

D.O.T. 66

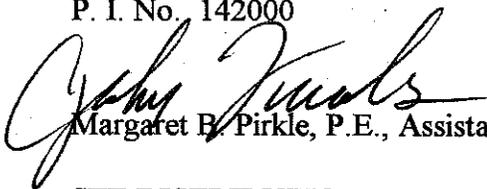
DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

**FILE** STP-2584(9) Walton County  
P. I. No. 142000

**OFFICE** Preconstruction

**DATE** September 10, 2002

**FROM**  Margaret B. Pirkle, P.E., Assistant Director of Preconstruction.

**TO** SEE DISTRIBUTION

**SUBJECT** PROJECT CONCEPT REPORT APPROVAL

Attached for your files is the approval for subject project.

MBP/cj

Attachment

**DISTRIBUTION:**

David Mulling  
Harvey Keepler  
Jerry Hobbs  
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Phillip Allen  
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BOARD MEMBER

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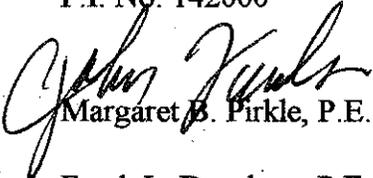
D.O.T. GENERAL FILES

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**INTERDEPARTMENT CORRESPONDENCE**

**FILE:** STP-2584(9) Walton County **OFFICE** Preconstruction  
P.I. No. 142000

**DATE** August 28, 2002

**FROM**  Margaret B. Pirkle, P.E., Assistant Director of Preconstruction

**TO** Frank L. Danchetz, P.E., Chief Engineer

**SUBJECT PROJECT CONCEPT REPORT**

This project consists of safety and operational improvements on SR 20 between Rosebud Road/ Miller Bottom Road and SR 20/SR 81 in Loganville. The existing traffic along this section of SR 20 ranges from 7,559 to 12,625 VPD with 10.5% truck traffic. Future design traffic is expected to be 17,600 VPD in 2005 and 35,020 VPD in 2025. The current level of service (LOS) along this section of SR 20 is LOS "E," which is unacceptable. With no improvements, the LOS along this section of SR 20 will be "F" in the year 2005. With improvements, this section of SR 20 can expect to operate at a LOS "B" and "C" in the year 2025.

The construction proposes intersection improvements along SR 20 at Moon Road, Centerhill Church Road, Centerville Rosebud Road, and McCullers Road. Existing SR 20 will be widened to five lanes beginning south of Sharon Church Road to just north of Overlook Drive. From there, a one-way pair will be implemented utilizing existing SR 20/Moon Street as the two northbound travel lanes and C. S. Floyd Road as the two southbound travel lanes. The one-way pair will continue through downtown Loganville and end at SR 20/SR 81. Traffic will be maintained on existing roadways during construction.

Environmental concerns include requiring a COE 404 permit; a Categorical Exclusion will be prepared; a public information meeting has been held; time saving procedures are not appropriate.

The estimated costs for this project are:

|   | <u>PROPOSED</u> | <u>APPROVED</u> | <u>PROG DATE</u> | <u>LET DATE</u> |
|---|-----------------|-----------------|------------------|-----------------|
| Construction (includes E&C and inflation) | \$10,439,000    | \$21,000,000    | 2005             | 04-07           |
| Right-of-Way                              | \$ 5,614,000    | \$ 4,800,000    |                  |                 |
| Utilities*                                | LGPA            | LGPA            |                  |                 |

\*Walton County signed LGPA for utilities 11-16-99.

Frank L. Danchetz

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STP-2584(9) Walton

August 28, 2002

This project is in the STIP. I recommend this project concept be approved and the description be revised to reflect the project described herein.

MBP:JDQ/cj

Attachment

CONCUR



Thomas L. Turner, P.E., Director of Preconstruction

APPROVE



Frank L. Danchetz, P.E., Chief Engineer

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA  
DISTRICT 1

PROJECT CONCEPT REPORT

SR 20 from Rockdale County line to Loganville

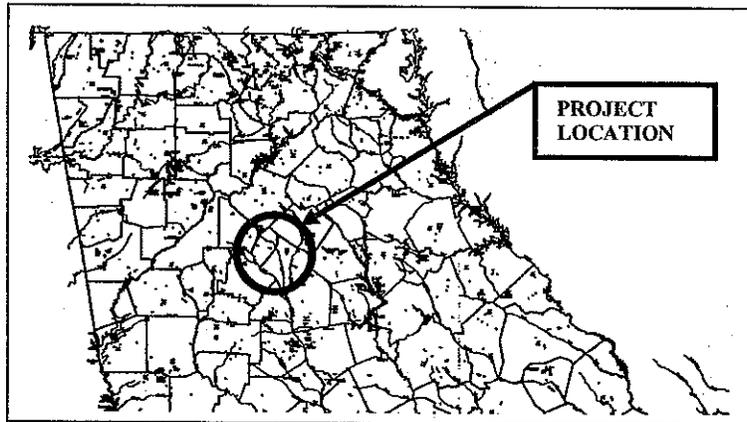
Project Number: STP-2584(9)

County: Walton

P. I. Number: 142000

Federal Route Number: None

State Route Number: SR 20

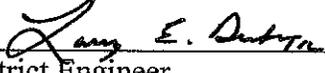


Recommendation for approval:

DATE 7/23/02

  
Project Manager

DATE 7/22/02

  
District Engineer

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Plan (RTP) and the State Transportation Improvement Program (STIP).

DATE \_\_\_\_\_

\_\_\_\_\_  
State Transportation Planning Administrator

DATE \_\_\_\_\_

\_\_\_\_\_  
Office of Financial Management

DATE \_\_\_\_\_

\_\_\_\_\_  
State Environmental/Location Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
State Traffic Safety and Design Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
Project Review Engineer

**Need and Purpose:** See attached Need & Purpose Statement

**Description of the proposed project:**

This project is located in eastern Walton County, beginning just north of the intersection of SR 20 with Rosebud Road / Miller Bottom Road and ending at SR 20 and SR 81 in Loganville. The project includes intersection improvements along SR 20 at Moon Road, Centerhill Church Road, Centerville-Rosebud Road, and McCullers Road. The existing 2-lane roadway will be widened to a five-lane roadway beginning south of Sharon Church Road and transition from the five-lane section to a one-way pair north of Overlook Drive. The one-way pair will utilize existing SR 20/Main Street as the two northbound travel lanes and C.S. Floyd Road as the two southbound travel lanes. The one-way pair will continue through downtown Loganville and end at SR 20/SR 81.

Is the project located in a Non-attainment area? \_\_\_\_\_ Yes  X  No

**PDP Classification:** Major, Existing Location

**Federal Oversight:** Full Oversight ( ), Exempt ( X ), State Funded( ), or Other ( )

**Functional Classification:** Rural Major Collector

**U. S. Route Number(s):** None

**State Route Number(s):** SR 20

**Traffic (AADT):**

Current Year (2005): 17,600

Design Year (2025): 35,020

**Existing design features:**

- Typical Section:
  - Two 12' lanes
  - 5' graded outside shoulders
- Posted speed: 55/45/35 mph Maximum degree of curvature: 5° 00'
- Maximum grade: 6.0%
- Width of right of way: 80'
- Major structures: None
- Major interchanges or intersections along the project: US 78/SR 10
- Existing length of roadway segment and the beginning mile logs for each county segment: 5.5 miles; mile log 6.1-0.6

**Proposed Design Features:**

- Proposed typical section(s):
  - Intersection Improvement Locations: 2 – 12’ lanes, 12’ left turn lane, 12’ right turn lane, 8’ graded outside shoulder. The shoulder will be paved from the beginning south of Moon Road to Centerhill Church Road to provide a bike shoulder. This portion of SR 20 is on State Bike Route 35 (March to the Sea).
  - Five-lane Widening: 4 - 12’ lanes, one 14’ center turn lane, outside curb and gutter, with an additional 3’ paved each direction to accommodate a future raised median, and a 5’ sidewalk.
  - One-way Pair: 2 – 12’ lanes in each direction, outside curb and gutter, and a 5’ sidewalks.
- Proposed Design Speed Mainline: 55/45/35 mph
- Proposed Maximum grade Mainline: 5.4%      Maximum grade allowable: 5.5%(55 mph), 6.6% (45 mph), 7%(35 mph).
- Proposed Maximum grade Side Street: N/A      Maximum grade allowable: 7%
- Proposed Maximum grade driveway: N/A
- Proposed Maximum degree of curve: 5° 00’      Maximum degree allowable: 15° 30’ (55 mph), 8° 30’(45 mph), 5° 15’(35 mph)
- Right of way
  - Width: 108’ (Minimum)
  - Easements: Temporary ( ), Permanent ( ), Utility ( ), Other ( ).
  - Type of access control: Full ( ), Partial ( ), By Permit ( X ), Other ( ).
  - Number of parcels: 49      Number of displacements:
    - Business: 1
    - Residences: 0
    - Mobile homes: 0
    - Other: 0
- Structures: None
- Major intersections and interchanges: US 78/SR 10
- Traffic control during construction:  
     Traffic to be maintained on existing roadways during construction
- Design Exceptions to controlling criteria anticipated:

|                             | <u>UNDETERMINED</u> | <u>YES</u> | <u>NO</u> |
|-----------------------------|---------------------|------------|-----------|
| HORIZONTAL ALIGNMENT:       | ( )                 | ( )        | (X)       |
| ROADWAY WIDTH:              | ( )                 | ( )        | (X)       |
| SHOULDER WIDTH:             | ( )                 | ( )        | (X)       |
| VERTICAL GRADES:            | ( )                 | ( )        | (X)       |
| CROSS SLOPES:               | ( )                 | ( )        | (X)       |
| STOPPING SIGHT DISTANCE:    | ( )                 | (X)        | ( ) *     |
| SUPERELEVATION RATES:       | ( )                 | ( )        | (X)       |
| HORIZONTAL CLEARANCE:       | ( )                 | ( )        | (X)       |
| SPEED DESIGN:               | ( )                 | ( )        | (X)       |
| VERTICAL CLEARANCE:         | ( )                 | ( )        | (X)       |
| BRIDGE WIDTH:               | ( )                 | ( )        | (X)       |
| BRIDGE STRUCTURAL CAPACITY: | ( )                 | ( )        | (X)       |

*\* A Design Exception will be required for substandard stopping sight distance along SR 20 between Tommy Lee Fuller Drive and U.S. 78/S.R. 10. The k-value for the sag vertical curve is below minimum.*

- Design Variances: Stopping Sight Distance
- Environmental concerns: Possible U.S. Army Corps of Engineers Permit (type to be determined.)
- Level of environmental analysis:
  - Are Time Savings Procedures appropriate? Yes ( ), No ( X ),
  - Categorical exclusion (X),
  - Environmental Assessment/Finding of No Significant Impact (FONSI) ( ), or
  - Environmental Impact Statement (EIS) ( ).
- Utility involvements: City of Loganville, Walton County, Walton EMC, GA Power Company

**Project responsibilities:**

- Design: Georgia DOT
- Right of Way Acquisition: Georgia DOT
- Relocation of Utilities: Walton County
- Letting to contract: Georgia DOT
- Supervision of construction: Georgia DOT
- Providing material pits: not determined
- Providing detours: N/A

**Coordination**

- Concept meeting date: March 1, 2001
- P. A. R. meetings, dates and results: None required
- FEMA, USCG, and/or TVA: None to date
- Public involvement: A public information meeting was held on September 20, 2001
- Local government comments: PMA for utility relocation by Walton County
- Other projects in the area: None
- Other coordination to date: None to date

**Scheduling -- Responsible Parties' Estimate**

- Time to complete the environmental process: 12 Months
- Time to complete preliminary construction plans: 12 Months
- Time to complete right of way plans: 12 Months
- Time to complete the Section 404 Permit: 12 Months
- Time to complete final construction plans: 6 Months
- Time to complete to purchase right of way: 18-24 Months

**Other alternates considered:**

- **No Build:** This alternative does not meet the capacity and operational needs of the project.
- **Passing lanes with intersection improvements:** This alternative does not meet the capacity and operational needs of the project.

- **Relocation of the intersection of SR 20 and US 78 / SR 10 one block to the west at the intersection of US 78/SR 20 with C.S. Floyd Road:** The state route designation would be moved from Main Street to C.S. Floyd Road and SR 20 south of the intersection of US 78/SR 10 would be constructed on a new alignment. The new alignment would tie back to the existing alignment of SR 20 approximately 3900 feet south of the existing intersection of SR 20 and US 78/SR 10. This alternative would significantly impact a potentially historic property located along the eastern side of existing SR 20 south of US 78/SR 10.
- **Widen to a five-lane section for the entire project length:** The project would meet capacity and operational needs but would not meet logical termini requirements.

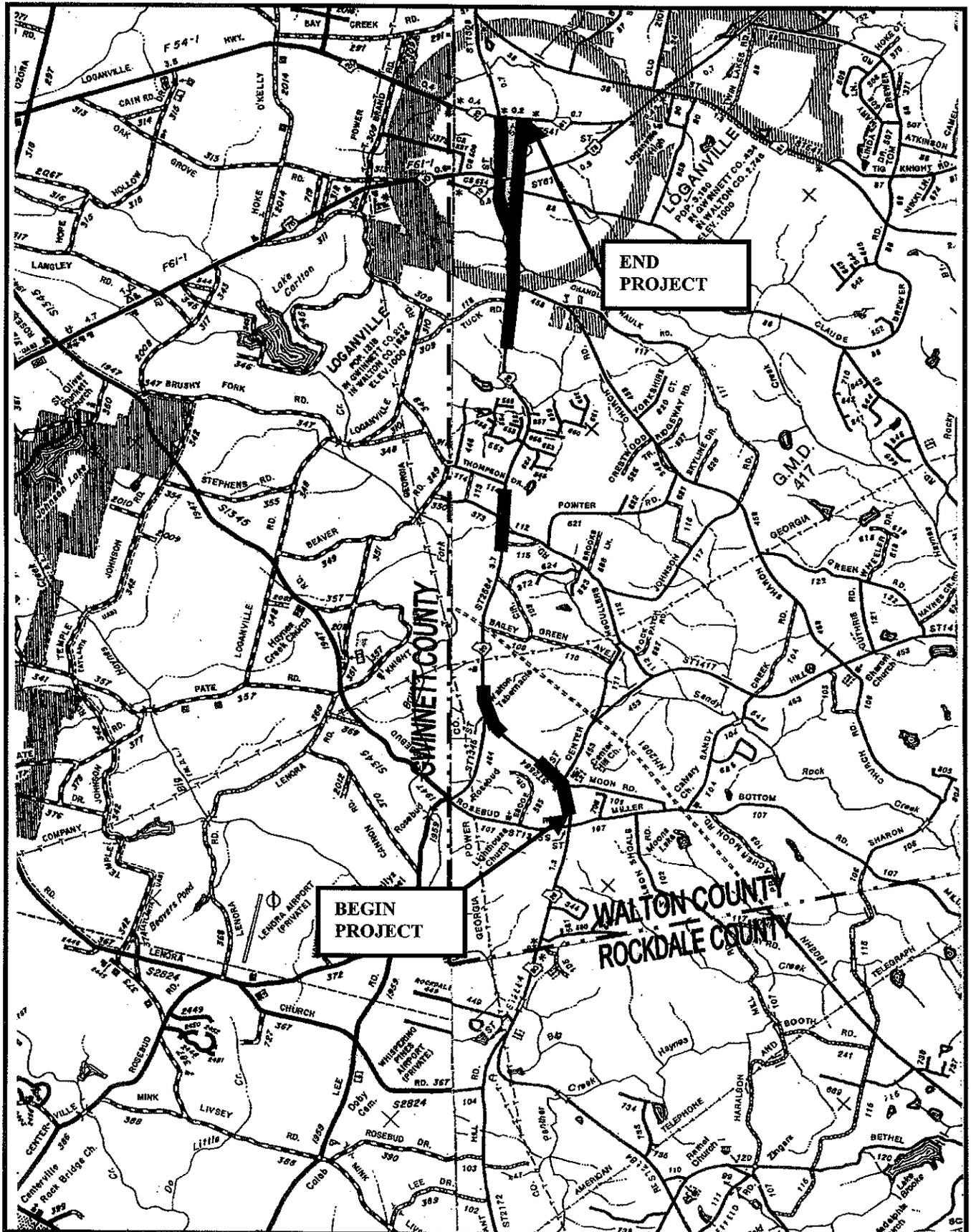
**Comments:**

- 

**Attachments:**

1. Need and Purpose Statement
2. Cost Estimates:
  - a. Construction including E&C(10) and Inflation, \$10,438,824
  - b. Right of Way, \$5,614,300
  - c. Utilities, \$825,400
3. Typical sections,
4. Accident summaries
5. Capacity analysis,
6. Minutes of Concept meeting,
7. PMA

PROJECT MAP-Project No. : STP-2584(9), Walton County



NEED AND PURPOSE  
STP-2584(9), P.I. NO 142000  
Walton County  
Widening SR 20

The purpose of project STP-2584(9) is to improve safety and operation of SR 20 between Rosebud/Miller Bottom Road and SR 20 (Loganville Highway) by implementing intersection improvements and widening the existing roadway from two lanes to a five lane roadway (two travel lanes in each direction with a center turn lane), between Sharon Church Road and SR 20 (Loganville Highway). The project will improve portions of SR 20 from a rural major collector to an urban section with curb and gutter. The project begins just <sup>north</sup> south of the intersection of SR 20 at Rosebud/Miller Bottom Road and ends at SR 20/SR 81 in Loganville for a total project length of 5.50 miles.

The existing 1999 traffic along this section of SR 20 ranges between 7,559 and 12,625 VPD and 10.5% is truck traffic. Future design traffic is expected to range between 17,600 AADT in 2005 and 35,020 in year 2025. The current level of service along this section of SR 20 is LOS E, which is unacceptable. With no improvements, the LOS for this section of SR 20 will be LOS F in year 2005. With improvements, this section of SR 20 can expect to operate at a LOS B and C in year 2025, a level considered acceptable.

The 1995, 1996 and 1997 accident rates along this section of roadway were below the statewide average for a road of this type (rural major collector, non-NHS). "No passing sight distance" (NPSD) greatly limits passing opportunities along this section of SR 20. The majority of the accidents that occurred along this section of roadway were "angle intersecting" and "rear end" which typically reflect turning movement incidents. The implementation of intersection improvements will separate turns from through movements, increasing safety and mobility along this route.

The existing land use within the project area is a combination of residential and agricultural with some light commercial. It is not anticipated that the land use will change.

This section of SR 20 does not provide optimal passing opportunities, which causes vehicles to platoon. Presently, there are limited passing opportunities due to the existing horizontal and vertical geometry, which does not provide adequate sight distance for passing. The proposed project will improve capacity to an acceptable level, will reduce vehicle delays and will improve safety.

The southern terminus of this project will tie into the existing two-lane section of SR 20. At this point, the traffic drops from 7,559 to 5,854 VPD. The northern terminus of this project will tie into the existing two-lane section of SR 20. At this point, the traffic decreases from 12,265 to 6,023 VPD.

**PRELIMINARY COST ESTIMATE**

PROJECT NUMBER: STP-2584(9)

COUNTY: Walton

DATE: March 2002

ESTIMATED LETTING DATE:

PREPARED BY: J. Hodges

PROJECT LENGTH: 5.7 Miles

( ) PROGRAMMING PROCESS (X) CONCEPT DEVELOPMENT ( ) DURING PROJECT DEV.

| PROJECT COST                                |         |             |              |
|---|---------|-------------|--------------|
| <b>A. RIGHT-OF-WAY:</b>                     |         |             |              |
| 1. PROPERTY (LAND & EASEMENT)               |         |             | \$ 4,600,400 |
| 2. DISPLACEMENTS; RES: 0, BUS: 0, M.H.: 0   |         |             | \$ 86,800    |
| 3. OTHER COST (ADM./COST, INFLATION)        |         |             | \$ 927,100   |
| SUBTOTAL: A                                 |         |             | \$ 5,614,300 |
| <b>B. REIMBURSABLE UTILITIES:</b>           |         |             |              |
| 1. RAILROAD                                 |         |             | \$ -         |
| 2. TRANSMISSION LINES                       |         |             | \$ -         |
| 3. SERVICES                                 |         |             | \$ 825,400   |
| SUBTOTAL: B                                 |         |             | \$ 825,400   |
| <b>C. CONSTRUCTION:</b>                     |         |             |              |
| <b>1. MAJOR STRUCTURES</b>                  |         |             |              |
| a. BRIDGES                                  |         |             |              |
| Grade Separations ( 0 )                     |         |             | \$ -         |
| Stream Crossings ( 0 )                      |         |             | \$ -         |
| SUBTOTAL: C-1.a                             |         |             | \$ -         |
| b. OTHER                                    |         |             |              |
| Walls                                       |         |             | \$ -         |
| Box Culverts                                |         |             | \$ 71,400    |
| Bridge Culverts ( 0 )                       |         |             | \$ -         |
| SUBTOTAL: C-1.b                             |         |             | \$ 71,400    |
| SUBTOTAL: C-1                               |         |             | \$ 71,400    |
| <b>2. GRADING AND DRAINAGE:</b>             |         |             |              |
| a. EARTHWORK                                |         |             |              |
| In Place Embankment                         | 250,000 | CY @ \$3.99 | \$ 997,500   |
| b. DRAINAGE                                 |         |             |              |
| 1) Cross Drain Pipe                         |         |             | \$ 501,520   |
| 2) Curb and Gutter                          |         |             | \$ 342,574   |
| 3) Longitudinal System (incl. catch basins) |         |             | \$ 475,485   |
| SUBTOTAL: C-2.b                             |         |             | \$ 1,319,579 |
| SUBTOTAL: C-2                               |         |             | \$ 2,317,079 |

**PRELIMINARY COST ESTIMATE**

PROJECT NUMBER: STP-2584(9)

COUNTY: Walton

DATE: March 2002

ESTIMATED LETTING DATE: -

PREPARED BY: J. Hodges

PROJECT LENGTH: 5.7 Miles

( ) PROGRAMMING PROCESS (X) CONCEPT DEVELOPMENT ( ) DURING PROJECT DEV.

| PROJECT COST                                |        |   |                  |              |
|---|--------|---|------------------|--------------|
| <b>3. BASE AND PAVING:</b>                  |        |   |                  |              |
| a. AGGREGATE BASE                           | 69,206 | - | Tons @ \$17.03   | \$ 1,178,584 |
| b. ASPHALT PAVING (Mainline & Cross-Roads): |        |   |                  |              |
| Drainage - Type D                           | -      | - | Tons @ \$50.8    | \$ -         |
| Surface - SMA                               | -      | - | Tons @ \$54.93   | \$ -         |
| Surface - Superpave                         | 13,785 | - | Tons @ \$42.56   | \$ 586,689   |
| Binder - SMA                                | -      | - | Tons @ \$56.9    | \$ -         |
| Binder - Superpave                          | 14,700 | - | Tons @ \$38.43   | \$ 564,920   |
| Base - Superpave                            | 28,485 | - | Tons @ \$34.63   | \$ 986,436   |
| Pavement Reinf. Fabric Strips               | 8,930  | - | Lane Ft @ \$2.84 | \$ 25,361    |
| SUBTOTAL: C-3.b                             |        |   |                  | \$ 2,163,406 |
| c. CONCRETE PAVING                          |        |   |                  |              |
| d. OTHER (Leveling, Tack Coat, Milling)     | -      | - | SY @ \$33.57     | \$ -         |
| SUBTOTAL: C-3                               |        |   |                  | \$ 3,735,232 |
| <b>4. LUMP ITEMS</b>                        |        |   |                  |              |
| a. GRASSING                                 |        |   |                  | \$ 222,288   |
| b. CLEARING AND GRUBBING                    |        |   |                  | \$ 208,657   |
| c. LANDSCAPING                              |        |   |                  | \$ -         |
| d. EROSION CONTROL                          |        |   |                  | \$ 472,018   |
| e. TRAFFIC CONTROL                          |        |   |                  | \$ 346,502   |
| SUBTOTAL: C-4                               |        |   |                  | \$ 1,249,465 |
| <b>5. MISCELLANEOUS:</b>                    |        |   |                  |              |
| a. LIGHTING                                 |        |   |                  |              |
| b. SIGNING - MARKING - SIGNALIZATION        |        |   |                  |              |
| c. GUARDRAIL                                |        |   |                  |              |
| Single-Faced                                |        |   |                  | \$ 10,718    |
| Double-Faced                                |        |   |                  | \$ -         |
| anchors                                     |        |   |                  | \$ 7,245     |
| SUBTOTAL: C-5.c                             |        |   |                  | \$ 17,963    |
| d. SIDEWALK                                 |        |   |                  |              |
| e. MEDIAN / SIDE BARRIER                    | -      | - | LF @ \$32.03     | \$ -         |
| f. MOVABLE BARRIER SECTION                  |        |   |                  |              |
| g. ACCESS FENCE                             |        |   |                  |              |
| h. BRIDGE JACKING                           |        |   |                  |              |
| i. APPROACH SLABS                           |        |   |                  |              |
| j. REMOVAL                                  |        |   |                  |              |
| Concrete Paving                             |        |   |                  | \$ -         |
| Bridges                                     |        |   |                  | \$ -         |
| SUBTOTAL: C-5.j                             |        |   |                  | \$ -         |
| k. ATMS Conduit                             | -      | - | LF @ \$37.78     | \$ -         |
| l. OTHER                                    |        |   |                  |              |
| SUBTOTAL: C-5                               |        |   |                  | \$ 69,173    |
| <b>6. SPECIAL FEATURES</b>                  |        |   |                  |              |
| SUBTOTAL: C-6                               |        |   |                  | \$ -         |

**PRELIMINARY COST ESTIMATE**

PROJECT NUMBER: STP-2584(9)

