



*North Carolina Department of Transportation  
Statewide Planning Branch  
Systems Planning Unit*



# ***PITT COUNTY THOROUGHFARE PLAN***

*1993*

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1993 THOROUGHFARE PLAN  
FOR  
PITT COUNTY, NORTH CAROLINA

Prepared By:

The Statewide Planning Branch  
Division of Highways  
North Carolina Department of Transportation

In Cooperation With:

Pitt County

The Federal Highway Administration  
United States Department of Transportation

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## I. INTRODUCTION

A properly functional transportation system will provide the means for fast, convenient, and safe transportation of people and goods from one place to another. It is imperative that the system not only meet existing travel demands, but also that it progress with the regional growth. This report contains the thoroughfare plan for Pitt County. Its objective is to provide a system of thoroughfares to serve the existing and future traffic needs of the County for the next nineteen years.

Pitt County has never had an adopted thoroughfare plan. It is the desire of the County to have a thoroughfare plan. This report was prepared by the North Carolina Department of Transportation, in cooperation with Pitt County.

The proposed thoroughfare system was developed following the basic principals of thoroughfare planning as described in Chapter II of this report. The thoroughfares were located based on field investigations, population distribution, existing and anticipated land use, and topographic conditions. The plan advocates those improvements that are felt to be essential for proper traffic circulation within the current planning period. The plan does not modify the proposed municipal thoroughfare plans that are already developed or are being updated for the municipalities of Greenville, Bethel, Farmville, Winterville, Ayden, and Grifton.

Proposed improvements within the County plan will be primarily the responsibility of the North Carolina Department of Transportation. Pitt County, through the use of subdivision and zoning controls, can do much toward the implementation of the plan. Thus, it is desirable that the plan be formally approved by both the County and the Department of Transportation to serve as a mutual official guide in the development of the thoroughfare system.

## II. COUNTY THOROUGHFARE PLANNING PRINCIPLES

### Purpose of Planning

There are numerous benefits to be gained from thoroughfare planning. The main objective is to assure that the road system will be progressively developed to serve future travel desires fully. Thus, the main consideration in thoroughfare planning is to make provisions for street and highway improvements so that, when the need arises, feasible opportunities to make improvements exist.

Streets, roads, and highways have two primary functions: they provide traffic service and land service. When combined, these two services are basically incompatible. This conflict will not be serious if both traffic and land service demands are low. When traffic volumes are high, access conflicts created by uncontrolled and intensely used abutting property result in intolerable traffic flow friction and congestion.

There are two major benefits derived from thoroughfare planning. First, each road or highway can be designed to perform a specific function and provide a specific level of service. This permits savings in right-of-way, construction, and maintenance costs. It also protects residential neighborhoods by controlling through traffic and it encourages stability in travel and land use patterns. Second, local officials are informed of future improvements and can incorporate them into planning and policy decisions. This will permit developers to design subdivisions in a manner that will not conflict with the thoroughfare plan. It also will direct school and park officials to better locate their facilities and minimize the damage to property values and community appearance that is sometimes associated with road improvements.

### County Thoroughfare Planning Concept

The underlying concept of the thoroughfare plan is to provide a functional system of streets, roads, and highways that permit direct, efficient, and safe travel. Different elements in the system are designed to have specific functions and levels of service, thus minimizing the traffic and land service conflict.

In the county plan, elements are designated as either urban or rural. In the urban planning jurisdiction, the local municipality generally has planning jurisdiction. Outside the urban planning area, the county has planning jurisdiction. In those urban areas where no urban thoroughfare plan has been developed, elements are generally designated as rural and under the planning jurisdiction of the county. When a thoroughfare plan is developed for an urban area that has not previously had a plan, the area defined by that plan is considered to be urban and comes under the planning jurisdiction of the municipality.

Within the urban and rural systems, thoroughfare plan elements are classified according to the specific function they are to perform. A discussion of the elements and functions of the two systems follows.

## Urban Thoroughfare Classification System

In the urban thoroughfare plan, elements are classified as major thoroughfares, minor thoroughfares, or local access streets. The major thoroughfares are the primary traffic arteries of the urban area providing for traffic movements within, around, and through the area. Minor thoroughfares are designed to collect traffic from the local access streets and carry it to the major thoroughfare system. Local access streets, which may be further classified as residential, commercial, or industrial streets, are designed only to provide access to abutting property. Due to the limited amount of detail that can be shown on a county thoroughfare plan, only urban major thoroughfares are shown.

The radial-loop system is a coordinated system of major thoroughfares that is most adaptable to the desired lines of travel within an urban area. It also is reflected in most urban area thoroughfare plans. The radial-loop system includes radials, crosstowns, loops, and bypasses. Radial thoroughfares provide for travel from points outside to major destinations inside the urban area. Crosstown thoroughfares provide for traffic movements across the central area and around the central business district (CBD). Loop thoroughfares provide for lateral travel movements between suburban areas. Bypasses are designed to carry non-local traffic around and through the area. Occasionally, a bypass with low through traffic volumes can be designed to function as a portion of the urban loop. The radial-loop system and urban thoroughfare classification street system are illustrated in Figure 1.

## Rural Thoroughfare Classification System

The rural system consists of those facilities outside the urban thoroughfare planning boundaries. They are classified into four major systems: Principal arterials, minor arterials, major and minor collectors, and local roads. Table 1 indicates generally accepted statewide mileage on these systems.

**Rural Principal Arterial System:** This system consists of a connected network of continuous routes that serve corridor movements having substantial statewide or interstate travel characteristics. This will be indicated by both the trip lengths and the travel densities. The principal arterial system should serve all urban areas of over 50,000 population and a majority of those with a population greater than 5,000. The Interstate system constitutes a significant portion of the principal arterial system.

**Rural Minor Arterial System:** This system, in conjunction with the principal arterial system, forms a network that links cities, larger towns, and other major traffic generators such as large resorts. The minor arterial system generally serves intrastate and intercounty travel and travel corridors with trip lengths and travel densities somewhat less than the principal arterial system.

<b>TABLE 1</b>	
<b>Rural System Road Mileage Distribution</b>	
Systems -----	Percentage of Total Rural Miles -----
Principal Arterial System	2-4
Principal Arterial System plus Minor Arterial Road System	6-12
Collector (Major and Minor) Road System	20-25
Local Road System	65-75

**Rural Collector Road System:** The rural collector routes generally serve intracounty travel rather than statewide travel. This system consists of those routes on which the predominant travel distances are shorter than on the arterial routes. The rural collector road system is subclassified into major and minor collector roads.

**Major Collector Roads:** These routes provide service to the larger towns not directly served by the higher systems and to other traffic generators of equivalent intracounty importance, such as consolidated schools, shipping points, county parks, significant mining and agricultural areas, etc. Major collector roads also link these places to routes of higher classification and serve the more important intracounty travel corridors.

**Minor Collector Roads:** These routes collect traffic from local roads and bring all developed areas within a reasonable distance of a major collector road; provide service to the remaining smaller communities; and link the locally important traffic generators with the rural outskirts.

**Rural Local Road System:** The local roads are comprised of roads that are not on a higher system. Local residential subdivision streets and residential collector streets are elements of the local road system. Local residential streets are either cul-de-sacs, loop streets less than 2,500 feet in length, or streets less than one mile in length that do not connect thoroughfares or serve major traffic generators and do not collect traffic from more than one hundred dwelling units. Residential collector streets serve as the connecting street system between local residential streets and the thoroughfare system.

Figure 2 gives a schematic illustration of functionally classified rural highway system. The functional classification of the major roads in Pitt County are listed in Chapter V. (Thoroughfare Plan)



# IDEALIZED THOROUGHFARE PLAN

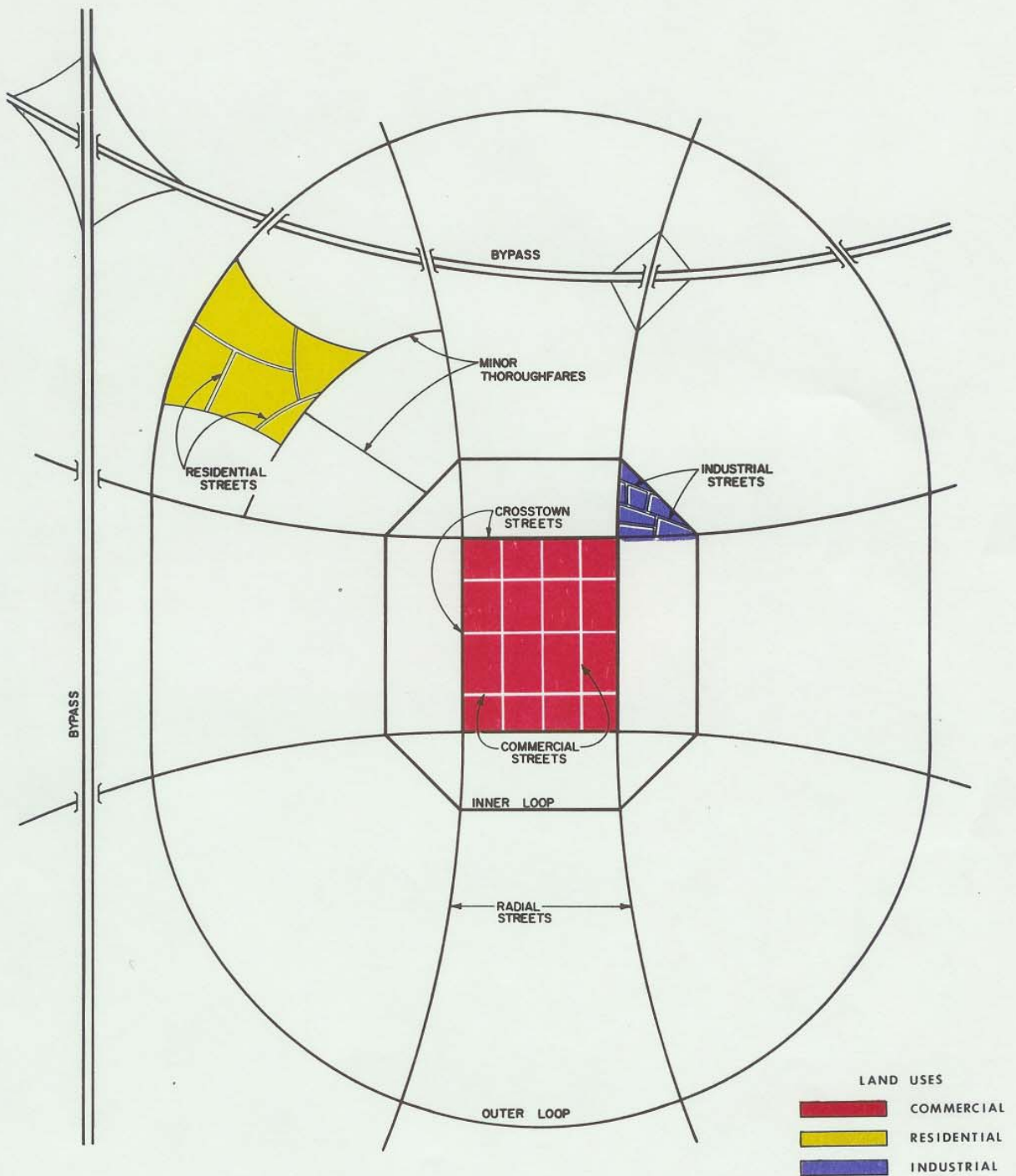
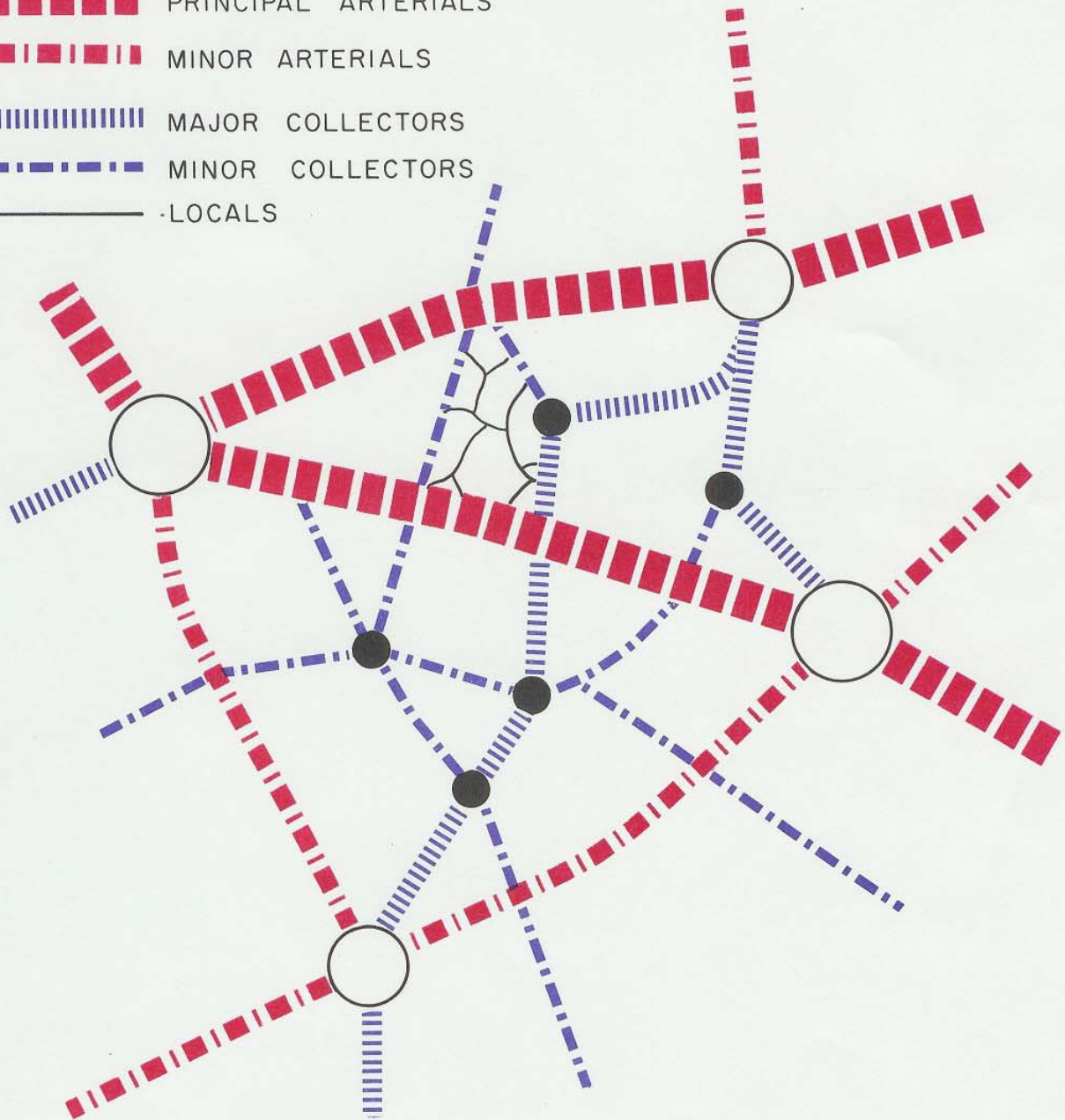
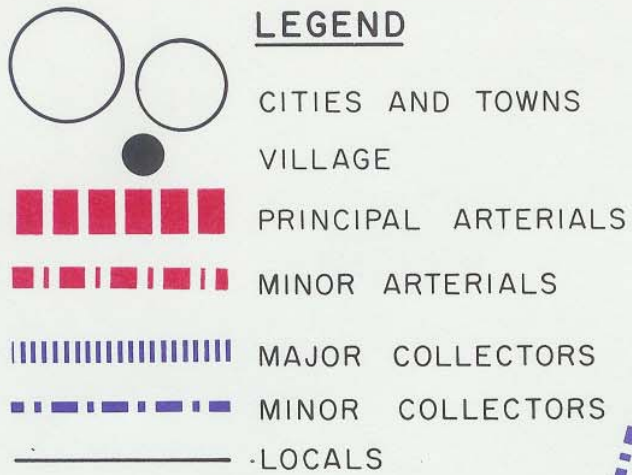


