



CORRIDOR STUDY

CITY OF CHARLOTTESVILLE AND ALBEMARLE COUNTY

FINAL ENVIRONMENTAL IMPACT STATEMENT SECTION 4(f)/106 EVALUATION

6029-002-122, PE 100

U.S. Department of Transportation
Federal Highway Administration
and
Virginia Department of Transportation

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Virginia Department of Transportation

U.S. ROUTE 29 CORRIDOR STUDY
CITY OF CHARLOTTESVILLE AND ALBEMARLE COUNTY

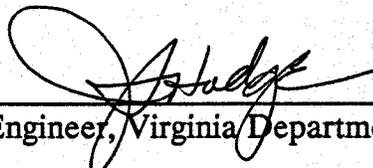
FINAL ENVIRONMENTAL IMPACT STATEMENT

SECTION 4(f)/106 EVALUATION

Submitted Pursuant To: 42 U.S.C. 4332(2) (c), 23 U.S.C. 128(a)
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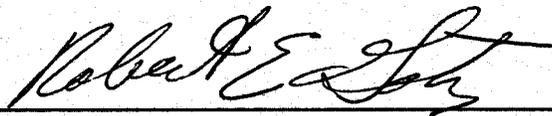
U.S. Department of Transportation
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The proposed project is to provide relief from current and anticipated traffic congestion on the Route 29 north corridor in the City of Charlottesville and Albemarle County. A Base Case alternative with eight corridor construction alternatives have been considered in addition to Mass Transit and Transportation System Management (TSM) alternatives. An alternative has been selected following circulation of the Draft Environmental Impact Statement, a Location Public Hearing, and a full consideration of comments received.

SUMMARY

PROJECT DESCRIPTION

The selected alternative and the basis for its selection are presented in this Final Environmental Impact Statement along with other alternatives considered. This Final Environmental Impact Statement, a revision and expansion of the Draft Environmental Impact Statement, also incorporates comments and suggestions received from the public and federal, state, and local agencies during the public review process. Added or revised text is denoted by a vertical line along the left margin.

The proposed action is located in the U.S. Route 29 corridor in the City of Charlottesville and Albemarle County, Virginia. This section of Route 29 is a four-lane divided highway with at-grade, signalized intersections. It begins at the U.S. Route 250 Bypass in Charlottesville and ends at the South Fork Rivanna River in Albemarle County, a distance of approximately 3.3 miles.

Improvements already programmed for this section, designated the "Base Case" for purposes of this document, involve widening the existing road to six lanes divided with at-grade, signalized intersections and continuous right turn lanes.

The proposed action involves construction of one of the following alternatives:

- o An expressway 3.3 miles long, along existing Route 29, from Route 250 Bypass to the South Fork Rivanna River, consisting of four express lanes with three-lane, one-way service roads on both sides.
- o A new location, four-lane divided, controlled access facility along one of seven alignment alternatives, designated as 6, 6B, 7, 7A, 10, 11, and 12, within a study area eight miles wide and nine miles long.

Four alternatives begin east of Route 29 on Route 250 or Route 250 Bypass and end on Route 29 between Route 649 (Airport Road) and the North Fork Rivanna River for lengths of 7.0 to 8.1 miles. Three of the alternatives begin west of Route 29 at the junction of Route 29 Bypass, Route 29/250 Bypass, and Route 250 Business (Ivy Road), and end on Route 29 between Route 631 (Rio Road) and the North Fork Rivanna River for lengths of 5.4 to 12.9 miles.

The proposed action is needed to solve existing and future traffic congestion problems and to complete the Charlottesville area element of ongoing improvements to Route 29 throughout central Virginia. Route 29 is the most heavily travelled highway in the

Charlottesville area. Not only is it the only major north-south highway for interregional transportation through central Virginia, it is the main connecting route between developments north of Charlottesville and Charlottesville itself. Furthermore, geographic and topographic features, along with city and county economic development objectives, have led to extensive growth of business and residential development along the Route 29 corridor north of Charlottesville.

The increasing traffic volumes on this section of Route 29 have approached capacity. Congestion and delays, already experienced during morning and afternoon peak traffic periods, will become worse in the future as levels of service continue to deteriorate.

Except for the area north of Charlottesville, controlled access improvements at all urbanized areas along Route 29 through central Virginia, including a portion of Charlottesville, have been built or committed. These improvements prevent delays to through traffic.

A major part of the study was the development of a travel demand model based on detailed land use and socioeconomic data, household surveys, roadside surveys, historical traffic data, and the existing road network. The model was used to project each alternative's effect on future traffic volumes.

The results of the traffic modeling showed that in the design year, 2010, the Base Case would function at level of service F. The expressway alternative also would operate at level of service F although the express lanes would operate slightly better at level of service D. Under all of the new location alternatives, assuming Base Case improvements are also implemented, Route 29 would still operate at level of service F. If, in addition to the Base Case improvements, grade separated interchanges were built at three intersections, the average level of service on Route 29 would improve to B. (See Table IV-3 in Chapter IV.) Further, with these additional improvements and construction of one of the bypass alternatives, level of service would improve to A or B depending on the alternative.

OTHER MAJOR FEDERAL ACTIONS IN SAME GEOGRAPHIC AREA

There are no known major federal actions in the same geographic area. However, a local initiative to build a project called the Meadowcreek Parkway could potentially become a federal action at some future time. The Parkway, an element of the Charlottesville Area Transportation Study (CATS, the regional transportation plan) follows the alignment of Alternative 7A discussed in this Environmental Impact Statement. The Parkway would be a four-lane divided controlled access facility, but with a narrower median than that provided by bypass alternatives presented in this document.

ALTERNATIVES CONSIDERED

Between October, 1987, and June, 1988, many potential bypass alternatives were examined. These were screened based on environmental, traffic, and engineering factors and those that were not feasible, did not satisfy the need, or had severe impacts were eliminated. In June, 1988, 27 conceptual alternatives were presented to the public with a recommendation that five be retained as Candidate Build Alternatives in addition to the Base Case and the expressway alternative. Subsequently, two additional 4(f) avoidance alternatives were added to avoid impacts to McIntire Park, Pen Park, and Rivanna Park. All of the alternatives were then refined as additional data became available. Figure S-1 shows the Candidate Build Alternatives. The alternatives considered are as follows:

Base Case - This alternative, as contained in the Virginia Department of Transportation's six-year improvement plan, consists of widening 3 miles of Route 29 from the existing four lanes divided to six lanes divided between Hydraulic Road and the South Fork Rivanna River. At-grade signalized intersections would remain at major intersections. Left turn lanes and continuous right turn lanes would be provided. For this study, this is considered the "No-Build" Alternative since these improvements are already programmed and will be implemented under any alternative selected except Alternative 9, the Expressway Alternative. A design public hearing for these improvements was held in 1986 and a separate Environmental Assessment was completed to address their impacts.

Base Case With Interchanges - This alternative consists of the Base Case improvements described above, plus grade separated interchanges at Rio Road, Greenbrier Drive, and Hydraulic Road. A diamond configuration would be used for the interchanges. This alternative has been included as suggested by local officials and citizens.

Transportation System Management (TSM) - This alternative consists of relatively low-cost actions designed to maximize efficiency of the existing transportation system. Such actions include high occupancy vehicle lanes, intersection improvements, and signal optimization. Evaluation of TSM actions revealed none that would solve the transportation problems.

Mass Transit - This alternative involves improvements to the existing bus system. There are no mass transit improvements that will solve the transportation problems. The transit system and its potential as a project alternative are addressed in Chapter II.

Alternative 6. This alternative, 8.1 miles long, is located to the east of Route 29. Its northern terminus is at Route 29, just north of Route 649, and its southern terminus is at Route 250 in the Pantops area east of the Rivanna River. It has interchanges where it crosses Route 20 and Route 643.

Alternative 6B. This alternative is 7.8 miles long, has the same terminus points as Alternative 6 but for most of its length is located farther east. It has interchanges where it crosses Route 20 and Route 643. This alternative is designed to avoid the park land impacts of Alternative 6.

Alternative 7. This alternative, 7.3 miles long, follows the general corridor of the proposed CATS Plan Meadowcreek Parkway. It has the same northern terminus as Alternatives 6 and 6B. At its southern end, it connects with McIntire Road south of Route 250 Bypass, and relocates the McIntire Road intersection with Route 250 Bypass. It has grade-separated interchanges with Rio Road (Route 631) and Route 643. This alternative is designed to avoid the impacts on McIntire Park.

Alternative 7A. This alternative, 7.0 miles long, is identical to Alternative 7, except for the southern terminus. Instead of remaining east of McIntire Park, this alternative passes through the eastern third of the park and connects with Route 250 Bypass just opposite McIntire Road.

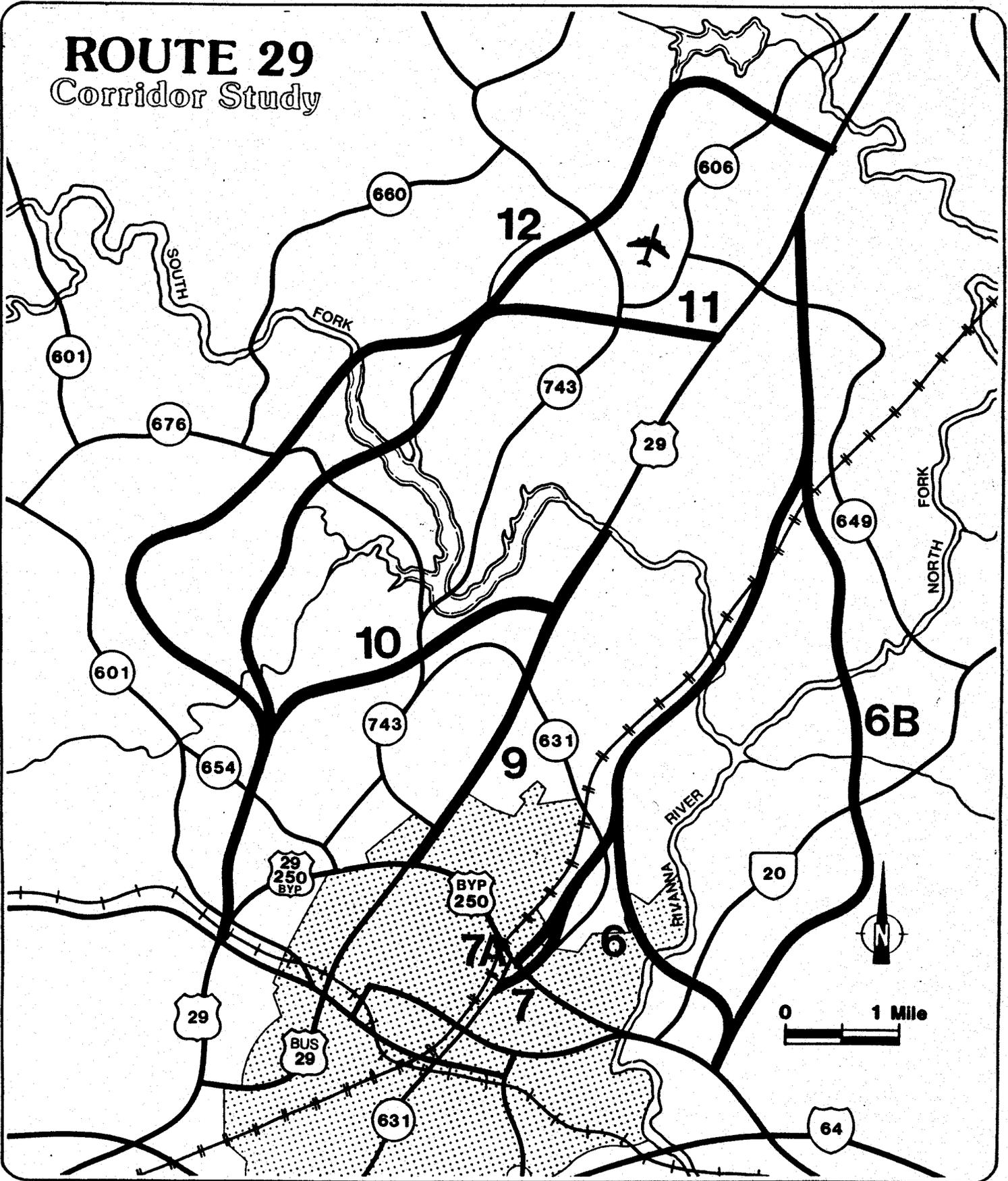
Alternative 9. This alternative, also called the "Expressway Alternative" follows the existing corridor of Route 29 North. It is 3.3 miles long, from its southern end near the intersection of Route 29 and 250 Bypass to its northern end at the South Fork of the Rivanna River. The facility would have a four-lane limited access freeway in the center of the right of way flanked by one-way three-lane service roads on either side. Existing cross streets would be maintained with the expressway lanes generally depressed below the at-grade intersections. Slip ramps at various locations would connect the express lanes and the service roads.

Alternative 10. This alternative, 5.4 miles long, is the nearest new location alternative on the west side of Route 29. Its southern terminus is at the interchange of Route 29 Bypass, Bypass 29/250, and Business 250 (Ivy Road). It has its northern terminus at Route 29 near Woodbrook Drive, with additional grade-separated interchanges at Route 654 (Barracks Road) and Route 743.

Alternative 11. This alternative, 9.4 miles long, has the same southern terminus as Alternative 10. It crosses the South Fork Rivanna River Reservoir and connects with Route 29 south of the Charlottesville-Albemarle airport. Interchanges are located at Route 654, Route 676, and Route 743.

Alternative 12. This alternative, 12.9 miles long, is the farthest west and the longest of the Candidate Build Alternatives. It has the same southern terminus as alternatives 10 and 11, crosses the reservoir, and connects with Route 29 approximately 0.3 miles north of the North Fork Rivanna River. It has interchanges with the same roads as Alternative 11.

ROUTE 29 Corridor Study



Candidate Build Alternatives

SELECTED ALTERNATIVE AND SUMMARY OF ENVIRONMENTAL IMPACTS

The Route 29 Corridor Study shows the need for highway improvements to:

- o Maintain an acceptable level of traffic service both now and in the future.
- o Preserve Route 29's role as a key element of the State Arterial System, as mandated by the Virginia General Assembly.
- o Fulfill Route 29's function as a principal arterial highway.
- o Fulfill Route 29's role as part of the new network of Highways of National Significance being developed by the Federal Highway Administration.

After consideration of all study factors and input provided through the Draft Environmental Impact Statement review and Location Public Hearing process, it has been concluded that the No-Build (Base Case), TSM, and Mass Transit alternatives are not capable of meeting traffic needs in the study area.

The study also shows that no single alternative by itself will satisfy all of these needs. For example, a bypass alternative alone will not substantially improve traffic conditions on existing Route 29. Providing improvements only to existing Route 29 will not satisfy anticipated future needs for additional highway capacity, nor will it satisfactorily fulfill Route 29's function as an arterial route for through traffic.

A resolution of the Route 29 issue is needed to permit highway improvements to continue and to allow Albemarle County, the City of Charlottesville, and the University to plan for future development within the Route 29 corridor.

In considering the overall balance among transportation needs, costs, community impacts, impacts on the natural environment, and the input received from citizens, local government officials, and university officials, it appears that a combination of improvements over a number of years would provide the best solution.

The following improvements were selected by the Commonwealth Transportation Board. For the short range, construct the Base Case and begin planning for grade-separated interchanges at Hydraulic Road, Rio Road, and Greenbrier Drive. Access to the North Grounds of the University of Virginia is recommended to be developed as soon as possible. Alternative 10 modified to eliminate interchanges at Routes 654 and 743, is approved as a corridor for future development and Albemarle County is requested to assist in preserving the necessary right of way.

For the medium range improvements, grade-separated interchanges are to be constructed on existing U.S. Route 29 at Hydraulic Road, Greenbrier Drive, and Rio Road, as traffic and economic conditions allow. Right of way for Alternative 10 is to continue to be preserved, with advance acquisition of right-of-way procedures exercised as needed and as economics permit.

For the long term improvements, the Alternative 10 bypass, modified to eliminate interchanges at Route 654 and Route 743, is to be constructed when traffic conditions dictate and economic conditions permit. The interchanges were eliminated due to objections from Albemarle County officials and citizens.

The following subsections provide a narrative summary of major impacts associated with the selected alternative.

Traffic

The proposed project was developed in response to existing and projected traffic volume demands for the study area. Consequently, the major beneficial impact of the action would be to relieve traffic congestion on Route 29 through a redistribution of traffic patterns and to improve the safety, efficiency, and convenience of the area's future transportation system.

Alternative 10 will carry between 17,400 and 17,900 vehicles per day in 2010. Construction of this alternative will decrease by almost 11,000 vehicles per day the traffic in the segment of existing Route 29 between Rio Road and Hydraulic Road.

The addition of grade-separated interchanges to the Base Case along Route 29 will improve the northbound evening peak period of service from F to A with the construction of Alternative 10.

Economics and Employment

Construction of Alternative 10 will require the displacement of 8 businesses. It is estimated that each displaced business employs between 5 and 100 persons. Construction of the Base Case with grade-separated interchanges will displace four businesses employing a total of 28-36 employees. These displacements will not involve any major employer, and displaced establishments have the potential to be relocated in the same general areas.

Neighborhoods

Construction of Alternative 10 would displace 17 residences. Sixteen of the families are owners and one is a tenant.

The construction of Alternative 10 may result in the acceleration of local development and related indirect environmental impacts. However, unwanted or undesirable growth may be controlled through local planning and zoning procedures. A part of the short range improvements includes recommending that Albemarle County assist in preserving the necessary right of way for Alternative 10. The construction of the Base Case with grade-

separated interchanges would not displace any residences. The northern section of the Base Case would pass near Woodbrook and Carrsbrook subdivisions.

Land Use

Alternative 10, near its intersection with Route 29 north, passes through an area designated for medium density residential and commercial uses. The alternative divides two neighborhoods which are currently under construction (Roslyn Heights and Roslyn Ridge). Removal of the interchanges at Barracks Road and at Route 743 decreases the impacts on Montvue and Squirrel Ridge subdivisions.

The Base Case is in an area of existing commercial use.

Fire, Rescue and Public Safety

Alternative 10 will displace the University of Virginia Police Headquarters. A replacement for this facility will be provided.

Alternative 10 will improve response by the Seminole Trail Volunteer Fire Department to areas to the southwest.

Schools

Alternative 10 will displace two support facilities of the University of Virginia, the University Police Headquarters and the University Printing Services. Replacements for these facilities would be provided.

Alternative 10 passes alongside the County schools complex that includes Albemarle High School, Jack Jouett Middle School, and Mary Greer Elementary School. This alternative would require a small piece of this property (a wooded area on the edge of the property) but would not directly impact any of these schools. It would pass about 600 feet from Greer School and within 1,200 feet of Jouett School.

The Base Case includes reconstruction of Route 29 about 900 feet from Woodbrook Elementary School.

Churches, Cemeteries, and Hospitals

Two cemeteries and no churches or hospitals will be impacted.

Cultural Resources

Two historic properties determined by the Virginia Department of Historic Resources to be eligible for the National Register of Historic Places are in the vicinity of the Alternative 10 bypass alignment. Section 106 evaluations were done on the two properties. The project was determined to have an adverse effect on one of the properties, the Schlesinger Farm. The highway will be visible from the property, which will disturb the tranquil rural setting that is a contributing factor of this historic resource. The project was determined to have no adverse effect on Westover. The Section 106 evaluation and Memorandum of Agreement are presented in Appendix B.

Archaeological surveys located one archaeological site, site number 44AB348, which was recommended for further evaluation. It is a small pre-historic site where tools and stone fragments were found. Phase II investigations at the site revealed a disturbed context lacking integrity. Therefore, the site was determined not eligible for the National Register of Historic Places and no further studies were recommended.

Visual Impacts

The view of Alternative 10 will be that of a typical rural divided highway, with two travel lanes in each direction separated by a wide vegetated median. The view from the road will be a pleasant one of generally rolling terrain, with a variety of woods, farms, open fields, and residential areas.

There will be little visual impact caused by the construction of the Base Case with grade-separated interchanges since it passes through a developed suburban commercial area.

Water Quality

Temporary increases in sedimentation and turbidity levels of surface water resources can be expected during construction. This will be minimized by implementation of erosion and sediment controls.

Long term impacts are primarily limited to direct loss of aquatic habitat.

Alternative 10 crosses 13 streams, displaces 0.1 acres of wetland at one site, and does not cross any designated 100-year floodplains.

Alternative 10 would have the least amount of pollutant buildups of the build alternatives. However, concentrations of pollutants in runoff would be the greatest for Alternative 10 because of the higher traffic volume projected for this alternative.

Alternative 10 does not cross the reservoir; it does cross the reservoir watershed for a length of 4.2 miles. Runoff from the highway is not expected to compromise the reservoir's use as a water supply.

Agricultural and Forestal Impacts

The selected alternative takes approximately 32 acres of agricultural land use and 49 acres of prime farmland soil. Since the publication of the Draft Environmental Impact Statement, the Alternative 10 alignment has been refined so that it does not take any Agricultural/Forestal District land. The Base Case with grade-separated interchanges has no impacts on agricultural and forestal acreage.

Noise

The construction of Alternative 10 will result in noise impacts at 62 noise receptors while the Base Case with grade-separated interchanges will result in impacts at 44 receptors. Feasibility studies have shown that noise barriers are not reasonable to protect these noise-impacted properties.

Construction-related noise will be unavoidable. However, VDOT construction specifications provide for adherence to noise control requirements on construction equipment and time-of-day restrictions of construction activities in sensitive areas if needed.

Air Quality

The carbon monoxide concentration will be well below the National Ambient Air Quality Standards (NAAQS) for the selected alternative. Construction activities may cause minor short-term air quality impacts, such as dust from earthwork or smoke from burning of debris. However, these impacts will be minimized by adherence to all state and local regulations and to the VDOT Road and Bridge specifications.

Energy

Operation and maintenance of Alternative 10 and the Base Case with grade-separated interchanges will result in annual energy consumption of approximately 2,442 million BTU's.

OTHER FEDERAL ACTIONS REQUIRED

Fill placement in wetlands will require appropriate approvals under Section 404 of the Clean Water Act. The Federal Highway Administration is a signatory to a Section 106 Memorandum of Agreement with the Advisory Council on Historic Preservation and the Virginia Department of Historic Resources for two historic sites eligible for the National Register in the vicinity of the selected alternative.

Comparative Summary of Impacts (a)

ALTERNATIVE	6	6B	7	7A	9	10	11	12	BASE CASE	BASE CASE WITH INTERCHANGES (b)
TRAFFIC IMPACTS ON ROUTE 29										
% Change in Traffic from										
Base Case Between:										
Rte 250 and Hydraulic Rd	-2.2	-3.1	-4.2	-1.1	+16.2	-16.4	-11.4	-8.0	0.0	0.0
Hydraulic Rd and Rio Rd	-3.8	-4.3	-4.4	-2.3	+20.2	-17.9	-12.8	-9.2	0.0	0.0
Rio Rd and S. Fork Rivanna	-5.0	-3.8	-3.8	-8.3	+18.8	-28.9	-10.0	-7.5	0.0	0.0
Rte 29 Arterial LOS	F	F	F	F	F	F	F	F	F	B
RIGHT OF WAY REQUIRED (ACRES):	373	420	311	306	24	290	473	500	5	16
DISPLACEMENTS:										
Families	40	33	51	27	0	17	13	19	0	0
Businesses	1	1	2	1	7	8	0	2	0	4
Non profit organizations	0	0	1	0	0	0 (c)	0 (c)	0 (c)	0	0
ESTIMATED TAX REVENUE LOSS:										
Albemarle County	\$52,270	\$49,658	\$39,662	\$39,662	\$98,018	\$249,910	\$73,161	\$82,804	\$7,874	\$50,811
City of Charlottesville	\$0	\$0	\$37,575	\$5,650	\$47,241	\$0	\$0	\$0	\$73	\$1,741
Total	\$52,270	\$49,658	\$77,237	\$45,312	\$145,259	\$249,910	\$73,161	\$82,804	\$7,947	\$52,552
CULTURAL RESOURCES IMPACTED:										
Standing Structures Eligible for National Register	0	2	0	0	0	2	4	5	0	0
Archaeological Sites	6	2	10	6	0	1	2	1	0	0
4(f) INVOLVEMENTS:										
Parks	2	0	0	1	0	0	0	0	0	0
Historic Sites	0	0	0	0	0	0	2	1	0	0
NOISE RECEPTORS IMPACTED:	138	53	172	177	48	62	49	52	44	44
AGRICULTURAL/FORESTAL LAND USE (ACRES):										
Agricultural (d)	27.9	47.6	11.9	11.9	0.0	31.7	100.1	133.9	0.0	0.0
Forestal (d)	18.8	18.8	7.9	7.9	0.0	0.0	0.0	0.0	0.0	0.0
Ag/Forestal District	0.0	0.0	0.0	0.0	0.0	0.0	116.3	174.2	0.0	0.0
Prime Farmland	89.5	78.1	78.2	78.2	0.0	48.7	101.7	157.8	0.0	0.0
AQUATIC AND WATER RESOURCES:										
Stream Crossings (Number)	27	26	26	27	4	13	28	41	4	4
Length Across Watershed (Miles)	0	0	0	0	0	4.2	7.4	8.4	0	0
Reservoir Crossings (Number)	0	0	0	0	0	0	1	1	0	0
Wetland Sites (Number)	5	3	4	4	1	1	3	4	1	1
Wetland (Acres)	1.5	0.1	0.2	0.2	0.1	0.1	0.3	0.6	0.0	0.0
Floodplains Crossed (Number)	7	5	9	9	0	0	4	8	0	0
COST (\$1000s):										
Construction and Engineering	\$103,287	\$106,304	\$87,732	\$86,395	\$133,859	\$77,523	\$98,338	\$180,315	\$17,584	\$32,304
Right of Way	\$10,078	\$9,802	\$12,095	\$8,102	\$23,618	\$44,486	\$16,890	\$16,064	\$8,487	\$14,441
Utility	\$927	\$836	\$745	\$567	\$3,884	\$1,317	\$1,359	\$2,228	\$343	\$2,829
Total	\$114,292	\$118,942	\$100,572	\$98,064	\$161,161	\$123,306	\$116,587	\$198,607	\$28,414	\$49,574

Notes:

- (a) Candidate Build Alternatives do not include Base Case costs or impacts.
 (b) Three grade-separated interchanges will be located at Hydraulic Road, Greenbrier Drive, and Rio Road.
 (c) Displaces two support units of University of Virginia.
 (d) These areas do not include 'Agricultural/Forestal Districts'.

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I. PROJECT PURPOSE AND NEED

A. PROJECT PURPOSE

The purpose of the Route 29 Corridor Study is to find a solution to existing and future traffic congestion on a three-mile section of U.S. Route 29 between U.S. Route 250 Bypass and the South Fork Rivanna River in the City of Charlottesville and Albemarle County north of Charlottesville. A secondary purpose of the study is to complete a gap in ongoing improvements to U.S. Route 29 through central Virginia.

South of this section of Route 29 the existing U.S. 29/U.S. Route 250 Bypass is a four-lane limited-access facility with currently adequate capacity. At the northern end, the bridge over the South Fork of the Rivanna River is a four-lane facility with adequate capacity for traffic projected through the year 2010. North of the bridge, development along Route 29 is more limited and traffic congestion is not now a problem, though it will be necessary to limit additional access to the road to prevent future traffic congestion.

For most of its length through Virginia, Route 29 is a four-lane divided highway, with controlled access features on some sections. It connects the Washington, D.C. metropolitan area with other urbanized areas through central Virginia such as Warrenton, Culpeper, Lynchburg, and Danville. The section of Route 29 under study is an uncontrolled access, four-lane-divided highway with a grass median and at-grade signalized intersections. This facility provides direct access to the numerous businesses located along both sides of the road.

This section of Route 29 is the most heavily travelled highway in the Charlottesville area, carrying twice as much traffic as Interstate Route 64. It is the only major north-south highway serving the expanding development north of Charlottesville and surrounding portions of Albemarle County. Route 29 is the only major route connecting this development with other population and employment centers in Charlottesville. It also is the only route connecting points north of Charlottesville with points south of Charlottesville.

The growing development, increasing traffic volumes, and the inadequate capacity of the existing road are causing increasing congestion as this section of Route 29 has become overloaded.

Other factors also contribute to the congestion. For example, there are no bus turnouts along the existing route and buses stopping to pick up or discharge passengers interfere with traffic flow while they are stopped. Also, trucks (two-axle, four tire and larger) currently constitute approximately 17 percent of the total traffic. Tractor trailers make up approximately three percent of the total traffic.

These trucks use disproportionate amounts of available highway capacity which, when combined with slower truck accelerations and speeds, tends to increase congestion.

As a result of the above factors, local, interregional, and even interstate transportation is impeded on this important arterial route. A range of alternative solutions within the study area shown in Figures I-1, I-2, and I-3 have been evaluated and are addressed in this document.

B. NEED FOR THE PROJECT

1. Planning Background

Plans for improving and upgrading the Route 29 Corridor north of Charlottesville have been under discussion for nearly 20 years. An earlier Route 29 Corridor Study completed by the Virginia Department of Transportation (VDOT) in January of 1979 recommended widening Route 29 to six lanes, building an eastern residential collector (designated as Meadowcreek Parkway in the CATS Plan, alternatives 7 and 7A in the current study follow this alignment), and building a limited access western bypass. These recommendations were unanimously adopted by the Albemarle County Board of Supervisors in May of 1979. The Board of Supervisors later voted to rescind approval of the western bypass.

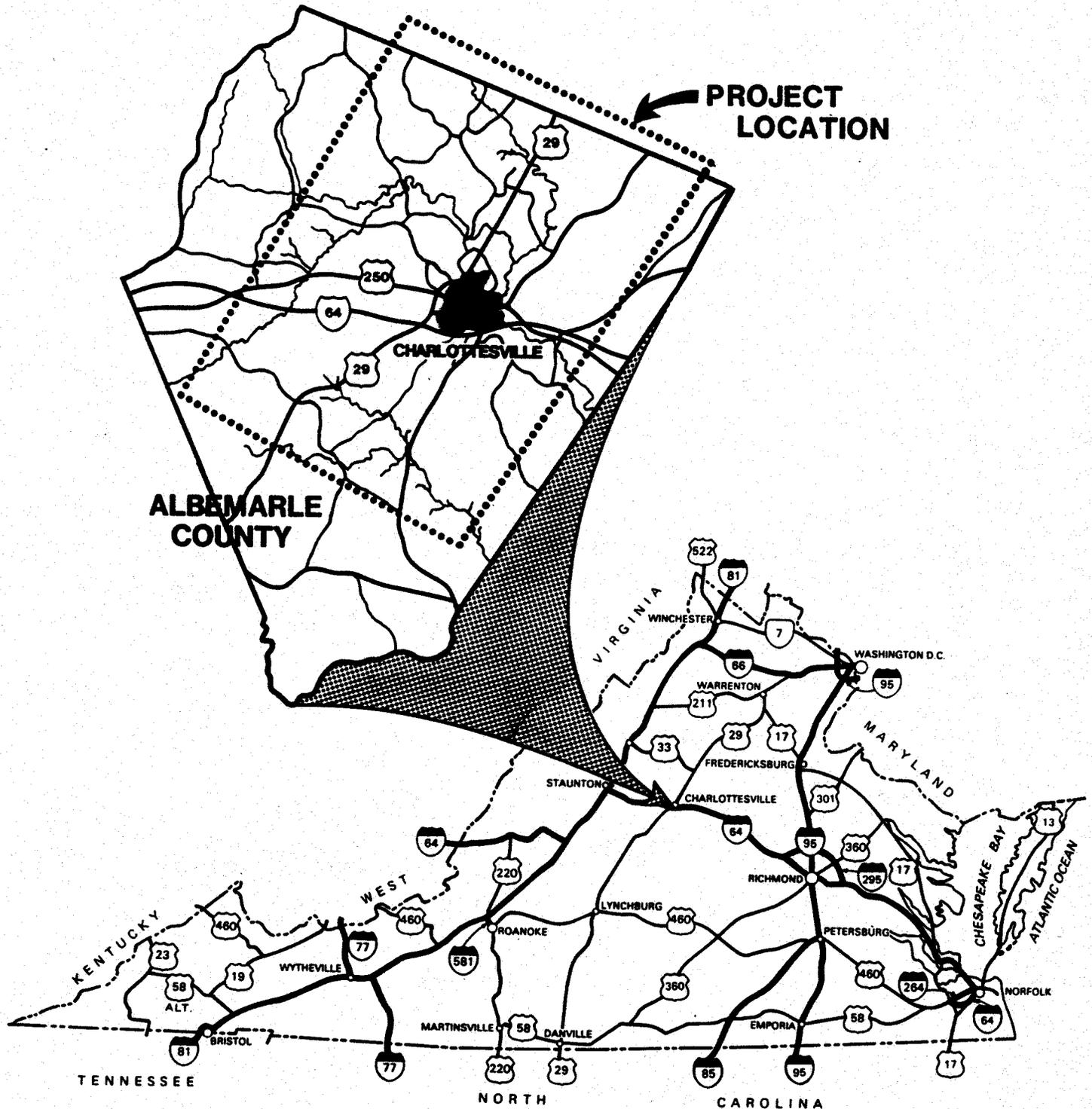
The Piedmont Highway Corridor Study was prepared by VDOT to identify the types and locations of improvements needed for north-south transportation through the central part of the state. The study, provided to county officials in 1984, included a 21-mile-long western bypass. When made public, this proposal drew strong opposition and was rejected by Albemarle County.

Between 1975 and 1985, the Charlottesville Area Transportation Study (CATS) Year 2000 Transportation Plan was prepared by VDOT through the cooperative efforts of the City of Charlottesville, Albemarle County, and the Federal Highway Administration. The major purpose of CATS was to update the 1967 Major Arterial Street and Highway Plan and define highway and public transportation improvements needed through the year 2000. The CATS Year 2000 Plan was approved by the Charlottesville-Albemarle Metropolitan Planning organization on August 28, 1985.

The initial CATS plan included both six-laning of existing Route 29 and the construction of a western bypass. However, the plan adopted in 1985 deleted the proposed western bypass.

Since 1982, other studies have attempted to refine the CATS plan by focusing on the Route 29 Corridor from the Route 250 Bypass to the Greene County line. VDOT completed an in-depth planning and engineering study in 1985. Nine alternatives involving various widening schemes, service roads, and an eastern bypass were considered. None of the nine

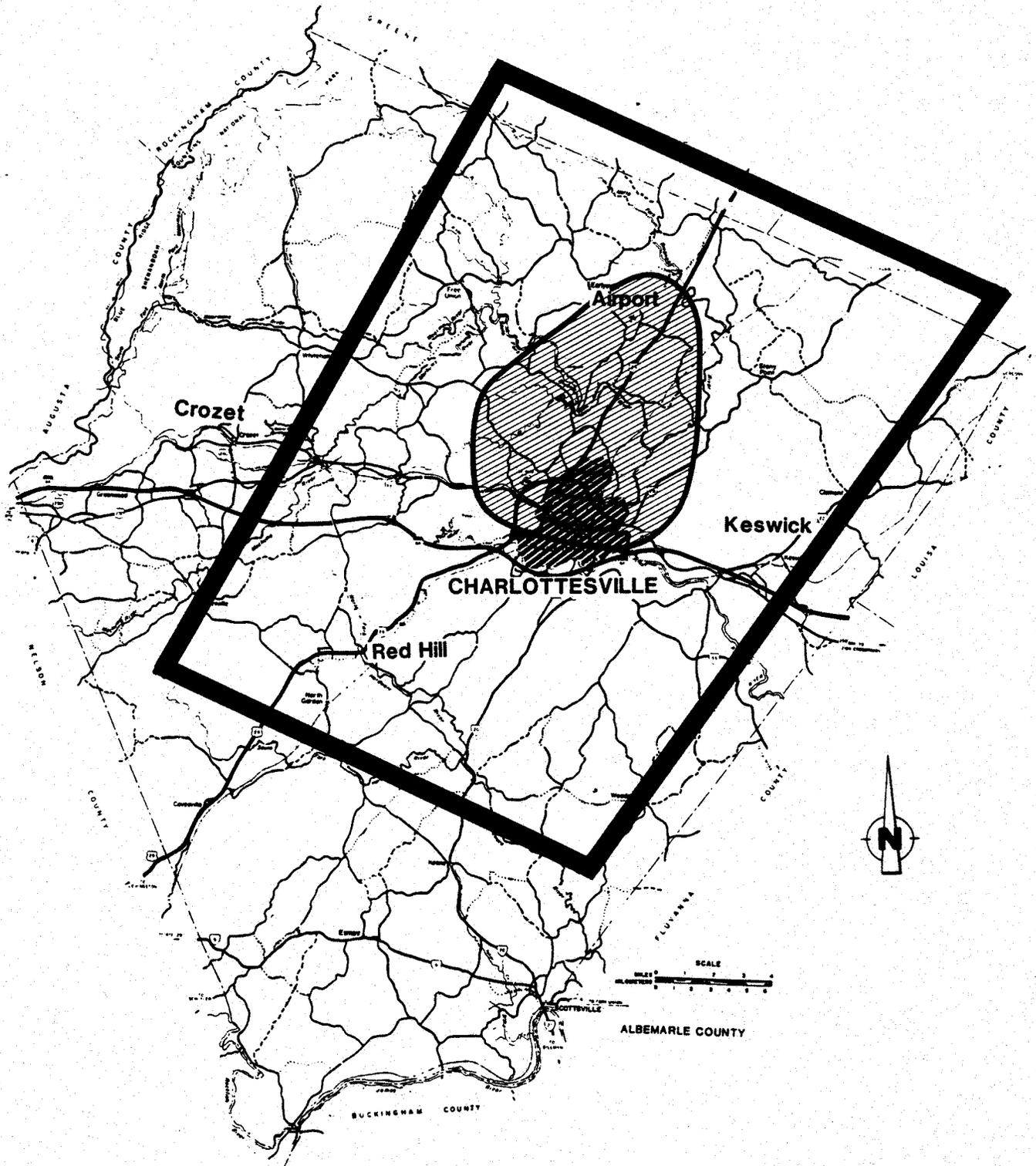
ROUTE 29 Corridor Study



Project Location

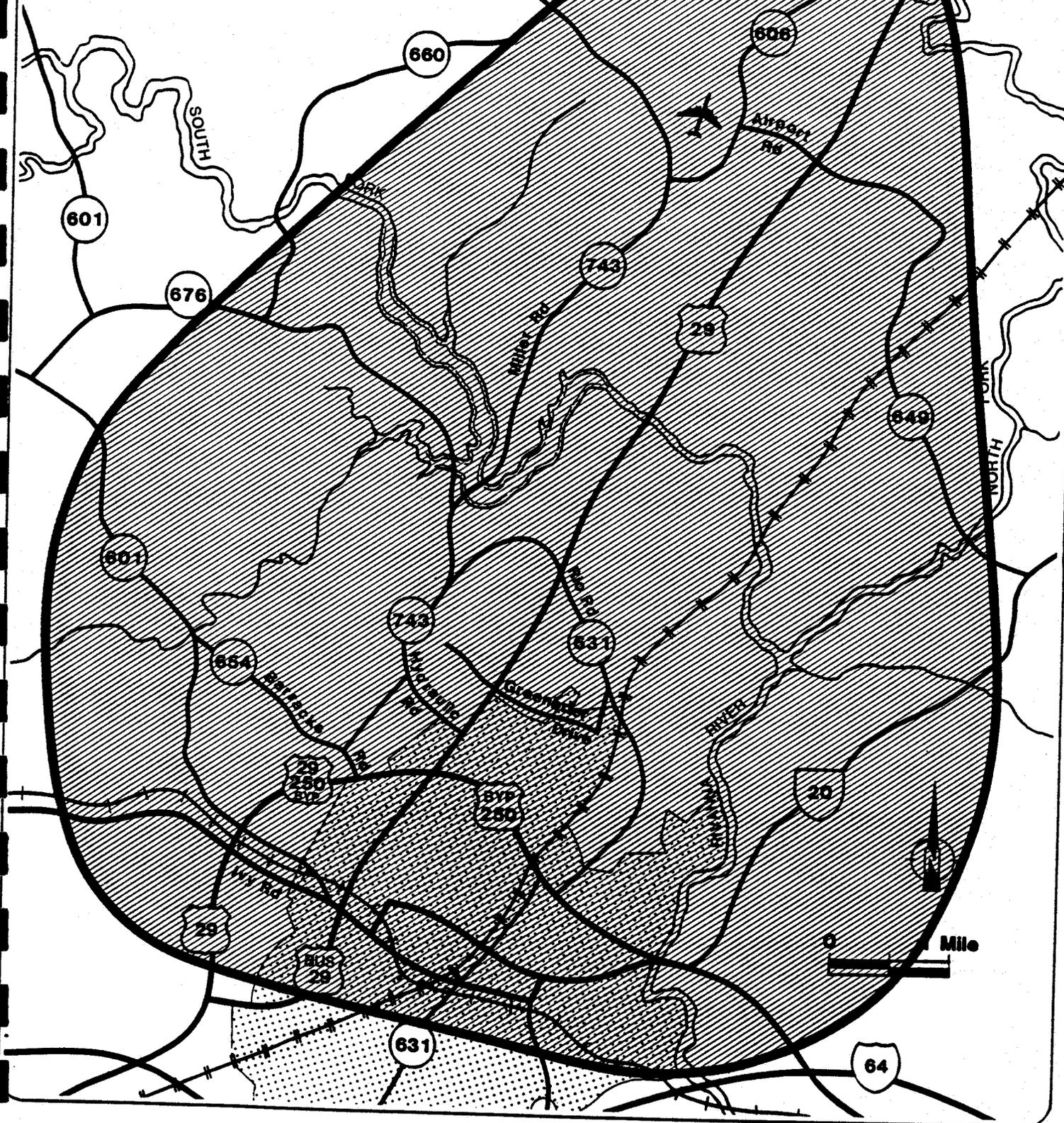
Figure No. I-1

ROUTE 29 Corridor Study



Initial Study Area

ROUTE 29 Corridor Study



Project Study Area

alternatives considered at that time appeared to provide adequate capacity to accommodate projected year 2000 travel demands in the Corridor.

In April 1986, the City and Albemarle County made a joint presentation to the governor's Commission for Transportation in the Twenty-First Century, requesting funding for an eastern bypass. In May, 1986, in response to a request by the Commission, Albemarle County indicated support for widening existing Route 29.

In October of 1986, a location and design public hearing was held for the upgrading of Route 29 from the Route 250 Bypass north to the South Fork Rivanna River bridge. This proposal included reconstruction of existing Route 29 to six lanes, with continuous right turn lanes between Hydraulic Road and Rio Road. North of Rio Road, a six-lane road was to have been provided to the South Fork of the Rivanna River. A grade-separated interchange was proposed at Rio Road. Due to concerns expressed at the public hearing regarding impacts of the interchange, this concept was put on hold pending further study.

At that time, Albemarle County developed an "expressway" concept utilizing the existing Route 29 Corridor. A traffic analysis of this concept indicated that traffic on the express lanes would flow smoothly but that congestion would occur on the service roads. Further evaluation by VDOT of this expressway concept and reaction from the public indicated that its costs and property damage were excessive in relation to its traffic service benefits and led to the conclusion that it was not feasible. After further consideration, discussions with local officials, and input from the public, VDOT decided to include a revised expressway alternative as part of the Route 29 corridor study.

The proposed upgrading of Route 29 to six lanes plus continuous right-turn lanes (known as "Base Case") was recommended to proceed without the grade-separated interchange because of impacts to properties and access. Subsequently, the City and County recommended that construction of the Base Case be held in abeyance until a comprehensive study of the Route 29 North (of Charlottesville) corridor could be performed. The study would include developing a complete traffic and land-use model for updating forecasts. The results would help determine the future traffic patterns and levels of service of different facilities and alternatives. This Final Environmental Impact Statement summarizes the results of the study, addresses comments made by agencies and citizens during the public review process, and presents the alternative selected by the Commonwealth Transportation Board.

2. Highway Capacity and Traffic Demand

In 1987, traffic volumes on Route 29 between Route 250 Bypass and the South Fork Rivanna River ranged from 25,280 to 45,990 vehicles per day. The highest traffic volume was recorded between Hydraulic Road and Rio Road. Table I-1 presents a summary of growth in traffic volumes for the period 1982-1987, based on actual counts.

TABLE I-1

TRAFFIC GROWTH TRENDS

ROUTE 29, NORTH OF CHARLOTTESVILLE

<u>Year</u>	<u>Hydraulic - Rio Roads</u>		<u>Rio Road - South Fork Rivanna River</u>	
	<u>Average Daily Traffic</u>	<u>Annual Percent Increase</u>	<u>Average Daily Traffic</u>	<u>Annual Percent Increase</u>
1982	34,350	-----	18,105	-----
1983	35,000	1.9	18,505	2.2
1984	38,755	10.7	19,830	7.1
1985	41,235	6.4	21,835	10.1
1986	43,430	5.3	23,220	6.3
1987	45,990	5.9	25,280	8.9
2010 ^(a)	54,400	0.7 ^(b)	57,700	3.7

Source: Virginia Department of Transportation,
Average Daily Traffic Volumes on
Interstate, Arterial, and Primary Routes

Notes: (a) Based on 2010 socioeconomic forecasts provided by MPO,
without any improvements to Route 29, or the construction
of any new roadways.