COUNTY: Walton

DATE: March 2002

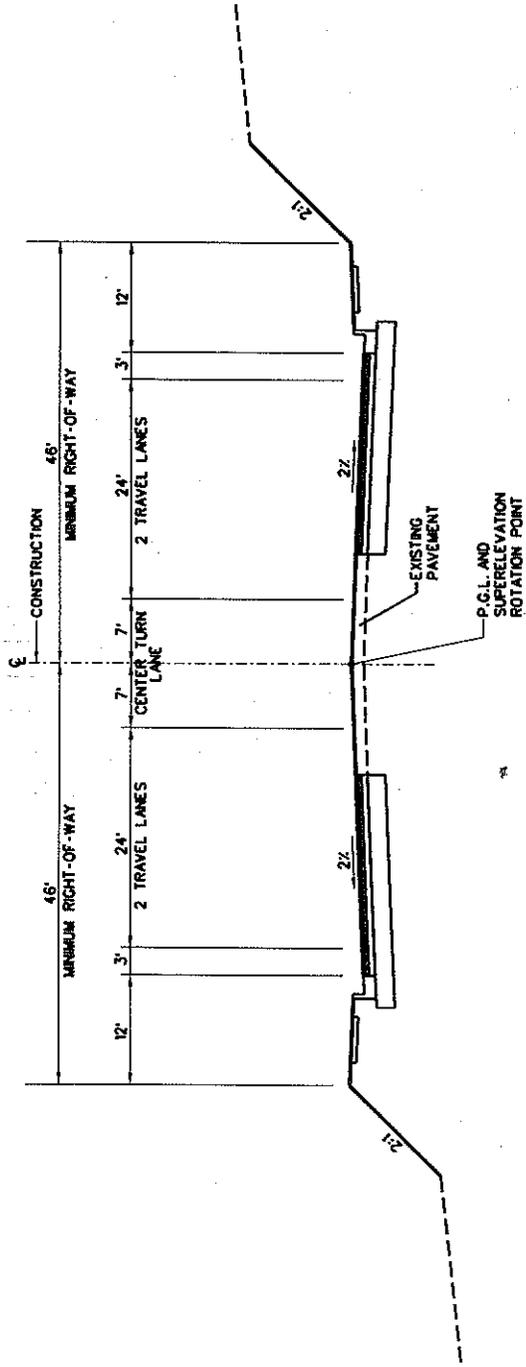
ESTIMATED LETTING DATE:

PREPARED BY: J. Hodges

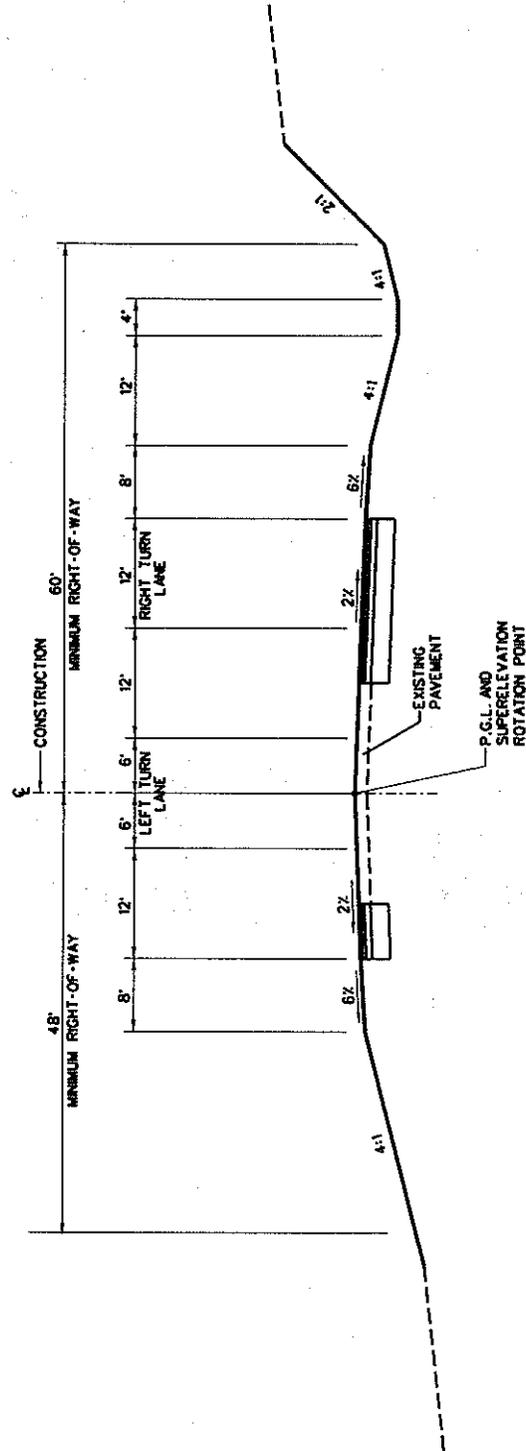
PROJECT LENGTH: 5.7 Miles

( ) PROGRAMMING PROCESS (X) CONCEPT DEVELOPMENT ( ) DURING PROJECT DEV.

| <b>PROJECT COST</b>                    |                      |
|--|----------------------|
| <b>SUMMARY</b>                         |                      |
| A. RIGHT-OF-WAY                        | \$ 5,614,300         |
| B. REIMBURSABLE UTILITIES              | \$ 825,400           |
| C. CONSTRUCTION                        |                      |
| 1. MAJOR STRUCTURES                    | \$ 71,400            |
| 2. GRADING AND DRAINAGE                | \$ 2,317,079         |
| 3. BASE AND PAVING                     | \$ 3,735,232         |
| 4. LUMP ITEMS                          | \$ 1,249,465         |
| 5. MISCELLANEOUS                       | \$ 927,250           |
| 6. SPECIAL FEATURES                    | \$ -                 |
| SUBTOTAL CONSTRUCTION COST             | \$ 8,300,426         |
| E. & C. (10%)                          | \$ 830,043           |
| INFLATION (5% PER YEAR)                | \$ 1,308,355         |
| NUMBER OF YEARS                      3 |                      |
| TOTAL CONSTRUCTION COST                | \$ 10,438,824        |
| <b>GRAND TOTAL PROJECT COST</b>        | <b>\$ 16,878,524</b> |



**TYPICAL ROADWAY SECTION**  
S.R. 20  
URBAN SECTION

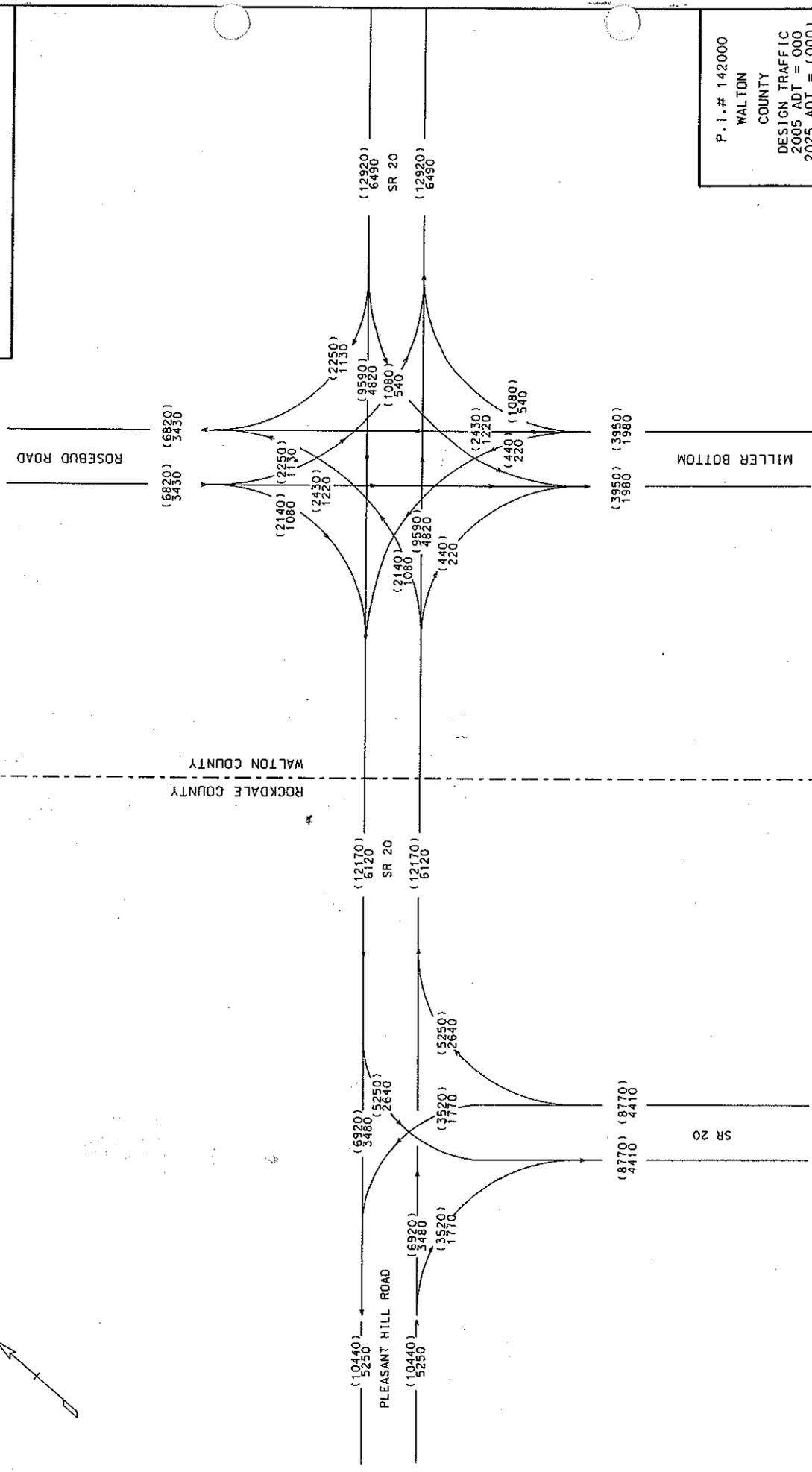
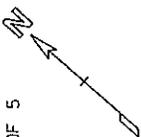


**TYPICAL ROADWAY SECTION**  
S.R. 20  
RURAL SECTION  
INTERSECTION IMPROVEMENTS

**SR20 from Rockdale County Line to Loganville**  
**Project Number: STP-2584(9)**  
**County: Walton**  
**P. I. Number: 142000**

| <b>ACCIDENT HISTORY</b> |                             |                           |                             |
|-------------------------|-----------------------------|---------------------------|-----------------------------|
| <b><u>YEAR</u></b>      | <b><u>Accident Rate</u></b> | <b><u>Injury Rate</u></b> | <b><u>Fatality Rate</u></b> |
| 1995                    | 294 (193)                   | 133 (122)                 | 0.00 (3.40)                 |
| 1996                    | 278 (201)                   | 171 (122)                 | 0.00 (3.67)                 |
| 1997                    | 340 (194)                   | 281 (112)                 | 6.55 (3.62)                 |

Note: All rates are per 100 million vehicle miles of travel. Numbers in parentheses are statewide average rates for urban principal arterials.

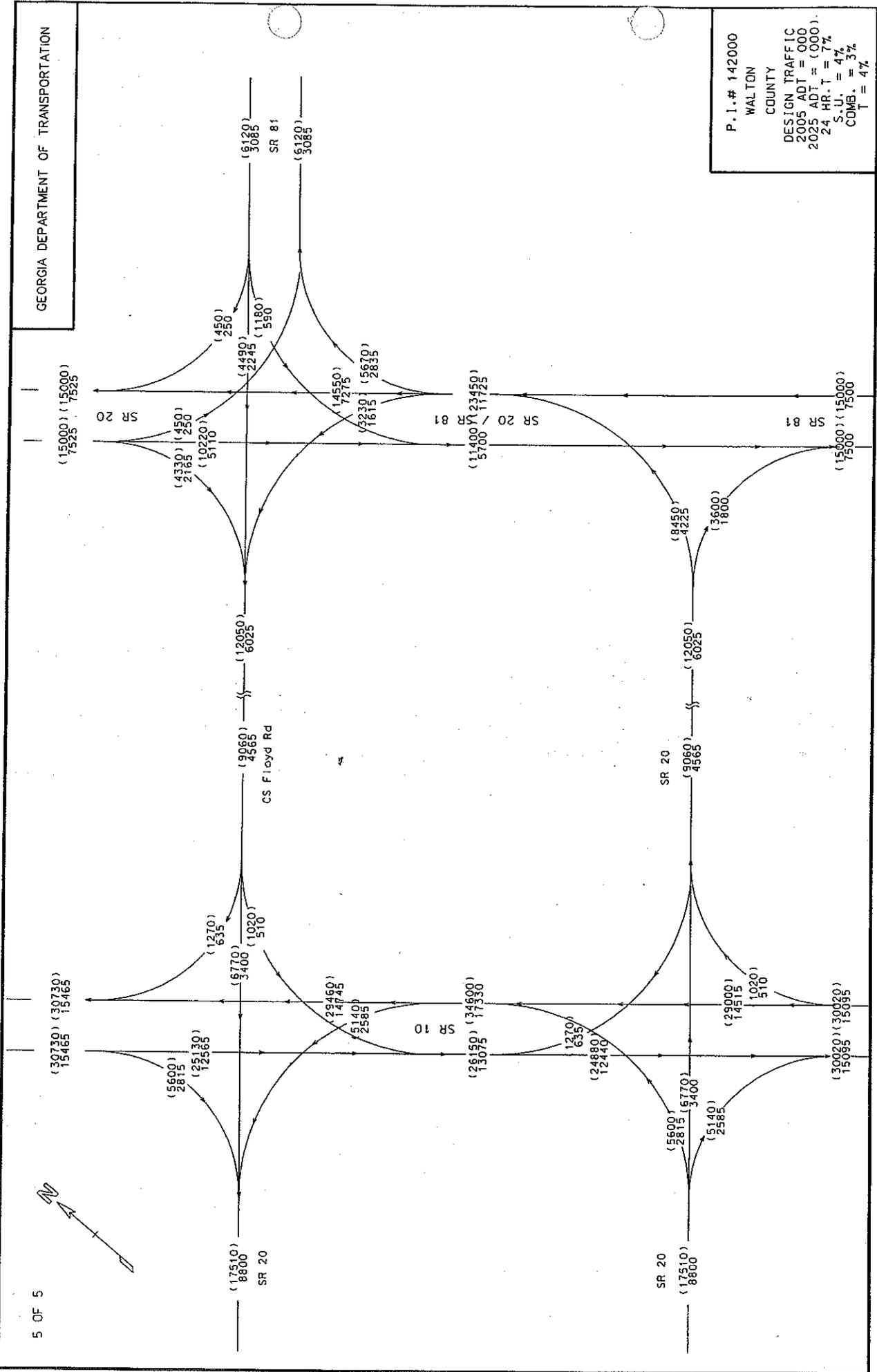


P. I. # 142000  
 WALTON COUNTY  
 DESIGN TRAFFIC  
 2005 ADT = 000  
 2025 ADT = (000)  
 24 HR. T = 7%  
 S.U. = 4%  
 COMB. = 3%  
 T = 4%



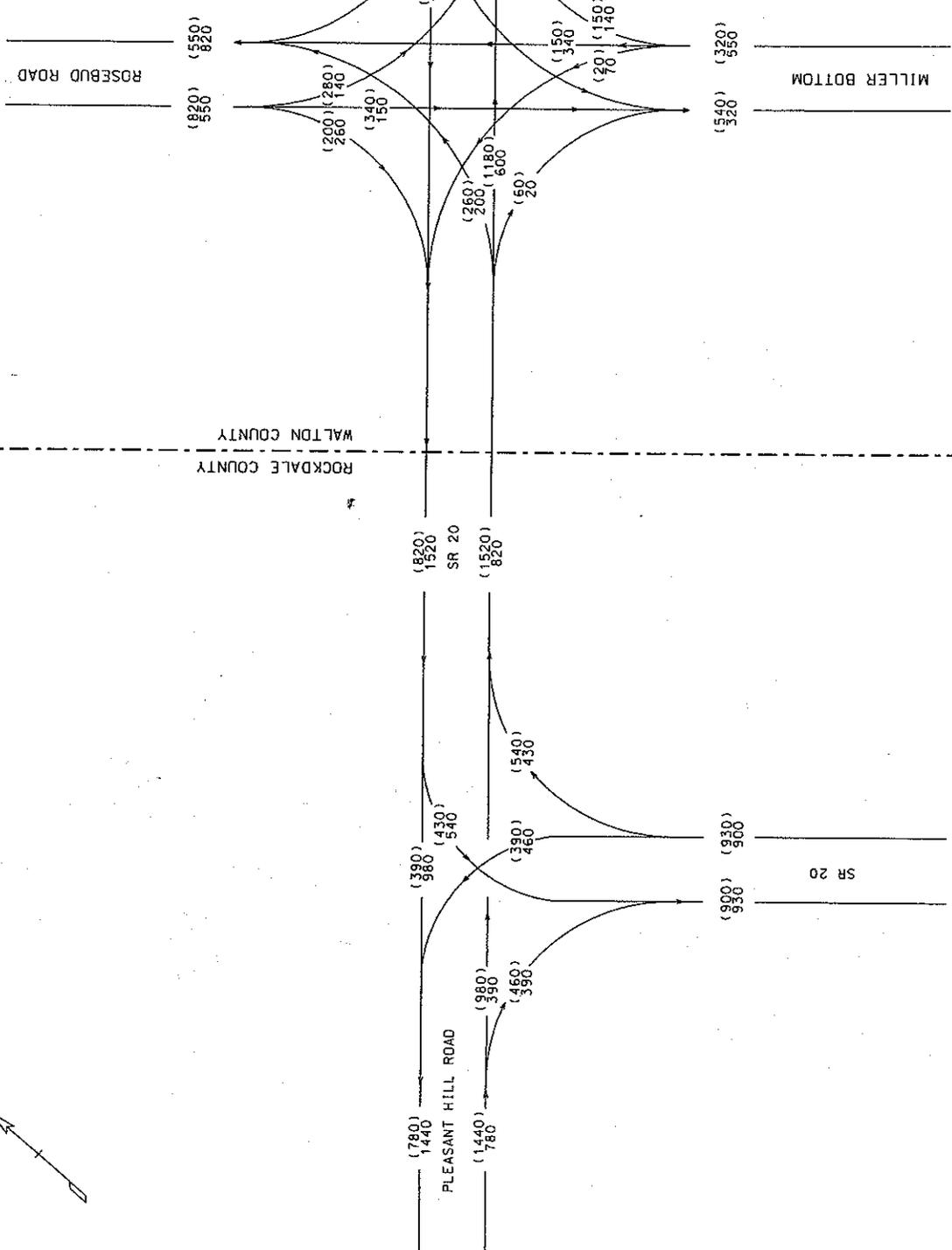
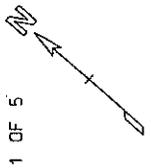




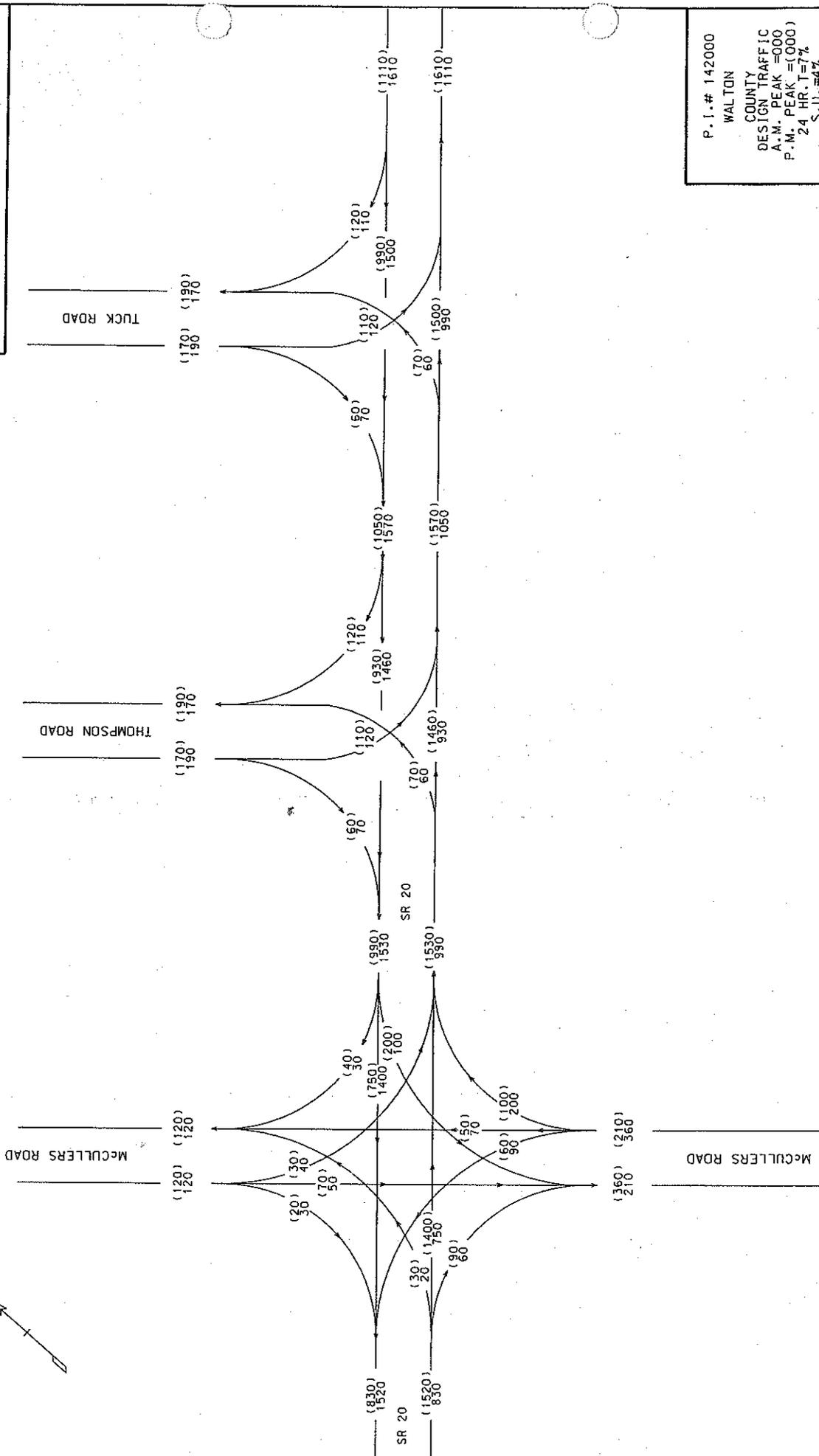
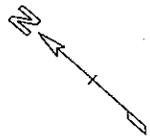


P.I.# 142000  
 WALTON COUNTY  
 DESIGN TRAFFIC  
 2005 ADT = 000  
 2025 ADT = (000).  
 24 HR. T = 7%  
 S.U. = 4%  
 COMB. = 3%  
 T = 4%

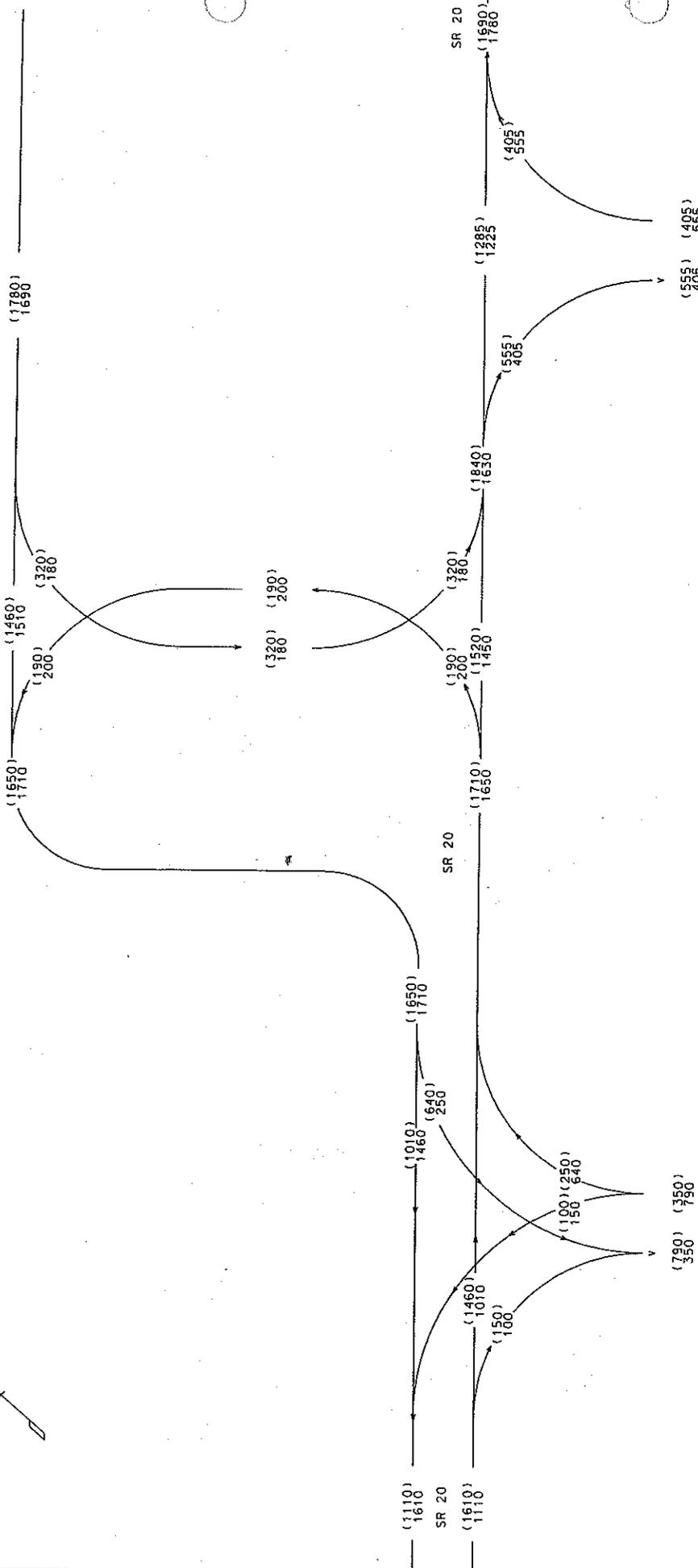
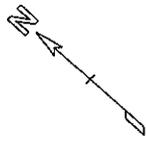
P. I. # 142000  
 WALTON COUNTY  
 DESIGN TRAFFIC  
 A.M. PEAK = 000  
 P.M. PEAK = (000)  
 24 HR. T = 7%  
 S.U. = 4%  
 COMB. = 3%  
 T = 1%