FIGURE 1



SCHEMATIC ILLUSTRATION  
OF FUNCTIONALLY CLASSIFIED  
RURAL HIGHWAY NETWORK

FIGURE 2

# GEOGRAPHIC LOCATION

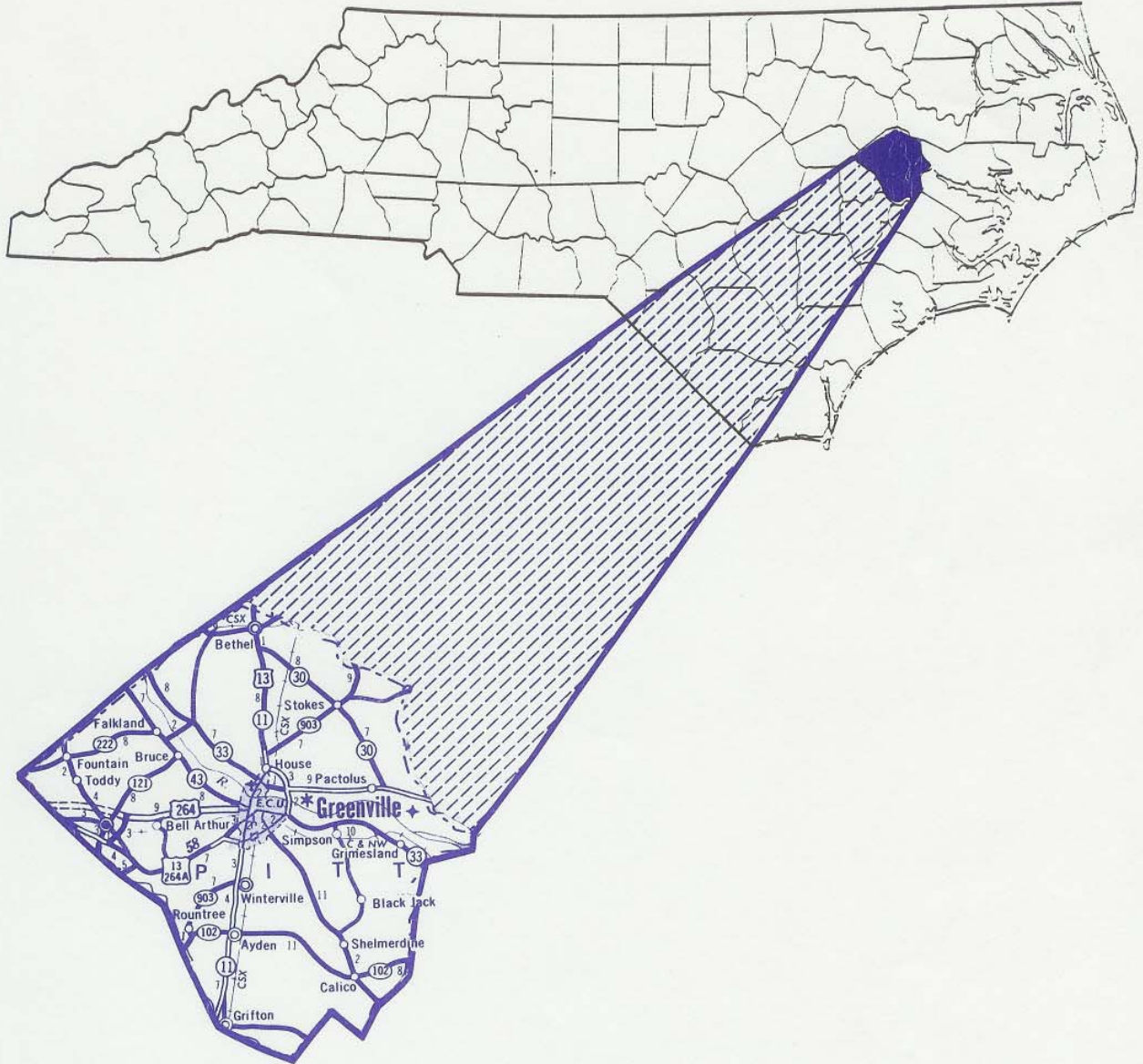


FIGURE 3

### III. MAJOR URBAN THOROUGHFARE SYSTEMS:

Urban and County Thoroughfare plans are produced to assist officials in the development of the most efficient street system that will handle existing and future travel demands. A proper thoroughfare plan should be devised using the cooperative efforts of the municipality as well as the county. The following towns currently have, or currently are in the process of developing an urban thoroughfare plan.

- AYDEN:** A revised plan for Ayden was completed in August, 1992. A proposed project in the plan involves a Northern Loop. This two-lane roadway on new location, will connect the Winterville Bypass with Lee Street (SR 1149).
- BETHEL:** This plan was completed in May, 1988. The plan includes a proposed four lane divided highway which will bypass Bethel.
- FARMVILLE:** Farmville is in the process of having its thoroughfare plan updated. Expected completion date: May, 1993.
- GREENVILLE:** An updated plan was completed in May, 1990. The plan includes the construction of the western half of US 264 loop.
- GRIFTON:** Grifton is in the process of having its thoroughfare plan updated. Expected completion date: March, 1993.
- WINTERVILLE:** A revised plan for Winterville was completed in July, 1992. The plan includes an NC 11 Bypass. This is a proposed four-lane divided facility on new location. This fully controlled access highway will connect with the Greenville Southwest Loop at Davenport Farm Road, and then join NC 11 just South of Swift Creek Road.

#### IV. ANALYSIS OF EXISTING AND PROJECTED ROAD SYSTEM

##### PITT COUNTY

Located in the approximate center of North Carolina's coastal region, Pitt County contains 419,000 acres of level terrain. It is bordered on the west by Wilson and Greene Counties, on the southwest by Lenoir County, on the south by Craven County, on the east by Beaufort County, on the northeast by Martin County, and on the northwest by Edgecombe County.

At its center lies the City of Greenville with a 1990 population of 44,972. It is the largest City in the County. This has made Greenville a main focal point for industry, recreation, and transportation. The Pitt-Greenville Airport that serves propeller jet aircraft is within the Greenville City Limits. Two educational institutions are located in Greenville. In 1991, East Carolina University (ECU) had an enrollment of 16,690 students and 3373 students were enrolled at Pitt Community College.

Pitt County is experiencing noticeable development and population growth in and around Greenville and is expected to generate a large amount of traffic. The County's road network is oriented to Greenville. US 264, serving as a connector between Farmville and Greenville, runs traffic east and west. NC 11 links Grifton and Bethel while serving the south and north County traffic. NC 43 carries traffic south of the Tar River from Edgecombe County to Craven County. On the other hand, NC 33 carries traffic north of the Tar River from Edgecombe County to Greenville, and south of the Tar River from Greenville to Beaufort County.

##### POPULATION & GROWTH

Between 1960 and 1990, the total population of Pitt County has grown from 69,942 to 107,924 (See Appendix C). That's an annual compounded growth rate of 1.5%. Overall, the County growth rate represented a 54% increase over the past three decades. Nearly 50% of the County's population is centered around the Greenville / Winterville area.

The projected population for Pitt County is 148,263 for 2010 and 158,000 for 2015. It is based on a annual growth rate of 1.5%, that is slightly higher than the average annual growth rate for North Carolina. (Future estimates were provided by the North Carolina State Data Center.)

## LAND USE

Land use in Pitt County is divided into several categories. The three main categories and their percentage land use are:

Category:	Percentage Land Use:
Municipal (incorporated cities or towns)	14.0%
Agricultural (farmland, crops)	
/Rural Residential (excluding crossroad communities)	28.7%
Undeveloped (forest, swampland, and water areas)	55.0%

Note: Other land uses such as Industrial, Public/Institutional, Suburban (subdivided residential developments) and Rural communities together account for less than 3% of Pitt County's total land.

Pitt County ranked third in total farm cash receipts for all crops among North Carolina Counties in 1989. In 1990, Pitt County expanded its total acreage of harvested cropland to approximately 132,000. As the leading county for Tobacco production, Pitt County harvested 15,160 acres to yield over 34,500,000 pounds of Tobacco. Other 1990 top ranked crop and livestock production for Pitt County include: **1**

Crop or Livestock Category	Amount	Rank among N.C. Counties
soybean	1,127,000 bushels	6
Wheat	694,000 bushels	6
peanuts	14,478,000 lbs	9
hogs	127,500 head	4
chickens	1,300,000 head	4

Development activity in unincorporated Pitt County includes four primary areas. These areas are comprised primarily of residential subdivisions and manufactured home parks. The first area is located along the SR 1401 and NC 33 corridor northwest of Greenville near the Pitt-Greenville airport. Another location is along the SR 1200 corridor between Farmville and Greenville. A third area of growth is just west of Winterville between US 13/264 and NC 903. The fourth area is southeast of Greenville.

On the Western boundary of Greenville lies a receiver site for Voice of America (VOA). VOA provides 129 million people around the world with accurate, objective, and comprehensive reporting of news events. Broadcasting in 43 different languages, Voice of America serves as a link between Washington D.C. and majority of the Western Hemisphere. VOA charter dictates that "VOA will serve as a consistently reliable and authoritative source of news."

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**1** Reference: 1991 North Carolina Agricultural Statistics  
N.C. Agricultural Statistics Division  
Raleigh, N.C.

VOA has two high power transmitter sites along with one receiver site that form a triangle about the City of Greenville. Together they are referred to as the Greenville Relay Station.

### TRAFFIC

Registered motor vehicles in Pitt County have climbed to the 70,000 mark for 1991; an increase of 110% over the past 20 years. Forecasting for 2010 has projected the number of vehicles to exceed 100,000. As the number of vehicles increase, it will put a greater strain on the existing road network. Additional traffic volumes will increase safety hazards and congestion. To alleviate traffic congestion, steps must be taken towards building new roads and enhancement of existing facilities.

Vehicle registration has increased at a much greater rate than population since 1940. This increase can be shown best by a graph depicting the change in persons per vehicle ratio over time. This ratio is obtained by dividing the total population of the area by the total number of vehicles registered in that area. Figure 4 shows this comparison for North Carolina and Pitt County and includes projections to the year 2020.

The results of this figure illustrate the transition from a non-automobile oriented society to one whose vitality is heavily dependent on the automobile. This change in lifestyle has gradually occurred over many years, with the most dramatic difference being between 1940 and 1960. This is primarily due to: the post-depression increase in the standard of living; the increase in population including the post World War II "Baby Boom"; the transition from an agriculturally dominated society to a more diversified one (fewer people on the farm, greater need for transportation); and the availability of automobiles in the 1960's and 1970's and the banking credit to buy them.

Table C2 and C3 in Appendix C lists the persons per vehicle rate for Pitt County and North Carolina from 1940 to 2010. The projected vehicle registration for the year 2000 and 2010 were supplied by North Carolina Department of Motor Vehicles. The projected population values for the year 2000 and 2010 were supplied by North Carolina State Data Center.

According to State Data Center Technical Report No. 5, there were a total of 36,371 employed residents of Pitt County in 1980. Estimates for 1990 show an increase of 30.6% (47,500) of total employed residents. The 1990 estimate calculated a total of 6,553 out-of-county commuters. That accounts for nearly 14% of the total employed residents. Some of the higher number of out-commuters from Pitt County were to: Beaufort (1,329); Edgecombe (790); and Lenoir (1879). On the other hand only 5,340 employees commuted to Pitt County.

In the analysis of historical traffic counts for Pitt County, several primary and secondary road traffic volumes were projected 10 and 20 years into the future. For each location on a given road, Average Daily Traffic (ADT) counts for the past twenty years were used in a linear regression analysis to estimate future ADT counts. Graphical trend lines for each location assisted in the analysis by estimating future ADT's through a computer generated program.

The counts for each location were then adjusted depending on population growth, registered vehicles, and planned development for that area. This step allows for a more accurate representation of traffic volumes. Figure 5 shows the ADT's for selected locations throughout Pitt County. Table 2 is a list of these ADT's and their specific location.



# PERSONS/VEHICLE PITT COUNTY & NORTH CAROLINA

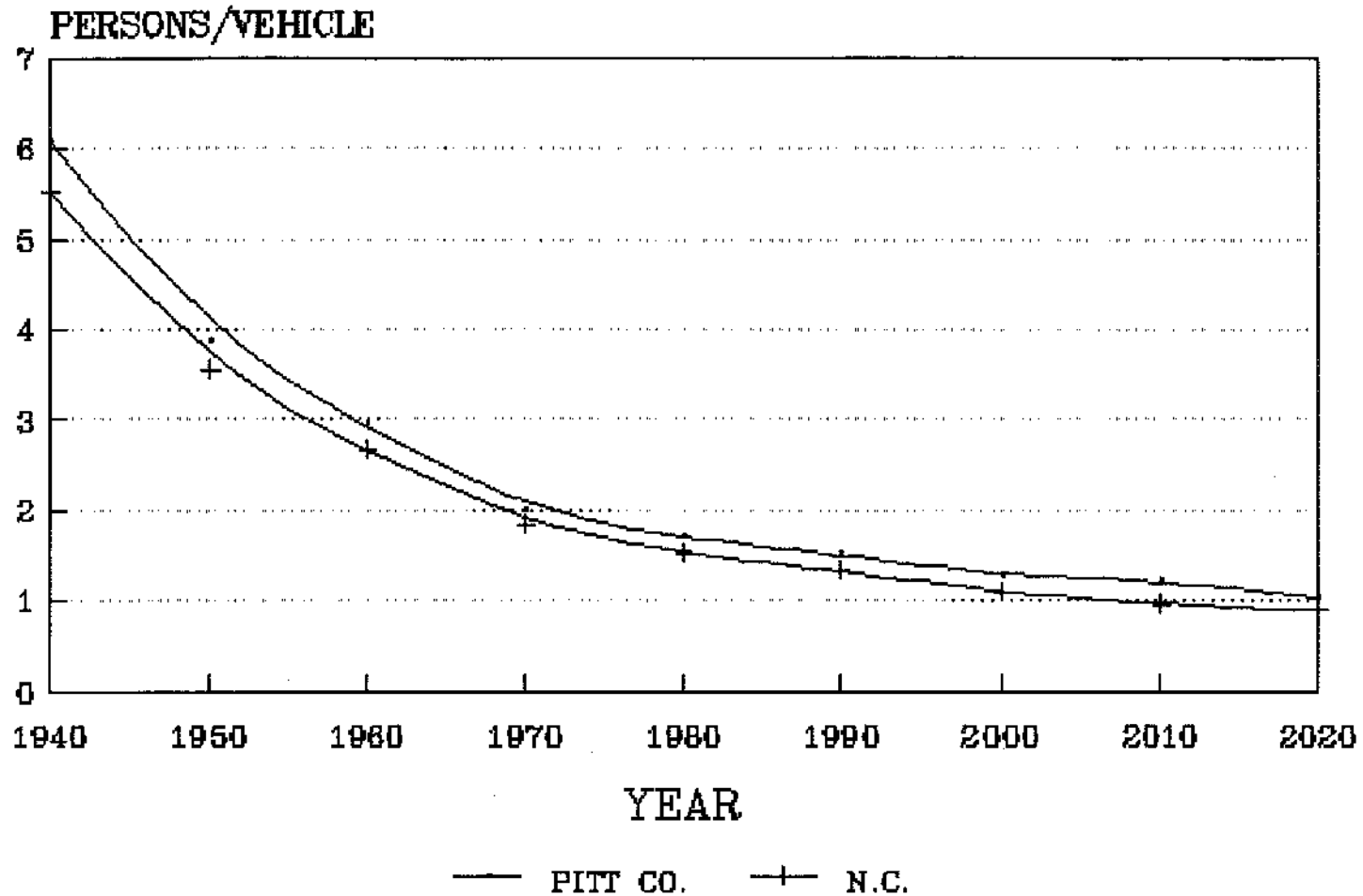




TABLE 2

**HISTORICAL AND PROJECTED AVERAGE DAILY TRAFFIC VOLUMES  
FOR SELECTED LOCATIONS IN PITT COUNTY**

LOCATION	1970	1990	2000	2010
NC 33:				
@ EDGECOMBE COUNTY	530	2,000	2,900	4,000
@ SR 1404 (HOLLAND RD)	750	3,000	4,500	5,950
@ SR 1726 (PORTERTOWN RD)	5,200	11,600	15,000	20,000
@ SR 1851 (COUNTRY RD)	3,000	5,000	6,500	8,200
@ BEAUFORT COUNTY	2,500	2,400	3,400	4,500
NC 43:				
@ EDGECOMBE COUNTY	1,280	3,400	4,650	6,100
@ NC 121	2,280	5,200	6,900	9,100
@ SR 1257 (COTTONDALE RD)	2,200	4,800	6,650	9,050
@ SR 1711 (D.H. CONLEY RD)	2,600	6,300	8,600	11,600
@ SR 1700 (OLD TAR RD)	2,200	4,200	5,400	6,800
@ CRAVEN COUNTY	1,600	2,700	3,400	4,300
NC 11:				
@ SR 1428 (CREEK BANK RD)	3,350	6,100	7,800	9,900
@ SR 1514 (STATON MILL RD)	6,300	8,500	11,600	14,200
@ SR 1131 (REEDY BRANCH RD)	5,200	11,900	15,700	20,200
@ SR 1110 (HANRAHAN RD)	3,150	9,600	12,800	16,900
US 264:				
@ SR 1144 (TUGWELL RD)	3,500	7,600	9,000	10,500
@ SR 1538 (WHICHARD-CHERRY)	2,000	8,900	12,200	15,700
@ BEAUFORT COUNTY	2,250	9,100	12,300	16,800
US 13:				
@ US 264A	4,100	7,700	9,800	12,200
@ SR 1127 (FROG LEVEL RD)	4,750	10,000	12,800	16,100
US 258:				
@ SR 1232 (ALLEN GAY RD)	2,200	2,100	2,450	3,000
@ SR 1200 (STANTONSBURG RD)	2,250	3,100	4,000	5,100
NC 903:				
@ MARTIN COUNTY	1,400	2,200	2,800	3,600
@ SR 1543 (WORTHINGTN-WRRN)	1,700	4,300	6,100	7,850
@ US 13	2,400	4,600	6,200	8,100
NC 102:				
@ GREENE COUNTY	2,000	2,900	3,500	4,400
@ SR 1723 (W. WORTHINGTON)	2,150	3,400	4,300	5,400
@ SR 1753 (STOKESTOWN RD)	840	1,100	1,450	1,800
@ BEAUFORT COUNTY	630	800	1,000	1,250

## CAPACITY ANALYSIS OF EXISTING MAJOR ROAD SYSTEM

The road network in Pitt County was analyzed to determine if the existing roads were able to adequately handle the existing traffic. The process calls for the comparison of volume to capacity ratios. The capacity of a particular road is dependent on levels of service (operating speeds) and pavement width. When the existing volumes for roads outside of urban areas were compared to those capacities, it was found that no road was over-capacity.