(b) Low traffic growth is the result of capacity
limitations along Route 29, not a lack of demand. Overall
areawide traffic growth is projected to be 2.2 percent
annually.

MinUTP was used to implement the travel demand forecast. The model was validated with counts of existing traffic. The development of the model was based on Charlottesville survey data, which included external, internal, through traffic, truck, and shopping center travel data. The future highway network assumed includes all projects in the 1985 Charlottesville Area Transportation Study (CATS).

With no improvements, by the year 2010, Route 29 between the Route 250 Bypass and the South Fork Rivanna River is projected to carry between 53,200 and 57,700 vehicles per day. This represents a relatively modest increase in traffic volumes between the existing and design years. The reason is that the existing road is already near capacity and cannot handle substantial volume increases. In other words, the projected volumes reflect capacity limitations rather than demand. If the Base Case improvements are made, the added capacity will raise the projected volume to 64,700 on the busiest section, still less than demand.

At present during the afternoon peak hour, average travel speeds decline to 24 miles per hour and delays at some signalized intersections mount to more than three minutes per vehicle. By the year 2010, afternoon peak hour travel speeds are projected to be as low as 10 miles per hour with delays as long as 17 minutes per vehicle.

Level of service is a letter designation which represents the operating efficiency of a particular intersection or roadway. It is based on traffic-related variables such as operating speeds and volume-to-capacity ratios. The analysis of intersection and arterial levels of service, as defined in the Transportation Research Board's Highway Capacity Manual, can be used to measure how well a facility is performing and whether improvements might be needed. Levels of service for signalized intersections are described below.

Level of Service A describes operations with very low delay, averaging less than 5 seconds per vehicle. Progression is favorable and most vehicles do not stop at all.

Level of Service B describes operations with average delay between 5 and 15 seconds per vehicle. More vehicles stop than for LOS A.

Level of Service C describes operations with an average delay of 15 to 25 seconds per vehicle. Progression is fair and cycle lengths are longer. Individual cycle failures may begin to appear; that is, not all waiting vehicles may get through during a green cycle.

Level of Service D describes operations with delay in the range of 25 to 40 seconds per vehicle. The proportion of vehicles not stopping declines and cycle failures are noticeable.

Level of Service E describes operations with average delays of 40 to 60 seconds per vehicle. This is considered to be the limit of acceptable delay. These delays generally indicate poor progression and long cycle lengths. Individual cycle failures are frequent.

Level of Service F describes operations with average delay in excess of 60 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs when the vehicle arrival rates exceed the capacity of the intersection.

Levels of service for arterial highways are described below.

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.

Level of service B represents reasonably 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.

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 coordination 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.

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. Average travel speeds are about 40 percent of free flow speed.

Level of service E is characterized by substantial approach delays and average travel speeds of one-third the free-flow speed or lower.

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.

With current traffic volumes, two of the six major intersections analyzed between Bypass 29/250 and the South Fork Rivanna River, including the 29/250 Bypass-Business 29 interchange, operate at level of service F during the afternoon peak period. Of the remaining four intersections, one operates at level of service C, and three at B. During the morning peak period, one intersection operates at level of service F, one at C, and three at B.

By the year 2010, assuming Base Case improvements will be in place, four of the intersections will operate at level of service F, one at E, and one at C during the afternoon peak. During the morning peak, four will operate at level F, one at C, and one at A.

If one considers the route as a whole from an arterial level of service aspect, the existing road operates, during the afternoon peak, at level of service B with an average speed of 24 miles per hour. For the year 2010 Base Case, the overall level of service during the afternoon peak will be F with an average speed of 10 miles per hour.

Through traffic, as a percentage of total traffic, varies along the length of the study corridor from 19 percent at the northern end to 10 percent at the southern end. This change in

percentage reflects the increasing volumes of automobile traffic generated by local development as one approaches the City.

Table I-2 shows the growth of truck traffic, including all trucks, and the growth of tractor trailer traffic over a five-year period. Excluding light trucks with only two axles and four tires, truck traffic accounts for seven to nine percent of the total traffic on Route 29. These heavier trucks account for 16 percent of through traffic, illustrating the routes's importance as a conduit of interregional commerce. Delays produced by congestion on Route 29 impede the flow of this commerce. In addition, the extra space occupied by these trucks (five times the space of an average automobile) reduces the capacity available for localized automobile trips.

The traffic factors described above show that the section of Route 29 under study currently functions more like a congested urban street than the arterial route it is intended to be. Increasing traffic volumes over the years will only worsen this situation if improvements are not implemented.

In 1986, the section of Route 29 from Hydraulic Road to the Albemarle-Greene county line had an accident rate of 252 per 100 million vehicle miles of travel, slightly higher than the state average for arterial highways. The injury and death rates were somewhat lower, probably due to low operating speeds.

Traffic on Route 29 is confronted with many right, left, and U-turns due to all the entrances, median breaks, and traffic lights. These present additional opportunity for conflicting traffic movements or varying speeds which increase the probability for accidents.

Another safety-related condition worthy of note is that the existing southbound lanes (the original two-lane Route 29) do not meet current standards for grades, sight distance, and lane width. The lanes are only 11 feet wide without adequate shoulders. Without improvements, these substandard conditions represent a continuing hazard to the travelling public.

3. Land Use and Economic Development

In addition to being the site of a major state university, Charlottesville, along with surrounding Albemarle County, derives importance from its association with some of the most prominent figures of early U.S. history such as Thomas Jefferson and James Monroe. The growth of development in and around Charlottesville reflects the City's continuing importance as a center of education, research, culture, and commerce for this part of the Commonwealth of Virginia. Its proximity to the expanding Washington D.C. metropolitan area, a mere two-hour drive to the north, also enhances the growth opportunity of the area.

Most recent development has occurred north of Charlottesville within the U.S. Route 29 corridor. This development has included three major employment sites, several shopping centers, major residential subdivisions, and a plethora of motels, restaurants, and other businesses.

TABLE I-2

TRUCK TRAFFIC GROWTH TRENDS

ROUTE 29, NORTH OF CHARLOTTESVILLE
(Rio Road to South Fork Rivanna River)

Year	<u>All Trucks</u>			<u>Tractor-Trailers</u>		
	<u>ADT</u>	<u>Annual Percent Increase</u>	<u>Percent of Total Traffic</u>	<u>ADT</u>	<u>Annual Percent Increase</u>	<u>Percent of Total Traffic</u>
1982	5175	0.0	15.1	900	0.0	2.6
1983	5340	3.2	15.3	950	5.6	2.7
1984	6370	19.3	16.4	1250	31.6	3.2
1985	6840	7.4	16.6	1250	0.0	3.0
1986	7320	7.0	16.9	1350	8.0	3.1
1987	7840	7.1	17.0	1318	(2.4)	2.9
2010 ^(a)	8655	3.7	15.0	1731 ^(b)	3.7	3.0

Source: Virginia Department of Transportation,
Average Daily Traffic Volumes on
Interstate, Arterial, and Primary Routes

Notes: (a) Based on 2010 socioeconomic forecasts provided by MPO, without any improvements to Route 29 or the construction of any new roadways.

(b) Tractor trailer trucks can occupy the highway capacity of five automobiles on level or rolling terrain. The 1,731 trucks are the equivalent of about 8,655 automobiles in the traffic stream.

Albemarle County's Comprehensive Plan designates areas along Route 29 between the north corporate limits of Charlottesville and the North Fork Rivanna River as growth areas. The Plan's stated objective is to direct growth into those areas designated for development while conserving the balance of the County for agricultural and forestal uses and other resource protection purposes. Most of the land along Route 29 between the Corporate Limits and the South Fork Rivanna River has already been developed. On most of the few remaining undeveloped parcels, developments are under construction or being planned.

Development is also taking place north of the South Fork Rivanna River. The large Forest Lakes residential community is under construction on the east side of Route 29, near the airport. On the west side of Route 29, the University of Virginia has assembled two large tracts for development of a research/industrial park near the airport. Further expansion of the Hollymead subdivision is expected.

Projections for this study show population and employment growth in two traffic zones along Route 29 of 61% and 47% respectively between now and the year 2010. As this expanding development continues to generate increasing numbers of vehicle trips, the capacity of the existing transportation system becomes more and more inadequate. The numerous access points to businesses along the route contribute to congestion as vehicles entering and leaving those businesses interrupt traffic flow. In addition, many traffic signals are required to provide for cross flow on intersecting streets.

4. System Linkage

The City of Charlottesville, the "crossroads" of central Virginia, sits astride the intersection of U.S. Route 29, the major north-south highway and U.S. Route 250 and Interstate Route 64, the major east-west highways. U.S. Route 29 is an important component of the statewide highway network. It is the only north-south link connecting urbanized areas of Central Virginia, and is an important part of the State Arterial System.

The State Arterial System, as mandated by the Virginia General Assembly, consists of multilane divided, high-speed highways serving most major towns and cities in the state. U.S. Route 29 is also being proposed for inclusion in a network of Highways of National Significance being developed by the Federal Highway Administration. According to Federal Highway Administration guidelines, the Highways of National Significance will provide a system of existing and planned principal arterial routes which will serve major population centers and interstate and interregional travel needs for the foreseeable future.

For most of its length through Virginia, Route 29 is a four-lane divided highway, with controlled access features on some sections. It connects the Washington, D.C. metropolitan area with other urbanized areas through central Virginia, such as Warrenton, Culpeper, Lynchburg and Danville, and continues into North Carolina. With plans nearing completion for a bypass at Lynchburg, Charlottesville remains the last metropolitan area along Route 29 where traffic will not be able to bypass the most congested areas.

The Piedmont Corridor Study completed in 1985 by VDOT reflects a systems level overview of future north-south traffic needs in the central part of the state, parallel to Route 29. Representatives from Virginia, as well as Maryland and North Carolina counties, participated in the study, which provided specific recommendations for the 308 mile corridor. Recommendations for the Charlottesville area, in light of the July 1984 Albemarle County rejection of any new Interstate corridor, included proceeding with improvements to Route 29.

The only alternative major north-south routes are Interstate 81 approximately 30 miles to the west across the Blue Ridge Mountains, and U.S. Route 15, a two lane road approximately 17 miles to the east. Neither of these routes are satisfactory substitutes for Route 29 because they are in different corridors and serve different traffic needs.

5. Transportation Plans

The comprehensive plans of Albemarle County and the City of Charlottesville do not specifically address the problem of congestion along Route 29, though both plans mention this Route 29 study. The regional transportation planning document, the CATS plan, recognizes the need for additional capacity in the Route 29 Corridor. CATS was adopted in 1985, by the Charlottesville-Albemarle Metropolitan Planning Organization. It includes widening of Route 29 between Bypass 29/250 and the South Fork Rivanna River and construction of grade separated interchanges at Rio and Hydraulic Roads. A proposed western bypass was dropped from the plan before adoption. On January 18, 1992, the Charlottesville-Albemarle Metropolitan Planning Organization amended the CATS plan to include grade-separated interchanges on U.S. 29 at Hydraulic Road, Greenbrier Drive, and Rio Road. The amendment also included bypass Alternative 10 to be constructed after completion of other improvements included in the plan.

6. Modal Interrelationships

Alternate modes of transportation are not major elements of the area-wide transportation system. Nevertheless, improvements to Route 29 would complement and enhance the other modes available. For example, due to the proximity of the Charlottesville-Albemarle Airport to Route 29, any improvements to this route would improve travel conditions to and from the airport. Similarly, users of the bus system would share in the benefits of improved highway capacity and reduced travel delays.

II. ALTERNATIVES

A range of transportation improvement alternatives within the Route 29 Transportation Corridor have been evaluated. The alternatives include a "no-build" or Base Case alternative, transportation system management measures, mass transit, and eight "build" alternatives including western and eastern bypasses (including two 4(f) avoidance alternatives), and an expressway.

A. SELECTION OF ALTERNATIVES

1. Development and Screening of Preliminary Alternatives

The initial study area shown in Figure I-2 was large to ensure that all reasonable alternatives were evaluated. It stretched from the Greene County line on the north to below Red Hill on the south, and from Crozet on the west to Keswick on the east.

Using topographic maps and aerial photography, numerous possible bypass alternatives were considered. Numerous individual segments were evaluated; similar segments were compared and the least desirable were eliminated. Other segments were dropped because of engineering obstacles, such as mountainous terrain, or excessive environmental impacts, such as splitting neighborhoods or traversing designated natural areas. The refinement process involved evaluations of potential alignment segments relative to traffic, environmental, engineering, and economic factors. Throughout the process, as additional information became available, further adjustments were made to avoid community impacts and environmentally sensitive areas.

2. Evaluation of Conceptual Alternatives

By the spring of 1988, the number of Build Alternatives was reduced to 27 "conceptual" alternatives, as shown in Figure II-1. The 15 numbered segments north of I-64 and the four lettered segments south of I-64 shown in Figure II-1 combined to form the 27 different alternatives. Two of these 27 alternatives were "expressway" alternatives, consisting of a limited access expressway along existing Route 29. The remaining alternatives were bypasses on new location alignments either to the east or the west of Route 29.

Each of the conceptual alternatives was evaluated in greater detail relative to the previously mentioned list of screening factors covering traffic, the socio-economic environment, the natural environment, and engineering considerations. (See Appendix A.)

3. Selection and Refinement of Candidate Build Alternatives

The quantitative evaluation matrix and maps of the 27 conceptual alternatives were discussed with the Joint Transportation Committee (Route 29 Task Force) and were presented to the public at a public information meeting in June 1988. Based on the quantitative comparison, the Route 29 Study Team recommended that six of the conceptual alternatives be carried forward for consideration in the Draft Environmental Impact Statement. These included two bypass alternatives to the east of Route 29, Alternatives 6 and 7A; three bypass alternatives to the west, Alternatives 10, 11, and 12; and one expressway alternative along existing Route 29, Alternative 9.

In response to the comments of local officials and the general public, all of the six recommended alternatives were retained as "Candidate Build Alternatives," to be addressed and analyzed in the DEIS. Two additional Alternatives, 6B and 7, were included to avoid publicly owned parks on the eastern alternatives. The Candidate Build Alternatives are Shown on Figure II-2.

As preliminary design of the alternatives progressed, numerous refinements and shifts in the alternatives were made in response to community concerns and to further reduce environmental impacts.

B. NO-BUILD OR BASE CASE ALTERNATIVE

The "no-build" alternative provides a benchmark against which to gauge the impacts of the various project alternatives. Here, the No-Build Alternative is also referred to as the "Base Case." It includes currently planned and programmed improvements for Route 29 to consist of widening to six lanes plus continuous right-turn lanes and at-grade intersections between the Route 250 Bypass and the South Fork Rivanna River. These programmed improvements will be implemented under any alternative selected except for Alternative 9, the Expressway. A design public hearing for these improvements was held in 1986 and a separate environmental document was completed to address their impacts. Since the Base Case is a given, a strict No-Build condition was not contemplated.

C. TRANSPORTATION SYSTEM MANAGEMENT

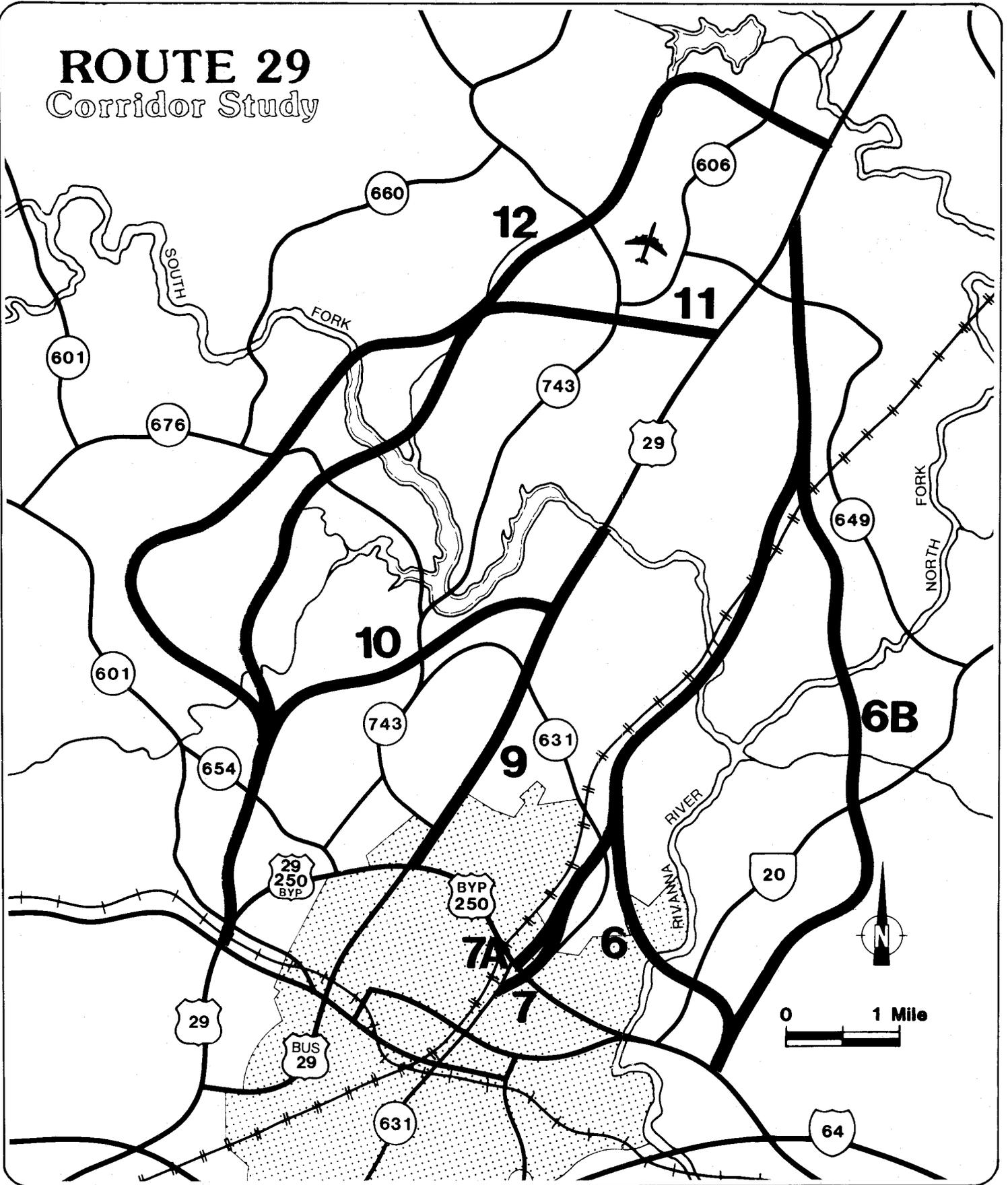
Transportation System Management (TSM) refers to relatively low-cost actions designed to maximize efficiency of the existing transportation system. Such actions include ridesharing, fringe parking lots, signal optimization, turn lanes, intersection improvements, and high-occupancy vehicle lanes. Several TSM actions have already been implemented. For example, traffic signals are now synchronized to permit smoother traffic flow. Improvements have been made at the Hydraulic Road intersection with Route 29. Turn lanes have been added or expanded at several locations.

ROUTE 29 Corridor Study



**Conceptual
Alternatives**

ROUTE 29 Corridor Study



**Candidate Build
Alternatives**

Some types of TSM actions would be of limited effectiveness. For example, use of commuter parking lots or HOV lanes would not be effective. Only about 17 percent of trips are home-based work trips with an average trip length of approximately 3.86 miles. Parking at work locations is ample and cheap or free. Therefore, there is little incentive for ridesharing.

Opportunities for additional TSM actions and improvements to existing roads will be taken when possible. However, the projected traffic volumes on Route 29 are such that these types of actions will produce minimal improvements in traffic flow at best, and will not produce a major increase in capacity or travel speed along Route 29.

D. MASS TRANSIT ALTERNATIVE

This alternative addresses the ability of an improved mass transit system to ease future traffic conditions in the Route 29 north corridor. Currently, there are three major transit systems serving the study area, the University Transit System (UTS), Charlottesville Transit System (CTS) and a paratransit service for elderly and handicapped persons known as JAUNT Inc. The UTS and CTS principally serve the City portion of the study area with several fixed bus routes. Recently, a study has been initiated to examine the potential for consolidating the University of Virginia (UVa) operated service, UTS, with the CTS.

The existing bus services are generally oriented toward UVa and downtown, and are principally used by the residents of the City and UVa students. According to the 1980 Census, only 5.7 percent of commuters within the Charlottesville urban area used the bus mode. The findings of a recently completed CTS and UTS passenger survey (CTS/UTS Comprehensive Transportation Study, Interim Report No. 1, January 1989) indicate that approximately 3/4 of the CTS ridership could be classified as transit dependent (based on auto availability), and 60 percent of total riders have annual incomes below \$15,000. Similarly, UTS users are predominantly students (64 percent undergraduate and 18 percent graduate).

Available operating statistics suggest that the systemwide ridership of CTS is stable and not growing. During the fiscal year 1988 CTS carried 747,985 passengers. Two out of 10 regular fixed routes of CTS (Routes 7 and 9) currently serve areas along Route 29 north. Route 7, serving Albemarle Square shopping center on Route 29 and Downtown, runs buses with 30 minutes headway and carries almost 30 percent of systemwide ridership. The second route, Route 9, serving Albemarle Square and the University, runs with 60 to 120 minutes headway. It carries only four percent of systemwide ridership, and displays less than optimum performance in terms of passengers per bus-mile.

The above referenced study identified the need for expanding CTS services along Route 29 principally to service UVa students and City residents. Considering the continued strong growth of the County population with higher rates of auto availability and the difficulty of

serving this population with transit, the study indicated the need for establishing park-and-ride lots near the urban fringe, which could be linked to major trip attractors by transit. However, experience suggests that park-and-ride based transit services have limited impact on auto-using commuters unless commuters are heavily dissuaded from using auto (e.g., charging high parking fees at the destination, limiting supply of parking spaces, etc.). Moreover, for shopping trips, transit use is often observed to be extremely low.

In view of the above factors and the travel characteristics of peak period Route 29 users, it was determined that the Mass Transit alternative consisting of transit served park-and-ride lots could be considered as an alternative travel option for commuters or shoppers, but it will not be a viable solution to traffic needs on Route 29.

With regard to commuter rail service or other uses of railroad rights-of-way, the following factors would tend to make this mode infeasible in the Charlottesville urbanized area: high capital and operating costs; revenue-to-operating cost ratios below those typically found on fixed-route bus systems; potential conflicts with scheduled freight operations; the lack of sufficiently high demand density; and the reluctance of riders to transfer to shuttle service at the terminal points.

E. CANDIDATE BUILD ALTERNATIVES

The eight Candidate Build Alternatives considered in this study include four alternatives to the east of Route 29, Alternatives 6, 6B, 7, and 7A; three to the west, Alternatives 10, 11, and 12; and the expressway along existing Route 29, Alternative 9. Two of the eastern alternatives, 6B and 7, and one of the western alternatives, 10, are 4(f) avoidance alternatives. Figure II-2 depicts the general location of each alternative.

1. Design Criteria

To provide for comparison among the Alternatives, it was assumed that all of the build alternatives would include full control of access. The standards used in the preliminary design of the bypass alternatives are shown in Table II-1. The Expressway Alternative along existing Route 29 was designed to the standards in Table II-2. Table II-3 shows the standards used in the design of the interchange ramps. Typical sections are presented in Figures II-3 through II-5.

TABLE II-1
DESIGN STANDARDS
BYPASS ALTERNATIVES

Design Year	2010
Level of Service	"C"
Access Control	"Limited"
Terrain	Rolling
Design Speed	60 MPH
Maximum Degree of Curvature	4°30'
Maximum % of Grade	4%
Stopping Sight Distance:	
Desirable	650'
Minimum	525'
Lane Width	12'
Right Shoulder Width:	
Fill	15'
Cut	12'
Median Shoulder Width	
Graded	8'
Independent:	
Fill	15'
Cut	12'
Minimum Median Width	84'
Maximum Right-of-Way	300'

TABLE II-2
DESIGN STANDARDS
EXPRESSWAY ALTERNATIVE

Design Year	2010
Level of Service:	
Desirable	"C"
Minimum	"D"
Access Control (Through and ramp lanes)	"Limited"
Terrain	Rolling
Design Speed	60 MPH
Maximum Degree of Curvature	4°30'
Maximum % of Grade	4%
Stopping Sight Distance:	
Desirable	650'
Minimum	525'
Lane Width	12'
Right Shoulder Width	10'
Median Shoulder Width"	
4 lanes	8'
6 lanes	12'
Minimum Median Width:	
4 lanes w/o barrier	40'
4 lanes w/barrier	10'
6 lanes w/barrier	22'
Right-of-Way Width	Varies

TABLE II-3
DESIGN STANDARDS
INTERCHANGE RAMPS

<u>Interchange Ramp Type</u>	<u>Design Speed (MPH)</u>	<u>Maximum Radius (Feet)</u>	<u>Maximum Grade (%)</u>
Directional (US 29, Bypass 250)	50	690	5
Major Loop (US 29, 250)	40	430	6
Minor Loop	30	230	7
Diamond (At Gore)	40	---	6

2. Description of Alternatives

a. Alternative 6

Alternative 6, 8.1 miles long, begins at Route 250 east of Charlottesville, approximately 1,200 feet west of State Farm Drive. A partial cloverleaf interchange is provided to accommodate traffic entering and exiting the bypass without any Route 250 median openings or traffic signals. The alignment heads in a northwesterly direction, crossing over Route 20 about 900 feet south of Franklin Drive, continues westerly through Rivanna Park, over the South Fork Rivanna River on a structure that spans the flood plain, and through the southwest portion of Pen Park.

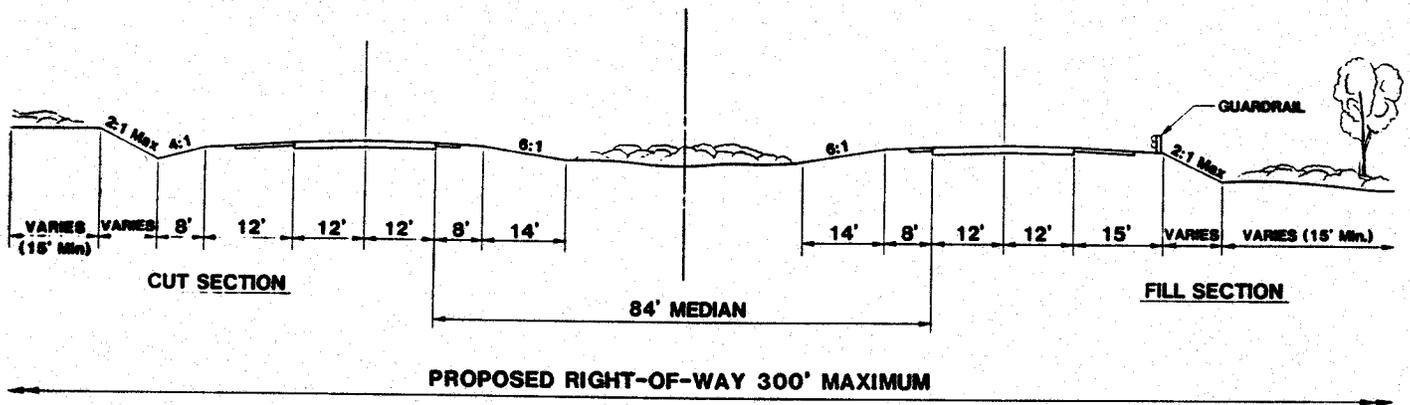
A partial cloverleaf interchange is provided north of Pen Park with a connection to Rio Road. The alignment heads northerly, crossing under Free State Road and then paralleling the Southern Railroad to north of South Fork Rivanna River, where it crosses under the railroad. Continuing northerly, the alignment connects to realigned Route 643 with a diamond interchange. The alignment continues northerly along the Southern railroad, crossing under a private road, and then crosses through the proposed Forest Lakes development, passing under Timber Wood Parkway. Continuing northerly, it passes under Route 649 just west of the old Laurel Hill Baptist Church and then connects at its northerly end to existing Route 29 North, 1,600 feet south of Northside Drive and 3,200 feet north of Route 649 (Airport/Proffit Road).

b. Alternative 6B

Alternative 6B, 7.8 miles long, begins at Route 250 east, at the same location and with the same interchange concept as Alternative 6. The alignment generally parallels Route 20 and is located some 700 feet west of the major telephone transmission line. It crosses over Franklin Drive and Route 769, and then heads in a northwesterly direction where it connects to Route 20 north of Chapman Grove with a diamond interchange. It then heads westerly, underpassing a private road, crosses North Fork Rivanna River north of Bentivar, and passes under Route 643 with a diamond interchange providing traffic connections. The alignment continues westerly overpassing the Southern Railroad and connects to the previously established Alignment 6 just south of Hill Lane. Alternative 6B avoids encroachment upon two Section 4(f) properties, Pen Park and Rivanna Park. Major residential areas and historic sites, between the Rivanna River and Route 20, caused this avoidance alternative to be aligned in its proposed configuration.

ROUTE 29

Corridor Study

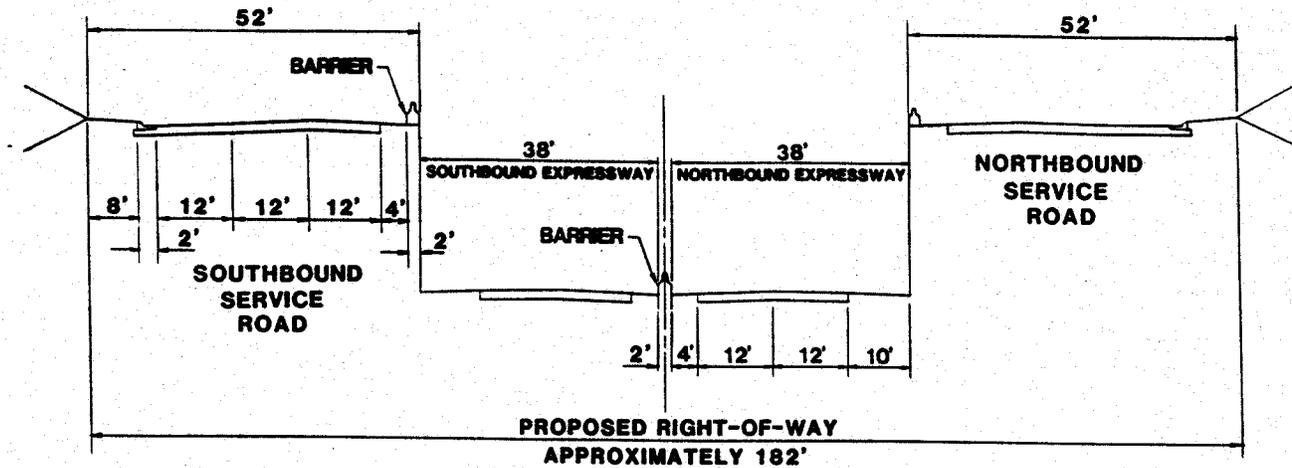


NEW LOCATION ROADWAY

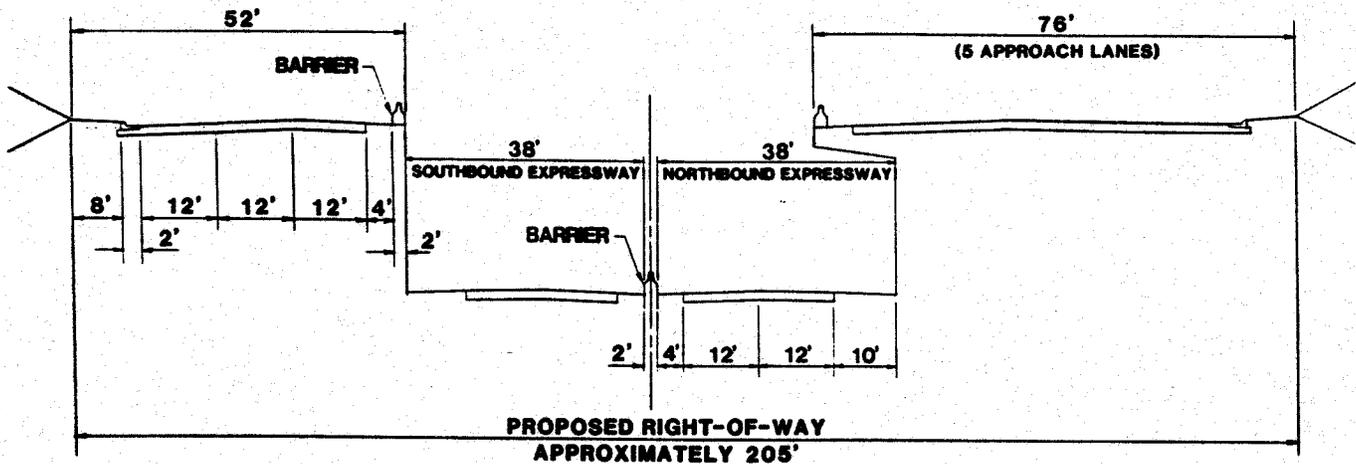
Alternatives 6,6B,7,7A,10,11, and 12

Typical Sections

ROUTE 29 Corridor Study



EXPRESSWAY

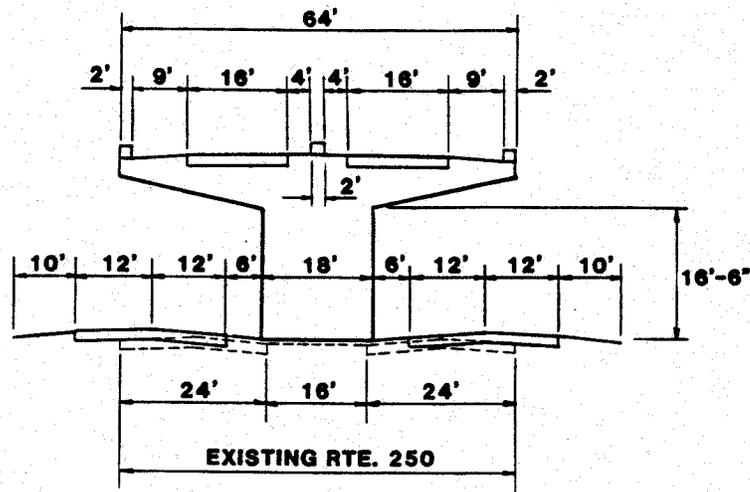


EXPRESSWAY INTERSECTION APPROACH

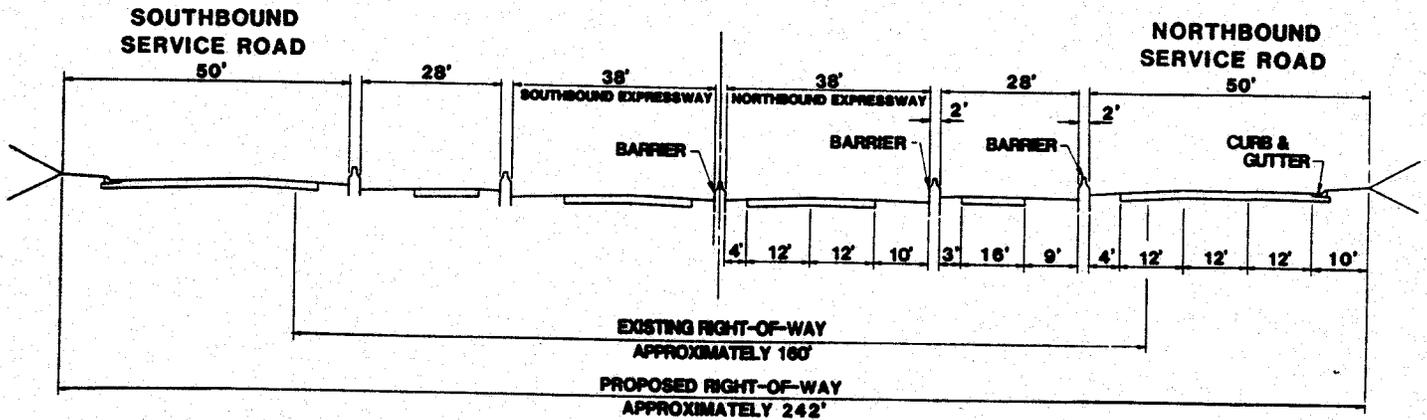
Note: Bus turnouts will be provided on Route 29 Service roads as appropriate.

Typical Sections

ROUTE 29 Corridor Study



EXPRESSWAY FLYOVER



EXPRESSWAY WITH SLIP RAMPS

Note: Bus turnouts will be provided on Route 29 Service roads as appropriate.

Typical Sections

c. Alternative 7

Alternative 7, 7.3 miles long, follows the general corridor planned for the Meadowcreek Parkway, a controlled access facility included in the regional transportation plan. It begins approximately 1,600 feet south of U.S. Route 250 Bypass, providing a new connection for McIntire Road, running east of the City-owned tennis courts and providing a relocated at-grade, signalized intersection with U.S. 250 Bypass. North of U.S. 250 Bypass, the alignment widens to meet the design criteria for new location facilities. It then runs just east of McIntire Park passing over Melbourne Road and heads generally northward. At the intersection of Rio Road (Route 631) a diamond interchange is planned just east of the Charlottesville Albemarle Vocational Technical Center. Less than half a mile north of this interchange the alignment follows the same path as Alternative 6 to Route 29.

It should be noted that this alternative is consistent with the Meadowcreek Parkway. The southern terminus is an at-grade intersection with Route 250 Bypass, similar to what has been planned for a Route 250 Bypass terminus of the Meadowcreek Parkway. However, Alternative 7 is proposed to have freeway design standards with an open cross section, wider than the typical section currently planned for the Meadowcreek Parkway. This alternative avoids encroachment onto McIntire Park, a Section 4(f) property.

d. Alternative 7A

Alternative 7A, 7.0 miles long, is identical to 7 except for the southern section. Instead of remaining to the east of McIntire Park, this alternative traverses McIntire Park and connects with U.S. 250 Bypass, just opposite McIntire Road.

e. Alternative 9

Alternative 9, the "Expressway Alternative", 3.3 miles long, follows the existing corridor of Route 29. It begins just south of the intersection of Route 29 and the Route 29/250 Bypass and continues north to the South Fork of the Rivanna River. The facility consists of two separate roadways. One is a 50 mph, four-lane, limited access freeway which runs in the middle of the facility and is generally depressed. The other roadway consists of a northbound and southbound service road, three lanes each, on each side of the freeway. Access to businesses on the west side of Route 29 is from the southbound service road, and to businesses on the east from the northbound service road. Intersections between the service roads and the cross streets occur at 10 major cross streets. The freeway facility in the center passes under these intersections. At the southern terminus, the freeway lanes become elevated on structures and turn off the Route 29 corridor to join the Route 29/250 Bypass corridor to the west. The freeway lanes come back to grade in the median of the Route 29/250 Bypass in the vicinity of the Barracks Road interchange.

f. Alternative 10

Alternative 10, 5.4 miles long, begins approximately 2,500 feet south of the existing Route 29/250 Bypass and Route 250 interchange. The Route 29/250 Bypass lanes are realigned easterly in order to construct an improved inner loop ramp at Route 250 and to provide connections from the new alignment to existing Route 29/250 Bypass. Traffic patterns at Route 250 Business are continued.

The alignment heads northerly, crossing over the entrance road to St. Annes-Belfield School, and then passes over Barracks Road while providing access with diamond ramps. The alignment proceeds easterly along the northern property line of Mary Greer Elementary School and passes under Lambs Road, Roslyn Ridge Road, and Route 743. An urban diamond interchange is provided at Route 743 due to the close proximity of the alignment to Hydraulic Road and to minimize right-of-way requirements on the Squirrel Ridge subdivision and the Church of Jesus Christ of Latter Day Saints.

The alignment heads easterly, crossing over the private drive beside the Centel Company facility and crossing under Woodburn Road. As the alignment continues easterly it crosses over the proposed extension of Berkmar Drive. The alignment ends between the Rio Hills Shopping Center and Kegler's Bowling Alley, with a three level interchange for connections to existing Route 29. This alternative avoids two historic properties under the purview of Section 4(f).

g. Alternative 11

Alternative 11, 9.4 miles long, is the same as Alternative 10 at its southern terminus. It heads north along an alignment similar to Alternative 10 to about one-half mile north of Barracks Road. From there it heads northwesterly crossing Ivy Creek east of Stillhouse Road, crosses under Ivy Farm Drive between Stillhouse Road and Wingfield Road, and crosses under Route 676 with diamond interchange ramps at Wyngate Road. It proceeds northerly over the South Fork Rivanna River Reservoir, goes between Naked Creek and the westerly property lines of Ardwood, Clover Hill, and Ridgefield, and then turns easterly, crossing under Miller Road (Route 743). Given existing terrain and the alignment profile, Alternative 11 will not interfere with the Charlottesville-Albemarle County Airport runway approach clearance restrictions. A partial cloverleaf interchange with Miller Road is provided. The alignment continues easterly, ending with a three-level directional interchange at Route 29 immediately south of Hollymead Memorial Gardens. This alternative involves use of lands from two properties determined by the Virginia Department of Historic Resources to be eligible for the National Register which constitute Section 4(f) involvements.

h. Alternative 12

Alternative 12, 12.9 miles long, is the same as Alternative 11 from its southern beginning to one-half mile north of Barracks Road. From there it heads westerly, paralleling the north side of Ivy Creek, and then turns northerly crossing under Route 658. The alignment continues northerly to the west of Jumping Branch, crosses under Route 676 between Clearview Meadows and Logan Village, providing a diamond interchange. It then continues northerly along the rear lot lines of Clearview Knolls. It crosses the South Fork Rivanna River Reservoir west of Panorama Farms Cemetery and proceeds northerly along Naked Creek, crossing over Route 743, where there is a proposed diamond interchange. It then continues northerly between Earlysville Heights and Charlottesville-Albemarle Airport west of the proposed new airport runway. It then heads easterly immediately south of Chris Green Lake Park, crossing under Routes 850 and 606, and ends at Route 29, about 1,300 feet south of North Fork Rivanna River, with a three-level interchange with existing Route 29. The transition into existing Route 29 extends to approximately 0.3 miles north of the North Fork Rivanna River. This alternative involves use of land from a property determined by the Virginia Department of Historic Resources to be eligible for the National Register which constitutes a Section 4(f) involvement.

3. Costs of Alternatives

Details of design features and criteria are presented in the Engineering Report and shown on 1" = 200' scale plan sheets. Vertical profiles for the mainline, ramps, and cross-streets have all been prepared to meet the appropriate standards.

Cost calculations have been compiled using VDOT unit costs and applying the features and quantities specific to each alternative. Construction, right-of-way, and utility adjustment costs are summarized in Table II-4.

F. OTHER ALTERNATIVES

Base Case With Grade-Separated Interchanges - The Base Case improvements to Route 29 are described in Section B of this chapter. These improvements, as originally presented at a location and design public hearing in October, 1986, included a grade-separated interchange at Rio Road. The interchange was deleted as a result of public concerns expressed at the hearing.

During the course of this study, officials of the City of Charlottesville, Albemarle County, the Metropolitan Planning Organization, and the Albemarle-Charlottesville-University of Virginia Joint Transportation Committee requested an evaluation of the traffic consequences of incorporating grade-separated interchanges with the Base Case. At the public hearing, many citizens also expressed desire to incorporate grade-separated interchanges in the Base

TABLE II-4
COST SUMMARY

<u>Alternative</u>	<u>Cost (\$1000)</u>			
	<u>Construction & Engineering</u>	<u>Right of Way</u>	<u>Utility</u>	<u>Total</u>
Base Case	\$ 17,584	\$ 8,487	\$ 343	\$ 26,414
6	103,287	10,078	927	114,292
6B	108,304	9,802	836	118,942
7	87,732	12,095	745	100,572
7A	89,395	8,102	567	98,064
9	133,859	23,618	3,684	161,161
10	77,523	44,466	1,317	123,306
11	98,338	16,890	1,359	116,587
12	180,315	16,064	2,228	198,607
Base Case w/Interchanges	32,304	14,441	2,829	49,574

Note: Costs of Candidate Build Alternatives do not include Base Case Improvements.

Case improvements. The Route 29 Base Case improvements could be expanded to include interchanges at the major intersections of Rio Road, Greenbrier Drive, and Hydraulic Road. The addition of interchanges would eliminate bottlenecks at these existing at-grade signalized intersections and could thereby help improve the overall capacity and level of service along Route 29 as discussed in Chapter IV. Evaluated in the DEIS only for traffic, this alternative has now been evaluated for other impacts which are addressed in this FEIS.

