

TRANSPORTATION PLANNING REPORT

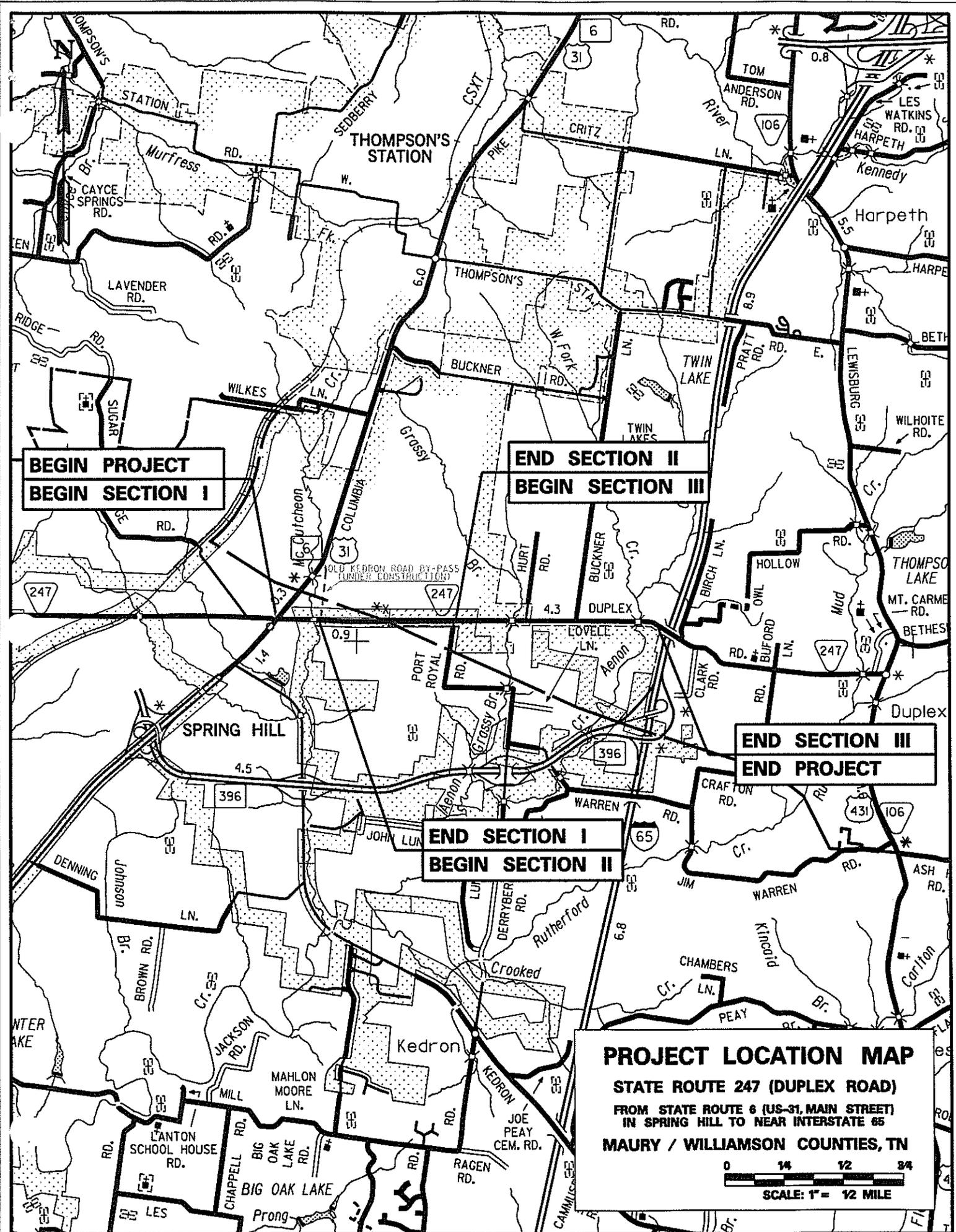
**STATE ROUTE 247 (DUPLEX ROAD)
FROM STATE ROUTE 6 (US 31, MAIN STREET) IN SPRING HILL
TO 0.11 MILES WEST OF I-65
MAURY AND WILLIAMSON COUNTIES**

DRAFT



**PREPARED BY
CLINARD ENGINEERING ASSOCIATES, LLC
FOR
THE TENNESSEE DEPARTMENT OF TRANSPORTATION
PROJECT PLANNING DIVISION**

August 2006



BEGIN PROJECT
BEGIN SECTION I

END SECTION II
BEGIN SECTION III

END SECTION III
END PROJECT

END SECTION I
BEGIN SECTION II

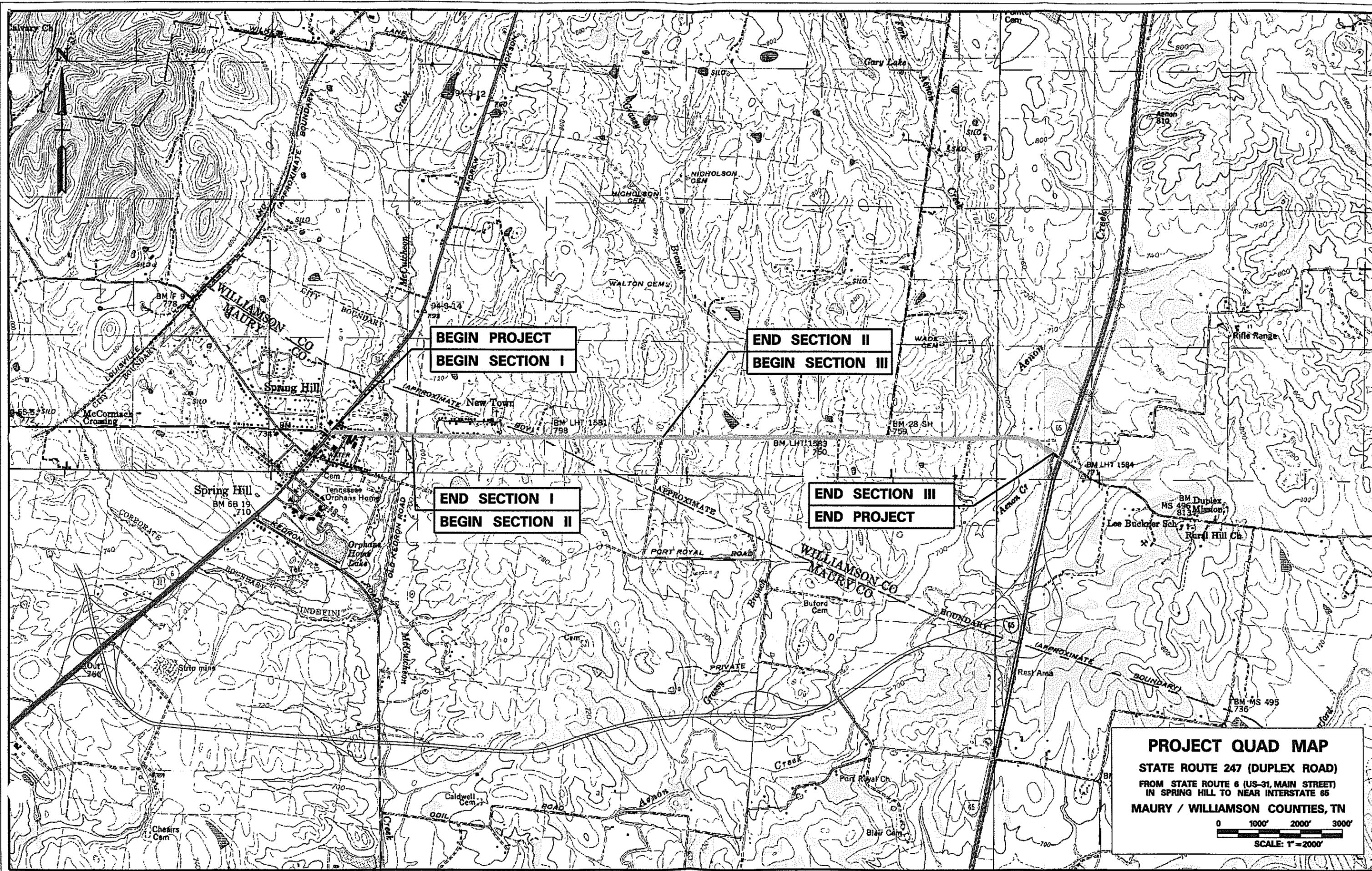
PROJECT LOCATION MAP

STATE ROUTE 247 (DUPLX ROAD)

**FROM STATE ROUTE 6 (US-31, MAIN STREET)
IN THOMPSON'S STATION TO NEAR INTERSTATE 85**

MAURY / WILLIAMSON COUNTIES, TN





BEGIN PROJECT
BEGIN SECTION I

END SECTION II
BEGIN SECTION III

END SECTION I
BEGIN SECTION II

END SECTION III
END PROJECT

PROJECT QUAD MAP
STATE ROUTE 247 (DUPLX ROAD)
FROM STATE ROUTE 6 (US-31, MAIN STREET)
IN SPRING HILL TO NEAR INTERSTATE 65
MAURY / WILLIAMSON COUNTIES, TN

0 1000' 2000' 3000'

SCALE: 1" = 2000'

SUMMARY DATA TABLE

<u>ITEM</u>	<u>EXISTING</u>	<u>PROPOSED</u> (Section I)
Functional Class	Urban Collector	Urban Collector
System Class	STP	STP
Length (Miles)	0.4	0.4
Cross Section (Feet)	18' / 20' / 30'	36' / 48' / 68'
Present ADT (2010)	8,730	8,730
Future ADT (2030)	15,710	15,710
DHV (2030)	1,571	1,571
% Trucks	4 % (ADT) 3 % (DHV)	4 % (ADT) 3 % (DHV)
Estimated Right-of-Way Acquisition (Acres)		0.99
Estimated Right-of-Way Tracts Affected		15
Estimated Family Displacements		2
Estimated Business Displacements		0
Estimated Non-Profit Displacements		0
Estimated Right-of-Way Cost		\$405,550
Estimated Utility Cost Reimbursable		\$51,000
Estimated Utility Cost Non-Reimbursable		\$151,000
Estimated Construction Cost		\$1,021,000
Estimated Preliminary Engineering Cost		\$93,000
Total Estimated Project Cost		\$1,721,550