When existing capacities were compared to projected volumes for the year 2010, the following roads were anticipated of having capacity problems.

- NC 43 from Bells Fork SR 1725 (County Home Road) to Hollywood Crossroads SR 1711 (Worthington Road).
- NC 11 from NC 903 to SR 1522 (Futrell-Robson Road). (See TIP #2: R-218)

There are a number of major roads in the County that have widths of 16 and 18 feet. Standards established by the American Association of State Highway and Transportation Officials (AASHTO) set 20 feet as a minimum width with 24 feet as a preferred width. However, because of the substantial cost of upgrading all secondary roads to AASHTO standards, narrower widths are tolerated depending upon traffic volumes. The roads on the thoroughfare plan that have inadequate width deficiencies are listed in Appendix A, Table A1. The minimum widths needed for upgrading them to AASHTO standards are given as recommended cross sections.

### UNPAVED ROADS

In 1989, the General Assembly of North Carolina met in session and established the Highway Trust Fund. A distinct bill within the Trust Fund, dealt primarily with secondary roads. Six and one-half percent (6.5%) of the Trust Fund shall be used to supplement the secondary roads appropriation in order to pave 10,000 miles of unpaved secondary roads carrying 50 or more vehicles per day by 1999, and all other unpaved secondary roads by 2006.

Roadway Maintenance has prioritized all unpaved roads for Pitt County in 1991. It is the departments desire to advance the paving date for a specified number of unpaved roads. Several factors involving existing and future Average Daily Traffic counts, traffic safety, and the County thoroughfare plan itself have assisted in the analysis. These unpaved roads along with the corresponding length (miles) are listed in order of importance.

1	- SR 1117 (Abbott Farm Road)	1.5 mi.
2	- SR 1208 (Kinsaul-Willoughby Road)	0.8 mi.
3	- SR 1743 (Joe Stocks Road)	1.1 mi.
4	- SR 1764 (Brick Kiln Road)	0.7 mi.
5	- SR 1905 (Bill Jones Road)	1.4 mi.
6	- SR 1518 (David Nobles Road)	1.6 mi.
7	- SR 1941 (Clayroot Road)	1.6 mi.
8	- SR 1424 (Allpine-Taylor Road)	5.2 mi.
9	- SR 1416 (Saintsville Road)	3.4 mi.

## **TRAFFIC SAFETY**

The Traffic Engineering Branch of the North Carolina Department of Transportation releases an annual Accident Investigation list. The list is a statewide ranking of accident locations. The criteria for selection is based on locations having 25 or more accidents in the past three years, at least eight must occur in the most recent year. For Pitt County there were no rural intersections ranked on the 1990 list.

However, there was a location other than intersections that had made the list in Pitt County. A 0.76 mile stretch along NC 43 to 0.16 miles southeast of State Road (SR) 1212 (V.O.A. Site C), accounted for 13 accidents. Twelve of these accidents were during wet conditions.

Because of the unique circumstances of the accidents occurring during wet conditions, we recommend that no steps be taken in upgrading the facility. However, we do recommend that signing be enhanced to increase driver awareness, possibly warning flashers or "slippery when wet" signs. Prior to any corrective measure, a complete investigation should be conducted by the Traffic Engineering Branch, North Carolina Department of Transportation.

Listed in Table 3 are intersections in rural Pitt County with five or more accidents occurring between January 1988 through December 1990.

## **BRIDGE CLASSIFICATIONS**

Bridges are a vital and unique element of a highway system. First, they represent the highest unit of investment of all elements of the system. Second, any inadequacy or defect in a bridge reduces the value of the total investment. Third, a bridge represents the greatest opportunity of all potential highway failures. Finally, and most important, a bridge represents the greatest opportunity of all highway failures for loss of life. For these reasons it is imperative that bridges be constructed to the same design standards as the highway system.

Congress enacted the National Bridge Inspection Program Standards on April 27, 1971, implementing the Federal Highway Act of 1968. These standards require that "all structures defined as bridges located on any of the Federal-Aid Highway Systems be inspected and the safe load carrying capacity computed at regular intervals, not to exceed two years."

The North Carolina Department of Transportation Bridge Maintenance unit set forth standards for evaluating existing bridge structures. A sufficiency index number has been calculated for each bridge for the purpose of establishing eligibility and priority for replacement. The bridges with the highest priority are replaced as Federal-Aid funds and State funds are made available.

TABLE 3

HIGH ACCIDENT LOCATIONS

General Location:	No. of Accidents
US 13 at NC 30	5
US 13 at US 264A	12
US 13 at SR 1138	5
US 64 at SR 1400	5
NC 11 at SR 1110	7
NC 30 at NC 903	7
NC 33 at SR 1401	12
NC 43 at NC 102	8
NC 43 at NC 121	* 5
NC 43 at SR 1711	9
NC 43 at SR 1700	9
NC 43 at SR 1753	5
NC 43 at SR 1799	* 3
NC 102 at SR 1723	* 5
NC 102 at SR 1725	* 7
NC 903 at SR 1524	5
SR 1127 at SR 1128	6
SR 1126 at SR 1127	5
SR 1709 at SR 1711	5
SR 1711 at SR 1725	10
SR 1755 at SR 1774	7
SR 1756 at SR 1760	5

\* Fatality involved

A sufficiency rating was used in the analysis to determine the deficiency of each bridge. The sufficiency rating is a method of evaluating factors that determine whether a bridge is sufficient to remain in service. Factors used include: structural adequacy and safety, serviceability and functional obsolescence, essentiality for public use, type of structure, and traffic safety features. The result of this method is a percentage. One hundred percent represents an entirely sufficient bridge and zero percent represents an entirely insufficient or deficient bridge. A sufficiency rating of 50 percent or less qualifies for Federal Bridge Replacement Funds.

The coding guide for North Carolina Bridge Inventory is based on the standards set forth by the Federal Highway Administration (FHWA).

The two different classifications for bridges in need of rehabilitation are as follows:

Structurally Deficient: Condition rating of 4 or less for either of the following:

- Deck Superstructure - Substructure

OR

An appraisal rating of 2 or less for either of the following:

- Structural Condition
- Waterway Adequacy

Functionally Obsolete: An appraisal rating of 3 or less in either of the following:

- Structural condition
- Waterway adequacy
- Deck Geometry
- Under Clearance
- Approach Roadway Alignment

Tables 4 and 5 show structurally deficient and functionally obsolete bridges with sufficiency ratings of 50 percent or less. Only those bridges with ratings of 50 percent or less are eligible for federal bridge replacement funds. The locations of these bridges are in Figure 6.

**TABLE 4**

**Structurally Deficient Bridges in Pitt County**

Map Index	Sufficiency Rating	Bridge No.	Features Intersected
1	48.9	5	SR 1777 @ CHICOD CREEK
2	37.0	7	NC 33 @ CREEK
3	40.0	13	SR 1753 @ INDIAN WELL SWAMP
4	40.6	17	SR 1780 @ CHICOD CREEK
5	39.9	21	SR 1925 @ CLAYROOT SWAMP
6	35.1	25	SR 1700 @ FORK SWAMP
7	39.7	29	SR 1715 @ FORK SWAMP
8	28.7	30	SR 1703 @ GREEN MILL RUN
9	20.0	38	US 13 @ TAR RIVER
10	40.6	43	SR 1923 @ SWIFT CREEK
11	27.4	45	SR 1753 @ CANAL
12	17.8	53	NC 102 @ SWIFT CREEK
13	20.8	59	NC 33 @ PARKER CREEK
14	44.4	63	NC 102 @ FORK SWAMP
15	23.2	85	SR 1248 @ KITTEN CREEK
16	28.3	* 91	US 264 @ TRANTERS CREEK OVERFLOW
17	49.6	92	SR 1258 @ TYSON CREEK
18	40.9	98	SR 1407 @ CONETOE CREEK
19	47.9	118	SR 1538 @ GRINDLE CREEK
20	48.7	121	SR 1541 @ GRINDLE CREEK
21	19.3	127	SR 1565 @ TAR RIVER OVERFLOW
22	39.3	179	SR 1755 @ STREAM
23	40.0	230	SR 1232 @ CREEK
24	5.0	* 411	SR 1531 @ TAR RIVER

\* Included in the 1991-1997 Transportation Improvement Program.

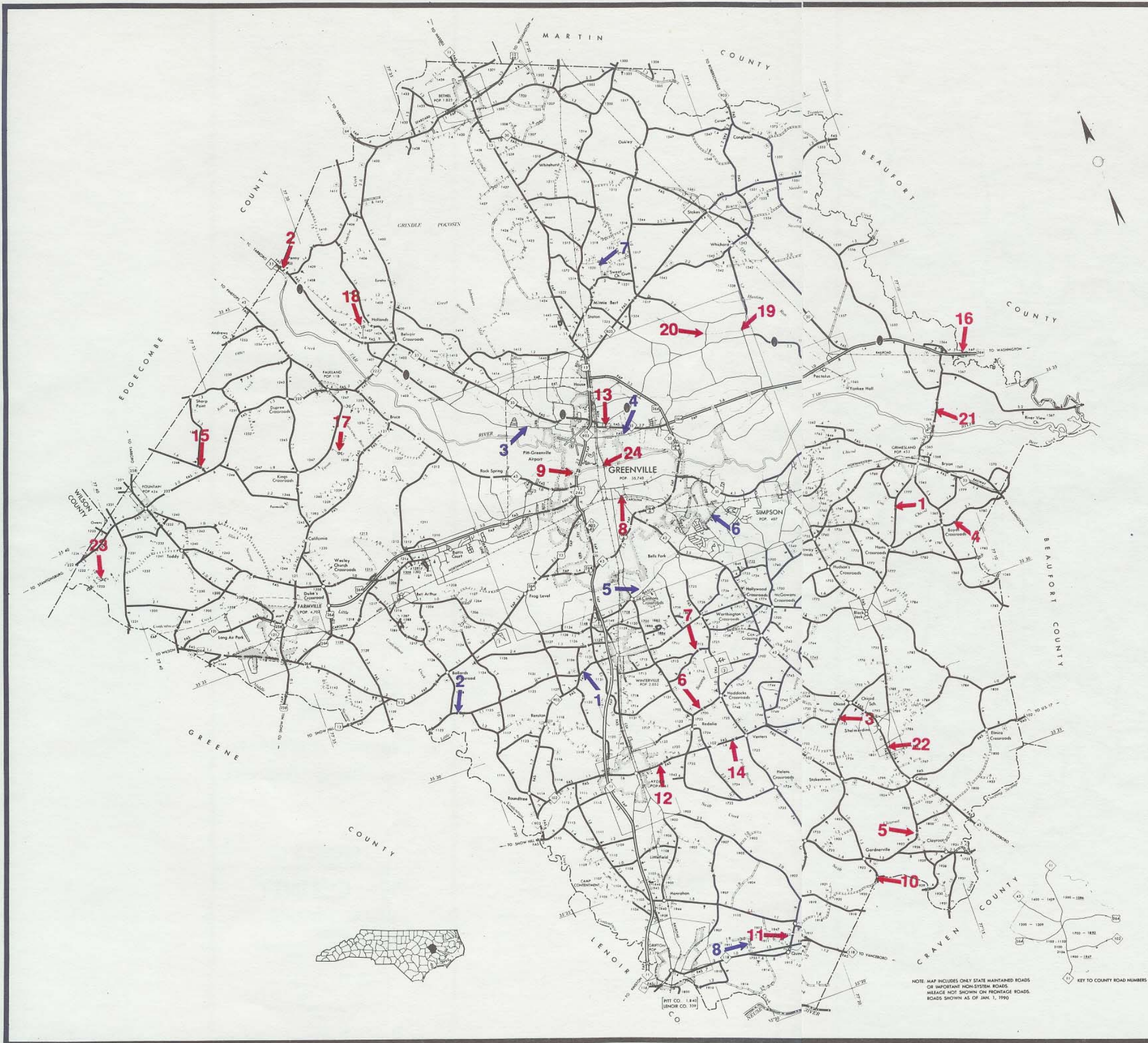
**TABLE 5**

**Functionally Obsolete Bridges in Pitt County**

Map Index	Sufficiency Rating	Bridge No.	Location
1	42.3	9	NC 903 @ SWIFT CREEK
2	45.8	62	SR 1125 @ CREEK
3	49.4	95	SR 1401 @ JOHNSON'S MILL RD.
4	42.3	* 105	SR 1530 @ PARKERS CREEK
5	49.6	169	SR 1708 @ FORK SWAMP
6	46.5	219	SR 1726 @ HARDEE CREEK
7	44.0	400	SR 1520 @ FORK OF GRINDLE CREEK
8	43.3	407	SR 1913 @ CANAL

\* Included in the 1991-1997 Transportation Improvement Program





**STRUCTURALLY DEFICIENT AND FUNCTIONALLY OBSOLETE BRIDGES**

**LEGEND**

**# - STRUCTURALLY DEFICIENT**

**# - FUNCTIONALLY OBSOLETE**

**FIGURE 6**

**PITT COUNTY**

**NORTH CAROLINA**

PREPARED BY THE  
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS-STATEWIDE PLANNING BRANCH

IN COOPERATION WITH  
U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION

SCALE IN MILES

BASE: 1992

## ENVIRONMENT, HISTORICAL LANDMARKS, AND ENDANGERED SPECIES

Throughout the study a major concern was the effects of development on the environment. Any new location whether it is a bridge or highway will have a direct effect on its surroundings. Since a major resource for Pitt County is cropland, it is desirable to limit any unnecessary highway development in rural areas. The only new development proposed is the US 264/ NC 33 Connector. Pitt County, with its level terrain has a considerable amount of wetland areas. To limit the destruction in these areas, wetland maps were used to plot the best route for the Connector with the least amount of disruption to the wetlands.

The thoroughfare plan has taken into consideration several historical landmarks. Ninety-eight historical locations are scattered throughout Pitt County. Twelve of them are included on the National Register, with the remaining listed as potential candidates.

Further steps were taken in conserving endangered and threatened wildlife and plants. The N.C. Natural Heritage Program provided information and listings of elements (rare species, geologic features, natural communities, special animal habitats) known to occur in the geographic area of interest. Federal and State laws protect most endangered plant and wildlife with conservation acts. It was therefore necessary to work with the National Heritage Program in avoiding interference or disturbance of any natural habitation.