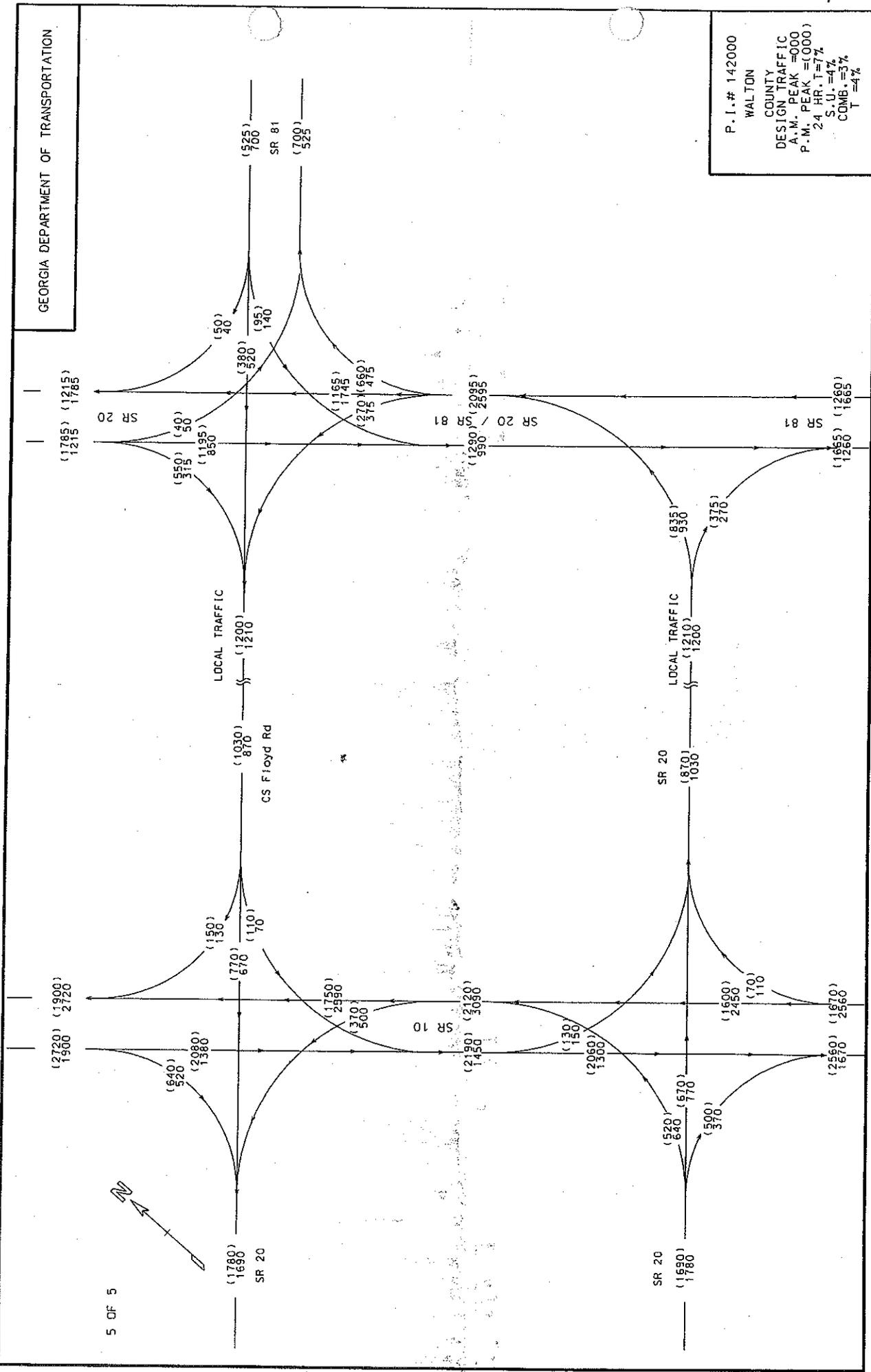
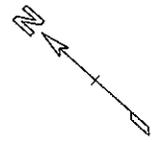
P. I. # 142000  
 WALTON COUNTY  
 DESIGN TRAFFIC  
 A.M. PEAK = 000  
 P.M. PEAK = (000)  
 24 HR. T = 7%  
 S.U. = 4%  
 C.O.M.B. = 3%  
 T = 4%



P. I. # 142000  
 WALTON COUNTY  
 COUNTY TRAFFIC  
 DESIGN PEAK = 000  
 P. M. PEAK = (000)  
 24 HR. T = 1%  
 S. U. = 4%  
 COMB. = 3%  
 T = 4%

NORTH CHURCH ROAD

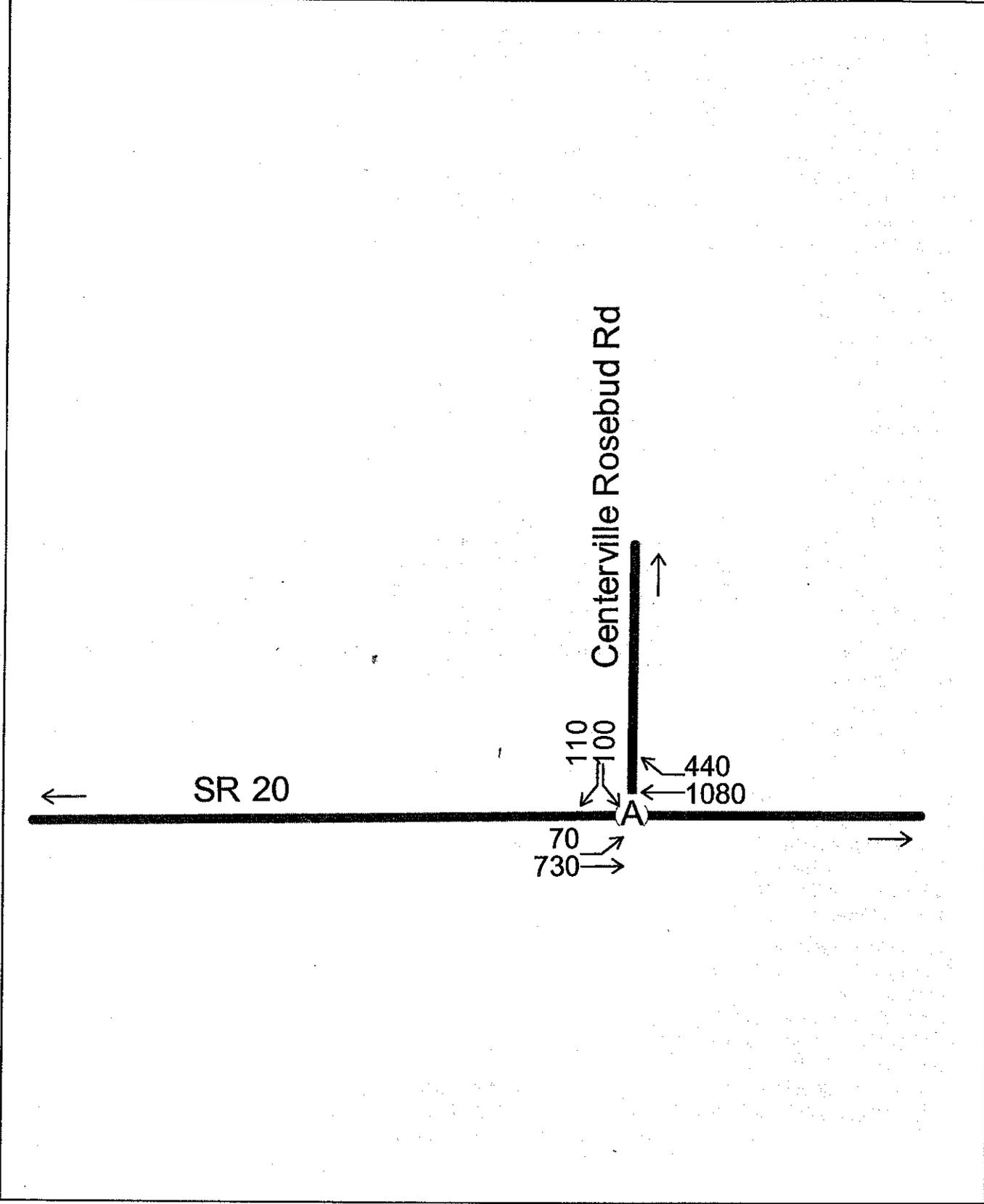
TOMMIE FULLER DRIVE



P.I.# 142000  
 WALTON COUNTY  
 DESIGN TRAFFIC  
 A.M. PEAK = 000  
 P.M. PEAK = (000)  
 24 HR. T = 7%  
 S.U. = 4%  
 COMB. = 3%  
 T = 4%

Design Year 2025  
Two Lane SR 20

A.M. Peak Hour  
6/25/2002



V.H.R.

P:\2077-822\Traffic\SR20crram2ln.sy6

3: SR 20 & Centerville Rosebud Rd  
Two Lane SR 20

A.M. Peak Hour  
6/25/2002

|                         |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|
| Lane Group              | EBL   | EBT   | WBT   | WBR   | SBL   | SBR   |
| Lane Configurations     |  |  |  |  |  |  |
| Ideal Flow (vphpl)      | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Total Lost Time (s)     | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   |
| Leading Detector (ft)   | 50  | 50  | 50  | 50  | 50  | 50  |
| Trailing Detector (ft)  | 0   | 0   | 0   | 0   | 0   | 0   |
| Turning Speed (mph)     | 15  |   |   | 9   | 15  | 9   |
| Satd. Flow (prot)       | 1736  | 1827  | 1827  | 1553  | 1736  | 1553  |
| Flt Permitted           | 0.079   |   |   |   | 0.950   |   |
| Satd. Flow (perm)       | 144   | 1827  | 1827  | 1553  | 1736  | 1553  |
| Right Turn on Red       |   |   |   | Yes   |   | Yes   |
| Satd. Flow (RTOR)       |   |   |   | 489   |   | 122   |
| Link Speed (mph)        |   | 45  | 45  |   | 45  |   |
| Link Distance (ft)      |   | 2561  | 1232  |   | 1174  |   |
| Travel Time (s)         |   | 38.8  | 18.7  |   | 17.8  |   |
| Volume (vph)            | 70  | 730   | 1080  | 440   | 100   | 110   |
| Peak Hour Factor        | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Lane Group Flow (vph)   | 78  | 811   | 1200  | 489   | 111   | 122   |
| Turn Type               | Perm  |   |   | Perm  |   | Perm  |
| Protected Phases        |   | 2   | 6   |   | 4   |   |
| Permitted Phases        | 2   |   |   | 6   |   | 4   |
| Total Split (s)         | 69.0  | 69.0  | 69.0  | 69.0  | 21.0  | 21.0  |
| Act Effct Green (s)     | 65.1  | 65.1  | 65.1  | 65.1  | 12.6  | 12.6  |
| Actuated g/C Ratio      | 0.78  | 0.78  | 0.78  | 0.78  | 0.15  | 0.15  |
| v/c Ratio               | 0.70  | 0.57  | 0.85  | 0.37  | 0.42  | 0.36  |
| Uniform Delay, d1       | 4.5   | 3.7   | 6.0   | 0.0   | 32.2  | 0.0   |
| Delay                   | 30.8  | 4.4   | 10.8  | 0.3   | 30.8  | 6.5   |
| LOS                     | C   | A   | B   | A   | C   | A   |
| Approach Delay          |   | 6.7   | 7.8   |   | 18.0  |   |
| Approach LOS            |   | A   | A   |   | B   |   |
| Queue Length 50th (ft)  | 15  | 128   | 306   | 0   | 54  | 0   |
| Queue Length 95th (ft)  | #118  | 264   | #864  | 18  | 103   | 44  |
| Internal Link Dist (ft) |   | 2481  | 1152  |   | 1094  |   |
| 50th Up Block Time (%)  |   |   |   |   |   |   |
| 95th Up Block Time (%)  |   |   |   |   |   |   |
| Turn Bay Length (ft)    |   |   |   |   |   |   |
| 50th Bay Block Time %   |   |   |   |   |   |   |
| 95th Bay Block Time %   |   |   |   |   |   |   |
| Queuing Penalty (veh)   |   |   |   |   |   |   |

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 83.8

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 8.3

Intersection LOS: A

Intersection Capacity Utilization 83.6%

ICU Level of Service D

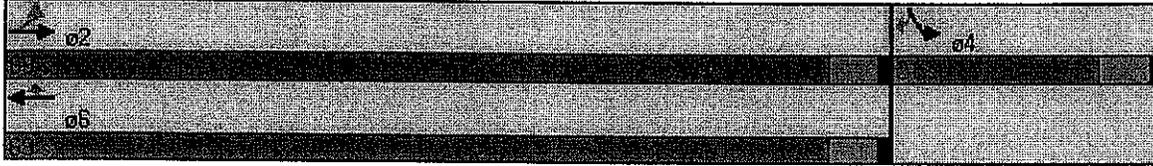
# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

3: SR 20 & Centerville Rosebud Rd  
Two Lane SR 20

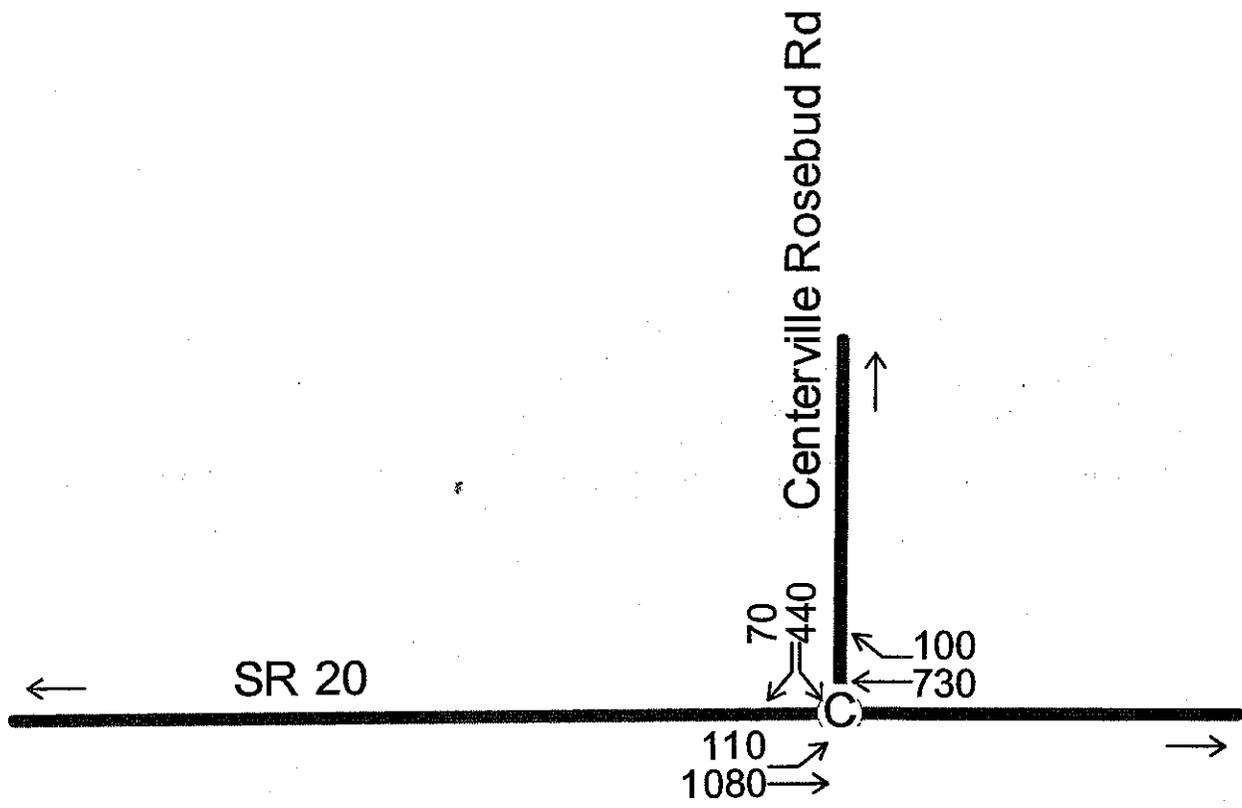
A.M. Peak Hour  
6/25/2002

Splits and Phases: 3: SR 20 & Centerville Rosebud Rd



Design Year 2025  
Two Lane SR 20

P.M. Peak Hour  
6/25/2002



3: SR 20 & Centerville Rosebud Rd  
Two Lane SR 20

P.M. Peak Hour  
6/25/2002

|                         |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|
| Lane Group              | EBL   | EBT   | WBT   | WBR   | SBL   | SBR   |
| Lane Configurations     |  |  |  |  |  |  |
| Ideal Flow (vphpl)      | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Total Lost Time (s)     | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   |
| Leading Detector (ft)   | 50  | 50  | 50  | 50  | 50  | 50  |
| Trailing Detector (ft)  | 0   | 0   | 0   | 0   | 0   | 0   |
| Turning Speed (mph)     | 15  |   |   | 9   | 15  | 9   |
| Satd. Flow (prot)       | 1736  | 1827  | 1827  | 1553  | 1736  | 1553  |
| Flt Permitted           | 0.247   |   |   |   | 0.950   |   |
| Satd. Flow (perm)       | 451   | 1827  | 1827  | 1553  | 1736  | 1553  |
| Right Turn on Red       |   |   |   | Yes   |   | Yes   |
| Satd. Flow (RTOR)       |   |   |   | 105   |   | 74  |
| Link Speed (mph)        |   | 45  | 45  |   | 45  |   |
| Link Distance (ft)      |   | 2561  | 1232  |   | 1174  |   |
| Travel Time (s)         |   | 38.8  | 18.7  |   | 17.8  |   |
| Volume (vph)            | 110   | 1080  | 730   | 100   | 440   | 70  |
| Peak Hour Factor        | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  |
| Lane Group Flow (vph)   | 116   | 1137  | 768   | 105   | 463   | 74  |
| Turn Type               | Perm  |   |   | Perm  |   | Perm  |
| Protected Phases        |   | 2   | 6   |   | 4   |   |
| Permitted Phases        | 2   |   |   | 6   |   | 4   |
| Total Split (s)         | 62.0  | 62.0  | 62.0  | 62.0  | 28.0  | 28.0  |
| Act Effct Green (s)     | 56.8  | 56.8  | 56.8  | 56.8  | 25.0  | 25.0  |
| Actuated g/C Ratio      | 0.65  | 0.65  | 0.65  | 0.65  | 0.28  | 0.28  |
| v/c Ratio               | 0.40  | 0.96  | 0.65  | 0.10  | 0.94  | 0.15  |
| Uniform Delay, d1       | 7.4   | 14.5  | 9.4   | 0.0   | 30.6  | 0.0   |
| Delay                   | 8.2   | 25.6  | 9.8   | 1.3   | 54.6  | 6.6   |
| LOS                     | A   | C   | A   | A   | D   | A   |
| Approach Delay          |   | 24.0  | 8.8   |   | 48.0  |   |
| Approach LOS            |   | C   | A   |   | D   |   |
| Queue Length 50th (ft)  | 27  | 524   | 230   | 0   | 259   | 0   |
| Queue Length 95th (ft)  | 65  | #885  | 343   | 0   | #450  | 31  |
| Internal Link Dist (ft) |   | 2481  | 1152  |   | 1094  |   |
| 50th Up Block Time (%)  |   |   |   |   |   |   |
| 95th Up Block Time (%)  |   |   |   |   |   |   |
| Turn Bay Length (ft)    |   |   |   |   |   |   |
| 50th Bay Block Time %   |   |   |   |   |   |   |
| 95th Bay Block Time %   |   |   |   |   |   |   |
| Queuing Penalty (veh)   |   |   |   |   |   |   |

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 87.8

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 23.9

Intersection LOS: C

Intersection Capacity Utilization 92.2%

ICU Level of Service E

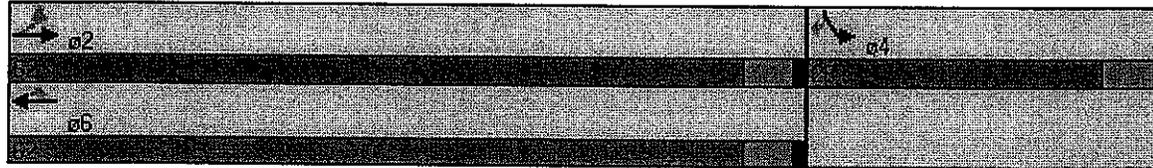
# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

3: SR 20 & Centerville Rosebud Rd  
Two Lane SR 20

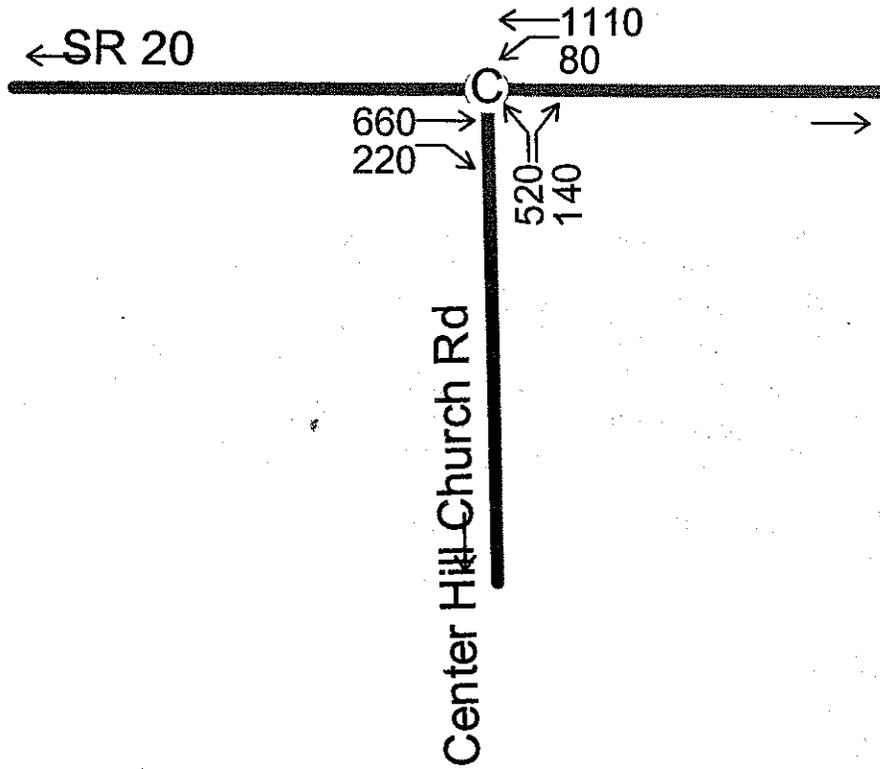
P.M. Peak Hour  
6/25/2002

Splits and Phases: 3: SR 20 & Centerville Rosebud Rd



Design Year 2025  
Two Lane SR 20

A.M. Peak Hour  
6/25/2002



3: SR 20 & Center Hill Church Rd  
Two Lane SR 20

A.M. Peak Hour  
6/25/2002

|                         |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|
| Lane Group              | EBT   | EBR   | WBL   | WBT   | NBL   | NBR   |
| Lane Configurations     |  |  |  |  |  |  |
| Ideal Flow (vphpl)      | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Total Lost Time (s)     | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   |
| Leading Detector (ft)   | 50  | 50  | 50  | 50  | 50  | 50  |
| Trailing Detector (ft)  | 0   | 0   | 0   | 0   | 0   | 0   |
| Turning Speed (mph)     |   | 9   | 15  |   | 15  | 9   |
| Satd. Flow (prot)       | 1827  | 1553  | 1736  | 1827  | 1736  | 1553  |
| Flt Permitted           |   |   | 0.272   |   | 0.950   |   |
| Satd. Flow (perm)       | 1827  | 1553  | 497   | 1827  | 1736  | 1553  |
| Right Turn on Red       |   | Yes   |   |   |   | Yes   |
| Satd. Flow (RTOR)       |   | 232   |   |   |   | 147   |
| Link Speed (mph)        | 45  |   |   | 45  | 45  |   |
| Link Distance (ft)      | 1468  |   |   | 1232  | 1556  |   |
| Travel Time (s)         | 22.2  |   |   | 18.7  | 23.6  |   |
| Volume (vph)            | 660   | 220   | 80  | 1110  | 520   | 140   |
| Peak Hour Factor        | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  |
| Lane Group Flow (vph)   | 695   | 232   | 84  | 1168  | 547   | 147   |
| Turn Type               |   | Perm  | Perm  |   |   | Perm  |
| Protected Phases        | 2   |   |   | 6   | 8   |   |
| Permitted Phases        |   | 2   | 6   |   |   | 8   |
| Total Split (s)         | 66.0  | 66.0  | 66.0  | 66.0  | 34.0  | 34.0  |
| Act Effct Green (s)     | 63.0  | 63.0  | 63.0  | 63.0  | 31.0  | 31.0  |
| Actuated g/C Ratio      | 0.63  | 0.63  | 0.63  | 0.63  | 0.31  | 0.31  |
| v/c Ratio               | 0.60  | 0.22  | 0.27  | 1.01  | 1.02  | 0.25  |
| Uniform Delay, d1       | 11.0  | 0.0   | 8.2   | 18.5  | 34.5  | 0.0   |
| Delay                   | 11.5  | 1.0   | 8.9   | 43.2  | 68.2  | 4.5   |
| LOS                     | B   | A   | A   | D   | E   | A   |
| Approach Delay          | 8.9   |   |   | 40.9  | 54.7  |   |
| Approach LOS            | A   |   |   | D   | D   |   |
| Queue Length 50th (ft)  | 242   | 0   | 22  | ~727  | ~358  | 0   |
| Queue Length 95th (ft)  | 350   | 24  | 49  | #1040   | #575  | 43  |
| Internal Link Dist (ft) | 1388  |   |   | 1152  | 1476  |   |
| 50th Up Block Time (%)  |   |   |   |   |   |   |
| 95th Up Block Time (%)  |   |   |   |   |   |   |
| Turn Bay Length (ft)    |   |   |   |   |   |   |
| 50th Bay Block Time %   |   |   |   |   |   |   |
| 95th Bay Block Time %   |   |   |   |   |   |   |
| Queuing Penalty (veh)   |   |   |   |   |   |   |

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 33.9

Intersection LOS: C

Intersection Capacity Utilization 98.5%

ICU Level of Service E

~ Volume exceeds capacity, queue is theoretically infinite.