SUMMARY DATA TABLE

<u>ITEM</u>	<u>EXISTING</u>	<u>PROPOSED</u> (Section II)
Functional Class	Urban Collector	Urban Collector
System Class	STP	STP
Length (Miles)	1.22	1.22
Cross Section (Feet)	18'-33' / 20'-35' / 30'-60'	36' / 48' / 68'
Present ADT (2010)	7,960 - 9,500	7,960 - 9,500
Future ADT (2030)	14,320 - 17,100	14,320 - 17,100
DHV (2030)	1,432 - 1,710	1,432 - 1,710
% Trucks	4 % (ADT) 3 % (DHV)	4 % (ADT) 3 % (DHV)
Estimated Right-of-Way Acquisition (Acres)		3.33
Estimated Right-of-Way Tracts Affected		56
Estimated Family Displacements		3
Estimated Business Displacements		0
Estimated Non-Profit Displacements		0
Estimated Right-of-Way Cost		\$944,050
Estimated Utility Cost Reimbursable		\$213,000
Estimated Utility Cost Non-Reimbursable		\$598,000
Estimated Construction Cost		\$4,681,000
Estimated Preliminary Engineering Cost		\$426,000
Total Estimated Project Cost		\$6,862,050

SUMMARY DATA TABLE

<u>ITEM</u>	<u>EXISTING</u>	<u>PROPOSED</u> (Section III)
Functional Class	Urban Collector and Rural Major Collector	Urban Collector and Rural Major Collector
System Class	STP	STP
Length (Miles)	1.57	1.57
Cross Section (Feet)	20'-31' / 22'-33' / 50'-60'	36' / 48' / 68'
Present ADT (2010)	5,440- 6,370	5,440- 6,370
Future ADT (2030)	9,780 - 11,450	9,780 - 11,450
DHV (2030)	978 - 1,145	978 - 1,145
% Trucks	4 % (ADT) 3 % (DHV)	4 % (ADT) 3 % (DHV)
Estimated Right-of-Way Acquisition (Acres)		1.90
Estimated Right-of-Way Tracts Affected		40
Estimated Family Displacements		0
Estimated Business Displacements		0
Estimated Non-Profit Displacements		0
Estimated Right-of-Way Cost		\$258,000
Estimated Utility Cost Reimbursable		\$262,000
Estimated Utility Cost Non-Reimbursable		\$737,000
Estimated Construction Cost		\$5,261,000
Estimated Preliminary Engineering Cost		\$478,000
Total Estimated Project Cost		\$6,996,000

SUMMARY DATA TABLE

<u>ITEM</u>	<u>EXISTING</u>	<u>PROPOSED</u> (Sections I, II, & III)
Functional Class	Urban Collector and Rural Major Collector	Urban Collector and Rural Major Collector
System Class	STP	STP
Length (Miles)	3.19	3.19
Cross Section (Feet)	Varies	36' / 48' / 68'
Present ADT (2010)	7,080	7,080
Future ADT (2030)	12,734	12,734
DHV (2030)	1,273	1,273
% Trucks	4 % (ADT) 3 % (DHV)	4 % (ADT) 3 % (DHV)
Estimated Right-of-Way Acquisition (Acres)		6.22
Estimated Right-of-Way Tracts Affected		111
Estimated Family Displacements		5
Estimated Business Displacements		0
Estimated Non-Profit Displacements		0
Estimated Right-of-Way Cost		\$1,607,600
Estimated Utility Cost Reimbursable		\$526,000
Estimated Utility Cost Non-Reimbursable		\$1,486,000
Estimated Construction Cost		\$10,963,000
Estimated Preliminary Engineering Cost		\$997,000
Total Estimated Project Cost		\$15,579,600

PURPOSE OF STUDY

The purpose of this study is to determine the need and feasibility of improving State Route 247 (Duplex Road) from State Route 6 (US-31 / Main Street) in Maury County to 0.11 miles west of I-65 in Williamson County. The objectives of this study are to determine the need for improvement, develop a proposed plan for the project, calculate estimated costs, and identify locations of environmental concern. This study was initiated in response to the request of the City of Spring Hill and is included in the Nashville Area Metropolitan Planning Organization Long Range Transportation Plan.

DEFICIENCIES AND EXISTING CONDITIONS

Geometrics	<u> X </u>	Structures	<u> X </u>
Operational	<u> X </u>	R/R Crossing	<u> </u>
Crash Rate	<u> 1.53 </u>	Statewide Crash Rate	<u> 2.51 (Urban) 1.70 (Rural) </u>

This study section of State Route 247 (Duplex Road) is a collector roadway consisting of two travel lanes that vary from ten (10) to eleven (11) feet in width. Portions of this roadway contain exclusive left turn lanes which have been built as part of the more recently constructed residential developments located along the corridor. Existing right-of-way along State Route 247 varies from forty (40) to sixty (60) feet.

As shown in the functional plans located in the Appendix of this report, the existing vertical geometry of State Route 247 (Duplex Road) contains several locations that are substandard based upon the required forty (40) mile per hour design speed. Presently, the entire study section of State Route 247 is posted for a speed limit of thirty-five (35) miles per hour.

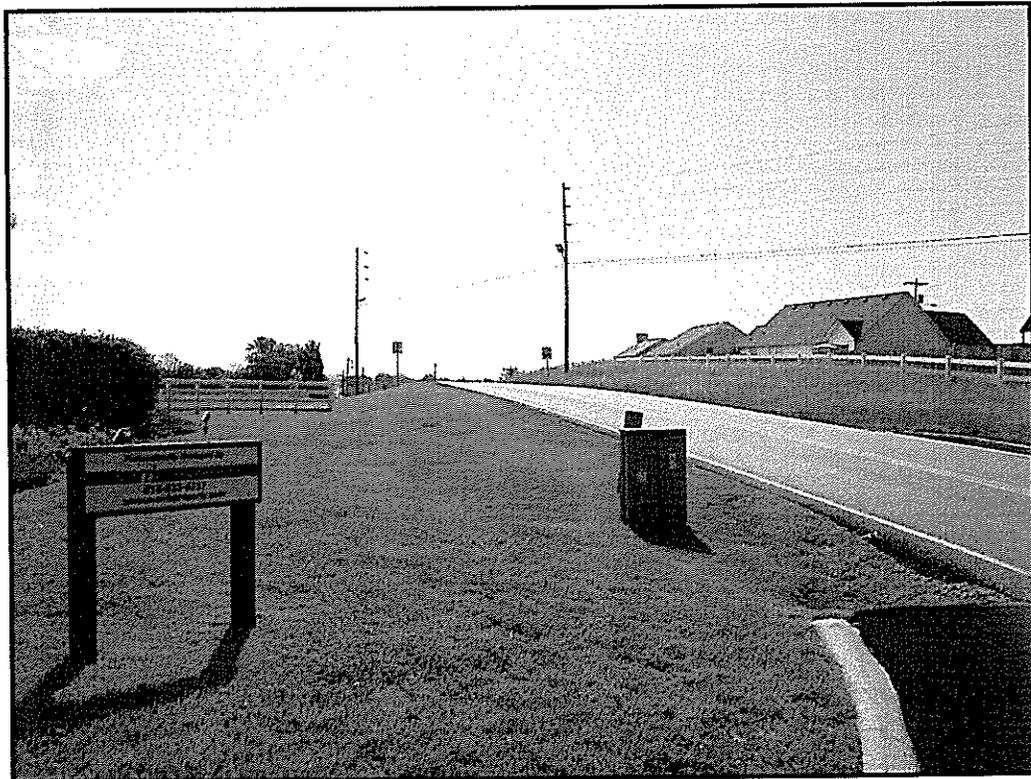


Photo 1: View facing east along State Route 247 at intersection of Port Royal Road

Land use along the project consists of a combination of both businesses and residential development with the majority of commercial use presently located near the beginning of the project at the intersection of State Route 6 (US-31).



Photo 2: View facing south along State Route 6 (US-31) near intersection of State Route 247 (On left)

Over the last several years, the City of Spring Hill has experienced tremendous growth with much of the growth located along State Route 247 comprised of new large scale residential subdivisions. Based upon the 2000 U.S. Census the population of Spring Hill was 7,715. In May of 2005, the City of Spring Hill performed a Special Census which recorded the present population of 19,831. With its close proximity to Nashville (30 miles) and other large employers such as Saturn assembly plant this growth is anticipated to continue with over 1,000 new building permits being issued each year.

To assist in alleviating some of the traffic congestion at the intersection of State Route 247 and State Route 6 (US-31), the City is presently constructing a new north-south roadway, Old Kedron Road By-Pass (Miles Johnson Parkway) which will connect to State Route 6, north of the existing intersection. Details of the roadway plans are contained in the Appendix of this study.

Based upon traffic volumes developed by the Tennessee Department of Transportation (TDOT), base year (2010) volumes along State Route 247 will range from 5,440 to 9,500 vehicles per day and in the design year (2030) range from 9,780 to 17,100 vehicles per day. Several subdivisions are being built along this section of State Route 247. Brandon Darks (TDOT Project Planning) has had three meetings with Ferrell White (City of Spring Hill) to discuss traffic and subdivision build-out. These meetings were held September 7, 2005, September 30, 2005, and April 5, 2006.

As mentioned previously, where new developments have been approved along State Route 247, the City has required various entrance improvements such as the addition of turn lanes as well as requiring some reservation for future additional right-of-way needs along the roadway frontage.



Photo 3: View looking west near end of project (Chapman's Crossing on right)

In order to quantify the traffic operation of the corridor, analysis was performed for the existing roadway as well as for the existing intersections located along State Route 247 within the project limits to determine the level-of-service (LOS). Level-of-service is a quality measure describing operational conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. Letters designate each level, from A to F, with LOS A representing the best conditions and LOS F the worst. As shown below, this two-lane roadway is projected to operate at an acceptable level of service in the base year with one segment located between future Old Kedron Road By-Pass and Commonwealth to operate at a LOS E in the design year 2030.

ROADWAY SEGMENT	2010	2030
From S.R. 6 (U.S. 31, Main Street) to MJ Bypass	D	D
From MJ Bypass to Commonwealth Drive	D	E
From Commonwealth Drive to Port Royal Road	C	D
From Port Royal Road to Hurt Road	C	D
From Hurt Road to Buckner Lane	C	D
From Buckner Lane to End of Project	C	D

Based upon analysis of the major unsignalized and signalized intersections along the route, the majority will operate at an unacceptable level-of-service in the design year. Most of the operational break-down of these intersections are directly related to the lack of sufficient turn lanes from both the mainline of State Route 247 and many of the major side roads.