Some of the Endangered Species in Pitt County include:

<u>Common Name</u>	<u>Classification</u>
- Red-Cockaded Woodpecker	Vertebrate
- Tar River Spiny Mussel	Invertebrate
- Pinebarren Sandreed	Vascular Plant

## TRANSPORTATION IMPROVEMENT PROGRAM

The North Carolina Transportation Improvement Program (TIP) was organized to inform North Carolina citizens of any developments in the State Highway System. Approved by the Board of Transportation, the Department encourages any local input into the planning process for the TIP.

The highway portion of the TIP includes some of the projects needed to complete the remaining 1,704 miles of four-lane highways on the 3,600 mile Intrastate System. Once completed, 96 percent of the State's citizens will be within 10 miles of a modern four-lane highway. The program also contains multi-lane connector routes and loop roads around seven of the State's major urban areas. In addition, projects that address the most critical local and regional transportation needs are included in the program - to the extent available funding would allow.

The following is a list of projects that are scheduled in the 1993-1999 Transportation Improvement Program (TIP) for Pitt County.

1. NC 11-903 - Southwest loop, US 264 West of Greenville to NC 11-903 South of Greenville. (5.1 miles) Four lane divided highway on new location. (Scheduled fiscal year 1994, TIP #: R-2250)
2. US 13-NC 11-Greenville Northwest loop to US 64 bypass North of Bethel. (13.2 miles) Widen existing roadway to a four-lane divided facility with a bypass of Bethel. (Scheduled fiscal year 1992, TIP #: R-218)
3. NC 33 - NC 33, US 264 Bypass (River Bluff Road) to SR 1755 (3.1 miles) Widen existing roadway to five lanes. (Scheduled fiscal year 1993, TIP #: R-2251)
4. NC 43 - Bells Fork to Greenville South city limits. (1.1 miles) Widen existing roadway to five lanes. (Scheduled fiscal year 1993, TIP #: R-2252)
5. US 264 - Northeast of Bell Arthur. Construct interchange at SR 1210. (Scheduled fiscal year 1994, TIP #: R-526)
6. US 264 - Greenville Bypass. (7.3 miles) Four-lane divided facility on new location. (Under construction, TIP #: R-1022)
7. Greenville Arlington Boulevard, Stantonsburg Road to Memorial Drive. (1.5 miles) Multi-lane curb and gutter facility on new location. (Schedule subject to right of way donation, TIP #: U-2105)
8. Greenville SR 1702, US 264 Bypass to SR 1708. Widen roadway to a multi-lane facility. (Scheduled for right of way protection, TIP #: U-2817)
9. US 13 - Grindle Creek. Replace Bridge No. 89. (Scheduled fiscal year 1997, TIP #: B-2603)
10. NC 33 - Parker Creek. Replace Bridge No. 59. (Scheduled fiscal year 1997, TIP #: B-2855)
11. US 264 - Tranters Creek, Tranters Creek overflow and Grindle Creek. Replace Bridge No. 1, No. 90, and No. 91. (Scheduled fiscal year 1991, TIP #: B-2204, B-2219)
12. NC 903 - Little Contentnea Creek. Replace Bridge No. 50. (Scheduled fiscal year 1997, TIP #: B-1204)
13. NC 903 - Grindle Creek. Replace Bridge No. 27. (Under construction, TIP #: B-1327)
14. SR 1530 - Parkers Creek. Replace Bridge No. 105. (Scheduled fiscal year 1993, TIP #: B-1328)
15. SR 1531 - Tar River. Replace Bridge No. 411. (Scheduled fiscal year 1994, TIP #: B-2225)

- 16. SR 1565 - Tar River Overflow. Replace Bridge No. 127.  
(Scheduled fiscal year 1999, TIP #: B-3016)
- 17. NC 43 - East of SR 1730 Westward for 0.75 mile, near  
Greenville. Widen to 35 feet, overlay with asphalt  
and remark as a three lane section. Length 0.75  
miles. (Scheduled fiscal year 1991, TIP #: W-2315)
- 18. US 17 - Washington Bypass. Eastern Pitt County near Beaufort  
County. Four lane divided freeway on new location.  
This 1.5 mile facility will connect US 264 and  
Beaufort County. (Undergoing Right-of-Way  
acquisition, TIP #: R-2510)

NOTE: All Schedules are subject to availability of funds.

### Design Requirements

Design requirements for thoroughfares vary according to the desired capacity and level of service to be provided. Universal standards in the design of thoroughfares are not practical. Each road or highway section must be individually analyzed and its design requirements determined by the amount and type of projected traffic, existing capacity, desired level of service, and available right of way.

The level of service is a function of the ease of movement experienced by motorists using the facility. (See Appendix A) The ability of a motorist to drive at a desired speed is dependent upon many factors. Included are the physical design of the road, the amount and character of traffic control devices, the influence and character of traffic generated by abutting property, and the imposed speed restrictions. The level of service is generally indicated by the overall travel speed experienced by traffic. Recommended minimum levels of service for roads and highways included in the proposed Pitt County Thoroughfare Plan are given in Table 6.

TABLE 6	
Minimum Levels of Service for Roads and Highways	
Facility	Overall Travel Speed During Peak Travel Conditions
Major and Minor Arterials	50-55 MPH
Major Collector Roads	45-50 MPH
Minor Collector Roads	40 MPH

For driver convenience, ease of operations, and safety, it would be desirable to widen all existing roads and highways to provide a minimum lane width of 12 feet. However, when considering overall statewide needs and the available highway revenue, it is found that these levels of improvement applied statewide would be impractical. Therefore, it is necessary to establish minimum tolerable widths for existing roads with respect to traffic demands that would be economically feasible. The widths used in determining the existing lane deficiencies in the County are given in Table 7.

TABLE 7			
Minimum Tolerable Lane Widths (in feet)			
ADT	Principal Arterials	Minor Arterials	Collectors
over 2,000	11	11	11
400 - 2,000	-	10	10
100 - 400	-	10	9
below 100	-	-	9

## V. THOROUGHFARE PLAN

The recommended thoroughfare plan for Pitt County is shown in Figure 7. A proposed construction plan for Pitt County is shown in Figure 8.

### Principal Arterials:

The following principal arterials serve primarily interstate and statewide travel.

- US 264/ NC 33 Connector - New location. Recommended four lane (12' lane widths) divided facility between US 264 at SR 1535 (Sunny Side Road) to NC 33 near SR 1755 (Black Jack-Simpson Road). Thirty feet minimum median and 4' paved shoulders should be included in cross section. Recommended two lane 24' wide connector from NC 33 to SR 1759 (Tucker Road). Four lane undivided bridge crossing Tar River. Approximate Bridge length; 500'.
- US 264 - From Greene County to Beaufort County. No improvements necessary.
- US 17 Bypass - Four lane divided freeway on new location. Recommended bypass of Washington, Beaufort County. (19.7 miles) A portion of proposed arterial passes through eastern Pitt County. See recommendations in Washington Thoroughfare Plan for improvements. (See TIP #18)
- US 64 - From Edgecombe County to Martin County near Bethel. No improvements necessary.
- SR 1535 (Sunny Side Road) - Upgrade existing 20' road to a four lane (12' lane widths) divided facility connecting US 264 and proposed US 264/ NC 33 connector. Upgrading SR 1535 to a four lane facility will allow traffic from the proposed connector to flow easily without causing a bottleneck in traffic.

### Minor Arterials:

Minor arterials aid principal arterials by helping form a network which links larger towns and cities in the State. The minor arterials for Pitt County are:

- US 258 - From Edgecombe County to Greene County. No improvements necessary.
- US 13 - From NC 903 North Greenville to US 64 in Bethel. No improvements necessary.
- NC 11 - From South Greenville to Lenoir County. See recommendations from Ayden, Grifton, and Winterville Urban Thoroughfare Plans for improvements. (See TIP #1,2)
- US 13/US 264A - From Greene County to Greenville. No improvements necessary.

## Collector Road System

The major collector roads will assist the arterial system by providing an interconnecting network between smaller populated centers and feed this traffic to the arterial systems. The minor collector roads will provide the link between local roads and higher system roads.

### Major Collectors:

- US 264A - From Greene County to US 13. No improvements necessary.
- NC 11 - From Martin County to US 64 in Bethel. See recommendations from Bethel Urban Thoroughfare Plan for improvements. (See TIP #2)
- NC 30 - From US 13 south of Bethel to US 264 near Pactolus. No improvements necessary.
- NC 903 - From Greene County to Martin County. See recommendations from Ayden and Winterville Urban Thoroughfare Plans for improvements. (See TIP #1,7,12,13)
- NC 33 - From Edgecombe County to Beaufort County. This facility does not meet the minimum tolerable lane width requirement for safety, and the horizontal alignment restricts the operating speed. A major portion of the roadway is proposed to be widened to a two lane -24' wide facility from SR 1755 (Black Jack-Simpson Road) to Beaufort County. (See Figure 8)
- NC 43 - From Edgecombe County to Craven County. This facility does not meet the minimum tolerable lane width requirement and should be widened to a two lane -24' wide facility from 3.6 miles south of NC 121 to the northern city limits of Falkland and from Cox Crossing to Craven County. NC 43 should be widened to a five lane -60' wide facility from SR 1735 to Cox Crossing. This improvement would allow adequate turning movements to be made into the dense residential areas along NC 43.
- NC 102 - From NC 903 to Beaufort County. See Ayden Urban Thoroughfare Plan for improvements.
- NC 222 - From Wilson County to NC 33. No improvements necessary.
- NC 121 - From US 264 in Greene County to NC 43. No improvements necessary.
- SR 1127 (Frog Level Road) - From US 264A southwest of Greenville to NC 903. This facility does not meet the minimum tolerable lane width requirement and should be widened to a two lane -22' wide facility from US 264A to NC 903. This facility primarily serves as a connector between NC 903 and US 13/US 264A.
- SR 1149 (Old NC 11) - From NC 11 north of Winterville to NC 11 south of Ayden. No improvements necessary.

- SR 1200 (Stantonsburg Road) - From SR 1231 (Bell Road) to US 264 in Greenville. A 0.75 mile long section of this facility does not meet the minimum tolerable lane width requirement and should be widened to a two lane -20' wide facility from SR 1231 to the Farmville Urban Planning Boundary.
- SR 1241 (Toddy Road) - From US 258 to SR 1200 (Stantonsburg Road). No improvements necessary.
- SR 1551 (Beargrass Road) - From NC 903 to SR 1552. No improvements necessary.
- SR 1552 (Tucker Bullock) - From SR 1551 to Beaufort County. No improvements necessary.
- SR 1700 (Old Tar Road) - This facility does not meet the minimum tolerable lane width requirement and should be widened from 18' to a two lane -24' wide major collector from SR 1759 to SR 1723 (W. Worthington Road).
- SR 1723 (W. Worthington Road) - This facility does not meet the minimum tolerable lane width requirement and should be widened from 20' to a two lane -24' wide major collector from SR 1700 to NC 102.
- SR 1725 (County Home Road) - From SR 1711 (D.H. Conley Road) to Bells Fork. No improvements necessary.
- SR 1755 (Black Jack-Simpson Road) - From NC 33 to NC 43 in Shelmerdine. No improvements necessary.
- SR 1759 (Tucker Road) - This facility does not meet the minimum tolerable lane width requirement and should be widened from 20' to a two lane -24' wide major collector from proposed US 264/NC 33 Connector to SR 1700 (Old Tar Road).
- SR 1939 (N. Highland Blvd.) - From NC 11 to Lenoir County. No improvements necessary.

**Minor Collectors:**

- SR 1110 (Hanrahan Road) - From NC 11 to SR 1753 (Stokestown Road). No improvements necessary.
- SR 1125 (Pocosin Road) - From Greene County to NC 903. No improvements necessary.
- SR 1203 (Allen Road) - From US 264 to US 13/US 264A. No improvements necessary.
- SR 1206 (Bell Arthur Road) - From SR 1200 to US 13/US 264A. No improvements necessary.
- SR 1245 (Seven Pines Road) - From Kings Crossroads to NC 121. No improvements necessary.



- SR 1247 (King's Xroads) - From NC 43 in Falkland to Kings Crossroads. This facility does not meet the minimum tolerable lane width requirement and should be widened to a two lane -20' wide facility from NC 222 to SR 1245. Although volume counts are low and the cost of construction is slightly higher than the projected benefits for widening of this minor collector, our recommendation to widen SR 1247 from 16' to 20' is based on safety concerns. The travel lanes are too narrow to serve its function as a minor collector.
- SR 1400 (Porter Road) - From US 64 to NC 33. No improvements necessary.
- SR 1500 (Big Oak Road) - From Martin County to SR 1514 (Staton Mill Road). No improvements necessary.
- SR 1514 (Staton Mill Road) - From NC 30 to US 13 north of Greenville. No improvements necessary.
- SR 1565 (Grimesland Brdg.) - From US 264 to NC 33 in Grimesland. No improvements necessary.
- SR 1700 (Old Tar Road) - From south Greenville to SR 1723. No improvements necessary.
- SR 1711 (Worthington Road) - From SR 1149 in Winterville to Hollywood Crossroads. No improvements necessary.
- SR 1725 (County Home Road) - From NC 102 to SR 1753 at Coxville. No improvements necessary.
- SR 1753 (Stokestown-St. Johns Road) - From NC 43 to NC 118. No improvements necessary.
- SR 1774 (Mills Road) - From NC 43 at Hollywood Crossroads to Black Jack. No improvements necessary.
- SR 1777 (Black Jack-Grimesland Road) - From NC 33 in Grimesland to SR 1755 in Black Jack. No improvements necessary.
- SR 1902 (Gum Swamp Road) - From Ayden to SR 1907. No improvements necessary.
- SR 1907 (Marvin Taylor Road) - From SR 1902 to NC 118 in Grifton. No improvements necessary.
- SR 1917 (Cannon Price Road) - From SR 1753 to NC 118. No improvements necessary.

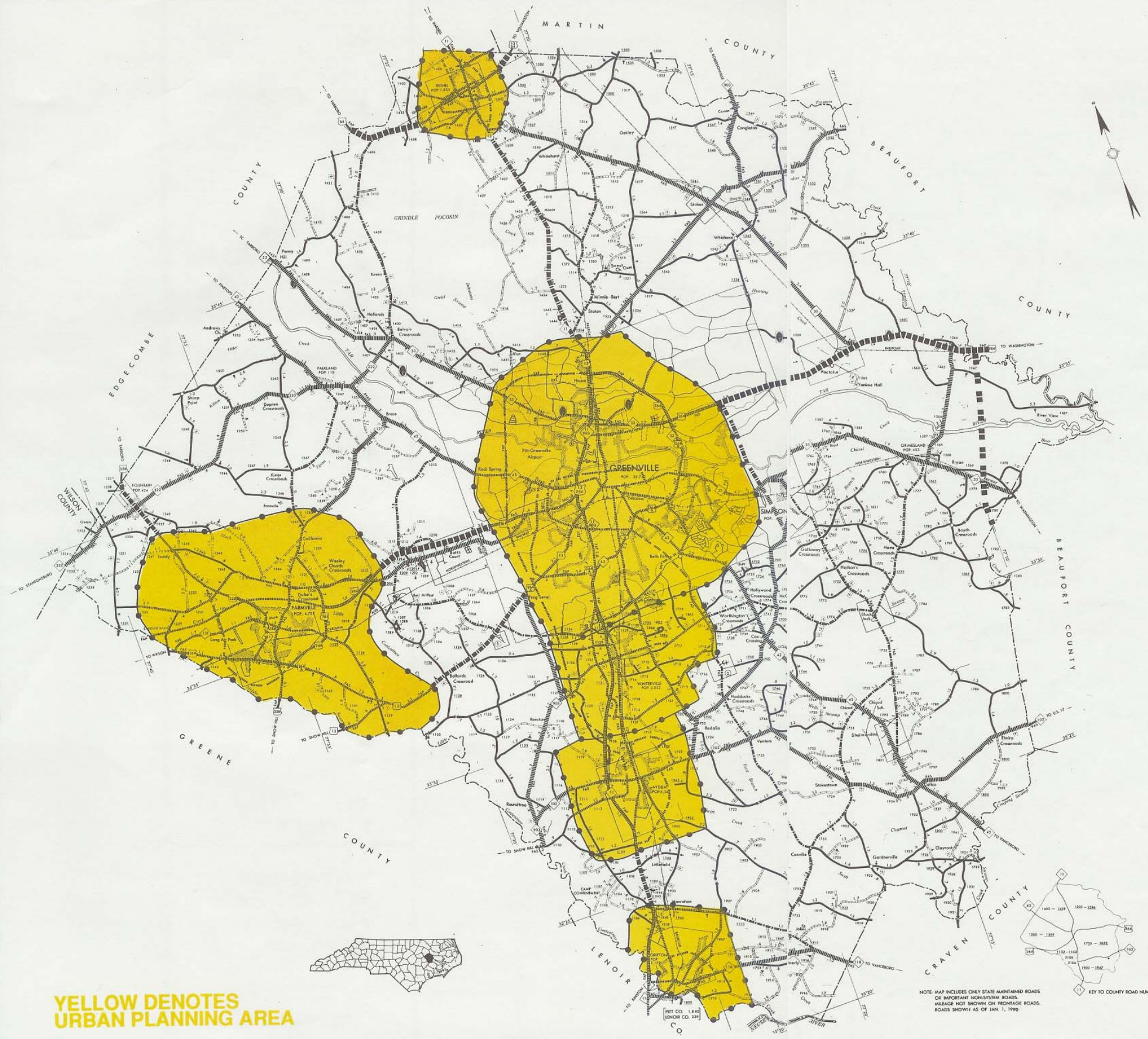
**Intersection Geometrics:**

- SR 1700/SR 1725 - Haddocks Crossroads intersection. SR 1700 (Old Tar Road) presently offset and needs realignment.
- SR 1700/SR 1723 - The intersection with SR 1700 flowing into SR 1723 (W. Worthington Road) has too sharp of a curve. Needs to be flattened out for a smoother transition from SR 1700 (southbound) onto SR 1723.