Meadowcreek Parkway - The Meadowcreek Parkway is a proposed new-location, controlled access, four-lane divided highway which is included in the CATS plan. This facility would have a design speed of 40 miles per hour, a right-of-way width of 120 feet, and curb and gutter on both sides. Previous studies include a Draft Environmental Impact Statement prepared in 1985 for the McIntire Road Extension, the segment of the Meadowcreek Parkway within the City of Charlottesville. A public hearing for the Extension was held in 1986. Concerns of the City for impacts to McIntire Park and for traffic impacts to downtown Charlottesville have kept the project in abeyance.

Alternatives 7 and 7A generally follow the proposed Meadowcreek Parkway conceptual alignment. The impacts of these two alternatives are presented in this document. Therefore, a separate evaluation of the Meadowcreek Parkway is not necessary.

Ivy Creek Parkway - The Ivy Creek Parkway is a concept proposed by the City, in the autumn of 1989, which closely follows combinations of several segments previously considered in the early stages of the Route 29 Corridor Study. Like the Meadowcreek Parkway, but located to the west of Route 29, the Ivy Creek Parkway would have a reduced design standard. This conceptual alignment was rejected in this study due to the fact that the connection at Route 29/250 Bypass near the North Campus of the University of Virginia cannot be provided due to the closeness of nearby interchanges and access ramps. The alignment is placed in a heavily populated area, integrates Hydraulic Road traffic with the new facility, and appears unable to adequately improve the levels of service on Route 29.

Combination of Alternatives - The Project Study Team received several requests to evaluate combinations of alternatives such as providing both an eastern bypass and a western bypass. Such combinations have been looked at but are not addressed explicitly in this document because the cumulative impacts and costs appear to be prohibitive. Those wishing to contemplate the costs and impacts of various combinations may do so by adding the numbers in the summary matrix in the Summary at the front of this document.

G. SELECTED ALTERNATIVE

On November 15, 1990, the Commonwealth Transportation Board selected an alternative consisting of a combination of improvements to be implemented over a number of years in three phases to serve both immediate and long-term transportation needs.

For long-range needs, Alternative 10, the near western bypass alternative, modified to eliminate the interchanges at Barracks Road and Miller Road, and refined to avoid the Ivy Creek Agricultural/Forestral District, will be constructed at the time that traffic conditions along Route 29 become unacceptable and economic conditions permit. Initially, corridor preservation efforts will be undertaken so that future development will not preclude implementation of this alternative. The interchanges of Alternative 10 with Barracks Road (Route 654) and Route 743 are not included in the selected alternative. They will only be added at the request of Albemarle County.

Medium-range needs will be addressed by implementation of grade-separated interchanges on existing U.S. Route 29 at Hydraulic Road, Greenbrier Drive, and Rio Road. Initially, right-of-way preservation for the interchanges will be undertaken to preclude further development in the areas necessary for construction of the interchanges.

For immediate needs, the base case improvements will be implemented, providing six lanes plus continuous right turn lanes.

The engineering, traffic, and environmental data developed for this study show that the selected alternative is best for the following reasons:

- o Table IV-2 in Chapter IV shows that Alternative 10 is projected to divert approximately 10,600 to 14,000 vehicles per day (16.4% to 26.9% of traffic) from existing U.S. 29. This is 40% to 169% more than the next closest alternative (Alternative 11 is projected to divert approximately 5,200 to 7,800 vehicles or 10% to 12.8%).
- o Table IV-3 in Chapter IV shows that Alternative 10 would provide levels of traffic service and operating speeds clearly superior to those provided by the Expressway Alternative (Alternative 9).
- o Of all the bypass alternatives, Alternative 10 would provide the shortest and most direct route for through traffic on Route 29.
- o Alternative 10 does not cross the South Fork Rivanna River Reservoir as do the other two western bypass alternatives. Watershed impacts can be minimized by use of design features.

- o Alternative 10 requires fewer acres of right-of-way, displaces fewer families than all but one of the other bypasses, affects fewer acres of prime farmland, has less wetland involvement, and crosses fewer streams than other bypass alternatives.
- o Alternative 10 has no Section 4(f) involvements.
- o Alternative 10 is closer to developed areas of Albemarle County near the City of Charlottesville and is therefore perceived by county residents as being less intrusive to the rural ambiance of outlying areas of the county.
- o Grade-separated interchanges at Hydraulic Road, Greenbrier Drive, and Rio Road, in conjunction with the already programmed Base Case improvements, will enhance the level of traffic service on Route 29.

This Final Environmental Impact Statement addresses the impacts of Alternative 10 and the other build alternatives. Additional material has been added to address in greater depth the impacts of the grade-separated interchanges at Hydraulic Road, Greenbrier Drive, and Rio Road. A review of the impacts of the Base Case improvements, which have previously been addressed in a separate Environmental Assessment and Finding of No Significant Impact, is also provided.

III. AFFECTED ENVIRONMENT

A. TRAFFIC

Origin-destination surveys that were conducted in the Charlottesville area in October 1987 served as a basis for determining both the volumes and the nature of existing traffic. Additional traffic counts and surveys were conducted in the spring of 1988. The results of these data collection activities along with demographic, socioeconomic, and housing characteristics were utilized in the calibration and application of the future year traffic forecasting models.

As illustrated in Table III-1, the results of the 1987 roadside origin-destination surveys show that on Route 29 at the North Fork of the Rivanna River, 19 percent of the total traffic is through traffic. At Hydraulic Road, the through traffic comprises only 10 percent of the total traffic passing that location.

Traffic counts that were previously available and those collected for this study were encoded into a network to allow evaluation and calibration of the travel model. The model was implemented using the MinUTP software package, which included trip generation, trip distribution, auto occupancy, and traffic assignment components. Thus, existing travel conditions were established to serve as a basis from which to forecast future traffic.

Existing average daily traffic volumes are shown in Figure III-1.

B. SOCIOECONOMIC CONDITIONS

This section presents population and employment data for the Charlottesville area. Existing and projected land use patterns are described. Residential communities and community facilities are identified.

1. Population Characteristics and Trends

The Charlottesville "Standard Metropolitan Statistical Area" (SMSA), as designated by the Census Bureau, includes Albemarle, Fluvanna, and Greene Counties, and the City of Charlottesville.

The City of Charlottesville and Albemarle County combined have about 100,000 residents. Most of the recent growth in the metropolitan area has taken place in Albemarle County. In 1970, the County's population was just under that of the City. By 1985, the County had one and one-half times as many residents as the City. The metropolitan statistical area population is projected to grow to about 166,000 in 2010, an increase of 46,000 over 1985.

TABLE III-1
VEHICLE TRIPS PER DAY 1987

	<u>Total Vehicles</u>	<u>Through Vehicles</u>	<u>Percent Through</u>
Route 29 at North Fork Rivanna			
Autos	23,638	4,143	18%
Trucks	<u>2,338</u>	<u>792</u>	<u>34%</u>
Total	25,976	4,935	19%
Route 29 at Hydraulic Road			
Autos	46,117	4,143	9%
Trucks	<u>3,525</u>	<u>792</u>	<u>22%</u>
Total	49,642	4,935	10%

The City is projected to have about 45,000 people in 2010, and the County about 94,000. Data developed for the traffic forecasting element of this study show that the greatest growth will occur along Route 29 North. Figure III-2 shows population growth for the various traffic districts included in the traffic study.

In part because of the presence of the University of Virginia, the median age of the Charlottesville and Albemarle County population is about three years below that of the rest of the state. The Charlottesville area has fewer racial minorities than the state as a whole. According to the 1980 census, about five out of six persons are white. Blacks constitute 15 percent of the metropolitan population, compared to about 19 percent statewide. Other races account for only about one percent in the Charlottesville area, and about two percent statewide. Persons of Spanish origin, which can include any race, make up less than one percent of Charlottesville's population. No unique minority or ethnic neighborhoods have been identified in the study area.

2. Economy and Employment

The economy of the Charlottesville area is characterized by stability and a low rate of unemployment. Median household income for 1979, as reported on the 1980 census, was lower in the City and the metropolitan area than for the state as a whole, in part due to the large numbers of college students included in the census counts. Median family income for the City and County, as well as the entire metropolitan area, was close to the overall state median.

Between 1980 and 1986, the civilian work force for the metropolitan area grew about 20 percent, almost exactly the same as the statewide increase in that period. Unemployment in the area reported for April 1989 was 2.3 percent. This was below the statewide rate of 3.3 percent and represented virtual full employment.

The University of Virginia is a major component of the Charlottesville area's economic base, with 17,000 students and more than 10,000 employees. Tuition payments from students, most of them from out of the area, and state funding pay the salaries of the University's faculty and staff. Additional spending by students for room, board, and goods and services contributes to the local economy. Research institutions associated with the University also contribute. The University Medical Center employs many professionals and attracts patients from a broad region. One important aspect of the University is the stability it contributes to the local economy, for the number of students is limited and varies little from year to year.

Other major employers in the area include State Farm Insurance, whose Eastern Regional office in the Pantops area employs about 600. Comdial, with about 1,300 employees, and Sperry Marine, with about 1,000 employees, have plants located along Route 29 just north of Hydraulic Road. A GE Fanuc facility along Route 29 north of the North Fork Rivanna

River employs about 900. The greatest employment growth is expected along Route 29 North, near the University of Virginia, on the south side of the city, and in the Pantops area. Figure III-3 shows employment growth by traffic district. The employment growth projected along Route 29 North of the South Fork Rivanna River is especially dramatic.

3. Land Use

a. Existing Land Use

Figure III-4 is a map showing generalized existing land use patterns in the study area. Commercial and industrial uses are concentrated in central Charlottesville, near the rail corridors, and along Route 29 North. Another focus of commercial uses is in the Pantops area, and of industrial uses, the Interstate 64 Corridor.

The area along Route 29 on the north side of Charlottesville between Route 250 Bypass and the South Fork of the Rivanna has a major concentration of the region's retail businesses. Fashion Square just south of Hydraulic Road is a modern enclosed shopping mall. Other shopping centers along this section of Route 29 include Albemarle Square Shopping Center, Charlottesville Shoppers World, and the new Rio Hills Center across from Woodbrook.

A number of smaller strip centers and free standing stores and restaurants are located along this section of Route 29. It also has the greatest concentration of motels in the Charlottesville area and is the location of two of the area's largest manufacturing plants, Comdial and Sperry Marine.

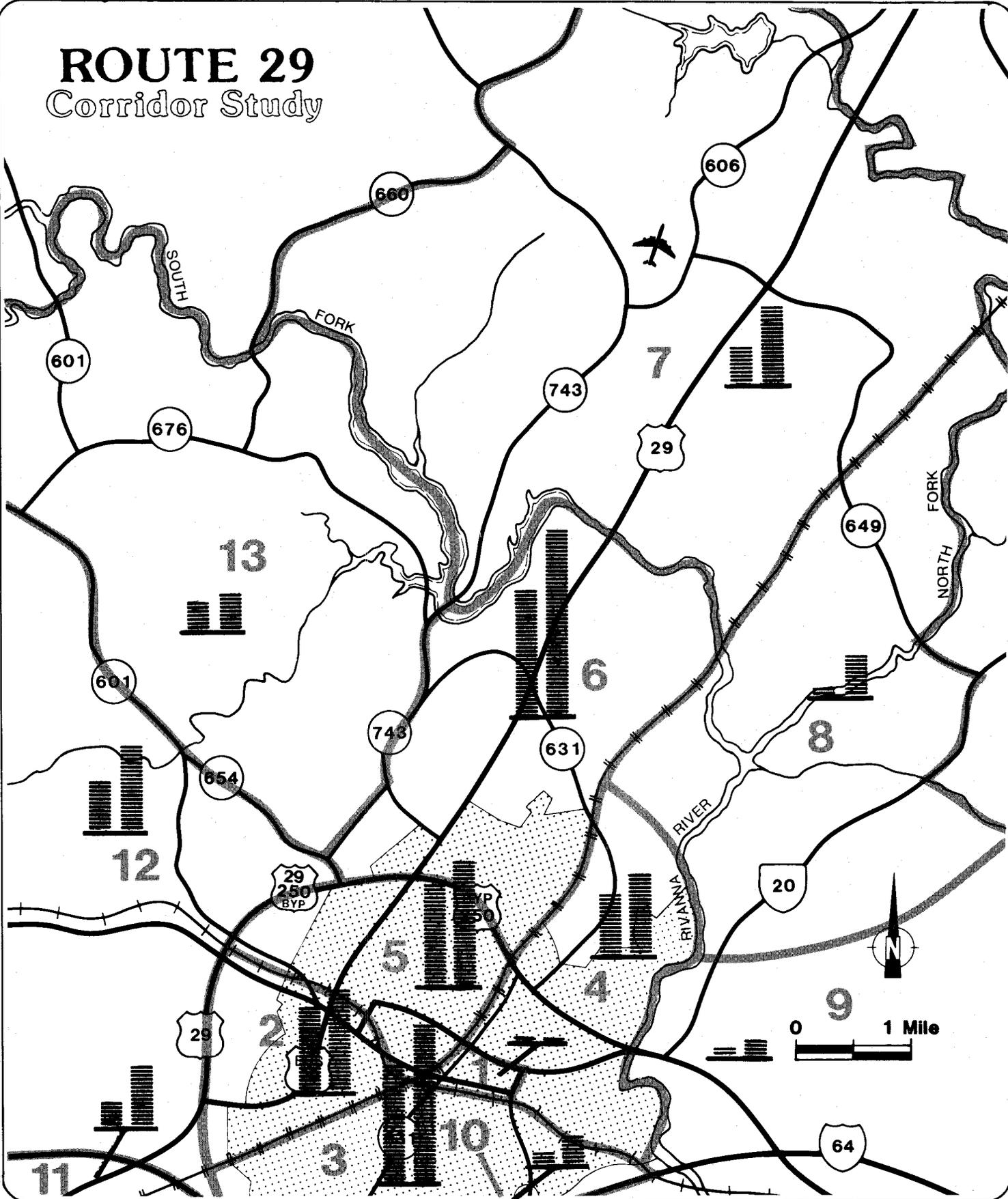
The Charlottesville-Albemarle Airport is located approximately 5.5 miles north of the City and about a mile west of Route 29.

The University of Virginia occupies a large area of western Charlottesville and adjacent Albemarle County. Schools and other public uses are distributed throughout the study area. Large recreation areas include McIntire Park, Rivanna Park, Pen Park, the Ivy Creek Natural Area, and Chris Greene Lake Park.

Residential uses fill in most of Charlottesville and several adjacent areas of surrounding Albemarle County. Along Route 29 North, beyond the commercial and industrial strip, is a wide band of residential communities. Scattered throughout the rest of the study area are residential areas and subdivisions of varying size. The greater density residential areas are concentrated in central Charlottesville, near the University, and in Albemarle County south of the Reservoir and west of Route 29 North.

Figure III-5 shows locations of residential communities which are listed in Table III-2. These include Charlottesville neighborhoods identified in the City's Comprehensive Plan, and subdivisions with approximately 25 homes or more in Albemarle County. In the newer

ROUTE 29 Corridor Study

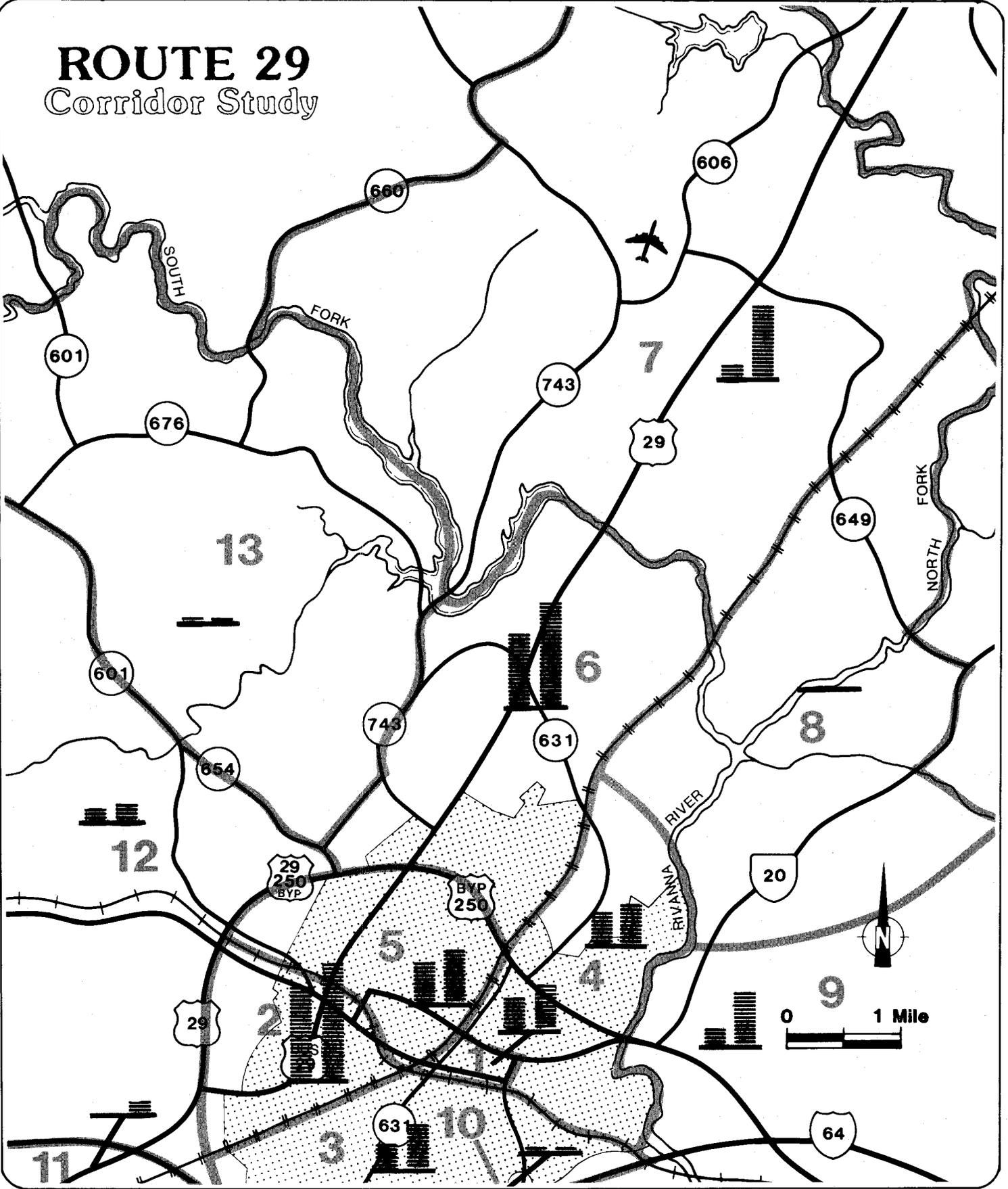


 EACH BAR LINE REPRESENTS 500 RESIDENTS
1987 2010

 13
TRAFFIC DISTRICTS

Population Growth

ROUTE 29 Corridor Study



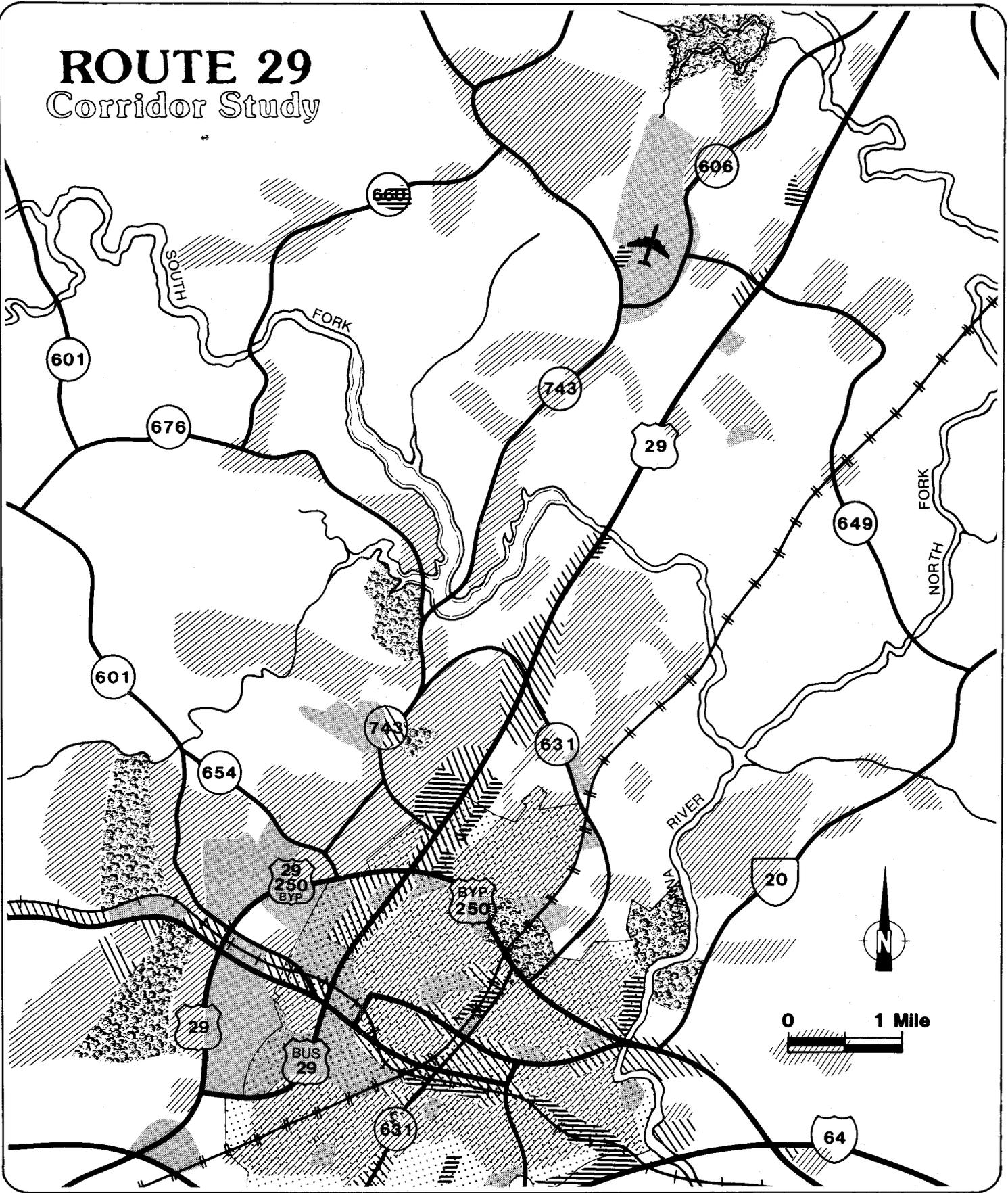
 EACH BAR LINE REPRESENTS 500 EMPLOYEES
1987 2010

 TRAFFIC DISTRICTS

Employment Growth

Figure No. III-3

ROUTE 29 Corridor Study

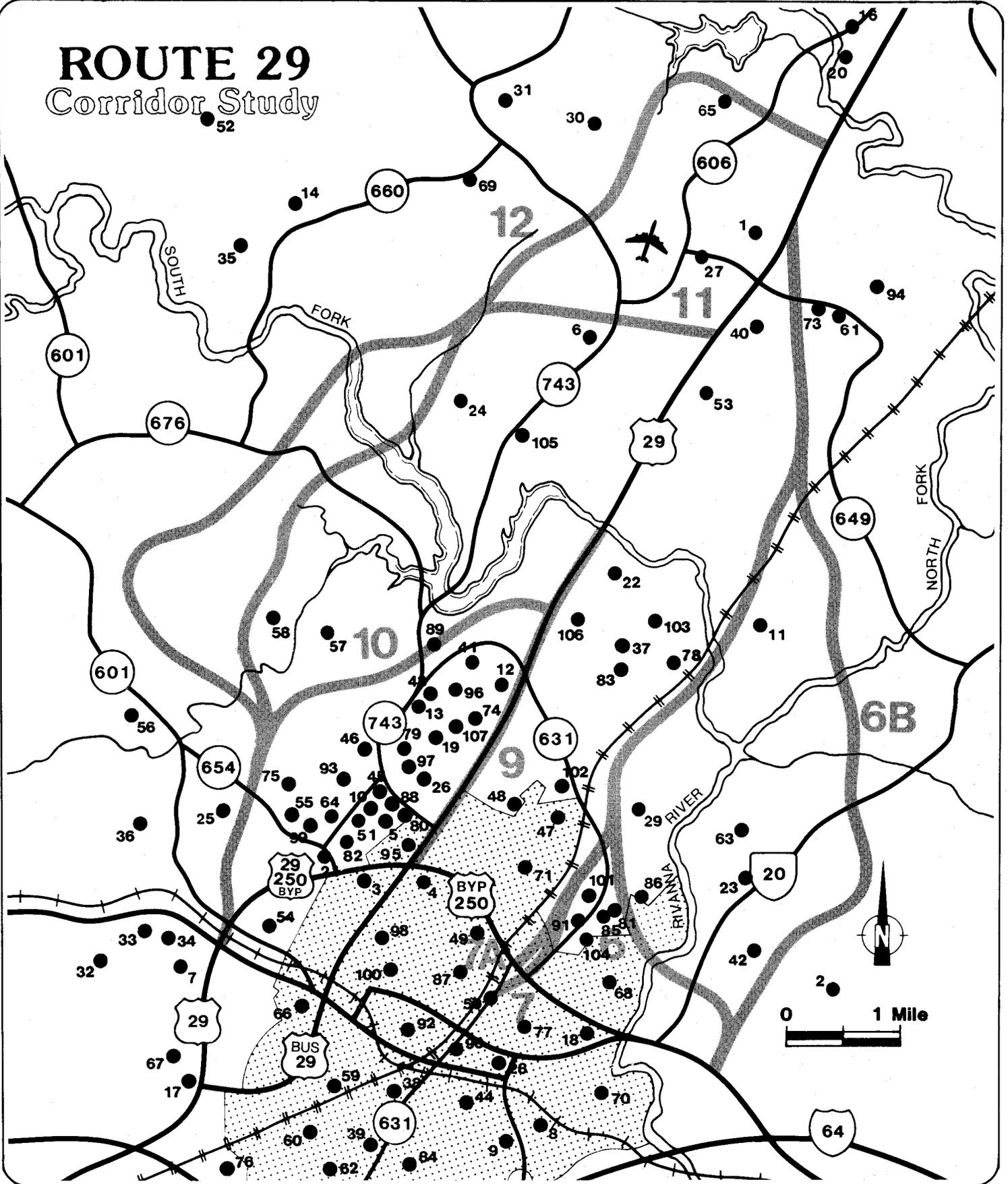


-  AGRICULTURAL AND OPEN
-  RESIDENTIAL
-  COMMERCIAL
-  INDUSTRIAL
-  PUBLIC AND SEMI-PUBLIC
-  PARKS AND RECREATION

**Generalized Existing
Land Use**

Figure No. III-4

ROUTE 29 Corridor Study



● CITY OF CHARLOTTESVILLE NEIGHBORHOODS
AND ALBEMARLE COUNTY SUBDIVISIONS
WITH 24 OR MORE HOUSES OR LOTS

Residential Communities

Figure No. III-5

TABLE III-2

RESIDENTIAL COMMUNITIES* IN STUDY AREA

Neighborhood or Subdivision	Reference on Map
Airport Acres	1
Ashcroft	2
Barracks Road	3
Barracks - Rugby	4
Barterbrook	5
Bedford Hills	6
Bellair	7
Belmont Northeast	8
Belmont South	9
Bennington Woods	10
Bentivar	11
Berkeley	12
Birnam Wood	13
Blue Ridge Forest	14
Branchlands	15
Briarwood	16
Buckingham	17
Burnley-Moram	18
Camellia Garden	19
Camelot	20
Canterbury Hills	21
Carrsbrook	22
Cedar Hills	23
Clover Hill	24
Colthurst Farm	25
Commonwealth Drive	26
Deerwood	27
Downtown	28
Dunlora	29
Earlysville Forest	30
Earlysville Heights	31
Ednam Forest	32
Ednam	33
Ednam Village	34
Fairgrove	35
Farmington	36
Fieldbrook	37
Fifeville	38
Forest Hills - Prospect	39
Forest Lakes	40
Four Seasons	41
Franklin	42
Garden Court	43

TABLE III-2 (cont.)

Neighborhood or Subdivision	Reference on Map
Garrett - Sixth Streets	44
Georgetown Court	45
Georgetown Green	46
Greenbrier	47
Greenbrier Heights	48
Greenleaf Terrace	49
Harris Street	50
Hessian Hills	51
Hickory Ridge	52
Hollymead	53
Huntington Village	54
Huntwood	55
Inglecress	56
Ivy Farm (east of Ivy Cr.)	57
Ivy Farm (west of Ivy Cr.)	58
Jefferson Park Avenue	59
Jefferson Park Avenue South	60
Jefferson Village	61
Johnson's Village	62
Key West	63
Knollwood	64
Lake Acres	65
Lewis Mountain-Alderman Rds	66
Liberty Hill	67
Locust Grove	68
Loftland Wood	69
Meade Avenue	70
Meadowbrook Heights	71
Meadow Creek	72
Meadowfield	73
Minor Townhouses	74
Montvue	75
Nob Hill	76
North Downtown	77
Northfields	78
Oak Forest	79
Oak Terrace	80
Pen Park	81
Queen Charlotte	82
Raintree	83
Ridge Street	84
Rio Heights	85
Riverrun	86
Rose Hill	87
Solomon Court	88
Squirrel Ridge	89

TABLE III-2 (cont.)

Neighborhood or Subdivision	Reference on Map
Star Hill	90
Stonehenge	91
Tenth and Page	92
Terrell	93
Terrybrook	94
The Meadows	95
Townwood	96
Turtle Creek	97
University Circle	98
University Commons	99
Venable	100
Village Square	101
Wakefield	102
Westmoreland	103
Wildwood	104
Windsor Estates	105
Woodbrook	106
Wynridge	107

* Charlottesville neighborhoods and Albemarle County subdivisions with 24 or more lots or housing units.

Sources: Charlottesville Department of Community Development;
Albemarle County Department of Planning and Community
Development

suburban areas, subdivisions generally function as neighborhoods because of the restricted access and the common facilities often provided by the developer for the homeowners.

b. Future Land Use

An update of Albemarle County's 1982 Comprehensive Plan was the subject of public hearings and debate during 1988 and 1989. It was adopted in July 1989. The plan revisions expand the designated growth areas somewhat and also revise the land use regulations in an attempt to restrict the development in the rural areas of the County.

The previous plan for the City of Charlottesville was adopted in 1984. A revision of the City's plan has also been prepared and was adopted in January 1990.

Figure III-6 presents a map of generalized land use patterns in the study area for the year 2010. This map is based upon the land use plan of the 1988-2008 Albemarle County Comprehensive Plan and the City of Charlottesville's comprehensive plan. Along Route 29 North, the existing pattern of commercial and industrial development is expected to continue and intensify. Away from Route 29, except where noted as growth areas, most of the land is projected to remain rural or open space.

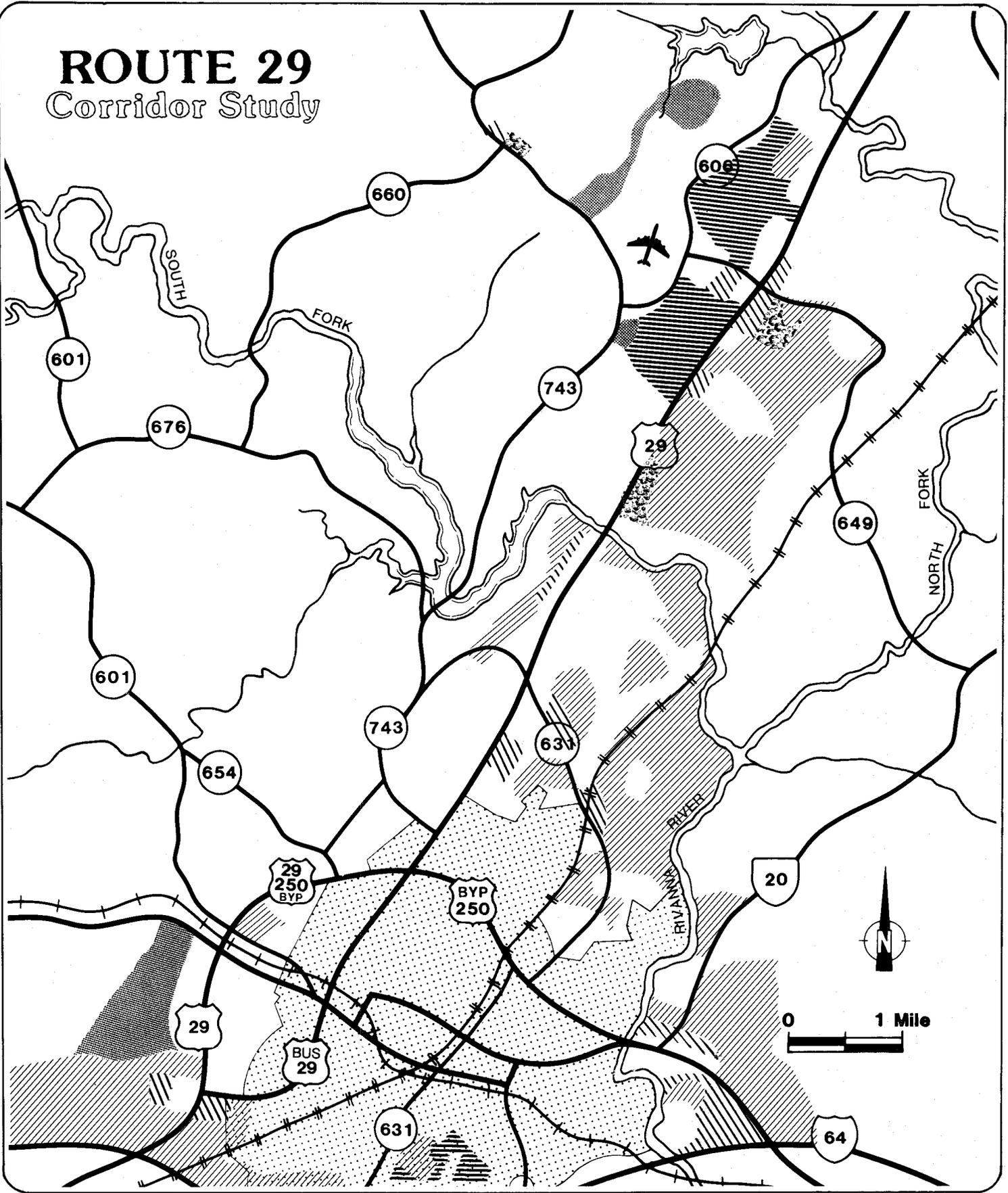
Because most of the land in the City is already developed, Charlottesville's land use plan does not anticipate land use patterns substantially different from those now existing. In the County, the major areas of expected development shown on this map include both commercial and residential uses in the Pantops area, low-density residential west of the Southern Railroad tracks and south of the Rivanna River South Fork, low and medium density residential north of the South Fork and east of Route 29 north, and a large industrial area between the Charlottesville-Albemarle Airport and Route 29. Much of this latter area is being planned for development by the University Real Estate Foundation, as a University-affiliated research park.

The Charlottesville-Albemarle Airport's master plan does not currently show any additional land acquisition. However, this plan is being updated and airport planners are considering expanding the Airport's boundaries to both the north and the west. Additional land on the north would permit the lengthening of the existing runway and on the west would provide for a possible parallel runway for general aviation and development of additional aviation and airport-related facilities.

4. Community Facilities and Services

The location of community facilities in the study area is shown in Figure III-7.

ROUTE 29 Corridor Study

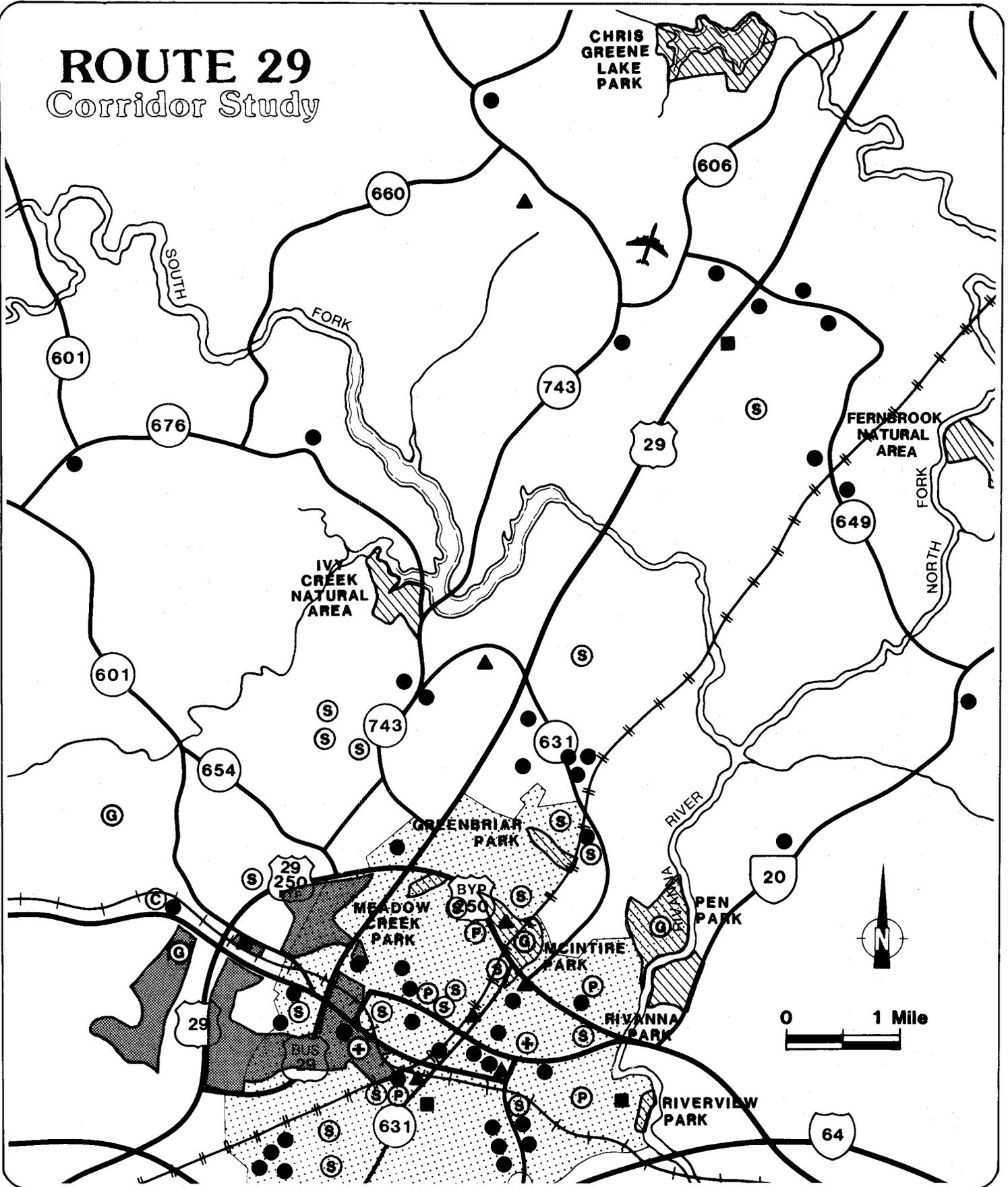


-  AGRICULTURAL AND OPEN
-  RESIDENTIAL
-  COMMERCIAL
-  INDUSTRIAL
-  PUBLIC AND SEMI-PUBLIC
-  PARKS AND RECREATION

**Generalized Future
Land Use**
(Where Different From Existing)

Figure No. III-6

ROUTE 29 Corridor Study



- | | | | |
|---|------------------------|---|----------------------------------|
|  | MAJOR PARKS |  | CHURCHES AND SYNAGOGUES |
|  | NEIGHBORHOOD PARKS |  | SCHOOLS |
|  | GOLF COURSES |  | HOSPITALS |
|  | COLLEGES, UNIVERSITIES |  | CEMETERIES |
|  | UNIVERSITY OF VIRGINIA |  | POLICE, FIRE AND RESCUE STATIONS |

Community Facilities

Figure No. III-7

a. Public Safety

The City of Charlottesville has two fire stations. One is on Ridge Street near downtown. The other is on Route 250 Bypass adjacent to McIntire Park. Albemarle County has seven volunteer fire departments which receive funding support from the County. One of these stations is in the study area--the Seminole Trail Volunteer Fire Department, west of Route 29 near Rio Road. The County also has a cooperative agreement with the City for fire protection in the urban ring around the City.

There are three rescue squads that provide rescue and emergency medical service in the City and County. The entire study area is served by the Charlottesville-Albemarle Rescue Squad, located at Route 250 Bypass and McIntire Road.

The City and County each have their own police department. The Charlottesville Police Department headquarters is at City Hall on Market Street downtown. The County Police Department operates out of the County Administration Building at McIntire Road and Preston Avenue. The University of Virginia also operates its own police department. All three police departments share a joint dispatch center at Charlottesville City Hall.

b. Schools

The City of Charlottesville and Albemarle County each operate a public school system, with elementary schools, middle schools, and high schools. The two systems also operate a combined vocational-technical school. Within the study area are all or parts of the districts of eight County elementary schools, four middle schools, and both County high schools.

The main campus of the University of Virginia, a public state university, is located on the west side of the City of Charlottesville and adjacent parts of Albemarle County. The University currently has about 17,000 undergraduate and graduate students. The University is planning to increase the number of students by about 12 percent between now and 2004.

c. Parks and Recreation

Major parks and recreation facilities on the east side of Route 29 include McIntire Municipal Park and Golf Club, a City park; Pen Park and Golf Club, another City park; and Rivanna Park, a new park currently being constructed jointly by the City and County. West of Route 29 is the Ivy Creek Natural Area, owned by both the City and County, and Chris Greene Lake Park, a County park. Parks impacted by project alternatives are discussed at length in the Section 4(f) Evaluation in Chapter VIII of this document.

Private golf courses, major stadiums and other facilities are also shown on Figure III-7.

d. Hospitals, Churches, Cemeteries

Figure III-7 shows the location of churches, hospitals and large cemeteries. The two major hospitals in Charlottesville are the University of Virginia Medical Center and Martha Jefferson Hospital.

e. Utilities

Utility services in the study area are supplied by a variety of private companies and public agencies. Telephone service is provided by Central Telephone Company of Virginia and electricity by Virginia Power. The City's Gas Division provides natural gas service to the City and surrounding areas of Albemarle County. Sewage treatment and water supply is the responsibility of the Rivanna Water and Sewer Authority. Distribution and service of water and sewer is provided by the City for Charlottesville and immediately adjacent locations in the County. In the rest of Albemarle County, the Albemarle County Service Authority provides water and sewer service.

The water supplied in the study area is obtained from the South Fork Rivanna River Reservoir and the Ragged Mountain reservoir. The reservoir and watersheds are discussed in more detail in Section III-F.

C. CULTURAL RESOURCES

1. History of the Area

The prehistoric background is similar to that for other areas of Virginia and the middle Atlantic region. The prehistoric sequence is divided into seven periods: Paleo-Indian (11,000 to 8000 B.C.), Early Archaic (8000 to 6500 B.C.), Middle Archaic (6500 to 3000 B.C.), Late Archaic (3000 to 1000 B.C.), Early Woodland (1000 to 500 B.C.), Middle Woodland (500 B.C. to A.D. 900), and Late Woodland (A.D. 900 to 1600).

The first contact between the local Indians and the Europeans took place in the early 1600s. In the 1720s and 1730s, the first European settlers moved into the area - tobacco planters from the Tidewater area of Virginia.

In 1744 Albemarle County was established. The site of the county courthouse, Charlottesville, was selected in 1787. In 1819 the University of Virginia was started in Charlottesville. The coming of the railroad around 1850 paved the way for new growth, much of which took place during the 1880s.

2. Historic Sites

In cooperation with the Virginia Department of Historic Resources, Phase I historical, architectural, and archaeological surveys were performed. A literature search was done to research past historic studies and to locate known historic sites and landmarks. Sites were identified throughout the broad initial project study area, i.e. from Keswick to Crozet and Greene County Line to Red Hill. Subsequent field surveys were performed by qualified architectural historians and archaeologists in the vicinity of the project alternatives, as described in Chapter IV.

The best known historic buildings are Monticello, the home of Thomas Jefferson, located southeast of Charlottesville, and the University of Virginia buildings which were designed by Mr. Jefferson.

D. SCENIC RESOURCES AND AESTHETICS

The study area is located in Virginia's Piedmont Plateau in the foothills of the Blue Ridge Mountains. The topography is rolling to hilly with elevations from 350 feet to about 800 feet above sea level. Higher mountains are nearby and the Blue Ridge Mountains lie about 10 miles to the west.

The development along Route 29 north is indistinguishable from the highway commercial strips along the approaches to almost any city in the United States, and much of the nearby residential area comprises typical suburban housing. Away from the developed areas, large estates and farms with rolling green fields and pastures are interspersed with forested tracts.

The hilly terrain, the nearby mountains and the combination of open and wooded areas afford many scenic vistas. A number of attractive residential developments have been located to capitalize on these views. The Rivanna River, the South Fork Rivanna Reservoir and several creeks provide another dimension of scenic beauty to the area.