INTERSECTION	2030 AM	2030 PM
S.R. 6 (U.S. 31, Main Street)	F	F
Miles Johnson Parkway (Bypass)	F	F
Commonwealth Drive	F	F
Port Royal Road	F	F
Hurt Road	D	F
Buckner Lane	F	F

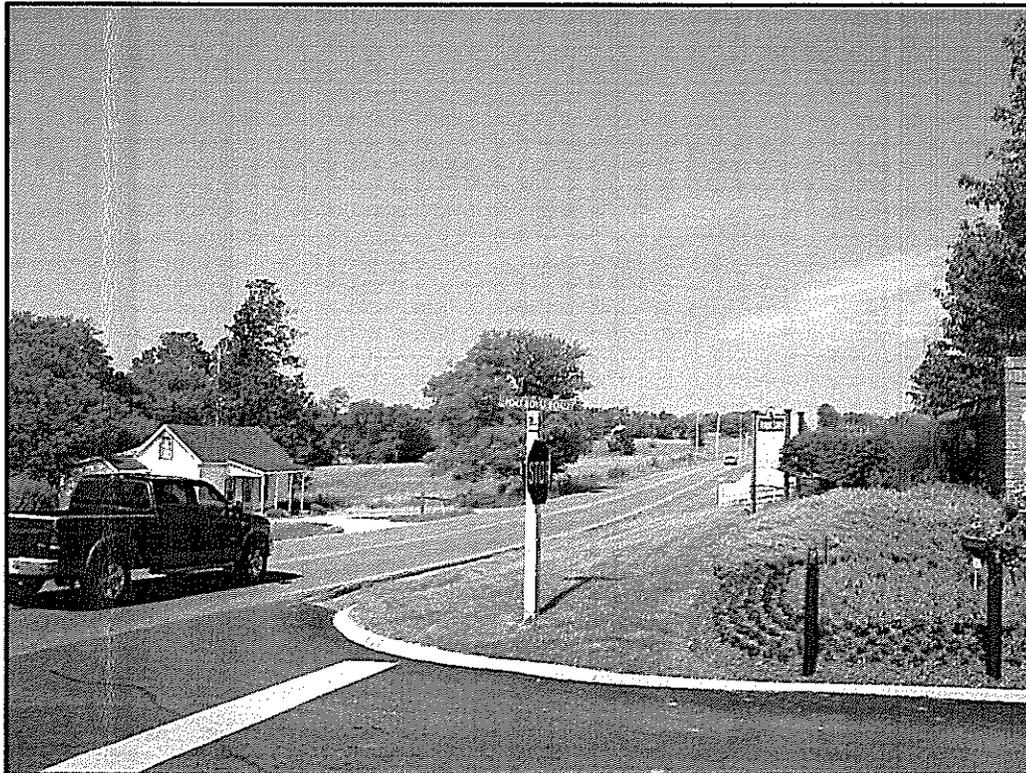


Photo 4: View facing east along State Route 247 at intersection of Port Royal Road

PROPOSED IMPROVEMENTS

State Route 247 (Duplex Road) will be designed based upon TDOT Standard Drawing RD01-TS-7A and will contain two twelve (12) foot travel lanes and a twelve (12) foot center turn lane. There will be four foot shoulders with curb and gutter, which will allow six feet for bicycle traffic. Five foot sidewalks will be located along both sides of the roadway within a total right-of-way width of sixty-eight (68) feet. Due to the constraints located throughout the project limits, a reduced shoulder width of four (4) feet is recommended instead of a six foot shoulder. Based upon this modification, a design exception would be required for this change.

The improvements to the following sections will alleviate many of the geometric and capacity problems identified by increasing capacity and improving intersection operation throughout the corridor.

Section I

Section I begins at State Route 6 (US-31) and ends at Hughes Street, a length of approximately 0.40 miles. This portion of State Route 247 (Duplex Road) has a base year average daily traffic (ADT) of 8,730 vehicles and a design year (2030) ADT of 15,710 vehicles.

Proposed intersection improvements at the intersection of State Route 6 (US-31) will include a short realignment of State Route 247 to provide exclusive right and left turn lanes while avoiding any additional right-of-way from the Spring Hill United Methodist Church located in the southeast quadrant of the intersection.

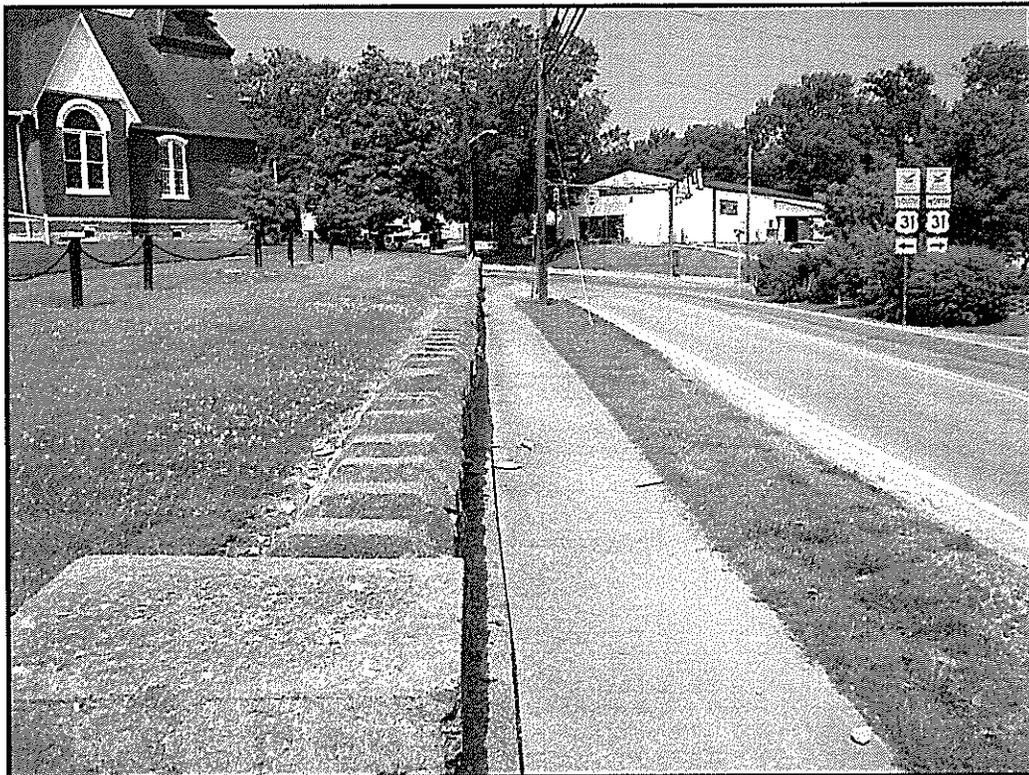


Photo 5: View looking West along State Route 247 near intersection of State Route 6 (US-31)

In order to accommodate the addition of an exclusive center turn lane and the associated shoulders and sidewalks within the required right-of-way width of sixty-eight (68) feet, two residential displacements will occur. As part of the proposed improvements for this section, retaining walls will also be required to minimize additional impacts as well as to avoid any encroachment onto the historic "White Hall" property.



Photo 6: White Hall Historical Property (Section I)

Total estimated cost for the additional laneage, proposed signal improvements, and right-of-way outlined for Section I is approximately \$1,721,550. A detailed summary of all of the costs associated with this estimate is included in the Appendix of this report.

Section II

The second section begins at Hughes Street and ends 600 feet east of Port Royal Road, a length of approximately 1.22 miles. This portion of State Route 247 (Duplex Road) has a base year average daily traffic (ADT) of 7,960 vehicles and a design year (2030) ADT of 14,320 vehicles.

Construction of the proposed Old Kedron Road By-Pass is currently underway and is expected to be completed by the end of the year 2006. Based upon design year traffic volumes, this intersection will require signalization as well as re-striping for the required turning movements in the base year 2010.



Photo 7: View looking north along future Old Kedron Road By-pass (Miles Johnson Parkway)

To avoid any negative impact on the Spring Hill Village Apartments, a minor alignment shift of State Route 247 to the south will be necessary east of the by-pass with retaining walls located along both sides of the roadway at various locations to minimize impacts to development located in close proximity to the existing right-of-way, such as the Newton Church of Christ.

Near the Winter Park Subdivision, the vertical alignment of the roadway does not meet required forty (40) miles per hour design speed and will need to be lowered significantly. Due to the close proximity of the subdivision south of State Route 247, a retaining wall will be necessary to prevent impacts to multiple properties in the subdivision. To the north, two residences will be acquired due to slope and construction easements. An additional residence in the southwest corner of Port Royal Road will likely have to be acquired as well.

The intersection of State Route 247 and Commonwealth Drive (Wakefield Subdivision) will be improved by extending the left turn storage and providing for future signalization.

The alignment of State Route 247 would be shifted slightly to the south, east of the intersection with Commonwealth Drive, returning to the existing alignment at the intersection with Port Royal Road. The intersection improvements at this location will include additional laneage and accommodations for a future traffic signal. The east and west bound approaches will contain single left turn and through-right travel lanes. The raised grass median north of State Route 247 on Port Royal Road will be removed to include a left turn lane. South of State Route 247, Port Royal Road will be widened to the west to provide a left turn lane in the northbound direction. A retaining wall will be needed east of the intersection, along the south side of the roadway to prevent any impacts to homes as the vertical alignment is adjusted to meet the design speed.



Photo 8: View looking east along State Route 247 at intersection of Port Royal Road

Total estimated cost for the additional laneage, intersection improvements, and right-of-way outlined for Section II is approximately \$6,862,050. A detailed summary of all of the costs associated with this estimate is included in the Appendix of this report.

Section III

Section III begins 600 feet east of Port Royal Road and ends 0.11 miles west of I-65, a length of approximately 1.57 miles. This portion of State Route 247 (Duplex Road) has a base year average daily traffic (ADT) of 6,370 vehicles and a design year (2030) ADT of 11,450 vehicles.

In order to meet the required design speed of forty (40) miles per hour, numerous segments of the State Route 247 vertical alignment will be either raised or lowered. In order to minimize right-of-way impacts retaining walls will be used at these locations.



Photo 9: View looking west near Benvento Subdivision

The improvements at the Hurt Road intersection will be minimal, including a dedicated left turn lane on State Route 247. State Route 247 at Buckner Lane will be widened to include left turn lanes in both east and westbound directions. Buckner Lane will be widened north and south of the intersection to accommodate left and through-right lanes.