## Other Projects:

Several additional projects have been recommended to decrease accidents at intersections and to increase traffic safety. These suggestions are based on total number of accidents (reported between 1/88 and 12/90), county planning input, and field investigations. It should be noted that each of the following projects require an additional investigation. A contact representative is listed for each project.

- Two potentially hazardous sharp curves located .3 miles east of NC 43 on SR 1733 (B. Stokes) should be investigated. We recommend that signing be enhanced to increase driver awareness, possibly warning flashers or sharp curve warning signs. A second option would be to realign SR 1733 through an existing tobacco field, which would require additional right of way. The roadway alignment investigation should be conducted by the Traffic Engineering Branch (NCDOT) for possibly correcting this potentially dangerous roadway section.
- An investigation involving the intersection of SR 1117 (Abbott Farm Road) and SR 1114 (Rountree Road) should be conducted by the Traffic Engineering Branch (NCDOT) for possibly removing the existing traffic island. Removing the traffic island and realigning SR 1117 perpendicular to SR 1114 would limit the number of hazardous turning movements. The realignment would ultimately depend upon proper sight distance to allow a left turn movement from SR 1114 to SR 1117. (No. of accidents: 1)
- An alignment investigation of NC 903/NC 102 intersection should be conducted by the Traffic Engineering Branch to determine if NC 102 can be realigned. Presently, NC 903 intersects NC 102 at a very sharp angle. The skew presents a hazardous turning movement for large vehicles. (No. of accidents: 3)
- A field investigation should be conducted by the Division Maintenance Engineer to possibly enhance the sight distance on the southwest corner of intersection NC 903/SR 1131. Objects that are obstructing proper sight distance should be removed or relocated. (No. of accidents: 3)
- The Traffic Engineering Branch, NCDOT should investigate the intersection of SR 1726/SR 1727/SR 1700. A hazardous move exists for vehicles negotiating the turn from SR 1727 (Eastern Pines Road) to SR 1700 (Old Tar Road). High field crops could obstruct the sight distance of this turn. Presently, there are trees and a field crop in the center of the median. We recommend the removal of SR 1727 (0.1 miles) from SR 1726 (Portertown Road) to SR 1700. This would eliminate the dangerous turning movements at the intersection of SR 1727/SR 1700. The intersection of SR 1726/SR 1700 alone would allow adequate turning movements. (No. of accidents: 7)



**LEGEND**

- COMM. OR MUNICIPAL AIRPORT
- ▲ AIRPORT ASSISTANT FIELD
- AIRPORT ON FEE-BY (IN SHIP)
- ◆ FERRY OR TOLL FERRY
- HOUSE
- COAST GUARD STATION
- CANAL
- NAMED STREAM
- WIDE STREAM
- DAM WITH LOCK
- DAM
- RESERVOIR, POND, OR LAKE
- FURNACE, POND, NUMBERED
- POWER RESEARCH
- ROAD THROUGH MOUNTAIN PASS
- HIGHWAY BRIDGE OVER 20 FT.
- DRAW SPAN ON BRIDGE
- HIGHWAY TUNNEL
- FERRY
- STATE LINE
- COUNTY LINE
- CITY BOUNDARY
- RESERVATION OR PARK BOUNDARY
- MET AREA
- UNINCORPORATED CENSUS DESIGNATED PLACE
- COUNTY SEAT
- OTHER TOWNS AND VILLAGES
- TRANSMISSION STATION
- AIRCRAFT CRAFT OR VEHICLE (DEBARRED)
- SCHOOL
- CHURCH
- CHURCH WITH CEMETERY
- CEMETERY
- BUS STOP
- CORRECTIONAL OR PENAL INSTITUTION
- HIGHWAY GARAGE OR MAINT. YARD
- HIGHWAY DEP. OR BUS DEP.
- WEIGHT STATION
- PAVEMENT STATION
- REST AREA
- MONUMENT—SMALL HISTORICAL SITE
- FUTURE OR IMPROVED ROAD
- GRADED AND DRAINED ROAD
- SOIL GRAVEL OR STONE SURFACED ROAD
- TRAIL SURFACED ROAD
- A LANE UNIMPROVED HIGHWAY
- DIVIDED HIGHWAY
- HIGHWAY WITH FRONTAGE ROADS
- FULL CONTROL ACCESS
- FEDERAL AID INTERSTATE ROAD
- FEDERAL AID PRIMARY ROAD
- FEDERAL AID SECONDARY ROAD
- FEDERAL AID URBAN
- HIGH-DETERMINED ROAD
- PROJECTED LOCATION
- INTERSECTION DISTANCE
- TRUCK CIRCLE
- HIGHWAY INTERCHANGE
- DETAILED HIGHWAY INTERCHANGE
- INTERSTATE HIGHWAY
- U.S. NUMBERED HIGHWAY
- U.S. NUMBERED BI-CYCLE ROUTE
- N.C. NUMBERED HIGHWAY
- N.C. NUMBERED BI-CYCLE ROUTE
- INTERSTATE INTERCHANGE NUMBER
- SECONDARY ROAD NUMBER
- UNDERGROUND CABLE
- BARBICIDE, ANY NUMBER OF TRACKS, USED BY SINGLE OPERATING COMPANY
- BARBICIDE, ANY NUMBER OF TRACKS, USED BY MORE THAN ONE OPERATING COMPANY ON SAME OR ADJACENT RIGHTS OF WAY
- BARBICIDE STATION
- CROSSING
- UNDERPASS
- OVERPASS
- BARBICIDE TUNNEL
- ABAND. NAVY OR MARINE CORPS FIELD

**LEGEND**

HIGHWAY CLASSIFICATION	EXISTING	PROPOSED
<b>PRINCIPAL ARTERIALS</b>		
INTERSTATE	—————	—————
OTHERS	—————	—————
<b>MINOR ARTERIALS</b>	—————	—————
<b>MAJOR COLLECTORS</b>	—————	—————
<b>MINOR COLLECTORS</b>	—————	—————
<b>MAJOR URBAN THOROUGHFARE</b>	—————	—————
<b>URBAN FREEWAY OR EXPRESSWAY</b>	—————	—————
<b>URBAN THOROUGHFARE PLANNING BOUNDARY</b>	—————	—————

ADOPTED BY:  
 PITT COUNTY February 1, 1993

RECOMMENDED FOR APPROVAL BY:  
 STATEWIDE PLANNING BRANCH February 10, 1993

ADOPTED BY:  
 DEPT. OF TRANSPORTATION March 5, 1993

PUBLIC HEARING: January 20, 1993

**FIGURE 7**

**THOROUGHFARE PLAN  
 PITT COUNTY  
 NORTH CAROLINA**

PREPARED BY THE  
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS-STATEWIDE PLANNING BRANCH

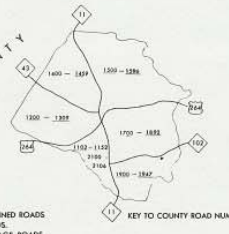
IN COOPERATION WITH  
 U.S. DEPARTMENT OF TRANSPORTATION  
 FEDERAL HIGHWAY ADMINISTRATION

SCALE IN MILES

January 4, 1993

**YELLOW DENOTES  
 URBAN PLANNING AREA**

NOTE: MAP INCLUDES ONLY STATE MAINTAINED ROADS OR IMPORTANT NON-STATE MAINTAINED ROADS. ALLEGES NOT SHOWN ON FRONTAGE ROADS. ROADS SHOWN AS OF JAN. 1, 1990



## CONSTRUCTION PRIORITIES AND COST ESTIMATES

The improvements to the Pitt County Thoroughfare Plan obviously cannot be undertaken all at once, nor should they be. The cost would be overwhelming and the need for many of the improvements is not immediate. In an effort to reflect the relative value of various improvements, an assessment has been made of the benefits that can be expected from each project and a comparison has been made to the projected costs involved. The result of this benefit-cost analysis is the development of a listing of priorities for those recommended improvements.

Priorities have been set by comparing the benefits that will result to the expected project costs. Three principal measures of benefits were used: road user cost savings, the potential for increased economic development resulting from the improvement, and the environmental impact, both positive or negative, which might result. The first measure is an actual estimate of dollar savings, while the others are estimates of the probability of the resulting change.

Reduced road user costs should result from any roadway improvement, from a simple widening to the construction of a new roadway to relieve congested or unsafe conditions. Comparisons of the existing and the proposed facility have been made in terms of vehicle operating costs, travel time costs, and accident costs. These user benefits are computed as total dollar savings over the 20 year design period using data such as project length, base year and design year traffic volumes, traffic speed, type of facility, and volume/capacity ratio.

The impact of a project on economic development potential is denoted as the probability that it will stimulate the economic development of an area by providing access to developable land and reducing transportation costs. It is a subjective estimate based on the knowledge of the proposed project, local development characteristics, and land development potential. The probability is rated on a scale from 0 (none) to 1.00 (excellent).

The environmental impact analysis considers the effect of a project on the physical, social/cultural, and economic environment. Table 8 lists the items that are considered when evaluating the impact on the environment. Many of these have been accounted for in evaluating the project with respect to user benefits, cost, and economic development potential. However, thirteen environmental factors are generally not considered in these evaluations. They are the environmental impacts of a project on: (1) air quality, (2) water resources, (3) soils and geology, (4) wildlife, (5) vegetation, (6) neighborhoods, (7) noise, (8) educational facilities, (9) churches, (10) parks and recreational facilities, (11) historic sites and landmarks, and (12) public health and safety. The summation of both positive and negative impact probabilities with respect to these factors provides a measure of the relative environmental impact of a project.

**Table 8**

**Environmental Considerations**

Physical Environment

-----  
Air quality  
Water Resources  
Soils and Geology  
Wildlife  
Vegetation

Social and Cultural Environment

-----  
Housing  
Neighborhoods  
Noise  
Educational Facilities  
Churches  
Parks and Recreational Facilities  
Public Health and Safety  
National Defense  
Aesthetics

Economic Environment

-----  
Businesses  
Employment  
Economic Development  
Public Utilities  
Transportation Costs  
Capital Costs  
Operation and Maintenance Costs

Offsetting the benefits that would be derived from any project is the cost of its construction. A new facility, despite its high projected benefits, might prove to be unjustified due to the excessive costs involved in construction. The highway costs estimated in this report are based on the average statewide construction costs for similar project types. An estimate of anticipated right-of-way costs is also included.

Recommended priorities for construction and their estimated costs (in 1990 dollars) are listed in Appendix A, Table A1. Cost estimates for widening of roads to bring them up to AASHTO design standards (Table 6) are also given in Table A1. Priorities for these improvements should be continually monitored by the County and the Division Engineer so that as additional funds become available, they can be implemented.

## **VI. IMPLEMENTATION**

There are several tools available for use by the County to aid in the implementation of a thoroughfare plan. They are as follows:

### **State-County Adoption of Thoroughfare Plan**

If requested, the North Carolina Department of Transportation, in cooperation with the County, will develop and mutually approve a County Thoroughfare Plan. The mutually approved plan would serve as a guide to the Department of Transportation in the development of the road and highway system for the County. The approval of the plan by the County will enable standard road regulations and land use controls to be used effectively in the implementation of this plan.

### **Subdivision Controls**

The Pitt County subdivision ordinance requires review of proposed developments by the Pitt County Planning Board, Planning Staff, and/or Technical Committee to ensure that subdivisions meet specified development standards. The subdivision process helps to ensure that subdivision streets conform to the thoroughfare plan. The construction of proposed public subdivision streets to adequate standards would reduce maintenance costs and simplify the transfer of the streets to the State Highway System. Appendix D outlines the recommended design standards.

### **Land Use Controls**

Land use regulations, such as zoning, are an important tool in managing growth and minimizing undesirable development along roads and highways. The land use regulatory system can improve highway safety by requiring sufficient setbacks to provide for adequate sight distances and by requiring off-street parking.

### **Funding**

Most of the improvements scheduled are funded by the Transportation Improvement Program. The Board of Transportation regularly conducts public meetings to obtain input from the public pertaining to their needs for highway improvements.

Not all roadway improvements are covered by this procedure. Nearly all secondary road work is done on a county by county basis. These funds, known as the county construction account, are used to pave unimproved roads, widen roadways, stabilize dirt roads, make minor alignment improvements, and even construct short connectors when appropriate. The County Commissioners are encouraged to work with the Division Engineer when the County's priority list is developed. Some minor improvements recommended may be accomplished by using the County's construction account funds and developing the County's priority list in conjunction with the Division Engineer.

# **APPENDIX A**

## Typical Cross Sections

Typical cross sections recommended by the Thoroughfare Planning Unit are shown in Figure A1, and listed in Table A1.

Cross section "A" is illustrative for controlled access freeways. The 46 foot grassed median is the minimum median width. Wider variations could result depending upon design considerations. Slopes of 8:1 into 3 foot drainage ditches are desirable for traffic safety. Right-of-way requirements would typically vary upward from 250 feet depending upon cut and fill requirements.

Cross section "B" is typical for four lane divided highways in rural areas which may have only partial or no control of access. The minimum median width for this cross section is 30 feet, but a wider median is desirable. Design requirements for slopes and drainage would be similar to cross section "A", but there may be some variation from this depending upon right-of-way constraints.

Cross section "C", seven lane urban, and cross section "D", five lane urban, are typical for major thoroughfares where frequent left turns are anticipated as a result of abutting development or frequent street intersections.

Cross sections "E" and "F" are used on major thoroughfares where left turns and intersecting streets are not as frequent. Left turns would be restricted to a few selected intersections.

Cross section "G" is recommended for urban boulevards or parkways to enhance the urban environment and to improve the compatibility of major thoroughfares with residential areas. A minimum median width of 24 feet is recommended with 30 feet being desirable.

Typical cross section "H" is recommended for major thoroughfares where projected travel indicates a need for four travel lanes, but traffic is not excessively high, left turning movements are light, and right-of-way is restricted. An additional left turn lane probably would be required at major intersections.

Thoroughfares which are proposed to function as one-way traffic carriers would typically require cross section "I". Cross section "J" and "K" are usually recommended for minor thoroughfares since these facilities usually serve both land service and traffic service functions. Cross section "J" would be used on those minor thoroughfares where parking on both sides is needed as a result of more concentrated development.

Cross section "L" is used in rural areas or for staged construction of a wider multilane cross section. On some thoroughfares projected traffic volumes may indicate that two travel lanes will adequately serve travel for a considerable period of time.



The curb and gutter cross sections all illustrate the sidewalk adjacent to the curb with a buffer or utility strip between the sidewalk and the minimum right-of-way line. This permits adequate setback for utility poles. If it is desired to move the sidewalk further away from the street to provide added separation for pedestrians or for aesthetic reasons, additional right-of-way must be provided to insure adequate setback for utility poles.

