

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE: STP-0004-00(732) Columbia County

P.I. No.: 0004732

SR 47 @ SR 223

Safety Intersection Improvements

FROM: *Philip M. Allen*
Philip M. Allen, State Traffic Safety & Design Engineer

OFFICE: Traffic Operations

DATE: July 26, 2002

TO: Mike Thomas, District Engineer, Tennille
Attn: David Griffith

SUBJECT: APPROVED CONCEPT REPORT

Attached is a copy of the approved concept report on the above listed project for your use and further handling.

This project consists of widening SR 47 6 feet symmetrically at all approaches to provide left turn lanes with an additional 12 feet to provide for auxiliary right turn lanes. SR 223 will be widened 6 feet symmetrically at all approaches to provide for left turn lanes with an additional 12 feet to provide for auxiliary right turn lanes. A stop and go traffic signal is warranted.

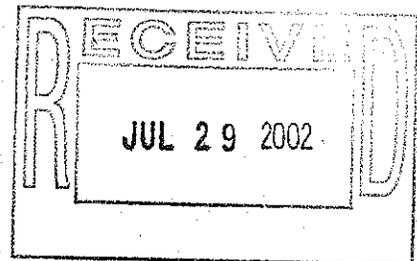
By copy of this letter, this office is requesting for this project be assigned to Chuck Hasty as Project Manager. The design of this project will be handled under our Consultant Design Contract, STP-0001-00(853).

Should you have any questions, please contact Ken Werho of this office at 404-635-8144.

PMA:kms

Attachments

cc: Frank Danchetz
Tom Turner, w/attach.
David Mulling, w/attach.
Wayne Hutto, w/attach.
Herman Griffin, w/attach.
Harvey Keepler, w/attach.
Roger Price, w/attach.
General Files



DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

PROJECT CONCEPT REPORT

COLUMBIA COUNTY

STP-0004-00(732)

FEDERAL ROUTE NO:
STATE ROUTE NO: 47 & 223
GADOT P.I. NO: 0004732

SEE ATTACHED
LOCATION SKETCH

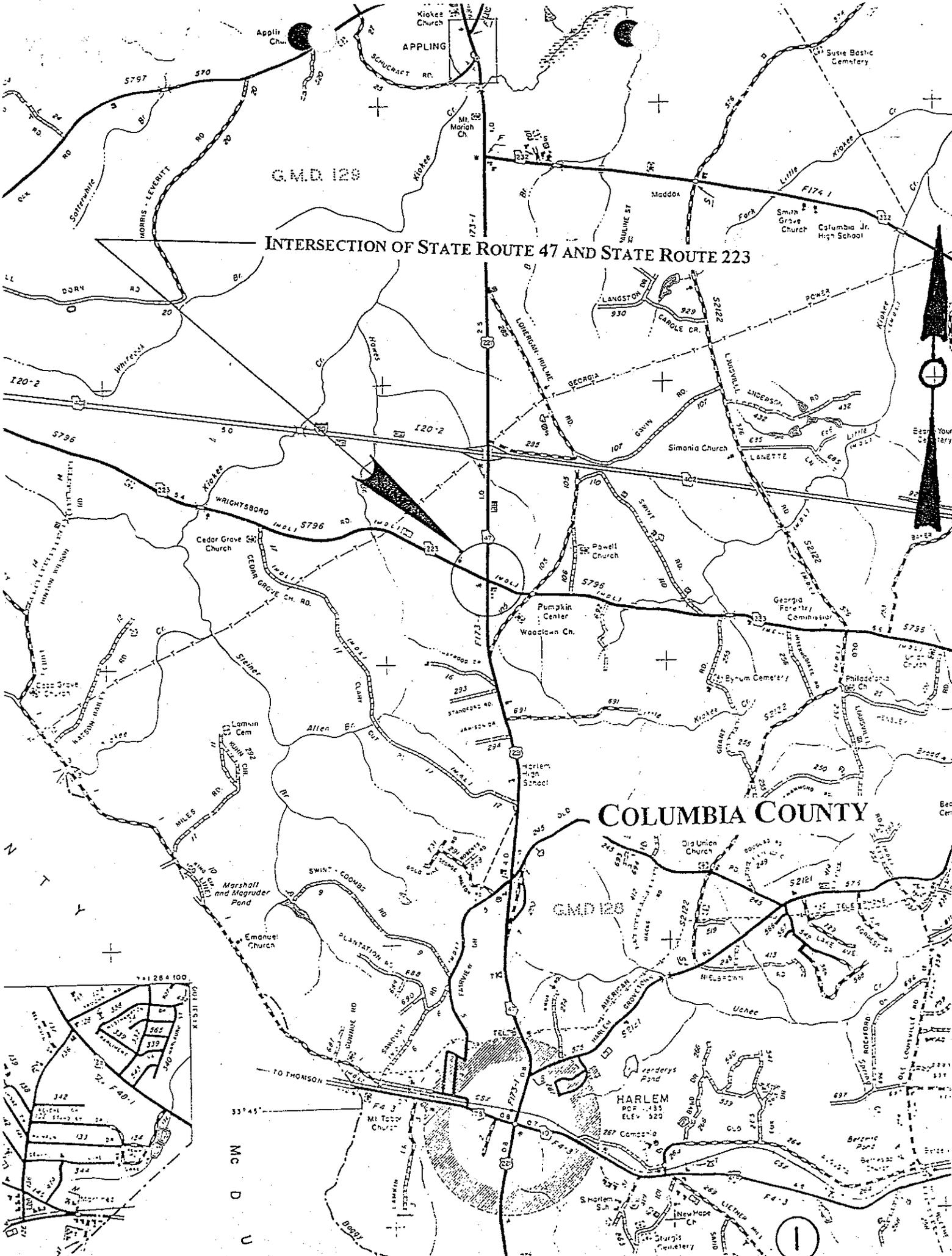
Date of Report: December 17, 2001

RECOMMENDED: 2-20-02 Phillip M Allen
DATE STATE TRAFFIC OPERATIONS ENGINEER

RECOMMENDED: 2-25-02 Michael L. [Signature]
DATE DISTRICT ENGINEER

RECOMMENDED: 3/9/02 [Signature]
DATE CHIEF ENGINEER

APPROVED: 3/11/02 [Signature]
DATE COMMISSIONER



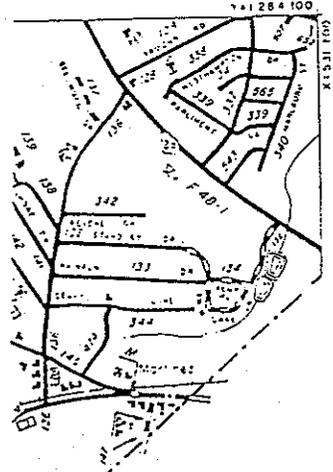
G.M.D. 129

INTERSECTION OF STATE ROUTE 47 AND STATE ROUTE 223

COLUMBIA COUNTY

G.M.D. 129

HARLEM
POP. 135
ELEV. 520



Mc D U



PROJECT CONCEPT REPORT

P.I. No.: STP-0004-00(732)

Project No.: 0004732 Columbia County

Route No.: SR 47 @ SR 223

Location: The intersection of SR 47 @ SR 223 is located approximately 3.91 miles north of the City Limits of Harlem and 17.25 miles south of the Lincoln County Line.

Description: SR 47 will be widened 6 feet symmetrically at all approaches to provide for left- turn lanes with additional 12 foot right turn auxiliary lanes. SR 223 will be widened 6 feet symmetrically at all approaches to provide for left turn lanes with additional 12 foot right turn auxiliary lanes.

Traffic – Current ADT: SR 47 ----- 5,800 (1998 ADT)
SR 223 ----- 2,200 (1998 ADT)

Existing Typical: SR 47: 2 – 11 ft. travel lanes, one in each direction, with 3 ft. paved/ 3 ft. grassed shoulders.

SR 223: 2 –11 ft. travel lanes, one in each direction, with 3 ft. paved/ 3 ft. grassed shoulders.

Existing Right of Way: SR 47 ----- 100' (Estimated)
SR 223 ----- 80' (Estimated)

Existing Traffic Control: SR 47: There are single W2-1 cross-roads advanced warning signs existing on both approaches. The signs are supplemented with seep advisory plates, and advanced warning flashers.

SR 223: There are double indicated W3-1a stop ahead and R1-1 stop signs on both approaches, with ½ wide rumble strips on both approaches.

Existing Major Structures: None.

Statement of Need & Purpose: The purpose for this project is to improve the safety and operation of the intersection of SR 47 with SR 223 in Columbia County. SR 47 is a minor arterial that connects the City of Harlem and the Appling Community. SR 223 is a major collector to the City's of Grovetown and Thomson in McDuffie County. There are two schools located within 2 ½ miles of this intersection, Harlem High School, and Creek Elementary School. Accident history for this intersection showed six accidents from the year 1999 to year 2000, five of these were right angle collisions with one fatality and one left turn collision. All six accidents were of the type susceptible to the correction by a stop and go traffic signal with turn lanes.

Therefore is recommended the installation of a stop and go traffic signal and the installation of left turn lanes inconjunction with the installation of right turn auxiliary lanes at all approaches. Adding the left turn lanes will help accommodate the heavy left turn volume. Adding auxiliary right turn lanes are needed to avoid rear end type accidents by separating vehicles slowing to make right turn movements from the through vehicles with higher operating speeds. With the increase of traffic volumes and the close proximity of two Columbia County Schools to the intersection these improvements are warranted. With the addition of turn lanes with a stop and go traffic signal will improve the operational efficiency of the intersection, thereby improving the overall safety and operation of traffic flow.

Length: 0.52 miles

<u>Termini:</u>	- SR 47 -	- SR 223 -
<u>From M.P.:</u>	17.13	5.07
<u>To M.P. :</u>	17.38	5.34

PDP Class: Minor Existing

<u>Functional Class:</u>	SR 47 -----	Minor Arterial
	SR 223 -----	Major Collector

Max Degree of Curve: +/- 1.0 Degrees **Max Grades:** - 3.0 %

<u>Design Speed:</u>	SR 47 -----	55 mph
	SR 223 -----	55 mph

Proposed Typical Section: SR 47: 2 – 12 ft. travel lanes, one in each direction, with a 12 ft. left turn lane in both directions with a 12 ft. auxiliary right turn lanes. Shoulders will be 10.5 ft, 6.5 ft paved & 4 ft. grassed.

SR 223: 2 – 12 ft. travel lanes, one in each direction, with a 12 ft. left turn lane in both directions with 12 ft. auxiliary right turn lanes. Shoulders will be 10.5 ft., 6.5 ft. paved & 4 ft. grassed.

Proposed major structures: None.

Type Access: By Permit.

Traffic Control During Construction: Existing operation shall be maintained during construction.

Right-of-Way Requirement: Georgia Department of Transportation shall be responsible for the acquisition of all Required Right-of-Way for this project.

December 17, 2001

Utilities: Georgia Department of Transportation shall be responsible for all Utility adjustments.

Estimated Cost:

<u>Item</u>	<u>Total Amount</u>	
	<u>FEDERAL/STATE</u>	<u>LOCAL</u>
R/W -----	\$ 576,000.00	
Utilities -----	\$ 86,846.20	
Estimated LGPA Total -----	\$ 662,846.20	
Construction -----	\$ 263,980.72	
Traffic Signal -----	\$ 50,000.00	
Railroad Equipment -----	\$ 0	
E & C 10% -----	\$ 31,398.07	
Total Construction -----	\$ 345,378.79	

Permits Required: Traffic Signal.

Level of Environmental Analysis: Categorical Exclusion.

Level of Public Involvement: None.

Time Saving Procedures Appropriate: Yes (X) No ()

Design Variances Required: None.

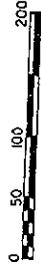
Alternatives Considered: None.