A left turn lane will be provided for vehicles turning onto Secluded Lane. The roadway will then taper down to the existing width approximately 0.11 miles west of Interstate 65.

Total estimated cost for the additional laneage, intersection improvements, and right-of-way outlined for Section III is approximately \$6,996,000. A detailed summary of all of the costs associated with this estimate is included in the Appendix of this report.

Total estimated cost for the recommended improvements for the entire 3.19 mile study segment of State Route 247 (Duplex Road) is approximately \$15,579,600. A detailed summary of all of the costs associated with this estimate is included in the Appendix of this report.

PROPOSED IMPROVEMENTS - TRAFFIC ANALYSIS

Based upon both the base and design year traffic volumes provided, traffic analysis was performed for the recommended improvements as outlined previously. As shown in the table below, with the addition of an exclusive center turn lane along State Route 247, the entire corridor operates at an acceptable level-of-service for the years 2010 and 2030.

ROADWAY SEGMENT	2010	2030
From S.R. 6 (U.S. 31, Main Street) to MJ Bypass	C	D
From MJ Bypass to Commonwealth Drive	C	D
From Commonwealth Drive to Port Royal Road	C	D
From Port Royal Road to Hurt Road	C	C
From Hurt Road to Buckner Lane	C	C
From Buckner Lane to End of Project	C	C

By providing this center turn lane along this major roadway, additional capacity can be provided by removing these movements from the mainline travel lanes.

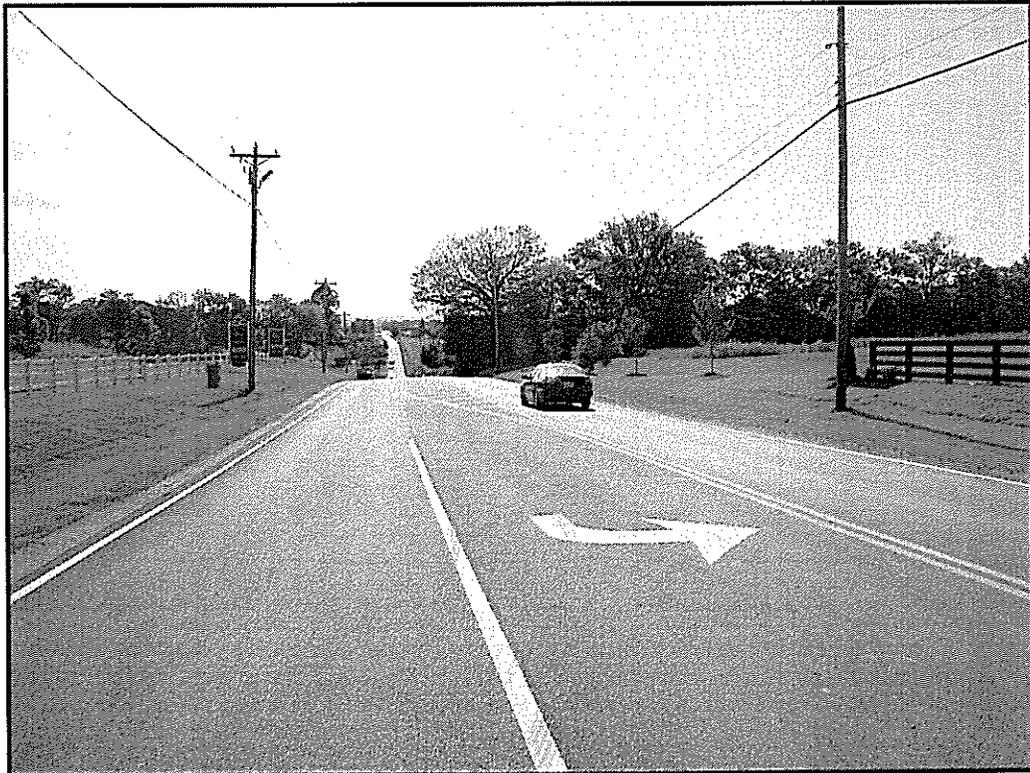


Photo 10: View looking west along State Route 247 at Hardin Landing Subdivision

Based upon analysis for the improved major unsignalized and signalized intersections along the route, five of the six will operate at an acceptable level-of-service in the design year of 2030. In order for the intersection of State Route 247 and State Route 6 (US-31) to operate at an acceptable level-of-service, a substantial roadway widening (beyond the scope of this study) would be required along State Route 6 due to the heavy north-south traffic volumes traveling along this section of Main Street.

INTERSECTION	2030 AM	2030 PM
S.R. 6 (U.S. 31, Main Street)	F	F
Miles Johnson Parkway (Bypass)	C	C
Commonwealth Drive	B	D
Port Royal Road	B	D
Hurt Road	C	C
Buckner Lane	C	C

ENVIRONMENTAL CONSIDERATIONS

Formal environmental studies have not been conducted for the recommended improvements presented in this study. Upon completion of this study and at the appropriate time, formal environmental studies will be undertaken. During this study a cursory review of sensitive areas have been noted such as the following blue-line stream locations crossing State Route 247:

1. McCutcheon Creek (80 feet east of Hughes Street)
2. Tributary to McCutcheon Creek (450 feet east of Hughes Street)
3. Tributary to Grassy Branch (700 feet west of Port Royal Road)
4. Grassy Branch (320 feet west of Cochran Trace)
5. Aenon Creek (1,400 feet west of I-65)

There are three bridges located on this project:

1. 60S62510007 Bridge over McCutcheon Creek log mile 19.85 in Maury County
2. 94S62510001 Bridge over Grassy Branch log mile 1.04 in Williamson County
3. 94S62510003 Bridge over Aenon Creek log mile 2.10 in Williamson County

In addition to blue-line stream locations, the proposed improvements have also been developed to avoid "White Hall" which is listed on the National Register of Historic Places as well as both the Newton Church of Christ and the Spring Hill United Methodist Church.

INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

There are no recommendations at this time to incorporate any ITS measures with this improvement project.

DISPOSITION OF EXISTING ROUTE

All Improvements for State Route 247 (Duplex Road) are recommended to occur along the existing alignment with no disposition of the existing route.

FIELD INVESTIGATION

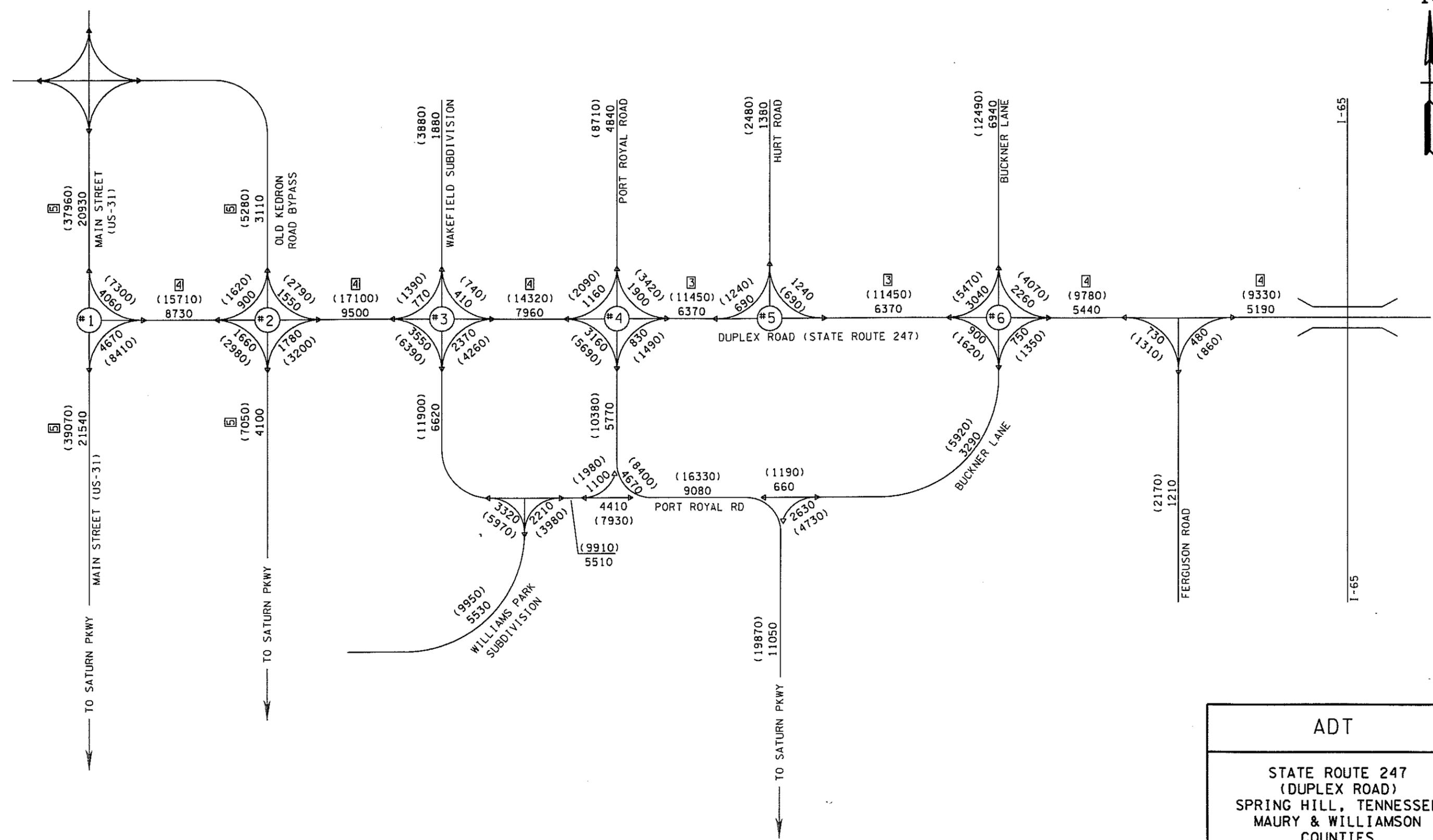
A field investigation of the site was made by the following individuals on March 10, 2006.