The Commonwealth of Virginia recognizes scenic resources such as roads and streams. Figure III-8 identifies the several scenic resources noted in the study area. A designated Virginia Byway is defined as a road with noteworthy aesthetic and cultural values. It travels to or through an area of historic, recreational or natural importance. The designation does not place any restrictions on the road or its right of way. On the west side of the study area, Route 601, Old Garth Road, is a Virginia Byway. On the east side, Route 20 from U.S. 250 north to Orange County is a Virginia Byway.

Route 250 west of Charlottesville is designated a County Scenic Highway and has been placed under the scenic overlay district in the Albemarle County zoning ordinance. This designation provides for protection of vistas through increased setback requirements and additional sign regulations.

There are no designated wild and scenic rivers in the study area. Portions of two rivers have been designated state scenic rivers: the Rivanna River from the Woolen Mills Dam (near I-64) to the Fluvanna County line, and the Moormans River, from the South Fork Rivanna River Reservoir to its junction with the Mechum's River west of the study area. Neither of these is affected by any of the project alternatives.

Open space easements, also called conservation or scenic easements, were authorized by the Virginia General Assembly in 1966. These easements are given by landowners to the Virginia Outdoors Foundation to preserve part or all of a property as open space. None of the alternatives affect any properties under the open space easement program.

E. AIR, NOISE AND ENERGY

1. Air Quality

In accordance with the Clean Air Act of 1970 and its 1977 amendments, the U.S. Environmental Protection Agency (EPA) established National Ambient Air Quality Standards (NAAQS) for six atmospheric pollutants: particulate, carbon monoxide, sulfur dioxide, nitrogen dioxide, ozone, and lead. The NAAQS were designed to protect public health and welfare.

States were required to develop State Implementation Plans to comply with the NAAQS. The plans were to designate regions in compliance with the NAAQS as "attainment" and regions not complying as "nonattainment".

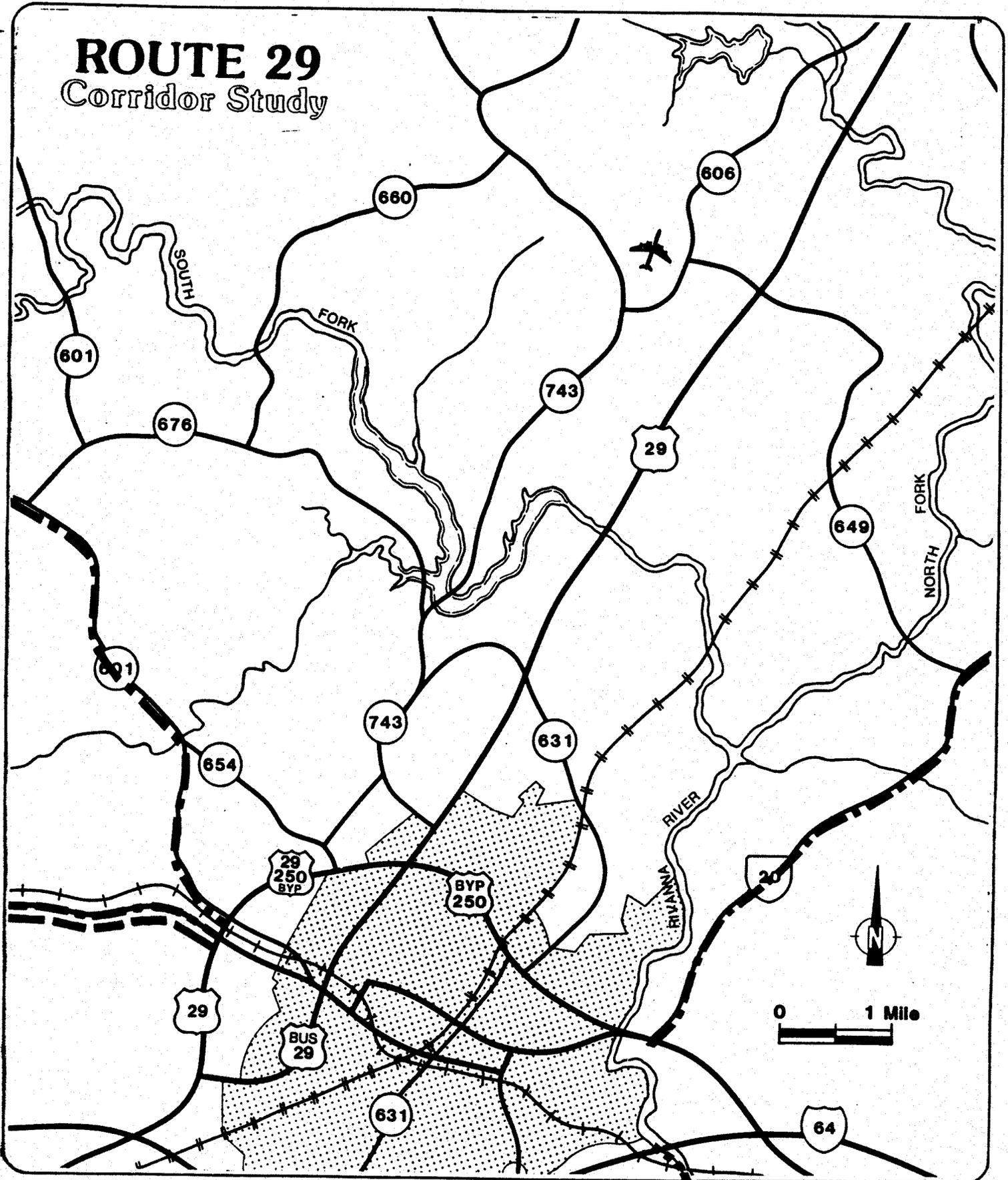
Virginia's State Implementation Plan, developed by the Virginia Department of Air Pollution Control and approved by EPA, addressed air quality in seven regions. Charlottesville and Albemarle County are located in Region IV, Northeastern Virginia. The entire region has been given a status of "attainment" for all six pollutants.

The Virginia Department of Air Pollution Control monitors only particulate in the Charlottesville area. Measured particulate concentrations are well within the standards. Although monitoring data for other pollutants are not available, overall air quality in the area is considered good due to the rural character of the surrounding area and the lack of heavy industry.

2. Noise

In accordance with the Federal-Aid Highway Act of 1970, the Federal Highway Administration has established noise standards to protect public health and welfare. These standards include noise abatement criteria, which are noise levels that represent a balancing

ROUTE 29 Corridor Study



- VIRGINIA BYWAY
- COUNTY SCENIC HIGHWAY
- STATE SCENIC RIVER

Scenic Resources

of desirable noise levels with achievable noise levels. The criteria apply only to areas having regular human use and where lowered noise levels are desirable. They do not apply to the entire tract of land on which an activity is based, but only to that portion where the activity occurs.

Table III-3 shows the noise abatement criteria for various land uses. Federal Highway Administration regulations require that noise abatement measures be considered if a proposed project causes traffic noise levels to approach or exceed the noise abatement criteria or to exceed substantially (by 10 decibels or more) existing noise levels.

Noise abatement criteria are given as equivalent noise levels measured in units of decibels. The equivalent noise level (L_{eq}) is defined as a constant level of sound which would generate the same amount of energy as the varying levels recorded over a specified period of time. The decibel measure is a logarithmic scale for measuring sound pressure levels. One decibel represents roughly the smallest change in loudness that can be perceived by the human ear. An increase of ten decibels corresponds to a doubling of perceived loudness. Because the human ear is most sensitive to frequencies in the middle and upper audible range, these frequencies must be given greater weight than others in averaging sound contributions from all audible frequency bands to arrive at a total noise level value. Sound level values adjusted in this manner are designated "A-weighted." Sound levels measured in decibels and A-weighted are denoted dB(A).

Existing noise levels ranging from 45 to 74 decibels were determined for 35 representative sites. Each site represents an area or number of receptors estimated to experience similar noise conditions. Noise levels at most sites are currently below the FHWA noise abatement criteria. As expected, the lowest noise levels occur in rural areas while the highest occur near major highways. Sites near the airport receive substantial noise contributions from aircraft. Sites near railroads receive periodic noise contributions from passing trains. The noise section in Chapter IV gives the site locations, existing noise levels, and projected future noise levels. The Noise Analysis Technical Memorandum provides details on how noise levels were determined.

3. Energy

Transportation accounts for a major portion of both direct and indirect energy consumption in America. Direct consumption entails the energy consumed by vehicles operating on roadways. Indirect consumption refers to energy consumed in building and maintaining roads. Energy consumption is measured in British Thermal Units (BTU's). One BTU is the energy required to raise the temperature of one pound of water one degree Fahrenheit at 39.2 degrees F. Other measures of energy consumption used in transportation studies are gallons of fuel or barrels of oil consumed. One gallon of fuel is equivalent to approximately 125,000 BTU's and a barrel of oil is equivalent to approximately 5.8 million BTU's.

TABLE III-3

FHWA NOISE ABATEMENT CRITERIA

<u>Category</u>	<u>Noise Level</u> <u>L_{eq}(hourly)</u>	<u>Description of Land Use Category</u>
A	57 dB(A) (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need, and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose. Such areas could include amphitheatres, parks, or open spaces which are dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet.
B	67 dB(A) (Exterior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, picnic areas, recreation areas, playgrounds, active sport areas, and parks.
C	72 dB(A) (Exterior)	Developed lands, properties, or activities not included in categories A and B above.
D	--	Undeveloped lands
E	52 dB(A) (Interior)	Residences, motels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Source: FHPM 7-7-3

Existing energy consumption was calculated for maintenance of existing roads and for vehicles operating on those roads. A consumption factor of 1.2×10^8 BTU's per lane mile per year was used to estimate annual energy consumption for maintenance of existing roads. Consumption for vehicle operations was calculated based on vehicle miles traveled, operating speeds, and fuel consumption rates.

According to the Virginia Statistical Abstract, there are approximately 1061 miles of highways in Albemarle County and the City of Charlottesville combined. Applying the consumption factor, approximately 255×10^9 BTU's of energy are required each year to maintain existing roads.

In 1987, there were approximately 384,710 miles traveled per day in Albemarle County. The average fuel consumption rate based on all vehicle types and speeds is estimated to be approximately 26.9 miles per gallon. This results in daily fuel consumption of approximately 14,311 gallons with a BTU equivalent of approximately 1.79×10^9 . On an annual basis, this amounts to approximately 653×10^9 BTU's.

Adding the maintenance and operational energies results in total base year energy consumption of 908×10^9 BTU's. Expressed in terms more easily understood, this figure is equivalent to approximately 157,000 barrels of crude oil per year.

F. NATURAL ENVIRONMENT

1. Physiographic Features

Albemarle County lies in two physiographic provinces: the Blue Ridge physiographic province and the Piedmont physiographic province. The Piedmont province covers about 82 percent of the land area of the county and includes the Route 29 study area. This province is characterized by gently sloping to moderately steep landscape. It is well dissected by many small streams and rivers that flow in narrow, meandering valleys. Soils are a variety of moderately deep to deep, well drained to excessively drained, loams with red clay subsoil. Details of the area's geology, topography, and soils are presented in the Terrestrial Ecology Technical Memorandum, which is available for review.

2. Wildlife and Habitat

The forests and farmlands of the county contain a typical complement of game and non-game summer, winter, migratory, and permanent resident fauna. Deer, bear, turkey, squirrel, rabbits, quail, grouse, and dove are commonly hunted species. Wood ducks, mallards, and Canada geese are found along the major streams and on the South Fork Rivanna River Reservoir.

Other species that are known to inhabit the county include: beaver, bobcat, mink, Virginia opossum, muskrat, raccoon, river otter, striped skunk, woodchuck, various species of voles and mice, numerous species of snakes and amphibians, and over 175 species of birds.

Habitat includes factors such as food, cover, water, and the space required for an animal to survive and reproduce. There are several general categories of habitat in the study area, each of which has a relative value. Areas that are primarily urban/suburban in character (including roadways), or composed of barren land and/or open water are generally poor wildlife habitat. Agricultural lands generally have a moderate habitat value. In some cases, small patches of agricultural land interspersed with escape and shelter habitats can be of exceptional value to wildlife. The highest quality wildlife habitats in the study area include forested areas, old fields, and the few existing wetlands.

There are no officially designated wildlife management areas in Albemarle County. However, there are two Natural Areas: the Ivy Creek Natural Area by the South Fork Rivanna River Reservoir and the Fernbrook Preserve along the North Fork Rivanna River near Proffit. These are County-owned lands which are preserved in a natural state with limited visitor amenities. Neither of these areas is affected by any of the alternatives.

3. Threatened and Endangered Species

The federal list of endangered and threatened species indicates that four threatened or endangered animal species could potentially occur in Albemarle County: Indiana bat, eastern wood rat, eastern cougar, and the James River spiny mussel. Only one, the James River spiny mussel, is known to occur in the County.

There are no habitats within the study area considered critical to threatened or endangered species of wildlife within Albemarle County. The Virginia Natural Heritage Program reviewed its files for any rare, threatened, or endangered species within the proposed alternates. This database revealed no populations of rare, threatened, or endangered plants, animals, or natural communities in the project area.

The only known Indiana bat cave hibernacula are in the Southwest corner of the State. The eastern wood rat is likely to occur in areas of rocky terrain within forested areas in the Blue Ridge province, although no specific locational data exists at the present time. Locational information for the eastern cougar lists two unverified sightings of the animal in Albemarle County since 1970. Populations of the James River spiny mussel have been located in the Mechum's River and Rocky Run in Albemarle County, upstream of the study area.

4. Surface Water

Many small streams drain the study area into three main river basins of the middle James River: the South Fork Rivanna River, North Fork Rivanna River, and the Rivanna River. A large portion of the study area drains into the South Fork Rivanna River Reservoir.

Surface waters in Albemarle County serve many purposes: drinking water supplies; recreation (swimming, fishing, boating); agriculture (irrigation, livestock); industrial and commercial uses; scenic beauty and open space; aquatic and shoreline habitat; and drainage. Fishing and boating are permitted in all county reservoirs. All the major lakes have self-sustaining fish populations. In the project area, the South Fork Rivanna River and the Rivanna River are designated by the state as natural trout waters.

Monthly water quality sampling in 20 streams from January 1988 to January 1989 showed that surface water quality in Albemarle County is quite good. Only a few streams flowing through large agricultural areas showed elevated nutrient levels. For the compounds tested, concentrations were below those considered harmful to aquatic life. Detailed water quality data can be found in the Aquatic Resources and Water Quality Technical Memorandum.

5. Groundwater Resources

Groundwater resources within Albemarle County are generally good. Availability and quality are relatively consistent throughout the county. Water bearing zones are generally encountered within 200 feet of the land surface. Yields of less than 10 gallons per minute (gpm) are typical, though yields up to 145 gpm have been recorded in some areas. No major areas of groundwater contamination have been identified, though some local problems exist, with underground petroleum spills the most common problem. There are no known sole-source aquifers or wellhead protection areas as defined under the Safe Drinking Water Act.

The majority of Charlottesville area residences are connected to the city's water distribution system. However, numerous small communities and private homes in and around Charlottesville have wells that serve their water needs.

6. Reservoir

There are five drinking water reservoirs within the county, all within the Rivanna River basin. Water quality monitoring by the state within the Rivanna River sub-basin has disclosed no problems based on the parameters of temperature, dissolved oxygen, and pH. Levels of coliform bacteria are also usually within acceptable levels. Monitoring of metals and pesticides on the James River below the confluence of the Rivanna River has also revealed no problems.

The South Fork Rivanna River Reservoir currently supplies the drinking water for much of the population of Charlottesville and Albemarle County. In the past, this reservoir has experienced problems resulting from early eutrophication. Runoff from agricultural areas has elevated nutrient levels, and construction activities within the watershed have increased sedimentation. This has caused concern within the county due to estimates that the working life of the reservoir may be reduced. A bathymetric survey conducted during the course of this study confirmed suspected higher sedimentation rates and a decreased working life for this reservoir.

7. Wetlands

Due to the topography of the study area, and the well drained nature of soils in Albemarle County, few wetland areas exist in this region. The few sites encountered along the study alternatives are small seeps at the bases of hills, narrow strips along creeks resulting from regular flooding, or shallow ponds that could support emergent vegetation. The classifications are palustrine forested, palustrine emergent, palustrine scrub/shrub, palustrine open water, and riverine sand flat.

Wetlands are of particular concern because of their functions in providing essential breeding, rearing, and feeding grounds for many species of fish and wildlife, recreation, flood protection, and pollution control. Because of these values wetlands are protected by laws and executive directive.

Wetlands were identified and delineated using the three-parameter method set forth in the Federal Manual for Identifying and Delineating Jurisdictional Wetlands. The three parameters are prevalence of hydrophytic vegetation, hydric soil, and positive hydrologic indicators. Generally, all three must be present for an area to be wetlands.

A variety of sources were used to determine the presence of the three parameters and to map the wetlands both in the study corridor and along each specific alignment. These included: U.S.G.S. topographic maps at a scale of 1":2000', on-site field investigation, 1988 Wetlands Plant List Northeast Region, Munsell Soil Color Charts, aerial photographs, and Classification of Wetlands and Deepwater Habitats by Cowardin, et al.

In addition to delineating and defining wetlands along the alignments, a wetlands functional assessment was made for each wetlands area. The method used for this study is commonly referred to as "WET", the Wetland Evaluation Technique developed by Paul R. Adamus (1987). This method consists of ranking wetlands based on the functional values of various aspects of hydrology, wildlife, and recreational uses.

Hydrological parameters include the ability of a wetland to recharge or discharge groundwater, function as an area to buffer floodwaters, anchor and trap sediments, and remove and export nutrients. Wildlife values address overall diversity and abundance as

well as a wetland's ability to function as breeding, migration, and wintering grounds for sensitive species. The ability to provide habitat for fish and benthic invertebrates is also considered. Finally, a wetlands value to society for its uniqueness (heritage value) and recreation is considered.

The small, isolated wetlands encountered along the Route 29 Study alignments rated low in terms of social significance (considering special designations, potential economic value, and strategic location) and effectiveness (considering the capability of a wetland to perform a particular function) for all wetland functions addressed by the WET method.

More detailed information on existing wetlands in the area is available for review in the Aquatic Resources and Water Quality Technical Memorandum.

G. AGRICULTURAL AND FORESTAL RESOURCES

1. Agriculture/Prime Farmland

Agriculture has traditionally contributed to the quality of life in Albemarle County and has also provided the rural character and scenic quality which distinguishes this county by preserving the natural landscape and open space. Most of the county's agricultural lands are used as grassland, either for hay production or pasture.

In 1982, the U.S. Department of Agriculture Forest Service classified 201,409 acres or 43 percent of the total County acreage as "land in farms." The value of the average farm property (land and building) is almost twice the state average, yet the value of products per farm is 15 percent lower than the state average, indicating that the "average" farmer in Albemarle County may not be wholly dependent on market forces of the agricultural economy to maintain financial stability.

The major activity on the farms is cattle production. Also recognized on the national level is the Albemarle horse industry. According to the Albemarle Extension Agent, Albemarle has 35 breeding farms, 30 boarding farms, 20 stud farms and five training stables. Vineyards and orchards are important agricultural enterprises in the County. Hay is an important crop. Albemarle County is among the top 20 percent of counties in Virginia in the value of agricultural products sold. Total value of these sales exceeded \$20 million in 1982, including \$17 million in livestock and livestock products and \$4.7 million in crops.

Prime farmlands have been identified through the use of the Soil Conservation Service survey. About 103,530 acres or 22 percent of the soils in Albemarle are prime agricultural soils, as defined by the U.S. Department of Agriculture. Unique farmlands, or farmlands of statewide or local importance have not been designated by the Soil Conservation Service within the County.

2. Forestry

In 1986, the U.S. Department of Agriculture Forest Service classified 275,629 acres or 58 percent of the total County acreage as timberland (capable of producing 20 cubic feet of industrial wood per acre per year). The majority of the acreage is second growth hardwoods, Virginia pine, and loblolly pine. Most of the original woodland was cleared and the soil was cultivated as the lands were settled and consolidated into farms. Gradually the soils became eroded, fertility was depleted, and the woodland was allowed to return. The present stands of mixed hardwoods, Virginia pine, and loblolly pine are mostly in areas that were farmland. Corporations, including farm corporations, own 16 percent, and the forest industry owns 8 percent of the timberland. Four pulp and paper companies have substantial land holdings in the County. Eighteen Albemarle County businesses are related to the timber industry for home components, logging, plywood, pulpwood, saw milling, and wood treatment.

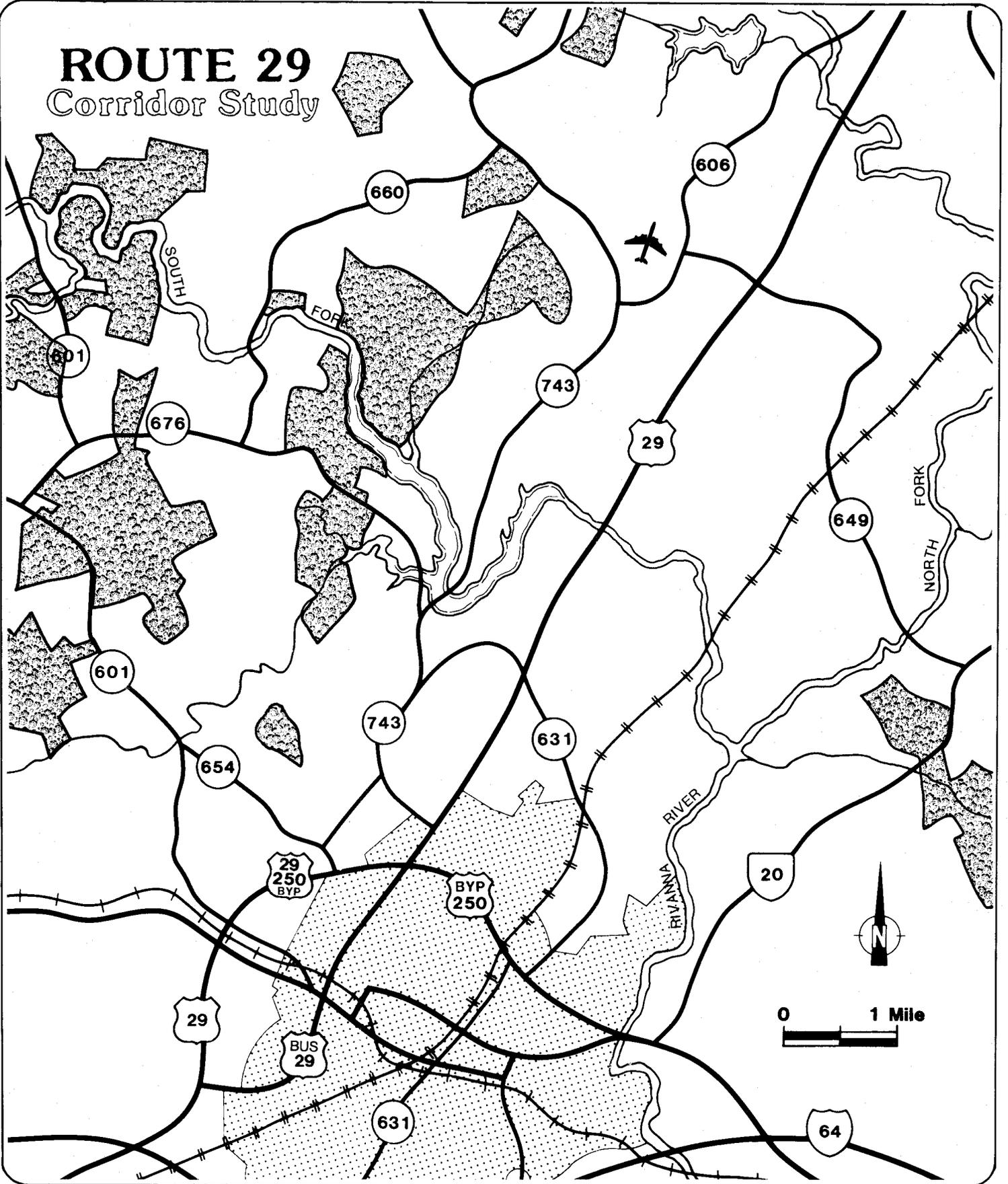
3. Agricultural/Forestal Districts

Virginia's Agricultural/Forestal Districts program was established to preserve areas of agricultural and forestal land. Districts are created by voluntary action of landowners who approach the local government requesting that a district be formed. The landowners must present a core of 200 acres of predominantly agricultural or forest land. Through a four-step process that includes, among other things, a public hearing, an option for others to join, and adoption of the district by the local government, the district is created for a period of from four to ten years. During that period, the district is subject to provisions encouraging farming, forestry, and conservation, including use value taxation, relief from nuisance laws, and restrictions on subdivision, special use permits, and rezonings. Among other requirements are the notification of pending state eminent domain action within the district and the prohibition of any new sewer, water, and utility assessments against property owners in the district. During the time period of its existence, the district may not be changed. At the end of this period it is subject to review, after which it may be continued, modified, or terminated.

There were several Agricultural/Forestal districts approved as of May 1989 by Albemarle County, as shown in Figure III-9.

Analysis of residential growth indicates that current County efforts to preserve agricultural and forestal lands, primarily through restrictions on rural development, are insufficient. Residential development in rural areas has averaged better than 50 percent of total County residential growth since 1984, rising to 65 percent in 1987. Residential development in rural areas often conflicts with agricultural or forestal uses and has an adverse impact on the continuance of agriculture or forestry in an area.

ROUTE 29 Corridor Study



**Agricultural and
Forestal Districts**

IV. ENVIRONMENTAL CONSEQUENCES

A. TRAFFIC IMPACTS

Traffic forecasts for the design year 2010 were developed for each Candidate Build Alternative as well as for the Base Case using a regional travel demand model. The model was designed and calibrated based on land use and demographic data and surveys of existing travel characteristics. The future highway network assumed for forecasting includes all projects in the 1985 Charlottesville Area Transportation Study, the MPO-adopted regional transportation plan.

At a systemwide level, traffic in the Charlottesville area is projected to grow by 40 percent and the vehicle miles travelled by almost 68 percent between 1987 and 2010. Due to the concentration of future developments in the suburbs (Albemarle County) the average trip length of commutes will increase from 9.8 minutes to roughly 13 minutes by 2010, an increase of almost 31 percent. Trip lengths for other purposes of travel will also increase, 24 percent for non-home based trips and 17.3 percent for home-based other trips. These increases in trip lengths directly contribute to the overall increase in total vehicle miles of travel within the study area.

The roads serving the north, northwest and northeast suburbs of the study area, such as Routes 743, 676, 601, and 649, will experience higher than 60 percent growth in daily traffic by 2010. This increase in traffic is the result of the projected growth in population for areas served by these roads and the proposed University Research Park in the vicinity of the airport. Table IV-1 shows the average annual daily traffic (AADT) along Route 29 north for 1987 and as projected for 2010 under each of the alternatives.

Base Case. Figure IV-1 shows projected traffic volumes on the Base Case alternative for the year 2010. Under the Base Case, traffic on the segment of Route 29 north of the 250 Bypass will increase to 64,700 vehicles per day. The increase represents almost 36 percent traffic growth between 1987 and 2010.

Under the Base Case, 16 out of 25 selected intersections within the study area will operate below level of service (LOS) D during the evening peak. This clearly suggests that the traffic congestion in 2010 will be severe in parts of the city and the northern parts of the study area. Along Route 29 north of Hydraulic Road intersection, during the p.m. peak five out of seven intersections analyzed will experience severe delays at LOS F. Similarly, the ramp of Route 250 Bypass connecting Route 29, and the intersection of Hydraulic Road and Route 250, will be operating at LOS E and F, respectively. Farther south along Emmet Street, levels of service at Barracks Road, University Avenue and Jefferson Street intersections will deteriorate and reach LOS F.

TABLE IV-1

1987 and 2010 TRAFFIC
(ANNUAL AVERAGE DAILY TRAFFIC IN THOUSANDS)

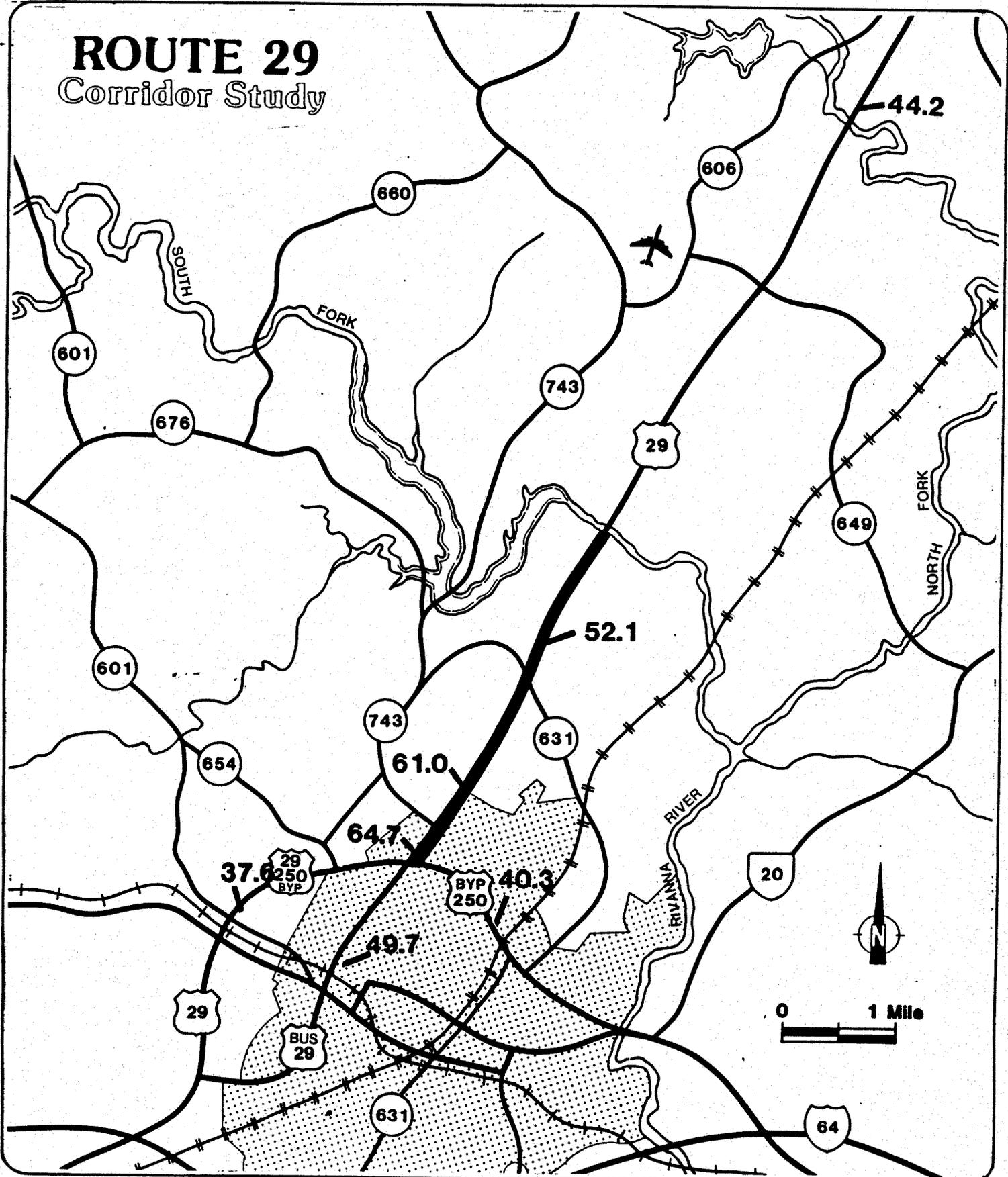
Alternative	On Route 29 North		On Candidate Build Alternatives	
	Rte. 250 Bypass to Hydraulic Rd.	Hydraulic Rd. - Greenbrier Dr.	Rio Rd. to Woodbrook Dr.	
Exist. 1987	Not Available	45.99	25.28	NA NA
Base Case 2010	64.7	61.0	52.1	NA NA
Alt. 6 - 2010	63.3	58.7	49.5	25.3 14.4
Alt. 6B - 2010	62.7	58.4	50.1	22.3 5.0
Alt. 7 - 2010	62.0	58.3	47.2	36.4 23.2
Alt. 7A - 2010	64.0	59.6	47.8	33.9 22.7
Alt. 9 - 2010	75.2	73.3	61.9	See Route 29
Alt. 10 - 2010	54.1	50.1	38.1	17.9 17.4
Alt. 11 - 2010	57.3	53.2	46.9	19.3 12.2
Alt. 12 - 2010	59.5	55.4	48.2	15.1 9.5

Note: AADT as shown by the forecasting model is the same with or without grade-separated interchanges.

Source: Existing traffic from Commonwealth of Virginia Department of Transportation Average Daily Traffic Volumes on Interstate, Arterial, and Primary Routes.

Future traffic from MINUTP travel demand forecasting model.

ROUTE 29 Corridor Study



 Base Case Improvements
 00.0 AADT (Thousands)

Base Case 2010 Traffic
 Assumes all CATS Plan Recommendations
 in place

Figure No. IV-1

Acknowledging that the principal objective of each Candidate Build Alternative is to ease traffic congestion along Route 29 north, a comparison between the Base Case and each Candidate Build Alternative was undertaken. Table IV-2 summarizes the anticipated changes in traffic volumes at three locations along Route 29 that might result under each Build Alternative. The findings of this comparison are discussed below.

Alternative 6. This alternative functions as an eastern bypass for Route 29 and coincides with a portion of the proposed alignment of Meadowcreek Parkway. It will carry between 14,400 and 25,300 vehicles per day (vpd) in 2010 (Figure IV-2). The construction of this alternative will have minimal impact on Route 29 traffic. Within the most critical segment, between Hydraulic Road and Route 250 Bypass, it would reduce daily traffic by 1,400 vehicles (2.2%) in comparison with the Base Case. Due to the small reduction in traffic, all five critical intersections - Airport Road, Woodbrook Drive, Rio Road, Greenbrier Drive, and Hydraulic Road - along Route 29 will operate at an unacceptable LOS during the peak hours.

Alternative 6B. This alternative functions as an eastern bypass along with Meadowcreek Parkway. It is estimated to carry between 5,000 and 22,300 vpd in 2010 (Figure IV-3). The middle segment of this alternative, which runs parallel to Meadowcreek Parkway, carries the minimum traffic (around 5,000 vpd). Compared to the Base Case traffic on Route 29 in 2010, Alternative 6B would draw nearly 2,000 vpd from the segment north of Route 250 Bypass. This small reduction in Route 29 traffic will produce an insignificant impact on the operating conditions of the five intersections identified as critical (LOS F) under the Base Case.

Alternative 7. This alternative is an eastern bypass that overlaps the proposed alignment for Meadowcreek Parkway and terminates at Nelson Drive on McIntire Road. The traffic forecasts along this facility vary between 23,200 and 36,400 vpd in 2010 (Figure IV-4). The most travelled part of this alternative is the southern segment, which runs parallel to Rio Road and diverts significant traffic from it. In general, the impact of Alternative 7 on Route 29 traffic will be minor and of slightly higher magnitude than other eastern alignments (Alternatives 6, 6B and 7A). Most of the critical intersections north of the Route 250 Bypass will continue to be at LOS F during peak hours (except Woodbrook Drive in the p.m. peak).

Alternative 7A. This alternative is nearly identical to Alternative 7, but carries slightly less traffic due to its termination at the intersection of Route 250 and McIntire Road (Figure IV-5). Traffic destined to the central city finds Alternative 7 slightly more attractive compared to this alternative. Again, the construction of Alternative 7A will have only a minor impact on Route 29 traffic as shown in Table IV-2. The intersection LOS analysis indicates that the five critical intersections will still operate at LOS F, except for the p.m. peak period at Woodbrook Drive.

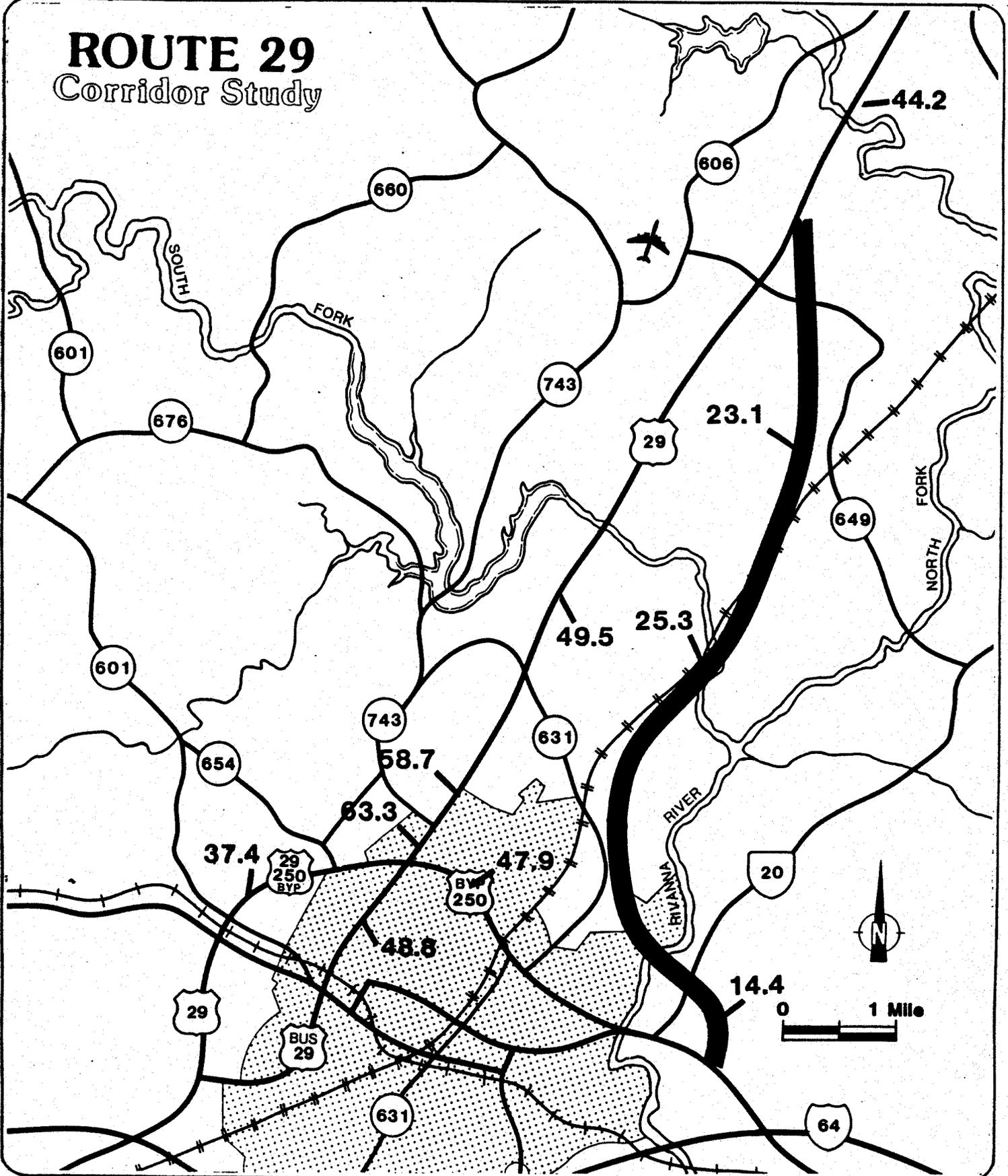
TABLE IV-2

TRAFFIC IMPACTS OF EACH ALTERNATIVE ON ROUTE 29 IN 2010

Alternative	Change in Traffic Between Rte. 250 & Hydraulic Rd.		Change in Traffic Between Hydraulic Rd. & Rio Rd.		Change in Traffic Rio Rd. & South Fork of Rivanna	
	AADT	in %	AADT	in %	AADT	in %
Alt. 6	-1,400	-2.2	-2,300	-3.8	-2,600	-5.0
Alt. 6B	-2,000	-3.1	-2,600	-4.3	-2,000	-3.8
Alt. 7	-2,700	-4.2	-2,700	-4.4	-2,000	-3.8
Alt. 7A	-700	-1.1	-1,400	-2.3	-4,300	-8.3
Alt. 9 Expressway	+10,500	+16.2	+12,300	+20.2	+9,800	+18.8
Express Lanes	+19,600		+43,200		+35,500	
Service Roads	-9,100		-30,900		-25,700	
Alt. 10	-10,600	-16.4	-10,900	-17.9	-14,000	-26.9
Alt. 11	-7,400	-11.4	-7,800	-12.8	-5,200	-10.0
Alt. 12	-5,200	-8.0	-5,600	-9.2	-3,900	-7.5

Note: The addition of grade-separated interchanges on Route 29 would have no effect on the forecast traffic volumes.

ROUTE 29 Corridor Study



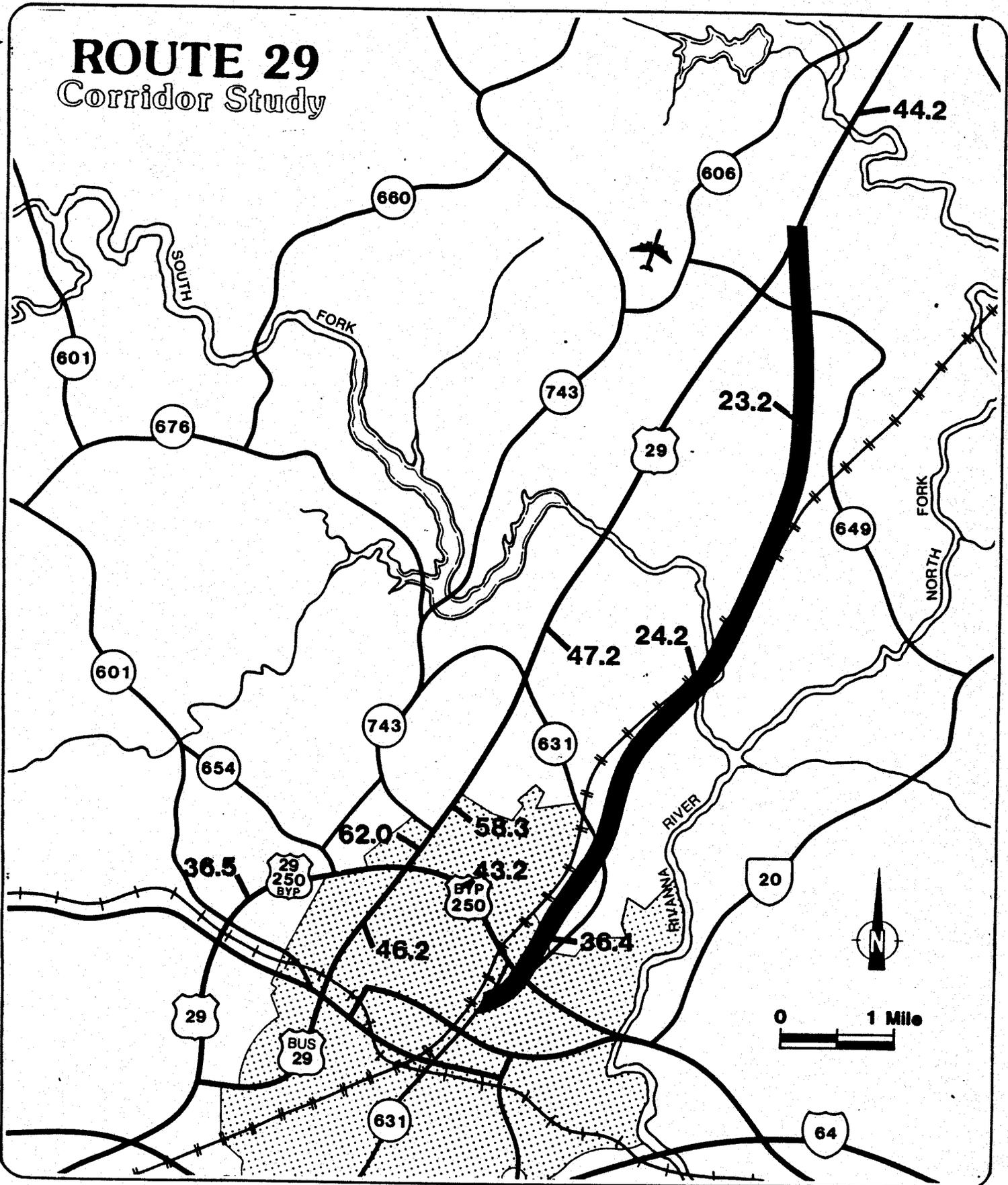
Alternative 6

00.0 ADT (Thousands)

Alternative 6 2010 Traffic
Assumes all CATS Plan Recommendations
in place

Figure No. IV-2

ROUTE 29 Corridor Study

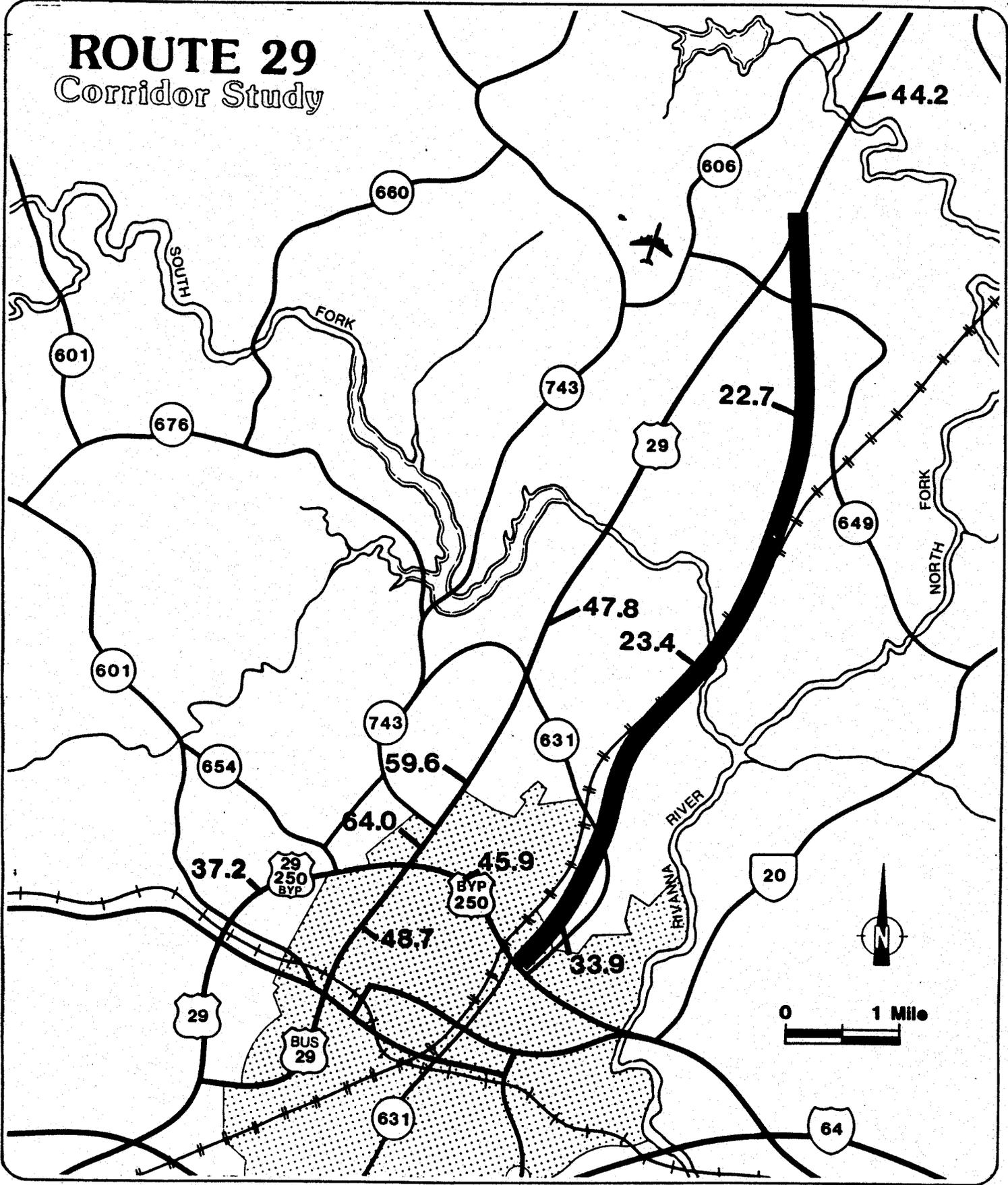


Alternative 7
 00.0 AADT (Thousands)

Alternative 7 2010 Traffic
 Assumes all CATS Plan Recommendations
 In place

Figure No. IV-4

ROUTE 29 Corridor Study



Alternative 7A

00.0 AADT (Thousands)

Alternative 7A 2010 Traffic

Assumes all CATS Plan Recommendations in place

Figure No. IV-5

Alternative 9. This is an urban expressway with four "express" lanes and six parallel service lanes running along the existing alignment of Route 29. Being a high quality design (60 miles per hour), this alternative attracts even those who would use Meadowcreek Parkway under other Candidate Build Alternatives. The end result is that it carries the maximum traffic compared to other alternatives. Traffic forecasts along the express lanes vary between 19,600 and 43,200 vpd (Figure IV-6). Similarly, traffic in the service lanes is predicted to be in a range of 26,400 to 55,600.

