

NCDOT Regional Traffic Safety Project File No. – 06-18-54472

Location: SR 2000 (Sapona Road) at Plymouth Street, in the City of Fayetteville

Proposed Treatment: Convert Intersection to All-Way Stop

Existing Conditions: Sapona Road and Plymouth Street are both two-lane roads that cross to form a four-leg intersection. Plymouth Street is under stop sign control and maintained by the City. The speed limit is 35mph. A popular local store is located on the southeast quadrant which has parking to the edge of travel lanes on both roads.

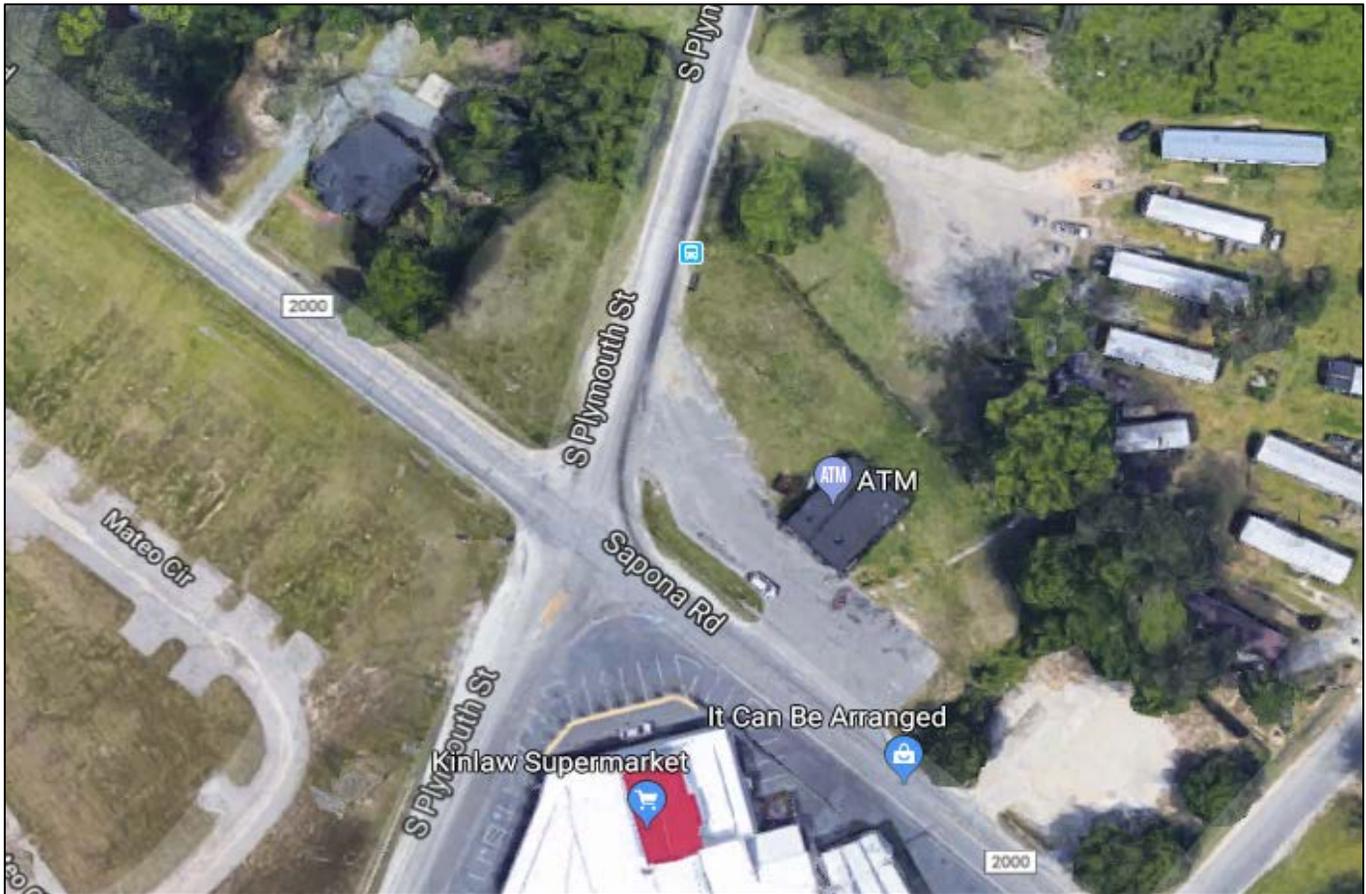
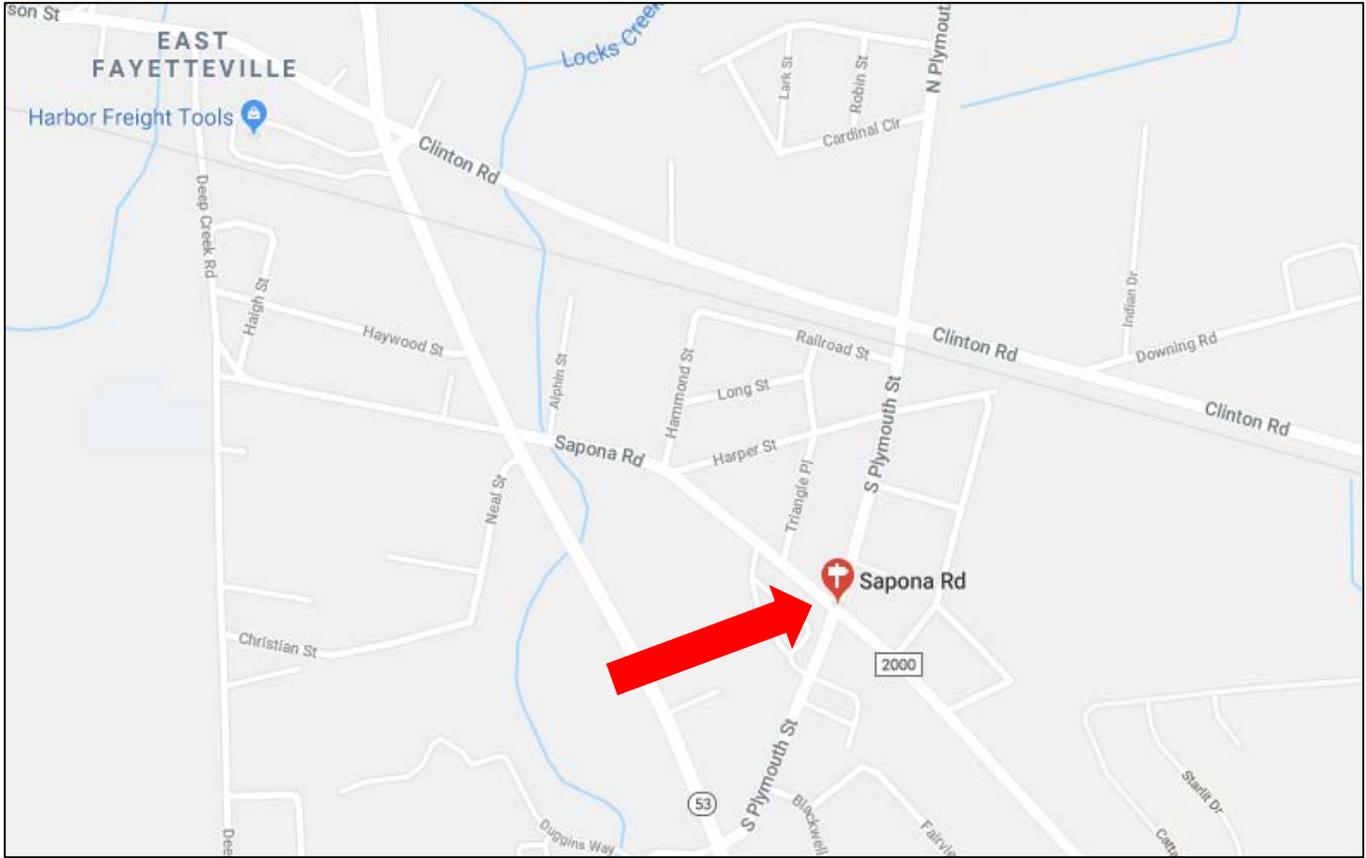
Statement of Problem: This location is on the 2018 and 2017 Highway Safety Improvement Program (HSIP) list due to Frontal Impact crashes. There is a pattern of frontal impact crashes, due to motorists failing to yield, running stop signs, or entering/exiting from parking areas. There is currently not a right-side stop sign posted on the northbound approach of Plymouth Street due to the close vicinity of the parking area. A five-year study revealed 21 total crashes between 03/01/2013 and 02/28/2018. Seventeen of those crashes were Angles or some other type of Frontal Impact, to include one “A” type injury crash – which is the most serious non-fatal type injury.