Tom Clinard	Clinard Engineering Associates
Brian Gaffney	Clinard Engineering Associates
Gary Webber	TDOT Planning
Charlie Graves	TDOT Planning
Larry Parker	TDOT Design
Bob Allen	TDOT Environmental
David Thompson	TDOT Environmental
Danny M. Leverette	Mayor - City of Spring Hill
Jerome D. Dempsey	Spring Hill Consulting Engineer
Ferrell White	City of Spring Hill
John D. McCord	City of Spring Hill
John B. Pewitt	City of Spring Hill

CHECK LIST OF DETERMINANTS FOR LOCATION STUDY

If any of the following facilities or ESE categories are located within the project area or corridor, place an "x" in the blank opposite the item. Where more than one alternate is to be considered, place its letter designation in the blank.

1. Agricultural land usage	_____	_____
2. Airport (existing or proposed)	_____	_____
3. Commercial area, shopping center	_____	_____
4. Floodplains	_____	_____
5. Forested land	_____	X
6. Historical, cultural, or natural landmark	_____	X
7. Industrial park, factory	_____	_____
8. Institutional usages		
a. School or other educational institution	_____	_____
b. Church or other religious institution	_____	X
c. Hospital or other medical facility	_____	_____
d. Public building, e.g., fire station	_____	_____
e. Defense installation	_____	_____
9. Recreation usages		
a. Park or recreational area	_____	_____
b. Game preserve or wildlife area	_____	_____
10. Residential establishment	_____	X
11. Urban area, town, city, or community	_____	X
(Spring Hill, Population 19,831 - Special Census 2005)		
12. Waterway, lake, pond, river, stream, spring	_____	X
(Permit required: Coast Guard	_____	
Section 404	_____	
TVA Section 26a review	_____	
NPDES	_____	X
Aquatic Resource Alteration	_____	X
13. Other		
14. Location coordinated with local officials	_____	X
15. Railroad crossings	_____	_____
16. Hazardous materials site	_____	_____

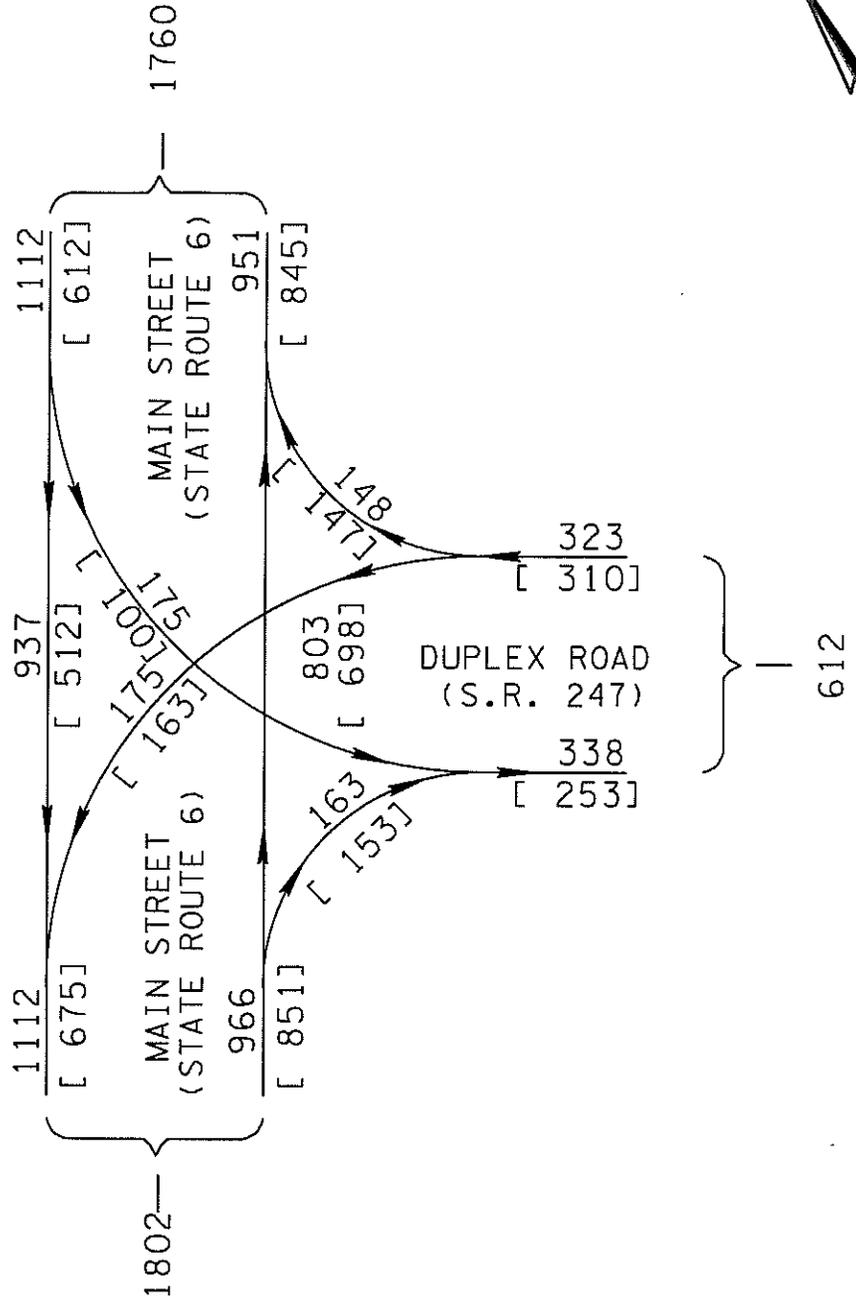
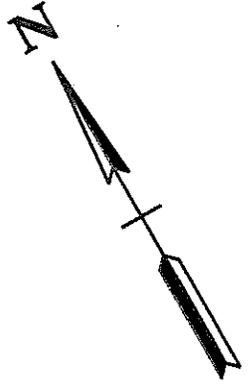


ADT

STATE ROUTE 247
(DUPLIX ROAD)
SPRING HILL, TENNESSEE
MAURY & WILLIAMSON
COUNTIES

2010 ADT 000
2030 ADT (000)

N.T.S.

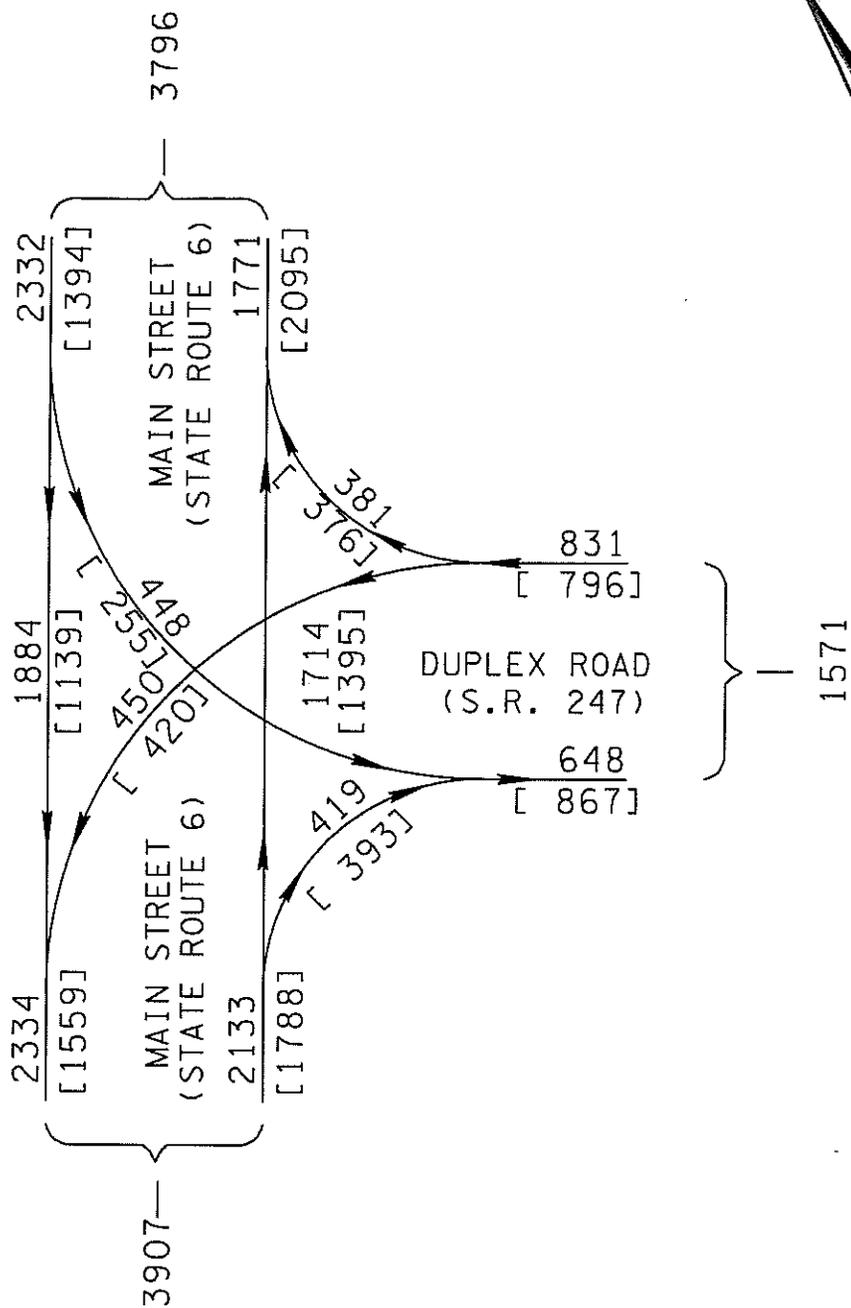
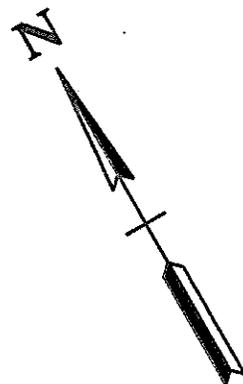


2005 DHV (INT. #1)

STATE ROUTE 247
 (DUPLEX ROAD)
 SPRING HILL, TENNESSEE
 MAURY & WILLIAMSON
 COUNTIES

P.M.
 [A.M.]

N.T.S.