The level of service (LOS) analysis suggests that the express lanes will operate at level of service D and that severe traffic congestion would occur at several intersections of the service roads and cross streets. The three at-grade intersections, Rio Road, Greenbrier Drive and Hydraulic Road, will operate at LOS F during peak hours. With the addition of through lanes on the service roads, the Greenbrier Drive intersection is found to attain LOS B during peaks but the intersections of Rio Road and Hydraulic Road maintain LOS F in the evening peak.

Alternative 10. This inner western bypass of Route 29 will carry between 17,400 and 17,900 vpd in 2010 (Figure IV-7). With Meadowcreek Parkway in the east, this alternative will produce the greatest impact on Route 29 in terms of the magnitude of traffic reduced. Construction of Alternative 10 will decrease by almost 11,000 vpd the traffic in the segment of Route 29 between Rio Road and Hydraulic Road. This reduction in traffic volume represents nearly 18 percent of the Base Case traffic. In spite of the reduction in trips along Route 29, the critical intersections continue to operate at unacceptable levels of service.

Alternative 11. This alternative western bypass will carry between 12,200 and 19,300 vpd in 2010 (Figure IV-8). It would have somewhat less impact than Alternative 10 on Route 29, as shown in Table IV-1. The reduction in traffic does not improve operations of the critical intersections.

Alternative 12. This will be the longest and outermost western alignment. It is expected to service between 9,500 and 15,100 vpd (Figure IV-9). Compared to eastern alternatives, it would be more effective in decreasing Route 29 traffic. Alternative 12 will produce less impact on Route 29 than either Alternatives 10 or 11. As with other alternatives, the critical intersections do not exhibit LOS better than F except in the case of Woodbrook Drive.

Base Case with Interchanges. Further analysis was done to show how the intersections along Route 29 would perform if crossings of Hydraulic Road, Greenbrier Drive, and Rio Road were made grade-separated interchanges by the year 2010. The model used in the traffic study does not show any differences in traffic volumes with the grade-separated interchanges in place. The levels of service along Route 29, however, would be affected.

The arterial LOS was calculated for Route 29 between the Route 250 Bypass and Woodbrook Drive both with and without grade separated intersections. The procedures of the Urban and Suburban Arterial analysis technique as prescribed by the Highway Capacity

Manual (1985) were applied. Several technical assumptions were made including the exclusion of Berkmar Drive, Dominion Drive and Seminole Drive from the analysis. The analysis was done for the direction carrying the maximum traffic during peak.

Table IV-3 shows the arterial LOS estimated for each alternative under consideration and for existing Route 29 under each alternative. The addition of grade-separated interchanges to the Base Case along Route 29 would improve the northbound evening peak period LOS from F to A or B depending upon the alternative considered. The Base Case alone, with interchanges, would also improve the LOS from F to B in the year 2010. Because of their effect on Route 29 LOS, the three grade-separated interchanges at Rio Road, Greenbrier Drive, and Hydraulic Road were included in the Commonwealth Transportation Board's selected alternative. However the average operating speed would remain low at 30 miles per hour and stop-and-go conditions would persist at the remaining signalized intersections. This is not consistent with an arterial route's function as a high-speed facility for uninterrupted travel.

A modern bypass, designed to current safety standards, could be expected to improve safety for the travelling public and reduce accidents, especially those involving through truck traffic.

B. SOCIO-ECONOMIC IMPACTS

Among the socio-economic impacts of the Candidate Build Alternatives would be the displacements resulting from acquisition of right-of-way for the highway facility. Also considered are other impacts on property values, taxes, land use, residential communities and community facilities.

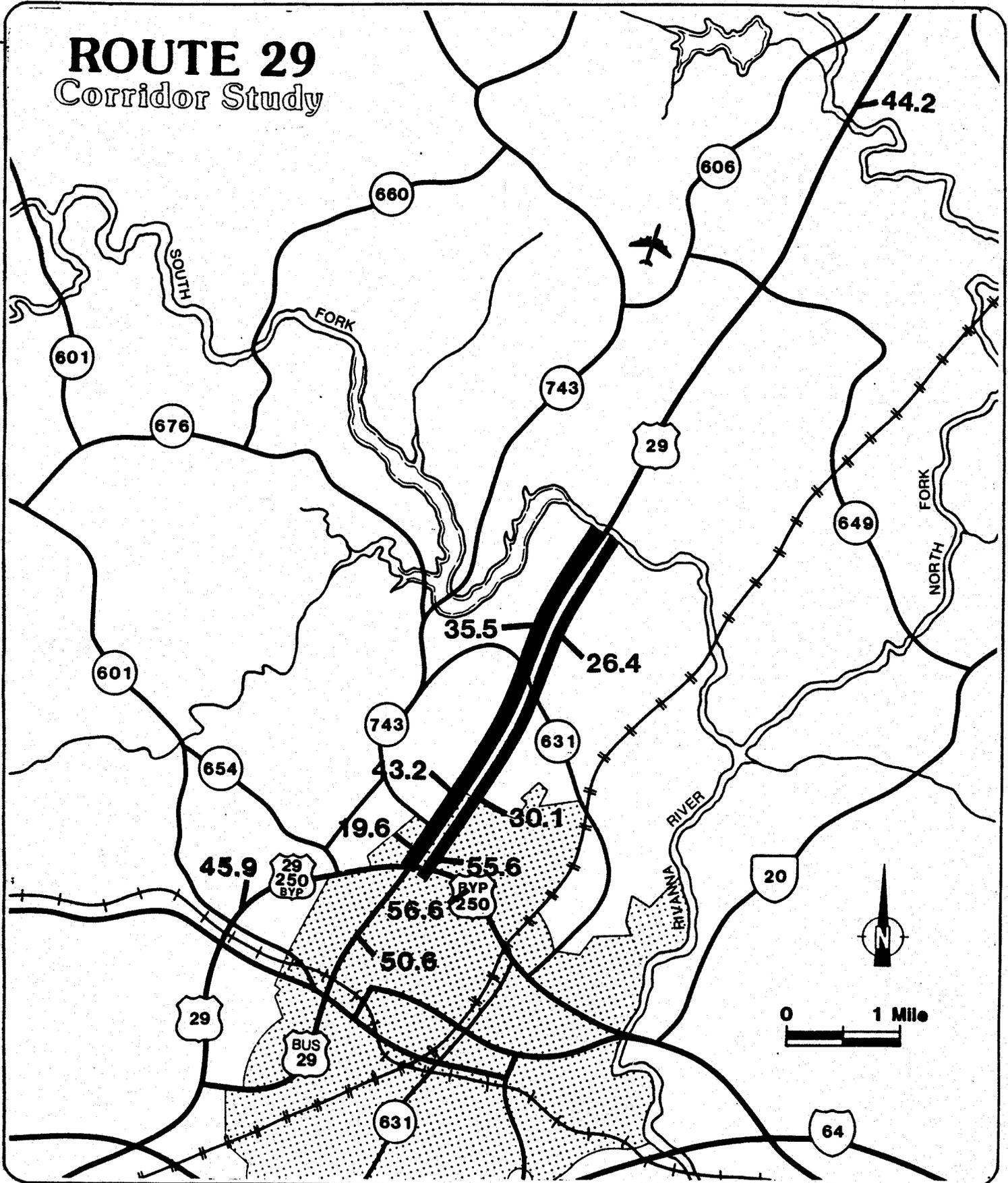
1. Relocations

a. Relocation Impacts

Depending on the Candidate Build Alternative considered, this project would require the displacement of families, businesses, and a nonprofit organization (NPO). No farms would be displaced. Some farm land would be impacted and on one alternative, two support units of another NPO would be displaced. These impacts will be discussed in the appropriate alternative sections. Table IV-4 summarizes the displacement impacts.

The information contained in this section is based on the Stage 1 Relocation Assistance Report prepared by VDOT in February and March 1990, and updated in February and July 1991 and again in February of 1992. The field review was conducted without contacting any of the potential displacees. Contacts were made with local realtors and other appropriate representatives of the area.

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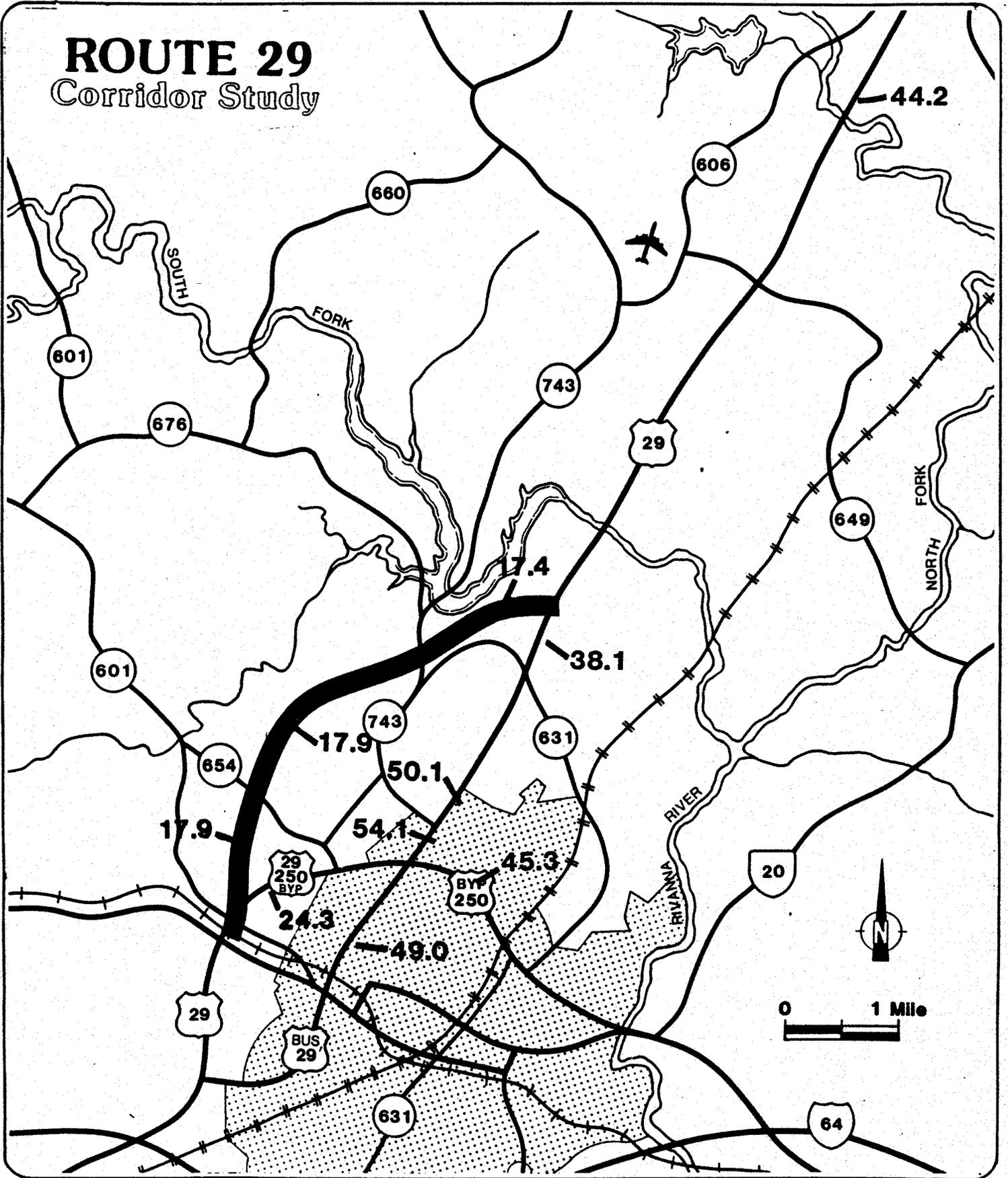
-  Expressway
-  Route 29 Service Roads
- 00.0 AADT (Thousands)

Alternative 9 (Expressway) 2010 Traffic

Assumes all CATS Plan Recommendations
(Except Base Case) in place

Figure No. IV-6

ROUTE 29 Corridor Study

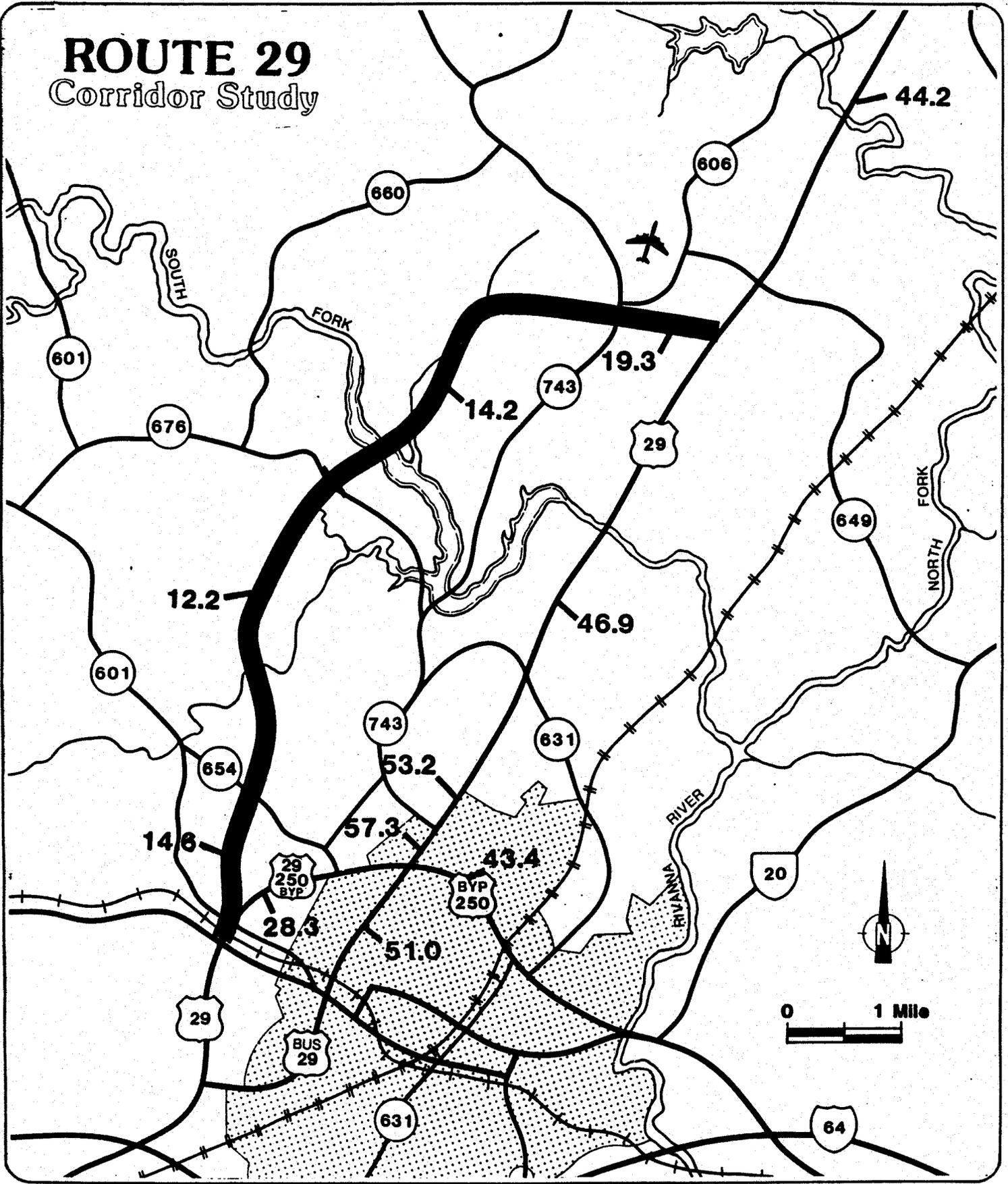


Alternative 10
00.0 AADT (Thousands)

Alternative 10 2010 Traffic
 Assumes all CATS Plan Recommendations
 in place

Figure No. IV-7

ROUTE 29 Corridor Study

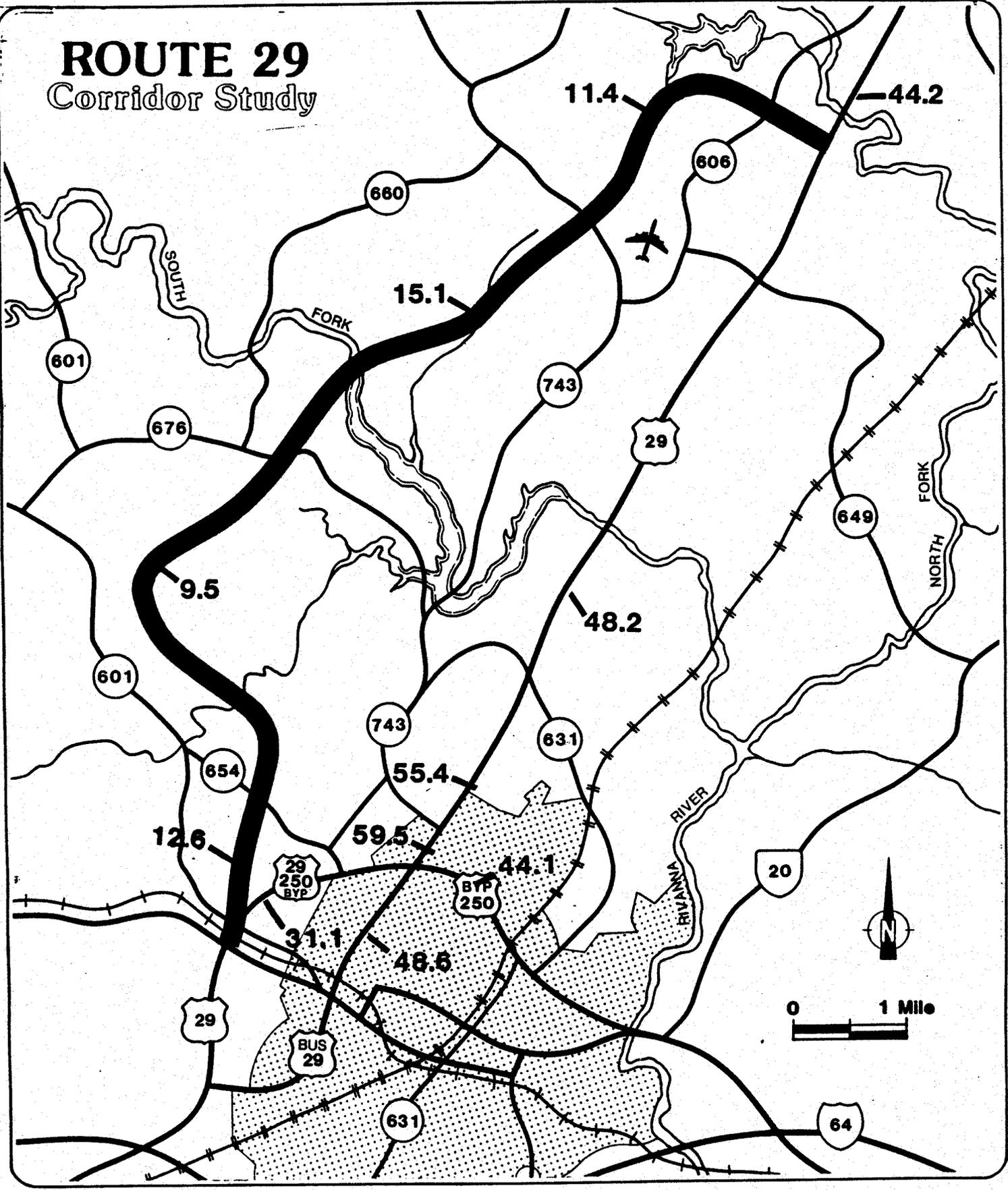


Alternative 11
 00.0 AADT (Thousands)

Alternative 11 2010 Traffic
 Assumes all CATS Plan Recommendations
 in place

Figure No. IV-8

ROUTE 29 Corridor Study



 Alternative 12
 00.0 AADT (Thousands)

Alternative 12 2010 Traffic
 Assumes all CATS Plan Recommendations
 in place

Figure No. IV-9

TABLE IV-3

ARTERIAL LEVELS OF SERVICE

<u>Alternative</u>	<u>On alternative</u>	<u>On Existing Route 29</u>	
		<u>All Intersections at Grade</u>	<u>Grade Separations at Rio, Hydraulic, Greenbrier</u>
1987 Existing	—	B (24 mph)	—
2010 Base Case	—	F (<10 MPH)	B (30 mph)
Alt. 6	B (≥ 57 mph)	F (<10 mph)	B (29 mph)
Alt. 6B	B (≥ 57 mph)	F (<10 mph)	A (32 mph)
Alt. 7	C (≥ 54 mph)	F (<10 mph)	A (32 mph)
Alt. 7A	C (≥ 54 mph)	F (<10 mph)	A (31 mph)
Alt. 9 Express Lanes	D (≥ 42 mph)	—	—
Service Lanes	F (<10mph)	—	—
Alt. 10	A (≥ 60 mph)	F (<10 mph)	A (33 mph)
Alt. 11	A (≥ 60 mph)	F (<10 mph)	A (33 mph)
Alt. 12	A (≥ 60 mph)	F (<10 mph)	A (33 mph)

NOTES:

1. See page I-5 for definitions of levels of service.
2. Alternative 9 (Expressway Alternative) would provide the worst level of service of all of the build alternatives.
3. Western bypass alternatives (10, 11, & 12), along with implementation of the Base Case with grade-separated interchanges, would provide the best levels of service and operating speeds for both through traffic and local traffic.

TABLE IV-4
RELOCATION IMPACTS

<u>Alternative</u>	<u>Families</u>			<u>Businesses</u>			<u>Non-Profit Organizations</u>
	<u>Owner</u>	<u>Tenant</u>	<u>Total</u>	<u>Owner</u>	<u>Tenant</u>	<u>Total</u>	
Base Case	0	0	0	0	0	0	0
6	39	1	40	1	0	1	0
6B	31	2	33	1	0	1	0
7	31	20	51	2	0	2	1
7A	26	1	27	1	0	1	0
9	0	0	0	7	0	7	0
10	16	1	17	8	0	8	0
11	13	0	13	0	0	0	0
12	19	0	19	2	0	2	0
Base Case with Interchanges	0	0	0	4	0	4	0

Notes: No farms will be displaced by any alternative.

Two University of Virginia support units will be displaced by Alternatives 10, 11 and 12.

Source: VDOT Stage 1 Relocation Reports, February and March 1990, February and July 1991, and February 1992.

The following information is applicable to displacees on any given alternative. It is estimated that five to ten percent of the families to be displaced are minorities or members of various ethnic groups. No handicapped or elderly persons were readily identified in the study. No areas of low income families were readily identified. It is estimated that the range of income for the families to be displaced is from \$20,000 to \$60,000. The size of the families is estimated to range from one to five persons. The estimated value of the homes for owner-occupant families is \$50,000 to \$500,000, and the estimated rental rates for tenant-occupant families is \$300 to \$800 per month.

The businesses being displaced range from small local operations with two to five employees to large commercial retail firms with 10 to 25 employees. Some of the businesses are newly established while others have been in their present locations for some time. All of the businesses appear to be owner-occupant.

Base Case. The Base Case would displace no residences, businesses, or non-profit organizations.

Alternative 6. This alternative would displace 40 families and one business. The 40 families displaced by Alternative 6 include 39 owners and one tenant. Eighteen of the homes are single-family dwellings and 22 are townhouses. The houses are all in good condition and have about three to five occupants each. Most families are estimated to be in the middle income range of \$30,000 to \$60,000. The tenure of the displacees is estimated to be five to 10 years. The business is a real estate development firm located along Route 250 in the Pantops area. It appears that the business may not have adequate residue to relocate on.

Alternative 6B. This alternative would displace 33 families and one business. The 33 families include 31 owners and two tenants. Twenty-nine of the houses are single family dwellings and four are townhouses. All are in good condition and have about three to five occupants. Most families are estimated to be in the income range of \$30,000 to \$60,000 with a tenure of five to 10 years. The business is the same real estate development firm that would be relocated with Alternative 6. This business may not have adequate residue to relocate and may be required to purchase, build or lease replacement facilities at other locations.

Alternative 7. This alternative would displace 51 families, two businesses and one non-profit organization. Twenty-four of the family units displaced by this alternative are located along the southern portion of the alternative, in the City of Charlottesville. Five of these families are owners of single-family homes, one appears to be a tenant of a single-family house, and 18 live in rented apartments. The owner occupied houses appear to be in good condition and the tenant-occupied house appears in poor condition. The families have about two to four members and an estimated income range of \$20,000 to \$30,000. The tenure of the displacees is estimated to be five to 20 years. The businesses are an electronics firm in Charlottesville and a plumbing firm in Albemarle County. The non-profit organization is the Charlottesville-Albemarle Rescue Squad. It appears that the businesses and non-profit

organization being affected may not have adequate residue to relocate upon. Therefore they may be required to purchase, rebuild, or lease replacement facilities at other locations.

For the portion of Alternative 7 located in Albemarle County, there are 27 family units that would be relocated. Twenty-six appear to be owners and one a tenant. Fifteen of the units are single family dwellings and 12 are townhouses. All appear to be in good condition. The average family size is estimated to be three to five members and family income is estimated to be in the middle income range of \$30,000 to \$60,000. The tenure of the displacees is estimated to be five to 10 years.

Alternative 7A. This alternative would displace 27 families, and one business. None of the relocations are in the City of Charlottesville portion of this alternative. The business is the plumbing firm described under Alternative 7. The families to be relocated are identical to those in the Albemarle County section of Alternative 7, discussed in the previous section.

Alternative 9. The Expressway Alternative would displace seven businesses. The businesses include a bank, a realty firm, a restaurant, an oil change business, a car rental agency, a service station/convenience store, and one commercial building that was empty at the time the relocation report was prepared. It is estimated that each displaced business employs between five and 25 persons. The tenure of the displaced businesses is estimated to be five to 20 years. It appears that the businesses being affected may not have adequate residue to relocate upon.

Alternative 10. This alternative would displace 17 families, 8 businesses and two support units of the University of Virginia. Sixteen of the families are owners and one is a tenant.

The support units are located near the southern end of this alternative in the section that is common to Alternative 10, 11 and 12. The support units are both a part of the University of Virginia. One is the University Police Headquarters and the other is the University Printing Services.

Along the portion of Alternative 10 north of this common section, there are 17 families to be relocated and 8 businesses. Sixteen of the residential relocations appear to be owner occupied and one tenant occupied. All of the residential displacements are single-family houses, with about three to five occupants each. The houses appear to be in fair to good condition. Family incomes are probably in the middle-income range of \$30,000 to \$60,000 and estimated tenure of the displacees is five to 10 years. The eight businesses to be relocated are along Route 29 north. They include an animal hospital, a Lowes retail store, three furniture stores, and a Pier I Imports store. It appears that the businesses being affected may not have adequate residue to relocate upon. The 8 businesses to be relocated are each estimated to employ five to 75 persons.

Alternative 11. This alternative would displace 13 families and two support units of the University of Virginia. All of the families are owners.

The two support units are in the common section of Alternatives 10, 11, and 12 and were discussed under "Alternative 10" above. The remaining section of Alternative 11 would displace 13 families, all of them in owner-occupied single-family homes, with about three to five occupants each. Eleven of the houses appear to be in excellent condition and two appear to be in fair condition.

Alternative 12. This alternative would displace 19 families, two businesses and two support units of the University of Virginia. All of the families are owners.

The two support units are located along the common section of Alternatives 10, 11, and 12 and are described under "Alternative 10" above. For the rest of Alternative 12 there would be two business and 19 residential displacements. The 19 family displacees in the non-common section of Alternative 12 are all owner-occupied single-family residences, in fair to good condition. Each has an estimated three to five occupants. Family incomes are in the middle income range of \$30,000 to \$60,000 and the estimated tenure of the displacees is five to 10 years. The businesses are a fabric store and a mini-storage business along Route 29. It appears that the businesses being affected may not have adequate residue to relocate upon.

Base Case with Interchanges. The Base Case improvements along Route 29 with grade separated interchanges at Rio Road, Hydraulic Road and Greenbrier Drive would displace four businesses, all owner occupied. These businesses include a self-service gasoline station with an estimated four to six full time employees, a full service gasoline station with an estimated six full time employees, an auto service center with an estimated six to eight full time employees, and a restaurant with an estimated 12 to 16 full time employees. It appears the businesses affected may not have adequate residue to relocate upon. Another building, an office building currently vacant, would also be displaced.

b. Relocation Plan

Contacts with local realtors and review of local newspapers indicate there is an active housing market with sufficient decent, safe, and sanitary housing available to accomplish an orderly relocation plan. Housing for sale ranges in price from \$49,500 to \$274,900 while rental units are available from \$525 to \$925 per month. All available sales and rentals have two to five bedrooms. In addition there are homesites available for new construction.

Some owners of impacted houses may have sufficient residue to move their existing house onto or construct new. In the event that minority or other ethnic group, handicapped, low-income, or large family displacees are identified at the time of acquisition, VDOT will work closely with each family to ensure that an orderly and satisfactory relocation is accomplished. In the event housing of last resort is needed, assurance is given that it can and will be used.

Local realtors also indicate there is an active commercial and industrial market. Improved and unimproved sites are available. In the event rental sites are needed, there is market activity in this area also. Every effort will be made to work with displaced businesses, especially those that have strong community ties and reliance, to assist them in relocating in their respective localized areas. It is felt that all businesses can be relocated in the area in an orderly and satisfactory manner.

The selected alternative will displace the two identified support units of the University of Virginia (UVa). It is felt that their relocation can be accomplished satisfactorily. Indications are that these units can be relocated by the University elsewhere on UVa property. Close coordination will be maintained to minimize any disruption to services that these units provide.

Construction of the Alternative 10 Bypass will not take place for a number of years. However, some individuals have expressed concerns over their current inability to sell their property. VDOT has a process by which hardship cases can be considered and advance acquisition of properties can be made upon decision of the Commonwealth Transportation Board.

All housing and other replacement sites will be fair and open without discrimination. The acquisition of right-of-way and relocation of displacees will be in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. No residential occupant will be required to move from property needed for the project until a comparable decent safe and sanitary replacement dwelling has been made available to them.

2. Economic Impacts

a. Employment

The businesses taken by the alternatives are expected to be able to relocate in the area and there would be no long-term loss of employment. With estimated construction costs ranging from \$69 million to \$172 million, the construction of each of the Candidate Build Alternatives would result in the employment of considerable numbers of people. The purchase of supplies and materials would indirectly result in additional employment by the

suppliers. Secondary impacts of these employed persons and suppliers spending money on goods and services would have a multiplier effect on the economy.

If the unemployment rate in the Charlottesville area were to remain at its present low levels, most of the construction workers for the project would come from outside the immediate area. This could benefit areas of Virginia and nearby portions of West Virginia that have high unemployment.

b. Property Values and Taxes

Each of the Candidate Build Alternatives would have a direct impact on property tax revenue to Charlottesville and/or Albemarle County because of the removal of property from the tax base. The City of Charlottesville has an annual real property tax rate of \$1.13 per \$100 of assessed value and Albemarle County has a rate of \$0.74 per \$100. Table IV-5 shows the initial loss in annual property tax revenue for each jurisdiction, as determined by the Stage I Relocation Report.

The value of the land would be lost permanently from the tax base. The value of the improvements on the land would represent only a temporary loss in tax revenue; because the project is not expected to cause any long-term regional changes in population or employment, the homes and businesses removed for construction of the project eventually would be replaced somewhere else in the area.

3. Land Use

Table IV-6 indicates the right-of-way requirements for each of the alternatives for various types of land uses.

Figure IV-10 shows the location of the Candidate Build Alternatives with respect to planned future land use. In several areas the alignments would impact planned developments or other areas where development is expected to occur.

On the east side, the common section of Alternatives 6, 6B, 7, and 7A would go through the planned Forest Lakes residential development. The road would not affect the initial phase of this project, currently under construction, but would impact later phases of this development and adjacent areas identified for residential development on county plans.

Alternatives 6, 7, and 7A would go through Dunlora, another large single-family residential development under construction. At the southern terminus at Route 250, both Alternatives 6 and 6B go through an area designated on County land use plans for low and medium density residential development. No subdivisions have been approved on this land.

TABLE IV-5
ANNUAL LOSS IN PROPERTY TAX REVENUES

<u>Alternative</u>	<u>Tax Revenue Loss</u>		
	<u>Albemarle</u>	<u>Charlottesville</u>	<u>Total</u>
Base Case	7,874	\$ 73	7,947
6	\$ 52,270	0	\$ 52,270
6B	49,658	0	49,658
7	39,662	37,575	77,237
7A	39,662	5,650	45,312
9	98,018	47,241	145,259
10	249,910	0	249,910
11	73,161	0	73,161
12	82,804	0	82,804
Base Case w/Interchanges	50,811	1,471	92,282

Source: VDOT Stage I Relocation Report, February and March 1990, July 1991, and February 1992.

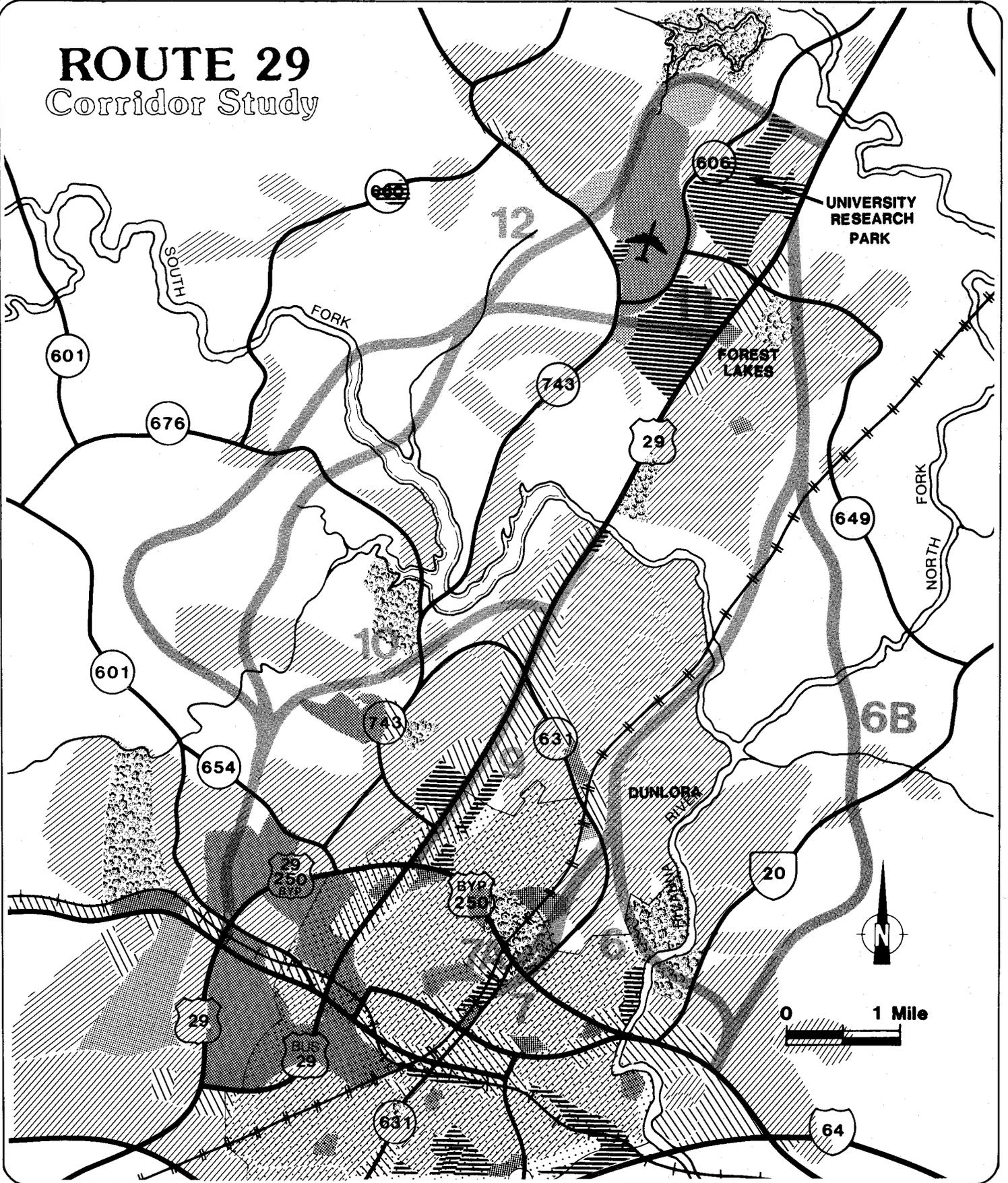
TABLE IV-6
LAND USE IMPACTS BY ALTERNATIVES

<u>Alternative</u>	<u>Acres of Land</u>			
	<u>Residential</u>	<u>Commercial</u>	<u>Industrial</u>	<u>Total</u>
Base Case	0	5	0	5
6	341	32	0	373
6B	388	32	0	420
7	302	9	0	311
7A	297	9	0	306
9	0	23	1	24
10	222	68	0	290
11	471	2	0	473
12	495	2	3	500
Base Case w/interchanges	0	16	0	16

Note: Numbers reflect total acquisition including remnants and land-locked parcels.

Source: VDOT Stage I Relocation Report, February and March 1990, July 1991, and February 1992.

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-  AGRICULTURAL AND OPEN
-  RESIDENTIAL
-  COMMERCIAL
-  INDUSTRIAL
-  PUBLIC AND SEMI-PUBLIC
-  PARKS AND RECREATION

Future Land Use Impacts

Figure No. IV-10

On the west side, Alternative 10, near its intersection with Route 29 north, passes through an area designated for medium density residential and commercial uses. Alternative 11, at its northern terminus at Route 29, goes through an area designated for industrial development. Land required for these interchanges would take 30 to 40 acres away from these planned uses.

Alternative 12, near its interchange with Route 29, goes through land owned by the University of Virginia Real Estate Foundation, which is planning use of the site as a research and industrial park. This alternative would require the foundation to revise its plans for future phases of this development but would not affect the initial phase. Most of this property that the alternative goes through is not zoned for and is not indicated on the County's Land Use Plan for this type of development.

Some residents have expressed the concern that the bypass alternatives would cause development in rural areas. It is true that alternatives in these areas could encourage additional residential development, but this development could be restricted to densities permitted under existing zoning and land use regulations. Highway facilities are only one of the factors influencing development patterns. If the County restricts utilities and enforces land-use regulations in these areas, it should be able to prevent unwanted commercial development and to limit the amount and density of residential development.

The selected alternative includes the Alternative 10 bypass, but because of community concerns over induced development, interchanges at Barracks Road (Route 654) and Route 743 have been eliminated so that no access will be provided between the two terminus points. Additional interchanges could be added in the future, but only at the request of Albemarle County.

4. Community Cohesion

Impacts of the project alternatives on community cohesion can include the taking of land and homes, physical or psychological barriers dividing a community, or disruption of access within a community. The following subsections describe the community cohesion impacts of each of the Candidate Build Alternatives. The locations of the communities were shown in Figure III-5.

The selected alternative is not expected to disrupt any access patterns. All existing roads will be maintained either over or under the new facility. No non-motorist facilities such as pedestrian or bicycle paths are known to be affected by Alternative 10. If any are found during final design, consideration will be given to preserving access through overpasses or underpasses. The Base Case and the Base Case with interchanges would have no direct impacts on residential communities.

a. Alternative 6

Alternative 6 at its southern end begins at Route 250 in the Pantops area, a mostly commercial district. It passes through two parks, then would go through and divide the Pen Park subdivision. It would cut off a corner of Riverrun, but would not divide this new townhouse development. Alternative 6 then passes through Dunlora, a large new single-family development under construction north of Rio Road. It traverses one edge of this community but would not divide it. However, it would cross above one of two planned access roads into Dunlora and would eliminate the other. The alternative takes a small portion of Northfields but across a set of railroad tracks from the residential area of this subdivision.

Farther north, the alternative traverses the edge of Bentivar, taking the back portion of several long lots but not dividing this subdivision or crossing its access road. It does go through Forest Lakes and would divide this large planned residential development. It would not affect Phase I of Forest Lakes, which is currently under construction. At its northern terminus, the interchange is located entirely on the east side of Route 29 and would not directly impact any residential communities.

b. Alternative 6B

Alternative 6B has the same southern terminus as Alternative 6. It soon diverges and goes through the Franklin subdivision, crossing over Franklin Drive where it would establish a visual barrier between several homes at the end of the cul-de-sac and the rest of the subdivision. The alternative then goes through Ridgemont subdivision, but it would only separate two areas with their own entrances from Route 20. The alternative goes across an undeveloped corner of Redbud subdivision. North of Bentivar, Alternative 6B rejoins Alternative 6, and would have identical impacts in that northern section. This alternative was developed to avoid the impacts upon Pen Park and Rivanna Park.

c. Alternative 7

The southern terminus of Alternative 7 is at McIntire Road south of Route 250. This alternative would take several houses in one corner of the City's North Downtown neighborhood, but it would not divide this neighborhood. Across McIntire Road from the terminus is the Harris Street neighborhood, which would be affected by street relocations for this alternative. North of Route 250, Alternative 7 goes along an edge of the Locust Grove neighborhood. It would separate this neighborhood from McIntire Park, but would not otherwise divide the neighborhood.