Comments:

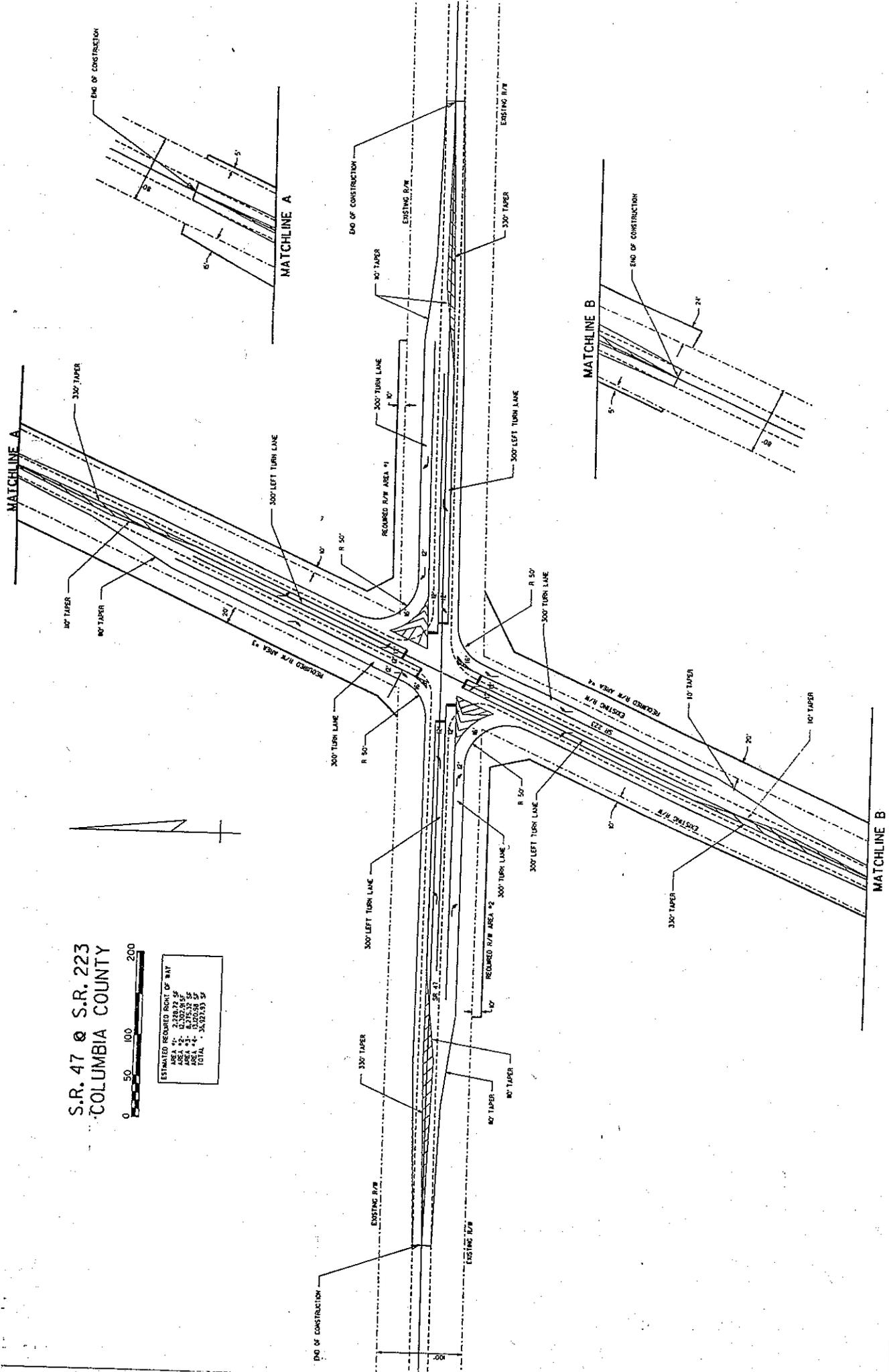
Prepared By:

Kevin M. Stefanik

S.R. 47 @ S.R. 223
COLUMBIA COUNTY



ESTIMATED REQUIRED RIGHT OF WAY	
AREA #1	2,128,872 SF
AREA #2	1,128,872 SF
AREA #3	8,715,132 SF
AREA #4	13,020,338 SF
TOTAL	23,073,214 SF



DEPARTMENT OF TRANSPORTATION

STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE: Columbia County
SR 47 @ SR 223
Pumpkin Center Community

OFFICE: Atlanta - TMC

DATE: February 1, 2001

FROM:  M. G. Waters, III, P.E., State Traffic Operations Engineer

TO: Mike Thomas, P.E., District Engineer, Tennille
Attn: Roger Price, District Traffic Engineer

SUBJECT: Permit for Stop and Go Signal

I have reviewed the Traffic Engineering Report for the intersection of State Route 47 and State Route 223 in the community of Pumpkin Center, Columbia County. The revision to change the existing advanced sign mounted flashers to a span-wire mounted all-red overhead flasher to supplement the four-way stop configuration has been approved. A follow-up study should be done 12 months after the changes have been completed. The follow-up study should give some indication of the traffic growth in the area and if a traffic signal is needed.

This Traffic Engineering Study will be forwarded to Joe Fletcher to be put on a priority listing for a safety enhancement project to widen and reconstruct the intersection as well as install a traffic signal if the follow-up study recommends it.

Give me a call if you wish to discuss this matter.

MGW:MRB
Attachments
cc: Joe Fletcher

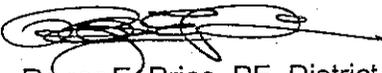
**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE State Route 47 at State Route 223
Pumpkin Center Community - Columbia County

OFFICE Tennille

DATE January 22, 2001

FROM 
Roger E. Price, PE, District Traffic Engineer

TO Marion G. Waters, III, PE, State Traffic Operations Engineer
Attn: Melinda Boothe

SUBJECT TRAFFIC ENGINEERING REPORT

Attached is a traffic engineering report and supporting information for this location. This report has been prepared supplemental to a Safety Enhancement Review dated December 14, 2000.

We recommend that the operation of this intersection be immediately converted to a four-way stop configuration. We recommend that the existing advanced sign mounted flashers on State Route 47 be replaced with a span wire mounted All-Red overhead flasher to supplement the four-way stop configuration.

We also recommend that a safety enhancement project be planned and implemented to widen and reconstruct the intersection and install a stop and go traffic signal. The recommendation for the signal is based on expectation that WARRANT 10-PEAK HOUR DELAY will likely be satisfied approximately at about the same time as construction of a widening and reconstruction project.

Concept sketches for proposed improvements to the intersection, including the proposed traffic signal are included in the attachments for the traffic engineering report. A plan for the proposed four-way stop conversion and installation of an overhead All-Red flasher are also included in the attachments.

Also attached for your information are copies of recent news clips and editorials written in support of installation of a traffic signal at this intersection.

Please advise if you need additional information concerning this report.

REP:rp

Attachments

W.J.

P.O. Box 8
801 Fourth Street
912-552-4681



Department of Transportation
State of Georgia
Office of District Engineer
Tennille, Georgia 31089-0008

December 14, 2000

Marion Waters, P.E., State Traffic Operations Engineer
Department of Transportation
State of Georgia
271 Capitol Avenue, S.W.
Atlanta, Georgia 30334

Dear Mr. Waters:

RE: ACCIDENT REPORT - DISTRICT TWO

In accordance with a report from your office relative to accident reporting procedures, the following information is submitted:

DATE OF ACCIDENT: 12/12/00

STATE ROUTE: 47 at the intersection with State Route 223

MILELOG: 17.25

COUNTY: Columbia

NAME OF FATALITY: Melissa D. Swett

DATE OF SAFETY REVIEW: 12/13/00

PHOTO AVAILABLE: POLAROID 35 MM VIDEO

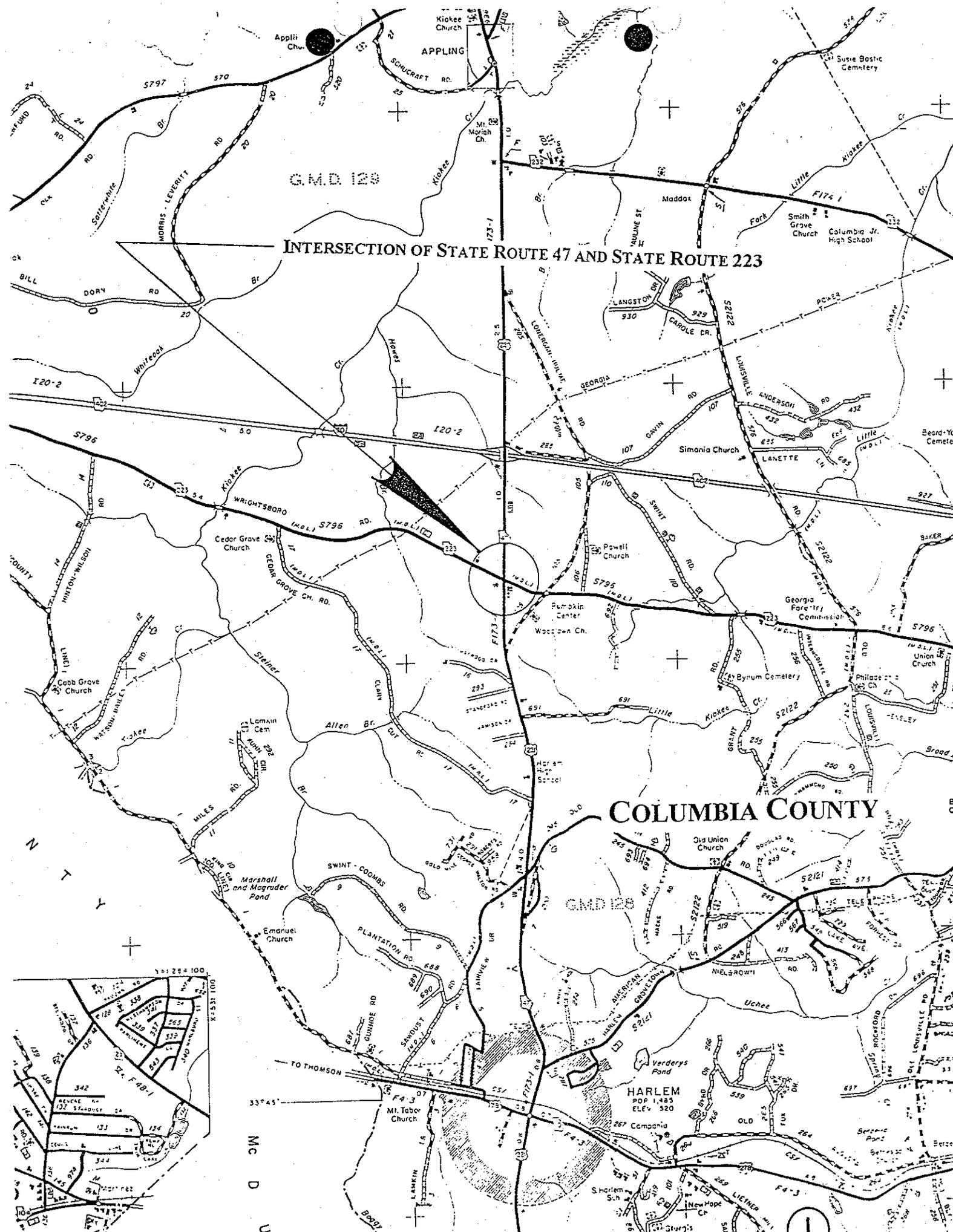
If you need further information, please contact Wyatt Johnson in the Traffic Operations section of this office at 912-552-4681.

Yours very truly,

DEPARTMENT OF TRANSPORTATION

Michael L. Thomas, P.E.
Michael L. Thomas, P.E.
District Engineer

REP:WCJ:gjh
Attachments
C: George Jukes



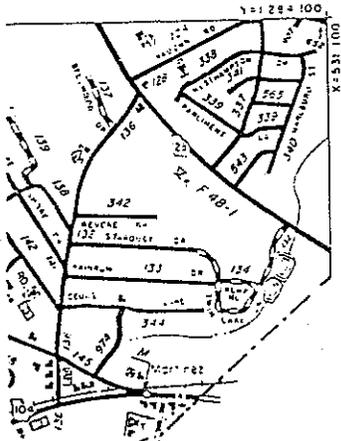
G.M.D. 128

INTERSECTION OF STATE ROUTE 47 AND STATE ROUTE 223

COLUMBIA COUNTY

G.M.D. 128

HARLEM
POP. 1,485
ELEV. 520



33°45'





Georgia Department of Transportation

TRAFFIC ENGINEERING REPORT

January 17, 2001

LOCATION: State Route 47 at State Route 223

COUNTY: Columbia

CITY: Pumpkin Center Community

REQUESTED BY: Michael L. Thomas, PE, District Engineer

REASON FOR INVESTIGATION: To determine if safety enhancement improvements are recommended

MILEPOST ML 17.25 on State Route 47
ML 5.21 on State Route 223

FINDINGS

TOPOGRAPHY

The intersection of State Route 47 at State Route 223 is a typical crossroads type intersection in rural Columbia County. The two roads intersect at an approximate angle of 65°. There is a convenience store located in the southwest quadrant of the intersection. All other quadrants are undeveloped wooded areas.

State Route 47 at this intersection is a two-lane rural section roadway classified as a minor arterial that connects the City of Harlem and the Appling Community. State Route 47 has a pavement width of approximately 28 feet with 11 foot wide travel lanes in both directions. There are shoulders approximately 6 feet wide existing on both sides (3' paved & 3' grassed). The profile grade on State Route 47 is approximately +1% traveling northbound through the intersection.