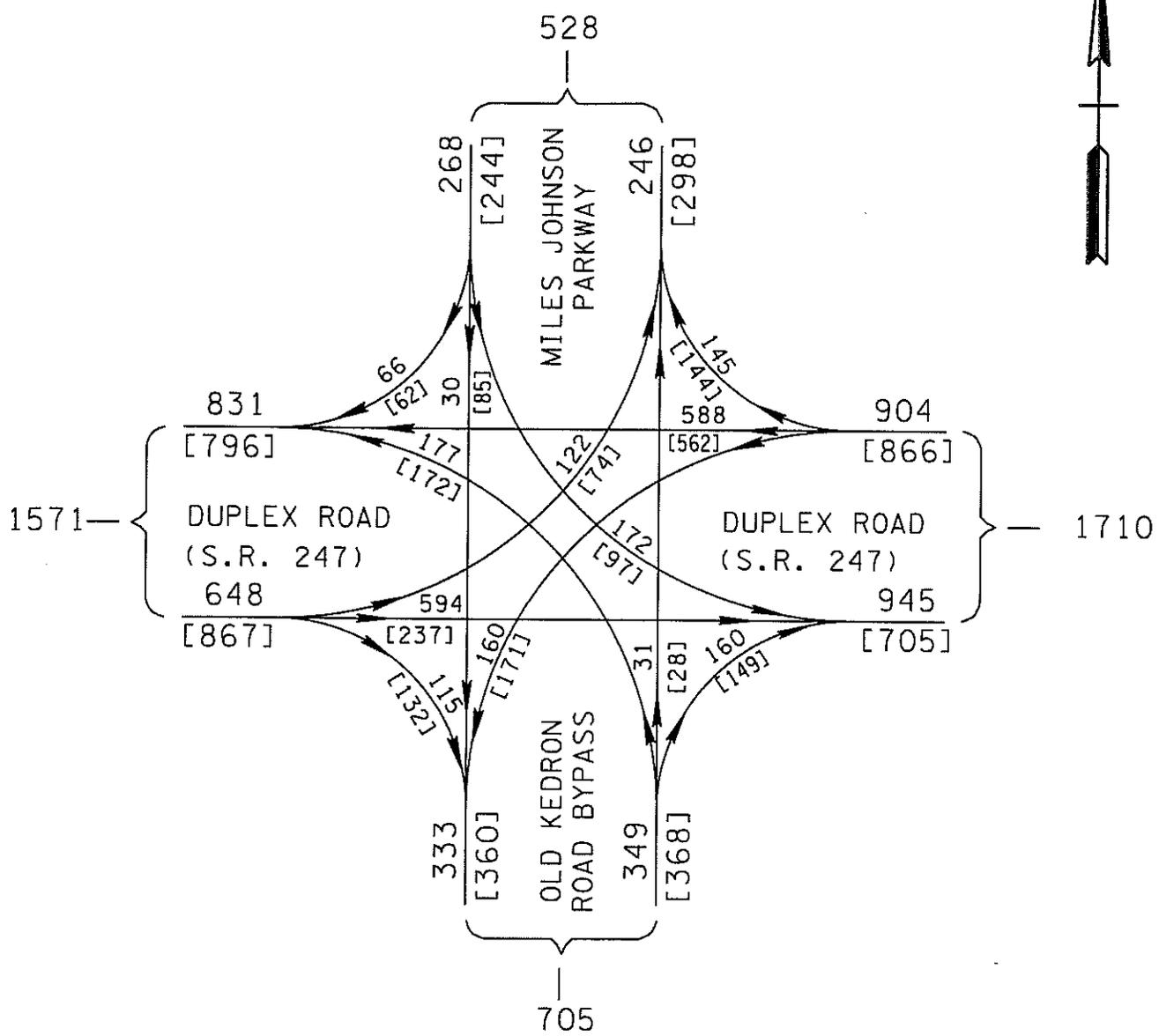


2030 DHV (INT. #1)

STATE ROUTE 247
 (DUPLEX ROAD)
 SPRING HILL, TENNESSEE
 MAURY & WILLIAMSON
 COUNTIES

P.M.
 [A.M.]

N.T.S.



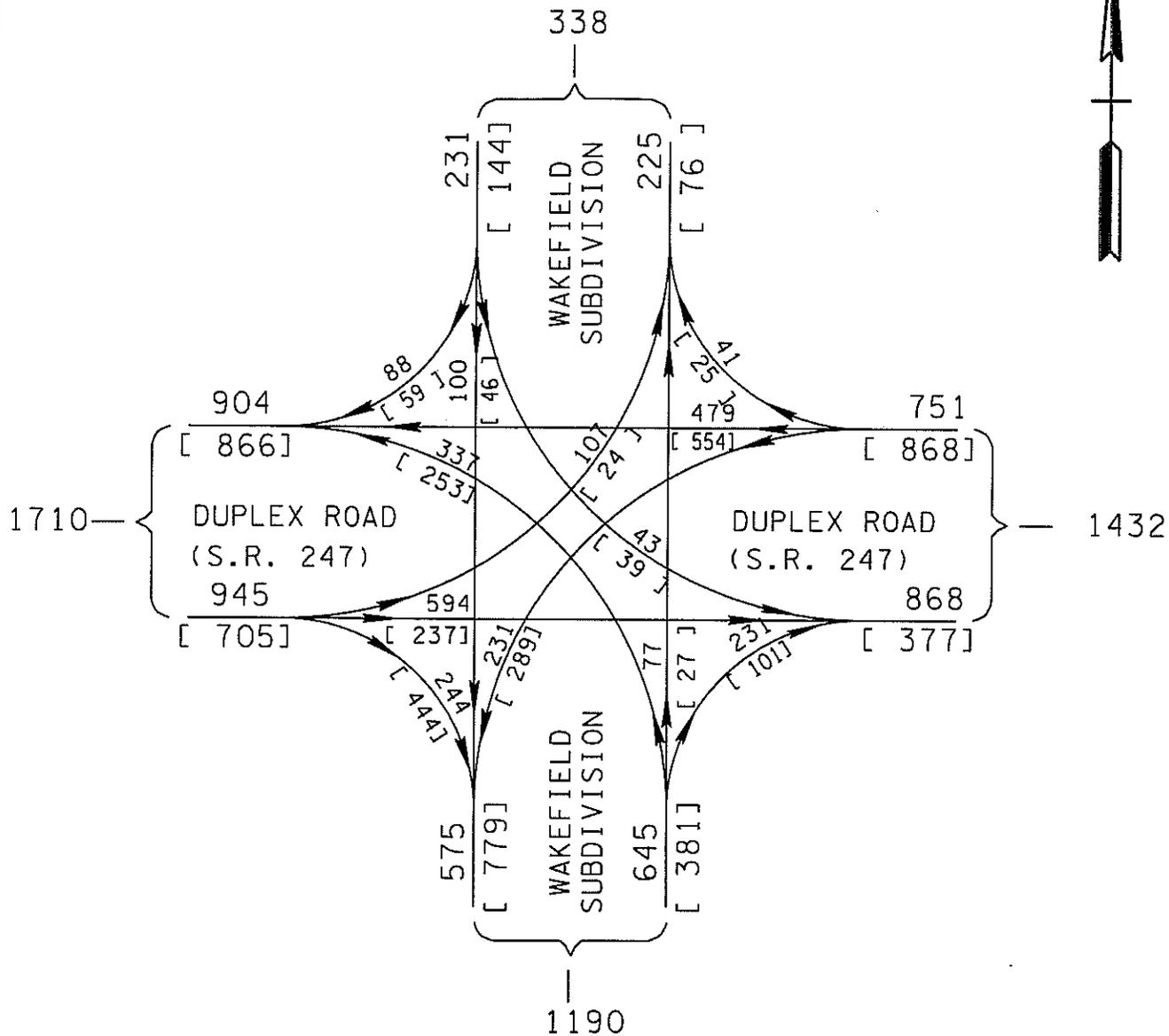
2005 INTERSECTION COUNT DATA IS UNAVAILABLE.
THIS INTERSECTION IS PRESENTLY UNDER CONSTRUCTION.

2030 DHV (INT. #2)

STATE ROUTE 247
(DUPLEX ROAD)
SPRING HILL, TENNESSEE
MAURY & WILLIAMSON
COUNTIES

P.M.
[A.M.]

N.T.S.



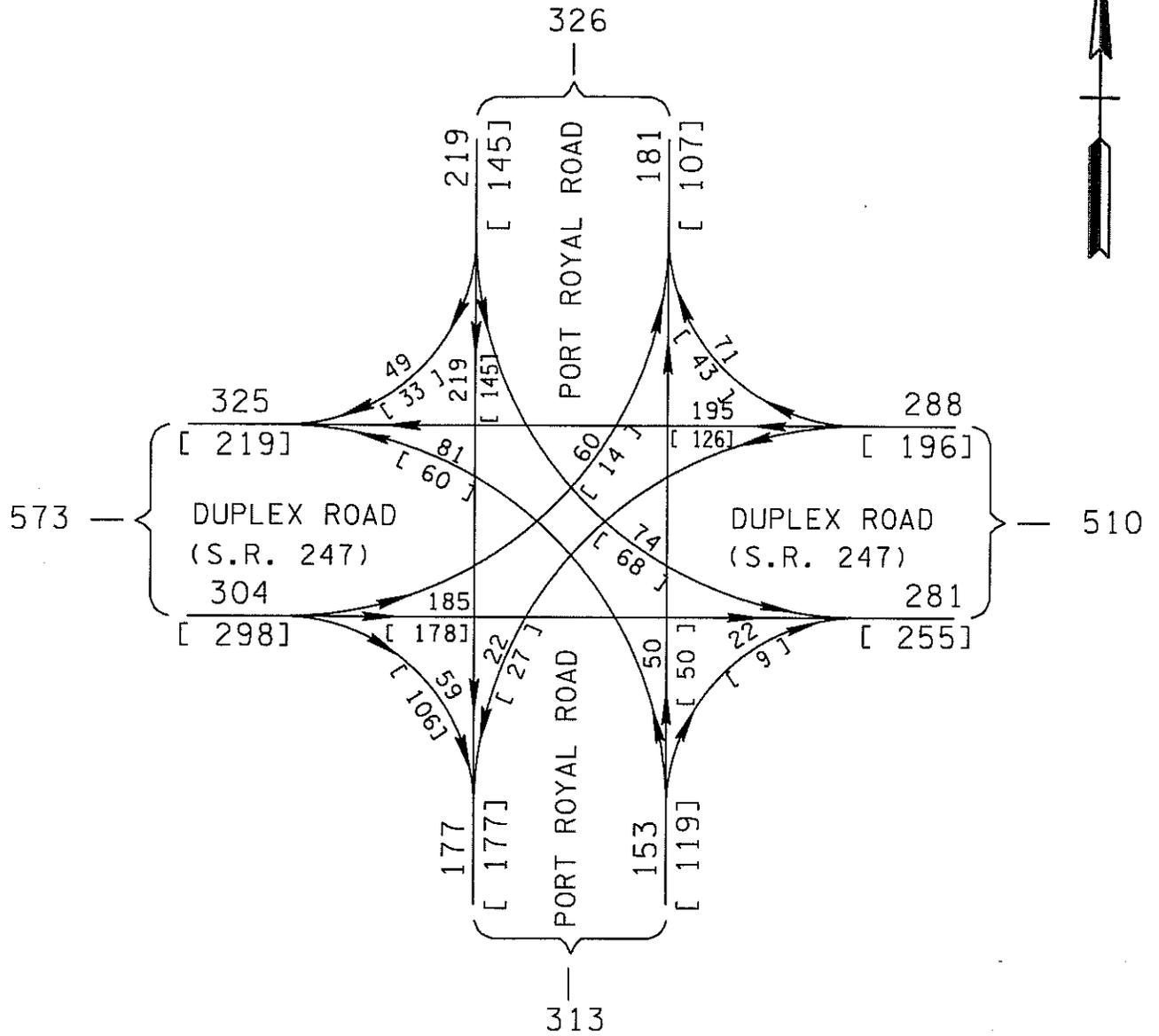
2030 DHV (INT. #3)