Alternative 7 then goes into Albemarle County. It cuts across a corner of Stonehenge subdivision, where it would take some new townhouses, and across an undeveloped corner

of Village Square subdivision. Alternative 7 then joins Alternative 6 in the Dunlora development. It would have similar impacts upon Dunlora and identical impacts to Alternative 6 north of this point. This alternative was developed to avoid impacts upon McIntire Park. From just north of the park to the northern terminus of Route 29, Alternative 7 is identical to Alternative 7A.

d. Alternative 7A

The southern terminus of Alternative 7A is an at-grade intersection at the intersection of Route 250 Bypass and McIntire Road. This is the dividing point among three City neighborhoods, Harris Street, North Downtown and Locust Grove. The alternative goes through the edge of McIntire Park, but it would not otherwise divide the Locust Grove neighborhood. It then joins Alternative 7, and would have the same impacts as Alternative 7 for the rest of its length.

e. Alternative 9

Alternative 9 is the Expressway Alternative. It follows the alignment of existing Route 29 and therefore does not sever any residential communities. The northern section of the Expressway would pass near Woodbrook and Carrsbrook. Though it would not directly impact either neighborhood it would alter access to those neighborhoods.

f. Alternative 10

At its southern terminus with Routes 29 and 250, Alternative 10 begins near the Belair subdivision, where relocation of other roads would take a small amount of land. It traverses a portion of the Montvue subdivision but does not divide the neighborhood.

Alternative 10 then curves to the south of Ivy Farm (the portion of this subdivision east of Ivy Creek) and Ivy Ridge. It passes through undeveloped land between these subdivisions and the County schools complex comprising Mary Greer Elementary School, Jack Jouett Middle School and Albemarle High School. Access to the schools from these communities will not be affected.

Alternative 10 then cuts across a portion of Roslyn Heights and Roslyn Ridge, two new subdivisions. The alternative goes by the far end of the cul-de-sac of Roslyn Heights. It cuts across Roslyn Ridge near the entrance to the subdivision; and passes under the subdivision road, though it would not divide the subdivision.

The right of way near the crossing of Route 743 would take several houses in Squirrel Ridge at the end of Squirrel Path. The alternative has been located to minimize the extent of possible impacts upon the Squirrel Ridge neighborhood.

Finally, the interchange of Alternative 10 with Route 29 north is located near Woodbrook and Carrsbrook. The interchange has been designed so that all of the access movements would be constructed on the west side of Route 29 and would not directly impact either of these neighborhoods east of Route 29, though street relocations would affect both neighborhoods.

g. Alternative 11

Alternative 11 has the same southern terminus and follows nearly the same alignment as Alternative 10 past Colthurst Farm. It then passes along the west side of Montvue and through the Ivy Farm subdivision, crossing Ivy Farm Drive just west of Wingfield Road. This alternative has been located to minimize the number of houses taken. The new road would be designed to pass under Ivy Farm Drive, which would help to reduce its effect as a visual barrier.

North of Ivy Farm, the alternative passes through the small subdivision of Wyngate. The interchange with Route 676 would take about half the houses of this subdivision. After crossing the South Fork Rivanna River Reservoir, Alternative 11 goes along the edge of three subdivisions - Ardwood, Clover Hill, and Ridgefield. It would take a small bit of property near the end of the cul-de-sacs of each of these subdivisions but would not take any houses or divide the subdivisions. The alignment takes from Hidden Hills subdivision a small piece of land along Route 743 for an interchange.

At its terminus at Route 29 north, the entire interchange is located on the west side of Route 29 so as not to directly affect any residential communities, though it would affect access roads to Hollymead and Forest Lakes.

h. Alternative 12

Like Alternative 11, this alternative follows nearly the same alignment as Alternative 10 from the 29/250 Bypass past Colthurst Farm. It then curves to the west to go past Montvue and around Ivy Farm. Alternative 12 was developed specifically to avoid the impacts of Alternative 11 upon this neighborhood. Alternative 12 would take some property along the backs of a few deep lots next to Ivy Creek, but otherwise would not directly impact Ivy Farm.

For its interchange with Route 676, Alternative 12 would take a portion of Logan Village, a small subdivision, but it would not divide it. It would take a small piece of land but no

homes from the Arbor Park subdivision. West of the airport, the alternative would take a part of the common area along the edge of the Earlysville Forest planned unit development, but it would not divide this community or cross any of its streets.

North of the airport, Alternative 12 goes through the middle of Lake Acres, crossing under both streets of this subdivision, Routes 850 and 606. This subdivision could not be avoided, since the airport is on one side of it and Chris Greene Lake on the other.

Alternative 12 has its terminus at Route 29 North, just south of the North Fork Rivanna River.

5. Impacts on Community Facilities

a. Fire, Rescue and Public Safety

Alternative 7 would displace the Charlottesville-Albemarle Rescue Squad located at Bypass Route 250 near McIntire Road. Alternatives 10, 11, and 12 would displace the University of Virginia Police Headquarters. Replacements for these facilities would be provided.

Because the new-location alternatives would not close any local roads, they should not increase response time of emergency vehicles or have an adverse impact on public safety. In fact, several of the alternatives could be expected to reduce time for emergency vehicles responding to some areas. Alternative 7A would improve access between the Albemarle County Police Headquarters and several parts of the County. Alternatives 7 and 7A would also improve access from Charlottesville Fire Station 1, located on Route 250 Bypass. Alternative 7A would terminate very close to the Charlottesville-Albemarle Rescue Squad, improving response by emergency medical service teams to much of the area.

Other alternatives would improve access by other fire companies. Alternative 10 would improve response by the Seminole Trail Volunteer Fire Department to areas to the southwest if an interchange were built at Route 743. Alternative 12 would improve access by the Earlysville Volunteer Fire Department, particularly to areas south of the South Fork Rivanna River.

With the Expressway Alternative, emergency vehicle response time to some locations along Route 29 could be increased because some of the existing U-turn opportunities would be eliminated. The average increase in driving distance from a point on one side to a point on the other would be about 440 feet. Assuming a speed of 30 mph, this would be an average increase in response time of 10 seconds for an emergency vehicle having to make a U-turn to respond to a call.

The longest additional distance that would need to be driven from any point to get to the other side of the Expressway is approximately 3,700 feet. At 30 mph, this would add 1.4 minutes to the response time.

b. Schools

Alternatives 10, 11, and 12 would displace two support facilities of the University of Virginia, the University Police Headquarters and the University Printing Services. These alternatives would also take some property from the lower school campus of St. Anne's-Belfield School, a private school, including one of this campus's two athletic fields. No other schools, public or private, would be relocated and no other school facilities would be taken by these alternatives.

Alternative 10 takes a portion of the property of the proposed Agnor-Hurt Elementary School which is to be located east of Woodburn Road (Route 659).

Because none of the alternatives would require closing or relocating any public roads, they would not affect school bus routes and access to the schools.

Several of the alternatives come within one quarter mile of public or private schools. Some of these schools could experience indirect impacts from the project, principally from vehicle noise. (See Section F.)

Alternatives 6 and 7 pass within 1,000 feet of the Charlottesville-Albemarle Vocational Technical School on Rio Road. Alternatives 7 and 7A pass within 1,000 feet of the Covenant School, a private school on Route 250, and the southern terminus of 7A is about 600 feet from that school. Alternatives 7 and 7A also run adjacent to the Charlottesville High School athletic field on Melbourne Road at the Southern Railway tracks. Shifts were made in this alternative to avoid directly impacting this athletic complex.

The Expressway Alternative and the Base Case include reconstruction of Route 29 about 900 feet from Woodbrook Elementary School. Alternative 10 passes alongside the County schools complex that includes Albemarle High School, Jack Jouett Middle School and Mary Greer Elementary School. Shifts have been made to minimize any impacts to these schools. This alternative would require a small piece of this property (a wooded area on the edge of the property) but would not directly impact any of these schools. It would pass about 600 feet from Greer School and within 1,200 feet of Jouett School.

c. Parks and Recreation

Alternatives 6 and 7A require use of property from public parks as discussed in detail in Chapter VIII. Other alternatives pass near parks, causing noise impacts as discussed in Section F of this chapter.

Alternative 6 goes through both Pen Park (a City Park) and Rivanna Park (a new City-County park). It would take about 13 acres of Pen Park's 267 acres, and go through a nine-hole golf course there. The right-of-way would take about 18 acres of Rivanna Park's 111 acres, including parts of several ball diamonds there. Alternative 6B was developed as a separate alternative to avoid impacts upon Pen Park and Rivanna Park.

Alternative 7A passes along the edge of the City's McIntire Park, taking about 11 acres of this 143-acre facility, including a portion of a nine-hole golf course. Alternative 7 was developed to avoid McIntire Park. It passes to the east of the park and avoids any encroachment. From just north of the park to the northern terminus at Route 29, Alternative 7 is identical to 7A.

Other alternatives have been carefully located to avoid taking any part of the other public parks and recreation facilities within the project area. Alternatives 7 and 7A have been shifted to avoid the Charlottesville High School athletic field complex on Melbourne Road. Alternative 10 avoids Ivy Creek Natural Area, a 215-acre nature preserve owned jointly by the City and County. Alternative 12 passes to the south of Chris Greene Lake Park, a County park.

d. Churches, Cemeteries and Hospitals

None of the Candidate Build Alternatives would take or require the relocation of any existing churches. The interchange of Alternative 10 with Route 743, shown in previous plans but not included as a part of the selected alternative, would take a portion of the property of the Church of Jesus Christ of Latter Day Saints and would likely require some changes to the access and parking for this church.

Alternative 11 would take a part of the property adjacent to Pleasant Grove Baptist Church on Route 743 south of the airport. The interchange with Route 743 has been designed as a partial cloverleaf to avoid this church and to adequately serve the traffic.

Alternatives 6, 6B, 7, and 7A pass close to the old Laurel Hill Baptist Church building along Route 649. This building is no longer being used as a church. The right-of-way for these alternatives would not take any of this property or the adjacent cemetery. Across Route 649 is the site of the planned new Maple Grove Christian Church. These alternatives likely would require relocation of this church site.

Alternative 12 goes just west of Ivy Creek United Methodist Church and the adjacent cemetery on Route 676, but would not take any of this church property.

Alternative 10 would impact a small cemetery just east of Woodburn Road and a portion of another cemetery on the side of a steep heavily wooded hillside between Woodburn Road and Route 29. It is possible that some small family plots could be discovered during surveying and right-of-way acquisition. Alternative 11 has its northern terminus just opposite Holly Memorial Gardens. This interchange has been located entirely on the west side of Route 29 to avoid any taking of this cemetery. However, service roads and local access will require some alteration.

Both of the major hospitals in Charlottesville are located far from any of the alternatives and would not be impacted. Each of the alternatives would improve access from certain areas for vehicles traveling to these hospitals' emergency rooms.

e. Utilities

The new location alternatives are not expected to have a major impact on utilities. The number of above-ground and below-ground utility lines that would need to be relocated or adjusted for each alternative are considered in VDOT's Relocation Report. Utility relocation costs were summarized in Table II-4.

The Expressway Alternative would be expected to have a much greater impact on utilities in terms of the number and cost of utility relocations. It would be located entirely in a developed corridor, requiring the relocation of the main utility lines as well as the connections to the many businesses in the corridor.

Some citizen groups have expressed concern over the impact that Alternatives 11 and 12 might have on the South Fork Rivanna River Reservoir and on the quantity and quality of the water supply to the study area. These concerns are discussed in Sections H and L.

C. CULTURAL RESOURCES

An historic standing structures survey and an archeological survey were performed to determine potential impacts of the alternatives on cultural resources. These surveys were conducted in accordance with the National Historic Preservation Act of 1966, as amended (36 CFR 800.4), the Secretary of the Interior's Standards for Archaeology and Historic Preservation, and guidelines established by the Virginia Department of Historic Resources (VDHR). A Phase I Cultural Resource Report was prepared; in addition, Phase II significance evaluations were conducted for historic architectural resources determined potentially eligible for the National Register of Historic Places (NRHP).

1. Standing Structures

The Phase I architectural survey included a literature search and a field survey of structures in a half-mile-wide corridor centered on the conceptual alternatives. This survey is reported in a separate technical memorandum. Additional investigations were conducted in late 1991 and early 1992 to ensure that refinements made to the selected alternative would not affect any additional historic properties. No additional historic properties were found to be affected.

During 1990, Phase II architectural evaluations were conducted for properties in the vicinity of the Candidate Build Alternatives, in cooperation with VDHR. A presentation of the results of the evaluations was made to VDHR upon which VDHR made determinations of eligibility and effect. The Phase II historic architectural investigations are reported on in a separate technical memorandum.

The properties determined by VDHR to be eligible for the NRHP along with one property and one historic district previously determined eligible are listed in Table IV-7, and located as shown in Figure IV-11.

As shown in Table IV-7, seven of the properties or districts on or eligible for the NRHP would be adversely affected by one or more of the Candidate Build Alternatives. Most of the effects would be visual effects only. None of the historic standing structures would be displaced, but two of the properties would have a portion of their land taken for the highway right of way - the Schlesinger Farm for Alternatives 11 and 12 and Barracks Historic District for Alternative 11. These effects are described in the Section 4(f)/106 Evaluation, Chapter VIII.

The selected alternative affects two historic sites, Schlesinger Farm and Westover. The alternative has no adverse effect on Westover, but it does have an adverse visual effect on Schlesinger Farm. In accordance with regulations implementing Section 106 of the Historic Preservation Act, a Memorandum of Agreement (MOA) has been executed among VDHR, FHWA, and VDOT outlining measures to minimize adverse effects to these historic resources. The Section 106 evaluation and MOA are presented in Appendix B.

2. Archaeology

The Phase I archaeological survey included shovel tests along the entire length of each of the new-location Candidate Build Alternatives. The shovel testing was done at 140-foot intervals staggered 72 feet on either side of the centerline. Additional testing was done at interchange locations. The Phase I survey revealed 38 sites within the rights of way of the Candidate Build Alternatives. Including previously recorded archaeological sites, this brings the number of sites within the rights of way to 58. Seventeen sites were recommended for Phase II investigations, including 10 prehistoric sites and seven historic sites. Prehistoric

TABLE IV-7

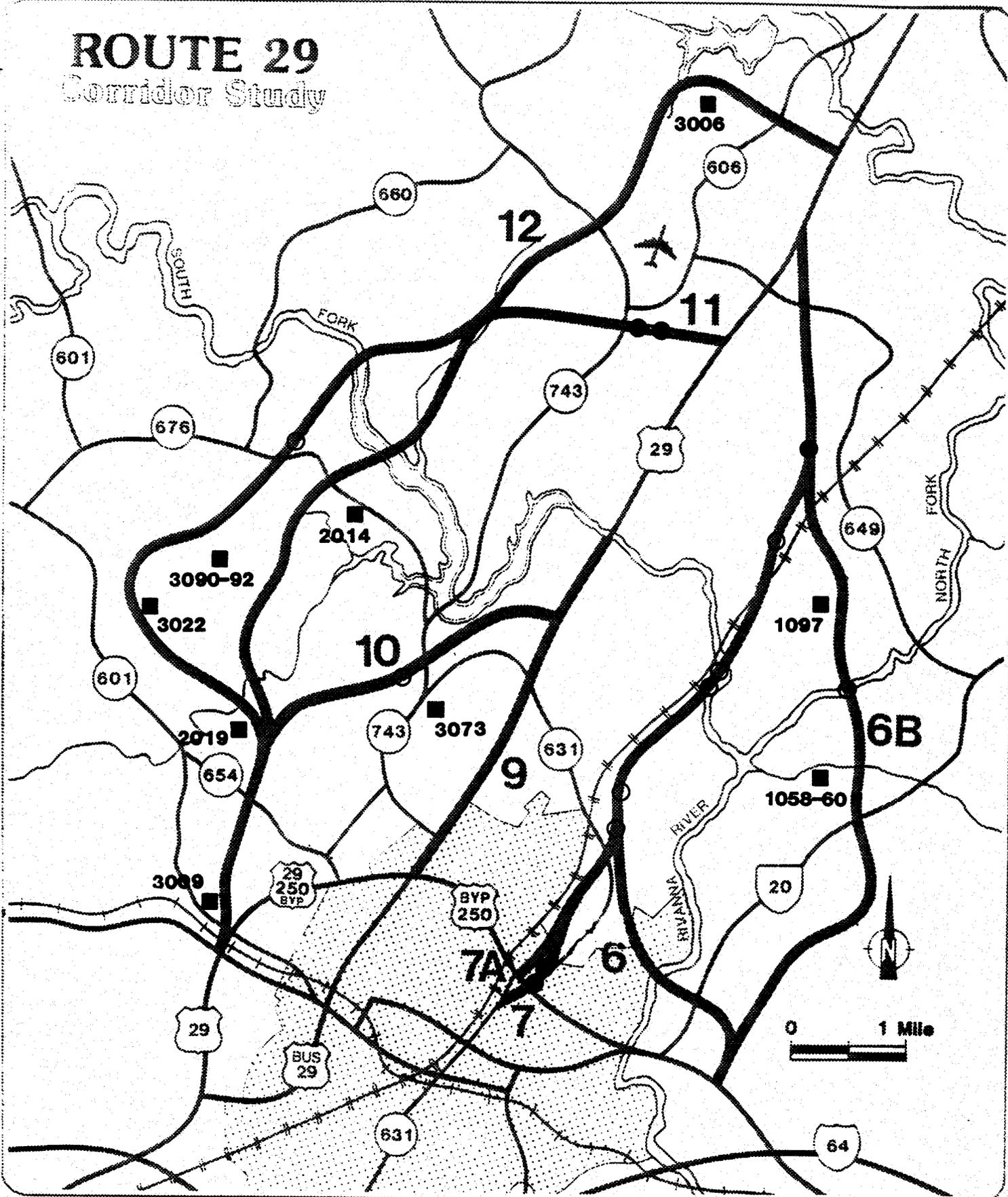
STANDING STRUCTURES ON OR ELIGIBLE FOR NRHP (1)

<u>Site No.</u>	<u>Name</u>	<u>Alternative</u>	<u>No</u> <u>Effect</u>	<u>No</u> <u>Adverse</u> <u>Effect</u>	<u>Adverse</u> <u>Effect</u>	<u>Comments</u>
1058-60	Ridgeway Farm	6B			X	Visual effect only
1097	Red Hills Farm	6B			X	Visual effect only
2014	Woodlands(2)	11			X	Visual effect only
2019	Schlesinger Farm	10, 11, 12			X	Alt. 10 has visual effect only
3006	Crenshaw Farm	12			X	Visual effect only
3009	Westover	10, 11, 12		X		Visual effect only
3022	Darby's Folly	12			X	Visual effect only
3090-92	Barracks Historic District	11, 12			X	Alt. 12 has visual effect only
---	Charlottesville- Albemarle Courthouse Historic District(2)	7		X		

(1) Eligibility for the National Register of Historic Places as determined by Virginia Department of Historic Resources

(2) Already on or previously determined eligible for National Register of Historic Places.

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■ HISTORIC STANDING STRUCTURES
AFFECTED BY ALTERNATIVES

ARCHAEOLOGICAL SITES RECOMMENDED FOR
PHASE II INVESTIGATIONS:

○ PREHISTORIC ● HISTORIC

Cultural Resources

Figure No. IV-11

components range in date from the Late Archaic through the Late Woodland periods. Historic components date from the nineteenth and twentieth centuries.

Table IV-8 indicates the number of archaeological sites impacted by each alternative. The sites recommended for Phase II investigation are located as shown on Figure IV-11. The selected alternative involves one site recommended for Phase II investigations. This is a small pre-historic site where tool and stone fragments were found. Phase II investigations were performed at the site to fully evaluate its importance. The investigations indicated the site once represented a Middle Woodland period (ca. A.D. 300 to 900) short-term hunting and butchering camp. The site was found to lie in colluvial deposits that have experienced erosion and redeposition. Since the artifacts are contained within a disturbed context lacking integrity, the site was recommended not eligible for the National Register. No further archaeological investigations were recommended for this site. Additional investigations on refined portions of the selected alternative revealed no additional archaeological sites.

In late summer 1992, a local citizen informed the study team of a cemetery that had been overlooked during earlier studies. The Woodfolk cemetery, not discovered in previous investigations because it is situated on an overgrown, heavily wooded, steep hillside, is located within the Alternative 10 corridor between Woodburn Road and Route 29. The cemetery consists of a few marked graves and surface depressions representing perhaps 40 to 50 unmarked graves. There are no fences or other obvious demarcations of the boundaries. Information provided by the citizen and the legible markers suggests early twentieth century interments of African Americans including Reverend Woodfolk and members of his family. Additional research is being conducted (in the form of a Phase II evaluation) to determine if the cemetery is historically important.

If determined to be eligible for the National Register, VDOT commits to full archaeological data recovery efforts to recover all necessary historical data from the site. Since the site would be considered important only for the information it may contain, preservation in place would not be warranted and Section 4(f) would not apply. It is anticipated that a Finding of No Adverse Effect would be made. Full compliance with Section 106 of the National Historic Preservation Act will be achieved.

D. VISUAL IMPACTS

The typical cross section for the new-location alternatives was shown in Figure II-3. At this stage in the analysis, a 300-foot wide right of way generally was assumed for new-location roadway segments. The new-location alternatives all pass through areas that are similar in character, with a mix of farms, wooded areas and low density residential developments. The view of the road will be a typical rural divided highway, with two travel lanes in each direction separated by a wide vegetated median. The view from the road will be a pleasant

TABLE IV-8

ARCHAEOLOGICAL SITES IMPACTED BY ALTERNATIVES

<u>Alternative</u>	<u>No. of Sites</u>	<u>Recommended for Phase II</u>	
		<u>Yes</u>	<u>No</u>
Base Case	0	0	0
6	15	6	9
6B	6	2	4
7	23	10	13
7A	16	6	10
9	0	0	0
10	2	1	1
11	9	2	7
12	5	1	4
Base Case w/Interchanges	0	0	0

one of generally rolling terrain, with a variety of woods, farms, open fields, and residential areas.

Alternative 9 (the Expressway) goes through a developed suburban commercial area. Typical cross sections were shown in Figures II-4 and II-5. The facility would have a curb and gutter on each side of the service roads and concrete barriers separating slip ramps from the service roads. The narrow right of way, intended to reduce impacts on businesses along Route 29, would leave minimal room for landscaping. The view of the road would be a suburban arterial highway with express lanes in the center. Except at the southern end near Bypass 250, the expressway lanes would be depressed below cross streets. In most areas, the expressway lanes would be at a lower level than the at-grade service lanes alongside. This would be less visually intrusive than an elevated roadway. The view from the road would be of mixed commercial and industrial development, as currently exists on Route 29 north.

Alternatives 6 and 6B are within the viewshed of Monticello, which is located south of Interstate 64 southeast of Charlottesville. These alternatives, however, are more than a mile from Monticello, and would have less impact on the view from Monticello than the existing I-64.

E. AIR QUALITY

1. Carbon Monoxide Analysis

The effects of the project alternatives on air quality were evaluated by analyzing carbon monoxide concentrations for a base year (1987), an interim year (2000), and the design year (2010). Carbon monoxide (CO), the predominant pollutant emitted by motor vehicles, is a stable gas which is generally found in highest concentrations near highways. Concentrations can be accurately predicted with computer models. The model used for this study was VACAL 3, a microcomputer program based on FHWA's MOBILE/CALINE 3 Graphic Assessment Procedure.

Concentrations of other pollutants with high correlations to motor vehicle emissions, such as nitrogen oxides and ozone, involve complex chemical reactions and atmospheric transport. There are no models available to accurately predict their concentrations at a microscale level. These pollutants must be analyzed on a large regional scale and are addressed at a system planning level as part of the State Implementation Plan. With the increasing use of unleaded gasoline and lower levels of lead in leaded gasoline, lead standards are not expected to be violated. Consequently, lead emissions have not been analyzed. Since motor vehicles contribute very little to regional levels of sulfur dioxide and particulates, they too have not been analyzed.

2. Receptor Sites

Potential "worst case" receptor sites for each alternative were selected for analysis as shown on Figure IV-12. The sites represent areas where the highest carbon monoxide concentrations could be expected and where the general public has access or where outdoor activities are likely to occur. In general, the sites are located near proposed right-of-way lines on roadway sections with highest peak-hour traffic volumes. Since parks and schools have a high degree of public use, several sites were selected in or near parks and school playgrounds near the alternatives.

3. Carbon Monoxide Concentrations

Table IV-9 shows the peak one-hour and eight-hour carbon monoxide concentrations under "worst case" conditions at the 11 analysis sites. In all cases, the one-hour concentrations include background of six parts per million and eight-hour concentrations include background of three parts per million. In comparing the concentrations in the table with the National Ambient Air Quality Standards of 35 parts per million for one hour and nine parts per million for eight hours, it can be seen that in no case will the NAAQS be violated. In fact, in all cases, CO concentrations will be well below the NAAQS.

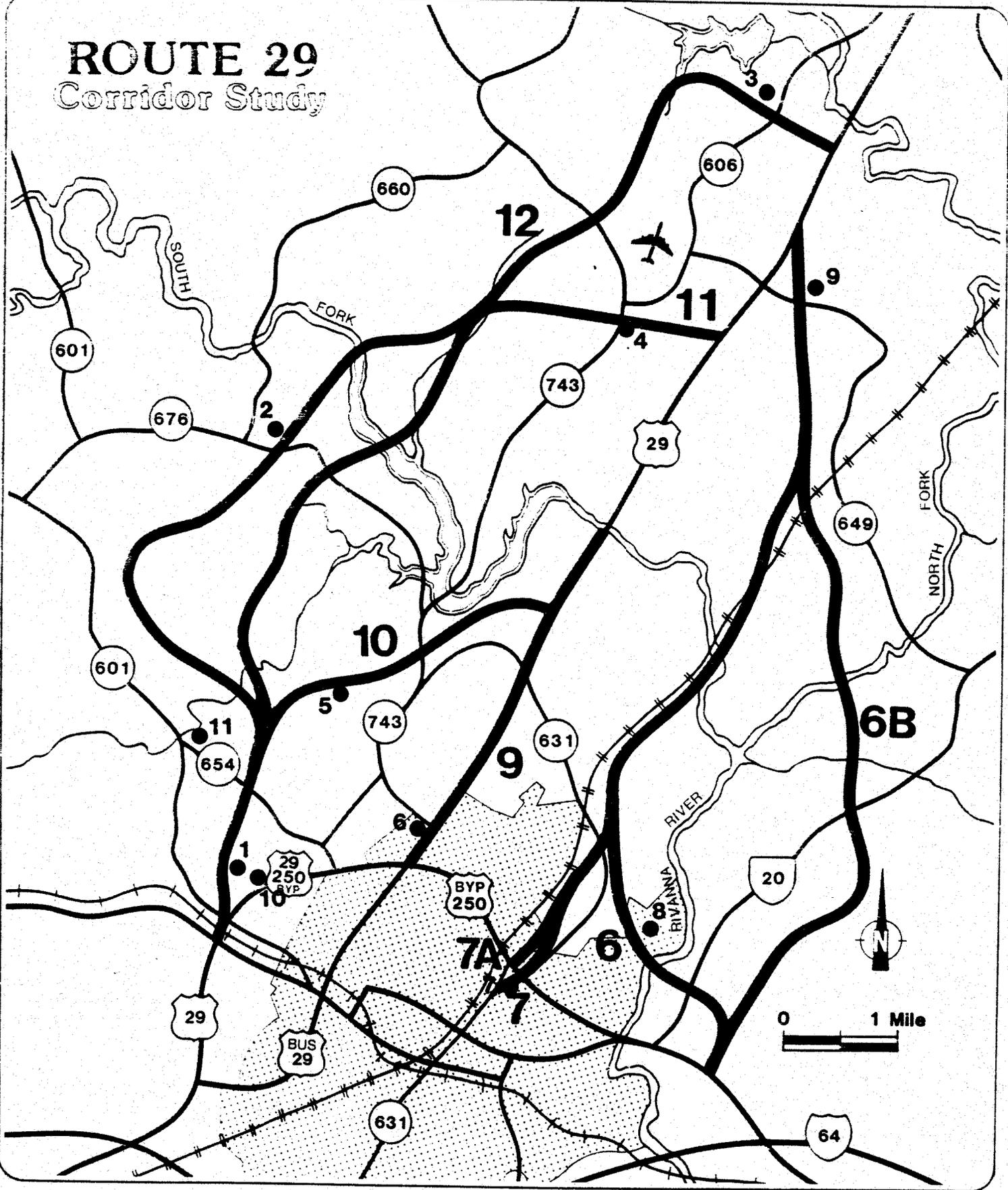
The analysis shows that the proposed bypass alternatives would have only slight effects on CO concentrations. Except at sites 4, 7, and 9, the bypass alternatives would increase CO levels only 0.1 parts per million above background levels. The higher levels at sites 4, 7, and 9 may be attributed to the added effects of traffic on existing roads. The maximum impact would occur at site 7, the McIntire Tennis Courts, where year 2010 build concentrations would increase over existing concentrations by 1.8 and 1.0 parts per million for one and eight hours respectively.

For site 6 on Alternative 9 (Expressway), year 2010 build concentrations would not be substantially higher than either existing or year 2010 no-build concentrations.

Secondary analysis sites represent areas not directly affected by the project alternatives. However, in some cases, implementation of a particular alternative could result in traffic volume increases on local roads that would not occur without that alternative. Sites 10 and 11 represent worst case secondary impact areas. As shown in the table, neither site would experience substantial air quality degradation as a result of implementation of any of the alternatives.

Sites 5, 7, and 8 represent school, outdoor recreation, and park areas. Site 5 at Greer Elementary School and site 8 representing Pen Park and Rivanna Park would experience only slight (0.1 parts per million) increases in CO concentrations. Site 7 at the McIntire Tennis Courts would experience greater increases; the resulting concentrations, however, would still be well below the NAAQS.

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Carbon Monoxide Analysis Sites

Figure No. IV-12

TABLE IV-9 (Cont.)

PEAK CARBON MONOXIDE CONCENTRATIONS
(Parts per Million
under Worst Case Meteorological Conditions)

Site#	Alternative	Year/Case	CO Concentrations Including Background		Site#	Alternative	Year/Case	One Hour	E i g h t Hour
			One Hour	E i g h t Hour					
1	10, 11, 12	1987 Base	6.0	3.0	7	7, 7A	1987 Base	9.3	4.9
		2000 No-Build	6.0	3.0			2000 No-Build	8.8	4.6
		2000 Build	6.1	3.1			2000 Build	9.8	5.2
		2010 No-Build	6.0	3.0			2010 No-Build	9.7	5.2
		2010 Build	6.1	3.1			2010-Build	11.1	5.9
2	12	1987 Base	6.0	3.0	8	6	1987 base	6.0	3.0
		2000 No-Build	6.0	3.0			2000 no-build	6.0	3.0
		2000 Build	6.1	3.1			2000 build	6.1	3.0
		2010 No-Build	6.0	3.0			2010 no-build	6.0	3.0
		2010 Build	6.1	3.1			2010-build	6.1	3.1
3	12	1987 Base	6.0	3.0	9	6B	1987 Base	6.3	3.2
		2000 No-Build	6.0	3.0			2000 No-Build	6.4	3.2
		2000 Build	6.1	3.0			2000 Build	6.5	3.3
		2010 No-Build	6.0	3.0			2010 No-Build	6.5	3.3
		2010 Build	6.1	3.0			2010-Build	6.7	3.4
4	11	1987 Base	6.0	3.0	10	9	1987 Base	7.3	3.7
		2000 No-Build	6.0	3.0			2000 No-Build	7.4	3.6
		2000 Build	6.1	3.0			2000 Build	7.5	3.8
		2010 No-Build	6.0	3.0			2010 No-Build	7.3	3.7
		2010 Build	6.1	3.1			2010-Build	7.6	3.9
5	10	1987 Base	6.1	3.1	11	10, 11, 12	1987 Base	6.5	3.3
		2000 No-Build	6.2	3.1			2000 No-Build	6.3	3.2
		2000 Build	6.2	3.2			2000 Build	6.4	3.2
		2010 No-Build	6.2	3.1			2010 No-Build	6.3	3.2
		2010 Build	6.4	3.2			2010-Build	6.5	3.3
6	9	1987 Base	9.1	4.7			1987 Base	6.5	3.3
		2000 No-Build	8.8	4.5			2000 No-Build	6.3	3.2
		2000 Build	9.1	4.8			2000 Build	6.4	3.2
		2010 No-Build	9.1	4.7			2010 No-Build	6.3	3.2
		2010-Build	9.4	4.9			2010-Build	6.5	3.3

In view of the above, none of the alternatives will interfere with attainment or maintenance of the NAAQS. The State Implementation Plan contains no transportation control measures for this area. Therefore, except for construction procedures, the conformity requirements of 23 CFR 770 do not apply.

F. NOISE

1. Study Procedures

Two types of traffic noise impacts are recognized. One occurs when predicted design-year build noise levels approach or exceed the noise abatement criteria. The other occurs when predicted design-year build noise levels substantially exceed existing noise levels. Under current Virginia Department of Transportation policy approved by the Federal Highway Administration, a substantial increase is defined as an increase of 10 decibels or more.

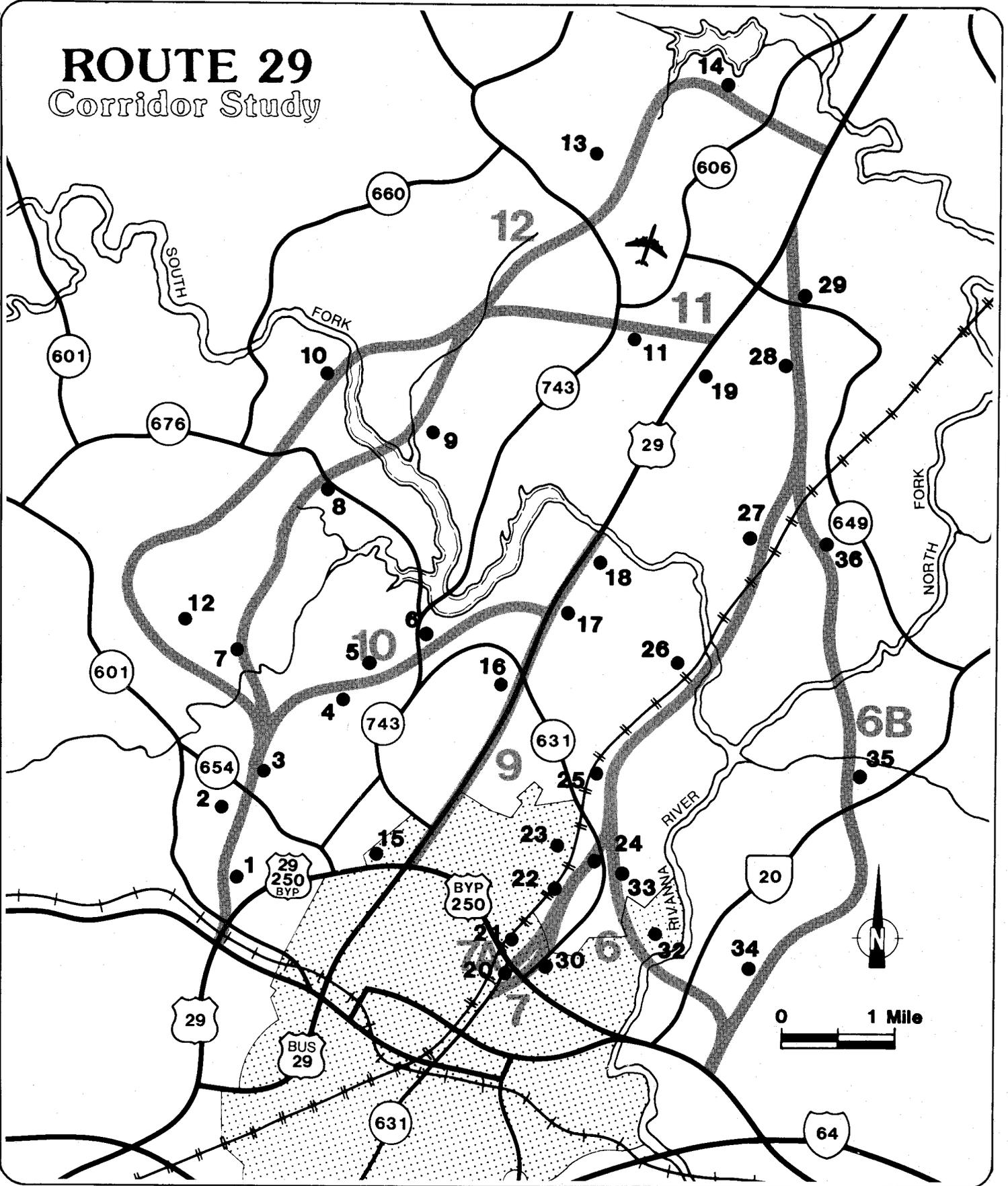
Noise sensitive areas along each alternative were divided into study areas that would experience relatively uniform noise conditions based on changes in traffic volumes, land use, and roadway configurations. Each study area is represented by the noise-sensitive receptor site (usually a building) within that area which is closest to the roadway and would, therefore, experience the greatest noise impact.

Figure IV-13 shows the locations of the 35 study sites. Table IV-10 describes the site locations and the areas they represent. Design-year noise levels were estimated for each site for both no-build and build conditions. For those sites where no single noise source dominates, design-year no-build noise levels were assumed to be the same as existing levels. Design-year no-build noise levels for sites presently dominated by traffic noise were calculated with the FHWA's computer model, STAMINA 2.0, using projected future traffic volumes. Design-year build noise levels for all of the sites were calculated with the model.

Identification of traffic noise impacts requires three comparisons of noise levels:

- o Comparison of existing noise levels with design-year build noise levels shows changes that would occur between the present and the year 2010 if the project is built.
- o Comparison of design-year build and design-year no-build noise levels shows what changes can be attributed to the project.
- o Comparison of design-year-build noise levels with the noise abatement criteria shows whether future noise levels will be compatible with present land use if the project is built.

ROUTE 29 Corridor Study



Noise Analysis Sites

Figure No. IV-13

TABLE IV-10**NOISE ANALYSIS SITES**

<u>Site</u>	<u>Location</u>	<u>Area Represented</u>
1	2 Story Frame Dwelling at St. Anne's Belfield School 200' right (east) of Station 543 Alternates 10, 11, 12	Residential receptors on both sides of alignment from Route 250 to 3000' south of Barracks Road
2	2 Story Brick Dwelling Falcon Drive Colthurst Subdivision 160' left (west) of Station 577 Alternates 10, 11, 12	Residential receptors on both sides of alignment from 3000' south of Barracks Road to Barracks Road
3	2 Story Frame Dwelling Magnolia Drive Montvue Subdivision 160' right (east) of Station 601 Alternates 10, 11, 12	Residential receptors on both sides of alignment from Barracks Road to Mary Greer Elem. School
4	Playground at Mary Greer Elementary School 250' right (east) of Station 653 Alternate 10	Playground at Mary Greer Elementary School
5	One Story Frame Dwelling 200' left (west) of Station 672 Alternate 10	Residential receptors on both sides of alignment from Mary Greer Elementary School to Route 743
6	2 story frame dwelling Squirrel Path Squirrel Ridge Subdivision 180' left (west) of Station 713 Alternate 10	Residential receptors on both sides of alignment from Route 743 to U.S. Route 29
7	2 story frame dwelling Stillhouse Road Ivy Farm Subdivision 165' left (west) of Station 666 Alternate 11	Residential receptors on both sides of alignment from Barracks Road to 2000' south of Route 676
8	2 story frame dwelling Wyngate Road Wyngate Subdivision 190' right (east) of Station 744 Alternate 11	Residential receptors on both sides of alignment from 2000' south of Route 676 to Route 676
9	Dwelling Willowbrook Road (cul-de-sac) Ardwood Subdivision 275' right (east) of Station 802 Alternate 11	Residential receptors on both sides of alignment from Route 676 to Route 743
10	2 story frame dwelling Dundee Road Arbor Park Subdivision 290' left (west) of Station 864 Alternate 12	Residential receptors on both sides of alignment from Route 676 to Route 743
11	2 story frame dwelling North of Rivanna Subdivision 200' right (south) of Station 936 Alternate 11	Residential receptors on both sides of alignment from Route 743 to U.S. Route 29

Table IV-10 (cont.)

12	1 story frame dwelling west of Ivy Farm Subdivision 310' right (east) of Station 720 Alternate 12	Residential receptors on both sides of alignment from Route 601 to Route 676
13	1 story frame dwelling Hunter Ridge Road Earlysville Heights 500' left (west) of Station 1070 Alternate 12	Residential receptors on both sides of alignment from Route 743 to 1000' west of Chris Greene Lake Road (Route 850)
14	1 story frame dwelling Chris Greene Lake Road Lake Acres Subdivision 160' left (north) of Station 1124 Alternate 12	Residential receptors on both sides of alignment from 1000' west of Chris Green Lake Road (Route 850) to U.S. Route 29
15	2 story brick apartment end of Middlesex Drive, North side of Route 250/29 Bypass. 120' left (north) of Sta. 85 + 50. Alternate 9	Residential receptors on both sides of Route 250/29 Bypass
16	Dwelling on Commonwealth Circle Berkley Subdivision U.S. Route 29 340' left (west) of Station 65 Alternate 9	Receptors on both sides of the alignment from Route 250/29 Bypass to Rio Road
17	1 Story brick dwelling Woodbrook Subdivision 360' right (east) of Station 126+50 Alternate 9	Residential receptors on both sides of the alignment from Rio Road to Carrsbrook Drive
18	1 story brick dwelling Carrsbrook Subdivision 260' right (east) of Station 157 Alternate 9	Residential receptors on both sides of the alignment from Carrsbrook Drive to Route 643
19	1 story frame dwelling Hollymead Subdivision 100' right (east) of Station 944 Alternate 9	Residential receptors on both sides of the alignment from Route 643 to Route 649
20	McIntire Park Tennis courts near intersection of McIntire Road and Route 250 Bypass 60' right (east) of Station 396+70 Alternates 7 & 7A	Residential and recreational receptors at intersection of McIntire Road & Route 250 Bypass
21	Tee #2 McIntire Park Golf Course 170' left (west) of Station 409 Alternate 7A	Recreational receptors in McIntire Park (golf course)
22	Charlottesville High School Softball Field 260' left (west) of Station 438 Alternates 7 & 7A	Recreational receptors for playing fields at Charlottesville High School
23	1 story brick dwelling Kenwood Lane 470' left (west) of Station 451 Alternatives 7 & 7A	Residential receptors on both sides of alignment from Melbourne Road to Rio Road

Table IV-10 (cont.)

24	1 story frame dwelling Rio Road 460' right (east) of Station 471 Alternate 7	Residential receptors along both sides of Rio Road
25	1 story frame dwelling 165' left (west) of Station 474 South of Free State Road Alternates 6, 7, 7A	Residential & recreational receptors on both sides of alignment from Rio Road to Free State Road
26	1 story frame dwelling Huntington Road East of Westmoreland Subdivision 500' left (west) of Station 515 Alternates 6, 7, 7A	Residential receptors on both sides of alignment from Free State Road to Route 643
27	2 story frame dwelling East of Powell Creek North of Route 643 590' left (west) of Station 611 Alternates 6, 7, 7A	Residential receptors on both sides of alignment from Route 643 to 4,200' north of Route 643
28	Undeveloped lots Creek Drive Road Forest Lake Subdivision 180' left (west) of Station 677 Alternates 6, 6B, 7, 7A	Residential receptors on both sides of alignment from intersection of Alt. 6 & Alt 6B to Creek Drive Road
29	Mount Ephraim Pentecostal Church 180' right (east) of Station 704+60 Alternates 6, 6B, 7, 7A	Church and residential receptors on both sides of alignment from Creek Drive Road to U.S. Route 29
30	Dwelling 170' right (east) of Station 430 Alternate 7	McIntire Park and residential receptors on both sides of alignment from McIntire Road to Melbourne Road
32	Pen Park golf course 165' right (east) of Station 380 Alternate 6	Recreational receptors in Pen Park & Rivanna Park & residential receptors on both sides of alignment from Route 250 to Pen Park Road
33	Townhouse in River Run Subdivision 180' right (east) of Station 421 Alternate 6	Residential receptors at River Run Subdivision
34	3 story frame dwelling Franklin Drive Franklin Subdivision 200' left (west) of Station 362 Alternate 6B	Residential receptors on both sides of alignment from Route 250 to Route 20
35	1 story frame dwelling North of Route 20 250' right (east) of Station 481 Alternate 6B	Residential receptors on both sides of alignment from Route 20 to North Fork of Rivanna River
36	1 story brick dwelling Bentivar Drive North of Bentivar Subdivision 540' right (east) of Station 587 Alternate 6B	Residential receptors on both sides of alignment from North Fork of the Rivanna River to intersection of Alt. 6 & Alt. 6B

Note: Site 31 had no noise-sensitive activities and was deleted from the study. Therefore, it does not appear in this table.