The eastbound approach of State Route 223 at this intersection is a two-lane rural section roadway classified as a major collector to the City of Grovetown. The westbound approach of State Route 223 at this intersection is a two-lane rural section roadway classified as a principal arterial route to the City of

TOPOGRAPHY (CON'T.)

Thomson in McDuffie County. State Route 223 has a pavement width of approximately 28 feet of with 11 foot travel lanes in each direction. There are approximately 6 foot shoulders on each side (3' paved & 3' grassed). The profile grade of the westbound approach of State Route 223 is approximately -3%. The profile grade of the eastbound approach is approximately +1%.

EXISTING TRAFFIC CONTROL

There are double indicated W3-1a stop ahead and R1-1 stop signs on both approaches of State Route 223. There are 1/2 width rumble strips on both approaches. There is a double yellow centerline and white stop bars on both approaches. Typical route markers and directional signs are existing.

There are single W2-1 cross-roads advanced warning signs existing on both approaches of State Route 47. The signs are supplemented with speed advisory plates (45 MPH), street name plates (SR 223), and advanced warning flashers. Typical route markers and directional signs are existing. There is a double yellow centerline on the southbound approach of State Route 47, and a solid/skip yellow centerline on the northbound approach.

VEHICULAR VOLUME

<i>APPROACH</i>	<i>PEAK HOUR (7:00 - 8:00 AM)</i>	<i>ONE HOUR (3:00 - 4:00 PM)</i>
<i>NORTHBOUND - SR 47</i>	319	145
<i>SOUTHBOUND - SR 47</i>	177	183
<i>EASTBOUND - SR 223</i>	167	75
<i>WESTBOUND - SR 223</i>	75	74
<i>INTERSECTION TOTAL</i>	738	477

Traffic Count information obtained from actual field counts taken December 14 & 15, 2000. Copies of field counts are attached.

Traffic count information was compared to information compiled for the 1997 Traffic Engineering Study. The total volume passing this intersection increased approximately 9% since the previous study.

VEHICULAR SPEED

The posted speed limits on both State Route 223 and 47 is 55 MPH. There are speed advisory plates on both approaches of State Route 47 indicating an advisory speed of 45 MPH. The current 85th percentile speed on State Route 47 is 57.48 MPH for southbound traffic and 57.51 MPH for northbound traffic. Speed survey information is attached.

PEDESTRIAN MOVEMENTS

Pedestrians would not be normally expected at this location.

DELAY

A delay study was not conducted for this report.

PARKING

Parking vehicles would not be expected near to this intersection on a regular basis. There are currently R8-3a "No Parking" signs existing on a decel lane adjacent to the northbound lane (eastern most side) of State Route 47 at the driveway to the Pumpkin Center store. There are also R8-3a "No Parking" signs on the western most side of State Route 47 in front of the Pumpkin Center store. Delineator post have been placed on both sides of State Route 223 at the Pumpkin Center store to prevent parking.

ACCIDENT HISTORY

Accident information for this intersection has been compiled for incidents that may have occurred between the dates of January 01, 1998 and December 31, 2000.

Three accidents were reported during 1998. Two of these were right angle collisions and one was a rear end collision.

Five accidents were reported during 1999. Four of these were right angle collisions and one was a left turn collision.

One accident was reported during 2000. This accident was a right angle collision that resulted in one fatality.

A collision diagram showing this information is attached.

Page Four

State Route 47 at State Route 223 - Columbia County
January 17, 2001

ADJACENT SIGNALIZED INTERSECTION

There is not a signalized intersection near to this location.

INTERSECTION HISTORY

A traffic engineering study was completed for this intersection on May 16, 1997. A flashing beacon and supplemental signing were recommended at that time. Advanced warning flashers were approved to be added to the existing W2-1 crossroads signs on both approaches of State Route 47. These flashers were installed by the District Traffic Signal Shop on March 25, 1998.

A traffic engineering study was completed for this intersection on September 17, 1987. A flashing beacon was recommended at that time. It was determined that other remedies had reduced the severity of accidents at the intersection and that a flashing beacon was not approved.

A traffic engineering study was completed for this intersection on December 4, 1969. There were no recommendations for a signal device at that time.

OTHER INFORMATION

The Harlem High School is located on State Route 47 approximately 1 1/2 miles south of this intersection. The State Route 47 / I-20 interchange is located approximately 1 mile north of this intersection. The Euchee Creek Elementary School is located on State Route 223 approximately 2 1/2 miles east of this intersection.

The previous Traffic Engineering Report prepared for this intersection indicates that sight distances are greater than 900 feet in both directions along State Route 47 from either approach of State Route 223. These sight distances continue to exist.

WARRANT ANALYSIS

A Traffic Signal Warrant Evaluation has been compiled for this study. The warrant evaluation indicates that no signal warrants were satisfied at this time.

Warrant 6 - Accident Experience for this study included 5 accidents of the types susceptible to correction by a traffic signal device, and other less restrictive remedies have been implemented, however traffic volume requirements were not met.

A Multi-way Stop Evaluation was also compiled for this study. Warrant 1 - Accident Experience was satisfied.

Copies of these evaluations are attached.

CONCLUSIONS

Recent accidents of a severe nature at this intersection have greatly increased the public interest for installation of a traffic signal due to the close proximity to nearby schools on State Routes 47 and 223.

Section 4C-2 of the MUTCD indicates that traffic signal controls should not be installed unless one or more of the signal warrants of the manual are met.

The current growth being experienced in this area is likely to generate additional traffic volumes at this intersection. Warrant 10, Peak Hour Delay would be expected to be met in approximately two or three years as current growth in this area continues.

RECOMMENDATIONS

It is recommended that the current operation of intersection be reconfigured to an all-way stop. It is recommended that this reconfiguration include removal of the existing advanced warning flashers on State Route 47 an installation of a span wire mounted overhead all red flasher.

It is recommended that a safety enhancement project be programmed to widen and reconstruct this intersection and install a traffic signal.

SIGNATURES

PREPARED BY: Roger E. Price, PE

RECOMMENDED:  DATE: 01/12/01
DISTRICT TRAFFIC ENGINEER

RECOMMENDED: _____ DATE: _____
STATE TRAFFIC ENGINEER

RECOMMENDED: _____ DATE: _____
DIRECTOR OF OPERATIONS

ATTACHMENTS TO TRAFFIC ENGINEERING REPORT

State Route 47 at State Route 223
Columbia County

<u>PAGE</u>	<u>INFORMATION</u>
1	LOCATION MAP
2-3	EXISTING CONDITIONS SKETCHES
4-8	FIELD TRAFFIC COUNT INFORMATION
9-10	FIELD SPEED SURVEY DATA AND COMPUTATIONS SHEETS
11	COLLISION DIAGRAM (1998 - 2000 INFORMATION)
12-15	GDOT ACCIDENT LISTINGS (1995-98)
16-21	TRAFFIC SIGNAL WARRANT EVALUATION
22-23	MULTI-WAY STOP WARRANT EVALUATION
24-25	CURRENT APPROVED SIGNAL AUTHORIZATION
26	USGS AERIAL PHOTOGRAPHS
27	PROPOSED IMPROVEMENTS CONCEPT SKETCH
28	CONCEPT FOR PROPOSED SIGNAL
29	PLAN FOR PROPOSED OVERHEAD ALL-RED FLASHER
30	PLAN FOR PROPOSED FOUR-WAY STOP CONVERSION

NU-METRICS CDM FRAME STUDY -- CDM Version 2.2

12/18/00.

=====[Report #1 DATE/TIME/VOLUME Report]=====

Survey #: 7	Begin: 12/14/72 14:00	End: 12/15/72 14:00
Route: SR 47 @ SR 223	Lane: NorthBound	Hours: 24 hrs
Loc/Sta #13281	Oper: MJT AdjF: 0.000	Period: 60 min
City: Rural,	Posted: 55 mph	Raw Count: 2390
County: Columbia	AADT Factor: 1.00	AADT Count: 2390

Day	Date	Time	Count
Thu	12/14/72	14:00	145
Thu	12/14/72	15:00	166
Thu	12/14/72	16:00	149
Thu	12/14/72	17:00	153
Thu	12/14/72	18:00	124
Thu	12/14/72	19:00	66
Thu	12/14/72	20:00	74
Thu	12/14/72	21:00	35
Thu	12/14/72	22:00	21
Thu	12/14/72	23:00	21
Fri	12/15/72	00:00	16
Fri	12/15/72	01:00	9
Fri	12/15/72	02:00	3
Fri	12/15/72	03:00	8
Fri	12/15/72	04:00	10
Fri	12/15/72	05:00	61
Fri	12/15/72	06:00	172
Fri	12/15/72	07:00	319
Fri	12/15/72	08:00	192
Fri	12/15/72	09:00	127
Fri	12/15/72	10:00	128
Fri	12/15/72	11:00	122
Fri	12/15/72	12:00	114
Fri	12/15/72	13:00	155

SR 47, NOB
SR 47, COB
SR 47, INT

==== [Report #1 DATE/TIME/VOLUME Report] =====

Survey #: 9	Begin: 12/14/72 14:00	End: 12/15/72 14:00
Route: SR 223 @ SR 47	Lane: WestBound	Hours: 24 hrs
Loc/Sta #13282	Oper: MJT AdjF: 0.000	Period: 60 min
City: Rural,	Posted: 55 mph	Raw Count: 0 107/ ✓
County: Columbia	AADT Factor: 1.00	AADT Count: 0

Day	Date	Time	Count
Thu	12/14/72	14:00	74
Thu	12/14/72	15:00	62
Thu	12/14/72	16:00	108
Thu	12/14/72	17:00	89
Thu	12/14/72	18:00	72
Thu	12/14/72	19:00	47
Thu	12/14/72	20:00	32
Thu	12/14/72	21:00	34
Thu	12/14/72	22:00	26
Thu	12/14/72	23:00	7
Fri	12/15/72	00:00	4
Fri	12/15/72	01:00	5
Fri	12/15/72	02:00	6
Fri	12/15/72	03:00	4
Fri	12/15/72	04:00	4
Fri	12/15/72	05:00	15
Fri	12/15/72	06:00	49
Fri	12/15/72	07:00	75
Fri	12/15/72	08:00	63
Fri	12/15/72	09:00	49
Fri	12/15/72	10:00	57
Fri	12/15/72	11:00	61
Fri	12/15/72	12:00	64
Fri	12/15/72	13:00	64

SR 223. WED
SR 223. COA

NU-METRICS CDM FRAME STUDY -- CDM Version 2.2

12/18/00

=====
 [Report #1 DATE/TIME/VOLUME Report]
 =====

Survey #: A	Begin: 12/14/72 14:00	End: 12/15/72 14:00
Route: SR 47 @ SR 223	Lane: SouthBound	Hours : 24 hrs
Loc/Sta #13283	Oper: MJT AdjF: 0.000	Period: 60 min
City: Rural,	Posted: 55 mph	Raw Count: 0
County: Columbia	AADT Factor: 1.00	AADT Count: 0

Day	Date	Time	Count
Thu	12/14/72	14:00	183
Thu	12/14/72	15:00	249
Thu	12/14/72	16:00	284
Thu	12/14/72	17:00	374
Thu	12/14/72	18:00	289
Thu	12/14/72	19:00	161
Thu	12/14/72	20:00	126
Thu	12/14/72	21:00	111
Thu	12/14/72	22:00	91
Thu	12/14/72	23:00	67
Fri	12/15/72	00:00	44
Fri	12/15/72	01:00	13
Fri	12/15/72	02:00	21
Fri	12/15/72	03:00	12
Fri	12/15/72	04:00	13
Fri	12/15/72	05:00	26
Fri	12/15/72	06:00	92
Fri	12/15/72	07:00	177
Fri	12/15/72	08:00	133
Fri	12/15/72	09:00	135
Fri	12/15/72	10:00	149
Fri	12/15/72	11:00	151
Fri	12/15/72	12:00	182
Fri	12/15/72	13:00	185

SR47.50B

NU-METRICS CDM FRAME STUDY -- CDM Version 2.2

12/18/00

[Report #1 DATE/TIME/VOLUME Report]

Survey #: D
 Route: SR 223 @ SR 47
 Loc/Sta #13284
 City: Rural,
 County: Columbia

Begin: 12/14/72 14:00 End: 12/15/72 14:00
 Lane: EastBound Hours : 24 hrs
 Oper: MJT AdjF: 0.000 Period: 60 min
 Posted: 55 mph Raw Count: 0
 AADT Factor: 1.00 AADT Count: 0