2005 INTERSECTION COUNT DATA IS UNAVAILABLE.
THIS SUBDIVISION IS PRESENTLY UNDER CONSTRUCTION.

STATE ROUTE 247
(DUPLEX ROAD)
SPRING HILL, TENNESSEE
MAURY & WILLIAMSON
COUNTIES

P.M.
[A.M.]

N.T.S.

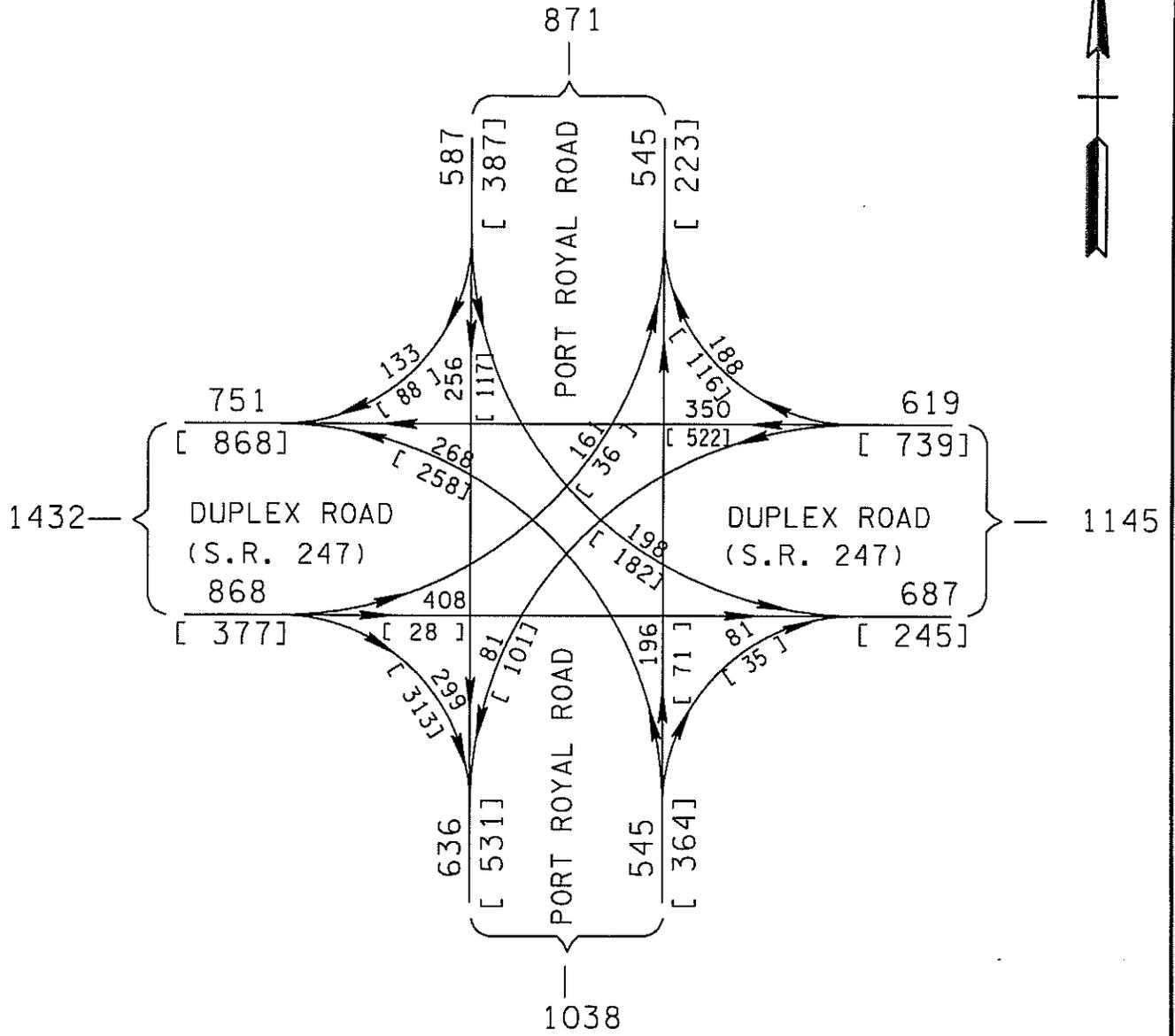


2005 DHV (INT. #4)

STATE ROUTE 247
(DUPLEX ROAD)
SPRING HILL, TENNESSEE
MAURY & WILLIAMSON
COUNTIES

P.M.
[A.M.]

N.T.S.

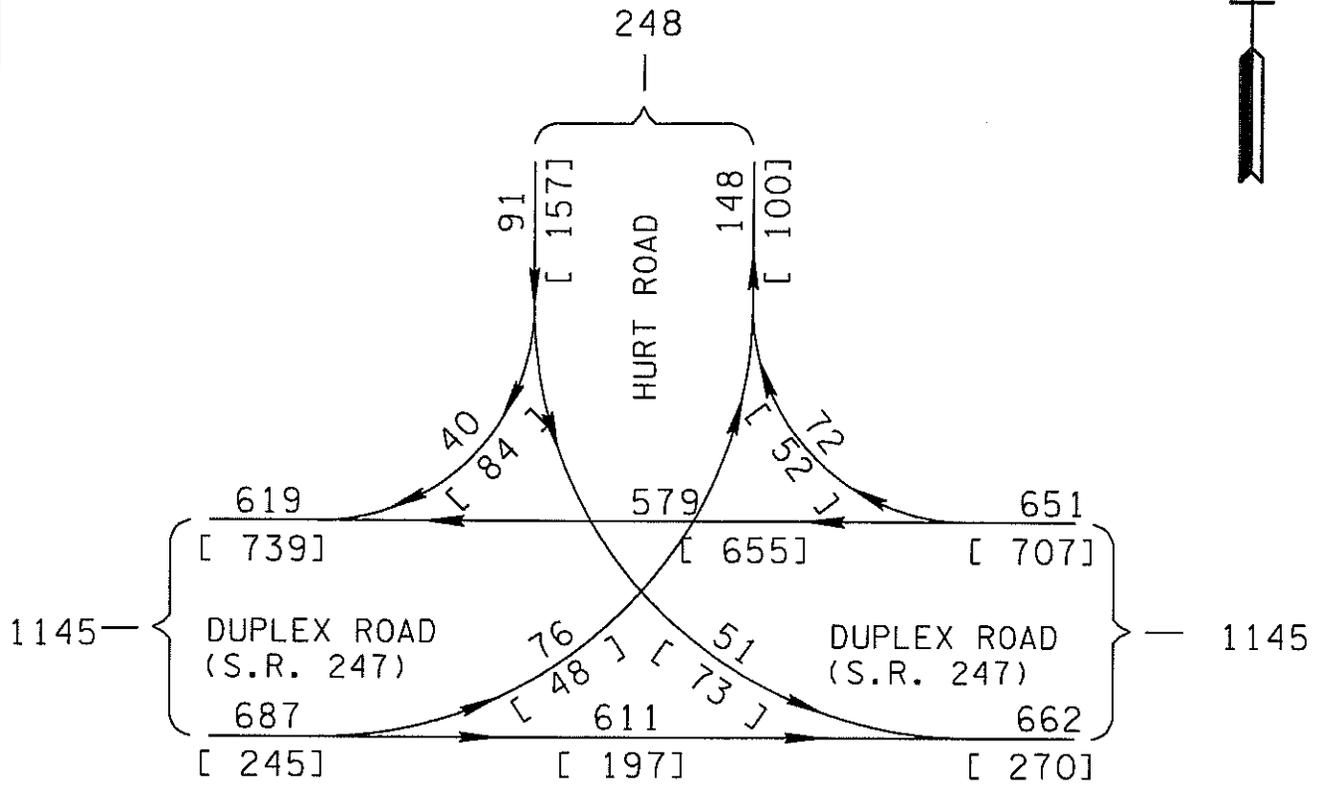


2030 DHV (INT. #4)

STATE ROUTE 247
 (DUPLEX ROAD)
 SPRING HILL, TENNESSEE
 MAURY & WILLIAMSON
 COUNTIES

P.M.
 [A.M.]

N.T.S.



