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	970	720	280	1815	0	0	0	105	0	0	0
Future Volume (vph)	0	970	720	280	1815	0	0	0	105	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5				4.5			
Lane Util. Factor		0.95	1.00	1.00	0.91				1.00			
Frt		1.00	0.85	1.00	1.00				0.86			
Flt Protected		1.00	1.00	0.95	1.00				1.00			
Satd. Flow (prot)		3539	1583	1770	5085				1611			
Flt Permitted		1.00	1.00	0.95	1.00				1.00			
Satd. Flow (perm)		3539	1583	1770	5085				1611			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1054	783	304	1973	0	0	0	114	0	0	0
RTOR Reduction (vph)	0	0	158	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1054	625	304	1973	0	0	0	114	0	0	0
Turn Type	Perm	NA	Perm	Prot	NA				Perm			
Protected Phases		2		1	6						4	
Permitted Phases	2		2						6	4		
Actuated Green, G (s)		85.3	85.3	25.7	120.0				120.0			
Effective Green, g (s)		85.3	85.3	25.7	120.0				120.0			
Actuated g/C Ratio		0.71	0.71	0.21	1.00				1.00			
Clearance Time (s)		4.5	4.5	4.5	4.5				4.5			
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0			
Lane Grp Cap (vph)		2515	1125	379	5085				1611			
v/s Ratio Prot		0.30		c0.17	0.39							
v/s Ratio Perm			c0.39						0.07			
v/c Ratio		0.42	0.56	0.80	0.39				0.07			
Uniform Delay, d1		7.1	8.3	44.7	0.0				0.0			
Progression Factor		1.00	1.00	1.00	1.00				1.00			
Incremental Delay, d2		0.5	2.0	10.0	0.2				0.1			
Delay (s)		7.7	10.3	54.6	0.2				0.1			
Level of Service		A	B	D	A				A			
Approach Delay (s)		8.8			7.5			0.1			0.0	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM 2000 Control Delay			7.8			HCM 2000 Level of Service			A			
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			13.5			
Intersection Capacity Utilization			67.6%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

42: SR 369 & SR 400 NB

1/12/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	940	0	0	1045	210	0	0	0	440	0	895
Future Volume (vph)	135	940	0	0	1045	210	0	0	0	440	0	895
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5				4.5	4.5	4.0
Lane Util. Factor	1.00	0.95			0.95	1.00				0.95	0.95	1.00
Frt	1.00	1.00			1.00	0.85				1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00				0.95	0.95	1.00
Satd. Flow (prot)	1770	3539			3539	1583				1681	1681	1583
Flt Permitted	0.17	1.00			1.00	1.00				0.95	0.95	1.00
Satd. Flow (perm)	312	3539			3539	1583				1681	1681	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	147	1022	0	0	1136	228	0	0	0	478	0	973
RTOR Reduction (vph)	0	0	0	0	0	64	0	0	0	0	0	0
Lane Group Flow (vph)	147	1022	0	0	1136	164	0	0	0	239	239	973
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Split		Perm	Split	NA	Free
Protected Phases	5	2			6		8	8		4	4	
Permitted Phases	2		2	6		6			8			Free
Actuated Green, G (s)	84.5	84.5			70.3	70.3				26.5	26.5	120.0
Effective Green, g (s)	84.5	84.5			70.3	70.3				26.5	26.5	120.0
Actuated g/C Ratio	0.70	0.70			0.59	0.59				0.22	0.22	1.00
Clearance Time (s)	4.5	4.5			4.5	4.5				4.5	4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0				3.0	3.0	
Lane Grp Cap (vph)	337	2492			2073	927				371	371	1583
v/s Ratio Prot	0.04	0.29			0.32					0.14	0.14	
v/s Ratio Perm	0.27					0.10						c0.61
v/c Ratio	0.44	0.41			0.55	0.18				0.64	0.64	0.61
Uniform Delay, d1	9.4	7.4			15.2	11.5				42.5	42.5	0.0
Progression Factor	2.07	0.90			1.00	1.00				1.00	1.00	1.00
Incremental Delay, d2	0.9	0.5			1.0	0.4				8.3	8.3	1.8
Delay (s)	20.4	7.1			16.2	11.9				50.8	50.8	1.8
Level of Service	C	A			B	B				D	D	A
Approach Delay (s)		8.8			15.5			0.0			17.9	
Approach LOS		A			B			A			B	
Intersection Summary												
HCM 2000 Control Delay		14.4			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.72										
Actuated Cycle Length (s)		120.0			Sum of lost time (s)			18.0				
Intersection Capacity Utilization		59.8%			ICU Level of Service			B				
Analysis Period (min)		15										
c Critical Lane Group												