Day	Date	Time	Count
Thu	12/14/72	14:00	75
Thu	12/14/72	15:00	62
Thu	12/14/72	16:00	71
Thu	12/14/72	17:00	92
Thu	12/14/72	18:00	76
Thu	12/14/72	19:00	35
Thu	12/14/72	20:00	22
Thu	12/14/72	21:00	23
Thu	12/14/72	22:00	14
Thu	12/14/72	23:00	9
Fri	12/15/72	00:00	6
Fri	12/15/72	01:00	1
Fri	12/15/72	02:00	3
Fri	12/15/72	03:00	0
Fri	12/15/72	04:00	15
Fri	12/15/72	05:00	32
Fri	12/15/72	06:00	100
Fri	12/15/72	07:00	167
Fri	12/15/72	08:00	106
Fri	12/15/72	09:00	74
Fri	12/15/72	10:00	65
Fri	12/15/72	11:00	60
Fri	12/15/72	12:00	47
Fri	12/15/72	13:00	72

SR223 EAD

NAME	STATE ROUTE 47				STATE ROUTE 223				STATE ROUTE 47				STATE ROUTE 223				
	NORTH (SB)				EAST (WB)				SOUTH (NB)				WEST (EB)				
APPROACHES	RIGHT	THRU	LEFT	TOT	RIGHT	THRU	LEFT	TOT	RIGHT	THRU	LEFT	TOT	RIGHT	THRU	LEFT	TOT	TOTAL
MOVEMENTS																	
7:00am-7:15am	3	33	11	47	12	5	7	24	1	57	2	60	4	10	18	32	163
7:15am-7:30am	6	39	12	57	15	3	3	21	0	65	4	69	3	17	38	58	205
7:30am-7:45am	5	27	5	37	11	4	2	17	2	68	2	72	3	19	42	64	190
7:45am-8:00am	7	39	7	53	14	10	1	25	0	58	3	61	1	18	14	33	172
8:00am-8:15am	5	22	6	33	7	5	1	13	0	41	1	42	2	3	24	29	117
8:15am-8:30am	5	31	2	38	10	7	0	17	1	40	1	42	0	10	24	34	131
8:30am-8:45am	4	20	2	26	13	4	0	17	1	37	1	39	0	3	10	13	95
8:45am-9:00am	5	29	1	35	5	5	1	11	0	28	1	29	2	2	8	12	87
Tracks and Buses	TO APPLING				TO GROVETOWN				TO HARLEM				TO THOMSON				63

HOURLY VOLUMES

Time	21	138	35	52	22	13	3	248	11	11	64	112	730
7:00am-8:00am	21	138	35	52	22	13	3	248	11	11	64	112	730
7:15am-8:15am	23	127	30	47	22	7	2	232	10	9	57	118	684
7:30am-8:30am	22	119	20	42	26	4	3	207	7	6	50	104	610
7:45am-8:45am	21	112	17	41	26	2	2	176	6	3	34	72	515
8:00am-9:00am	19	102	11	35	21	2	2	146	4	4	18	66	410

PEAK HOUR VOLUMES

Time	21	138	35	52	87	13	3	262	11	11	64	112	730
7:00am-8:00am	21	138	35	52	87	13	3	262	11	11	64	112	730

TRAFFIC VOLUME RECEIVED

NORTH	EAST			WEST			TOTAL
	102	162	54	194	87	262	
412	102	162	54	194	87	262	187
TOTAL TRAFFIC VOLUME ON EACH APPROACH							
NORTH	EAST	SOUTH	WEST	TOTAL			
606	189	424	241	730	1	1	730

MOVEMENT PERCENTAGES

APPROACH #	PERCENT		APPROACH VOLUME	PERCENT		TOTAL
	RIGHT	LEFT		RIGHT	LEFT	
NORTH	0.266	0.18	194	0.108	0.599	1
EAST	0.119	0.149	87	0.598	0.042	1
SOUTH	0.359	0.042	262	0.011	0.599	1
WEST	0.256	0.599	187	0.059	0.599	1

TITLE BLOCK

COUNTY	Columbia
INTERSECTION	SR 47 @ SR 223
PEAK HOUR	7:00 am - 8:00 am
WEATHER	Clear
ROAD SURFACE COND.	Dry
DATE	March 4, 1997

SR 47 at SR 223

NORTH BOUND

DATE : 1 / 11 / 2001 ID REF.# : ML 17'25 Columbia
 DAY OF WEEK : THURSDAY TIME OF STUDY : 1105 - 1305
 VEHICLE TYPE : Passenger and Truck WEATHER : Clear

POSTED SPEED LIMIT : 55 15TH PERCENTILE : 46.12
 LOWEST RECORDED SPEED : 38 85TH PERCENTILE : 57.51
 HIGHEST RECORDED SPEED : 64 95TH PERCENTILE : 61.34
 AVERAGE : 52.04 STANDARD DEVIATION : 5.544119
 MODE : 53 # OBSERVATIONS : 93
 MEDIAN : 51.50 STANDARD ERROR : .5748924

INTERQUARTILE RANGE : 7.84
 10 MPH PACE RANGE 47 TO 56 WITH 55.59% OF TOTAL
 MEAN : 50.92 TO 53.17 AT 95% CONFIDENCE LEVEL

SPEED	FREQUENCY	PERCENT	CUMULATIVE
38	1	1.08	1.08
39	0	0.00	1.08
40	1	1.08	2.16
41	2	2.16	4.32
42	0	0.00	4.32
43	1	1.08	5.40
44	0	0.00	5.40
45	5	5.38	10.78
46	3	3.23	14.01
47	8	8.60	22.61
48	5	5.38	27.99
49	4	4.30	32.29
50	5	5.60	37.89
51	6	6.45	44.34
52	5	5.38	49.72
53	10	10.78	60.50
54	4	4.30	64.80
55	5	5.38	70.18
56	6	6.45	76.63
57	3	3.23	80.86
58	4	4.30	85.16
59	0	0.00	85.16
60	5	5.38	90.54
61	0	0.00	90.54
62	1	1.08	91.62
63	0	0.00	91.62
64	1	1.15	100.00

SR 47 at SR 223

SOUTH BOUND

DATE : 1 / 11 / 2001 ID REF.# : ML 17'25 Columbia
 DAY OF WEEK : THURSDAY TIME OF STUDY : 1105 - 1305
 VEHICLE TYPE : Passenger and Truck WEATHER : Clear

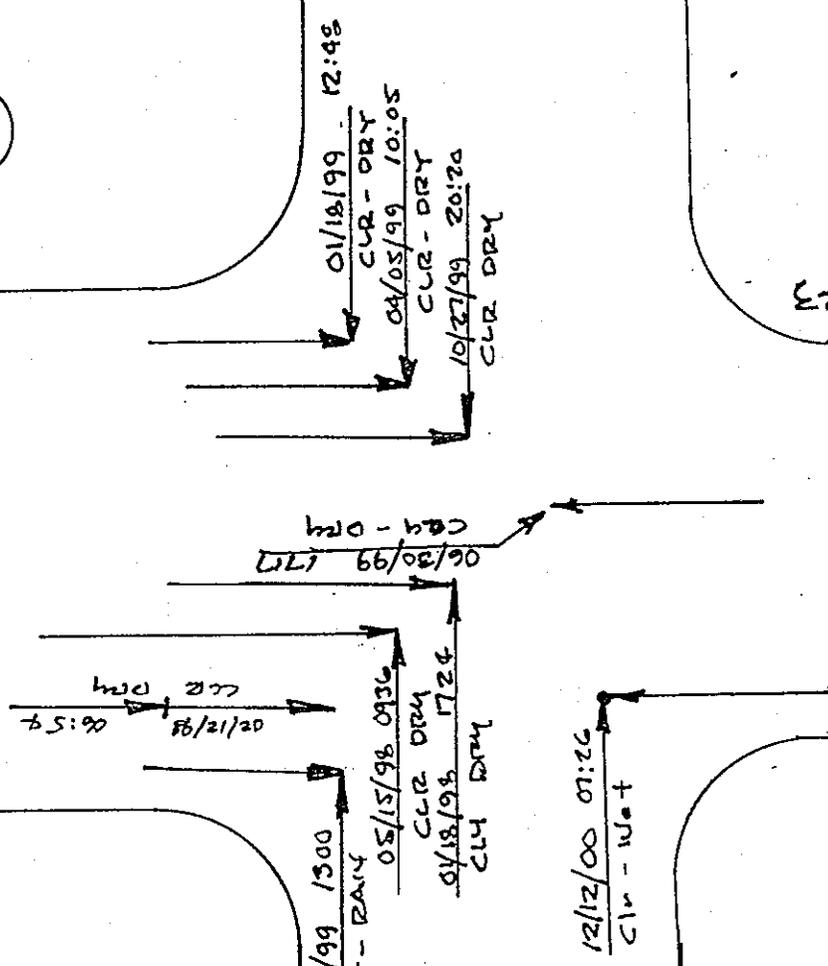
POSTED SPEED LIMIT : 55 15TH PERCENTILE : 46.01
 LOWEST RECORDED SPEED : 40 85TH PERCENTILE : 57.48
 HIGHEST RECORDED SPEED : 66 95TH PERCENTILE : 59.93
 AVERAGE : 52.63 STANDARD DEVIATION : 5.375576
 MODE : 54 # OBSERVATIONS : 107
 MEDIAN : 52.79 STANDARD ERROR : .5196765

INTERQUARTILE RANGE : 7.28
 10 MPH PACE RANGE 48 TO 57 WITH 64.49% OF TOTAL
 MEAN : 51.61 TO 53.64 AT 95% CONFIDENCE LEVEL.

SPEED	FREQUENCY	PERCENT	CUM.%
40	1	0.93	0.93
41	0	0.00	0.93
42	1	0.93	1.87
43	3	2.80	4.67
44	3	2.80	7.48
45	6	5.61	13.08
46	2	1.87	14.95
47	5	4.67	19.63
48	7	6.54	26.16
49	5	4.67	30.84
50	8	7.48	38.32
51	4	3.74	42.06
52	6	5.61	47.67
53	7	6.54	54.21
54	10	9.35	63.56
55	9	8.41	71.97
56	10	9.35	81.32
57	6	5.61	86.93
58	2	1.87	88.80
59	5	4.67	93.47
60	5	4.67	98.14
61	1	0.93	99.07
62	0	0.00	99.07
63	2	1.87	100.94
64	0	0.00	100.94
65	0	0.00	100.94
66	2	1.87	102.81

1998
1999
2000

COLLISION DIAGRAM



ACCIDENT SUMMARY

TIME OF DAY	NO. ACCS	WEATHER	NO. ACCS
6 AM - 10 AM	III	CLEAR (CF)	III
10 AM - 4 PM	III	CLOUDY (Cl)	II
4 PM - 7 PM	II	RAIN (R)	I
7 PM - 12 MID	I	FOG (F)	
12 MID - 6 AM		SNOW (S)	
TOTAL	89	TOTAL	89

TIME OF YR.	NO. ACCS.	DIRECTION	NO. ACCS.
DEC - FEB	III	NORTHBOUND	III
MAR - MAY	I	SOUTHBOUND	II
JUNE - AUG	I	EASTBOUND	III
SEPT - NOV	II	WESTBOUND	I
TOTAL	89	TOTAL	86

PAVEMENT	NO. ACCS.	ACC. SEVERITY	NO. ACCS.
DRY (D)	44	PROP. DAM. ONLY	44
WET (W)	II	NON-FATAL INJ.	11
ICY (I)		FATAL INJ.	I
TOTAL	89	TOTAL	9

TYPE ACCS.	NO. ACCS.	TYPE VEH.	NO. ACCS.
SIDESWIPE		AUTOMOBILE	11
REAR END	I	TRUCK	44
RT. ANGLE	7	MOTORCYCLE	I
LEFT TURN	I	OTHER	
OTHER		TOTAL	18
TOTAL	9		

DAY OF THE WEEK	NO. ACCS.
MON.	11
TUE.	I
WED.	II
THUR.	I
FRI.	II
SAT.	
SUN.	
TOTAL	9

- RIGHT ANGLE COLL.
- HEAD ON COLLISION
- PARKING VEHICLE
- MOVING VEHICLE
- FATAL ACCIDENT
- LEFT TURN COLLISION
- REAR END COLLISION
- PARKED VEHICLE
- SIDE SWIPE
- PERSONAL INJURY
- BACKING REAR END
- FIXED OBJECT
- PEDESTRIAN
- OUT OF CONTROL
- PROPERTY DAMAGE

DATE 12/20/00 INTERSECTION SR 47 @ SR 223

COUNTY Columbia CITY N/A DISTRICT TWO

TIME PERIOD 01/01/98 - 12/12/00 (334r.)