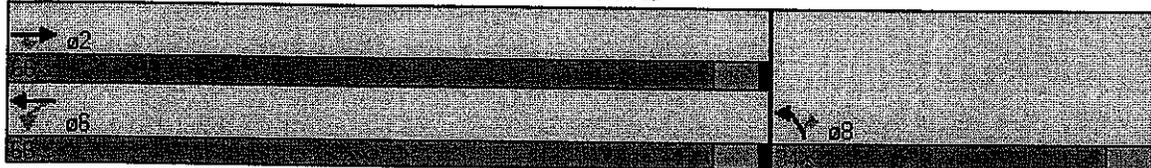
Queue shown is maximum after two cycles.

3: SR 20 & Center Hill Church Rd  
Two Lane SR 20

A.M. Peak Hour  
6/25/2002

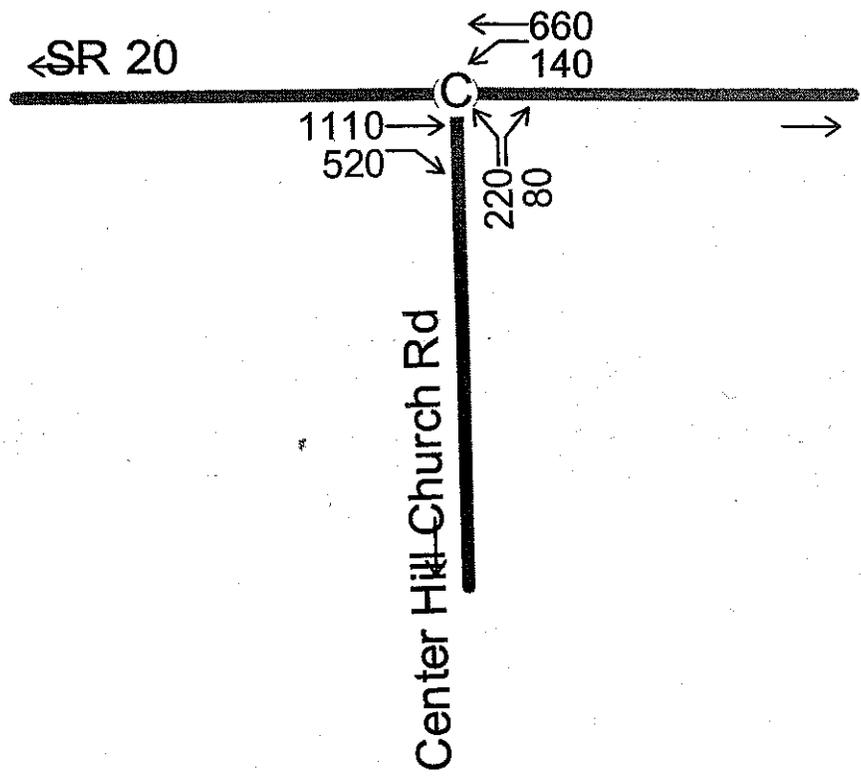
# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Splits and Phases: 3: SR 20 & Center Hill Church Rd



Design Year 2025  
Two Lane SR 20

P.M. Peak Hour  
6/25/2002



V.H.R.

3: SR 20 & Center Hill Church Rd  
Two Lane SR 20

P.M. Peak Hour  
6/25/2002

|                         |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|
| Lane Group              | EBT   | EBR   | WBL   | WBT   | NBL   | NBR   |
| Lane Configurations     |  |  |  |  |  |  |
| Ideal Flow (vphpl)      | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Total Lost Time (s)     | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   |
| Leading Detector (ft)   | 50  | 50  | 50  | 50  | 50  | 50  |
| Trailing Detector (ft)  | 0   | 0   | 0   | 0   | 0   | 0   |
| Turning Speed (mph)     |   | 9   | 15  |   | 15  | 9   |
| Satd. Flow (prot)       | 1827  | 1553  | 1736  | 1827  | 1736  | 1553  |
| Flt Permitted           |   |   | 0.067   |   | 0.950   |   |
| Satd. Flow (perm)       | 1827  | 1553  | 122   | 1827  | 1736  | 1553  |
| Right Turn on Red       |   | Yes   |   |   |   | Yes   |
| Satd. Flow (RTOR)       |   | 547   |   |   |   | 84  |
| Link Speed (mph)        | 45  |   |   | 45  | 45  |   |
| Link Distance (ft)      | 1365  |   |   | 1232  | 1556  |   |
| Travel Time (s)         | 20.7  |   |   | 18.7  | 23.6  |   |
| Volume (vph)            | 1110  | 520   | 140   | 660   | 220   | 80  |
| Peak Hour Factor        | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  |
| Lane Group Flow (vph)   | 1168  | 547   | 147   | 695   | 232   | 84  |
| Turn Type               |   | Perm  | pm+pt   |   |   | Perm  |
| Protected Phases        | 2   |   | 1   | 6   | 8   |   |
| Permitted Phases        |   | 2   | 6   |   |   | 8   |
| Total Split (s)         | 60.0  | 60.0  | 9.0   | 69.0  | 21.0  | 21.0  |
| Act Effct Green (s)     | 57.0  | 57.0  | 66.0  | 66.0  | 16.6  | 16.6  |
| Actuated g/C Ratio      | 0.64  | 0.64  | 0.74  | 0.74  | 0.19  | 0.19  |
| v/c Ratio               | 0.99  | 0.46  | 0.74  | 0.51  | 0.72  | 0.23  |
| Uniform Delay, d1       | 15.6  | 0.0   | 9.5   | 4.6   | 33.8  | 0.0   |
| Delay                   | 39.5  | 0.7   | 25.1  | 5.1   | 35.2  | 7.5   |
| LOS                     | D   | A   | C   | A   | D   | A   |
| Approach Delay          | 27.1  |   |   | 8.6   | 27.8  |   |
| Approach LOS            | C   |   |   | A   | C   |   |
| Queue Length 50th (ft)  | -624  | 0   | 32  | 141   | 123   | 0   |
| Queue Length 95th (ft)  | #948  | 26  | #127  | 209   | #205  | 37  |
| Internal Link Dist (ft) | 1285  |   |   | 1152  | 1476  |   |
| 50th Up Block Time (%)  |   |   |   |   |   |   |
| 95th Up Block Time (%)  |   |   |   |   |   |   |
| Turn Bay Length (ft)    |   |   |   |   |   |   |
| 50th Bay Block Time %   |   |   |   |   |   |   |
| 95th Bay Block Time %   |   |   |   |   |   |   |
| Queuing Penalty (veh)   |   |   |   |   |   |   |

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 88.6

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 21.8

Intersection LOS: C

Intersection Capacity Utilization 92.5%

ICU Level of Service E

~ Volume exceeds capacity, queue is theoretically infinite.

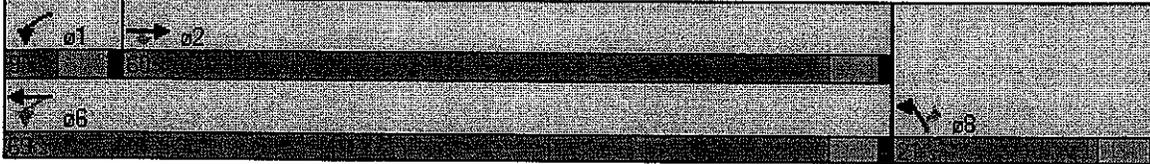
Queue shown is maximum after two cycles.

3: SR 20 & Center Hill Church Rd  
Two Lane SR 20

P.M. Peak Hour  
6/25/2002

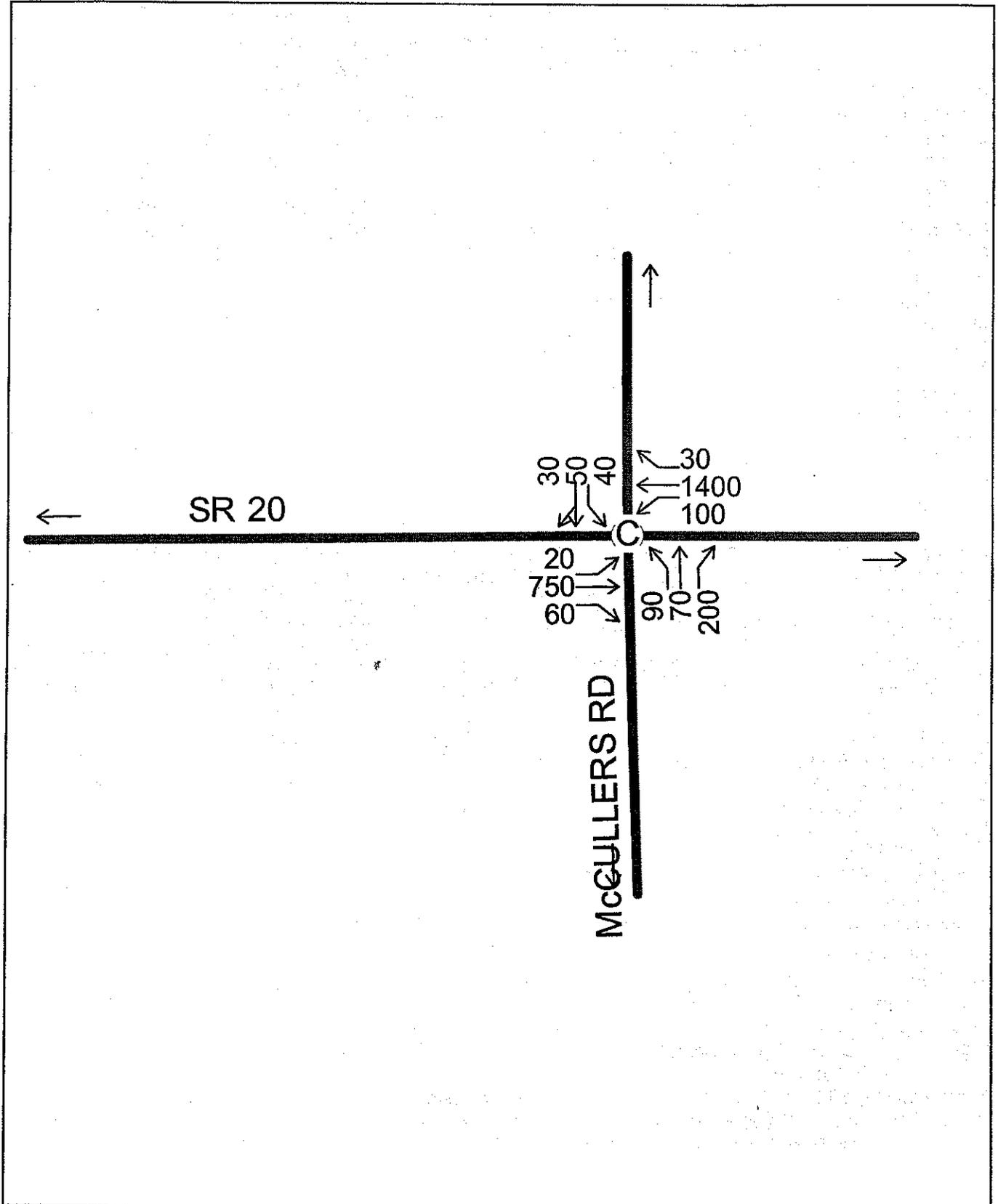
# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Splits and Phases: 3: SR 20 & Center Hill Church Rd



Design Year 2025  
Two Lane SR 20

A.M. Peak Hour  
6/25/2002



3: SR 20 & McCULLERS RD  
Two Lane SR 20

A.M. Peak Hour  
6/25/2002

| Lane Group              | EBL   | EBT  | EBR  | WBL   | WBT   | WBR  | NBL   | NBT  | NBR   | SBL   | SBT  | SBR  |
|-------------------------|-------|------|------|-------|-------|------|-------|------|-------|-------|------|------|
| Lane Configurations     |       |      |      |       |       |      |       |      |       |       |      |      |
| Ideal Flow (vphpl)      | 1900  | 1900 | 1900 | 1900  | 1900  | 1900 | 1900  | 1900 | 1900  | 1900  | 1900 | 1900 |
| Total Lost Time (s)     | 3.0   | 3.0  | 3.0  | 3.0   | 3.0   | 3.0  | 3.0   | 3.0  | 3.0   | 3.0   | 3.0  | 3.0  |
| Leading Detector (ft)   | 50    | 50   | 50   | 50    | 50    | 50   | 50    | 50   | 50    | 50    | 50   |      |
| Trailing Detector (ft)  | 0     | 0    | 0    | 0     | 0     | 0    | 0     | 0    | 0     | 0     | 0    |      |
| Turning Speed (mph)     | 15    |      | 9    | 15    |       | 9    | 15    |      | 9     | 15    |      | 9    |
| Satd. Flow (prot)       | 1736  | 1827 | 1553 | 1736  | 1827  | 1553 | 1736  | 1827 | 1553  | 1736  | 1725 | 0    |
| Flt Permitted           | 0.046 |      |      | 0.262 |       |      | 0.622 |      |       | 0.655 |      |      |
| Satd. Flow (perm)       | 84    | 1827 | 1553 | 479   | 1827  | 1553 | 1136  | 1827 | 1553  | 1197  | 1725 | 0    |
| Right Turn on Red       |       |      | Yes  |       |       | Yes  |       |      | Yes   |       |      | Yes  |
| Satd. Flow (RTOR)       |       |      | 63   |       |       | 32   |       |      | 211   |       | 21   |      |
| Link Speed (mph)        |       | 45   |      |       | 45    |      |       | 45   |       |       | 45   |      |
| Link Distance (ft)      |       | 2561 |      |       | 1232  |      |       | 1556 |       |       | 1216 |      |
| Travel Time (s)         |       | 38.8 |      |       | 18.7  |      |       | 23.6 |       |       | 18.4 |      |
| Volume (vph)            | 20    | 750  | 60   | 100   | 1400  | 30   | 90    | 70   | 200   | 40    | 50   | 30   |
| Peak Hour Factor        | 0.95  | 0.95 | 0.95 | 0.95  | 0.95  | 0.95 | 0.95  | 0.95 | 0.95  | 0.95  | 0.95 | 0.95 |
| Lane Group Flow (vph)   | 21    | 789  | 63   | 105   | 1474  | 32   | 95    | 74   | 211   | 42    | 85   | 0    |
| Turn Type               | Perm  |      | Perm | pm+pt |       | Perm | Perm  |      | pm+ov | Perm  |      |      |
| Protected Phases        |       | 2    |      | 1     | 6     |      |       | 8    | 1     |       | 4    |      |
| Permitted Phases        | 2     |      | 2    | 6     |       | 6    | 8     |      | 8     | 4     |      |      |
| Total Split (s)         | 90.0  | 90.0 | 90.0 | 9.0   | 99.0  | 99.0 | 21.0  | 21.0 | 9.0   | 21.0  | 21.0 | 0.0  |
| Act Effct Green (s)     | 87.2  | 87.2 | 87.2 | 96.2  | 96.2  | 96.2 | 15.3  | 15.3 | 24.3  | 15.3  | 15.3 |      |
| Actuated g/C Ratio      | 0.74  | 0.74 | 0.74 | 0.82  | 0.82  | 0.82 | 0.13  | 0.13 | 0.21  | 0.13  | 0.13 |      |
| v/c Ratio               | 0.34  | 0.58 | 0.05 | 0.23  | 0.99  | 0.03 | 0.64  | 0.31 | 0.43  | 0.27  | 0.35 |      |
| Uniform Delay, d1       | 5.2   | 6.9  | 0.0  | 2.0   | 10.0  | 0.0  | 48.5  | 46.3 | 0.0   | 46.0  | 34.7 |      |
| Delay                   | 9.2   | 7.6  | 1.2  | 2.4   | 29.3  | 0.8  | 48.9  | 46.2 | 5.3   | 46.0  | 35.0 |      |
| LOS                     | A     | A    | A    | A     | C     | A    | D     | D    | A     | D     | C    |      |
| Approach Delay          |       | 7.1  |      |       | 27.0  |      |       | 24.1 |       |       | 38.6 |      |
| Approach LOS            |       | A    |      |       | C     |      |       | C    |       |       | D    |      |
| Queue Length 50th (ft)  | 5     | 253  | 0    | 13    | ~923  | 0    | 69    | 51   | 0     | 29    | 44   |      |
| Queue Length 95th (ft)  | 32    | 363  | 7    | 25    | #1462 | 0    | 129   | 99   | 63    | 65    | 94   |      |
| Internal Link Dist (ft) |       | 2481 |      |       | 1152  |      |       | 1476 |       |       | 1136 |      |
| 50th Up Block Time (%)  |       |      |      |       | 1%    |      |       |      |       |       |      |      |
| 95th Up Block Time (%)  |       |      |      |       | 20%   |      |       |      |       |       |      |      |
| Turn Bay Length (ft)    |       |      |      |       |       |      |       |      |       |       |      |      |
| 50th Bay Block Time %   |       |      |      |       |       |      |       |      |       |       |      |      |
| 95th Bay Block Time %   |       |      |      |       |       |      |       |      |       |       |      |      |
| Queuing Penalty (veh)   |       |      |      |       |       |      |       |      |       |       |      |      |

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 117.6

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 21.3

Intersection LOS: C

Intersection Capacity Utilization 102.8%

ICU Level of Service F

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

3: SR 20 & McCULLERS RD  
Two Lane SR 20

A.M. Peak Hour  
6/25/2002

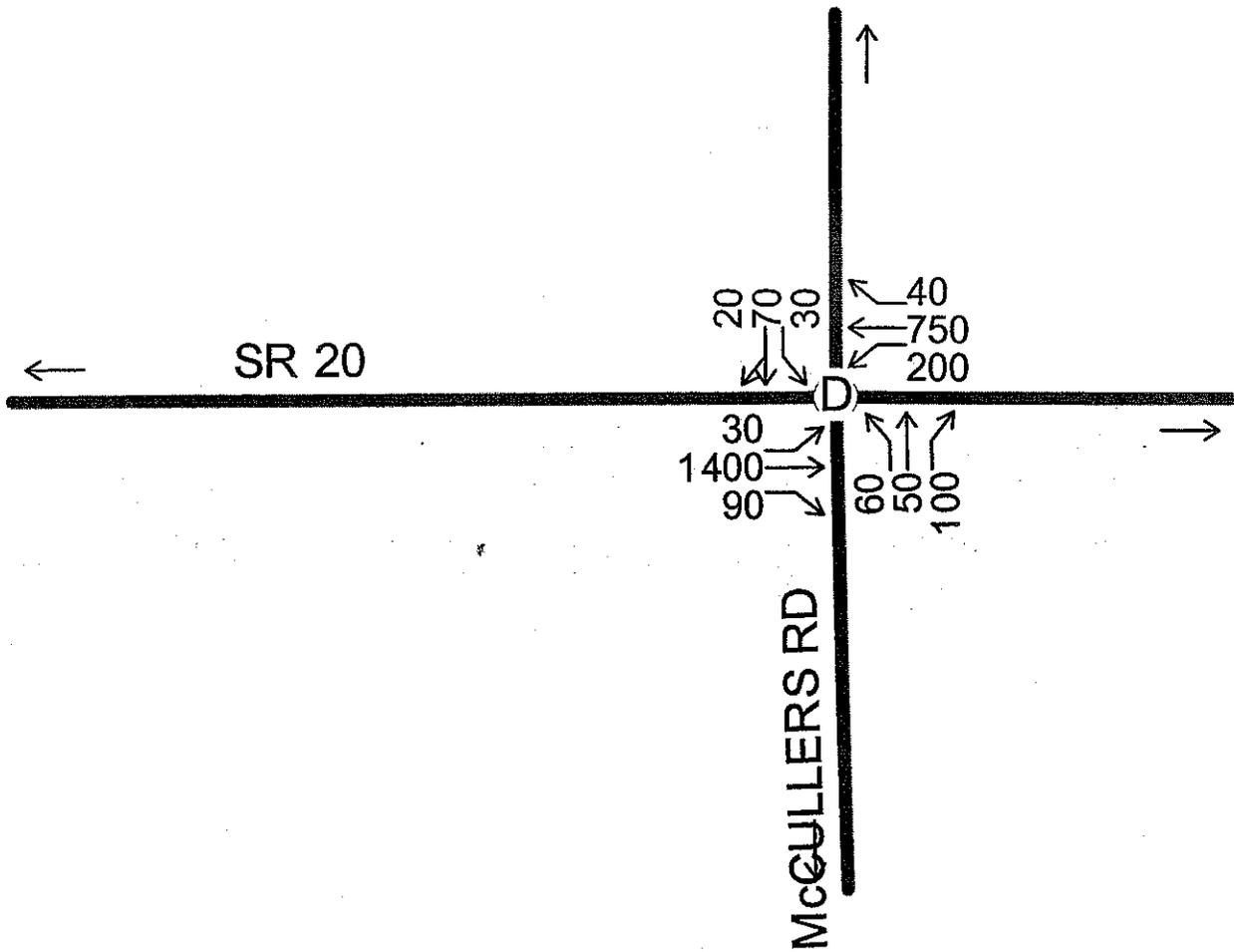
# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Splits and Phases: 3: SR 20 & McCULLERS RD



Design Year 2025  
Two Lane SR 20

P.M. Peak Hour  
6/25/2002



3: SR 20 & McCULLERS RD  
Two Lane SR 20

P.M. Peak Hour  
6/25/2002

| Lane Group              | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT  | NBR  | SBL   | SBT  | SBR  |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|------|------|
| Lane Configurations     |       |       |       |       |       |       |       |      |      |       |      |      |
| Ideal Flow (vphpl)      | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900 | 1900 | 1900  | 1900 | 1900 |
| Total Lost Time (s)     | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0  | 3.0  | 3.0   | 3.0  | 3.0  |
| Leading Detector (ft)   | 50    | 50    | 50    | 50    | 50    | 50    | 50    | 50   | 50   | 50    | 50   |      |
| Trailing Detector (ft)  | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0    | 0    | 0     | 0    |      |
| Turning Speed (mph)     | 15    |       | 9     | 15    |       | 9     | 15    |      | 9    | 15    |      | 9    |
| Satd. Flow (prot)       | 1736  | 1827  | 1553  | 1736  | 1827  | 1553  | 1736  | 1827 | 1553 | 1736  | 1767 | 0    |
| Flt Permitted           | 0.367 |       |       | 0.035 |       |       | 0.527 |      |      | 0.682 |      |      |
| Satd. Flow (perm)       | 670   | 1827  | 1553  | 64    | 1827  | 1553  | 963   | 1827 | 1553 | 1246  | 1767 | 0    |
| Right Turn on Red       |       |       | Yes   |       |       | Yes   |       |      | Yes  |       |      | Yes  |
| Satd. Flow (RTOR)       |       |       | 64    |       |       | 42    |       |      | 105  |       | 8    |      |
| Link Speed (mph)        |       | 45    |       |       | 45    |       |       | 45   |      |       | 45   |      |
| Link Distance (ft)      |       | 2561  |       |       | 1232  |       |       | 1556 |      |       | 1216 |      |
| Travel Time (s)         |       | 38.8  |       |       | 18.7  |       |       | 23.6 |      |       | 18.4 |      |
| Volume (vph)            | 30    | 1400  | 90    | 200   | 750   | 40    | 60    | 50   | 100  | 30    | 70   | 20   |
| Peak Hour Factor        | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95 | 0.95 | 0.95  | 0.95 | 0.95 |
| Lane Group Flow (vph)   | 32    | 1474  | 95    | 211   | 789   | 42    | 63    | 53   | 105  | 32    | 95   | 0    |
| Turn Type               | Perm  |       | Perm  | pm+pt |       | Perm  | Perm  |      | Perm | Perm  |      |      |
| Protected Phases        |       | 2     |       | 1     | 6     |       |       | 8    |      |       | 4    |      |
| Permitted Phases        | 2     |       | 2     | 6     |       | 6     | 8     |      | 8    | 4     |      |      |
| Total Split (s)         | 113.0 | 113.0 | 113.0 | 16.0  | 129.0 | 129.0 | 21.0  | 21.0 | 21.0 | 21.0  | 21.0 | 0.0  |
| Act Effct Green (s)     | 110.0 | 110.0 | 110.0 | 126.1 | 126.1 | 126.1 | 15.1  | 15.1 | 15.1 | 15.1  | 15.1 |      |
| Actuated g/C Ratio      | 0.75  | 0.75  | 0.75  | 0.86  | 0.86  | 0.86  | 0.10  | 0.10 | 0.10 | 0.10  | 0.10 |      |
| v/c Ratio               | 0.06  | 1.08  | 0.08  | 1.04  | 0.50  | 0.03  | 0.64  | 0.28 | 0.41 | 0.25  | 0.50 |      |
| Uniform Delay, d1       | 4.9   | 18.6  | 1.6   | 46.6  | 2.7   | 0.0   | 63.4  | 61.0 | 0.0  | 60.8  | 57.1 |      |
| Delay                   | 5.6   | 69.3  | 2.2   | 107.2 | 3.0   | 0.6   | 64.0  | 60.8 | 10.4 | 60.7  | 57.1 |      |
| LOS                     | A     | E     | A     | F     | A     | A     | E     | E    | B    | E     | E    |      |
| Approach Delay          |       | 64.0  |       |       | 24.0  |       |       | 37.8 |      |       | 58.0 |      |
| Approach LOS            |       | E     |       |       | C     |       |       | D    |      |       | E    |      |
| Queue Length 50th (ft)  | 8     | ~1611 | 6     | ~174  | 164   | 0     | 59    | 48   | 0    | 29    | 80   |      |
| Queue Length 95th (ft)  | 18    | #1897 | 20    | #349  | 229   | 0     | 113   | 94   | 58   | 65    | 143  |      |
| Internal Link Dist (ft) |       | 2481  |       |       | 1152  |       |       | 1476 |      |       | 1136 |      |
| 50th Up Block Time (%)  |       |       |       |       |       |       |       |      |      |       |      |      |
| 95th Up Block Time (%)  |       |       |       |       |       |       |       |      |      |       |      |      |
| Turn Bay Length (ft)    |       |       |       |       |       |       |       |      |      |       |      |      |
| 50th Bay Block Time %   |       |       |       |       |       |       |       |      |      |       |      |      |
| 95th Bay Block Time %   |       |       |       |       |       |       |       |      |      |       |      |      |
| Queuing Penalty (veh)   |       |       |       |       |       |       |       |      |      |       |      |      |

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 147.2

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.08

Intersection Signal Delay: 47.9

Intersection LOS: D

Intersection Capacity Utilization 109.4%

ICU Level of Service F

~ Volume exceeds capacity, queue is theoretically infinite.