2. Study Results

Table IV-11 shows existing noise levels, design-year no-build noise levels, and design-year build noise levels for each site, enabling a quick comparison among the three. Each site represents the worst case impact within a particular segment of roadway. To assess the impacts of each alternative as a whole, the numbers of noise-sensitive receptors represented by sites along the alternative were totaled. Receptors may be residences, platted and recorded residential lots, parks, playing fields, or other areas with outdoor activities.

As could be expected, introduction of a major new transportation route will greatly influence noise levels along the selected route, especially in rural areas where existing noise levels are low. Comparing existing noise levels with design-year build noise levels in Table IV-11, increases of two to 23 decibels would occur. Ten of the sites, 15-20, 24, 27, 30, and 33, would experience increases of two to nine decibels. Twenty-five sites, 1-14, 21-23, 25, 26, 28, 29, 32, and 34-36, would experience increases of 10 or more decibels. Sites experiencing increases of 10 or more decibels are considered to be impacted under the substantial increase criterion. Looking at the site locations, it is evident that most of the substantial increases would occur in outlying rural areas while most of the smaller increases would occur near existing roads and developed areas.

Comparing existing noise levels with design-year no-build noise levels in Table IV-11 shows little or no changes in most cases. Noise levels would increase from one to three decibels at sites 1, 15, 16, 17, 18, 19, 20, 24, and 30. This would be due to increases in traffic volumes on existing roads. In two cases, the increases would be greater. Site 29 on Route 649 would experience an increase of six decibels and site 36 on Route 643 would experience an increase of 13 decibels. These greater increases would be due to substantially greater traffic volumes using these routes as a result of both increased development and efforts to escape congestion on Route 29.

Comparison of no-build and build conditions readily shows that most major changes in noise levels would be attributable to the project alternatives due to introduction of major new noise sources represented by the alternatives.

At some sites there will be little difference between no-build and build case noise levels. At sites 15-20, 29,30, and 36, the differences range from zero to five decibels. At site 24, the no-build noise level will actually be one decibel higher than the build noise level.

These small differences can be attributed to the fact that with or without the project, highways adjacent to these sites will continue to serve major traffic volumes. In the case of site 24, no-build traffic volumes on Rio Road will be higher than build traffic volumes, which in turn will cause higher noise levels under the no-build condition.

Comparison of design-year noise levels with the noise abatement criteria (NAC) shows the second type of impact. Those sites currently experiencing noise levels equalling or

TABLE IV-11

EXISTING AND DESIGN YEAR NOISE LEVELS

Site #	Condition	Noise Source	Source-Receptor Distance (feet)	Noise Level $L_{eq}dB(A)$
1	Existing No-Build Build	Rte 250 Bypass Rte 250 Bypass Rte 250 Bypass Alts. 10,11,12	900 900 900 200	52 55 68
2	Existing No-Build Build	Ambient Ambient Alts. 10,11,12	N/A N/A 160	51 51 69
3	Existing No-Build Build	Ambient Ambient Alts. 10,11,12	N/A N/A 160	49 49 69
4	Existing No-Build Build	Ambient Ambient Alt. 10	N/A N/A 250	49 49 61
5	Existing No-Build Build	Ambient Ambient Alt. 10	N/A N/A 200	54 54 67
6	Existing No-Build Build	Ambient Ambient Alt. 10	N/A N/A 180	49 49 66
7	Existing No-Build Build	Ambient Ambient Alt. 11	N/A N/A 165	54 54 68
8	Existing No-Build Build	Ambient Ambient Alt. 11	N/A N/A 190	48 48 67
9	Existing No-Build Build	Ambient Ambient Alt. 11	N/A N/A 275	57 57 68
10	Existing No-Build Build	Ambient Ambient Alt. 12	N/A N/A 290	48 48 64
11	Existing No-Build Build	Ambient Ambient Alt. 11	N/A N/A 200	50 50 70

TABLE IV-11 (Cont.)

Site #	Condition	Noise Source	Source-Receptor Distance (feet)	Noise Level $L_{eq}dB(A)$
12	Existing No-Build Build	Ambient Ambient Alt. 12	N/A N/A 310	49 49 62
13	Existing No-Build Build	Ambient Ambient Alt. 12	N/A N/A 500	49 49 59
14	Existing No-Build Build	Ambient Ambient Alt. 12	N/A N/A 160	55 55 68
15	Existing No-Build Build	Rte. 250 Bypass Rte. 250 Bypass Rte. 250 Bypass	120 120 120	74 77 78
16	Existing No-Build Build	Rte. 29 Rte. 29 Rte. 29 & Expressway	340 340 340	65 66 68
17	Existing No-Build Build	Rte. 29 Rte. 29 Rte. 29 & Expressway	360 360 360	60 61 65
18	Existing No-Build Build	Rte. 29 Rte. 29 Rte. 29 & Expressway	260 260 260	61 62 66
19	Existing No-Build Build	Rte. 29 Rte. 29 Rte. 29	100 100 100	68 70 70
20	Existing No-Build Build	McIntire Road Rte. 250 Bypass McIntire Road Rte. 250 Bypass McIntire Road (Alt. 7A) Rte. 250 Bypass	60 325 60 325 60 325	74 76 76
21	Existing No-Build Build	Ambient Ambient Alt. 7A	N/A N/A 170	53 53 73

TABLE IV-11 (Cont.)

Site #	Condition	Noise Source	Source-Receptor Distance (feet)	Noise Level $L_{eq}(A)$
22	Existing No-Build Build	Ambient	N/A	47
		Ambient	N/A	47
		Alt. 7,7A	260	69
23	Existing No-Build Build	Ambient	N/A	52
		Ambient	N/A	52
		Alt. 7,7A	470	64
24	Existing No-Build Build	Rio Road	65	69
		Rio Road	65	72
		Rio Road	65	71
		Alts. 7,7A	460	
25	Existing No-Build Build	Ambient	N/A	48
		Ambient	N/A	48
		Alts. 6,7,7A	165	71
26	Existing No-Build Build	Ambient	N/A	46
		Ambient	N/A	46
		Alts. 6,7,7A	500	62
27	Existing No-Build Build	Ambient	N/A	53
		Ambient	N/A	53
		Alts. 6,7,7A	590	61
28	Existing No-Build Build	Ambient	N/A	49
		Ambient	N/A	49
		Alts. 6,6B,7,7A	180	70
29	Existing No-Build Build	Rte. 649	50	59
		Rte. 649	50	65
		Rte. 649	50	69
		Alts. 6,6B,7,7A	180	
30	Existing No-Build Build	Park Street	100	66
		Park Street	100	69
		Park Street	100	71
		Alt. 7	170	
32	Existing No-Build Build	Ambient	N/A	47
		Ambient	N/A	47
		Alt. 6	165	69
33	Existing No-Build Build	Ambient	N/A	58
		Ambient	N/A	58
		Alt. 6	180	67

TABLE IV-11 (Cont.)

Site #	Condition	Noise Source	Source-Receptor Distance (feet)	Noise Level $L_{eq}(A)$
34	Existing No-Build Build	Ambient	N/A	48
		Ambient	N/A	48
		Alt. 6B	200	63
35	Existing No-Build Build	Ambient	N/A	45
		Ambient	N/A	45
		Alt. 6B	250	61
36	Existing No-Build Build	Ambient	N/A	45
		Rte. 643	175	58
		Alt. 6B	540	63

exceeding the NAC (15, 19, 20, and 24) will also experience them under the design year no-build condition. Noise levels at site 30 would also increase above the NAC under the no-build condition. However, under the build condition, noise levels at 22 sites would equal or exceed the NAC (1, 2, 3, 5, 7, 8, 9, 11, 14, 15, 16, 19, 20, 21, 22, 24, 25, 28, 29, 30, 32, and 33).

The worst impact would occur at site 15 where the noise level will exceed the NAC by 11 decibels under Alternative 9 (the Expressway). The next worst impact would be at site 20 where the noise level will exceed the NAC by nine decibels under Alternative 7A. At both of these sites, existing noise levels exceed the NAC by seven decibels and no-build noise levels will exceed the NAC by nine to ten decibels which shows that the project alternatives are not entirely the causes of impacts at these two sites. Similarly, at sites 16, 19, 24, and 30, where noise levels will exceed the NAC by one to four decibels, there are little or no differences among existing, no-build, and build noise levels. At the remaining impacted sites, noise levels will exceed the NAC by zero to six decibels. These impacts can be attributed to the project alternatives.

Table IV-12 presents the total impacts by site and by alternative for the two types of impacts. The table shows that Alternative 7A would have the greatest noise impact because it would impact the greatest number of receptors. In order of decreasing impact, the other alternatives are:

- Alternative 7
- Alternative 6
- Alternative 10
- Alternative 6B
- Alternative 12
- Alternative 11
- Alternative 9 (Expressway)
- Base Case (Base Case with interchanges assumed to have roughly same impact as Base Case)

Aside from the impacts discussed above, special consideration is given to impacts on public use and nonprofit institutional facilities such as schools, churches, parks, and recreation areas. For schools and churches, additional consideration is given to interior noise levels since activities in these facilities are considered to be particularly sensitive to noise. Table IV-13 presents a list of facilities along with the alternatives they are affected by and the expected exterior and, where applicable, interior noise levels. All of the facilities with indoor activities are air conditioned and can therefore maintain closed window conditions year round. Projected interior noise levels with closed windows at all of these locations are less than the interior NAC.

With the selected alternative, exterior noise levels will increase substantially over existing noise levels at a St. Annes-Belfield School outdoor activity area and at the Greer

TABLE IV-12

NOISE RECEPTORS IMPACTED BY SITE AND ALTERNATIVE

<u>Site</u>	<u>Receptors that Equal or Exceed Noise Abatement Criteria</u>	<u>Receptors with Substantial Increase</u>	<u>Receptors with both Impact Types</u>	<u>Total Receptors Impacted*</u>
BASE CASE ALTERNATIVE				
15	12	0	0	12
16	0	0	0	0
17	0	0	0	0
18	0	0	0	0
19	<u>32</u>	<u>0</u>	<u>0</u>	<u>32</u>
TOTALS	44	0	0	44
ALTERNATIVE 6				
32	3	33	3	33
33	1	0	0	1
25	3	14	3	14
26	2	64	2	64
27	0	0	0	0
28	14	22	14	22
29	<u>4</u>	<u>3</u>	<u>3</u>	<u>4</u>
TOTALS	27	136	25	138
ALTERNATIVE 6B				
34	0	11	0	11
35	0	6	0	6
36	0	10	0	10
28	14	22	14	22
29	<u>4</u>	<u>3</u>	<u>3</u>	<u>4</u>
TOTALS	18	52	17	53

* Total number of receptors where design-year noise levels equal or exceed FHWA NAC and/or will be 10 or more dB(A) higher than existing levels. Some receptors will experience a substantial increase and will also equal or exceed the noise abatement criteria. Therefore, the totals column is not necessarily the sum of the two impact types.

TABLE IV-12 (Cont.)

<u>Site</u>	<u>Receptors that Equal or Exceed Noise Abatement Criteria</u>	<u>Receptors with Substantial Increase</u>	<u>Receptors with both Impact Types</u>	<u>Total Receptors Impacted*</u>
ALTERNATIVE 7				
20	2	0	0	2
30	27	1	1	27
22	1	1	1	1
23	12	33	12	33
24	5	0	0	5
25	3	14	3	14
26	2	64	2	64
27	0	0	0	0
28	14	22	14	22
29	<u>4</u>	<u>3</u>	<u>3</u>	<u>4</u>
TOTALS	70	138	36	172
ALTERNATIVE 7A				
20	11	0	0	11
21	20	23	20	23
22	1	1	1	1
23	12	33	12	33
24	5	0	0	5
25	3	14	3	14
26	2	64	2	64
27	0	0	0	0
28	14	22	14	22
29	<u>4</u>	<u>3</u>	<u>3</u>	<u>4</u>
TOTALS	72	160	55	177
ALTERNATIVE 9 (EXPRESSWAY)				
15	12	0	0	12
16	4	0	0	4
17	0	0	0	0
18	0	0	0	0
19	<u>32</u>	<u>0</u>	<u>0</u>	<u>32</u>
TOTALS	48	0	0	48

* Total number of receptors where design-year noise levels equal or exceed FHWA NAC and/or will be 10 or more dB(A) higher than existing levels. Some receptors will experience a substantial increase and will also equal or exceed the noise abatement criteria. Therefore, the totals column is not necessarily the sum of the two impact types.

TABLE IV-12 (Cont.)

<u>Site</u>	<u>Receptors that Equal or Exceed Noise Abatement Criteria</u>	<u>Receptors with Substantial Increase</u>	<u>Receptors with Both Impact Types</u>	<u>Total Receptors Impacted*</u>
ALTERNATIVE 10				
1	2	3	2	3
2	4	7	4	7
3	2	14	2	14
4	1	1	1	1
5	1	10	1	10
6	<u>1</u>	<u>27</u>	<u>1</u>	<u>27</u>
TOTALS	11	62	11	62
ALTERNATIVE 11				
1	2	3	2	3
2	4	7	4	7
3	2	14	2	14
7	6	7	6	7
8	1	8	1	8
9	4	4	4	4
11	<u>2</u>	<u>6</u>	<u>2</u>	<u>6</u>
TOTALS	21	49	21	49
ALTERNATIVE 12				
1	2	3	2	3
2	4	7	4	7
3	2	14	2	14
10	0	14	0	14
12	0	6	0	6
13	0	4	0	4
14	<u>2</u>	<u>4</u>	<u>2</u>	<u>4</u>
TOTALS	10	52	10	52

* Total number of receptors where design-year noise levels equal or exceed FHWA NAC and/or will be 10 or more dB(A) higher than existing levels. Some receptors will experience a substantial increase and will also equal or exceed the noise abatement criteria. Therefore, the totals column is not necessarily the sum of the two impact types.

TABLE IV-13

NOISE LEVELS AT PUBLIC USE OR NONPROFIT INSTITUTIONAL FACILITIES

Facility	Air Conditioned	Outside Activities	Alternate	Exterior Log		Interior Design Year Log	
				Existing	Design Year	Open Windows	Closed Windows
A. St. Anne's Belfield School	Yes	Yes	9 (Expressway Base Case)	65	69	59	49
B. St. Anne's Belfield School Playing Field	N/A	Yes	10,11,12	52	63	N/A	N/A
C. Mary Greer Elementary School	Yes	Yes	10	49	56	46	36
D. Mary Greer Elementary School Playground	N/A	Yes	10	49	61	N/A	N/A
E. Charlottesville High School Ball Fields	N/A	Yes	7,7A	47	69	N/A	N/A
F. Church of Jesus Christ of Latter-Day Saints	Yes	No	10	59	63	53	43
G. Union Ridge Baptist Church	Yes	No	10	67	69	59	49
H. Ivy Creek United Methodist Church	Yes	Yes	12	48	59	49	39
I. Pleasant Grove Baptist Church	Yes	Yes	11	60	67	57	47
J. First Baptist Church	Yes	Yes	7	57	62	52	42
K. Park Street Christian Church	Yes	Yes	7,7A	55	64	54	44
L. Mt. Ephraim Pentecostal Church	Yes	Yes	6,6B,7,7A	56	64	54	44
M. YMCA	Yes	Yes	7A	60	65	55	45
N. McIntire Park	N/A	Yes	7,7A	53	73	N/A	N/A
O. McIntire Tennis Courts	N/A	Yes	7,7A	74	76	N/A	N/A
P. Rivanna Park	N/A	Yes	6	47	69	N/A	N/A
Q. Pen Park	N/A	Yes	6	47	69	N/A	N/A
R. Chris Greene Lake Park	N/A	Yes	12	49	63	N/A	N/A

Elementary School playground. The exterior NAC will be equalled or exceeded at St. Annes-Belfield School and at Union Ridge Baptist Church (there do not appear to be any exterior activities here that would be affected).

3. Abatement Measures Considered

At those sites where noise impacts are identified, measures to reduce traffic noise must be considered. Examples of such measures include shifting alternatives, building sound barriers, depressing the roadway, or rerouting trucks. The benefits of such measures are weighed against their social, economic, and environmental effects to determine their reasonableness and feasibility. To be meaningful, abatement measures must provide a minimum noise reduction of five decibels. A two to three decibel reduction would be barely noticeable and efforts to achieve such a minor reduction are generally considered unreasonable.

a. Rerouting Through Trucks

Since heavy trucks usually contribute the largest component of highway noise, rerouting them is sometimes an effective way to reduce noise levels. However, for this project, such a rerouting is not practical. There are no alternate routes within the project corridor comparable to Route 29. Furthermore, one major purpose of the project is to expedite the flow of through traffic, especially trucks, through or around Charlottesville.

b. Depressing the Roadway

Depressing the roadway, thereby creating a rock or earth noise barrier, is sometimes an effective noise reduction measure. Based on a review of preliminary vertical profiles of the project alternatives, this measure is not feasible at some locations for the following reasons:

- o Roadway grades must conform with safety and engineering standards.
- o The need to have interchanges with existing roads presents limitations at some locations.
- o At some locations, depressing the road would put it below the elevations of streambeds thereby disrupting natural drainage patterns.

At sites where this measure appeared feasible, an analysis was performed with the following results:

- o Site 2 Alternatives 10,11, and 12 - Depressing the road at this location sufficiently to achieve a meaningful noise reduction would require excavation of roughly 83,000 additional cubic yards of material. The additional cost would be approximately \$396,000 to protect five receptors (\$79,200 per receptor), which is not considered reasonable. In accordance with the State Noise Abatement Policy, the cost of noise abatement for residential properties cannot exceed \$20,000 per protected receptor.
- o Site 4 Alternative 10 - Cut required to achieve proper grade here will be sufficient to protect the school playground without additional excavation.
- o Site 5 Alternative 10 - Cut required to achieve proper grade here will protect four receptors. Additional excavation to protect remaining receptors is not feasible due to location of streambed.
- o Site 6 Alternative 10 - Cut required to achieve proper grade in the Woodburn Road area would protect 10 receptors. Additional excavation to protect one additional receptor could cost over \$150,000, which is not considered reasonable.
- o Site 7 Alternative 11 - Additional excavation of 29,000 cubic yards at a cost of \$130,000 would protect one receptor, which is not considered reasonable.
- o Site 9 Alternative 11 - Cut required to achieve proper grade would protect two receptors. A deeper cut to protect the other two is not feasible due to the locations of the streambeds of tributaries to Naked Creek.
- o Site 10 Alternative 12 - Cut required to achieve proper grade will protect the four impacted receptors in the Arbor Park subdivision without additional excavation.
- o Site 12 Alternative 12 - Cut required to achieve proper grade will protect one receptor without additional excavation.
- o Site 14 Alternative 12 - Cut required to achieve proper grade will protect two receptors in Lake Acres subdivision. Additional excavation to protect two other receptors is not feasible due to steep terrain.

- o Site 25 Alternatives 6, 7, and 7A - To protect receptors here would require additional excavation of approximately 159,000 cubic yards at a cost of approximately \$757,000. For the 14 receptors protected, this amounts to approximately \$54,000 per receptor, which is not considered reasonable.
- o Site 26 Alternatives 6, 7, and 7A - Additional excavation here of roughly 300,000 cubic yards would protect 44 receptors. This amounts to approximately \$1.4 million or \$32,000 per receptor, which is not considered reasonable.
- o Site 28 Alternatives 6, 6B, 7, and 7A - Additional excavation here of approximately 65,000 cubic yards would protect 22 receptors at a cost of approximately \$309,000. This amounts to approximately \$14,000 per receptor which appears to be reasonable. This abatement measure will receive further consideration and is likely to be implemented at this location if Alternate 6, 6B, 7 or 7A is chosen.
- o Site 29 Alternatives 6, 6B, 7, and 7A - Cut required to achieve proper grade here will protect four receptors without additional excavation.
- o Site 30 Alternative 7 - Cut required to achieve proper grade will partially protect seven receptors. Additional excavation here is not feasible because of the need to connect with existing roads.

To summarize, normal excavation to achieve proper grades will provide noise abatement at sites 4, 5, 6, 9, 10, 12, 14, and 29 for a total of 26 receptors. At site 28, additional excavation to provide abatement for 22 receptors appears to be cost effective and is likely to be done if an eastern bypass alternative is selected.

Much of the Expressway Alternative (Alternative 9) will be depressed to provide grade separation at major cross streets. Therefore, if this alternative is selected, the resulting noise levels will be somewhat less than those predicted for this study since those were based on assuming level road and level terrain for worst case noise levels.

c. Shifting Alternatives

Noise levels can be reduced by moving the source away from the receptor, i.e., shifting proposed alternatives. As a rough rule of thumb, the distance between the source and the receptor must be approximately doubled to attain a noise reduction of approximately 4.5 decibels (assuming vegetated or soft earth ground surface).

An analysis of potential alternative shifts at all impacted sites showed that none are practical for the following reasons:

- o Sensitive receptors lie on both sides of the proposed alternatives. Shifts away from some receptors would increase noise impacts to other receptors.
- o Some potential shifts would increase displacements of homes or businesses.
- o Some shifts would increase impacts to other resources such as water bodies and historic sites.
- o Some shifts would increase encroachment on other facilities such as the airport, parks, and recreation areas.
- o Some shifts are constrained for engineering reasons such as steep terrain and interchanges with existing roads.

d. Sound Barriers

Sound barriers could be built to reduce noise levels at most impacted locations. However, they could not be used along existing roads where access to adjacent properties would be blocked. To be effective, sound barriers must be continuous and not have openings for access. Further, in accordance with the State Noise Abatement policy, approved by the Federal Highway Administration, sound barriers costing more than \$20,000 per protected residential receptor are not considered cost-effective. Barriers to protect parks and schools are evaluated on a case-by-case basis. Table IV-14 summarizes the sound barriers considered, which are located as shown in Figure IV-14. It should be noted that the barrier configurations are based on preliminary data and costs are approximate.

Below is a summary evaluation of potential sound barriers at parks and schools:

- o McIntire Park - barrier 21A costing approximately \$733,500 would protect three holes of a nine-hole golf course here. Because of the small benefit achieved, construction of this barrier is not considered reasonable.
- o Rivanna Park and Pen Park - Barriers 32A and 32B along both sides of the road to protect these parks would cost a total of approximately \$3 million. The barriers would protect the soccer fields and tennis courts in Rivanna Park and four holes of the nine-hole golf course in Pen Park. These barriers are very expensive in relation to the benefits provided and are therefore not considered reasonable.

Table IV-14

SOUND BARRIERS CONSIDERED

Barrier Number	Location	Description	Cost (rounded to nearest \$100)	Barrier Number	Location	Description	Cost (rounded to nearest \$100)
1A	West of Alt. 10 Sta. 551+40 to Sta. 556+60	length: 520' height: 16'-19' reduction: 5-11dBA receptors: 1	Total: \$145,600 per receipt. \$145,600	5C	East of Alt. 10 Sta. 685+70 to Sta. 695	length: 930' height: 14' reduction: 5 dBA receptors: 1	Total: \$208,300 per receipt. \$208,300
1B	East of Alt. 10 Sta. 538 to Sta. 554	length: 1600' height: 13'-16' reduction: 5 dBA receptors: 2	Total: \$371,200 per receipt. \$185,600	6A	West of Alt. 10 From entrance to Squirrel Ridge Subdivision to Sta 722	length: 1920' height: 12'-15' reduction: 5-10dBA receptors: 14	Total: \$464,200 per receipt. \$33,200
1C	Along north side of Route 250 Bypass at Belfield School	length: 850' height: 12' reduction: 5 dBA receptors: 1	Total: \$163,200 per receipt. \$163,200	6B	West of Alt. 10 Sta. 741 to Sta. 755	length: 1400' height: 15'-18' reduction: 5-6 dBA receptors: 8	Total: \$356,100 per receipt. \$44,500
2A	West of Alt. 10 Sta. 566+70 to Sta. 584+90	length: 1820' height: 13'-19' reduction: 5 dBA receptors: 5	Total: \$474,000 per receipt. \$94,800	6C	East of Alt. 10 Sta. 736 to Sta. 748	length: 1200' height: 15'-18' reduction: 5 dBA receptors: 4	Total: \$308,100 per receipt. \$77,000
2B	East of Alt. 10 Sta. 568 to Sta. 588	length: 2000' height: 13' attenuation: 5 dBA receptors: 2	Total: \$416,000 per receipt. \$208,000	6D	East of Alt. 10 Sta. 716+50 to Sta. 730	length: 1350' height: 15' reduction: 5 dBA receptors: 1	Total: \$324,000 per receipt. \$324,000
3A	East of Alt. 10 Sta. 592 to Sta. 626	length: 3400' height: 13'-19' reduction: 5-6 dBA receptors: 12	Total: \$870,400 per receipt. \$72,500	7A	West of Alt. 11 Sta. 664+20 to Sta. 667+20	length: 300' height: 9' reduction: 6 dBA receptors: 1	Total: \$43,200 per receipt. \$43,200
3B	West of Alt. 10 Sta. 604 to Sta. 636	length: 3200' height: 13'-19' reduction: 5 dBA receptors: 2	Total: \$819,200 per receipt. \$409,600	7B	East of Alt. 11 Sta. 670+30 to Sta. 673+30	length: 300' height: 9' reduction: 6 dBA receptors: 1	Total: \$43,200 per receipt. \$43,200
4A	East of Alt. 10 Sta. 648 to Sta. 658	length: 1000' height: 14' reduction: 5 dBA receptors: 1	Total: \$224,000 per receipt. \$224,000	7C	West of Alt. 11 Sta. 713 to Sta. 716	length: 300' height: 9' reduction: 6 dBA receptors: 1	Total: \$43,200 per receipt. \$43,200
5A	West of Alt. 10 Sta. 662+50 to Sta. 697	length: 3450' height: 11'-17' reduction: 5-7 dBA receptors: 8	Total: \$856,800 per receipt. \$107,100	7D	East of Alt. 11 Sta. 719+40 to Sta. 731+20	length: 1180' height: 9' reduction: 6 dBA receptors: 3	Total: \$169,900 per receipt. \$56,600
5B	East of Alt. 10 Sta. 673+70 to Sta. 684+40	length: 1070' height: 11'-17' reduction: 5 dBA receptors: 1	Total: \$233,400 per receipt. \$233,400	7E	East of Alt. 11 Sta. 676+60 to Sta. 685+60	length: 900' height: 11' reduction: 5 dBA receptors: 1	Total: \$158,400 per receipt. \$158,400

TABLE IV-14 (Cont.)

TABLE IV-14 (Cont.)

Barrier Number	Location	Description	Cost
8A	East of Alt. 11 Sta. 743+20 to Sta. 754+80	length: 1030' height: 19' reduction: 5-12dBA receptors: 4	Total: \$313,300 per receipt. \$78,300
8B	West of Alt. 11 Sta. 743 to Sta. 753+30	length: 1030' height: 19' reduction: 5 dBA receptors: 2	Total: \$313,300 per receipt. \$156,700
9A	East of Alt. 11 Sta. 801 to Sta. 817	length: 1600' height: 11' reduction: 6 dBA receptors: 4	Total: \$281,600 per receipt. \$70,400
10A	East of Alt. 12 Sta. 823 to Sta. 839	length: 1400' height: 16' reduction: 5 dBA receptors: 2	Total: \$358,400 per receipt. \$179,200
10B	West of Alt. 12 Clearview Knolls Subdivi- sion Sta. 825 to Sta. 847	length: 2200' height: 16' reduction: 5 dBA receptors: 7	Total: \$563,200 per receipt. \$80,500
10C	West of Alt. 12 Arbor Park Subdivision Sta. 855+10 to Sta. 871+40	length: 1630' height: 19' reduction: 5-8 dBA receptors: 5	Total: \$495,900 per receipt. \$99,200
11A	Along east side of Route 743 south of Alt. 11 interchange	length: 300' height: 13' reduction: 5 dBA receptors: 1	Total: \$62,400 per receipt. \$62,400
11B	South of Alt. 11 & east of Rte 743 Sta. 930+40 to Sta. 945+35	length: 1495' height: 19' reduction: 5-10dBA receptors: 4	Total: \$454,500 per receipt. \$113,600
12A	East of Alt. 12 Sta. 677 to Sta. 692+15	length: 1515' height: 16'-19' reduction: 5 dBA receptors: 1	Total: \$416,600 per receipt. \$416,600

TABLE IV-14 (Cont.)

Barrier Number	Location	Description	Cost
12B	East of Alt. 12 Sta. 712 to Sta. 724+50	length: 1215' height: 13'-16' reduction: 5 dBA receptors: 1	Total: \$281,600 per receipt. \$281,600
12C	West of Alt. 12 Sta. 727 to Sta. 741	length: 1515' height: 16'-19' reduction: 5 dBA receptors: 1	Total: \$416,600 per receipt. \$416,600
12D	West of Alt. 11 Sta. 616+50 to Sta. 631+50	length: 1500' height: 16'-19' reduction: 5 dBA receptors: 1	Total: \$412,000 per receipt. \$412,000
13A	West of Alt. 12 Earlsville Heights Subdivision Sta. 1053 to Sta. 1077+20	length: 2420' height: 17' reduction: 5 dBA receptors: 4	Total: \$658,200 per receipt. \$164,600
14A	North of Alt 12 Lake Acres Subdivision Sta. 1121+30 to Sta. 1135+70	length: 1440' height: 11' reduction: 5 dBA receptors: 2	Total: \$253,400 per receipt. \$126,700
14B	South of Alt 12 Lake Acres Subdivision Sta. 1121+30 to Sta. 1135+70	length: 1440' height: 11' reduction: 5 dBA receptors: 2	Total: \$253,400 per receipt. \$126,700
15A	North of U.S. Route 250 Bypass Sta. 75 to Sta. 100+40	length: 2540' height: 11' reduction: 5-9 dBA receptors: 12	Total: \$447,000 per receipt. \$37,250
16A	West of U.S. Route 29, Berkley Subdv. Sta. 61 +10 to Sta. 67+90	length: 930' height: 15' reduction: 5 dBA receptors: 4	Total: \$223,200 per receipt. \$55,800
21A	West of Alt. 7A at McIntire Pk. Sta. 400+60 to Sta. 422+20	length: 2160' height: 16'-22' reduction: 5-13dBA receptors: 1	Total: \$733,500 per receipt. \$733,500

TABLE IV-14 (Cont.)

Barrier Number	Location	Description	Cost	Barrier Number	Location	Description	Cost
21B	East of Alt. 7A Sta. 400+60 to Sta. 422+20	length: 2160' height: 16'-22' reduction: 5-9 dBA receptors: 22	Total: \$733,500 per receipt. \$33,300	26C	East of Alt. 6, 7, & 7A Sta. 554 to Sta. 577	length: 2300' height: 16' reduction: 5 dBA receptors: 14	Total: \$588,800 per receipt. \$42,100
22A	West of Alt. 7 & 7A Ch'ville High School playing fields Sta. 429+60 to Sta. 443	length: 1340' height: 13' reduction: 5 dBA receptors: 1	Total: \$279,300 per receipt. \$279,300	26D	West of Alt. 6, 7, & 7A Sta. 576+40 to Sta. 586+40	length: 1000' height: 16' reduction: 5 dBA receptors: 1	Total: \$256,000 per receipt. \$256,000
23A	East of Alt. 7 & 7A Sta. 424+70 to Sta. 448	length: 2330' height: 16'-19' reduction: 5-13dBA receptors: 17	Total: \$656,700 per receipt. \$38,600	28A	West of Alt. 6, 6B, 7 & 7A Forest Lakes Subdivision Sta. 671+90 to Sta. 691	length: 1910' height: 19' reduction: 5-11dBA receptors: 15	Total: \$580,600 per receipt. \$38,700
23B	West of Alt. 7 & 7A Greenbriar Park Subdiv. Sta. 443 to Sta. 461	length: 1800' height: 13'-19' reduction: 5 dBA receptors: 11	Total: \$441,200 per receipt. \$40,100	28B	East of Alt. 6, 6B, 7 & 7A Forest Lakes Subdivision Sta. 671+90 to Sta. 691	length: 1910' height: 19' reduction: 5-10dBA receptors: 7	Total: \$580,600 per receipt. \$82,900
23C	East of Alt. 7 & 7A Sta. 457+40 to Sta. 471+60	length: 1470' height: 15' reduction: 5 dBA receptors: 5	Total: \$352,800 per receipt. \$70,600	29A	West of Alt. 6, 6B, 7 & 7A Sta. 695+30 to Sta. 707+30	length: 1200' height: 11' reduction: 5 dBA receptors: 2	Total: \$211,200 per receipt. \$105,600
25A	West of Alt. 6, 7, & 7A Sta. 462 to Sta. 487+70	length: 2570' height: 19' reduction: 5-14dBA receptors: 6	Total: \$780,500 per receipt. \$130,100	29B	East of Alt. 6, 6B, 7 & 7A Sta. 698 to Sta. 710	length: 1200' height: 11' reduction: 5 dBA receptors: 2	Total: \$211,200 per receipt. \$105,600
25B	East of Alt. 6, 7, & 7A Sta. 462 to Sta. 487+70	length: 2570' height: 19' reduction: 5-13dBA receptors: 8	Total: \$780,500 per receipt. \$97,600	30A	East of Alt. 7 Sta. 400 to Sta. 417+50	length: 2050' height: 14' reduction: 5-8 dBA receptors: 13	Total: \$459,200 per receipt. \$35,300
26A	West of Alt. 6, 7, & 7A Northfields Subdivision Sta. 487+70 to Sta. 546	length: 5830' height: 19' reduction: 5 dBA receptors: 48	Total: \$1,772,300 per receipt. \$36,900	30B	East of Alt. 7 Sta. 423+50 to Sta. 439+80	length: 1630' height: 20' reduction: 3-6 dBA receptors: 11	Total: \$521,600 per receipt. \$47,400
26B	East of Alt. 6, 7, & 7A Sta. 503 to Sta. 515	length: 1200' height: 13'-16' reduction: 5 dBA receptors: 1	Total: \$278,400 per receipt. \$278,400	30C	West of Alt. 7 McIntire Park Sta. 420 to Sta. 438	length: 1800' height: 10' reduction: 5 dBA receptors: 1	Total: \$288,000 per receipt. \$288,000

TABLE IV-14 (Cont.)

TABLE IV-14 (Cont.)

Barrier Number	Location	Description	Cost
32A	East of Alt. 6 Rivanna Park and Pen Park Sta. 349+50 to Sta. 400	length: 5050' height: 17'-19' reduction: 5-11dBA receptors: 2	Total: \$1,516,800 per receipt. \$758,400
32B	West of Alt. 6 Rivanna Park and Rivanna Heights Subdv. Sta. 349+50 to Sta. 413	length: 6350' height: 17'-19' reduction: 5-11dBA receptors: 31	Total: \$1,912,000 per receipt. \$61,700
33A	East of Alt. 6 River Run Subdv Sta. 417+50 to Sta. 424+60	length: 760' height: 14' reduction: 5 dBA receptors: 1	Total: \$170,200 per receipt. \$170,200
34A	West of Alt. 6B Franklin Subdv. Sta. 358 to Sta. 370	length: 1200' height: 16' reduction: 5-9 dBA receptors: 6	Total: \$306,200 per receipt. \$51,000
34B	East of Alt. 6B Franklin Subdv. Sta. 360+60 to Sta. 372+60	length: 1200' height: 16' reduction: 5-9 dBA receptors: 5	Total: \$306,200 per receipt. \$61,200
35A	West of Alt. 6B Sta. 473+40 to Sta. 482+90	length: 950' height: 13' reduction: 5 dBA receptors: 1	Total: \$196,300 per receipt. \$196,300
35B	East of Alt. 6B Sta. 476+60 to Sta. 486+10	length: 950' height: 13' reduction: 5 dBA receptors: 2	Total: \$196,300 per receipt. \$98,200
35C	East of Alt. 6B Sta. 487+10 to Sta. 498+90	length: 1240' height: 16'-19' reduction: 5 dBA receptors: 3	Total: \$347,800 per receipt. \$115,900

- o Chris Green Lake Park - barrier R costing approximately \$272,000 would protect the small part of the park impacted. Since this is a remote finger of the park which appears to receive little use, construction of this barrier is not considered reasonable.
- o St Anne's-Belfield School - barrier 1C costing approximately \$163,000 would protect a children's play area outside the school. Since existing noise levels are already relatively high here, and since the impact is only a slight exceedance of the NAC rather than a substantial increase, and since this area will be impacted even under the no-build alternative, construction of this barrier is not considered reasonable.
- o Greer Elementary School - The grade of Alternative 10 through this area is such that the cut slope will serve as an effective sound barrier. Therefore, a structural barrier need not be considered.
- o Charlottesville High School ballfield - barrier E here costing approximately \$279,300 would protect a baseball field and a soccer field. As a result of the noise generating activities occurring here, the benefits provided in relation to the high cost make this barrier unreasonable.
- o McIntire Tennis Courts - The 11 tennis courts here cannot be protected by a barrier along McIntire Road because access to the courts would be blocked.

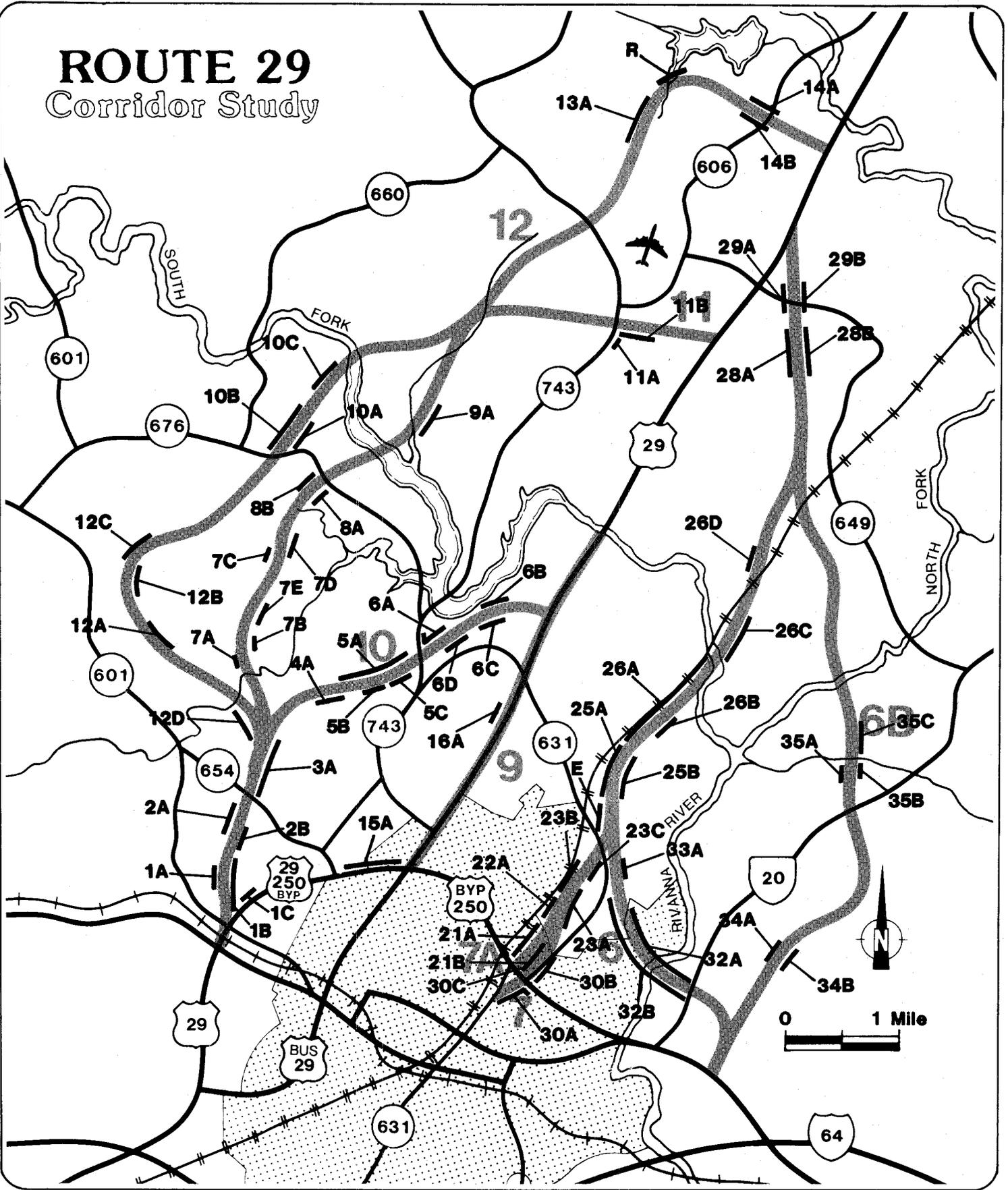
None of the barriers evaluated for residential areas, parks, or schools appear to reasonable. However, the evaluation has been based on preliminary data and approximate costs. The findings will be reviewed when the proposed highway is designed in more detail, and if warranted, noise abatement will again be evaluated.

G. ENERGY CONSIDERATIONS

As shown in the Table IV-15, the Base Case alternative would consume the least energy while Alternative 12 would consume the most. Most of the differences in energy consumption among the alternatives can be attributed to the energy consumed during the initial construction, with the greatest difference occurring between the Base Case alternative and Alternative 12. There is a maximum two percent difference among the alternatives for maintenance energy. For design-year operating energy, the maximum difference is five percent.

For each alternative, energy impacts were computed with regard to the amount of energy needed to build the project initially, the amount of energy needed to maintain the road network on an annual basis, the energy consumed by vehicles operating on the road network in the design year, and the total energy consumption comprising the sum of the above three

ROUTE 29 Corridor Study



**Potential Sound
Barrier Locations**

TABLE IV-15
ENERGY REQUIREMENTS (10⁹ BTU'S)

<u>Alternative</u>	<u>Construc. Energy</u>	<u>Annual Maintn. Energy</u>	<u>Design-Year Operational Energy</u>
Base Case	112.7	255.8	962.2
Expressway	521.0	257.4	928.0
6	621.4	259.0	972.4
6B	1036.9	258.9	963.2
7	720.0	258.7	971.0
7A	692.7	258.5	972.1
10	500.7	257.5	966.2
11	1082.5	259.3	967.8
12	1174.8	261.1	971.1

* Conversion factor: 5.8×10^6 BTU/Barrel of Crude Oil

categories. Construction energy was calculated based on a constant consumption rate per lane-mile (17.07×10^9 BTU's for roadways and 130.38×10^9 BTUs for bridges), times the number of lane-miles in each alternative. Similarly, maintenance energy was calculated based on a constant consumption rate per lane-mile (1.2×10^8 BTU's), times the number of total lane-miles in the County under each alternative. Operating energy was calculated based on the number of County-wide vehicle-miles traveled under each alternative in the design year, times an adjusted fuel consumption rate for the projected vehicle mix and speed, converted to units of energy. Table IV-15 shows the results of the analysis.

In considering the energy conservation potential of each alternative, it can be seen that there is little difference among the alternatives except in the construction category. In this category, the no-build alternative would yield the greatest savings while Alternative 12 would yield the least.

H. AQUATIC RESOURCES AND WATER QUALITY

1. Streams and Watersheds

A rough indication of potential effects to surface waters is the number of stream crossings involved. An alternative crossing a large number of streams would have greater opportunity for short-term or long-term effects on water quality than would an alternative with a small number of stream crossings. In addition, those alternatives crossing the reservoir or the watershed of the reservoir would have potential for greater impacts.

Table IV-16 shows the numbers of stream crossings and other surface water conditions impacted by the alternatives. The middle three columns show involvements within the South Fork Rivanna River Reservoir watershed. The last three columns show involvements with stream-related resources, wetlands and floodplains, which are discussed in other sections of this chapter.

The selected alternative would involve 17 stream crossings (four from the base case plus interchanges and 13 from the Alternative 10 alignment). These crossings will be accomplished by the construction of culverts or bridges. In general, stream crossing via bridging produces fewer permanent impacts to the stream than does culverts. Multiple culverts may become blocked with debris, possibly resulting in upstream ponding and associated siltation during storm events. Conversely, bridging enables the natural stream bottom and hydrologic conditions to remain essentially unchanged (except during construction). Therefore, bridging is particularly important for the larger stream crossings.

Short-term water quality impacts are generally associated with construction and usually cease or greatly decrease upon completion of construction. Construction impacts are discussed in Section M.