DEPARTMENT OF TRANSPORTATION
OFFICE OF TRAFFIC AND SAFETY
ACCIDENTS LISTING

DATE	TIME	COU	TP	RD	N	MILE	F	I	V	I	C	TP	I	RD	TYPE	ACCIDENT	D1	D2	VEHICLE	MANEUVER	VEHICLE	MANEUVER	
09/29/95	17:59	073	SR	47	17.25	0	00	01	SR	223	ANGLE	INTERSECTING	S	E	STRAIGHT							TURNING LEFT	
REPORT TOTALS.....						ACCIDENTS:	1				FATALITIES:	0			INJ-VISIBLE:	0						INJ-COMP:	1
PAGE TOTALS.....						ACCIDENTS:	1				FATALITIES:	0			INJ-VISIBLE:	0						INJ-COMP:	1

(F)

DEPARTMENT OF TRANSPORTATION
OFFICE OF TRAFFIC AND SAFETY
ACCIDENTS LISTING

CASE	DATE	TIME	COU	TP	ROUTE	MILE	INT RD TYPE	INT RD	RAMP SECT	F I-V	I-C	TYPE ACCIDENT	LOC	LI	SUR	D1	D2	VM1	VM2
61050249	05/12/96	18:37	073	SR	47	17.25	SR	223	0	0	00	STRUCK OBJECT	OFF ROADWAY	1	DRY	N	S	05	01
62540102	10/28/96	15:39	073	SR	47	17.25	SR	223	0	2	00	ANGLE INTERSECTING	ON ROADWAY	1	DRY	S	E	05	01
60160116	01/11/96	7:50	073	SR	47	17.25	SR	223	0	0	00	ANGLE INTERSECTING	ON ROADWAY	1	DRY	N	W	05	05
61050210	05/05/96	13:23	073	SR	47	17.25	SR	223	0	0	00	ANGLE INTERSECTING	ON ROADWAY	1	DRY	S	W	05	01
60860198	04/19/96	14:33	073	SR	47	17.25	SR	223	0	0	02	ANGLE INTERSECTING	ON ROADWAY	1	DRY	S	E	04	05
60860125	04/05/96	14:57	073	SR	47	17.25	SR	223	0	0	00	STRUCK OBJECT	OFF ROADWAY	1	DRY	W	0	05	00
62410743	10/10/96	9:04	073	SR	47	17.25	SR	223	0	0	00	ANGLE INTERSECTING	ON ROADWAY	1	DRY	S	W	05	05

REPORT TOTALS..... ACCIDENTS: 7 FATALITIES: 2 INJ-VISIBLE: 2 INJ-COMP: 1

PAGE TOTALS..... ACCIDENTS: 7 FATALITIES: 2 INJ-VISIBLE: 2 INJ-COMP: 1

DEPARTMENT OF TRANSPORTATION
OFFICE OF TRAFFIC AND SAFETY
ACCIDENTS LISTING

CASE	DATE	TIME	COU	TP	ROUTE	MILE	INT RD TYPE	INT RD	RAMP SECT	F I-V	I-C	TYPE ACCIDENT	LOC	LI	SUR	D1	D2	VM1	VM2
70980632	04/29/97	17:14	073	SR	47	17.25	SR	223	0	0	01	ANGLE INTERSECTING	ON ROADWAY	1	DRY	N	S	05	01
70530139	03/07/97	11:22	073	SR	47	17.25	SR	223	0	0	00	ANGLE INTERSECTING	ON ROADWAY	1	DRY	N	E	05	01
70640903	03/21/97	10:17	073	SR	47	17.25	SR	223	0	0	02	ANGLE INTERSECTING	ON ROADWAY	1	DRY	N	E	05	05
70880838	04/17/97	19:19	073	SR	47	17.25	SR	223	0	0	00	ANGLE INTERSECTING	RAMP	1	DRY	S	W	05	05
70530130	03/07/97	7:05	073	SR	47	17.25	SR	223	0	0	01	ANGLE INTERSECTING	ON ROADWAY	1	DRY	S	E	05	05
71320111	06/09/97	22:04	073	SR	47	17.25	SR	223	0	0	00	ANGLE INTERSECTING	ON ROADWAY	5	DRY	N	W	05	05

REPORT TOTALS..... ACCIDENTS: 6 FATALITIES: 0 INJ-VISIBLE: 3 INJ-COMP: 7

PAGE TOTALS..... ACCIDENTS: 6 FATALITIES: 0 INJ-VISIBLE: 3 INJ-COMP: 7

DEPARTMENT OF TRANSPORTATION
OFFICE OF TRAFFIC AND SAFETY
ACCIDENTS LISTING

CASE	DATE	TIME	COU	TP	ROUTE	MILE	INT RD	INT RD	RAMP SECT	F	I-V	I-C	TYPE	ACCIDENT	LOC	LI	SUR	D1	D2	VM1	VM2
81990138	08/23/98	16:49	073	SR	47	17.25	SR	223	0	0	02	02	HEAD ON		ON ROADWAY	1	DRY	N	S	05	11
81110299	05/15/98	9:36	073	SR	47	17.25	SR	223	0	0	01	02	ANGLE INTERSECTING		ON ROADWAY	1	DRY	N	E	05	01
80250175	02/12/98	6:54	073	SR	47	17.25	SR	223	0	0	00	01	REAR END		ON ROADWAY	1	DRY	E	E	04	05

REPORT TOTALS..... ACCIDENTS: 3 FATALITIES: 0 INJ-VISIBLE: 3 INJ-COMP: 5

PAGE TOTALS..... ACCIDENTS: 3 FATALITIES: 0 INJ-VISIBLE: 3 INJ-COMP: 5

Untitled

WARRANTS/TEAPAC[Ver 1.23.14] - Summary of Parameter Values

Intersection # 1 SR 47 at SR 223 ADT Factor 0.00
 Type of Count REDUCED Trucks INCLUDED

Count Periods: Start Stop Start Stop Start Stop Start Stop Start Stop
 60 min intrvl 1400 2400 100 1300 0 0 0 0 0 0

Vehicle Counts: Time	SR 47			SR 223			SR 47			SR 223		
	-	SB	-	-	WB	-	-	NB	-	-	EB	-
1400	0	183	0	0	74	0	0	145	0	0	75	0
1500	0	249	0	0	62	0	0	166	0	0	62	0
1600	0	284	0	0	108	0	0	149	0	0	71	0
1700	0	374	0	0	89	0	0	153	0	0	92	0
1800	0	289	0	0	72	0	0	124	0	0	76	0
1900	0	161	0	0	47	0	0	66	0	0	35	0
2000	0	126	0	0	32	0	0	74	0	0	22	0
2100	0	111	0	0	34	0	0	35	0	0	23	0
2200	0	91	0	0	26	0	0	21	0	0	14	0
2300	0	67	0	0	7	0	0	21	0	0	9	0
2400	0	44	0	0	4	0	0	16	0	0	6	0
100	0	13	0	0	5	0	0	9	0	0	1	0
200	0	21	0	0	6	0	0	3	0	0	3	0
300	0	12	0	0	4	0	0	8	0	0	0	0
400	0	13	0	0	4	0	0	10	0	0	15	0
500	0	26	0	0	15	0	0	61	0	0	32	0
600	0	92	0	0	49	0	0	172	0	0	100	0
700	0	177	0	0	75	0	0	319	0	0	167	0
800	0	133	0	0	63	0	0	192	0	0	106	0
900	0	135	0	0	49	0	0	127	0	0	74	0
1000	0	149	0	0	57	0	0	128	0	0	65	0
1100	0	151	0	0	61	0	0	122	0	0	60	0
1200	0	182	0	0	64	0	0	114	0	0	47	0
1300	0	185	0	0	64	0	0	155	0	0	72	0

01/10/01
08:31:23

WARRANTS/TEAPAC[Ver 1.23.14] - 60-Minute Volumes: by Movement

Intersection # 1 SR 47 at SR 223

Begin Time	SB-Approach			WB-Approach			NB-Approach			EB-Approach			Int Total
	-	SR 47	-	-	SR 223	-	-	SR 47	-	-	SR 223	-	
100	0	13	0	0	5	0	0	9	0	0	1	0	28*
200	0	21	0	0	6	0	0	3	0	0	3	0	33*
300	0	12	0	0	4	0	0	8	0	0	0	0	24*
400	0	13	0	0	4	0	0	10	0	0	15	0	42*
500	0	26	0	0	15	0	0	61	0	0	32	0	134*
600	0	92	0	0	49	0	0	172	0	0	100	0	413*
700	0	177	0	0	75	0	0	319	0	0	167	0	738*
800	0	133	0	0	63	0	0	192	0	0	106	0	494*
900	0	135	0	0	49	0	0	127	0	0	74	0	385*
1000	0	149	0	0	57	0	0	128	0	0	65	0	399*
1100	0	151	0	0	61	0	0	122	0	0	60	0	394*
1200	0	182	0	0	64	0	0	114	0	0	47	0	407*
1300	0	185	0	0	64	0	0	155	0	0	72	0	476*
1400	0	183	0	0	74	0	0	145	0	0	75	0	477*
1500	0	249	0	0	62	0	0	166	0	0	62	0	539*
1600	0	284	0	0	108	0	0	149	0	0	71	0	612*
1700	0	374	0	0	89	0	0	153	0	0	92	0	708*
1800	0	289	0	0	72	0	0	124	0	0	76	0	561*
1900	0	161	0	0	47	0	0	66	0	0	35	0	309*
2000	0	126	0	0	32	0	0	74	0	0	22	0	254*
2100	0	111	0	0	34	0	0	35	0	0	23	0	203*
2200	0	91	0	0	26	0	0	21	0	0	14	0	152*
2300	0	67	0	0	7	0	0	21	0	0	9	0	104*
2400	0	44	0	0	4	0	0	16	0	0	6	0	70*

WARRANTS/TEAPAC[Ver 1.23.14] - AM Peak-Hour Summary

Intersection # 1 SR 47 at SR 223

Analysis from 600 to 900 Hours using 60-Minute Volumes

Parameter	SB-Approach			WB-Approach			NB-Approach			EB-Approach			Int Total
	-	SR 47	-	-	SR 223	-	-	SR 47	-	-	SR 223	-	
DHV (vph)	0	177	0	0	75	0	0	319	0	0	167	0	738
Distr (%)	0	100	0	0	100	0	0	100	0	0	100	0	100
Peak Time	0	700	0	0	700	0	0	700	0	0	700	0	700
Peak Volm	0	177	0	0	75	0	0	319	0	0	167	0	738

Untitled

WARRANTS/TEAPAC[Ver 1.23.14] - Midday Peak-Hour Summary

Intersection # 1 SR 47 at SR 223

Analysis from 1000 to 1200 Hours using 60-Minute Volumes													
Parameter	SB-Approach		WB-Approach			NB-Approach			EB-Approach		Int		
	- SR 47 -		- SR 223 -			- SR 47 -			- SR 223 -		Total		
DHV (vph)	0	182	0	0	64	0	0	114	0	0	47	0	407
Distr (%)	0	100	0	0	100	0	0	100	0	0	100	0	100
Peak Time	0	1200	0	0	1200	0	0	1000	0	0	1000	0	1200
Peak Volm	0	182	0	0	64	0	0	128	0	0	65	0	407

WARRANTS/TEAPAC[Ver 1.23.14] - PM Peak-Hour Summary

Intersection # 1 SR 47 at SR 223

Analysis from 1300 to 1700 Hours using 60-Minute Volumes													
Parameter	SB-Approach		WB-Approach			NB-Approach			EB-Approach		Int		
	- SR 47 -		- SR 223 -			- SR 47 -			- SR 223 -		Total		
DHV (vph)	0	374	0	0	89	0	0	153	0	0	92	0	708
Distr (%)	0	100	0	0	100	0	0	100	0	0	100	0	100
Peak Time	0	1700	0	0	1600	0	0	1500	0	0	1700	0	1700
Peak Volm	0	374	0	0	108	0	0	166	0	0	92	0	708

WARRANTS/TEAPAC[Ver 1.23.14] - Composite Peak-Hour Summary

Intersection # 1 SR 47 at SR 223

Analysis from 100 to 2400 Hours using 60-Minute Volumes													
Parameter	SB-Approach		WB-Approach			NB-Approach			EB-Approach		Int		
	- SR 47 -		- SR 223 -			- SR 47 -			- SR 223 -		Total		
DHV (vph)	0	177	0	0	75	0	0	319	0	0	167	0	738
Distr (%)	0	100	0	0	100	0	0	100	0	0	100	0	100
Peak Time	0	1700	0	0	1600	0	0	700	0	0	700	0	700
Peak Volm	0	374	0	0	108	0	0	319	0	0	167	0	738