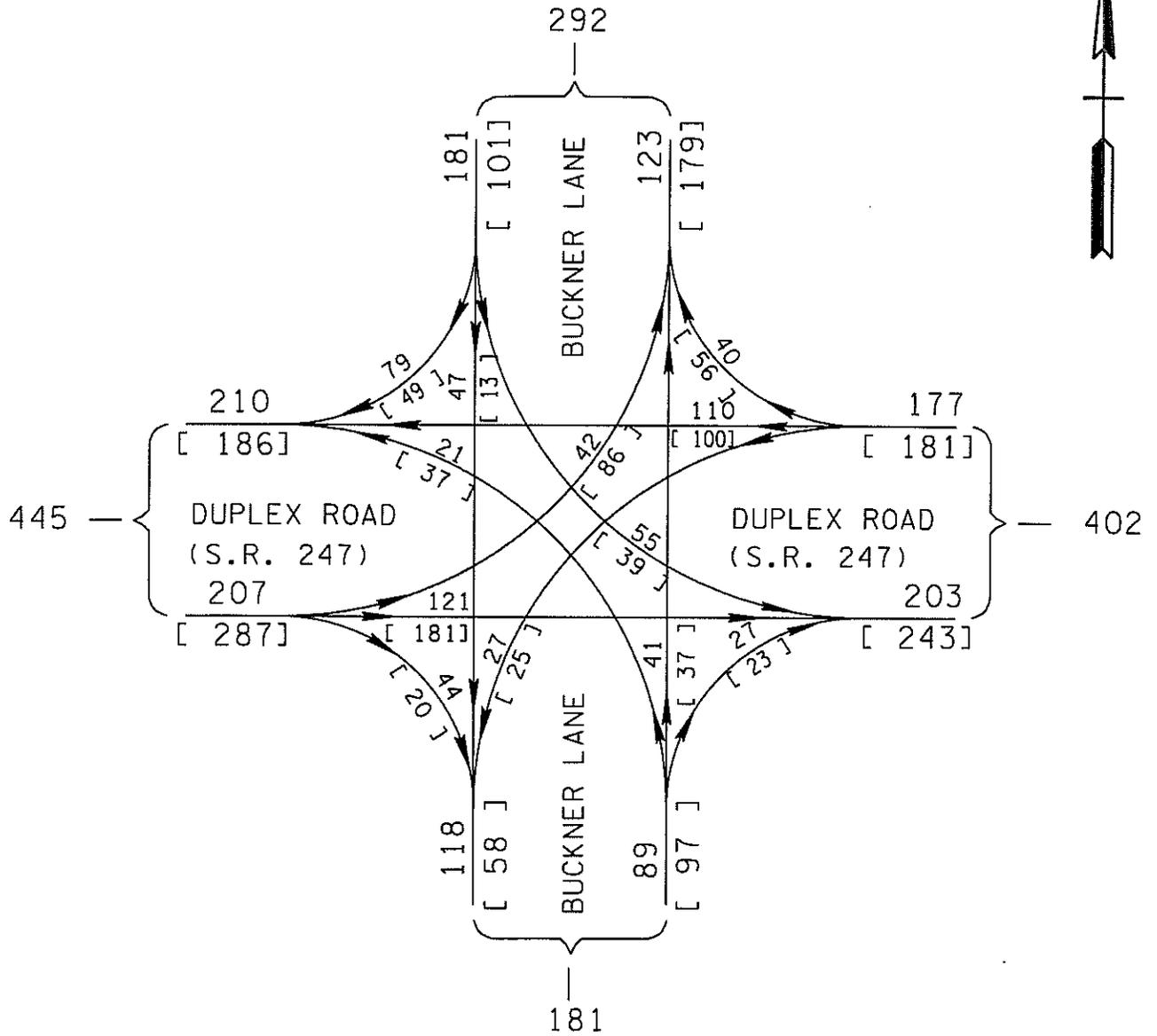
2005 INTERSECTION COUNT DATA IS UNAVAILABLE.

2030 DHV (INT. #5)

STATE ROUTE 247
 (DUPLEX ROAD)
 SPRING HILL, TENNESSEE
 MAURY & WILLIAMSON
 COUNTIES

P.M.
 [A.M.]

N.T.S.



2005 DHV (INT. #6)

STATE ROUTE 247
(DUPLEX ROAD)
SPRING HILL, TENNESSEE
MAURY & WILLIAMSON
COUNTIES

P.M.
[A.M.]

N.T.S.

TDOT DESIGN CRITERIA FOR LOCATION AND DESIGN PHASE

ROUTE: State Route 247 SECTION: I
 REGION: III COUNTY: Maury PROJECT NO.: _____
 LOCATION: State Route 6 (U.S. 31, Main Street) to MJ Bypass

PRESENT ADT (2010)	8,730
FUTURE ADT (2030)	15,710
PERCENT TRUCKS	4 % (ADT) 3 % (DHV)
DHV (2030)	1,571
FUNCTIONAL CLASSIFICATION	Urban Collector
MINIMUM DESIGN SPEED	40
ACCESS CONTROL	N/A
MINIMUM RADIUS	465' (0.08 Max S.E.)
MAXIMUM GRADE	8%
MINIMUM STOPPING SIGHT DISTANCE	305'
SURFACE WIDTH	36'
NUMBER OF LANES	3
USABLE SHOULDER WIDTH	6' (4' Shoulder w/ 2' C&G)
MEDIAN WIDTH	12' Center Turn Lane
MINIMUM RIGHT OF WAY *	68'
SIGNALIZATION	Modify Existing @ S.R. 6

REMARKS: * Construction and Slope easements may be required outside the
Right-of-Way limits.

TDOT DESIGN CRITERIA FOR LOCATION AND DESIGN PHASE

ROUTE: State Route 247 SECTION: II
 REGION: III COUNTY: Maury/Williamson PROJECT NO.: _____
 LOCATION: MJ Bypass to 600' East of Port Royal Road

PRESENT ADT (2010)	7,960 - 9,500
FUTURE ADT (2030)	14,320 - 17,100
PERCENT TRUCKS	4 % (ADT) 3 % (DHV)
DHV (2030)	1,432 - 1,710
FUNCTIONAL CLASSIFICATION	Urban Collector
MINIMUM DESIGN SPEED	40
ACCESS CONTROL	N/A
MINIMUM RADIUS	465' (0.08 Max S.E.)
MAXIMUM GRADE	8%
MINIMUM STOPPING SIGHT DISTANCE	305'
SURFACE WIDTH	36'
NUMBER OF LANES	3
USABLE SHOULDER WIDTH	6' (4' Shoulder w/ 2' C&G)
MEDIAN WIDTH	12' Center Turn Lane
MINIMUM RIGHT OF WAY *	68'
SIGNALIZATION	MJ Bypass, Commonwealth Dr., & Port Royal

REMARKS: * Construction and Slope easements may be required outside the
Right-of-Way limits.

TDOT DESIGN CRITERIA FOR LOCATION AND DESIGN PHASE

ROUTE: State Route 247 SECTION: III
 REGION: III COUNTY: Williamson PROJECT NO.: _____
 LOCATION: 600' East of Port Royal Road to 0.11 miles West of I-65

PRESENT ADT (2010)	5,440- 6,370
FUTURE ADT (2030)	9,780 - 11,450
PERCENT TRUCKS	4 % (ADT) 3 % (DHV)
DHV (2030)	978 - 1,145
FUNCTIONAL CLASSIFICATION	Urban Collector and Rural Major Collector
MINIMUM DESIGN SPEED	40
ACCESS CONTROL	N/A
MINIMUM RADIUS	465' (0.08 Max S.E.)
MAXIMUM GRADE	8%
MINIMUM STOPPING SIGHT DISTANCE	305'
SURFACE WIDTH	36'
NUMBER OF LANES	3
USABLE SHOULDER WIDTH	6' (4' Shoulder w/ 2' C&G)
MEDIAN WIDTH	12' Center Turn Lane
MINIMUM RIGHT OF WAY *	68'
SIGNALIZATION	Buckner Lane

REMARKS: * Construction and Slope easements may be required outside the
Right-of-Way limits.

COST DATA SHEET

PROJECT: State Route 247 (Duplex Road) Section I
LOCATION: From SR 6 to Hughes Street
LENGTH: 0.30 miles
CROSS SECTION:

RIGHT-OF-WAY

Land, Improvements & Damages	(# Acres	0.99)	\$262,000
Incidentals	(# Tracts	15)	\$65,250
Relocation Payments	(Residences	2)	\$78,300
	(Businesses	0)	\$0
	(Non-Profits	0)	
Total Right-Of-Way Cost			\$405,550

UTILITY RELOCATION

Reimbursable	\$51,000
Non-Reimbursable	\$151,000
Total Utility Adjustment Cost	
	\$202,000

CONSTRUCTION

Clear and Grubbing	\$4,000
Earthwork	\$50,000
Pavement Removal	\$19,000
Drainage (Erosion Control =	\$120,000)
Structures (Preserv'n/Demol'n =	\$0)
Railroad Crossing	\$0
Paving	\$200,000
Retaining Walls	\$134,000
Maintenance of Traffic	\$100,000
Topsoil	\$0
Seeding	\$0
Sodding	\$34,000
Signing	\$5,000
Signalization	\$50,000
Fence	\$0
Rock Walls	\$0
Guardrail	\$0
Rip-rap or Slope Protection	\$8,000
Other Construction Items (8.5%)	\$69,000
Mobilization	\$45,000
10% Engineering and Contingencies	\$93,000
Total Construction Cost	
	\$1,021,000
Preliminary Engineering (10% of Constr.)	
	\$93,000

TOTAL ESTIMATED COST (SECTION I) **\$1,721,550**

COST DATA SHEET

PROJECT: State Route 247 (Duplex Road) Section III
LOCATION: From 600' East of Port Royal Road to 0.11 miles West of I-65
LENGTH: 1.59 miles
CROSS SECTION:

RIGHT-OF-WAY

Land, Improvements & Damages	(# Acres	1.90)	\$84,000
Incidentals	(# Tracts	40)	\$174,000
Relocation Payments	(Residences	0)	\$0
	(Businesses	0)	\$0
	(Non-Profits	0)	
Total Right-Of-Way Cost			\$258,000

UTILITY RELOCATION

Reimbursable	\$262,000
Non-Reimbursable	\$737,000
Total Utility Adjustment Cost	
	\$999,000

CONSTRUCTION

Clear and Grubbing	\$8,000	
Earthwork	\$430,000	
Pavement Removal	\$102,000	
Drainage (Erosion Control =	\$524,000)	\$1,004,000
Structures (Preserv'n/Demol'n =	\$18,000)	\$210,000
Railroad Crossing	\$0	
Paving	\$1,139,000	
Retaining Walls	\$741,000	
Maintenance of Traffic	\$300,000	
Topsoil	\$0	
Seeding	\$0	
Sodding	\$184,000	
Signing	\$15,000	
Signalization	\$50,000	
Fence	\$0	
Rock Walls	\$0	
Guardrail	\$14,000	
Rip-rap or Slope Protection	\$33,000	
Other Construction Items (8.5%)	\$342,000	
Mobilization	\$211,000	
10% Engineering and Contingencies	\$478,000	
Total Construction Cost		
	\$5,261,000	
Preliminary Engineering (10% of Constr.)		
	\$478,000	

TOTAL ESTIMATED COST (SECTION III) \$6,996,000