Intersection: 41: SR 400 SB & SR 369

Movement	EB	EB	EB	WB
Directions Served	T	T	R	L
Maximum Queue (ft)	178	151	299	280
Average Queue (ft)	89	48	82	200
95th Queue (ft)	157	112	263	296
Link Distance (ft)	1201	1201		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			500	235
Storage Blk Time (%)				5
Queuing Penalty (veh)				28

Intersection: 42: SR 369 & SR 400 NB

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	L	T	T	T	T	L	LT	R
Maximum Queue (ft)	179	161	173	246	270	236	223	150
Average Queue (ft)	71	87	99	159	122	117	119	49
95th Queue (ft)	131	142	160	234	239	178	194	164
Link Distance (ft)		1058	1058	1613	1613	1360	1360	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	235							100
Storage Blk Time (%)			0	1	2		19	
Queuing Penalty (veh)			0	0	4		170	

Phone: Fax:
E-mail:

Merge Analysis

Analyst: MIV
Agency/Co.: Foresite Group
Date performed: 1/21/2016
Analysis time period: PM Peak Hour
Freeway/Dir of Travel: NB SR 400
Junction: SR 306 On-Ramp
Jurisdiction: Forsyth County
Analysis Year: 2019
Description: Merging Analysis SR 400 @ SR 306 Interchange

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2435	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	55.0	mph
Volume on ramp	330	vph
Length of first accel/decel lane	1005	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent Ramp	640	vph
Position of adjacent Ramp	Upstream	
Type of adjacent Ramp	Off	
Distance to adjacent Ramp	2028	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2435	330	640	vph
Peak-hour factor, PHF	0.97	0.86	0.94	
Peak 15-min volume, v15	628	96	170	v
Trucks and buses	7	4	4	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.980	0.980	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	2598	391	694	pcph

Estimation of V12 Merge Areas

$$L = 1560.47 \text{ (Equation 13-6 or 13-7)}$$

$$EQ$$

$$P = 0.606 \text{ Using Equation 3}$$

$$FM$$

$$v_{12} = v_F (P_{FM}) = 1573 \text{ pc/h}$$

Capacity Checks

		Actual	Maximum	LOS F?
	v_{FO}	2989	7050	No
	v_3 or v_{av34}	1025 pc/h	(Equation 13-14 or 13-17)	
Is	v_3 or $v_{av34} > 2700 \text{ pc/h?}$		No	
Is	v_3 or $v_{av34} > 1.5 v_{12} / 2$		Yes	
If yes, v_{12A}	$v_{12A} = 1573$		(Equation 13-15, 13-16, 13-18, or 13-19)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12A}	1964	4600	No

Level of Service Determination (if not F)

$$\text{Density, } D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 14.3 \text{ pc/mi/ln}$$

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable,	$M_S = 0.238$	
Space mean speed in ramp influence area,	$S_R = 59.5$	mph
Space mean speed in outer lanes,	$S_0 = 63.1$	mph
Space mean speed for all vehicles,	$S = 60.7$	mph

Phone:
E-mail:

Fax:

Diverge Analysis

Analyst: MIV
Agency/Co.: Foresite Group
Date performed: 1/21/2016
Analysis time period: PM Peak Hour
Freeway/Dir of Travel: NB SR 400
Junction: SR 369 Off-Ramp
Jurisdiction: Forsyth County
Analysis Year: 2019
Description: Diverging Analysis SR 400 @ SR 306 Interchange

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2765	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	2	
Free-Flow speed on ramp	55.0	mph
Volume on ramp	640	vph
Length of first accel/decel lane	209	ft
Length of second accel/decel lane	353	ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent ramp	330	vph
Position of adjacent ramp	Downstream	
Type of adjacent ramp	On	
Distance to adjacent ramp	2028	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2765	640	330	vph
Peak-hour factor, PHF	0.97	0.94	0.86	
Peak 15-min volume, v15	713	170	96	v
Trucks and buses	7	4	4	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.980	0.980	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	2950	694	391	pcph

Estimation of V12 Diverge Areas

L = (Equation 13-12 or 13-13)

EQ

P = 0.450 Using Equation 0

FD

$v_{12} = v_R + (v_F - v_R) P_{FD} = 1709$ pc/h

Capacity Checks

		Actual	Maximum	LOS F?
$v_{Fi} = v_F$		2950	7050	No
$v_{FO} = v_F - v_R$		2256	7050	No
v_R		694	4400	No
v_3 or v_{av34}		1241 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?			No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$			No	
If yes, $v_{12A} = 1709$			(Equation 13-15, 13-16, 13-18, or 13-19)	

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	1709	4400	No

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v_R - 0.009 L_D = 12.0$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable,	$D_S = 0.230$	
Space mean speed in ramp influence area,	$S_R = 59.7$	mph
Space mean speed in outer lanes,	$S_0 = 70.4$	mph
Space mean speed for all vehicles,	$S = 63.8$	mph

Phone: _____ Fax: _____
 E-mail: _____

_____Merge Analysis_____

Analyst: MIV
 Agency/Co.: Foresite Group
 Date performed: 1/21/2016
 Analysis time period: PM Peak Hour
 Freeway/Dir of Travel: NB SR 400
 Junction: SR 306 On-Ramp
 Jurisdiction: Forsyth County
 Analysis Year: 2039
 Description: Merging Analysis SR 400 @ SR 306 Interchange

_____Freeway Data_____

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	5085	vph

_____On Ramp Data_____

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	55.0	mph
Volume on ramp	690	vph
Length of first accel/decel lane	1005	ft
Length of second accel/decel lane		ft

_____Adjacent Ramp Data (if one exists)_____

Does adjacent ramp exist?	Yes	
Volume on adjacent Ramp	1335	vph
Position of adjacent Ramp	Upstream	
Type of adjacent Ramp	Off	
Distance to adjacent Ramp	2028	ft

_____Conversion to pc/h Under Base Conditions_____

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	5085	690	1335	vph
Peak-hour factor, PHF	0.97	0.86	0.94	
Peak 15-min volume, v15	1311	201	355	v
Trucks and buses	7	4	4	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.980	0.980	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	5426	818	1449	pcph

Estimation of V12 Merge Areas

$$L = 2257.04 \text{ (Equation 13-6 or 13-7)}$$

$$EQ$$

$$P = 0.591 \text{ Using Equation 4}$$

$$FM$$

$$v_{12} = v_F (P_{FM}) = 3207 \text{ pc/h}$$

Capacity Checks

		Actual	Maximum	LOS F?
v_{F0}		6244	7050	No
v_3 or v_{av34}		2219 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700 \text{ pc/h?}$			No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$			Yes	
If yes, $v_{12A} = 3207$			(Equation 13-15, 13-16, 13-18, or 13-19)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{12A}	4025	4600	No

Level of Service Determination (if not F)

$$\text{Density, } D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 30.2 \text{ pc/mi/ln}$$