WARRANTS/TEAPAC[Ver 1.23.14] - Warrant Analysis for Traffic Signal

Conditions Used for Warrant Analysis

```

=====
Intersection # 1 SR 47 at SR 223
=====
Major Street Direction NorthSouth
Number of Lanes in North-South direction 1
Number of Lanes in East-West direction 1
Approach speed on major street is greater than 40 mph Yes
Isolated community has population less than 10,000 Yes
Signal will not seriously disrupt progressive traffic flow No
Trials of other remedies have failed to improve conditions Yes
Number of accidents correctable by a signal 5
STOP sign delay for minor approach (hours) 0
=====

```

Warrant 1 Analysis - Minimum Vehicular Volume

```

=====
Start Time 700 1600 800 600 1700 1800 1400 900 Req.
=====
Minor Volume 167 108 106 100 92 76 75 74 105
Major Volume 496 433 325 264 527 413 328 262 350
Warrant Met? Yes Yes No No No No No No 8
=====
Number of 1-hour periods meeting the warrants 2
=====
>> WARRANT 1 IS NOT MET <<

```

Warrant 2 Analysis - Interruption of Continuous Traffic

```

=====
Start Time 1700 700 1600 800 600 1800 1400 900 Req.
=====
Minor Volume 92 167 108 106 100 76 75 74 52
Major Volume 527 496 433 325 264 413 328 262 525
Warrant Met? Yes No No No No No No No 8
=====
Number of 1-hour periods meeting the warrants 1
Signal will not seriously disrupt progressive traffic flow No
=====
>> WARRANT 2 IS NOT MET <<

```

Warrant 1 Analysis (80%) - Minimum Vehicular Volume

```

=====
Start Time 700 1600 800 1700 600 1800 1400 900 Req.
=====
Minor Volume 167 108 106 92 100 76 75 74 84
Major Volume 496 433 325 527 264 413 328 262 280
Warrant Met? Yes Yes Yes Yes No No No No 8
=====
Number of 1-hour periods meeting the warrants 4
=====

```

WARRANTS/TEAPAC[Ver 1.23.14] - Warrant Analysis for Traffic Signal

Warrant 2 Analysis (80%) - Interruption of Continuous Traffic

```

=====
Start Time      700  1600  1700   800   600  1800  1400   900  Req.
=====
Minor Volume    167   108   92   106   100   76   75   74   42
Major Volume    496   433   527   325   264   413   328   262   420
Warrant Met?    Yes   Yes   Yes   No    No    No    No    No    8
=====
Number of 1-hour periods meeting the warrants                                     3
=====

```

Warrant 6 Analysis - Accident Experience

```

=====
80% of Warrant 1 or 2 is met                                                    No
Signal will not seriously disrupt progressive traffic flow                       No
Trials of other remedies have failed to reduce accidents                         Yes
Number of accidents correctable by a signal (must exceed 4)                     5
=====
>> WARRANT 6 IS NOT MET <<

```

Warrant 8 Analysis - Combination of Warrants

```

=====
80% of Warrants 1 and 2 are met                                                  No
Trials of other remedies have failed to reduce delays                           Yes
=====
>> WARRANT 8 IS NOT MET <<

```

Warrant 9 Analysis - Four Hour Volume

```

=====
Start Time      700  1600   800   600  1700  1800  1400   900  Req.
=====
Minor Volume    167   108   106   100   92   76   75   74   -
Minor Reqrmt    127   152   195   219   117  160   194   220  <--
Warrant Met?    Yes   No    No    No    No    No    No    No    4
=====
Number of 1-hour periods meeting the warrants                                     1
=====
>> WARRANT 9 IS NOT MET <<

```

Warrant 10 Analysis - Peak Hour Delay

```

=====
Start Time      700  1600   800   600  1700  1800  1400   900  Req.
=====
Minor Volume    167   108   106   100   92   76   75   74   100
Major Volume    738   612   494   413   708   561   477   385   800
Warrant Met?    No    No    No    No    No    No    No    No    1
=====
Number of 1-hour periods meeting the warrants                                     0
STOP sign delay for minor approach (must exceed 4 hours)                         0
=====
>> WARRANT 10 IS NOT MET <<

```

WARRANTS/TEAPAC[Ver 1.23.14] - Warrant Analysis for Traffic Signal

Warrant 11 Analysis - Peak Hour Volume

```
=====
Start Time      700  1600   800   600  1700  1800  1400   900  Req.
=====
Minor Volume    167   108   106   100   92    76    75    74    -
Minor Reqrmt   222   254   304   331  209   264   302   332  <--
Warrant Met?    No    No    No    No    No    No    No    No    1
=====
```

Number of 1-hour periods meeting the warrants 0

>> WARRANT 11 IS NOT MET <<

State Route 47 at
State Route 223 - Columbia County
MULTI-WAY STOP EVALUATION

SECONDS DELAY = 0

INTRODUCTION

This review is based on the methodology presented in the Manual on Uniform Traffic Control Devices (MUTCD), 1978, as amended by the Federal Highway Administration. Please refer to Part 2B-6 of that manual.

The intersection under study has the following characteristics:

The 85th percentile speed on the main street is [55] MPH.
Existing traffic control is . . . SIDE STREET STOP.
Daily traffic volume of [7,956] was counted on
THURSDAY, DECEMBER 14, 1972.
Estimated annual traffic volume is [2,903,940] vehicles.

1. ACCIDENT EXPERIENCE

Multi-way stop control is often effective in reducing some types of accidents, such as right-angle and turning collisions. At least five such accidents must have occurred in the last 12 months to indicate the usefulness of multi-way stop operation in reducing accidents.

Total number of accidents = 0
Number of correctable accidents = 0 ← 5 @ 1999
Accident rate = 0 per million vehicles

Warrant is ~~NOT~~ SATISFIED.

2. VEHICLE AND PEDESTRIAN TRAFFIC

Multi-way stop control is generally used at intersections with similar traffic volumes on both intersecting streets and less volume than that found at signal controlled locations. Specifically, three conditions must be met:

- (1) The average intersection traffic must be at least 500 vehicles for the peak 8 hrs of a typical weekday;
- (2) For the same 8 hrs, the traffic crossing the main street (vehicular and pedestrian) is 200 or more;
- (3) and the delay to crossing vehicles is at least 30 seconds (average per vehicle).

The minimum volumes may be reduced to 350 and 140 respectively, if the 85th percentile speed on the main street exceeds 40 MPH.

Main street approach speed = 55 MPH
Number of hrs volume requirements are met = 7
Average delay to crossing vehicles = 0 seconds

Warrant is NOT SATISFIED.

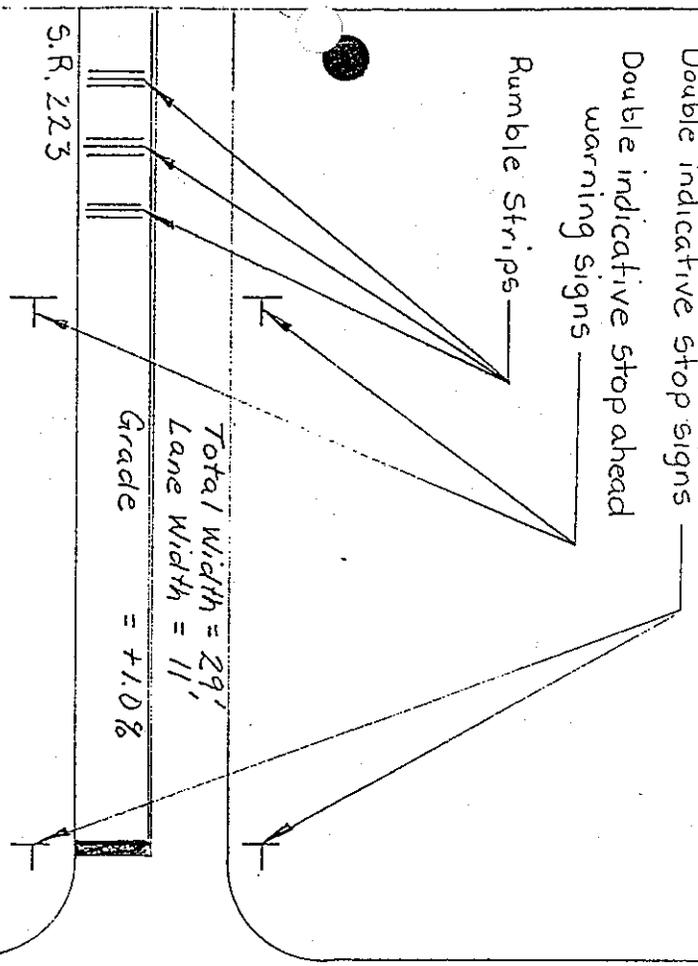
TABLE 1
HOURS MEETING AT LEAST ONE VOLUME REQUIREMENT

HOUR OF DAY	INTERSECTION VOLUME	TRAFFIC CROSSING MAIN STREET	VOLUMES MET
6 AM	413	149	BOTH
7 AM	738	242	BOTH
8 AM	494	169	BOTH
9 AM	385	123	INT VOL
10 AM	399	122	INT VOL
11 AM	394	121	INT VOL
12 PM	407	111	INT VOL
1 PM	476	136	INT VOL
2 PM	477	149	BOTH
3 PM	539	124	INT VOL
4 PM	612	179	BOTH
5 PM	708	181	BOTH
6 PM	561	148	BOTH

Crossroad warning sign with 45 MPH advisory plate

Double indicative stop signs
Double indicative stop ahead warning signs

Rumble Strips

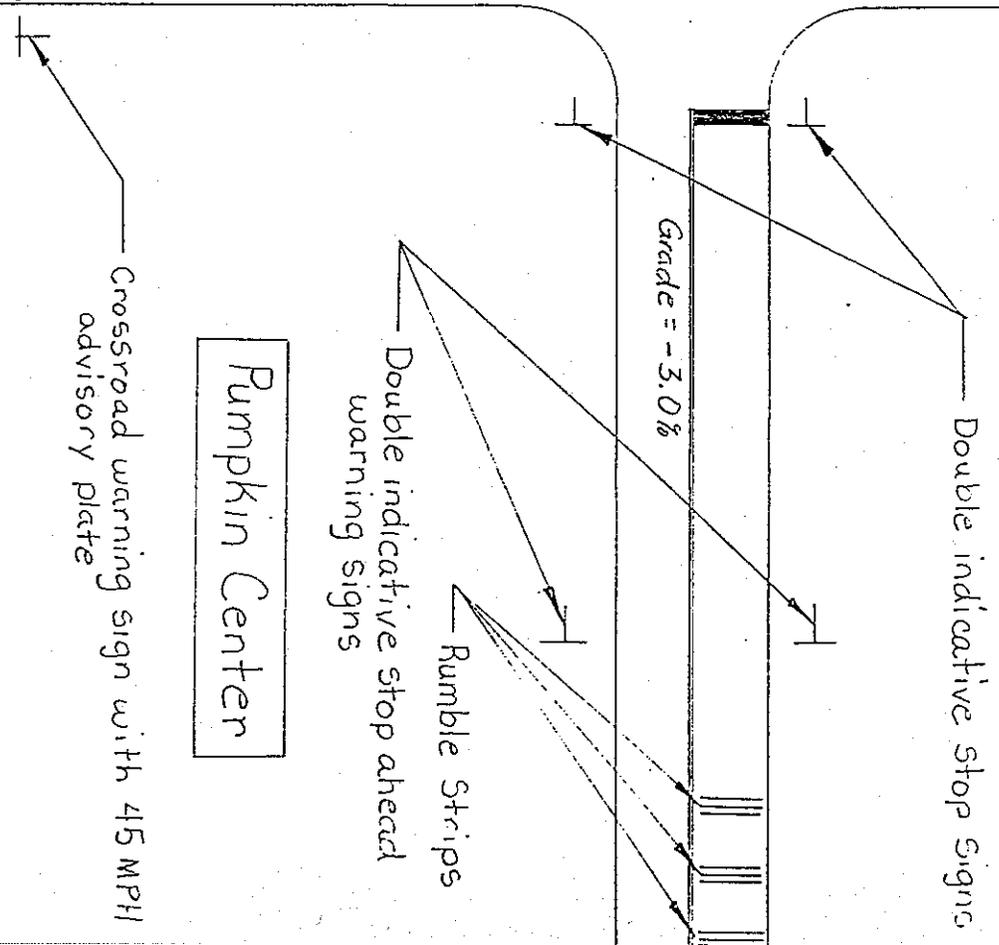


Sight Distance = 900'
Grade = -1.0%

S.R. 47
To Appling

To Harlem
S.R. 47

Total Width = 27'
Lane Width = 11'
Grade = +1.0%
Sight Distance = +1,000'



Pumpkin Center

* Special Notes *

1. Posted Speed for both routes is 55 MPH. Pumpkin Center has a deceleration lane in the southeast quadrant along State Route 47. No parking is posted on the decel lane.
2. Parking is prohibited in the southwest quadrant along State Route 47.