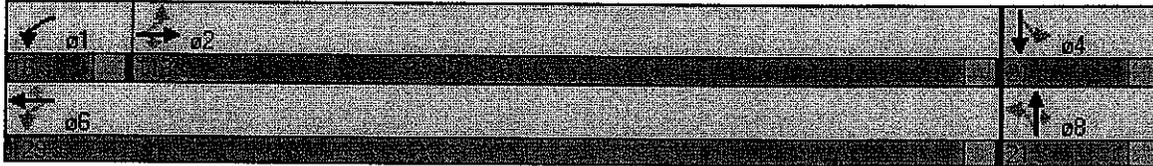
Queue shown is maximum after two cycles.

3: SR 20 & McCULLERS RD  
Two Lane SR 20

P.M. Peak Hour  
6/25/2002

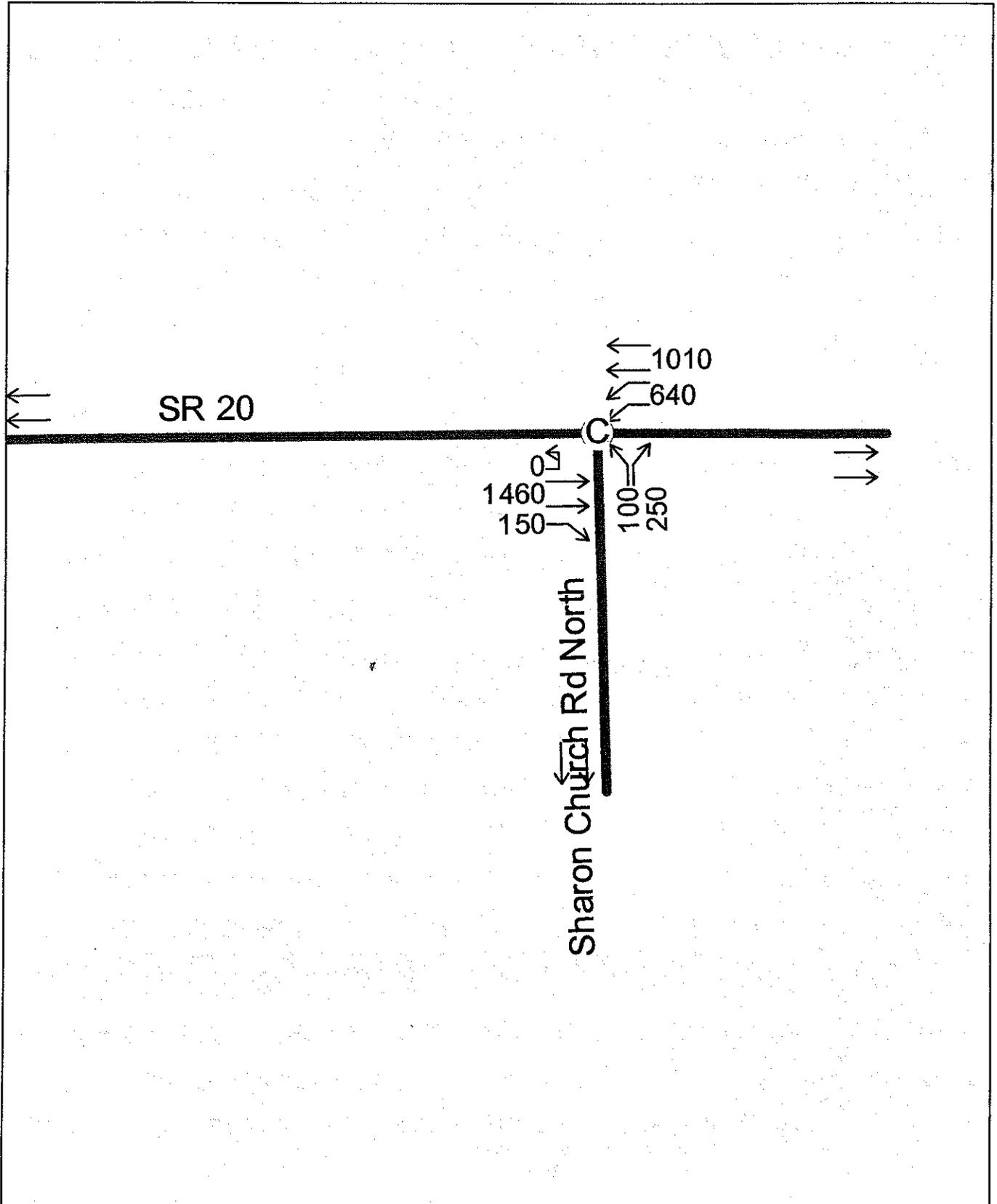
# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Splits and Phases: 3: SR 20 & McCULLERS RD



Design Year 2025  
Four Lane SR 20

P.M. Peak Hour  
7/1/2002



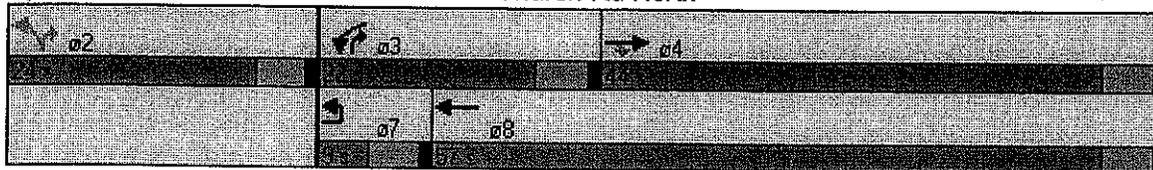
Lanes, Volumes, Timings  
3: SR 20 & Sharon Church Rd North

Design Year 2025  
Four Lane SR 20



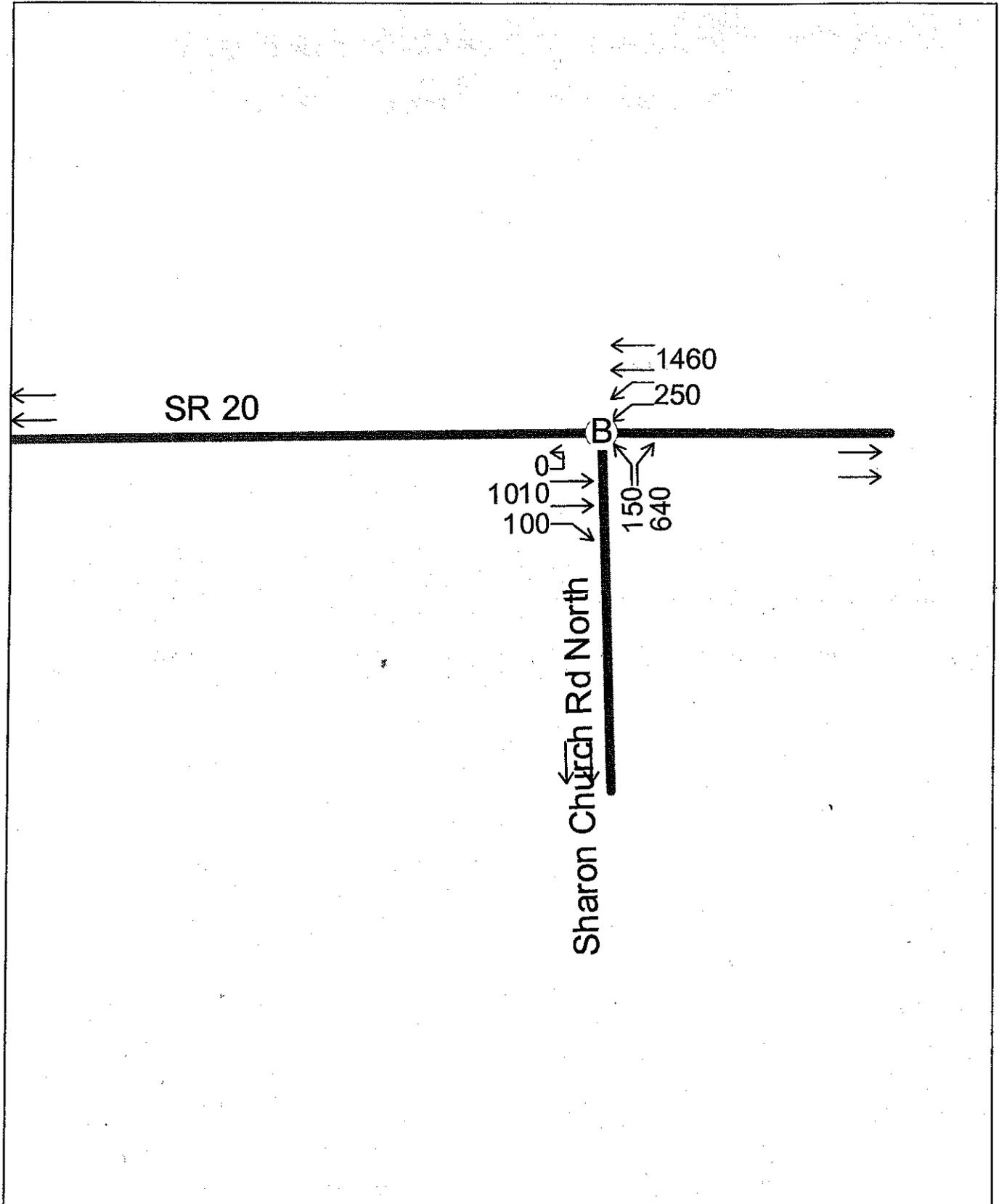
| Lane Group  | EBU                    | EBT  | EBR  | WBL                    | WBT  | NBL   | NBR    |
|---|------------------------|------|------|------------------------|------|-------|--------|
| Lane Configurations   | ↓                      | ↑↑   | ↑    | ↑↑                     | ↑↑   | ↓     | ↑      |
| Ideal Flow (vphpl)  | 1900                   | 1900 | 1900 | 1900                   | 1900 | 1900  | 1900   |
| Total Lost Time (s)   | 3.0                    | 3.0  | 3.0  | 3.0                    | 3.0  | 3.0   | 3.0    |
| Leading Detector (ft)   | 50                     | 50   | 50   | 50                     | 50   | 50    | 50     |
| Trailing Detector (ft)  | 0                      | 0    | 0    | 0                      | 0    | 0     | 0      |
| Turning Speed (mph)   | 9                      |      | 9    | 15                     |      | 15    | 9      |
| Satd. Flow (prot)   | 1827                   | 3471 | 1553 | 3367                   | 3471 | 1736  | 1553   |
| Flt Permitted   |                        |      |      | 0.950                  |      | 0.950 |        |
| Satd. Flow (perm)   | 1827                   | 3471 | 1553 | 3367                   | 3471 | 1736  | 1553   |
| Right Turn on Red   |                        |      | Yes  |                        |      |       | Yes    |
| Satd. Flow (RTOR)   |                        |      | 158  |                        |      |       | 8      |
| Link Speed (mph)  |                        | 45   |      |                        | 45   | 45    |        |
| Link Distance (ft)  |                        | 2561 |      |                        | 1232 | 1556  |        |
| Travel Time (s)   |                        | 38.8 |      |                        | 18.7 | 23.6  |        |
| Volume (vph)  | 0                      | 1460 | 150  | 640                    | 1010 | 100   | 250    |
| Peak Hour Factor  | 0.90                   | 0.90 | 0.90 | 0.90                   | 0.90 | 0.90  | 0.90   |
| Lane Group Flow (vph)   | 0                      | 1622 | 167  | 711                    | 1122 | 111   | 278    |
| Turn Type   | Prot                   |      | Perm | Prot                   |      |       | custom |
| Protected Phases  | 7                      | 4    |      | 3                      | 8    |       | 3      |
| Permitted Phases  |                        |      | 4    |                        |      | 2     | 2,3    |
| Total Split (s)   | 9.0                    | 44.0 | 44.0 | 22.0                   | 57.0 | 24.0  | 22.0   |
| Act Effct Green (s)   |                        | 41.0 | 41.0 | 19.0                   | 63.0 | 12.4  | 34.4   |
| Actuated g/C Ratio  |                        | 0.50 | 0.50 | 0.23                   | 0.77 | 0.15  | 0.42   |
| v/c Ratio   |                        | 0.93 | 0.19 | 0.90                   | 0.42 | 0.42  | 0.42   |
| Uniform Delay, d1   |                        | 18.8 | 0.5  | 30.4                   | 3.1  | 31.3  | 16.0   |
| Delay   |                        | 27.5 | 2.6  | 42.3                   | 3.4  | 31.2  | 16.2   |
| LOS   |                        | C    | A    | D                      | A    | C     | B      |
| Approach Delay  |                        | 25.2 |      |                        | 18.5 | 20.5  |        |
| Approach LOS  |                        | C    |      |                        | B    | C     |        |
| Queue Length 50th (ft)  |                        | 384  | 2    | 182                    | 76   | 52    | 88     |
| Queue Length 95th (ft)  |                        | #609 | 34   | #307                   | 133  | 99    | 146    |
| Internal Link Dist (ft)   |                        | 2481 |      |                        | 1152 | 1476  |        |
| 50th Up Block Time (%)  |                        |      |      |                        |      |       |        |
| 95th Up Block Time (%)  |                        |      |      |                        |      |       |        |
| Turn Bay Length (ft)  |                        |      |      |                        |      |       |        |
| 50th Bay Block Time %   |                        |      |      |                        |      |       |        |
| 95th Bay Block Time %   |                        |      |      |                        |      |       |        |
| Queuing Penalty (veh)   |                        |      |      |                        |      |       |        |
| <b>Intersection Summary</b>                                     |                        |      |      |                        |      |       |        |
| Area Type:  | Other                  |      |      |                        |      |       |        |
| Cycle Length:   | 90                     |      |      |                        |      |       |        |
| Actuated Cycle Length:  | 81.5                   |      |      |                        |      |       |        |
| Control Type:   | Actuated-Uncoordinated |      |      |                        |      |       |        |
| Maximum v/c Ratio:  | 0.93                   |      |      |                        |      |       |        |
| Intersection Signal Delay:                                      | 21.7                   |      |      | Intersection LOS: C    |      |       |        |
| Intersection Capacity Utilization:                              | 81.3%                  |      |      | ICU Level of Service D |      |       |        |
| # 95th percentile volume exceeds capacity, queue may be longer. |                        |      |      |                        |      |       |        |
| Queue shown is maximum after two cycles.                        |                        |      |      |                        |      |       |        |

Splits and Phases: 3: SR 20 & Sharon Church Rd North



Design Year 2025  
Four Lane SR 20

A.M. Peak Hour  
7/1/2002



Lanes, Volumes, Timings  
 3: SR 20 & Sharon Church Rd North

Design Year 2025  
 Four Lane SR 20



| Lane Group              | EBU  | EBT  | EBR  | WBL   | WBT  | NBL   | NBR    |
|-------------------------|------|------|------|-------|------|-------|--------|
| Lane Configurations     | ↑    | ↑↑   | ↑    | ↑↑    | ↑↑   | ↑     | ↑      |
| Ideal Flow (vphpl)      | 1900 | 1900 | 1900 | 1900  | 1900 | 1900  | 1900   |
| Storage Length (ft)     | 300  |      | 420  | 380   |      | 260   | 0      |
| Storage Lanes           | 1    |      | 1    | 2     |      | 1     | 1      |
| Total Lost Time (s)     | 3.0  | 3.0  | 3.0  | 3.0   | 3.0  | 3.0   | 3.0    |
| Leading Detector (ft)   | 50   | 50   | 50   | 50    | 50   | 50    | 50     |
| Trailing Detector (ft)  | 0    | 0    | 0    | 0     | 0    | 0     | 0      |
| Turning Speed (mph)     | 9    |      | 9    | 15    |      | 15    | 9      |
| Satd. Flow (prot)       | 1827 | 3471 | 1553 | 3367  | 3471 | 1736  | 1553   |
| Flt Permitted           |      |      |      | 0.950 |      | 0.950 |        |
| Satd. Flow (perm)       | 1827 | 3471 | 1553 | 3367  | 3471 | 1736  | 1553   |
| Right Turn on Red       |      |      | Yes  |       |      |       | Yes    |
| Satd. Flow (RTOR)       |      |      | 111  |       |      |       | 16     |
| Link Speed (mph)        |      | 45   |      |       | 45   | 45    |        |
| Link Distance (ft)      |      | 2561 |      |       | 1232 | 1556  |        |
| Travel Time (s)         |      | 38.8 |      |       | 18.7 | 23.6  |        |
| Volume (vph)            | 0    | 1010 | 100  | 250   | 1460 | 150   | 640    |
| Peak Hour Factor        | 0.90 | 0.90 | 0.90 | 0.90  | 0.90 | 0.90  | 0.90   |
| Lane Group Flow (vph)   | 0    | 1122 | 111  | 278   | 1622 | 167   | 711    |
| Turn Type               | Prot |      | Perm | Prot  |      |       | custom |
| Protected Phases        | 7    | 4    |      | 3     | 8    |       | 3      |
| Permitted Phases        |      |      | 4    |       |      | 2     | 2,3    |
| Total Split (s)         | 9.0  | 32.0 | 32.0 | 23.0  | 46.0 | 25.0  | 23.0   |
| Act Effct Green (s)     |      | 27.1 | 27.1 | 18.4  | 48.7 | 13.8  | 35.3   |
| Actuated g/C Ratio      |      | 0.40 | 0.40 | 0.27  | 0.71 | 0.20  | 0.51   |
| v/c Ratio               |      | 0.82 | 0.16 | 0.31  | 0.66 | 0.48  | 0.88   |
| Uniform Delay, d1       |      | 18.3 | 0.0  | 19.8  | 5.3  | 24.1  | 14.4   |
| Delay                   |      | 22.0 | 3.8  | 21.4  | 6.1  | 25.6  | 17.8   |
| LOS                     |      | C    | A    | C     | A    | C     | B      |
| Approach Delay          |      | 20.4 |      |       | 8.4  | 19.3  |        |
| Approach LOS            |      | C    |      |       | A    | B     |        |
| Queue Length 50th (ft)  |      | 224  | 0    | 50    | 157  | 67    | 235    |
| Queue Length 95th (ft)  |      | #375 | 30   | 88    | 288  | 121   | #488   |
| Internal Link Dist (ft) |      | 2481 |      |       | 1152 | 1476  |        |
| 50th Up Block Time (%)  |      |      |      |       |      |       |        |
| 95th Up Block Time (%)  |      |      |      |       |      |       |        |
| Turn Bay Length (ft)    |      |      | 420  | 380   |      | 260   |        |
| 50th Bay Block Time %   |      |      |      |       |      |       | 4%     |
| 95th Bay Block Time %   |      | 15%  |      |       |      |       | 25%    |
| Queuing Penalty (veh)   |      |      |      |       |      |       | 24     |

| Intersection Summary              |                        |
|-----------------------------------|------------------------|
| Area Type                         | Other                  |
| Cycle Length                      | 80                     |
| Actuated Cycle Length             | 68.6                   |
| Control Type                      | Actuated-Uncoordinated |
| Maximum v/c Ratio                 | 0.88                   |
| Intersection Signal Delay         | 14.5                   |
| Intersection LOS                  | B                      |
| Intersection Capacity Utilization | 81.7%                  |
| ICU Level of Service              | D                      |

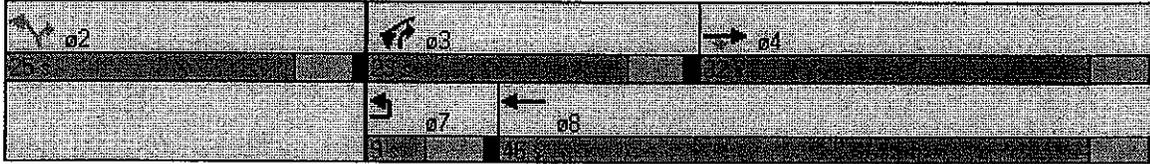
Lanes, Volumes, Timings  
3: SR 20 & Sharon Church Rd North

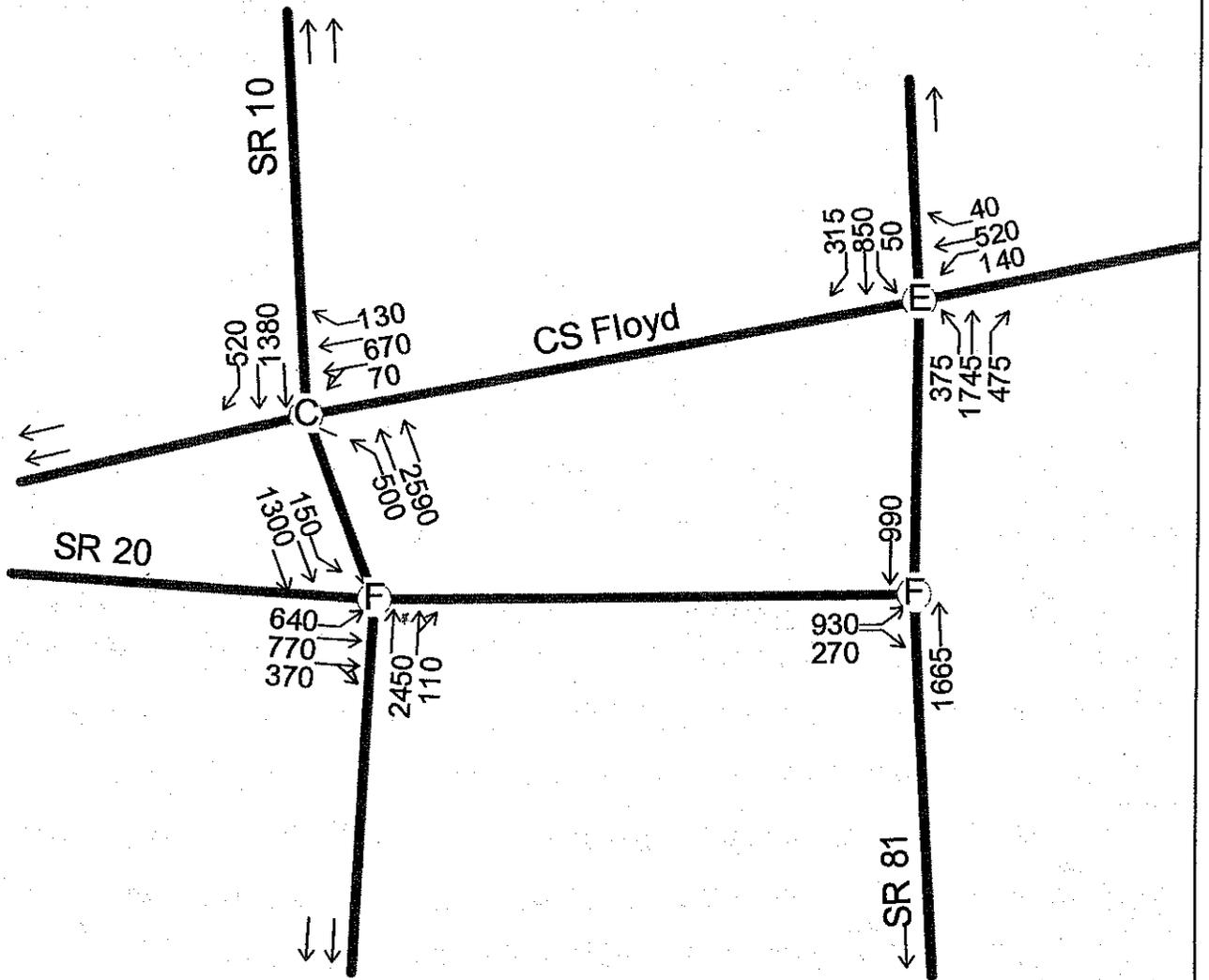
Design Year 2025  
Four Lane SR 20

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: SR 20 & Sharon Church Rd North