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	$M_S = 0.429$	
Space mean speed in ramp influence area,	$S_R = 55.1$	mph
Space mean speed in outer lanes,	$S_0 = 58.8$	mph
Space mean speed for all vehicles,	$S = 56.4$	mph

Phone:
E-mail:

Fax:

Diverge Analysis

Analyst: MIV
Agency/Co.: Foresite Group
Date performed: 1/21/2016
Analysis time period: PM Peak Hour
Freeway/Dir of Travel: NB SR 400
Junction: SR 369 Off-Ramp
Jurisdiction: Forsyth County
Analysis Year: 2039
Description: Diverging Analysis SR 400 @ SR 306 Interchange

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	5775	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	2	
Free-Flow speed on ramp	55.0	mph
Volume on ramp	1335	vph
Length of first accel/decel lane	209	ft
Length of second accel/decel lane	353	ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent ramp	690	vph
Position of adjacent ramp	Downstream	
Type of adjacent ramp	On	
Distance to adjacent ramp	2028	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	5775	1335	690	vph
Peak-hour factor, PHF	0.97	0.94	0.86	
Peak 15-min volume, v15	1488	355	201	v
Trucks and buses	7	4	4	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.980	0.980	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	6162	1449	818	pcph

Estimation of V12 Diverge Areas

$$L = \text{(Equation 13-12 or 13-13)}$$

$$EQ$$

$$P = 0.450 \quad \text{Using Equation } 0$$

$$FD$$

$$v_{12} = v_R + (v_F - v_R) P_{FD} = 3570 \quad \text{pc/h}$$

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	6162	7050	No
$v_{FO} = v_F - v_R$	4713	7050	No
v_R	1449	4400	No
v_3 or v_{av34}	2592 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700 \text{ pc/h?}$		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3570$		(Equation 13-15, 13-16, 13-18, or 13-19)	

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3570	4400	No

Level of Service Determination (if not F)

$$\text{Density, } D = 4.252 + 0.0086 v_R - 0.009 L_D = 28.0+ \quad \text{pc/mi/ln}$$

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	$D_S = 0.298$	
Space mean speed in ramp influence area,	$S_R = 58.1$	mph
Space mean speed in outer lanes,	$S_0 = 65.1$	mph
Space mean speed for all vehicles,	$S = 60.9$	mph

Phone:
E-mail:

Fax:

Operational Analysis

Analyst: MIV
 Agency/Co.: Foresite Group
 Date Performed: 1/21/2016
 Analysis Time Period: AM Peak Hour
 Freeway/Dir of Travel: SB SR 400
 Weaving Location: SR 369 On-Ramp/SR 306 Off-Ramp
 Analysis Year: 2019
 Description: Weaving Analysis SR 400 between SR 369 and SR 306

Inputs

Segment Type	Freeway	
Weaving configuration	One-Sided	
Number of lanes, N	3	ln
Weaving segment length, LS	1230	ft
Freeway free-flow speed, FFS	65	mi/h
Minimum segment speed, SMIN	15	mi/h
Freeway maximum capacity, cIFL	2350	pc/h/ln
Terrain type	Level	
Grade	0.00	%
Length	0.00	mi

Conversion to pc/h Under Base Conditions

	Volume Components				
	VFF	VRF	VFR	VRR	
Volume, V	2010	615	220	0	veh/h
Peak hour factor, PHF	0.97	0.94	0.94	0.94	
Peak 15-min volume, v15	518	164	59	0	
Trucks and buses	7	4	4	4	%
Recreational vehicles	0	0	0	0	%
Trucks and buses PCE, ET	1.5	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	1.2	
Heavy vehicle adjustment, fHV	0.966	0.980	0.980	0.980	
Driver population adjustment, fP	1.00	1.00	1.00	1.00	
Flow rate, v	2145	667	239	0	pc/h
Volume ratio, VR	0.297				