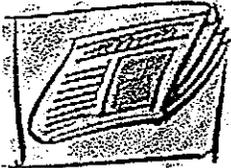
State Route 47 @ State Route 223
Rural - Columbia County

Topography - May 14, 1997
No Scale

Kedrick P. Collins, Jr.



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Collisions prompt traffic light lobby

Web posted Tuesday, January 2, 2001

■ Have a thought? Go to the [@ugusta Forums](#).

By [Melissa Hall](#)
Columbia County Bureau

Columbia County Board of Education trustee Roxanne Whitaker has a new cause.

She's on a mission to have a traffic light installed at the intersection of Appling-Harlem and Wrightsboro roads, the area known as Pumpkin Center. The intersection was the site of a three-car collision Dec. 12 that fatally injured Melissa Dawn Swett, 16, a junior at Harlem High School.

At a pre-legislative session meeting with state lawmakers Dec. 21, Ms. Whitaker appealed for their help to have the signal installed. She said she has also written a letter to Gov. Roy Barnes.

"Last Friday, we almost had a bus wreck there because you can't see at that intersection," Ms. Whitaker said. "Two hundred to 300 cars come in and out of that convenience store in a 30-minute period every afternoon."

Ms. Whitaker said she is concerned about the safety of the children traveling to school. Melissa lived less than a mile from school, so she wasn't eligible to ride the bus. When she pulled out onto Georgia Highway 47 - Appling-Harlem Road - her car was struck by a Harlem High School teacher who was on her way to work.

"I don't understand the difficulty with putting a red light at that intersection," Ms. Whitaker said. "How many more will have to die to get their attention?"

There were four accidents at the intersection in 1998 and six accidents in 1999, according to state Department of Transportation traffic records. Melissa's death is the second fatality at the intersection in the past five years.



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Former state Rep. Roscoe Coleman was killed there in October 1998.

Melissa Dawn Swett, 16, was killed in a three-car accident at Pumpkin Center on Dec. 12.

FILE

The county also sent a letter requesting that the DOT review the intersection for the installation of a traffic signal.

"Since both of those roads are state routes, the county really doesn't have much say over the installation of a traffic signal there," Columbia County Engineer Jim Leiper said. "But what we have done is request that the DOT perform a study based on the accident history at that intersection. I believe that one of the criteria for a signal is the number of fatalities."

Columbia County sheriff's Capt. Steve Morris said the DOT conducted a traffic study of the intersection two years ago, after Mr. Coleman's death and, as a result, installed "rumble strips" on Wrightsboro Road and a flashing light on Highway 47 to alert drivers about the intersection. But a 2-year-old study in a rapidly growing county may be out of date, he said.

"Historically, this has been a dangerous area. Because we continue to investigate fatal accidents at this intersection, one would think the next logical step would be to install traffic signals," Capt. Morris said. "That's not to say that a traffic signal will prevent all future accidents, but it should help ... Our hope is that they will seriously consider a traffic control device."

But for state transportation officials to consider a traffic light at the intersection, they'll have to complete a series of studies and apply specific criteria for traffic counts and other issues. And so far, it doesn't look favorable.

Preliminary traffic counts show there just aren't enough cars going through the intersection to install a signal, said Roger Price, the district traffic engineer in the DOT office in Tennille.

"Generally, the criteria set out for recommending traffic signals are predominantly traffic volumes, and the recommendations are supported by a traffic engineering study, which includes not only traffic volumes but also accident histories, topographic information and a lot of general information about the intersection and what goes on around it," Mr. Price said. "The traffic volume numbers that I've seen so far don't seem to support a recommendation for a signal. But that's just the numbers. There are other considerations. I certainly wouldn't want to speculate until we finalize our findings."

But the local pleas for help have gotten the attention of state legislators who have vowed to fight for a signal at the junction.

"In the past, they've told us that the traffic count wasn't high enough," state Rep. Ben Harbin said. "But it's not about traffic counts; it's about the severity of the accidents we're having there. There needs to be something there to slow that traffic down, and a stop-and-go light is all that's going to do that. We're not going to give up on this. We've had to get into debates with DOT in the past. We've lost a few and we've won a few. I hope this one we'll win. This really is not about politics; it's about human life."

Reach [Melissa Hall](#) at (706) 868-1222, Ext. 113.

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THE COLUMBIA COUNTY NEWS TIMES

Judged Georgia's Best Community Newspaper

Legal Organ of Columbia County, Harlem and Grovetown

Wednesday, December 20, 2000

DOT: Put light at deadly intersection

When 16-year-old Melissa Swett was killed last week, her death was just the latest fatal car crash at the Pumpkin Center intersection near Harlem.

Maybe, just maybe, hers will be the death that finally convinces the Georgia Department of Transportation to place a traffic signal at the deadly interchange.

Our opinion

That's the hope of local attorney Bill Coleman, who four years ago was mourning the pre-Christmas loss of his father, 85-year-old former state legislator Roscoe Coleman. Just like Swett, Coleman and his driver, Bob Reeves, were killed when their car pulled out of Wrights-

boro Road and into the path of an oncoming vehicle on Appling-Harlem Highway.

"It brought back some memories," Coleman says. "I'd like to think maybe they'll do the right thing this time and put a stop light there."

The DOT isn't known for responding to emotional appeals. In that vein, it's uncertain whether the death of a beautiful young girl will convince them to finally install a signal at the Pumpkin Center interchange, any more than did the death of Coleman, a powerful lawmaker in his day.

Remember: It took years of complaints and tearful pleas before the DOT relented and began spending money to

revamp Harlem-Grovetown Road, recognized as one of the deadliest avenues in the entire country. And even now, many residents and frequent travelers doubt the addition of extra width will be enough to make the rural highway safer — especially as long as the accurately named "Dead Man's Curve" remains a nasty feature.

Like the Harlem-Grovetown Road, enough blood has been spilled at Pumpkin Center. It's long past time the DOT improved the intersection as it has the nearby road. It may be too late for Melissa Swett, for her family and her Harlem High School friends, but it's never too late to protect future motorists.

RANTS & RAVES



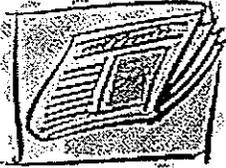
Comments from our readers:

BEFORE LOWELL GREENBAUM picks up his pen and writes about George W. Bush's illegitimacy as being elected president he should screw on his head, put on his glasses and head for the library and read up on our Constitution and our electoral process. If he did so, he then would not show his ignorance of our great system.

BECAUSE OF THE RECENT turmoil in Florida, to make English our official language should be the first order of U.S. government business. Lawyerspeak can no longer be tolerated. Law schools must add a course titled How to Speak and Read English to their curriculum immediately. Because practicing lawyers so readily revert to Lawyerspeak, they must attend a refresher course every year.

YOUR PICTURE FOR THE ARTICLE on sports bras was dumb and shouldn't have been on the front page for sure. But I want to take the opportunity to tell people that the bras are very helpful for people who have pacemakers implanted. They give you the support to ease the discomfort and give the scar time to heal before you go back to wearing regular (bras). Doctors and nurses take note and suggest to your patients to have them on hand from the get-go. Been there, done that.

I WOULD JUST LIKE TO ASK the Georgia Department of Transportation how many people must die at the Pumpkin Center intersection before a much needed traffic light is put up.



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County's leaders set 2001 slate

Transportation concerns, new districts, commission changes are part of agenda for legislators

Web posted Friday, December 22, 2000

■ Have a thought? Go to the [@augusta Forums](#).

By **Jason B. Smith**
Columbia County Bureau

Columbia County's legislative delegation spent more than six hours meeting with local elected officials, boards and residents Thursday.

By nightfall at the Columbia County Courthouse, their 2001 legislative slate was full.

Of course, there are the statewide issues: education reform, water sources, green space and reapportionment. But there are also several local issues, such as getting a traffic signal at the intersection of Wrightsboro Road and Appling-Harlem Highway at Pumpkin Center, the site of a fatal accident earlier this month.

"If we don't get a red light there, we are not going to slow drivers down," said state Rep. Ben Harbin, R-Evans.

Local legislators also will be planning the addition of an at-large elected commission chairman and discussing whether the county will be split into four or five commission districts.

Grovetown resident Dave Stewart said he expects officials to go with five districts, despite voter support of a four-district commission in a November nonbinding referendum. He compared the district and at-large chairman discussions to getting hit by a truck.



Rep. Ben Harbin of Evans wants to get a red light at a Pumpkin Center intersection.

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"You can see it coming," he said. "But the only thing you can do is relax and try to minimize the damage."

Legislators also heard concerns from residents and business owners who say they are tired of dealing with Georgia Department of Transportation officials. One group represented the Village subdivision off Furys Ferry Road - where a road-widening project will affect five property owners and destroy the entrance to the neighborhood - and the other was a group of Davis Road residents and business owners.

"We're not trying to stop them from doing the project," Mark Anderson said.

Instead, Mr. Anderson and others want DOT to abandon plans to add a raised median along the center of Davis Road. But they say they feel their requests are being largely ignored by an "arrogant" department.

"That is putting it mildly," Mr. Harbin said.

Reach [Jason B. Smith](#) at (706) 868-1222, Ext. 115.

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OUR OPINION

DOT: Put light at deadly intersection

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Maybe, just maybe, hers will be the death that finally convinces the Georgia Department of Transportation to place a traffic signal at the deadly interchange.

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Remember: It took years of complaints and tearful pleas before the DOT relented and began spending money to revamp Harlem-Grovetown Road, recognized as one of the deadliest avenues in the entire country. And even now, many residents and frequent travelers doubt the addition of extra width will be enough to make the rural highway safer especially as long as the accurately named "Dead Man's Curve" remains a nasty feature.

Like the Harlem-Grovetown Road, enough blood has been spilled at Pumpkin Center. It's long past time the DOT improved the intersection as it has the nearby road. It may be too late for Melissa Swett, for her family and her Harlem High School friends, but it's never too late to protect future motorists.

Augusta Chronicle
Thursday, January 04, 2001

EDITORIAL: Stoplight needed

Augusta Chronicle Editorial Staff

The tragic Dec. 12 three-car crash that killed Harlem High junior Melissa Dawn Swett has built up more public steam to construct a traffic light at the fatal site - the intersection of Appling-Harlem and Wrightsboro roads.

This intersection, locally known as Pumpkin Center, is one of the state's most dangerous. Although it's in Columbia County, the intersection is the state's responsibility and, says the Department of Transportation, Pumpkin Center's traffic is not heavy enough to qualify for a stoplight.

Only if the traffic is high volume enough will DOE then look at the accident rate to decide whether to install a signal. The agency has it backward. The accident rate, particularly regarding fatalities and injuries, should be decisive, not the car count.

DOT officially acknowledges four accidents at Pumpkin Center in 1998 and six in '99 (the latest years available). But Ms. Swett's death was the second fatality there in five years and the traffic volume continues to grow apace. Only days after the Swett tragedy, there was a near bus wreck at the intersection.

The problem, of course, isn't vehicle volume. It's that the intersection is confusing and, worse, dangerous because sometimes approaching drivers can't see the intersection traffic pattern until it's too late. A stoplight is the only way to end the confusion.

Getting DOT to install the light is now a top priority of Columbia County's legislative delegation. They deserve the support of all of us who ever have to deal with that treacherous intersection.

COLUMBIA COUNTY

New Horizons

ENGINEERING & ENVIRONMENTAL
SERVICES DEPARTMENT

December 13, 2000

Mr. Michael L. Thomas, P.E.
District Engineer
Georgia Department of Transportation
P.O. Box 8
Tennille, GA 31089-0008

Re: Traffic Fatality
Intersection of S.R. 221 & S.R. 223

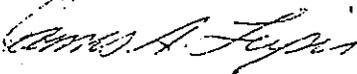
Dear Mr. Thomas:

The intersection of Wrightsboro Road (State Route 221) and Appling-Harlem Rd. (State Route 223) has been of significant local concern for a long time. On December 12, 2000, a fatality occurred at the subject intersection. This is the second fatality at this location within approximately 5 years.

In response to concerns conveyed to me regarding safety at this intersection, and in light of this recent fatality, I am requesting that the Department of Transportation evaluate the warrants for installing a stop and go traffic signal at this intersection. It is my understanding that the number of fatalities at an intersection is a factor in determining whether an intersection warrants a stop and go traffic signal. Therefore, please consider the number of fatalities at this intersection when evaluating the warrants for a stop and go traffic signal.