Lanes, Volumes, Timings  
1: SR 20 & SR 10

A.M. Peak 2025  
Proposed Geometrics



| Lane Group              | EBL   | EBT   | EBR  | WBL  | WBT  | WBR  | NBL  | NBT   | NBR  | SBL   | SRT  | SBR  |
|-------------------------|-------|-------|------|------|------|------|------|-------|------|-------|------|------|
| Lane Configurations     |       |       |      |      |      |      |      |       |      |       |      |      |
| Ideal Flow (vphpl)      | 1900  | 1900  | 1900 | 1900 | 1900 | 1900 | 1900 | 1900  | 1900 | 1900  | 1900 | 1900 |
| Storage Length (ft)     | 900   |       | 0    | 0    |      | 0    | 0    |       | 0    | 250   |      | 0    |
| Storage Lanes           | 1     |       | 0    | 0    |      | 0    | 0    |       | 0    | 1     |      | 0    |
| Total Lost Time (s)     | 4.0   | 4.0   | 4.0  | 4.0  | 4.0  | 4.0  | 4.0  | 4.0   | 4.0  | 4.0   | 4.0  | 4.0  |
| Leading Detector (ft)   | 50    | 50    |      |      |      |      |      | 50    |      | 50    | 50   |      |
| Trailing Detector (ft)  | 0     | 0     |      |      |      |      |      | 0     |      | 0     | 0    |      |
| Turning Speed (mph)     | 15    |       | 9    | 15   |      | 9    | 15   |       | 9    | 15    |      | 9    |
| Satd. Flow (prot)       | 1736  | 3301  | 0    | 0    | 0    | 0    | 0    | 3450  | 0    | 1736  | 3471 | 0    |
| Flt Permitted           | 0.950 |       |      |      |      |      |      |       |      | 0.051 |      |      |
| Satd. Flow (perm)       | 1736  | 3301  | 0    | 0    | 0    | 0    | 0    | 3450  | 0    | 93    | 3471 | 0    |
| Right Turn on Red       |       |       | Yes  |      |      | Yes  |      |       | Yes  |       |      | Yes  |
| Satd. Flow (RTOR)       |       | 63    |      |      |      |      |      | 6     |      |       |      |      |
| Link Speed (mph)        |       | 35    |      |      | 35   |      |      | 40    |      |       | 40   |      |
| Link Distance (ft)      |       | 1507  |      |      | 2240 |      |      | 1570  |      |       | 820  |      |
| Travel Time (s)         |       | 29.4  |      |      | 43.6 |      |      | 26.8  |      |       | 14.0 |      |
| Volume (vph)            | 640   | 770   | 370  | 0    | 0    | 0    | 0    | 2450  | 110  | 150   | 1300 | 0    |
| Peak Hour Factor        | 0.98  | 0.98  | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98  | 0.98 | 0.98  | 0.98 | 0.98 |
| Lane Group Flow (vph)   | 653   | 1164  | 0    | 0    | 0    | 0    | 0    | 2612  | 0    | 153   | 1327 | 0    |
| Turn Type               | Perm  |       |      |      |      |      |      |       |      | pm+pl |      |      |
| Protected Phases        |       | 4     |      |      |      |      |      | 2     |      | 1     | 6    |      |
| Permitted Phases        | 4     |       |      |      |      |      |      |       |      | 6     |      |      |
| Total Split (s)         | 42.0  | 42.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 78.0  | 0.0  | 10.0  | 88.0 | 0.0  |
| Act Effct Green (s)     | 38.0  | 38.0  |      |      |      |      |      | 74.0  |      | 84.0  | 84.0 |      |
| Actuated g/C Ratio      | 0.29  | 0.29  |      |      |      |      |      | 0.57  |      | 0.65  | 0.65 |      |
| v/c Ratio               | 1.29  | 1.15  |      |      |      |      |      | 1.33  |      | 1.12  | 0.59 |      |
| Uniform Delay, d1       | 46.0  | 43.1  | *    |      |      |      |      | 27.9  |      | 44.8  | 13.2 |      |
| Delay                   | 150.9 | 108.1 |      |      |      |      |      | 152.5 |      | 93.1  | 0.6  |      |
| LOS                     | F     | F     |      |      |      |      |      | F     |      | F     | A    |      |
| Approach Delay          |       | 123.5 |      |      |      |      |      | 152.5 |      |       | 10.1 |      |
| Approach LOS            |       | F     |      |      |      |      |      | F     |      |       | B    |      |
| Queue Length 50th (ft)  | ~699  | ~588  |      |      |      |      |      | ~1508 |      | ~112  | 21   |      |
| Queue Length 95th (ft)  | #934  | #727  |      |      |      |      |      | #1637 |      | m#131 | m23  |      |
| Internal Link Dist (ft) |       | 1427  |      |      | 2160 |      |      | 1490  |      |       | 740  |      |
| 50th Up Block Time (%)  |       |       |      |      |      |      |      |       |      |       |      |      |
| 95th Up Block Time (%)  |       |       |      |      |      |      |      | 10%   |      |       |      |      |
| Turn Bay Length (ft)    | 900   |       |      |      |      |      |      |       |      | 250   |      |      |
| 50th Bay Block Time %   |       |       |      |      |      |      |      |       |      |       |      |      |
| 95th Bay Block Time %   | 8%    |       |      |      |      |      |      |       |      |       |      |      |
| Queueing Penalty (veh)  | 23    |       |      |      |      |      |      |       |      |       |      |      |

**Intersection Summary**  
 Area Type: Other  
 Cycle Length: 130  
 Actuated Cycle Length: 130  
 Offset: 114 (88%), Referenced to phase 2:NBT and 6:SBTL, Start of Green  
 Control Type: Actuated Coordinated  
 Maximum v/c Ratio: 1.33  
 Intersection Signal Delay: 107.9      Intersection LOS: F

Intersection Capacity Utilization 127.3%      ICU Level of Service H

- Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: SR 20 & SR 10



Lanes, Volumes, Timings  
2: SR 20 & SR 81

A.M. Peak 2025  
Proposed Geometrics



| Lane Group              | EBL   | EBR  | NBL  | NBT   | SBT   | SBR  |
|-------------------------|-------|------|------|-------|-------|------|
| Lane Configurations     |       |      |      |       |       |      |
| Ideal Flow (vphpl)      | 1900  | 1900 | 1900 | 1900  | 1900  | 1900 |
| Total Lost Time (s)     | 4.0   | 4.0  | 4.0  | 4.0   | 4.0   | 4.0  |
| Leading Detector (ft)   | 50    | 50   |      | 50    | 50    |      |
| Trailing Detector (ft)  | 0     | 0    |      | 0     | 0     |      |
| Turning Speed (mph)     | 15    | 9    | 15   |       |       | 9    |
| Satd. Flow (prot)       | 1736  | 1553 | 0    | 1827  | 1827  | 0    |
| Flt Permitted           | 0.950 |      |      |       |       |      |
| Satd. Flow (perm)       | 1736  | 1553 | 0    | 1827  | 1827  | 0    |
| Right Turn on Red       |       | Yes  |      |       |       | Yes  |
| Satd. Flow (RTOR)       |       | 107  |      |       |       |      |
| Link Speed (mph)        | 35    |      |      | 35    | 35    |      |
| Link Distance (ft)      | 2240  |      |      | 1602  | 1232  |      |
| Travel Time (s)         | 43.6  |      |      | 31.2  | 24.0  |      |
| Volume (vph)            | 930   | 270  | 0    | 1665  | 990   | 0    |
| Peak Hour Factor        | 0.98  | 0.98 | 0.98 | 0.98  | 0.98  | 0.98 |
| Lane Group Flow (vph)   | 949   | 276  | 0    | 1699  | 1010  | 0    |
| Turn Type               | Perm  |      |      |       |       |      |
| Protected Phases        | 4     |      |      | 2     | 6     |      |
| Permitted Phases        |       | 4    |      |       |       |      |
| Total Split (s)         | 51.0  | 51.0 | 0.0  | 79.0  | 79.0  | 0.0  |
| Act Effct Green (s)     | 47.1  | 47.1 |      | 75.0  | 75.0  |      |
| Actuated g/C Ratio      | 0.36  | 0.36 |      | 0.58  | 0.58  |      |
| v/c Ratio               | 1.51  | 0.44 |      | 1.61  | 0.96  |      |
| Uniform Delay, d1       | 41.5  | 18.4 |      | 27.5  | 26.0  |      |
| Delay                   | 157.7 | 2.1  |      | 218.1 | 27.8  |      |
| LOS                     | F     | A    | F    | F     | C     |      |
| Approach Delay          | 122.7 |      |      | 218.1 | 27.8  |      |
| Approach LOS            | F     |      |      | F     | C     |      |
| Queue Length 50th (ft)  | ~1121 | 0    |      | ~2052 | 315   |      |
| Queue Length 95th (ft)  | m#952 | m0   |      | #2316 | #1091 |      |
| Internal Link Dist (ft) | 2160  |      |      | 1522  | 1152  |      |
| 50th Up Block Time (%)  |       |      |      | 30%   |       |      |
| 95th Up Block Time (%)  |       |      |      | 38%   |       |      |
| Turn Bay Length (ft)    |       |      |      |       |       |      |
| 50th Bay Block Time %   |       |      |      |       |       |      |
| 95th Bay Block Time %   |       |      |      |       |       |      |
| Queuing Penalty (veh)   |       |      |      |       |       |      |

Intersection Summary

|   |   |
|---|---|
| Area Type   | Other   |
| Cycle Length  | 130   |
| Actuated Cycle Length                                       | 130   |
| Offset  | 30 (23%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Control Type  | Actuated-Coordinated  |
| Maximum v/c Ratio   | 1.61  |
| Intersection Signal Delay                                   | 139.5   |
| Intersection LOS  | F   |
| Intersection Capacity Utilization                           | 148.7%  |
| ICU Level of Service  | H   |
| ~ Volume exceeds capacity, queue is theoretically infinite. |   |

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: SR 20 & SR 81



Lanes, Volumes, Timings  
3: CS Floyd & SR 81

A.M. Peak 2025  
Proposed Geometrics



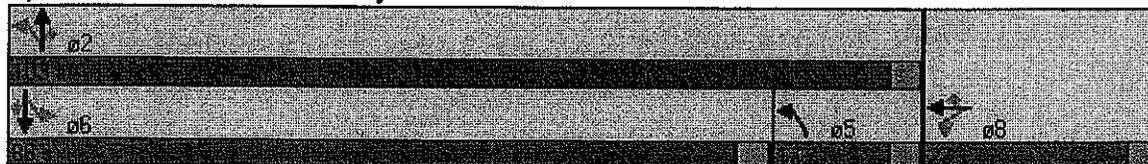
| Lane Group              | EBL  | EBT  | EBR  | WBL   | WBT   | WBR  | NBL   | NBT   | NBR   | SBL   | SBT  | SBR  |
|-------------------------|------|------|------|-------|-------|------|-------|-------|-------|-------|------|------|
| Lane Configurations     |      |      |      | ↙     | ↑     | ↗    | ↙     | ↑     | ↗     | ↙     | ↑    | ↗    |
| Ideal Flow (vohpl)      | 1900 | 1900 | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  | 1900  | 1900  | 1900 | 1900 |
| Storage Length (ft)     | 0    |      | 0    | 300   |       | 300  | 300   |       | 300   | 300   |      | 300  |
| Storage Lanes           | 0    |      | 0    | 1     |       | 1    | 1     |       | 1     | 1     |      | 1    |
| Total Lost Time (s)     | 4.0  | 4.0  | 4.0  | 4.0   | 4.0   | 4.0  | 4.0   | 4.0   | 4.0   | 4.0   | 4.0  | 4.0  |
| Leading Detector (ft)   |      |      |      | 50    | 50    | 50   | 50    | 50    | 50    | 50    | 50   | 50   |
| Trailing Detector (ft)  |      |      |      | 0     | 0     | 0    | 0     | 0     | 0     | 0     | 0    | 0    |
| Turning Speed (mph)     | 15   |      | 9    | 15    |       | 9    | 15    |       | 9     | 15    |      | 9    |
| Satd. Flow (prot)       | 0    | 0    | 0    | 1736  | 1827  | 1553 | 1736  | 1827  | 1553  | 1736  | 1827 | 1553 |
| Flt Permitted           |      |      |      | 0.950 |       |      | 0.180 |       |       | 0.049 |      |      |
| Satd. Flow (perm)       | 0    | 0    | 0    | 1736  | 1827  | 1553 | 329   | 1827  | 1553  | 90    | 1827 | 1553 |
| Right Turn on Red       |      |      | Yes  |       |       | Yes  |       |       | Yes   |       |      | Yes  |
| Satd. Flow (RTOR)       |      |      |      |       |       | 34   |       |       | 411   |       |      | 53   |
| Link Speed (mph)        |      | 35   |      |       | 35    |      |       | 35    |       |       | 35   |      |
| Link Distance (ft)      |      | 2592 |      |       | 1600  |      |       | 1232  |       |       | 929  |      |
| Travel Time (s)         |      | 50.5 |      |       | 31.2  |      |       | 24.0  |       |       | 18.1 |      |
| Volume (vph)            | 0    | 0    | 0    | 140   | 520   | 40   | 375   | 1745  | 475   | 50    | 850  | 315  |
| Peak Hour Factor        | 0.98 | 0.98 | 0.98 | 0.98  | 0.98  | 0.98 | 0.98  | 0.98  | 0.98  | 0.98  | 0.98 | 0.98 |
| Lane Group Flow (vph)   | 0    | 0    | 0    | 143   | 531   | 41   | 383   | 1781  | 485   | 51    | 867  | 321  |
| Turn Type               |      |      |      | Perm  |       | Perm | pm+pt |       | Perm  | Perm  |      | Perm |
| Protected Phases        |      |      |      |       | 8     |      | 5     | 2     |       |       |      | 6    |
| Permitted Phases        |      |      |      | 8     |       | 8    | 2     |       | 2     | 6     |      | 6    |
| Total Split (s)         | 0.0  | 0.0  | 0.0  | 27.0  | 27.0  | 27.0 | 17.0  | 103.0 | 103.0 | 86.0  | 86.0 | 86.0 |
| Act Effect Green (s)    |      |      |      | 23.0  | 23.0  | 23.0 | 99.1  | 99.1  | 99.1  | 82.0  | 82.0 | 82.0 |
| Actuated g/C Ratio      |      |      |      | 0.18  | 0.18  | 0.18 | 0.76  | 0.76  | 0.76  | 0.63  | 0.63 | 0.63 |
| v/c Ratio               |      |      |      | 0.47  | 1.64  | 0.14 | 0.98  | 1.28  | 0.38  | 0.89  | 0.75 | 0.32 |
| Uniform Delay, d1       |      |      |      | 48.0  | 53.5  | 7.5  | 30.2  | 15.5  | 0.6   | 20.4  | 16.9 | 9.0  |
| Delay                   |      |      |      | 48.7  | 231.2 | 17.9 | 26.5  | 69.4  | 0.6   | 96.6  | 17.6 | 9.2  |
| LOS                     |      |      |      | D     | F     | B    | C     | E     | A     | F     | B    | A    |
| Approach Delay          |      |      |      |       | 182.4 |      |       | 50.6  |       |       | 18.7 |      |
| Approach LOS            |      |      |      |       | F     |      |       | D     |       |       | B    |      |
| Queue Length 50th (ft)  |      |      |      | 109   | -647  | 0    | 123   | -1908 | 11    | 34    | 481  | 96   |
| Queue Length 95th (ft)  |      |      |      | 178   | #867  | 0    | m41   | m366  | m0    | #129  | 660  | 148  |
| Internal Link Dist (ft) |      | 2512 |      |       | 1520  |      |       | 1152  |       |       | 849  |      |
| 50th Up Block Time (%)  |      |      |      |       |       |      |       | 39%   |       |       |      |      |
| 95th Up Block Time (%)  |      |      |      |       |       |      |       |       |       |       |      |      |
| Turn Bay Length (ft)    |      |      |      | 300   |       | 300  | 300   |       | 300   | 300   |      | 300  |
| 50th Bay Block Time %   |      |      |      |       | 57%   |      |       | 39%   |       |       | 17%  |      |
| 95th Bay Block Time %   |      |      |      |       | 68%   |      |       | 9%    |       |       | 22%  |      |
| Queuing Penalty (veh)   |      |      |      |       | 89    |      |       | 440   |       |       | 10   |      |

| Intersection Summary      |   |
|---------------------------|---|
| Area Type                 | Other   |
| Cycle Length              | 130   |
| Actuated Cycle Length     | 130   |
| Offset                    | 30 (23%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green |
| Control Type              | Actuated-Coordinated  |
| Maximum v/c Ratio         | 1.64  |
| Intersection Signal Delay | 62.6  |
| Intersection LOS          | E   |

Intersection Capacity Utilization 135.0%      ICU Level of Service H

- Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: CS Floyd & SR 81



Lanes, Volumes, Timings  
5: CS Floyd & SR 10

A.M. Peak 2025  
Proposed Geometrics



| Lane Group              | EBL  | EBT  | EBR  | WBL  | WBT   | WBR  | NBL   | NBT   | NBR  | SBL  | SBT  | SBR  |
|-------------------------|------|------|------|------|-------|------|-------|-------|------|------|------|------|
| Lane Configurations     |      |      |      |      | ↑↑    | ↑    | ↓     | ↑↑    |      |      | ↑↑   | ↑    |
| Ideal Flow (vphpl)      | 1900 | 1900 | 1900 | 1900 | 1900  | 1900 | 1900  | 1900  | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft)     | 0    |      | 0    | 0    |       | 300  | 350   |       | 0    | 0    |      | 300  |
| Storage Lanes           | 0    |      | 0    | 0    |       | 1    | 1     |       | 0    | 0    |      | 1    |
| Total Lost Time (s)     | 4.0  | 4.0  | 4.0  | 4.0  | 4.0   | 4.0  | 4.0   | 4.0   | 4.0  | 4.0  | 4.0  | 4.0  |
| Leading Detector (ft)   |      |      |      | 50   | 50    | 50   | 50    | 50    |      |      | 50   | 50   |
| Trailing Detector (ft)  |      |      |      | 0    | 0     | 0    | 0     | 0     |      |      | 0    | 0    |
| Turning Speed (mph)     | 15   |      | 9    | 15   |       | 9    | 15    |       | 9    | 15   |      | 9    |
| Satd. Flow (prot)       | 0    | 0    | 0    | 0    | 3454  | 1553 | 1736  | 3471  | 0    | 0    | 3471 | 1553 |
| Flt Permitted           |      |      |      |      | 0.995 |      | 0.066 |       |      |      |      |      |
| Satd. Flow (perm)       | 0    | 0    | 0    | 0    | 3454  | 1553 | 121   | 3471  | 0    | 0    | 3471 | 1553 |
| Right Turn on Red       |      |      | Yes  |      |       | Yes  |       |       | Yes  |      |      | Yes  |
| Satd. Flow (RTOR)       |      |      |      |      |       | 7    |       |       |      |      |      | 67   |
| Link Speed (mph)        |      | 35   |      |      | 35    |      |       | 40    |      |      | 40   |      |
| Link Distance (ft)      |      | 1219 |      |      | 2592  |      |       | 820   |      |      | 1699 |      |
| Travel Time (s)         |      | 23.7 |      |      | 50.5  |      |       | 14.0  |      |      | 29.0 |      |
| Volume (vph)            | 0    | 0    | 0    | 70   | 670   | 130  | 500   | 2590  | 0    | 0    | 1380 | 520  |
| Peak Hour Factor        | 0.98 | 0.98 | 0.98 | 0.98 | 0.98  | 0.98 | 0.98  | 0.98  | 0.98 | 0.98 | 0.98 | 0.98 |
| Lane Group Flow (vph)   | 0    | 0    | 0    | 0    | 755   | 133  | 510   | 2643  | 0    | 0    | 1408 | 531  |
| Turn Type               |      |      |      | Perm |       | Perm | pm+pt |       |      |      |      | Perm |
| Protected Phases        |      |      |      |      | 8     |      | 5     | 2     |      |      | 6    |      |
| Permitted Phases        |      |      |      | 8    |       | 8    | 2     |       |      |      | 6    |      |
| Total Split (s)         | 0.0  | 0.0  | 0.0  | 31.0 | 31.0  | 31.0 | 38.0  | 99.0  | 0.0  | 0.0  | 61.0 | 61.0 |
| Act Effct Green (s)     |      |      |      |      | 27.0  | 27.0 | 95.0  | 95.0  |      |      | 56.9 | 56.9 |
| Actuated g/C Ratio      |      |      |      |      | 0.21  | 0.21 | 0.73  | 0.73  |      |      | 0.44 | 0.44 |
| v/c Ratio               |      |      |      |      | 1.05  | 0.41 | 1.00  | 1.04  |      |      | 0.93 | 0.74 |
| Uniform Delay, d1       |      |      |      |      | 51.5  | 42.1 | 42.7  | 17.5  |      |      | 34.5 | 26.0 |
| Delay                   |      |      |      |      | 47.4  | 30.2 | 29.6  | 12.8  |      |      | 39.3 | 27.0 |
| LOS                     |      |      |      |      | D     | C    | C     | B     |      |      | D    | C    |
| Approach Delay          |      |      |      |      | 44.8  |      |       | 15.5  |      |      | 35.9 |      |
| Approach LOS            |      |      |      |      | D     |      |       | B     |      |      | D    |      |
| Queue Length 50th (ft)  |      |      |      |      | -370  | 94   | 367   | -1266 |      |      | 580  | 324  |
| Queue Length 95th (ft)  |      |      |      |      | m302  | m93  | m220  | m142  |      |      | #736 | 471  |
| Internal Link Dist (ft) |      | 1139 |      |      | 2512  |      |       | 740   |      |      | 1619 |      |
| 50th Up Block Time (%)  |      |      |      |      |       |      |       | 5%    |      |      |      |      |
| 95th Up Block Time (%)  |      |      |      |      |       |      |       |       |      |      |      |      |
| Turn Bay Length (ft)    |      |      |      |      |       | 300  | 350   |       |      |      |      | 300  |
| 50th Bay Block Time %   |      |      |      |      |       | 16%  | 6%    | 4%    |      |      | 28%  | 8%   |
| 95th Bay Block Time %   |      |      |      |      |       |      |       |       |      |      | 34%  | 21%  |
| Queuing Penalty (veh)   |      |      |      |      |       | 10   | 40    | 76    |      |      | 164  | 102  |

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 108 (83%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.05

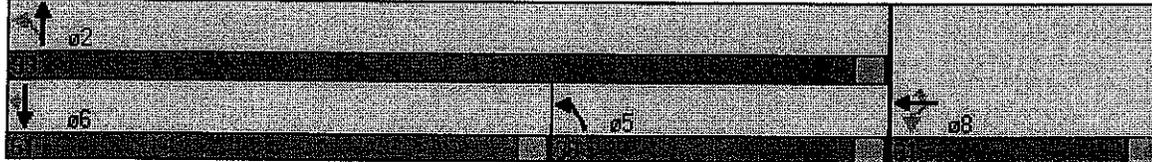
Intersection Signal Delay: 26.5

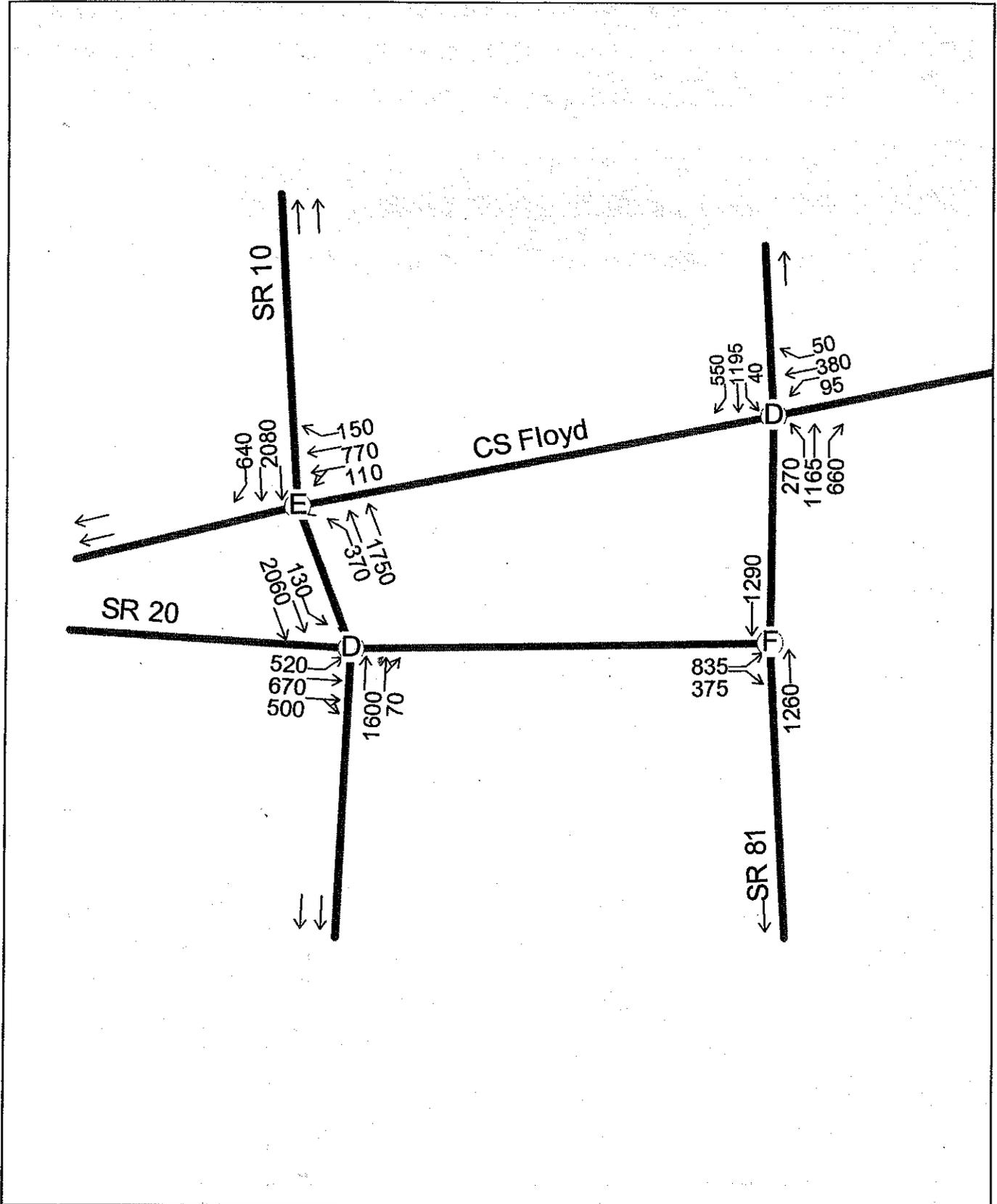
Intersection LOS: C

Intersection Capacity Utilization 100.7%      ICU Level of Service F

- Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: CS Floyd & SR 10





Lanes, Volumes, Timings  
1: SR 20 & SR 10

P.M. Peak 2025  
Proposed Geometrics



| Lane Group              | EBL   | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SEB   | SEB  | SEB  |
|-------------------------|-------|------|------|------|------|------|------|------|------|-------|------|------|
| Lane Configurations     | ↖     | ↖    |      |      |      |      |      | ↖    |      | ↖     | ↖    | ↖    |
| Ideal Flow (vphpl)      | 1900  | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900  | 1900 | 1900 |
| Storage Length (ft)     | 800   |      | 0    | 0    |      | 0    | 0    |      | 0    | 250   |      | 0    |
| Storage Lanes           | 1     |      | 0    | 0    |      | 0    | 0    |      | 0    | 1     |      | 0    |
| Total Lost Time (s)     | 4.0   | 4.0  | 4.0  | 4.0  | 4.0  | 4.0  | 4.0  | 4.0  | 4.0  | 4.0   | 4.0  | 4.0  |
| Leading Detector (ft)   | 50    | 50   |      |      |      |      |      | 50   |      | 50    | 50   |      |
| Trailing Detector (ft)  | 0     | 0    |      |      |      |      |      | 0    |      | 0     | 0    |      |
| Turning Speed (mph)     | 15    |      | 9    | 15   |      | 9    | 15   |      | 9    | 15    |      | 9    |
| Satd. Flow (prot)       | 1736  | 3249 | 0    | 0    | 0    | 0    | 0    | 3450 | 0    | 1736  | 3471 | 0    |
| Flt Permitted           | 0.950 |      |      |      |      |      |      |      |      | 0.074 |      |      |
| Satd. Flow (perm)       | 1736  | 3249 | 0    | 0    | 0    | 0    | 0    | 3450 | 0    | 135   | 3471 | 0    |
| Right Turn on Red       |       |      | Yes  |      |      | Yes  |      |      | Yes  |       |      | Yes  |
| Satd. Flow (RTOR)       |       | 7    |      |      |      |      |      | 6    |      |       |      |      |
| Link Speed (mph)        |       | 35   |      |      | 35   |      |      | 40   |      |       | 40   |      |
| Link Distance (ft)      |       | 1507 |      |      | 2240 |      |      | 1570 |      |       | 820  |      |
| Travel Time (s)         |       | 29.4 |      |      | 43.6 |      |      | 26.8 |      |       | 14.0 |      |
| Volume (vph)            | 520   | 670  | 500  | 0    | 0    | 0    | 0    | 1600 | 70   | 130   | 2060 | 0    |
| Peak Hour Factor        | 0.98  | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98  | 0.98 | 0.98 |
| Lane Group Flow (vph)   | 531   | 1194 | 0    | 0    | 0    | 0    | 0    | 1704 | 0    | 133   | 2102 | 0    |
| Turn Type               | Perm  |      |      |      |      |      |      |      |      | pm+pt |      |      |
| Protected Phases        |       | 4    |      |      |      |      |      | 2    |      | 1     | 6    |      |
| Permitted Phases        | 4     |      |      |      |      |      |      |      |      | 6     |      |      |
| Total Split (s)         | 38.0  | 38.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 54.0 | 0.0  | 8.0   | 62.0 | 0.0  |
| Act Effct Green (s)     | 34.0  | 34.0 |      |      |      |      |      | 50.0 |      | 58.0  | 58.0 |      |
| Actuated g/C Ratio      | 0.34  | 0.34 |      |      |      |      |      | 0.50 |      | 0.58  | 0.58 |      |
| v/c Ratio               | 0.90  | 1.08 |      |      |      |      |      | 0.99 |      | 0.94  | 1.04 |      |
| Uniform Delay, d1       | 31.4  | 32.8 |      |      |      |      |      | 24.6 |      | 32.0  | 21.0 |      |
| Delay                   | 42.4  | 73.2 |      |      |      |      |      | 38.5 |      | 20.1  | 12.3 |      |
| LOS                     | D     | E    |      |      |      |      |      | D    |      | C     | B    |      |
| Approach Delay          |       | 63.7 |      |      |      |      |      | 38.5 |      |       | 12.8 |      |
| Approach LOS            |       | E    |      |      |      |      |      | D    |      |       | B    |      |
| Queue Length 50th (ft)  | 319   | ~313 |      |      |      |      |      | 540  |      | 40    | ~800 |      |
| Queue Length 95th (ft)  | #516  | #510 |      |      |      |      |      | #728 |      | m24   | m27  |      |
| Internal Link Dist (ft) |       | 1427 |      |      | 2160 |      |      | 1490 |      |       | 740  |      |
| 50th Up Block Time (%)  |       |      |      |      |      |      |      |      |      |       | 9%   |      |
| 95th Up Block Time (%)  |       |      |      |      |      |      |      |      |      |       |      |      |
| Turn Bay Length (ft)    | 800   |      |      |      |      |      |      |      |      | 250   |      |      |
| 50th Bay Block Time %   |       |      |      |      |      |      |      |      |      |       |      | 5%   |
| 95th Bay Block Time %   |       |      |      |      |      |      |      |      |      |       |      |      |
| Queuing Penalty (veh)   |       |      |      |      |      |      |      |      |      |       |      | 92   |

**Intersection Summary**  
 Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 57 (57%), Referenced to phase 2:NBT and 6:SBTL, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.08  
 Intersection Signal Delay: 36.0      Intersection LOS: D

Intersection Capacity Utilization 100.0%      ICU Level of Service F

- Volume exceeds capacity, queue is theoretically infinite.