Rights-of-way shown for the typical cross sections are the minimum rights-of-way required to contain the street, sidewalks, utilities, and drainage facilities. Cut and fill requirements may require either additional right-of-way or construction easements. Obtaining construction easements is becoming the more common practice for urban thoroughfare construction.

If there is sufficient bicycle traffic along the thoroughfare to justify a bicycle lane or bikeway, additional right-of-way may be required to allow for the bicycle facilities. The North Carolina Bicycle Facility and Program Handbook should be consulted for design standards for bicycle facilities.

Recommended typical cross sections for thoroughfares were derived on the basis of projected traffic, existing capacities, desirable levels of service and available right-of-way.

### Capacity Analysis

A good indication of the adequacy of the existing major street system is a comparison of the traffic volumes with the ability of the streets to move traffic freely at a desirable speed. The ability of a street to move traffic freely, safely, and efficiently with a minimum delay is controlled principally by the spacing of major devices utilized. Thus, the ability of a street to move traffic can be increased by restricting parking and turning movements, using proper sign and signal devices, and by the application of other traffic engineering techniques.

Capacity is defined as the maximum number of vehicles that have a reasonable expectation of passing over a given section of a roadway in one direction, or in both directions, during a given period under prevailing roadway and traffic conditions.<sup>1</sup> The relationship of traffic volumes to the capacity of the roadway will determine the **level of service** being provided. Six levels of service have been selected to identify the conditions existing under various speed and volume conditions on a highway or street.

The six levels of service are illustrated in Figure A2, and they are defined on the following pages. The definitions are general and conceptual in nature, but may be applied to urban arterial levels of service. Levels of service for interrupted flow facilities vary widely in terms of both the user's perception of service quality and the operational variables used to describe them. Each chapter of the 1985 Highway Capacity Manual contains more detailed descriptions of the levels of service as defined for each facility type.

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<sup>1</sup> Highway Capacity manual, Special Report 209, 1985, p. 1-3.

# TYPICAL THOROUGHFARE CROSS SECTIONS

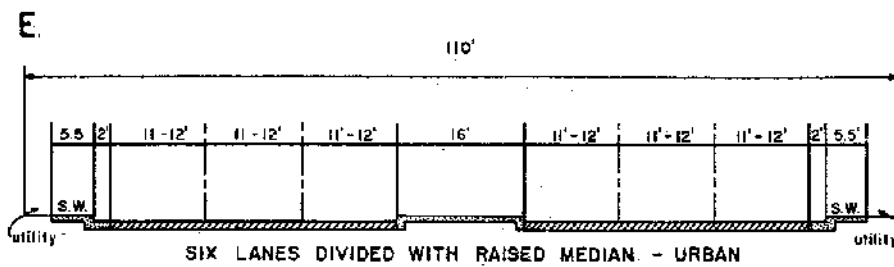
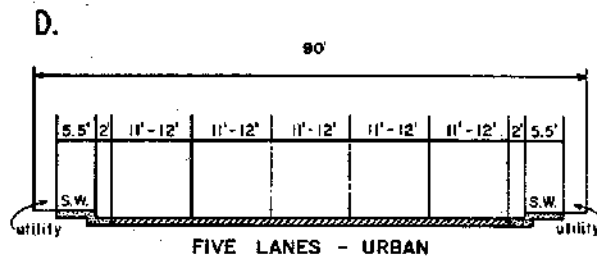
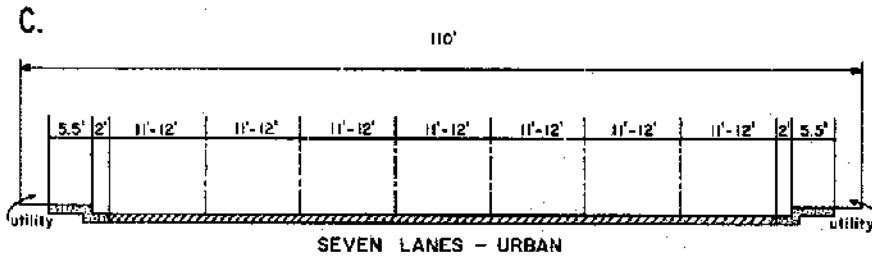
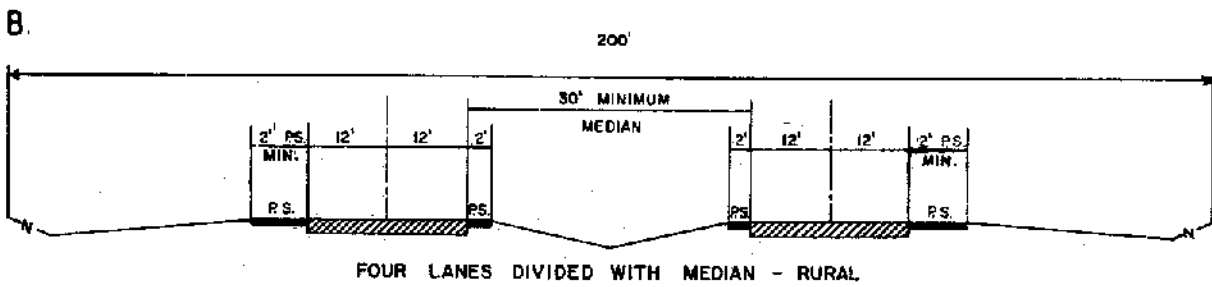
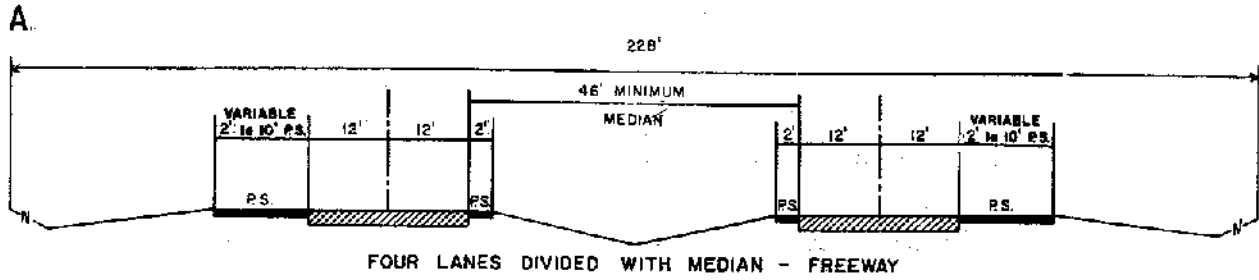
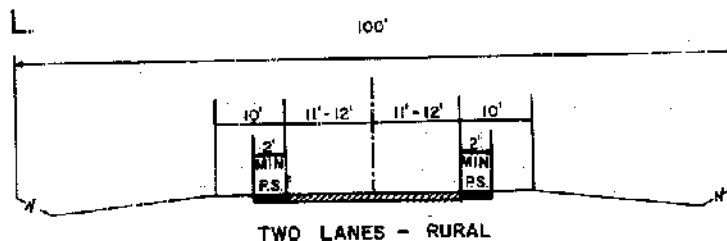
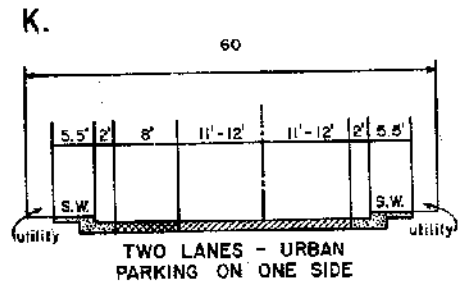
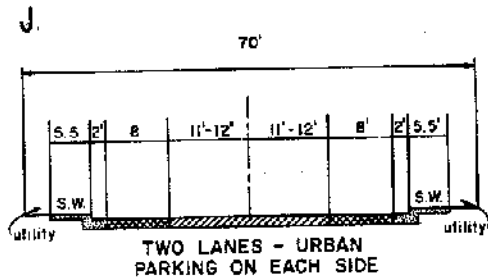
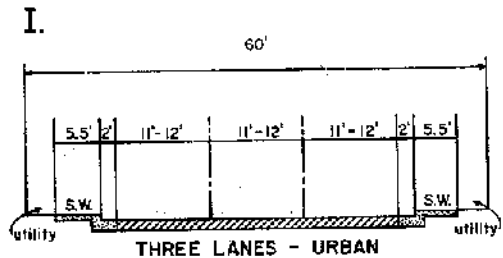
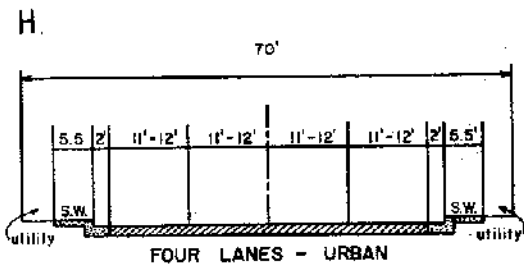
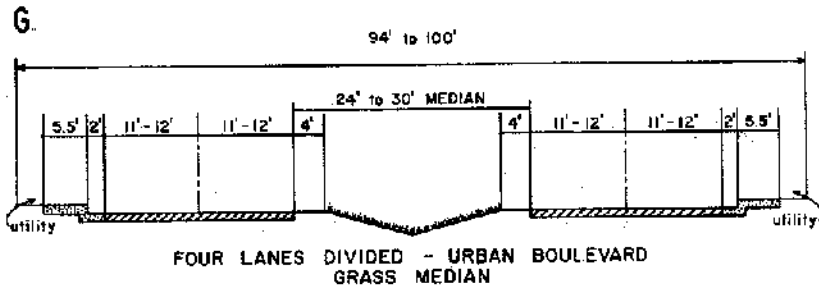
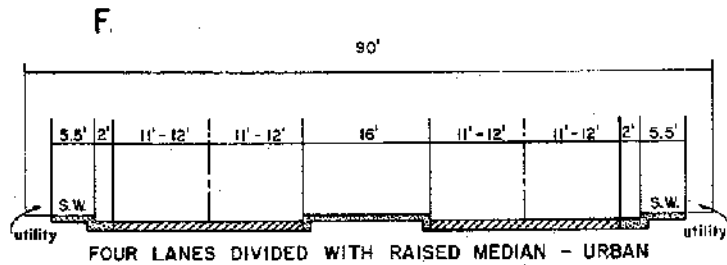
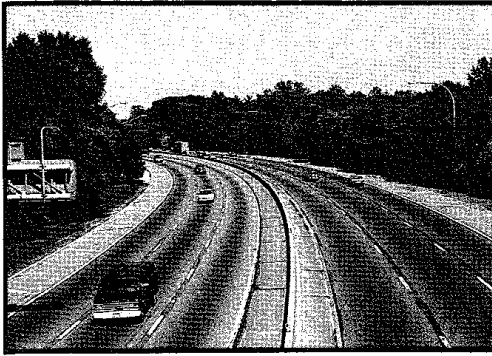


FIGURE A-1

# TYPICAL THOROUGHFARE CROSS SECTIONS (CONTINUED)

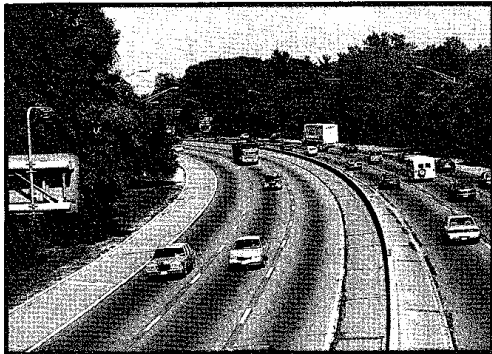




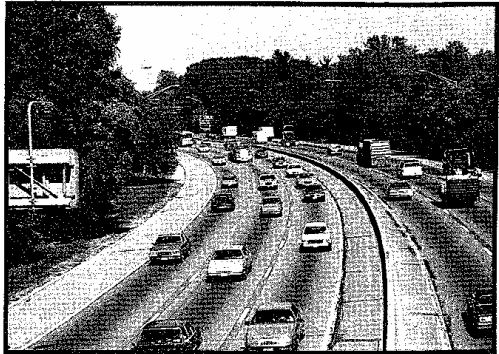
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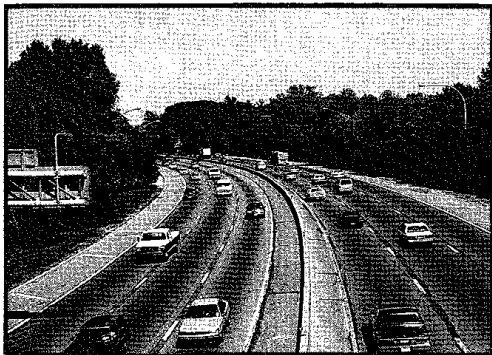
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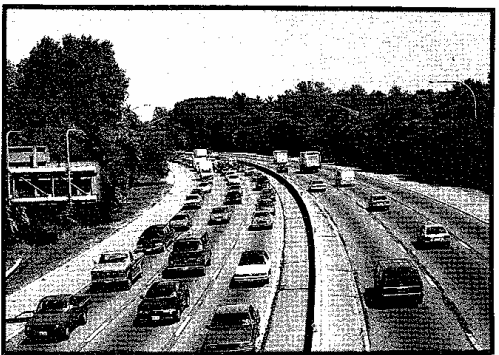
*LOS B*



*LOS E*



*LOS C*



*LOS F*

**LEVELS OF SERVICE**

**TABLE A1**

HIGHWAY SECTION	RECOMMENDED CROSS SECTION	LENGTH (miles)	CONSTRUCTION PRIORITIES AND COST ESTIMATES			ENVIRON. IMPACT PROBABILITY	ECONOMIC DEVELOPMENT POTENTIAL PROB.		
			COST ESTIMATES (\$1,000) CONSTRUCTION	ROW	TOTAL (\$1,000) BENEFITS				
<b>MINOR ARTERIALS:</b>									
1.	NC 43/NC 33 CONNECTOR & TAR RIVER BRIDGE	B	3.00	6,000	935	6,935	221,870	+ .40 - .20	.64
<b>MAJOR COLLECTORS:</b>									
2.	NC 33/SR 1759 CONNECTOR	L	1.62	1,620	252	1,872	5,260	+ .40 - .20	.50
3.	SR 1700/SR 1759 & SR 1723 WIDENING	L	7.80	2,730	ADQ	2,730	15,607	+ .20 - .0	.14
4.	NC 43 SOUTH OF GREENVILLE WIDENING	D L	2.60 13.14	3,545	ADQ	3,545	4,215	+ .10 - .0	.14
5.	NC 43 NORTH OF GREENVILLE WIDENING	L	6.50	1,788	ADQ	1,788	4,215	+ .10 - .0	.14
6.	NC 33 WIDENING	L	9.20	2,530	ADQ	2,530	9,120	+ .10 - .0	.14
7.	SR 1127 WIDENING	L	3.67	1,935	ADQ	1,935	2,115	+ .10 - .0	.14
<b>INTERSECTIONS:</b>									
8.	3 INTERS. ALONG SR 1700/SR 1723	L	N/A	133	11	144	N/A	+ .10 - .05	.10

1. **Level-of-service A** describes primarily free flow operations at average travel speeds, usually about 90 percent of the free flow speed for the arterial class. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Stopped delay at signalized intersections is minimal.
2. **Level-of-service B** represents reasonable unimpeded operations at average travel speeds, usually about 70 percent of the free flow speed for the arterial class. The ability to maneuver within the traffic stream is only slightly restricted and stopped delays are not bothersome. Drivers are not generally subjected to appreciable tension.
3. **Level-of-service C** represents stable operations. However, ability to maneuver and change lanes in midblock locations may be more restricted than in LOS B, and longer queues and/or adverse signal coordinations may contribute to lower average travel speeds of about 50 percent of the average free flow speed for the arterial class. Motorists will experience an appreciable tension while driving.
4. **Level-of-service D** borders on a range on which small increases in flow may cause substantial increases in approach delay and, hence, decreases in arterial speed. They may be due to adverse signal progression, inappropriate signal timing, high volumes, or some combination of these. Average travel speeds are about 40 percent of free flow speed.
5. **Level-of-service E** is characterized by significant approach delays and average travel speeds of one-third the free flow speed or lower. Such operations are caused by some combination of adverse progression, high signal density, extensive queuing at critical intersections, and inappropriate signal timing.
6. **Level-of-service F** characterizes arterial flow at extremely low speeds below one-third to one-quarter of the free flow speed. Intersection congestion is likely at critical signalized locations, with high approach delays resulting. Adverse progression is frequently a contributor to this condition.