Configuration Characteristics

Number of maneuver lanes, NWL	2	ln
Interchange density, ID	0.8	int/mi
Minimum RF lane changes, LCRF	0	lc/pc
Minimum FR lane changes, LCFR	1	lc/pc
Minimum RR lane changes, LCRR		lc/pc
Minimum weaving lane changes, LCMIN	239	lc/h
Weaving lane changes, LCW	410	lc/h
Non-weaving vehicle index, INW	211	
Non-weaving lane change, LCNW	531	lc/h
Total lane changes, LCALL	941	lc/h

Weaving and Non-Weaving Speeds

Weaving intensity factor, W	0.183
-----------------------------	-------

Average weaving speed, SW	57.3	mi/h
Average non-weaving speed, SNW	58.4	mi/h

_____Weaving Segment Speed, Density, Level of Service and Capacity_____		
Weaving segment speed, S	58.1	mi/h
Weaving segment density, D	17.5	pc/mi/ln
Level of service, LOS	B	
Weaving segment v/c ratio	0.506	
Weaving segment flow rate, v	2961	veh/h
Weaving segment capacity, cW	5852	veh/h

_____Limitations on Weaving Segments_____				
If limit reached, see note.				

	Minimum	Maximum	Actual	Note
Weaving length (ft)	300	5551	1230	a, b
		Maximum	Analyzed	
Density-based capacity, cIWL (pc/h/ln)		2350	2019	c
		Maximum	Analyzed	
v/c ratio		1.00	0.506	d

Notes:

- In weaving segments shorter than 300 ft, weaving vehicles are assumed to make only necessary lane changes.
- Weaving segments longer than the calculated maximum length should be treated as isolated merge and diverge areas using the procedures of Chapter 13, "Freeway Merge and Diverge Segments."
- The density-based capacity exceeds the capacity of a basic freeway segment, under equivalent ideal conditions.
- Volumes exceed the weaving segment capacity. The level of service is F.

Phone:
E-mail:

Fax:

Operational Analysis

Analyst: MIV
 Agency/Co.: Foresite Group
 Date Performed: 1/21/2016
 Analysis Time Period: AM Peak Hour
 Freeway/Dir of Travel: SB SR 400
 Weaving Location: SR 369 On-Ramp/SR 306 Off-Ramp
 Analysis Year: 2039
 Description: Weaving Analysis SR 400 between SR 369 and SR 306

Inputs

Segment Type	Freeway	
Weaving configuration	One-Sided	
Number of lanes, N	3	ln
Weaving segment length, LS	1230	ft
Freeway free-flow speed, FFS	65	mi/h
Minimum segment speed, SMIN	15	mi/h
Freeway maximum capacity, cIFL	2350	pc/h/ln
Terrain type	Level	
Grade	0.00	%
Length	0.00	mi

Conversion to pc/h Under Base Conditions

	Volume Components				
	VFF	VRF	VFR	VRR	
Volume, V	4195	1285	460	0	veh/h
Peak hour factor, PHF	0.97	0.94	0.94	0.94	
Peak 15-min volume, v15	1081	342	122	0	
Trucks and buses	7	4	4	4	%
Recreational vehicles	0	0	0	0	%
Trucks and buses PCE, ET	1.5	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	1.2	
Heavy vehicle adjustment, fHV	0.966	0.980	0.980	0.980	
Driver population adjustment, fP	1.00	1.00	1.00	1.00	
Flow rate, v	4476	1394	499	0	pc/h

Volume ratio, VR 0.297

Configuration Characteristics

Number of maneuver lanes, NWL	2	ln
Interchange density, ID	0.8	int/mi
Minimum RF lane changes, LCRF	0	lc/pc
Minimum FR lane changes, LCFR	1	lc/pc
Minimum RR lane changes, LCRR		lc/pc
Minimum weaving lane changes, LCMIN		lc/h
Weaving lane changes, LCW		lc/h
Non-weaving vehicle index, INW	446	
Non-weaving lane change, LCNW		lc/h
Total lane changes, LCALL		lc/h