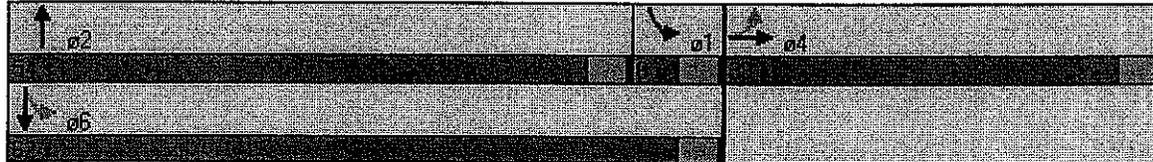
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: SR 20 & SR 10





| Lane Group  | EBL   | EBR  | NBL  | NBT                    | SBT    | SBR  |
|---|---|------|------|------------------------|--------|------|
| Lane Configurations   |   |      |      |                        |        |      |
| Ideal Flow (vphpl)  | 1900  | 1900 | 1900 | 1900                   | 1900   | 1900 |
| Total Lost Time (s)   | 4.0   | 4.0  | 4.0  | 4.0                    | 4.0    | 4.0  |
| Leading Detector (ft)   | 50  | 50   |      | 50                     | 50     |      |
| Trailing Detector (ft)  | 0   | 0    |      | 0                      | 0      |      |
| Turning Speed (mph)   | 15  | 9    | 15   |                        |        | 9    |
| Satd. Flow (prot)   | 1736  | 1553 | 0    | 1827                   | 1827   | 0    |
| Flt Permitted   | 0.950   |      |      |                        |        |      |
| Satd. Flow (perm)   | 1736  | 1553 | 0    | 1827                   | 1827   | 0    |
| Right Turn on Red   |   | Yes  |      |                        |        | Yes  |
| Satd. Flow (RTOR)   |   | 41   |      |                        |        |      |
| Link Speed (mph)  | 35  |      |      | 35                     | 35     |      |
| Link Distance (ft)  | 2240  |      |      | 1602                   | 1232   |      |
| Travel Time (s)   | 43.6  |      |      | 31.2                   | 24.0   |      |
| Volume (vph)  | 835   | 375  | 0    | 1260                   | 1290   | 0    |
| Peak Hour Factor  | 0.98  | 0.98 | 0.98 | 0.98                   | 0.98   | 0.98 |
| Lane Group Flow (vph)   | 852   | 383  | 0    | 1286                   | 1316   | 0    |
| Turn Type   |   | Perm |      |                        |        |      |
| Protected Phases  | 4   |      |      | 2                      | 6      |      |
| Permitted Phases  |   | 4    |      |                        |        |      |
| Total Split (s)   | 42.0  | 42.0 | 0.0  | 58.0                   | 58.0   | 0.0  |
| Act Effct Green (s)   | 38.0  | 38.0 |      | 54.0                   | 54.0   |      |
| Actuated g/C Ratio  | 0.38  | 0.38 |      | 0.54                   | 0.54   |      |
| v/c Ratio   | 1.29  | 0.62 |      | 1.30                   | 1.33   |      |
| Uniform Delay, d1   | 31.0  | 22.2 |      | 23.0                   | 23.0   |      |
| Delay   | 130.4   | 9.2  |      | 135.8                  | 146.9  |      |
| LOS   | F   | A    |      | F                      | F      |      |
| Approach Delay  | 92.8  |      |      | 135.8                  | 146.9  |      |
| Approach LOS  | F   |      |      | F                      | F      |      |
| Queue Length 50th (ft)  | ~685  | 73   |      | ~1058                  | ~1091  |      |
| Queue Length 95th (ft) m#715                                  | m80   |      |      | #131                   | m#1068 |      |
| Internal Link Dist (ft)                                       | 2160  |      |      | 1522                   | 1152   |      |
| 50th Up Block Time (%)  |   |      |      |                        |        |      |
| 95th Up Block Time (%)  |   |      |      |                        |        |      |
| Turn Bay Length (ft)  |   |      |      |                        |        |      |
| 50th Bay Block Time %   |   |      |      |                        |        |      |
| 95th Bay Block Time %   |   |      |      |                        |        |      |
| Queuing Penalty (veh)   |   |      |      |                        |        |      |
| <b>Intersection Summary</b>                                   |   |      |      |                        |        |      |
| Area Type:  | Other   |      |      |                        |        |      |
| Cycle Length:   | 100   |      |      |                        |        |      |
| Actuated Cycle Length:  | 100   |      |      |                        |        |      |
| Offset:   | 1 (1%), Referenced to phase 2:NBT and 6:SBT, Start of Green |      |      |                        |        |      |
| Control Type:   | Actuated-Coordinated  |      |      |                        |        |      |
| Maximum v/c Ratio:  | 1.33  |      |      |                        |        |      |
| Intersection Signal Delay:                                    | 125.8   |      |      | Intersection LOS: F    |        |      |
| Intersection Capacity Utilization:                            | 123.2%  |      |      | ICU Level of Service H |        |      |
| F - Volume exceeds capacity, queue is theoretically infinite. |   |      |      |                        |        |      |

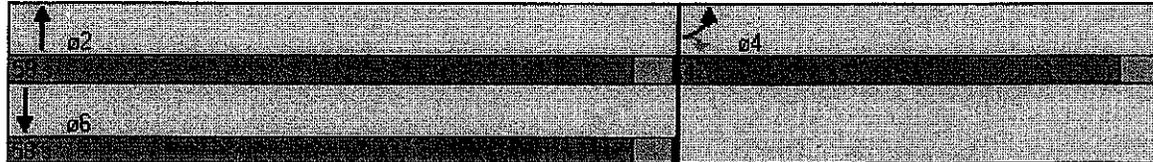
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal

Splits and Phases: 2: SR 20 & SR 81



Lanes, Volumes, Timings  
3: CS Floyd & SR 81

P.M. Peak 2025  
Proposed Geometrics



| Lane Group              | EBL  | EBT  | EBR  | WBL   | WBT   | WBR  | NBL   | NBT  | NBR  | SBL   | SBT   | SBR  |
|-------------------------|------|------|------|-------|-------|------|-------|------|------|-------|-------|------|
| Lane Configurations     |      |      |      | ↖     | ↗     | ↖    | ↖     | ↖    | ↖    | ↖     | ↖     | ↖    |
| Ideal Flow (vphpl)      | 1900 | 1900 | 1900 | 1900  | 1900  | 1900 | 1900  | 1900 | 1900 | 1900  | 1900  | 1900 |
| Storage Length (ft)     | 0    | 0    | 0    | 300   | 300   | 300  | 300   | 300  | 300  | 300   | 300   | 300  |
| Storage Lanes           | 0    | 0    | 0    | 1     | 1     | 1    | 1     | 1    | 1    | 1     | 1     | 1    |
| Total Lost Time (s)     | 4.0  | 4.0  | 4.0  | 4.0   | 4.0   | 4.0  | 4.0   | 4.0  | 4.0  | 4.0   | 4.0   | 4.0  |
| Leading Detector (ft)   |      |      |      | 50    | 50    | 50   | 50    | 50   | 50   | 50    | 50    | 50   |
| Trailing Detector (ft)  |      |      |      | 0     | 0     | 0    | 0     | 0    | 0    | 0     | 0     | 0    |
| Turning Speed (mph)     | 15   |      | 9    | 15    |       | 9    | 15    |      | 9    | 15    |       | 9    |
| Satd. Flow (prot)       | 0    | 0    | 0    | 1736  | 1827  | 1553 | 1736  | 1827 | 1553 | 1736  | 1827  | 1553 |
| Flt Permitted           |      |      |      | 0.950 |       |      | 0.058 |      |      | 0.086 |       |      |
| Satd. Flow (perm)       | 0    | 0    | 0    | 1736  | 1827  | 1553 | 106   | 1827 | 1553 | 157   | 1827  | 1553 |
| Right Turn on Red       |      |      | Yes  |       |       | Yes  |       |      | Yes  |       |       | Yes  |
| Satd. Flow (RTOR)       |      |      |      |       |       | 51   |       |      | 673  |       |       | 41   |
| Link Speed (mph)        |      | 35   |      |       | 35    |      |       | 35   |      |       | 35    |      |
| Link Distance (ft)      |      | 2592 |      |       | 1600  |      |       | 1232 |      |       | 929   |      |
| Travel Time (s)         |      | 50.5 |      |       | 31.2  |      |       | 24.0 |      |       | 18.1  |      |
| Volume (vph)            | 0    | 0    | 0    | 95    | 380   | 50   | 270   | 1165 | 660  | 40    | 1195  | 550  |
| Peak Hour Factor        | 0.98 | 0.98 | 0.98 | 0.98  | 0.98  | 0.98 | 0.98  | 0.98 | 0.98 | 0.98  | 0.98  | 0.98 |
| Lane Group Flow (vph)   | 0    | 0    | 0    | 97    | 388   | 51   | 276   | 1189 | 673  | 41    | 1219  | 561  |
| Turn Type               |      |      |      | Perm  |       | Perm | pm+pt |      | Perm | Perm  |       | Perm |
| Protected Phases        |      |      |      |       | 8     |      | 5     | 2    |      |       | 6     |      |
| Permitted Phases        |      |      |      |       | 8     |      | 2     |      | 2    |       | 6     |      |
| Total Split (s)         | 0.0  | 0.0  | 0.0  | 20.0  | 20.0  | 20.0 | 11.0  | 80.0 | 80.0 | 69.0  | 69.0  | 69.0 |
| Act Effct Green (s)     |      |      |      | 16.0  | 16.0  | 16.0 | 7.6   | 76.0 | 76.0 | 65.0  | 65.0  | 65.0 |
| Actuated g/C Ratio      |      |      |      | 0.16  | 0.16  | 0.16 | 0.76  | 0.76 | 0.76 | 0.65  | 0.65  | 0.65 |
| v/c Ratio               |      |      |      | 0.35  | 1.33  | 0.18 | 1.42  | 0.86 | 0.50 | 0.40  | 1.03  | 0.55 |
| Uniform Delay, d1       |      |      |      | 37.3  | 42.0  | 0.0  | 32.3  | 8.2  | 0.0  | 8.3   | 17.5  | 8.6  |
| Delay                   |      |      |      | 38.0  | 156.7 | 10.8 | 151.7 | 7.9  | 0.2  | 11.2  | 45.1  | 9.1  |
| LOS                     |      |      |      | D     | F     | B    | F     | A    | A    | B     | D     | A    |
| Approach Delay          |      |      |      |       | 121.3 |      |       | 24.0 |      |       | 33.2  |      |
| Approach LOS            |      |      |      |       | F     |      |       | C    |      |       | C     |      |
| Queue Length 50th (ft)  |      |      |      | 56    | -323  | 0    | -189  | 393  | 2    | 11    | -834  | 162  |
| Queue Length 95th (ft)  |      |      |      | 105   | #504  | 33   | m#102 | m203 | m0   | 47    | #1086 | 249  |
| Internal Link Dist (ft) |      | 2512 |      |       | 1520  |      |       | 1152 |      |       | 849   |      |
| 50th Up Block Time (%)  |      |      |      |       |       |      |       |      |      |       | 4%    |      |
| 95th Up Block Time (%)  |      |      |      |       |       |      |       |      |      |       | 27%   |      |
| Turn Bay Length (ft)    |      |      |      | 300   |       | 300  | 300   |      | 300  | 300   |       | 300  |
| 50th Bay Block Time %   |      |      |      |       | 13%   |      |       | 10%  |      |       | 24%   |      |
| 95th Bay Block Time %   |      |      |      |       | 45%   |      |       |      |      |       | 32%   | 1%   |
| Queuing Penalty (veh)   |      |      |      |       | 27    |      |       | 13   |      |       | 11    |      |

**Intersection Summary**

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 96 (96%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.42

Intersection Signal Delay: 39.4      Intersection LOS: D

Intersection Capacity Utilization 109.9%      ICU Level of Service F

Volume exceeds capacity, queue is theoretically infinite

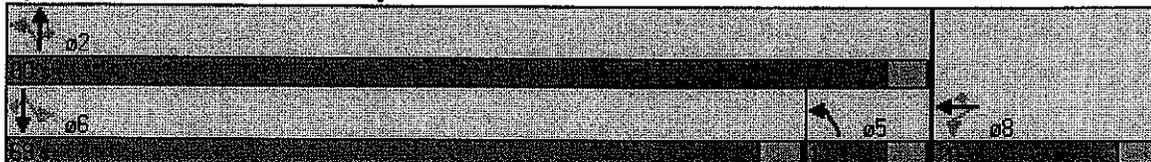
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: CS Floyd & SR 81



Lanes, Volumes, Timings  
5: CS Floyd & SR 10

P.M. Peak 2025  
Proposed Geometrics

| Lane Group                  | EBL  | EBT  | EBR  | WBL  | WBT   | WBR  | NBL                 | NBT  | NBR  | SBL  | SBT   | SBR  |
|-----------------------------|--|------|------|------|-------|------|---------------------|------|------|------|-------|------|
| Lane Configurations         |  |      |      |      | ↑↑    | ↑    | ↑                   | ↑↑   |      |      | ↑↑    | ↑    |
| Ideal Flow (vphpl)          | 1900   | 1900 | 1900 | 1900 | 1900  | 1900 | 1900                | 1900 | 1900 | 1900 | 1900  | 1900 |
| Storage Length (ft)         | 0  |      | 0    | 0    |       | 300  | 350                 |      | 0    | 0    |       | 300  |
| Storage Lanes               | 0  |      | 0    | 0    |       | 1    | 1                   |      | 0    | 0    |       | 1    |
| Total Lost Time (s)         | 4.0  | 4.0  | 4.0  | 4.0  | 4.0   | 4.0  | 4.0                 | 4.0  | 4.0  | 4.0  | 4.0   | 4.0  |
| Leading Detector (ft)       |  |      |      | 50   | 50    | 50   | 50                  | 50   |      |      | 50    | 50   |
| Trailing Detector (ft)      |  |      |      | 0    | 0     | 0    | 0                   | 0    |      |      | 0     | 0    |
| Turning Speed (mph)         | 15   |      | 9    | 15   |       | 9    | 15                  |      | 9    | 15   |       | 9    |
| Satd. Flow (prot)           | 0  | 0    | 0    | 0    | 3450  | 1553 | 1736                | 3471 | 0    | 0    | 3471  | 1553 |
| Flt Permitted               |  |      |      |      | 0.994 |      | 0.074               |      |      |      |       |      |
| Satd. Flow (perm)           | 0  | 0    | 0    | 0    | 3450  | 1553 | 135                 | 3471 | 0    | 0    | 3471  | 1553 |
| Right Turn on Red           |  |      | Yes  |      |       | Yes  |                     |      | Yes  |      |       | Yes  |
| Satd. Flow (RTOR)           |  |      |      |      |       | 35   |                     |      |      |      |       | 43   |
| Link Speed (mph)            |  | 35   |      |      | 35    |      |                     | 40   |      |      | 40    |      |
| Link Distance (ft)          |  | 1219 |      |      | 2592  |      |                     | 820  |      |      | 1699  |      |
| Travel Time (s)             |  | 23.7 |      |      | 50.5  |      |                     | 14.0 |      |      | 29.0  |      |
| Volume (vph)                | 0  | 0    | 0    | 110  | 770   | 150  | 370                 | 1750 | 0    | 0    | 2080  | 640  |
| Peak Hour Factor            | 0.98   | 0.98 | 0.98 | 0.98 | 0.98  | 0.98 | 0.98                | 0.98 | 0.98 | 0.98 | 0.98  | 0.98 |
| Lane Group Flow (vph)       | 0  | 0    | 0    | 0    | 898   | 153  | 378                 | 1786 | 0    | 0    | 2122  | 653  |
| Turn Type                   |  |      |      | Perm |       | Perm | pm+pt               |      |      |      |       | Perm |
| Protected Phases            |  |      |      |      | 8     |      | 5                   | 2    |      |      |       | 6    |
| Permitted Phases            |  |      |      | 8    |       | 8    | 2                   |      |      |      |       | 6    |
| Total Split (s)             | 0.0  | 0.0  | 0.0  | 26.0 | 26.0  | 26.0 | 20.0                | 74.0 | 0.0  | 0.0  | 54.0  | 54.0 |
| Act Effct Green (s)         |  |      |      |      | 22.0  | 22.0 | 70.0                | 70.0 |      |      | 50.0  | 50.0 |
| Actuated g/C Ratio          |  |      |      |      | 0.22  | 0.22 | 0.70                | 0.70 |      |      | 0.50  | 0.50 |
| v/c Ratio                   |  |      |      |      | 1.18  | 0.41 | 1.08                | 0.73 |      |      | 1.22  | 0.82 |
| Uniform Delay, d1           |  |      | *    |      | 39.0  | 25.4 | 34.7                | 9.3  |      |      | 25.0  | 19.6 |
| Delay                       |  |      |      |      | 67.1  | 20.7 | 62.5                | 3.7  |      |      | 113.0 | 22.8 |
| LOS                         |  |      |      |      | E     | C    | E                   | A    |      |      | F     | C    |
| Approach Delay              |  |      |      |      | 60.3  |      |                     | 14.0 |      |      | 91.8  |      |
| Approach LOS                |  |      |      |      | E     |      |                     | B    |      |      | F     |      |
| Queue Length 50th (ft)      |  |      |      |      | -352  | 0    | -215                | 136  |      |      | -880  | 319  |
| Queue Length 95th (ft)      |  |      |      |      | m#317 | m0   | m#235               | m140 |      |      | #1018 | #518 |
| Internal Link Dist (ft)     |  | 1139 |      |      | 2512  |      |                     | 740  |      |      | 1619  |      |
| 50th Up Block Time (%)      |  |      |      |      |       |      |                     |      |      |      |       |      |
| 95th Up Block Time (%)      |  |      |      |      |       |      |                     |      |      |      |       |      |
| Turn Bay Length (ft)        |  |      |      |      |       | 300  | 350                 |      |      |      |       | 300  |
| 50th Bay Block Time %       |  |      |      |      |       | 11%  |                     |      |      |      | 41%   | 8%   |
| 95th Bay Block Time %       |  |      |      |      |       | 6%   |                     |      |      |      | 45%   | 24%  |
| Queuing Penalty (veh)       |  |      |      |      |       | 13   |                     |      |      |      | 279   | 173  |
| <b>Intersection Summary</b> |  |      |      |      |       |      |                     |      |      |      |       |      |
| Area Type                   | Other  |      |      |      |       |      |                     |      |      |      |       |      |
| Cycle Length:               | 100  |      |      |      |       |      |                     |      |      |      |       |      |
| Actuated Cycle Length:      | 100  |      |      |      |       |      |                     |      |      |      |       |      |
| Offset:                     | 0 (0%), Referenced to phase 2:NBTL and 5:NBL, Start of Green |      |      |      |       |      |                     |      |      |      |       |      |
| Control Type:               | Actuated-Coordinated   |      |      |      |       |      |                     |      |      |      |       |      |
| Maximum v/c Ratio:          | 1.22   |      |      |      |       |      |                     |      |      |      |       |      |
| Intersection Signal Delay:  | 58.1   |      |      |      |       |      | Intersection LOS: E |      |      |      |       |      |

Intersection Capacity Utilization 114.6%      ICU Level of Service G

Volume exceeds capacity, queue is theoretically infinite.

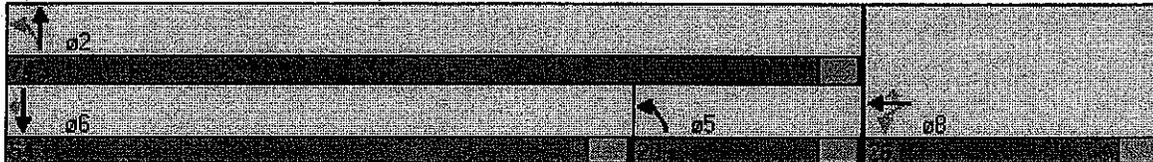
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: CS Floyd & SR 10



## CONCEPT TEAM MEETING MINUTES

### SR 20 from Rockdale county line to Loganville

Project Number STP-2584(9)

P.I. Number 142000

Walton County

March 1, 2001, 1:00 p.m.

Meeting at the Georgia Department of Transportation

District 1 Office

Gainesville, Georgia

#### In Attendance:

| <u>Name</u>       | <u>Organization</u>                     | <u>Phone Number</u> |
|-------------------|---|---------------------|
| J. Tony Ferguson  | City of Loganville                      | 770-466-0911        |
| Kevin Little      | Walton County                           | 770-267-1301        |
| Michael Turner    | Walton County                           | 770-466-1161        |
| Wendell H. Geiger | Walton County Water & Sewer             | 770-466-1821        |
| Mark Tilden       | Georgia Power Company                   | 404-506-4203        |
| Dick Wohlwend     | Georgia Power Company                   | 404-506-2811        |
| Terry Allgood     | Walton EMC                              | 770-267-2505        |
| Tom Davis         | GDOT - Utilities                        | 770-532-5510        |
| Robby Oliver      | GDOT - Utilities                        | 770-532-5510        |
| Dania G. Aponte   | GDOT - Planning                         | 404-657-6689        |
| Roxana Ene        | GDOT - Planning                         | 404-657-6695        |
| Kesha Nembhard    | GDOT - Planning                         | 404-657-6694        |
| Julie Wilson      | GDOT - Environmental                    | 770-532-5582        |
| Larry Dent        | GDOT - District 1 Engineer              |                     |
| Todd Long         | GDOT - District 1                       | 770-532-5520        |
| Tony R. Bradley   | GDOT - District 1                       | 770-532-5580        |
| Don Attaway       | GDOT - District 1                       | 770-532-5522        |
| Brent Cook        | GDOT - District 1                       | 770-532-5530        |
| R. Keith Canup    | GDOT - District 1 Traffic<br>Operations | 770-532-5563        |
| Jill Hodges       | Jordan Jones & Goulding                 | 678-333-0421        |
| Harris Robinson   | Jordan Jones & Goulding                 | 770-455-8555        |
| Barry Tarver      | Jordan Jones & Goulding                 | 678-333-0436        |

This Concept Team Meeting was held to present and review the proposed concept for the widening of SR 20 from two lanes to a four lane divided roadway, beginning south of Rosebud Miller Bottom Road and ending at SR 10/US 78 in Loganville.

Mr. Long began the meeting by asking members of the project concept team to introduce themselves. Mr. Long then turned the meeting over to Ms. Hodges who read through the concept report for the project and explained the concept layouts which were displayed for review by the concept team.