# APPENDIX B

TABLE B1 - THOROUGHFARE PLAN STREET TABULATION AND RECOMMENDATIONS

PITT COUNTY FACILITY AND SECTION	DIST (MI)	RDWAY (FT)	ROW (FT)	PRACTICAL CAPACITY (VPD)	1990 ADT	2010 ADT	RDWAY (ULT)	ROW (ULT)
US 13: FARMVILLE - GREENVILLE	4.31	24	100	12,000	7,700	12,200	ADQ	ADQ
----- GREENVILLE								
NC 903 - .35m N NC 903	0.35	48	300	18,000	7,300	11,700	ADQ	ADQ
.35m N NC 903- SR 1429	8.87	24	60	12,500	5,600	9,800	ADQ	ADQ
----- BETHEL								
US 64: EDGEcombe CO. - 3.93m E EDGE. CO.	3.93	24	60	12,000	5,100	8,350	ADQ	ADQ
3.93m E EDGE. CO. - US 13/ NC 11	0.53	24	40	12,000	5,543	9,080	ADQ	ADQ
US 258: ----- FARMVILLE								
1.34m W CL FARMVILLE - NC 222	3.80	22	60	11,500	2,100	3,000	ADQ	ADQ
NC 222 - .18m N NC 222	0.18	40	60	12,000	2,538	4,260	ADQ	ADQ
.18m N NC 222 - EDGEcombe CO.	0.81	22	60	11,000	2,538	4,260	ADQ	ADQ
US 264: ----- FARMVILLE								
6.09m E GREENE CO. - 13.56m E GREENE CO.	7.47	48	320	48,000	11,153	18,400	ADQ	ADQ
13.56m E GREENE CO. - W CL GREENVILLE	0.56	64	350	48,000	11,153	18,400	ADQ	ADQ
----- GREENVILLE								
19.50m E GREENE CO. - 22.82m E GREENE CO.	3.32	48	260	22,000	5,265	9,500	ADQ	ADQ
22.82m E GREENE CO. - 26.48m E GREENE CO.	3.66	48	120	22,000	8,900	15,700	ADQ	ADQ
26.48m E GREENE CO. - 33.33m E GREENE CO.	6.85	48	100	50,000	10,800	17,100	ADQ	ADQ
33.33m E GREENE CO. - BEAUFORT CO.	0.66	48	200	50,000	9,100	16,800	ADQ	ADQ
US 264A: S COMMON US 13	4.31							
----- GREENVILLE								

PRACTICAL CAPACITY defined as the Level of Service as set for the speed conditions used in Table 6. ~ = approximation



TABLE B1 - THOROUGHFARE PLAN STREET TABULATION AND RECOMMENDATIONS cont'd

PITT COUNTY FACILITY AND SECTION	DIST (MI)	RDWAY (FT)	ROW (FT)	PRACTICAL CAPACITY (VPD)	1990 ADT	2010 ADT	RDWAY (ULT)	ROW (ULT)
NC 11:								
SR 1110 -								
2.22m N SR 1110	2.22	48	170	22,000	11,300	20,300	ADQ	ADQ
----- AYDEN								
----- WINTERVILLE								
----- GREENVILLE								
S COMMON US 13								
----- BETHEL								
NC 30:								
US 264 - .05m N US 264	0.05	24	60	13,000	943	1,700	ADQ	ADQ
.05m N US 264 -								
US 13/NC 11	15.08	22	100	12,000	769	1,390	ADQ	ADQ
NC 33:								
BEAUFORT CO. -								
1.9m W BEAUFORT CO.	1.90	20	60	10,500	2,400	4,500	24	ADQ
1.9m W BEAUFORT CO. -								
2.57m W BEAUFORT CO.	0.67	22	60	11,500	2,400	4,500	24	ADQ
2.57m W BEAUFORT CO. -								
3.29m W BEAUFORT CO.	0.72	48	60	12,500	5,311	9,600	ADQ	ADQ
3.29m W BEAUFORT CO. -								
11.15m W BEAUFORT CO.	7.86	22	60	11,500	5,000	8,200	24	ADQ
11.15m W BEAUFORT CO -								
11.45m W BEAUFORT CO.	0.30	35	60	13,000	5,000	8,200	ADQ	ADQ
----- GREENVILLE								
SR 1419 - EDGEComb. CO	11.78	24	60	12,500	4,200	7,600	ADQ	ADQ
NC 43:								
CRAV. CO - COX X-ING	13.14	22	100	11,500	4,300	6,900	24	ADQ
COX X-ING- SR 1735	2.60	22	100	11,500	6,300	11,600	60	ADQ
----- GREENVILLE								
3.60m S NC 121- NC 121	3.60	22	100	11,500	4,800	9,050	24	ADQ
NC 121 - N CL FALKLD	2.88	22	60	11,000	5,200	9,100	24	ADQ
N CL FALK. - EDGECom. CO	3.52	24	60	12,000	3,400	6,100	ADQ	ADQ
NC 102:								
GREENE CO. - NC 11	2.87	20	60	10,500	2,500	4,500	ADQ	ADQ
----- AYDEN								
SR 1723 - NC 43	9.81	20	100	10,500	1,800	3,080	ADQ	ADQ
NC 43 - BEAUFORT CO.	3.99	18	100	11,000	1,200	1,950	ADQ	ADQ
NC 118:								
E CL GRIFTN - CRAV. CO	5.70	20	100	10,500	2,020	3,650	ADQ	ADQ

PRACTICAL CAPACITY defined as the Level of Service as set for the speed conditions used in Table 6. ~ = approximation

TABLE B1 - THOROUGHFARE PLAN STREET TABULATION AND RECOMMENDATIONS cont'd

PITT COUNTY FACILITY AND SECTION	DIST (MI)	RDWAY (FT)	ROW (FT)	PRACTICAL CAPACITY (VPD)	1990 ADT	2010 ADT	RDWAY (ULT)	ROW (ULT)
NC 121: ----- FARMVILLE .76m N SR 1200 - NC 43	6.75	20	60	10,500	1,700	3,070	ADQ	ADQ
NC 222: WILSON CO - W CL FOUNT ----- FOUNTAIN E CL FOUNT - NC 43	2.68	20	60	10,500	1,000	1,800	ADQ	ADQ
R COMMON NC 43	0.95				1,513	2,700	ADQ	ADQ
NC 43 - NC 33	2.21	20	60	11,000	1,733	3,130	ADQ	ADQ
NC 903: GREENE CO - NC 11	7.43	20	60	11,000	2,895	5,230	ADQ	ADQ
S COMMON NC 11/ US 13	10.61							
6.02m S SR 1544 -								
6.12m S SR 1544	0.10	24	100	12,500	4,600	8,100	ADQ	ADQ
6.12m S SR 1544 -								
SR 1544	5.92	20	60	10,500	4,300	7,850	ADQ	ADQ
SR 1544 - SR 1546	0.27	44	60	13,000	3,670	6,630	ADQ	ADQ
SR 1546 - NC 30	0.09	22	60	11,000	3,980	7,200	ADQ	ADQ
NC 30 - MARTIN CO.	4.34	18	100	8,500	2,300	4,050	ADQ	ADQ
SR 1110 (HANRAHAN ROAD) NC 11 - SR 1753	4.91	20	60	10,500	1,500	2,700	ADQ	ADQ
SR 1125 (POCOSIN ROAD): GREENE CO. - NC 903	5.30	18	60	8,500	388	635	ADQ	ADQ
SR 1127 (FROG LEVEL RD) US 264A - NC 903	3.67	18	60	8,500	2,100	4,600	22	ADQ
SR 1200 (STANTONSBURG): .93 W US 264 - SR 1206	3.99	20	60	10,500	3,000	4,900	ADQ	ADQ
SR 1206 - .7 W SR 1206	0.70	18	60	8,500	3,000	4,900	ADQ	ADQ
----- FARMVILLE FARMVILLE - SR 1231	0.75	16	60	7,500	440	1,200	20	ADQ
SR 1206 (BELL ARTHUR): SR 1200 - US 264A	4.90	18	60	8,500	364	750	ADQ	ADQ
SR 1245 (SEVEN PINES): SR 1247 - NC 121	1.15	20	60	10,500	590	1,000	ADQ	ADQ
SR 1247 (KINGS X-ROADS) NC 222 - .3M S NC 222	0.30	18	60	8,000	350	900	24	ADQ
.3m S NC 222 - SR 1245	3.40	16	60	7,500	356	800	20	ADQ

PRACTICAL CAPACITY defined as the Level of Service as set for the speed conditions used in Table 6. - = approximation

TABLE B1 - THOROUGHFARE PLAN STREET TABULATION AND RECOMMENDATIONS cont'd

PITT COUNTY FACILITY AND SECTION	DIST (MI)	RDWAY (FT)	ROW (FT)	PRACTICAL CAPACITY (VPD)	1990 ADT	2010 ADT	RDWAY (ULT)	ROW (ULT)
SR 1400 (PORTER ROAD): NC 33 - US 64	7.00	18	60	9,000	1,150	1,950	ADQ	ADQ
SR 1500 (BIG OAK ROAD): SR 1514 - MARTIN CO.	1.90	18	60	9,000	278	650	ADQ	ADQ
SR 1514 (STATON MILL): SR 1500 - US 13	8.50	18	60	9,000	1,100	1,800	ADQ	ADQ
SR 1551 (BEARGRASS RD): NC 903 - SR 1552	2.70	22	60	12,000	1,500	2,500	ADQ	ADQ
SR 1552 (TUCK. BULLOCK) BEAUFORT CO. - .3m W BEAUFORT CO.	0.30	18	60	9,000	1,400	2,300	ADQ	ADQ
.3m W BEAU CO- SR 1551	1.20	22	60	9,000	1,400	2,300	ADQ	ADQ
SR 1565 (GRIMESL. BRDG) NC 33 - US 264	4.11	18	60	9,000	272	650	ADQ	ADQ
SR 1700 (OLD TAR RD): SR 1759 - .53m S SR 1759	0.53	20	60	10,500	5,054	8,280	24	ADQ
.53m S SR 1759 - 3.43m S SR 1759	2.90	22	60	11,500	5,054	8,280	24	ADQ
3.43m S SR 1759 - 7m S SR 1759	3.57	18	60	8,500	5,054	8,280	24	ADQ
SR 1700 (OLD TAR RD): WINTERVILLE - SR 1723	0.75	20	60	10,500	5,054	8,280	ADQ	ADQ
SR 1711 (WORTHINGTON): ----- WINTERVILLE WINTERVILLE - NC 43	1.40	18	60	8,500	2,333	4,000	ADQ	ADQ
SR 1723 (AYDEN GULF CL) SR 1700 - NC 102	1.20	20	60	10,500	600	1,100	24	ADQ
SR 1725 (COUNTY HOME): NC 102 - SR 1753	4.50	18	60	8,500	700	1,200	ADQ	ADQ
SR 1753 (STOKESTOWN-ST. JOHNS ROAD) NC 102 - NC 118	6.40	20	60	10,500	650	1,150	ADQ	ADQ

PRACTICAL CAPACITY defined as the Level of Service as set for the speed conditions used in Table 6. ~ = approximation

TABLE B1 - THOROUGHFARE PLAN STREET TABULATION AND RECOMMENDATIONS cont'd

PITT COUNTY FACILITY AND SECTION	DIST (MI)	RDWAY (FT)	ROW (FT)	PRACTICAL CAPACITY (VPD)	1990 ADT	2010 ADT	RDWAY (ULT)	ROW (ULT)
SR 1755 (BLACK JACK- SIMPSON ROAD) NC 43 - NC 33	10.75	18	60	8,500	1,650	2,800	ADQ	ADQ
SR 1759 (TUCKER RD.): SR 1755 - SR 1700	1.78	20	60	10,500	400	800	ADQ	ADQ
SR 1774 (MILLS ROAD): SR 1777 - NC 43	4.94	18	60	8,500	300	700	ADQ	ADQ
SR 1777 (BLACK JACK- GRIMESLAND ROAD) NC 33 - .27m S NC 33	0.27	36	60	12,500	761	1,350	ADQ	ADQ
.27m S NC 33 - SR 1755	5.10	20	60	10,500	1,194	2,050	ADQ	ADQ
SR 1902 (GUM SWAMP RD): SR 1900 - SR 1907	1.00	22	60	11,500	500	920	ADQ	ADQ
SR 1907 (MARVIN TAYLOR) 2.73m N NC 118 - SR 1902	2.50	16	60	7,000	966	1,600	ADQ	ADQ
SR 1917 (CANNON PRICE): SR 1753 - NC 118	1.20	24	60	12,500	300	550	ADQ	ADQ
SR 1117: SR 1124 - NC 903	1.60	16	~60	50	140	370	20	ADQ
SR 1208: SR 1206- .8m N SR 1206	0.80	14	~60	50	400	1,000	20	ADQ
SR 1416: SR 1424 - 2.6m S SR 1424	2.60	32	~60	50	60	160	20	ADQ
2.6m S SR 1424 - SR 1415	0.70	20	~60	50	110	290	20	ADQ
SR 1424: US 13 - .6m W US 13	0.60	24	~60	50	90	240	20	ADQ
.6m W US 13 - 2.3m W US 13	1.70	32	~60	50	130	350	20	ADQ
2.30m W US 13 - NC 11	2.70	36	~60	50	170	450	20	ADQ
SR 1518: SR 1514 - SR 1517	1.70	18	~60	50	160	420	20	ADQ
SR 1743: NC 43 - SR 1744	1.10	18	~60	50	350	930	20	ADQ

PRACTICAL CAPACITY defined as the Level of Service as set for the speed conditions used in Table 6. ~ = approximation

TABLE B1 - THOROUGHFARE PLAN STREET TABULATION AND RECOMMENDATIONS cont'd

PITT COUNTY FACILITY AND SECTION	DIST (MI)	RDWAY (FT)	ROW (FT)	PRACTICAL CAPACITY (VPD)	1990 ADT	2010 ADT	RDWAY (ULT)	ROW (ULT)
SR 1764: .9m S SR 1762- SR 1762	0.90	36	~60	50	130	340	20	ADQ
SR 1905: SR 1907 - SR 1900	1.40	14	~60	50	180	480	20	ADQ
SR 1941: SR 1800 - SR 1725	1.60	30	~60	50	350	930	20	ADQ

PRACTICAL CAPACITY defined as the Level of Service as set for the speed conditions used in Table 6. ~ = approximation

# APPENDIX C

**APPENDIX C**

**TABLE C1**

**HISTORICAL AND PROJECTED POPULATION TRENDS FOR PITT COUNTY TOWNSHIPS**

LOCATION:	YEAR				% / YR	*	*	**
	1960	1970	1980	1990		2000	2010	2020
ARTHUR	2112	1812	3058	3989	2.1	4750.8	5479.9	6174.1
AYDEN	5281	5444	6156	6677	0.8	7952.1	9172.5	10334.6
BELVOIR	2319	2376	4597	6768	3.6	8060.5	9297.5	10475.4
BETHEL	3864	3103	3753	3162	-0.7	3765.8	4343.8	4894.1
CAROLINA	2474	1925	1490	1747	-1.2	2080.6	2399.9	2704.0
CHICOD	2567	2614	3232	3680	1.2	4382.8	5055.4	5695.9
FALKLAND	2381	1870	1727	1605	-1.3	1911.5	2204.9	2484.2
FARMVILLE	6435	6522	6602	6521	0.0	7766.3	8958.2	10093.1
FOUNTAIN	1756	1443	1369	1300	-1.0	1548.3	1785.9	2012.1
GREENVILLE	25687	30486	34557	37483	1.3	44640.9	51492.0	58015.7
GRIFTON	3201	3552	3358	4057	0.8	4831.7	5573.3	6279.4
GRIMESLAND	2901	3050	4534	6404	2.7	7626.9	8797.5	9912.0
PACTOLUS	3149	3215	3451	4621	1.3	5503.4	6348.1	7152.3
SWIFT CREEK	1180	1076	1171	1252	0.2	1491.1	1719.9	1937.8
WINTERVILLE	4635	5412	11091	18658	4.8	22221.0	25631.3	28878.6
<b>TOTAL</b>	<b>69942</b>	<b>73900</b>	<b>90146</b>	<b>107924</b>	<b>1.5</b>	<b>128533.7</b>	<b>148259.9</b>	<b>167043.3</b>

NOTE: ALL FUTURE PROJECTIONS WERE CALCULATED USING GROWTH FACTOR FORMULA.