Benefit: The proposed treatment has a 71% crash reduction factor (CRF) to total injury crashes for converting an intersection to All-Way Stop, with no overhead flasher. The Benefit/Cost Ratio for this project is 203.13.

Please see the attached supporting documents:

- Map
- Collision Diagram
- Crash Summary
- Cost Estimate

Cumberland Co. – SR 2000 (Sapona Road) at Plymouth Street



PH# 25100660
 Order # 41000050924
 SR 2000 (Sapona Rd) at S. Plymouth St
 Fayetteville, Cumberland County
 3/1/13 - 2/28/18

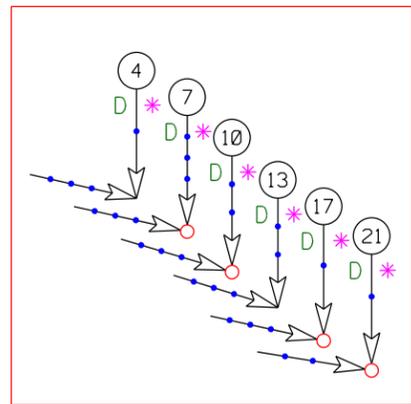
S. Plymouth St
 35 MPH
 2015 ADT - 1,900

LEGEND							
	MOVING VEHICLE		ANGLE		9 MPH OR LESS		ANIMAL
	PARKED VEHICLE		TURNING		10 MPH TO 19		PEDESTRIAN
	PARKING VEHICLE		BACKING		20 MPH TO 29		BICYCLE
	MOVABLE OBJECT		SIDESWIPE		30 MPH TO 39		TRAIN
	HEAD ON		NON-SEVERE INJURY		40 MPH TO 49		DRIVER AT FAULT
	REAR END		SEVERE INJURY		50 MPH TO 59		DRY
	RAN OFF ROAD		FATALITY		60 MPH TO 69		WET
	DAYLIGHT CRASH		SPEED UNKNOWN		70 AND UP		ICY OR SNOWY
	NIGHT CRASH				Other		Other

SR 2000 (Sapona Rd)
 35 MPH
 2015 ADT - 3,600

1805 Sapona Rd
 (EZ Pass Mini Mart)

SR 2000 (Sapona Rd)
 35 MPH
 2015 ADT - 2,900



S. Plymouth St
 35 MPH
 2015 ADT - 1,600

1802 Sapona Rd
 (Kinlaw's)

AECOM

Prepared For:
 N.C. DEPARTMENT of TRANSPORTATION
 DIVISION of HIGHWAYS
 TRANSPORTATION MOBILITY and
 SAFETY DIVISION

TRAFFIC SAFETY UNIT

Date: 4-20-2018

Prepared By: Cydney Burton

**CRASH SUMMARY
SR 2000 (Sapona Rd) at S. Plymouth St**

06-18-54472
27-Apr-18

Based on TEAAS: 41000050924
5 YRS, from 3/01/2013 to 02/28/2018

#	Crash ID	Date	Time	Angle	LTDR	LTSR	RTDR	Rear end	Back ing	ROR	F	A	B	C	P	Comments
1	103721913	03/25/13	9:43						1						1	Backing from PVA w/ NB Plymouth
2	103836098	08/14/13	11:18			1									1	LT-SS or U-turn EB Sapona
3	103861541	08/31/13	14:00						1						1	Backing from PVA across Plymouth into PMV
4	103891419	10/05/13	15:29	1											1	SB Plymouth w/ EB Sapona
5	103925726	11/25/13	16:00			1								1		EB Sapona LT w/ WB Sapona
6	103979807	12/23/13	11:11				1							1		Entering from PVA w/ WB Sapona
7	104093359	05/21/14	12:40	1										1		RAN STOP SIGN SB Plymouth w/ EB Sapona
8	104093383	05/22/14	18:19	1										1		RAN STOP SIGN NB Plymouth w/ WB Sapona
9	104166875	08/28/14	3:40						1					1		WB Sapona hit utility pole
10	104280010	01/07/15	14:20	1										1		SB Plymouth w/ EB Sapona
11	104394124	05/18/15	15:19		1									1		Entering from PVA w/ WB Sapona
12	104639876	01/12/16	10:17				1							1		NB Plymouth RT hit PMV
13	104648839	01/27/16	11:55	1										1		RAN STOP SIGN SB Plymouth w/ EB Sapona
14	104802407	06/29/16	10:39			1								1		LT-SS WB Sapona
15	104924185	10/18/16	17:26		1							1				Entering from PVA w/ WB Sapona
16	105004031	12/07/16	9:09	1										1		SB Plymouth w/ WB Sapona
17	105028363	02/01/17	11:16	1										1		SB Plymouth w/ EB Sapona
18	105078326	04/05/17	9:01			1								1		EB Sapona LT w/ WB Sapona
19	105080857	04/09/17	15:53						1					1		Backing up on SB approach of Plymouth
20	105413503	11/29/17	19:51	1										1		Stopped then pulled out
21	105419661	12/21/17	13:58	1										1		SB Plymouth w/ EB Sapona

9 2 4 2 0 3 1 0 1 0 9 11
K A B C P

North Carolina Department of Transportation
Preliminary Estimate

Safety Project
06-18-54472

TIP No.

Prel.

County:

Cumberland

Route Sapona Road
From at Plymouth St
Typical Section All-way Stop

CONSTR. COST
\$21,000

Prepared By: Neil Butler

10/10/2018

Requested By: Janet Whetstone-Perez

Line Item	Des	Sec No.	Description	Quantity	Unit	Price	Amount
			Concrete Island for Stop Sign	10	SY	\$ 50.00	\$ 500.00
			Signing and Markings	1	LS	\$ 10,000.00	\$ 10,000.00
			Traffic Control	1	LS	\$ 5,000.00	\$ 5,000.00

Contract Cost	\$ 15,500.00
E. & C. 15%	\$ 2,500.00
	\$ 18,000.00

P.E. Cost \$ 1,000.00

ROW Cost \$ 1,000.00

Utilities Cost \$ 1,000.00

Construction Cost \$ 21,000.00



250' RAD

KINLAHS
\$224,000 3.8ACS
0.019ACS-\$120

STOP
4XX

RW

STOP
4XX

SAPONA

PLYMOUTH