The following comments were received from the concept team members:

- Ms. Nembhard expressed concern that FHWA would not accept this project since the design speed of the existing roadway is 55 mph in some sections and this concept proposes changing the design speed to 45 mph. Mr. Long responded that he hoped the planning office would be able to work out this out with FHWA.
- Ms. Aponte stated that she believed the project did not meet logical termini requirements because the project ends at SR 10/US 78 instead of continuing to improve the route along Main Street through downtown. She understands that the improvements could not be continued across SR 10/US 78 because it would impact many of the buildings along Main Street which are potentially historic, but there are still logical termini requirements to consider. Mr. Long stated that an alternative route had been considered that would shift SR 20 to C.S. Floyd Road and realign SR 20 south of SR 10/US 78 to this intersection. This alternative would also affect many potentially historic properties along this road as well as a church located on SR 10/US 78 near the intersection with C.S. Floyd Road and another potentially historic property along SR 20 south of the intersection of SR 20 and SR 10/US 78. He indicated that this alternative should be included in the concept report.
- Mr. Canup requested the timetable for the project. Mr. Long stated that the project schedule was long-range.
- Mr. Ferguson asked what the effective construction time for the project was from start to finish. Mr. Long stated maybe 2005-2006.
- Mr. Little asked about the cost of moving utilities. His concern is that the cost will be higher five years from now.
- Mr. Little expressed concern about Centerhill Church Road becoming burdened with traffic because of the project. Mr. Robinson stated that intersection improvements were designed to accommodate 20-year design traffic, which is approximately twice the existing volume.
- Mr. Little asked if the minimum right of way shown on the layouts incorporates all of construction for sidewalks, multiuse paths, etc. Ms. Hodges responded that the minimum right of way includes the sidewalk plus a couple of feet behind the sidewalk, but in areas where there are high cuts or fills, the right of way will be wider to accommodate the additional construction area.

The meeting was then adjourned.

Department of Transportation  
State of Georgia

---

INTERDEPARTMENTAL CORRESPONDENCE

File: STP-2584(9), Walton County  
P.I. No. 142000

Office: Traffic Safety & Design  
Atlanta, Georgia  
Date: August 8, 2002

From: <sup>PMA/ce</sup> Phillip M. Allen, State Traffic Safety and Design Engineer

To: ~~Wayne Hutto, Assistant Director of Preconstruction~~

Subject: Project Concept Report Review

We have reviewed the above referenced concept report for the proposed widening and intersection improvements along S.R. 20 in Walton County.

The Office of Traffic Safety & Design finds this report satisfactory for approval because it will improve safety and traffic operations within this area.

PMA/sz

Attachment (signature page)

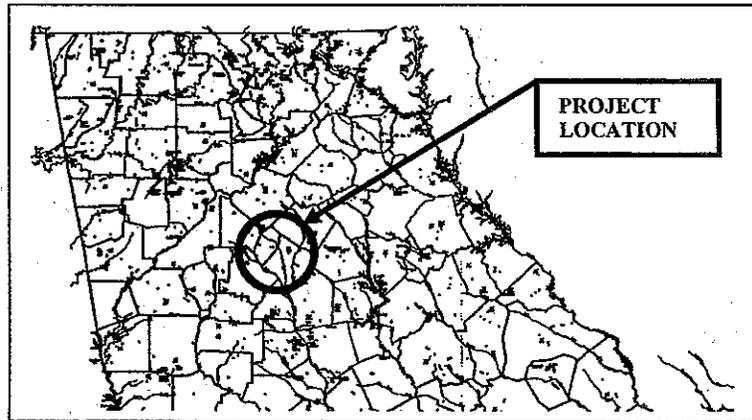
Cc: Harvey Kepler, State Environment/Location Engineer  
Larry Dent, District Engineer  
Attention: Todd Long, Assistant District Engineer  
David Mulling, State Review Engineer, w/ attachment  
Marta Rosen, State Transportation Planning Administrator  
Chuck Hasty, TMC  
General Files  
Office Files

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA  
DISTRICT 1

PROJECT CONCEPT REPORT

SR 20 from Rockdale County line to Loganville  
Project Number: STP-2584(9)  
County: Walton  
P. I. Number: 142000

Federal Route Number: None  
State Route Number: SR 20



Recommendation for approval:

DATE 7/22/02

[Signature]  
Project Manager

DATE 7/22/02

[Signature]  
District Engineer

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Plan (RTP) and the State Transportation Improvement Program (STIP).

DATE \_\_\_\_\_

\_\_\_\_\_  
State Transportation Planning Administrator

DATE \_\_\_\_\_

\_\_\_\_\_  
Office of Financial Management

DATE \_\_\_\_\_

\_\_\_\_\_  
State Environmental/Location Engineer

DATE 8-8-02

[Signature]  
State Traffic Safety and Design Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
Project Review Engineer

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA  
DISTRICT 1

PROJECT CONCEPT REPORT

SR 20 from Rockdale County line to Loganville

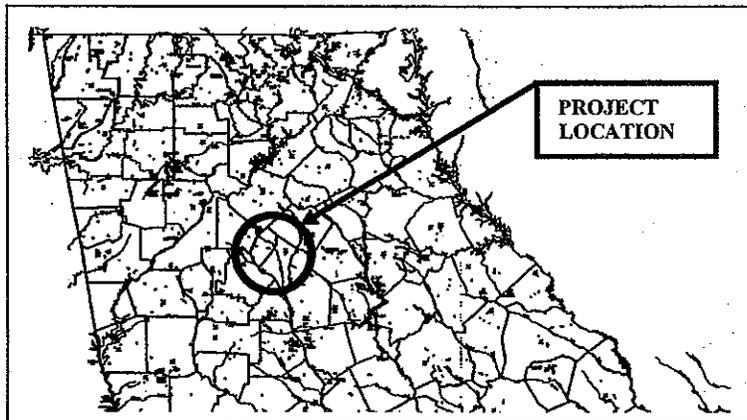
Project Number: STP-2584(9)

County: Walton

P. I. Number: 142000

Federal Route Number: None

State Route Number: SR 20



Recommendation for approval:

DATE 7/22/02

[Signature]  
Project Manager

DATE 7/22/02

[Signature]  
District Engineer

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Plan (RTP) and the State Transportation Improvement Program (STIP).

DATE 8/13/02

[Signature]  
State Transportation Planning Administrator

DATE \_\_\_\_\_

Office of Financial Management

DATE \_\_\_\_\_

State Environmental/Location Engineer

DATE \_\_\_\_\_

State Traffic Safety and Design Engineer

DATE \_\_\_\_\_

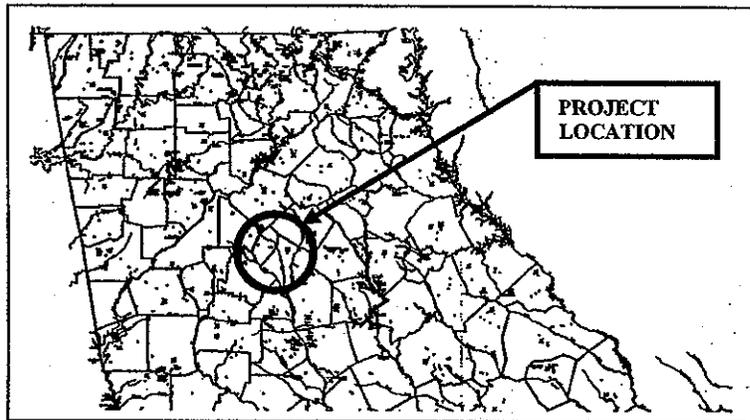
Project Review Engineer

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA  
DISTRICT 1

PROJECT CONCEPT REPORT

SR 20 from Rockdale County line to Loganville  
Project Number: STP-2584(9)  
County: Walton  
P. I. Number: 142000

Federal Route Number: None  
State Route Number: SR 20

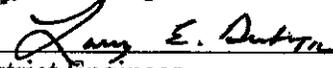


Recommendation for approval:

DATE 7/22/02

  
Project Manager

DATE 7/22/02

  
District Engineer

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Plan (RTP) and the State Transportation Improvement Program (STIP).

DATE \_\_\_\_\_

\_\_\_\_\_  
State Transportation Planning Administrator

DATE \_\_\_\_\_

\_\_\_\_\_  
Office of Financial Management

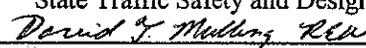
DATE \_\_\_\_\_

\_\_\_\_\_  
State Environmental/Location Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
State Traffic Safety and Design Engineer

DATE 8/27/02

  
Project Review Engineer

DIST 1

REVISION REQUEST  
for the  
LONG RANGE PROGRAM

Authorization is requested to proceed with development of a project concept on the following project:

Action Requested: ADDITION TO LONG RANGE

PROJECT DATA

| County                      | Project No.<br>P.I. No.                                     | Type Work                         |
|-----------------------------|---|-----------------------------------|
| -----<br>WALTON             | STP-2584(9)<br>142000                                       | RECST. OR REHAB.<br>PASSING LANES |
| Description:                | SR 20, 4-INTERS & 2-PASSING LN FM ROCKDALE CL TO LOGANVILLE |                                   |
| Project Length = 2.50 Miles |   |                                   |

FUNDING INFORMATION

| Estimated Cost<br>(\$1,000's) | DOT<br>Share | Other<br>Share | Fiscal<br>Year | Cong.<br>District | Field<br>District |
|-------------------------------|--------------|----------------|----------------|-------------------|-------------------|
| -----                         | -----        | -----          | -----          | -----             | -----             |
| PE \$16                       |              |                | LR             |                   |                   |
| ROW \$150                     |              |                | LR             | 10                | 1                 |
| CONST \$800                   | \$800        | \$0            | LR             |                   |                   |
| Fund 1 = 33D                  |              |                |                |                   |                   |
| Fund 2 = 33E                  |              |                |                |                   |                   |

REASON FOR REVISION:

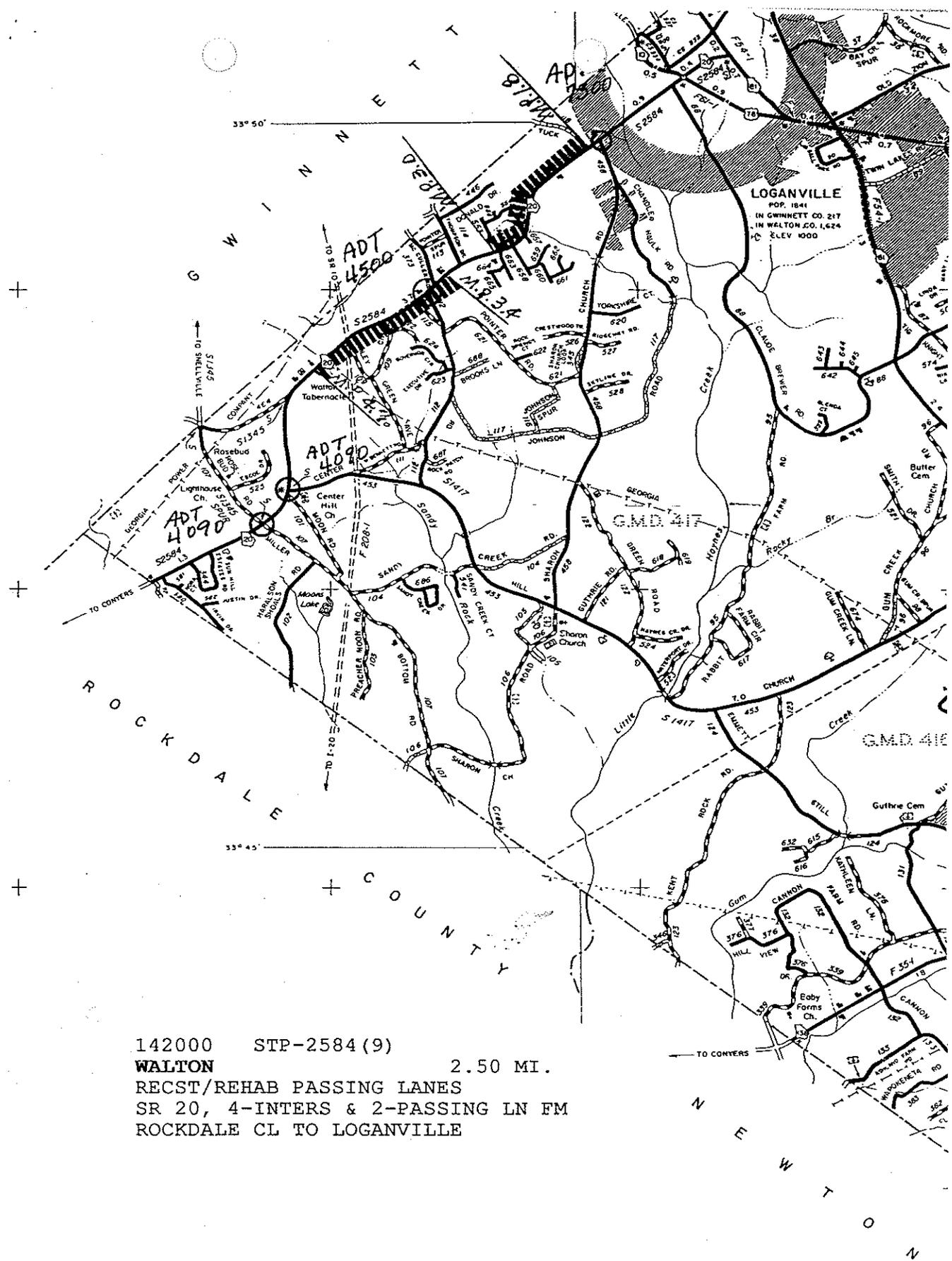
Requested by the S.H.I.P Committee

RECOMMENDED

*Wayne Buckle*  
\_\_\_\_\_  
DIRECTOR, DIVISION OF PLANNING AND PROGRAMMING

APPROVED

*Wayne Buckle*  
\_\_\_\_\_  
COMMISSIONER



142000 STP-2584(9)  
**WALTON** 2.50 MI.  
 RECST/REHAB PASSING LANES  
 SR 20, 4-INTERS & 2-PASSING LN FM  
 ROCKDALE CL TO LOGANVILLE



930920

-----  
PROGRAMMING: WALTON-ROCKDALE COUNTIES -- SR 20 CONYERS TO  
LOGANVILLE, 7-INTERSECTIONS IMPROVEMENTS AND 3-PASSING LANES.  
TRAFFIC OPERATIONS TO FURNISH TRAFFIC COUNTS. DISTRICT NEEDS  
TO FURNISH COSTS FOR ANY RIGHTS-OF-WAY AND THE CONSTRUCTION.

DISTRICT: ALMAND ROAD/HI-ROC-ROAD INTERSECTS S.R. 20 AT TOP OF SUBSTANDARD  
VERTICAL CREST ON APPROXIMATELY A 45 DEGREE SKEW. SITE DISTANCE FOR BOTH  
NORTHBOUND AND SOUTHBOUND APPROACHES ARE SEVERLY LIMITED. EXISTING NORTHBOUND  
PASSING LANE ENDS APPROXIMATELY 200 FEET NORTH OF INTERSECTION. QUADRANTS ON  
WESTSIDE ARE COMMERCIAL DEVELOPMENTS WITH RESIDENTIAL PROPERTIES IN NORTHEAST  
QUADRANT. R/W APPEARS TO BE 60 FEET. ONE POSSIBLE RESIDENTIAL DISPLACEMENT.  
NO MAJOR STRUCTURES. 50 MPH POSTED SPEED. DISTRICT RECOMMENDS PROJECT.

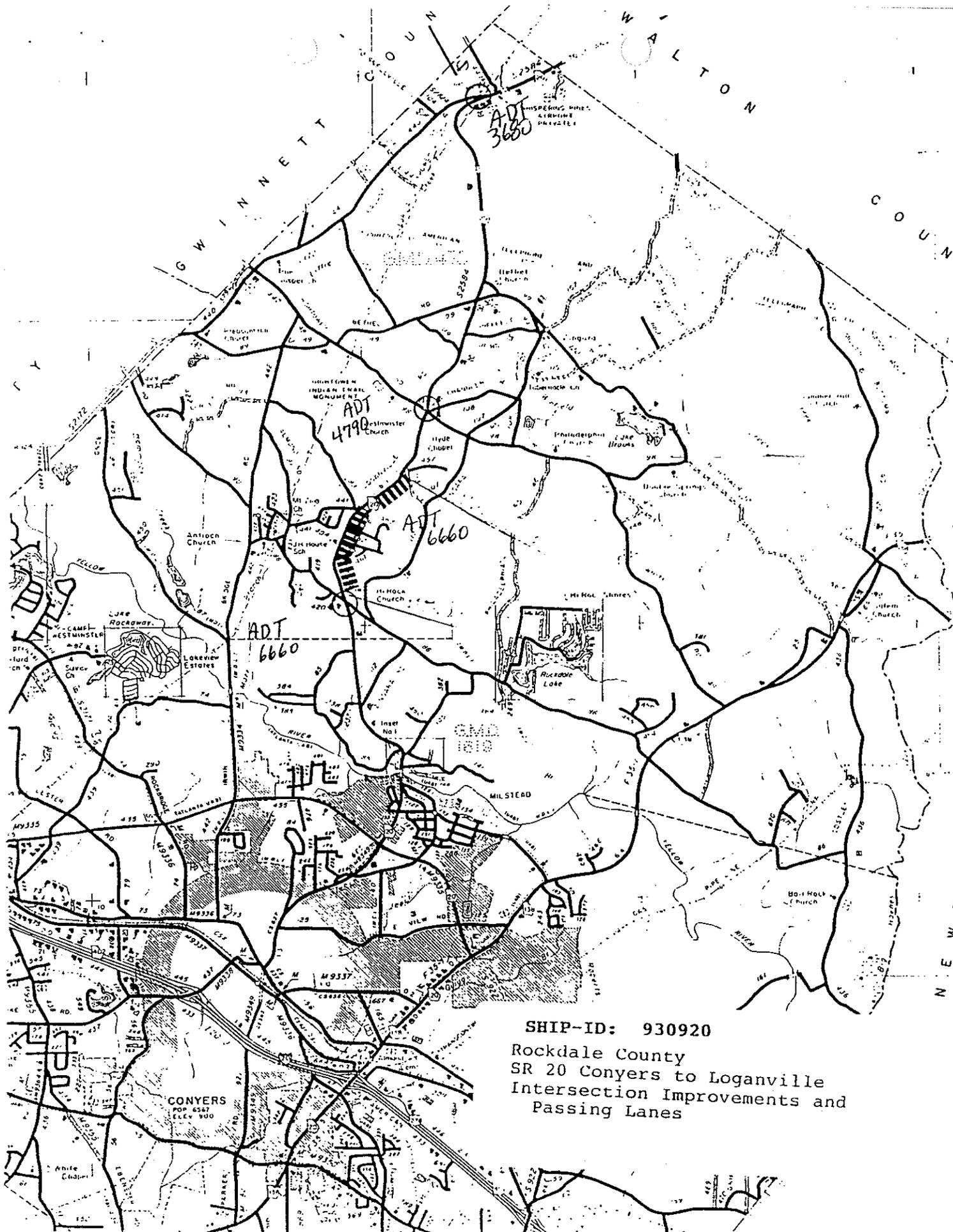
DISTRICT: HIGHTOWER TRAIL AND S.R. 20 IS BASICALLY A FIVE LEG INTERSECTION.  
CHANDLER ROAD INTERSECTS HIGHTOWER TRAIL APPROXIMATELY 50 FEET EAST OF S.R. 20.  
S.R. 20 HORIZONTAL ALIGNMENT IS SATISFACTORY. VERTICAL ALIGNMENT APPROACHING  
INTERSECTION NORTHBOUND IS SUBSTANDARD. COMMERCIAL BUSINESSES LOCATED IN

NORTHERLY QUADRANTS AND ONE RESIDENCE IS IN SOUTHWEST QUADRANT. EXISTING R/W  
APPEARS TO BE 60 FEET. NO DISPLACEMENTS ANTICIPATED. ONE POSSIBLE UST.  
DISTRICT RECOMMENDS PROJECT.

NORTHBOUND PASSING LANE FROM M.P. 5.4 TO M.P. 4.1 AREA IS DEVELOPED ON EAST  
SIDE WITH LARGE TRACT RESIDENTIAL PROPERTIES AND AN ELEMENTARY SCHOOL. EAST  
SIDE HAS SEVERAL RESIDENTIAL SUBDIVISIONS LOTS. WIDENING SHOULD BE DONE ON THE  
EAST SIDE AND SHOULD NOT HEAVILY IMPACT PROPERTIES. EXISTING R/W APPEARS TO BE  
60 TO 80 FEET. HORIZONTAL AND VERTICAL ALIGNMENT APPEARS SUBSTANDARD FOR MOST  
PART. TURN LANES ARE IN PLACE AT J.H. HOUSE ELEMENTARY SCHOOL.  
DISTRICT RECOMMENDS PROJECT. ESTIMATED COSTS FOR THE PASSING LANE PROJECT AND  
THE TWO INTERSECTION IMPROVEMENT PROJECTS ARE: R/W \$120,000. AND CONSTRUCTION  
COSTS \$880,000.

MAINTENANCE 8/93 - NO COMMENTS AT THIS TIME

TRAFFIC OPERATIONS: RECOMMEND PROJECT - AFTER COMPLETION OF THREE PROPOSED  
PASSING LANES, IT WILL BRING THE PASSING SIGHT DISTANCE ON THIS ROUTE UP TO  
45.2%.



SHIP-ID: 930920  
Rockdale County  
SR 20 Conyers to Loganville  
Intersection Improvements and  
Passing Lanes

FRANK Danchetz  
5/1/93

SHIP-ID: 930920

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

Please Send to  
S.H.I.P. Committee

Thanks  
GCL

INTERDEPARTMENT CORRESPONDENCE

FILE

OFFICE Atlanta, GA

DATE April 28, 1993

Copy

FROM

*[Handwritten signature]*

G. Waters III, P.E., State Traffic Operations Engineer

-MC  
-G. Beaumont

TO

Charles Lewis, Deputy Commissioner

To Planning

SUBJECT SR 20 Conyers to Loganville

This is in response to your conversation with Burt Riddle concerning passing lanes on SR 20 on the above subject route.

A study of this route was made by District 7 (letter attached). Also, a passing lane study on this route was made by our office. As a result of both studies, our findings are as follows:

Intersection improvements are needed at the following locations:

1. Hi Roc Road W/SR 20 (Rockdale County)
2. Hightower Trail W/SR 20 (Rockdale County)
3. Pleasant Hill Rd. W/SR 20 (Rockdale County)
4. Rose Bud Rd. (Walton County)
5. Center Hill Church Rd. W/SR 20 (Walton County)
6. Tom Brooks Rd. W/SR 20 (Walton County)
7. Sharon Church Rd. W/SR 20 (Walton County)

The existing sight distance on this route is restricted by roadway geometrics as follows:

14.5% passing sight distance in both directions (north and south bound)

The following three (3) locations for construction of passing lanes are recommended. (See attached maps):

| Passing Lane      | Direction Mile Post                         |
|-------------------|---|
| #1 (Rockdale Co.) | North Bound M.P. 5.4 - M.P. 4.1 = 1.3 Miles |
| #2 (Walton Co.)   | North Bound M.P. 4.7 - M.P. 3.4 = 1.3 Miles |
| #3 (Walton Co.)   | South Bound M.P. 1.8 - M.P. 3.0 = 1.2 Miles |

After completion of the three (3) proposed passing lanes, it will bring the passing sight distance on this route up to 45.2%.

If you agree with the above proposed, we will submit to the SHIP Committee. If we can be of further assistance, please advise.

MGW:JMS:sm  
Attachments

cc: Jimmy Roper, Dist. Traffic Engr., Dist. 7, Atlanta  
Joe Fletcher, Dist. Traffic Engr., Dist. 1, Gainesville  
Frank Danchetz

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

## INTERDEPARTMENT CORRESPONDENCE

FILE S.R. 20 Rockdale/Walton OFFICE Chamblee, Georgia  
DATE April 2, 1993  
FROM  Jimmy C. Roper, District Traffic Engineer  
TO M.G. Waters, III, P.E., State Traffic Operations Engineer  
ATTENTION: Burt Riddle  
SUBJECT S.R. 20 Passing Lanes - Rockdale/Walton

As requested in your letter of March 16, 1993, we have assessed the need for passing lanes on S.R. 20 in Rockdale and Walton Counties.

As you know, we have recently eliminated passing lanes on S.R. 138 in Rockdale County to provide left turn refuge at several intersections along the corridor north of I-20. This has definitely reduced rear end accidents and created a speed reduction which has probably lowered accident occurrence of all types.

While we agree that there is limited passing opportunity, especially in Rockdale County along S.R. 20, we feel that intersection improvement projects (ie. Hi Roc Road, Hightower Trail, Bethel Pleasant Hill, Rosebud, Center Hill Church, Tom Brooks and Sharon Church Road) would be more beneficial and with a better use of available funds and cost effective measures.

If you have any questions, or would like to discuss this matter further, please advise.

JCR:JMW:ld

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE OFFICE Programming  
DATE June 8, 1993

FROM Herman T. Griffin, State Transportation Programming Engineer

TO Marion Waters, State Traffic Operations Engineer  
Bob Bowling, Planning Office

SUBJECT Projects Proposed for SHIP Committee Review

Attached are copies of submissions of projects from the various Districts for consideration by the S.H.I.P. Committee.

Before these projects are submitted to the S.H.I.P. Committee, it has been requested that you review the need for each of these projects and prioritize them. We will need your comments by the close of the work day on June 18, 1993.

HTG/rs

Attachments

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

*Programming*

*Chad to see  
if SHIP  
approved for  
program*

INTERDEPARTMENT CORRESPONDENCE

FILE

OFFICE Atlanta, GA

DATE April 28, 1993

FROM *MGW* G. Waters III, P.E., State Traffic Operations Engineer

TO Charles Lewis, Deputy Commissioner

SUBJECT SR 20 Conyers to Loganville

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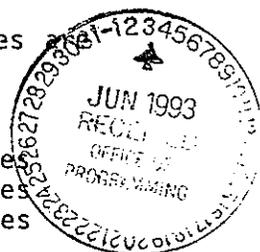
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Attachments

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Joe Fletcher, Dist. Traffic Engr., Dist. 1, Gainesville  
~~Frank Danchetz~~