\* TOTAL POPULATION VALUES FOR THE YEAR 2000 AND 2010 PROVIDED BY NORTH CAROLINA STATE DATA CENTER.

\*\* USED 1.2 %/YR IN GROWTH FACTOR FORMULA.

**TABLE C2****PITT COUNTY VEHICLE REGISTRATION**

<u>YEAR</u>	<u>VEHICLES REGISTERED</u>	<u>POPULATION</u>	<u>PERSONS PER VEHICLE</u>
1940	10,080	61,244	6.08
1950	16,515	63,789	3.86
1960	23,648	69,942	2.96
1970	37,182	73,900	1.99
1980	53,254	90,146	1.69
1990	71,600	107,924	1.51
*2000	101,208	128,534	1.27
*2010	120,537	148,260	1.23
*2020	162,177	167,043	1.03

**TABLE C3****NORTH CAROLINA VEHICLE REGISTRATION**

<u>YEAR</u>	<u>VEHICLES REGISTERED</u>	<u>POPULATION</u>	<u>PERSONS PER VEHICLE</u>
1940	647,242	3,571,623	5.52
1950	1,147,233	4,061,929	3.54
1960	1,704,203	4,556,155	2.67
1970	2,742,673	5,084,411	1.85
1980	3,896,544	5,880,095	1.51
1990	4,962,268	6,628,637	1.34
*2000	6,851,590	7,399,683	1.08
*2010	8,235,600	8,070,889	0.98

\* Projected statistics supplied by North Carolina State Data Center and North Carolina Department of Motor Vehicles.



# **APPENDIX D**

**RECOMMENDED SUBDIVISION ORDINANCES**  
**Definitions**

I. Streets and Roads:

A. Rural Roads

1. Principal Arterial - A rural link in a highway system serving travel, and having characteristics indicative of substantial statewide or interstate travel and existing solely to serve traffic. This network would consist of interstate routes, intrastate routes, and other routes designated as principal arterials.
2. Minor Arterial - A rural roadway joining cities and larger towns and providing intrastate and intercounty service at relatively high overall travel speeds with minimum interference to through movement.
3. Major Collector - A road which serves major intracounty travel corridors and traffic generators and provides access to the arterial system.
4. Minor Collector - A road which provides service to small local communities and traffic generators and provides access to the major collector system.
5. Local Road - A road which serves primarily to provide access to adjacent land, over relatively short distances.

B. Urban Streets

1. Major Thoroughfares - Major thoroughfares consist of interstate, intrastate, other freeway, expressway, or parkway roads, and major streets that provide for the expeditious movement of high volumes of traffic within and through urban areas.
2. Minor Thoroughfares - Minor thoroughfares perform the function of collecting traffic from local access streets and carrying it to the major thoroughfare system. Minor thoroughfares may be used to supplement the major thoroughfare system by facilitating minor through traffic movements and may also serve abutting property.
3. Local Street - A local street is any street not on a higher order urban system and serves primarily to provide direct access to abutting land.

C. Specific Type Rural or Urban Streets

1. Freeway - Divided multilane roadways designed to carry large volumes of traffic at high speeds. A freeway provides for continuous flow of vehicles with no direct access to abutting property and with access to selected crossroads only by way of interchanges. (Design speed 70 mph, Operating speed 55 mph)

2. Secondary Freeway - A divided multilane roadway designed to carry moderate volumes of traffic at moderate speeds. The facility provides for the continuous flow of traffic through full control of access and the provision of interchanges or grade separation with no access at cross roads, and no traffic signals. (Design speed 50-55 mph, Operating speed 40-45 mph)
3. Parkway - A divided multilane roadway designed for non-commercial traffic, with full or partial control of access. Grade separations are provided at major intersections and there are no traffic signals.
4. Expressway - A divided multilane roadway designed to carry heavy volumes of traffic with full or partial control of access. Interchanges are provided at major intersections. There may be access to service roads and local streets, but there will be no signalized intersections.
5. Secondary Expressway - A divided multilane roadway designed to carry moderate volumes of traffic at moderate speeds. This facility may have partial control of access with right turn in and right turn out access to abutting property, and interchanges at major intersections. Some minor intersections may have traffic signal control.
6. Urban Arterial - Multilane roadway with signalized intersections, and access to abutting property. May have grass or barrier type median, or middle left turn lane.
7. Residential Collector Street - A local street which serves as a connector street between local residential streets and the thoroughfare system. Residential collector streets typically collect traffic from 100 to 400 dwelling units.
8. Local Residential Street - Cul-de-sacs, loop streets less than 2,500 feet in length, or streets less than one mile in length that do not connect thoroughfares, or serve major traffic generators, and do not collect traffic from more than 100 dwelling units.
9. Cul-de-sac - A short street having only one end open to traffic and the other end being permanently terminated and a vehicular turn-around provided.
10. Frontage Road - A road that is parallel to a partial or full access controlled facility and provides access to adjacent land.
11. Alley - A strip of land, owned publicly or privately, set aside primarily for vehicular service access to the back side of properties otherwise abutting on a street.

## II. Property

- A. Building Setback Line - A line parallel to the street in front of which no structure (ie., residential, or commercial, or industrial building, parking lot) shall be built.
- B. Easement - A grant by the property owner for use by the public, a corporation, or person(s), of a strip of land for a specific purpose.
- C. Lot - A portion of a subdivision, or any other parcel of land, which is intended as a unit for transfer of ownership or for development or both. The word "lot" includes the words "plat" and "parcel".

## III. Subdivision

- A. Subdivider - Any person, firm, corporation or official agent thereof, who subdivides or develops any land deemed to be a subdivision.
- B. Subdivision - All divisions of a tract or parcel of land into two or more lots, building sites, or other divisions for the purpose, immediate or future, of sale or building development and all divisions of land involving the dedication of a new street or change in existing streets; provided, however, that the following shall not be included within this definition nor subject to these regulations: (1) the combination of portions of previously platted lots where the total number of lots is not increased and the resultant lots are equal to or exceed the standards contained herein; (2) the division of land into parcels greater than ten acres where no street right-of-way dedication is involved; (3) widening or opening of streets; (4) the division of a tract in single ownership whose entire area is no greater than two acres into not more than three lots, where no street right of way dedication is involved and where the resultant lots are equal to or exceed the standards contained herein.
- C. Dedication - A gift, by the owner, of his property to another party without any consideration being given for the transfer. The dedication is made by written instrument and is completed with an acceptance.
- D. Reservation - Reservation of land does not involve any transfer of property rights. It constitutes an obligation to keep property free from development for a stated period of time.

## DESIGN STANDARDS

### I. Streets and Roads

The design of all proposed public roads within Pitt County shall be in accordance with the accepted policies of the North Carolina Department of Transportation, Division of Highways, as taken or modified from the American Association of State Highway Officials' (AASHTO) manuals.

The provision of street rights-of-way shall conform and meet the recommendations of the Thoroughfare Plan, as adopted by Pitt County.

The proposed street layout shall be coordinated with the existing street system of the surrounding area. Normally the proposed streets should be the extension of existing streets if possible.

A. Right-of-way Widths - Right-of-way (ROW) widths shall not be less than the following and shall apply except in those cases where ROW requirements have been specifically set out in the Thoroughfare Plan.

1. Rural	Minimum ROW
a. Principal Arterial	
Freeways	350 ft.
Other	200 ft.
b. Minor Arterial	100 ft.
c. Major Collector	100 ft.
d. Minor Collector	80 ft.
e. Local Road	60 ft. <sup>1</sup>
2. Urban	
a. Major Thoroughfare other than Freeway and Expressway	90 ft.
b. Minor Thoroughfare	70 ft.
c. Local Street	60 ft. <sup>1</sup>
d. Cul-de-sac	Variable <sup>2</sup>

The subdivider will only be required to dedicate a maximum of 100 feet of right-of-way. In cases where over 100 feet of right-of-way is desired, the subdivider will be required only to reserve the amount in excess of 100 feet. In all cases in which right-of-way is sought for a fully controlled access facility, the subdivider will only be required to make a reservation. It is strongly recommended that subdivisions provide access to properties from internal streets, and that direct property access to major thoroughfares, principal and minor arterials, and major collectors be avoided. Direct property access to minor thoroughfares is also undesirable.

<sup>1</sup> The desirable minimum right-of-way (ROW) is 60 ft. If curb and gutter is provided, 50 feet of ROW is adequate on local residential streets.

<sup>2</sup> The ROW dimension will depend on radius used for vehicular turn-around. Distance from edge of pavement of turn-around to ROW should not be less than distance from edge of pavement to ROW on street approaching turn-around.

A partial width right-of-way, not less than sixty feet in width may be dedicated when adjoining undeveloped property that is owned or controlled by the subdivider; provided that the width of a partial dedication be such as to permit the installation of such facilities as may be necessary to serve abutting lots. When the said adjoining property is subdivided, the remainder of the full required right-of-way shall be dedicated.

- B. Street Widths - Widths for street and road classifications other than local streets shall be as recommended by the Thoroughfare Plan. Width of local roads and streets shall be as follows:
1. Local Residential  
Curb and Gutter section: 26 feet, face to face of curb  
Shoulder section: 20 feet to edge of pavement, 4 foot shoulders
  2. Residential Collector  
Curb and Gutter section: 34 feet, face to face of curb  
Shoulder section: 20 feet to edge of pavement, 6 foot shoulders
- C. Geometric Characteristics - The standards outlined below shall apply to all subdivision streets proposed for addition to the State Highway System or Municipal Street System. In cases where a subdivision is sought adjacent to a proposed thoroughfare corridor, the requirements of dedication and reservation discussed under Right-of-Way shall apply.
1. Design Speed - The design speed for a roadway should be a minimum of 5 mph greater than the posted speed limit. The design speeds for subdivision type streets are shown on the following page.

DESIGN SPEEDS			
Facility Type	Desirable	Design Speed	
		Level	Minimum Rolling
<b>Rural</b>			
Minor Collector Roads	60	50	40
Local roads including Residential Collectors and Local Residential	50	50*	40*
<b>Urban</b>			
Major Thoroughfares other than Freeways, Expressways, or Parkways	60	50	50
Minor Thoroughfares	60	50	40
Local Streets	40	40**	30**

\* Based on projected annual average daily traffic of 400-750. In cases where road will serve a limited area and small number of dwelling units, minimum design speeds can be reduced further.

\*\*Based on projected annual average daily traffic of 50-250.

2. Maximum and Minimum Grades

a. The maximum grades in percent shall be:

MAXIMUM VERTICAL GRADE		
Design Speed	Terrain	
	Level	Rolling
60	4	5
50	5	6
40	6	7
30		9

b. Minimum grade should not be less than 0.5%.

c. Grades for 100 feet each way from intersections (measured from edge of pavement) should not exceed 5%.

d. For streets and roads with projected annual average daily traffic less than 250, short grades less than 500 feet long, may be 50% greater than the value in the above table.

3. Minimum Sight Distance - In the interest of public safety, no less than the minimum applicable sight distance shall be provided. Vertical curves that connect each change in grade shall be provided and calculated using the following parameters. Sight distance provided for stopped vehicles at intersections should be in accordance with "A Policy on Geometric Design of Highways and Streets, 1984."

SIGHT DISTANCE				
Design Speed	30	40	50	60
Stopping Sight Distance				
Minimum (ft.)	200	275	400	525
Desirable Minimum (ft.)	200	325	475	650
Minimum K* Value for:				
Crest Curve	30	80	160	310
Sag Curve	40	70	110	160

(General practice calls for vertical curves to be multiples of 50 feet. Calculated lengths shall be rounded up in each case.)

- \* K is a coefficient by which the algebraic difference in grade may be multiplied to determine the length in feet of the vertical curve which will provide the desired sight distance.

4. The "Superelevation Table" below shows the maximum degree of curve and related maximum superelevation for design speeds. The maximum rate of roadway superelevation (e) for rural roads with no curb and gutter is 0.08. The maximum rate of superelevation for urban streets with curb and gutter is 0.06, with 0.04 being desirable.

SUPERELEVATION TABLE			
Design Speed	Maximum e*	Minimum Radius ft.	Max. Deg. of Curve
30	0.04	302	19 00'
40	0.04	573	10 00'
50	0.04	955	6 00'
60	0.04	1,528	3 45'
30	0.06	273	21 00'
40	0.06	509	11 15'
50	0.06	849	6 45'
60	0.06	1,380	4 15'
30	0.08	252	22 45'
40	0.08	468	12 15'
50	0.08	764	7 30'
60	0.08	1,206	4 45'

e\* = rate of roadway superelevation, foot per foot



#### D. Intersections

1. Streets shall be laid out so as to intersect as nearly as possible at right angles, and no street should intersect any other street at an angle less than sixty-five (65) degrees. No street should intersect a railroad at grade at an angle less than sixty-five (65) degrees.
2. Property lines at intersections should be set so that the distance from the edge of pavement, of the street turnout, to the property line will be at least as great as the distance from the edge of pavement to the property line along the intersecting streets. This property line can be established as a radius or as a sight triangle. Greater offsets from the edge of pavement to the property lines will be required, if necessary, to provide sight distance for the stopped vehicle on the side street.
3. Offset intersections are to be avoided. For intersections which cannot be aligned, Pitt County Subdivision Regulations require minimum offsets of 125 feet within subdivisions and 250' in other cases.

#### E. Cul-de-sacs

Cul-de-sacs shall not be more than seven hundred (700) feet in length. The distance from the edge of pavement on the vehicular turn-around to the right-of-way line should not be less than the distance from the edge of pavement to right-of-way line on the street approaching the turn-around. Cul-de-sacs should not be used to avoid connection with an existing street or to avoid the extension of an important street.

#### F. Alleys

1. Alleys shall be required to serve lots used for commercial and industrial purposes except that this requirement may be waived where other definite and assured provision is made for service access. Alleys shall not be provided in residential subdivisions unless necessitated by unusual circumstances.
2. The width of an alley shall be at least twenty (20) feet.
3. Dead-end alleys shall be avoided where possible, but if unavoidable, shall be provided with adequate turn-around facilities at the dead end as may be required by the Planning Board.

#### G. Permits For Connection To State Roads

An approved permit is required for connection to any existing state system road. This permit is required prior to any construction on the street or road. The application is available at the office of the District Engineer of the Division of Highways.

## H. Offsets To Utility Poles

Poles for overhead utilities should be located clear of roadway shoulders, preferably a minimum of at least 30 feet from the edge of pavement. On streets with curb and gutter, utility poles shall be set back a minimum distance of 6 feet from the face of curb.

## I. Wheelchair Ramps

All street curbs being constructed or reconstructed for maintenance purposes, traffic operations, repairs, correction of utilities, or altered for any reason, shall provide wheelchair ramps for the physically handicapped at intersections where both curb and gutter and sidewalks are provided and at other major points of pedestrian flow.

## J. Horizontal Width on Bridge Deck

1. The clear roadway widths for new and reconstructed bridges serving 2 lane, 2 way traffic should be as follows:

- a. Shoulder section approach

- i. Under 800 ADT design year

Minimum 28 feet width face to face of parapets of rails or pavement width plus 10 feet, whichever is greater.

- ii. 800 - 2000 ADT design year

Minimum 34 feet width face to face of parapets of rails or pavement width plus 12 feet, whichever is greater.

- iii. Over 2000 ADT design year

Minimum width of 40 feet, desirable width of 44 feet width face to face of parapets of rails.

- b. Curb and gutter approach

- i. Under 800 ADT design year

Minimum 24 feet face to face of curbs.

- ii. Over 800 ADT design year

Width of approach pavement measured face to face of curbs.

Where curb and gutter sections are used on roadway approaches, curbs on bridges shall match the curbs on approaches in height, in width of face to face of curbs, and in crown drop. The distance from face of curb to face of parapet of rail shall be 1'6" minimum, or greater if sidewalks are required.

2. The clear roadway widths for new and reconstructed bridges having 4 or more lanes serving undivided two-way traffic should be as follows:
  - a. Shoulder section approach - Width of approach pavement plus width of usable shoulders on the approach left and right. (Shoulder width 8' minimum, 10' desirable.)
  - b. Curb and gutter approach - Width of approach pavement measured face to face of curbs.