Weaving and Non-Weaving Speeds

Weaving intensity factor, W

Average weaving speed, SW	mi/h
Average non-weaving speed, SNW	mi/h

_____Weaving Segment Speed, Density, Level of Service and Capacity_____		
Weaving segment speed, S		mi/h
Weaving segment density, D		pc/mi/ln
Level of service, LOS	F	
Weaving segment v/c ratio	1.056	
Weaving segment flow rate, v	6182	veh/h
Weaving segment capacity, cW	5852	veh/h

_____Limitations on Weaving Segments_____				
If limit reached, see note.				

	Minimum	Maximum	Actual	Note
Weaving length (ft)	300	5554	1230	a, b
		Maximum	Analyzed	
Density-based capacity, cIWL (pc/h/ln)		2350	2019	c
		Maximum	Analyzed	
v/c ratio		1.00	1.056	d

Notes:

- In weaving segments shorter than 300 ft, weaving vehicles are assumed to make only necessary lane changes.
- Weaving segments longer than the calculated maximum length should be treated as isolated merge and diverge areas using the procedures of Chapter 13, "Freeway Merge and Diverge Segments."
- The density-based capacity exceeds the capacity of a basic freeway segment, under equivalent ideal conditions.
- Volumes exceed the weaving segment capacity. The level of service is F.



DATE: October 14, 2015

SUBJECT: Kick-Off Meeting

PROJECT: GA 400 at SR 369 Interchange

PLACE: Forsyth County Engineering Department, Large Conference Room

ATTENDEES:

<u>Name</u>	<u>Organization</u>
Tim Allen	Forsyth County
John Cunard	Forsyth County
Lynnette Weldy	Forsyth County
Jason McCook	Moreland
Sameer Patharkar	Foresite Group
Pat Smeeton	GT Hill Planners
Austin Williams	American Engineers, Inc. (AEI)
Matt New	AEI
Tom Fravel	AEI
Dylan Curtis	GDOT (via-phone)

DISTRIBUTED TO: Attendees

DISCUSSION:

The Kick-Off Meeting began at approximately 10:40 AM in the large conference room at Forsyth County Engineering Departments Office. Items discussed are as follows:

- County indicated project will be designed under a GDOT Encroachment Permit (Not full GDOT review) – thus a streamlined design process for local projects is the preferred delivery method.
- GDOT will inform the County if a GDOT Concept Report will need to be prepared for this project.
- The Team discussed the current concept layout in detail. Team agreed this option is the preferred as it meets the needs of the County including economics, lane configuration, minimized environmental impacts, etc. The County indicated this Alternate presented will be the preferred option moving forward.
- AEI indicated that this Interchange will include the SR 369 Widening Project as well – thus a seamless transition will occur as AEI is designing both projects on behalf of the County.

- County desires that County Way be left as is and the Interchange northbound on-ramp gore area be extended slightly past County Way to avoid potential traffic weaving from ramp onto County Way.
- The Team discussed this project shall be coordinated with the GA 400 Design-Build Project.
- The Team discussed the weaving patterns. The County indicated a good solution of connecting the ramps with the 3rd lane of the GA 400 Design Build Project.
- County and GDOT requested detailed schedule from AEI.
- County desires both properties along the southeast quadrant both have a right-in/right-out. No frontage roadway is desired for this project.
- The Team will need to coordinate with the Church to relocate their driveways. One driveway will have access to the traffic signal.
- The only total acquisition takes will occur located in the northeast quadrant of the interchange.
- County desires the Mobile Gas Station to have access to the southbound on-ramp traffic signal.
- The Team agreed a Public Information Open House (PIOH) is not required for this project under the GDOT Encroachment Permit and GEPA Environmental Document; however the County will review internally if they desire to conduct a general Public Meeting.

No site visit was done during this meeting. The meeting was adjourned at about 11:30 AM.

The above represents our understanding of the items discussed. Please notify us as soon as possible if you have any comments or questions.

Meeting Minutes By:
American Engineers, Inc.