I appreciate the Department's cooperation in jointly addressing Columbia County's transportation needs and offer any assistance that we may be able to provide in this situation. If we may be of assistance, please contact me at (706) 868-3424 ext. 206.

Sincerely,



James A. Leiper, P.E.
County Engineer

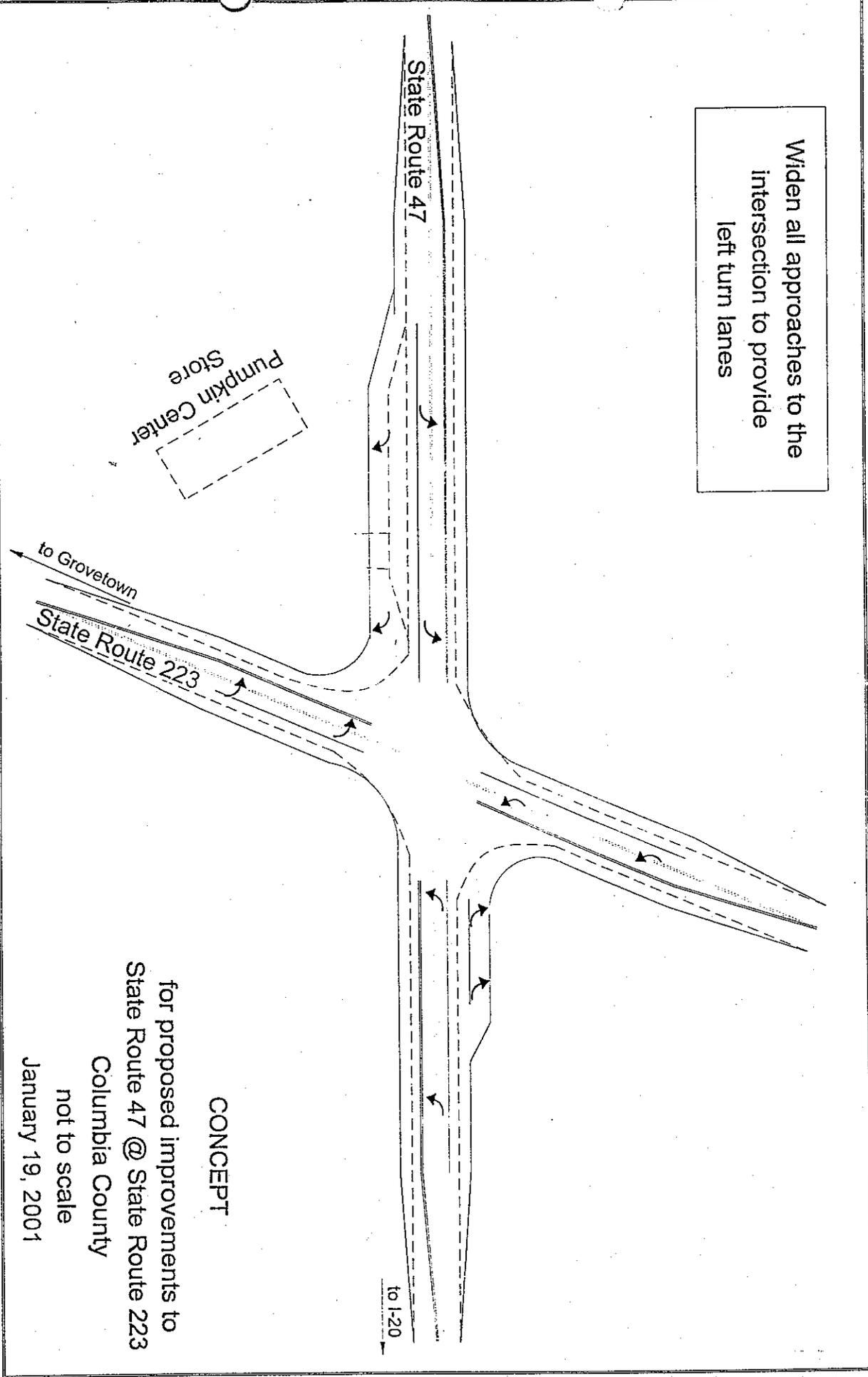
cc: Commissioner Barry Fleming
Commissioner Frank Spears
Roxanne Tankersley, Board of Education

Received

DEC 18 2000

Tennille D.O.T.

Widen all approaches to the intersection to provide left turn lanes



Pumpkin Store Center

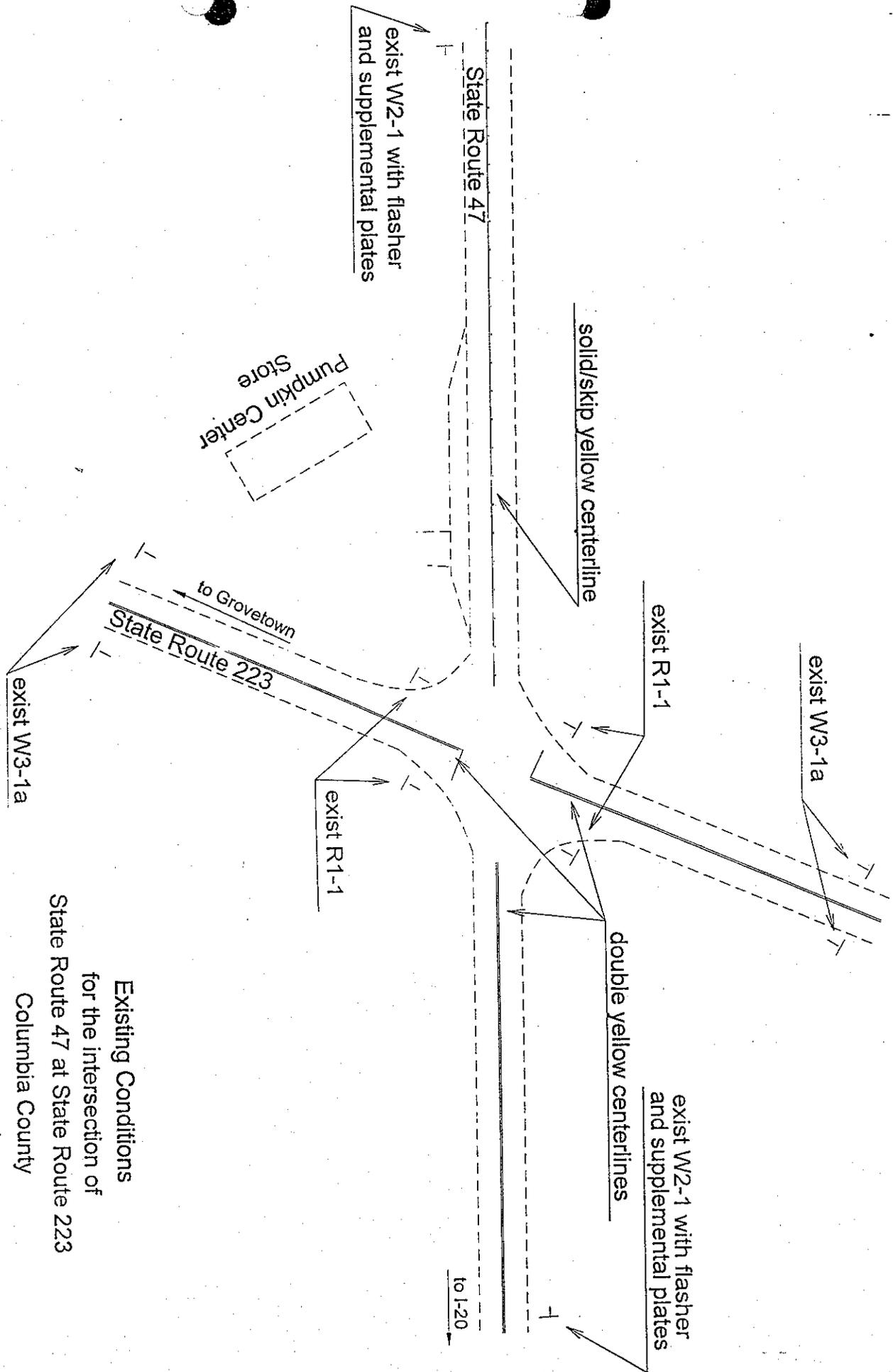
to Grovetown

State Route 223

State Route 47

to 1-20

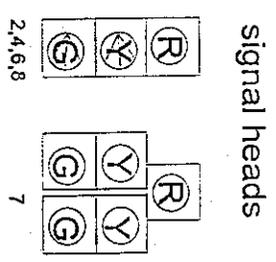
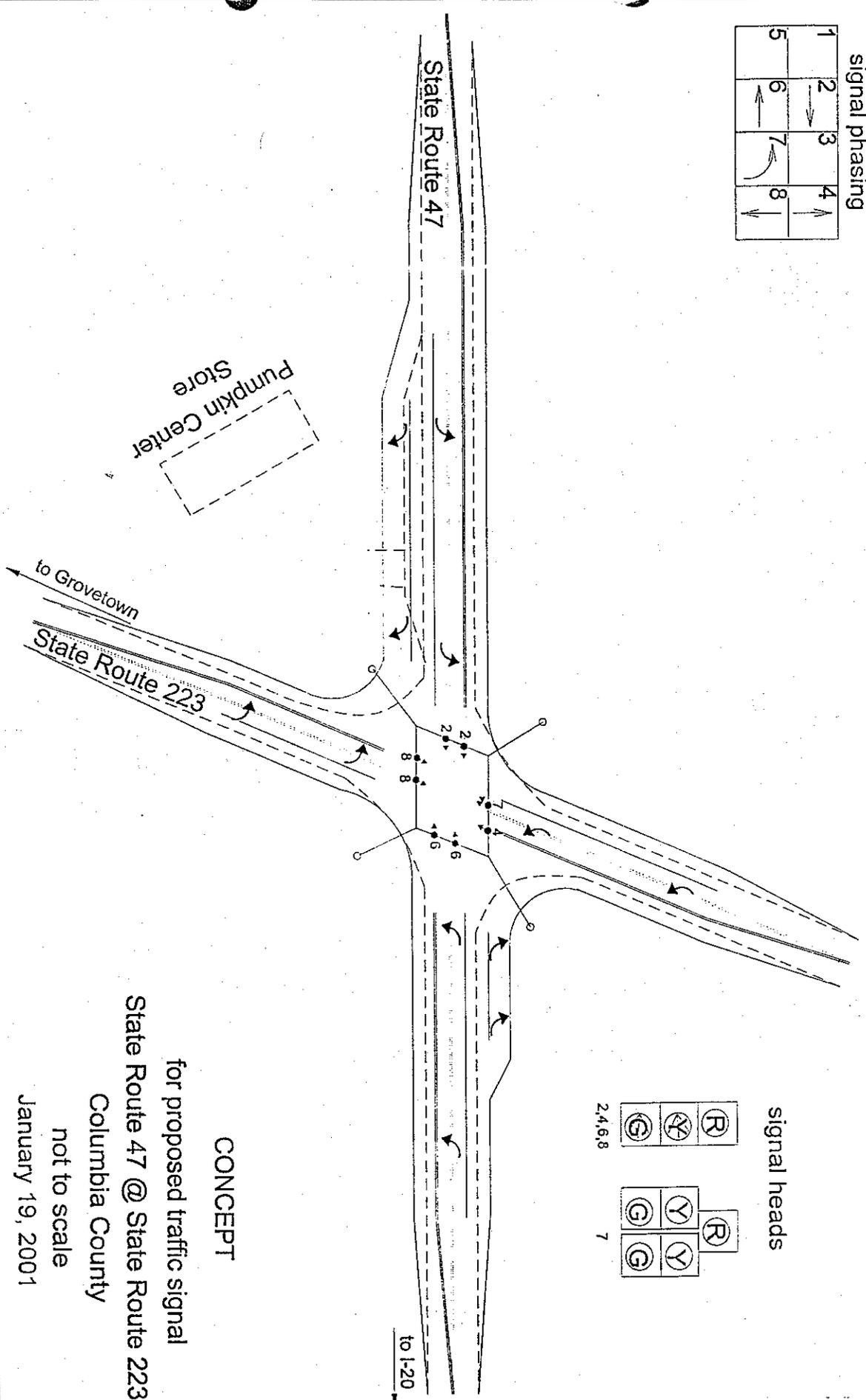
CONCEPT
for proposed improvements to
State Route 47 @ State Route 223
Columbia County
not to scale
January 19, 2001



Existing Conditions
 for the intersection of
 State Route 47 at State Route 223
 Columbia County
 not to scale
 January 19, 2001

signal phasing

1	2	3	4
	↓	↓	↑
5	6	7	8
	↑	↶	↑



CONCEPT
 for proposed traffic signal
 State Route 47 @ State Route 223
 Columbia County
 not to scale
 January 19, 2001