TABLE IV-16

STREAM, RESERVOIR, WETLANDS, AND FLOODPLAIN
IMPACTS OF EACH ALTERNATIVE

Alternative	Length (miles)	Stream Crossings	Length (miles)	Stream Crossings	Reservoir Crossings	Wetlands Sites	Wetlands Acres	Flood-Plains Crossed
Base Case	3.3	4	0	0	0	0	0.0	0
6	8.1	27	0	0	0	5	1.5	7
6B	7.8	26	0	0	0	3	0.1	5
7	7.3	26	0	0	0	4	0.2	9
7A	7.0	27	0	0	0	4	0.2	9
9	3.3	4	0	0	0	1	0.1	0
10	5.4	13	4.2	10	0	1	0.1	0
11	9.4	28	7.4	19	1	3	0.3	4
12	12.9	41	8.4	23	1	4	0.6	8
Base Case with Interchanges	3.3	4	0	0	0	0	0	0

Long-term impacts result from stormwater runoff from the completed highway. To estimate the impacts, a model developed for the Federal Highway Administration (Constituents of Highway Runoff, Vol. 3, FHWA/RD-81/044) was used to calculate runoff, pollutant buildup, and pollutant loadings. Rainfall data for use in the model was provided by the Rivanna Water and Sewer Authority. Pollutants analyzed included dissolved solids, suspended solids, nitrogen, carbon, phosphate, chloride, zinc, iron, copper, cadmium, and chromium.

Pollutant buildups and runoff concentrations depend on the length of the highway under consideration and the volume of traffic. Lower traffic volumes result in lower accumulations of pollutants while longer roadways have a greater dilution factor during rainfall events.

Of the seven new location alternatives, Alternative 7 would accumulate the greatest volume of pollutants while Alternative 10 would accumulate the least. Concentrations of pollutants in runoff would be lowest for Alternative 6B, followed by Alternatives 12 and 11. Concentrations would be greatest under Alternative 10.

Modeling for pollution loads of highway runoff showed that no violations of water quality standards will occur as a result of the project. The vegetated side slopes and ditches to be established along the project should minimize any potential water quality degradation attributable to normal highway runoff.

Surface water involvements and water quality analyses are discussed in detail in the Aquatic Resources and Water Quality Technical Memorandum which is available for review.

2. Wetlands

Alternatives were compared based on the number, acreage, and functional values of the wetlands identified within the rights-of-way. Table IV-17 includes this comparison of sites and total acreage. Few wetlands sites were encountered during this study, and all but one were under 1/4 acre in size. This one sand bar by the Rivanna River would not be impacted greatly by bridging, or could be avoided altogether by a slight shift of Alternative 6. Including this site, Alternative 6 impacts on the greatest number and area of wetlands.

Due to the small size and low functional values of the wetlands encountered during the study, no significant impacts to wetlands will occur. The selected alternative impacts on only one wetland area with a total impact of 0.138 acres. In accordance with Executive Order 11990, "Protection of Wetlands," wetlands were given special consideration in developing and evaluating alternatives and have been avoided where practical. Where wetlands cannot be avoided, impacts will be minimized by measures such as bridging and best management practices. In addition to these measures, compensation for unavoidable impacts likely will include the construction of replacement wetlands.

TABLE IV-17
WETLANDS IMPACTED

<u>Station</u>	<u>Description</u>	<u>NWI Classification</u>	<u>Acres Impacted</u>	<u>Alternatives</u>
01	Upper End of Flat Branch North of Laurel Hill Church	PF01E	0.009	6, 6B, 7, 7A
02	Upper End of Flat Branch South of Station 01 above Small Pond	PF01E	0.052	6, 6B, 7, 7A
05	Pond along Powell Creek below Hollymead Lake	PEM3	0.088	6, 6B, 7, 7A
23	Powell Creek South of Route 643	PF01E	0.029	6, 7, 7A
37	Rivanna River (sand bar)	R3FL2	1.334	6
56	Tributary to Morey Creek on SW side of Route 29/ Route 250 Interchange	PF01E	0.138	10, 11, 12
60	Tributary to Powell Creek along Route 29	PF01E	0.069	11
81	Pond along Tributary to Flat Branch along Route 29	PEM3	0.086	11
95	Upper end of Naked Creek	PSS1	0.180	12
100	Tributary to South Fork Rivanna River Reservoir	PF01E	0.006	12
108/109	Tributary to Ivy Creek	PF01E POWK PSS1	0.247	12
124	Ponded Area along Route 29	PEM3	0.146	9

During the detailed project design phase, specific information will be developed as follows:

- o Selection of project design parameters for each stream crossing that may affect wetlands.
- o More precise determination of specific wetlands impacts, including acres by type and affected functional values.
- o Development of a reasonable mitigation approach based on the wetland area affected and its functional value.

Wetlands Finding - The selected alternative will impact approximately 0.1 acres of palustrine forested, broad-leaved deciduous, seasonally saturated wetland, less than any of the other Candidate Build Alternatives. This wetland cannot be avoided due to the necessity of connecting with the existing U.S. Route 29 Bypass. Impacts will be minimized by use of best management practices such as erosion and sediment controls. Unavoidable impacts will be mitigated by compensation measures to be developed during detailed design when more specific information is available.

Based on the above considerations, in accordance with Executive Order 11990, "Protection of Wetlands", it is determined that there is no practicable alternative to construction in wetlands and the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use.

3. Groundwater

Highway construction can influence groundwater storage levels by interrupting groundwater flow, reducing aquifer recharge area, and lowering the water table in the surrounding area. In addition, runoff from the highway can potentially degrade water quality.

On a regional scale, groundwater impacts of the proposed highway would be minimal. Numerous aquifers are available for use in the project area and ample precipitation exists for aquifer recharge. The recharge areas of the major aquifers are relatively extensive; and the project area water table aquifer provides a reservoir for groundwater which recharges the confined aquifers. Water quality is generally acceptable in the study area, and the nature of the piedmont sediments helps filter out pollutants that enter the groundwater.

A potential impact of the proposed highway on groundwater storage (of artesian aquifers) involves a reduction of recharge potential. This impact will be minimal however, as the recharge areas of the major aquifers are very large in comparison to the area which would be covered by the highway.

Groundwater contamination may occur along the highway. Potential pollutants include deicers, pesticides and herbicides, accidental spills of hazardous materials during transportation, pavement tars, and vehicle emissions. The soils in the project area typically have low clay contents, therefore, pollutants have a good chance of reaching groundwater and localized contamination may occur. The unconsolidated nature of the sediments however, will help filter pollutants and decrease the possibility of regional groundwater quality impacts. Impacts on artesian aquifers would be basically limited to recharge areas. If a major spill of hazardous material occurred within one of these areas, the water within the aquifer could become contaminated.

4. Floodplains

Figure IV-15 shows the locations of crossings of designated floodplains by the Candidate Build Alternatives. These are the areas that would be affected by a 100-year flood as identified on National Flood Insurance Program maps. No longitudinal floodplain crossings have been identified. Table IV-18 lists each crossing and its length. The selected alternative crosses no designated floodplains.

Executive Order 11988, "Floodplain Management," requires that the risk of flood loss be reduced and that the impact of floods to human, safety, health and welfare be minimized. Floodplain encroachment is defined as any construction, reconstruction, repair, rehabilitation, or improvement undertaken within the limits of the 100-year floodplain.

All of the project alternatives will have minimal effect on flooding risks. All drainage structures will be designed so that potential increases in flood levels will be minimal. No major impacts on natural and beneficial floodplain values have been identified. None of the alternatives will support incompatible floodplain development. Therefore, it appears that the project is consistent with Executive Order 11988.

5. Wild and Scenic Rivers

There are no designated National Wild and Scenic Rivers in the project area.

6. South Fork Rivanna River Reservoir

During the study, concern has been expressed over potential impacts of the project to the South Fork Rivanna River Reservoir. This reservoir provides the water supply for much of the study area. Table IV-16 shows that the selected alternative, which includes the Alternative 10 bypass, would not cross the reservoir as would Alternatives 11 and 12. It would, however, cross 4.2 miles of the watershed of the reservoir.

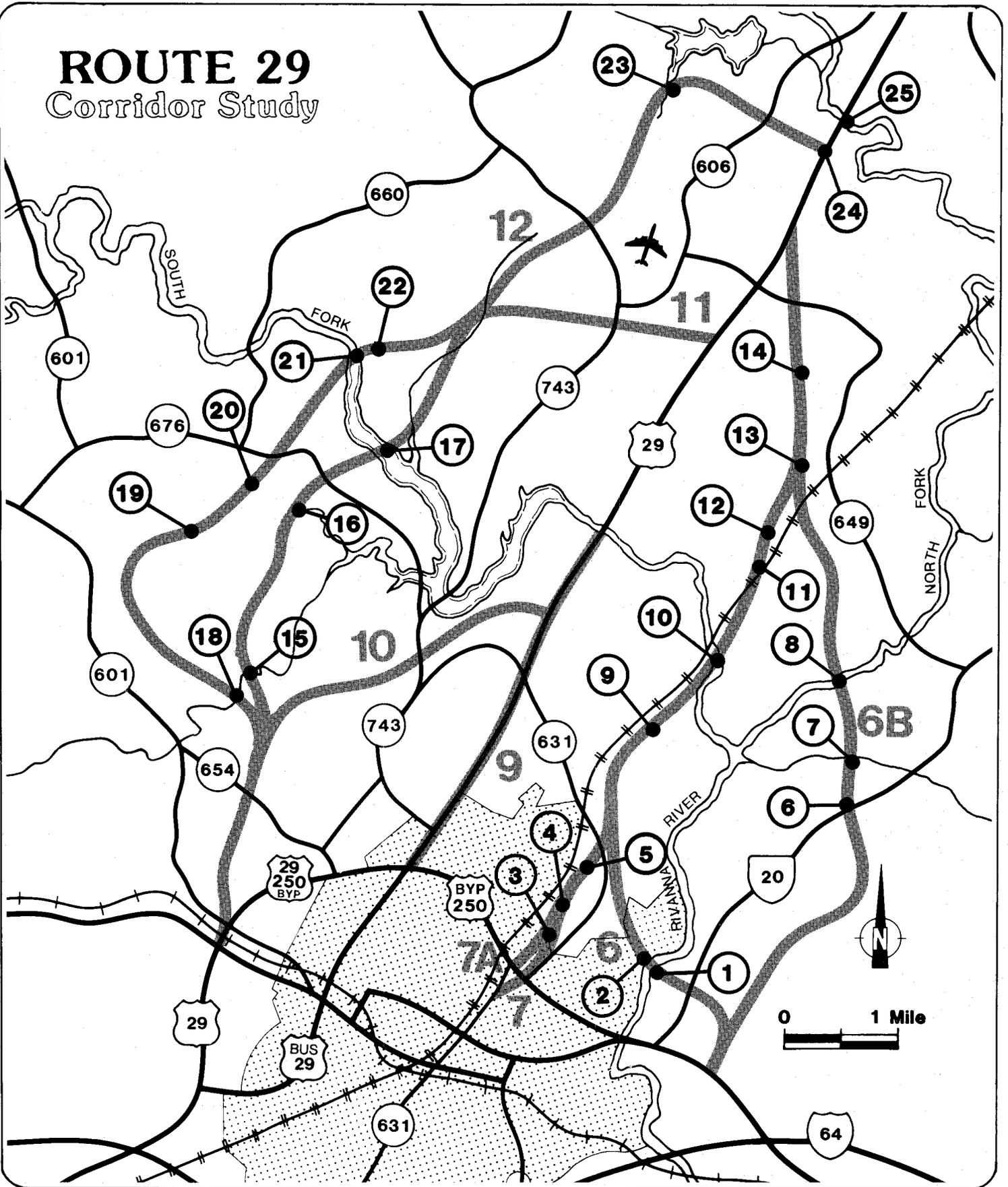
TABLE IV-18

FLOODPLAIN DATA AND TRAVERSING DISTANCE

<u>Floodplain Crossing*</u>	<u>Stream</u>	<u>Alternative</u>	<u>100-Year Floodplain Length (ft)</u>
1	Rivanna River	6	200
2	Rivanna River	6	2,660
3	Schenks Brook	7	220
4	Meadow Creek (Downstream)	7,7A	1,000
5	Meadow Creek (Upstream)	7,7A	340
6	Unnamed Stream (South of Redbud Creek)	6B	380
7	Redbud Creek	6B	220
8	North Fork Rivanna River	6B	680
9	Unnamed Stream (South of Westmoreland)	6,7,7A	400
10	South Fork Rivanna River	6,7,7A	420
11	Powell Creek (Downstream)	6,7,7A	780
12	Powell Creek (Upstream)	6,7,7A	180
13	Powell Creek (West of Proffit)	6,6B,7,7A	220
14	Powell Creek (Southeast of Hollymead)	6,6B,7,7A	440
15	Ivy Creek	11	220
16	Jumping Branch (South of Ivy Creek Church)	11	380
17	South Fork Rivanna River Reservoir	11	580
18	Ivy Creek	12	300
19	Jumping Branch	12	160
20	Unnamed Tributary to Jumping Branch	12	180
21	South Fork Rivanna River Reservoir	12	540
22	Unnamed Tributary to S. Fork Rivanna River Reservoir	12	180
23	Unnamed Tributary to Jacobs Run	12	160
24	Unnamed Tributary to North Fork Rivanna River	12	440
25	North Fork Rivanna River	12	640

* Site number in Figure IV-15.

ROUTE 29 Corridor Study



**Designated 100 Year
Floodplain Crossings**

Figure No. IV-15

During construction, erosion and sediment control measures will be implemented and enforced to minimize impacts to the reservoir from siltation. Contamination of the reservoir from automotive-related pollutants is not expected to be a problem. Numerous roads already cross the reservoir watershed without compromising the reservoir's use as a water supply. The threat of contamination from accidents involving hazardous materials is discussed in Section L, Hazardous Wastes.

I. HABITAT AND WILDLIFE

Table IV-19 shows the acreage of various types of habitat within the right of way of each of the alternatives. Table IV-20 converts these habitat areas to high, moderate and low value habitats, and shows the percentages of each for the Candidate Build Alternatives.

Land cover along all eastern alternatives is predominately forested, with more land used for agricultural purposes and less as urban land. Over two-thirds of the land along Alternative 6 is of high wildlife value, while one-quarter of the alternative crosses low-value urban and open-water areas. Wildlife habitats along Alternative 6B rated as good encompass 73 percent of the total wildlife habitat areas. Land cover for Alternative 7 and 7A is similar to Alternative 6 since much of the area is common to both.

Nearly one-quarter of the land along Alternative 10 is considered urban or suburban habitat, low in terms of wildlife value. Alternative 11 reflects the more agricultural nature of the lands west of existing Route 29, with 42 percent of the total cultivated or pastoral fields. Land cover along this alternative is split mostly between high quality wildlife habitat and moderate habitat, with the remaining areas low in wildlife value. Alternative 12, being the longest of all study options, impacts on the greatest amount of terrestrial resources. Over half of this alternative is over agricultural fields, and only a third is forested. Overall, Alternative 12 is similar to Alternative 11 in terms of habitat value.

J. THREATENED OR ENDANGERED SPECIES

No threatened or endangered species would be affected by any of the Candidate Build Alternatives. There are no habitats within the study area considered critical to threatened or endangered species of wildlife within Albemarle County. There are no rare, threatened, or endangered species within the proposed alternative corridors as described in Chapter III. Populations of the James River spiny mussel have been located in Mechums River and Rocky Run in Albemarle County. Since both locations lie upstream of the proposed alignments, the James River spiny mussel would not be affected.

TABLE IV-19

LAND COVER ACREAGES ALONG EACH ALTERNATIVE

Land Cover Classification	Alternative							
	6	6B	7	7A	9	10	11	12
Barren and Urban/Suburban/ Roadway	71.4	30.6	47.7	47.7	116.0	45.2	33.8	44.6
Agricultural	14.4	46.9	21.8	21.8	0.0	50.3	136.3	226.3
Forested	179.6	198.2	153.3	153.3	0.0	90.7	125.7	148.8
Old Field/Shrub	31.6	18.1	40.4	40.4	0.0	0.8	24.7	12.4
Wetland	1.5	0.2	0.2	0.2	0.2	0.2	0.3	0.6
Water	<u>3.1</u>	<u>1.1</u>	<u>1.8</u>	<u>1.8</u>	<u>0.1</u>	<u>0.3</u>	<u>5.7</u>	<u>4.4</u>
TOTAL	301.6	295.1	265.2	265.2	116.3	187.5	326.5	437.1

Notes: Acreages computed assuming 300' right-of-way for lengths of new-location alternatives. Acreage for Alternative 9 includes existing roadway. For purposes of this analysis, Alternatives 7 and 7A assumed to be identical.

Base Case with grade-separated interchanges requires 15.7 acres, all in the barren and urban/suburban/roadway classification.

TABLE IV-20

HABITAT VALUE ALONG EACH ALTERNATIVE

Alternative	Habitat Value						Total Acres
	High		Moderate		Low		
	Acres	%	Acres	%	Acres	%	
6	212.7	70.5	14.4	4.8	74.5	24.7	301.6
6B	216.5	73.4	46.9	15.9	31.7	10.7	295.1
7/7A	193.9	73.1	21.8	8.2	49.5	18.7	265.2
9	0.2	0.2	0.0	0.0	116.1	99.8	116.3
10	91.7	48.9	50.3	26.8	45.5	24.3	187.5
11	150.7	46.2	136.3	41.7	39.5	12.1	326.5
12	161.8	37.0	226.3	51.8	49.0	11.2	437.1

Note: Acreages computed assuming 300' right-of-way for lengths of new-location alternatives. Acreage for Alternative 9 includes existing roadway. For purposes of this analysis, Alternatives 7 and 7A assumed to be identical.

Base Case with grade-separated interchanges requires 15.7 acres, all of low habitat value.

K. AGRICULTURAL AND FORESTAL IMPACTS

1. Agricultural Resources

Table IV-21 lists the acres of land in agricultural use impacted by each proposed alternative. Alternatives 11 and 12 impact the most agricultural land use. The right of way for Alternative 12 traverses 134 acres of farm land, excluding land in Agricultural/Forestal Districts, which is less than 0.1 percent of the total County acreage. On the east side, Alternative 6B, at 48 acres, impacts the most farmland. Alternatives 7 and 7A have the least farmland impact of the new location alternatives. Alternative 9, the expressway, has no farmland impact. The selected alternative impacts approximately 32 acres of agricultural land.

The Farmland Protection Policy Act of 1981 pertains to evaluation of farmland conversions to nonagricultural uses. The evaluation normally involves completion of an impact rating score sheet. The Farmland Conversion Impact Rating score sheet (U.S. Department of Agriculture Form AD-1006) for this project is included in Appendix C. Because Albemarle County has not adopted the National Agriculture Land Evaluation and Site Assessment System (LESA), sections V and VII of the form could not be completed. Following publication of the DEIS, additional coordination was conducted with the Soil Conservation Service of the U.S. Department of Agriculture, which indicated that the evaluation of farmland impacts was satisfactory.

2. Prime Farmland

Table IV-21 lists the acres of prime farmland soils impacted by each proposed alternative. The range of prime farmlands soils impacted by the new location alternatives varies from 49 to 159 acres. The impact of each alignment is generally proportional to its length. Alternative 9, the Expressway, would have no impact on prime farmland soils. The selected alternative would impact 49 acres of prime farmland soils.

3. Forest Resources

Table IV-21 shows the acres of forestal land use (land used for commercial production of forest products) required for the right of way of each of the alternatives, exclusive of land in Agricultural/Forestal Districts. The loss of forestal land use acres is greatest along Alternative 6 with 18.8 acres, while 6B and 7 and 7A have a project loss of 16.8 and 7.9 acres, respectively. The selected alternative does not impact upon designated forestal land use areas.

TABLE IV-21

AGRICULTURAL/FORESTAL IMPACTS OF ALTERNATIVES (ACRES)

<u>Alternative</u>	<u>Agricultural Land Use*</u>	<u>Forestal Land Use*</u>	<u>Agricultural/ Forestal Districts</u>	<u>Prime Farmland Soils</u>
Base Case	0.0	0.0	0.0	**
6	27.9	18.8	0.0	89.5
6B	47.6	16.8	0.0	78.1
7	11.9	7.9	0.0	78.2
7A	11.9	7.9	0.0	78.2
9	0.0	0.0	0.0	**
10	31.7	0.0	0.0 ***	48.7
11	100.1	0.0	116.3	101.7
12	133.9	0.0	174.2	157.6
Base Case with Inter- changes	0.0	0.0	0.0	**

* Excludes Agricultural and Forestal District acreage.

** Current right-of-way and development preclude the creation of new impacts upon prime farmlands soil found along existing Route 29.

*** Following publication of the Draft Environmental Impact Statement and selection of Alternative 10, a shift was made in the alignment to avoid taking any Agricultural/Forestal District land.

The construction of a roadway through a forested area creates several direct impacts upon the forest community. The stripping of the forest canopy and underbrush along a highway corridor also affects the soil, hydrology, and, wildlife habitat, as well as the economic potential for forest products.

4. Agricultural/Forestal Districts

Table IV-21 shows the acres of land in Agricultural/Forestal Districts that would be taken for the right of way for each of the alternatives. Much of the area to the north of Charlottesville is in Agricultural/Forestal Districts and it was not possible to avoid taking portions of the districts for any of the far western alternatives. The east side alternatives and the Expressway do not go through any Agricultural/Forestal Districts.

The selected alternative takes no Agricultural/Forestal District land. Following publication of the DEIS, refinements were made in the Alternative 10 alignment to avoid the Ivy Creek Agricultural/Forestal District.

L. HAZARDOUS WASTES

The Charlottesville-Albemarle Emergency Services Coordinator has indicated that there are no known hazardous waste sites within any of the proposed alternative areas. Consultation with other agencies such as the U.S. Environmental Protection Agency and the Virginia Department of Health also revealed no known hazardous waste sites in the area.

Existing and past land uses along the alternatives were reviewed using a combination of aerial photographs and field investigation. No hazardous waste sites were discovered. Because past and present land use in most of the study area for the new location alternatives is rural, consisting mostly of agricultural, forest, and residential activities, there is little potential for hazardous waste sites. None of the alternatives cross any dumps, landfills, auto graveyards, waste piles, manufacturing plants, or similar facilities likely to contain hazardous material.

As a precautionary measure in estimating right-of-way costs, it has been assumed that buildings displaced by the alternatives may contain asbestos. Only after a thorough inspection of each building taken for the selected alternative will it be feasible to positively determine if asbestos is in fact present. If it is, then it will be disposed of in accordance with all applicable regulations of the hazardous waste laws.

The presence of hazardous materials in our environment is unavoidable in today's society. Transportation of hazardous materials is regulated by the Department of Transportation under strict packaging, manifesting, handling, and placarding requirements. Despite all precautions, however, the potential for accidents involving these materials is ever-present.

The risk can be reduced by providing highways with safe design, including wide shoulders, a median separating oncoming traffic and appropriate roadway geometry.

Part of the study area is particularly sensitive to spills because two of the western alternatives, Alternatives 11 and 12, cross the South Fork Rivanna Reservoir. This reservoir is the main water supply in Charlottesville. Alternative 10, the selected alternative, crosses a portion of the reservoir's watershed, but does not cross the reservoir itself.

A spill within the watershed would have varying consequences depending on how far from the reservoir itself the spill occurred. Local response teams would be responsible for containing spills to prevent their reaching the reservoir.

The potential for a rare hazardous spill or accident in close proximity to a concentration of people, especially children, is a concern expressed by several citizens. Schools are located adjacent to existing roads carrying trucks. For example, St. Annes-Belfield School is within 200 feet of US Route 29/250 Bypass and within 300 feet of Alternative 10. Mary Greer Elementary School is approximately 600 feet from Alternative 10. In 1988, representatives of the Charlottesville Fire Department compiled a list of hazardous materials being transported on U.S. Route 29 near Rio Road on week days during daylight hours. The materials included flammable gas, nonflammable gas, flammable solids, oxidizer, poison, corrosives, and radioactive substances. The data collected indicate that an average of 42 trucks per day during daylight hours are carrying some type of hazardous material. Under the selected alternative, it could be expected that many of these trucks would be using the new route and thereby passing the schools.

The Charlottesville-Albemarle Comprehensive Hazardous Substances Emergency Response Plan developed by the Local Emergency Planning Committee outlines procedures to be followed in the event of a hazardous materials incident. These procedures would be followed by the local emergency response agencies in proportion to the type and seriousness of the incident.

M. CONSTRUCTION IMPACTS

"Construction impacts" refers to the short-term environmental impacts resulting from the process of constructing the project. They can involve changes in air quality, water quality, noise, traffic flow, and access to properties.

1. Water Quality

Short-term water quality impact will come from erosion and associated sedimentation. Erosion results when the ground surface is bared from clearing and earthmoving operations. After entering streams, the eroded material may increase turbidity levels and sedimentation

downstream. Excessive quantities of suspended solids can harm fish and other aquatic life. Deposition of suspended solids may alter the substrate of stream beds, interfere with plant production and fish spawning, smother benthic fauna, and reduce substrate utilization.

Eroded material may also contain organic matter and nutrients, such as nitrogen and phosphorus. High inputs of organic matter may result in an increase in biological oxygen demand decreasing dissolved oxygen concentrations. Additionally, inputs of nutrients can increase both turbidity and eutrophication by increasing algae production.

Erosion and sediment control measures will be implemented to minimize water quality impacts from increased levels of sedimentation and turbidity. Control measures may include berms, dikes, sediment basins, fiber mats, straw silt barriers, netting, mulch, temporary and permanent seeding, and other methods. Construction impacts to in-stream aquatic habitats may be minimized to the extent practicable by avoiding stream relocations and by crossing streams at right angles. To the extent possible, construction equipment will be restricted from fording and otherwise disrupting in-stream habitats.

2. Air Quality

Construction impacts on air quality include exhaust emissions from construction equipment and dust generated by construction activities on disturbed earth. Additional emissions could be generated by burning of debris from clearing operations. These impacts would be temporary and would be minimized by enforcement of construction specifications and adherence to the Virginia Department of Air Pollution Control's regulations.

The Virginia Department of Transportation's Road and Bridge Specifications (January 1987) regulate construction procedures on all projects. The Specifications require the contractor to comply with all applicable laws, ordinances, regulations, orders, and decrees. This includes compliance with emissions standards for construction equipment and adherence to regulations for burning of materials from clearing and grubbing, demolition, or other operations.

The Specifications have been reviewed by the State Air Pollution Control Board and found to conform with the State Implementation Plan. The Specifications prohibit burning of tires, asphaltic materials, used crankcase oil, or similar materials which produce dense smoke. Provisions will be included in the contract for allaying dust resulting from construction activities. Temporary air quality impacts from construction are not expected to be significant.

3. Noise

Noise receptors that would be sensitive to highway traffic noise would also be sensitive to noise from construction equipment while the project is being built. To minimize the effects of construction noise, the Virginia Department of Transportation's Road and Bridge Specifications contain noise control provisions. Following are some of the major elements of these provisions.

- o Equipment shall in no way be altered so as to result in noise levels which are greater than those produced by the original equipment.
- o The contractor's operations shall be performed in such a manner that the exterior noise levels measured at a noise sensitive activity shall not exceed 89 dB(A) during periods of such activity.
- o The Department reserves the right to prohibit or restrict to certain portions of the project, any work which produces objectionable noise during normal sleeping hours, 10 p.m. to 6 a.m., unless other hours are established by local ordinance in which case the local ordinance shall govern.

4. Traffic Flow

Alternative 9, the Expressway, would have the most severe impact on traffic flow during construction, as it would be constructed along a busy existing highway. Construction phasing would attempt to minimize traffic impacts. This is discussed in detail in the Engineering Report. Two through lanes would be maintained in each direction throughout the construction process. Some traffic delays could be expected because of lane detours and the temporary narrowing of travel lanes. The number of turning lanes at intersections also might have to be reduced at times. Direct access to businesses could be affected, though some access would be maintained at all times.

The other alternatives, being constructed on new location, would have less severe traffic impacts during construction. Where the road crosses some existing roads, temporary detours during construction of bridges might cause minor delays. The more complicated terminus points of each new-location alternative would have greater impacts on traffic, though it is anticipated that all roads would remain open during construction.

The selected alternative would cause some disruption of traffic along Route 29 during the construction of grade-separated interchanges at Rio Road, Hydraulic Road, and Greenbrier Drive. Though less disruptive than construction of Alternative 9, the construction of the three interchanges would result in traffic delays and temporary detours, and would require temporary changes in access to some businesses located nearby. Through traffic will be

maintained, both on Route 29 and on the cross streets, as will access to all businesses not taken for the project.

A detailed plan for maintenance of traffic will be prepared as a part of the final engineering design for each interchange.

N. RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF THE ENVIRONMENT AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The local short-term uses of the environment principally include the construction impacts described in the previous section and the resources used in construction of the highway improvements, including materials, energy, and labor. The short-term environmental impacts and use of resources must be balanced against the long-term benefits of the project, both locally and regionally.

Route 29 is a major transportation artery for Charlottesville and Albemarle County as well as for the state and the larger region, as discussed in Chapter I. Improvements to the traffic-carrying capacity of Route 29 are based on local and state transportation plans, and are needed to assure the productivity of the local area and the larger region. The local short-term impacts and use of resources for the project are consistent with the maintenance and enhancement of long-term productivity.

O. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Implementation of any of the Candidate Build Alternatives involves a commitment of natural, physical, human, and fiscal resources. Land used in the construction of a highway is considered an irreversible commitment during the time period that the land is used for a highway facility. However, if a greater need arises for use of the land or if the highway facility is no longer needed, the land can be converted to another use. At present, there is no reason to believe such a conversion will ever be necessary or desirable.

Considerable amounts of fossil fuels, labor, and highway construction materials such as cement, aggregate, and bituminous material are expended. Additionally, large amounts of labor and natural resources are used in the fabrication and preparation of construction materials. These materials are generally not retrievable. However, they are not in short supply and their use will not have an adverse effect upon continued availability of these resources. Any construction will also require a substantial one-time expenditure of both state and federal funds, which are not retrievable.

The commitment of these resources is based on the concept that residents in the immediate area, state, and region will benefit by the improved quality of the transportation system. These benefits will consist of improved accessibility and safety, savings in time, and greater availability of quality services, which are anticipated to outweigh the commitment of these resources.

V. LIST OF PREPARERS

The persons listed below were responsible for management and review of this Environmental Impact Statement and related technical memoranda and background studies.

<u>Name</u>	<u>Primary Responsibilities</u>
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VI. DISTRIBUTION OF THE FINAL ENVIRONMENTAL IMPACT STATEMENT

Comments on the Draft Environmental Impact Statement were requested from the following agencies. Those marked with an asterisk (*) responded, either stating a comment or indicating they had no comments concerning the document.

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Virginia Department of Game and Inland
Fisheries
4010 West Broad Street
Richmond, Virginia 23230

* Mr. King E. Davis, Commissioner
Virginia Department of Mental Health and
Mental Retardation
James Madison Building
109 Governor Street
Richmond, Virginia 23214

* Mr. O. Gene Dishner, Director
Virginia Department of Mines, Minerals &
Energy
Bookbindery Building
2201 West Broad Street
Richmond, Virginia 23220

* Mr. Tyson Van Auken
Virginia Outdoors Foundation
221 Governor Street
Richmond, Virginia 23219

* Mr. Wallace N. Davis
Executive Director
Virginia Department of Air Pollution
Control
801 Ninth Street Office Building
Richmond, Virginia 23219

* Mr. Richard N. Burton, Executive Director
State Water Control Board
2111 North Hamilton Street
Richmond, Virginia 23230

* Mr. S. Mason Carbaugh, Commissioner
Virginia Department of Agriculture and
Consumer Services
Washington Building, Capital Square
1100 Bank Street
Richmond, Virginia 23219

* Mr. B. C. Leynes, Jr., Director
Virginia Department of Conservation and
Recreation
203 Governor Street, Suite 302
Richmond, Virginia 23219

* Mr. James W. Garner, Jr.
State Forester
Virginia Department of Forestry
P.O. Box 3758
Charlottesville, Virginia 22903

Dr. James B. Kenley, Commissioner
Virginia Department of Health
James Madison Building - 4th Floor
Richmond, Virginia 23219

* Dr. Hugh Miller, Director
Virginia Department of Historic Resources
221 Governor Street
Richmond, Virginia 23219

* Mr. Robert W. Grabb, Chief
Habitat Management Division
Virginia Marine Resources Commission
P.O. Box 756
Newport News, Virginia 23607-0756

* Mr. Alvin Edwards
Mayor, City of Charlottesville
1935 Thomson Road
Charlottesville, Virginia 22901

* Mr. Satyendra Singh Huja
Director of Planning
City of Charlottesville
P.O. Box 911
Charlottesville, Virginia 22902

Mr. Cole Hendrix
City Manager
City of Charlottesville
P.O. Box 911
Charlottesville, Virginia 22901

* Dr. Raymond M. Haas
Vice-President for Administration
University of Virginia
The Rotunda
Charlottesville, Virginia 22903

Dr. Werner K. Sensbach
Dept. of Physical Plant
University of Virginia
575 Alderman Road
Charlottesville, Virginia 22903

* Mr. Frederick R. Bowie
Chairman of the Board of Supervisors
Albemarle County
401 McIntire Road
Charlottesville, Virginia 22901

Mr. Guy B. Agnor, Jr.
County Executive
Albemarle County
401 McIntire Road
Charlottesville, Virginia 22901

Mr. Robert W. Tucker, Jr.
Deputy County Executive
Albemarle County
401 McIntire Road
Charlottesville, Virginia 22901

Mr. Wayne Cilimberg
Director of Planning and Community
Development
Albemarle County
401 McIntire Road
Charlottesville, Virginia 22901

* Mr. C. Timothy Lindstrom
Piedmont Environmental Council
1010 Harris St., Suite 1
Charlottesville, Virginia 22901

Ms. Judith Mueller
Director, Department of Public Works
P.O. Box 911
Charlottesville, Virginia 22902

Ms. Nancy O'Brien, Executive Director
Metropolitan Planning Organization
Thomas Jefferson Planning District
Commission
413 E. Market Street
Charlottesville, Virginia 22901

Mr. Richard P. Moring
Director of Engineering
Albemarle County
401 McIntire Road
Charlottesville, Virginia 22901-4596

Jefferson Madison Regional Library
201 E. Market Street
Charlottesville, Virginia 22901

Gordon Avenue Library
1500 Gordon Avenue
Charlottesville, Virginia 22903

Crozet Library
P.O. Box 430
Route 240
Crozet, Virginia 22932

VII. COORDINATION AND COMMENT

Project coordination and solicitation of comments included coordination with local governments and public advocates and an active citizen participation program.

A. AGENCY COORDINATION

The principal mechanism for coordination with local governments was the Joint Transportation Committee, which met throughout the course of the study. Other coordination with state and local agencies is also described in this section.

1. Joint Transportation Committee

Members of the Project Study Team met with the Joint Transportation Committee (also referred to as the Route 29 Task Force) throughout the project. The Joint Transportation Committee consisted of elected officials and staff from Albemarle County, the City of Charlottesville, and the University of Virginia. The purpose of the meetings was to keep local officials abreast of the study process and to receive their opinions/concerns about the project.

The Joint Transportation Committee members contributed directly to the study process in a variety of ways. They commented during the development and initial screening of preliminary alternatives and requested that specific segments be included in the analysis. The Committee suggested factors to be examined in the impact matrix comparing the conceptual alternatives and facilitated in providing relevant data from previous plans and studies.

Work sessions occurred at the milestones of the project where the Project Study Team and the Joint Transportation Committee would jointly discuss the alternatives and the implications of each. Individual committee members also met at times with the Project Study Team to provide suggestions on the location and design of specific alternatives.

The public and press were welcomed at Committee meetings, providing an opportunity to keep the public informed throughout the course of the study. There have been nine meetings of the Project Study Team with the entire Joint Transportation Committee. Several additional meetings between individual members of the Joint Transportation Committee and the Project Study Team have been held.

2. Other Local Coordination

In addition to the formal meetings of the Joint Transportation Committee, the Project Study Team had numerous contacts with and held working sessions with staff persons from local agencies, including the Albemarle County Departments of Engineering, and Planning and Community Development, the Charlottesville Department of Community Development, the University of Virginia, the Charlottesville-Albemarle Airport, the Thomas Jefferson Planning District Commission, and the Charlottesville City Council.

3. Interagency Coordination

In November 1987, letters were sent to federal, state, and local agencies informing them of the development of the Draft Environmental Impact Statement for the Route 29 project. A Notice of Intent to prepare an Environmental Impact Statement was published in the Federal Register November 12, 1987.

On September 22, 1988, an interagency coordination meeting was held in Richmond. Representatives of state and federal agencies were given a presentation on the project and were invited to comment. A list of agencies invited to the meeting and a summary of their comments is presented in Table VII-1.

Among the agencies submitting correspondence on the project were the U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (COE). The EPA offered guidelines, which have been followed in the appropriate chapters, on the consideration of alternatives and the types of environmental impacts to be examined. The COE's primary concern was for the evaluation of wetland impacts, which are discussed in Section F of Chapter III and Section H of Chapter IV.

Chapter VI lists the agencies receiving copies of the DEIS and the FEIS. The agency comments on the DEIS, along with responses to these comments, are presented in Section C of this chapter.

B. CITIZEN INVOLVEMENT

An extensive citizen participation effort was made to keep the public involved and informed throughout the course of the study. It included citizen information meetings, presentations before special interest groups, newsletters, and a telephone "hotline."

TABLE VII-1

SEPTEMBER 22, 1988, INTERAGENCY COORDINATION MEETING

Agency	Comments
FEDERAL	
Fish and Wildlife Service	Not present
Environmental Protection Agency	Glad you are pursuing the elevated concept. Lynn Rothman is the contact person for EPA. Requested a field review of the project areas.
National Marine fisheries Service	No Comment.
Army Corps of Engineers	We received the Corridor Study on October 4, 1988 and will send comments when our review of its is complete.
United States Coast Guard	Not present.
STATE	
Virginia Water Control Board	Defer to group consensus.
Marine Resources Commission	Not present.
Division of Parks and Recreation	Provided comments previously to VDOT as part of Department of Conservation and Historic Resource letter on EIS.
Virginia Institute of Marine Science	Not present.
State Health Department	Not present.
Department of Game and Inland Fisheries	Will hold comment for the DEIS.
Division of Soil and Water Conservation	Not present.
Council on the Environment	Will hold comments for DEIS.
Natural Heritage Program	Not present.

1. Citizen Information Meetings

Two citizen information meetings and an "open house" have been held during the course of the study. The first citizen information meeting was held on December 14 and 15, 1987, from 1:00 p.m. to 9:00 p.m., at the University Hilton Hotel. The purpose of the meeting was to familiarize residents with the study and to obtain public comment on the study process and the initial range of alternatives. More than 300 citizens attended the meeting during the two-day period. They submitted approximately 150 comment cards at the session. The meeting was conducted in an "open forum" format with a formal project briefing lasting for approximately one half hour on each evening. Members of the Project Study Team were available to answer and discuss questions concerning the study.

The second citizen information meeting was held on June 15 and 16, 1988, from 1:00 p.m. to 9:00 p.m. at the University Hilton Hotel. A total of 823 citizens signed the attendance register during the two days. More than 1400 brochures and 700 copies of Newsletter No. 3 were distributed at the meeting. This meeting provided citizens the opportunity to review the study process, the quantitative comparison of the 27 conceptual alternatives, and the six alternatives that were recommended for further study in the Draft Environmental Impact Statement. People were given the opportunity to state their opinions concerning these alternatives. The meeting was conducted in an open, informal format with display boards, continuous automatic slide presentation, brochures, and comment sheets. Members of the Project Study Team were available to answer and discuss questions concerning the study. Approximately 290 comment cards were turned in at the meeting.

An "Open House" meeting was held on June 8, 1989, from 1:00 p.m. to 9:00 p.m. and on June 9, 1989, from 9:00 a.m. to 4:00 p.m. at the County Office Building. The primary purpose of this open house was to allow the public to review and ask questions about the preliminary 1"=200' plan sheets of the alternatives being studied in the Draft Environmental Impact Statement and the detailed traffic data available at that time. Following this open house, the maps and data remained at the County Office Building where they were available for the public and local agencies.

2. Interest Group Meetings

As part of the continuing commitment of the Virginia Department of Transportation to inform the public about the project, over 20 meetings were held with various interest groups. Table VII-2 summarizes these meetings, which provided for an exchange of ideas and information relevant to the project.

Members of the Project Study Team were also in attendance at several local public hearings and meetings such as those on the Comprehensive Plans of both the City and County.

TABLE VII-2

INTEREST GROUP MEETINGS

<u>Date</u>	<u>Organization</u>
1/25/88	League of Women Voters
2/22/88	5 C's Committee
4/7/88	ALERT
4/15/88	Joe Passaneau (P.E.C. Consultant)
5/3/88	Carrsbrook Homeowners Meeting
6/16/88	Albemarle-Charlottesville Airport Director
6/18/88	GE Fanuc Corp.
7/21/88	University Real Estate Foundation
7/28/88	Developers of Branchlands Commercial Area
8/17/88	Key West Homeowners Association
9/28/88	Charlottesville Chamber of Commerce
10/6/88	Charlottesville Area Board of Realtors
10/12/88	Ivy Farm Homeowners Association
10/20/88	Blue Ridge Homebuilder's Association
10/26/88	Charlottesville/Albemarle Transportation Coalition
11/17/88	Community Planning Coalition
11/31/88	ALERT
2/28/89	American Society of Civil Engineers at UVA
3/14/89	Charlottesville Area Hazardous Waste Coordinator
4/26/89	Joe Passaneau and Tim Lindstrom
5/31/89	Charlottesville/Albemarle Transportation Coalition
6/5/89	Federation of Neighborhood Associations

3. Newsletters

The Route 29 Project Study Team published and distributed eight newsletters reporting the progress and upcoming events of the Route 29 Corridor Study. The newsletter mailing list has been developed from 1) citizens calling on the "hotline" requesting their name be added to the list, 2) comment forms received at the first and second citizen information meetings, and 3) comment forms passed out at other meetings throughout the project. Approximately 1100 names are on the mailing list.

4. Telephone Hotline

A telephone hotline was installed at the beginning of the Route 29 Corridor Study, in December 1987. Citizens have used this toll free number (800-63-RTE29 or 800-637-8329) to receive information on the scheduling of the project, to voice their opinions and concerns, and to arrange meetings with the Project Study Team and their local neighborhoods and organizations. A member of the Study Team was available during working hours to answer the hotline, and people could leave comments on a recording after hours. Approximately 315 hotline calls had been received as of April, 1990.

5. Summary of Public Comments

Presented here is a summary of the major categories of comments expressed by the public during the course of the study prior to the public hearing. These include comments from citizens at the first and second citizen information meetings, hotline calls, and comment cards received during the project. It should be noted that there had not been a consensus established within the community of a preferred alternative or alternatives.

Some citizens supported one or more of the bypass alternatives. Their comments stated that a bypass will eventually be necessary and the time for construction is now. Many of these comments focused on safety and cost: that a bypass would improve the safety of Route 29 north by diverting trucks, and that the cost of a bypass is more reasonable than an expressway. Others opposed some or all of the bypass alternatives. They commented that any bypass would only help through traffic. Many of these comments expressed concern for potential impacts to rural areas, real estate values, and the South Fork Rivanna River watershed.

Groups were formed within the community that both favored and opposed the expressway concept. Some people supported the expressway because they were opposed to any bypass alternative. Others opposed the expressway due to its impacts to businesses and access along Route 29 north, or because they felt an expressway would be out of character with the community.

6. Location Public Hearing

The formal Location Public Hearing was held in Charlottesville over three days, June 26, 27 and 28, 1990. For the first two days, Tuesday and Wednesday, June 26 and 27, the hearing was held at the Days Hotel, 1901 Emmet Street, between the hours of 2:00 p.m. and 8:00 p.m. The format on these two days included a slide show shown continuously in one room, displays and exhibits set up for viewing and discussion in an adjacent room, and an area screened off where citizens could provide their statements to a stenographer for the official Public Hearing Record. In the area of the display materials, members of the study team and other VDOT staff were present at all times to explain the material, answer questions from the public and discuss the project.

The third day of the Location Public Hearing, Thursday, June 28, the hearing was held at the Performing Arts Center at Charlottesville High School, from 4:00 p.m. to 8:30 p.m. The same exhibits and displays as shown the first two days were available in the lobby. Speakers were given the opportunity to present their testimony for the official Public Hearing record in the auditorium, where testimony and statements were recorded by a court reporter. Stenographers were also available on this day to take individual statements from people in an area in the lobby. A Location Public Hearing transcript consisting of two volumes of written comments and one volume of oral comments was compiled. All comments received at the hearing during the official comment period which ended August 15, 1990, are included in the transcript. Section D of this chapter presents public hearing comments and responses.

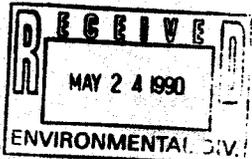
The number of people attending the hearing was estimated to be 115 on June 26, 180 on June 27, and 350 on June 28.

C. AGENCY COMMENTS AND RESPONSES

The Route 29 DEIS was widely distributed to appropriate federal, state and local agencies. The agencies are listed in Chapter VI. This section provides copies of the agency comments on the DEIS. The comments are reprinted on the following pages in chronological order. Each agency letter is reprinted in a reduced size on the left side of the page. Specific comments that warrant a response are indicated and numbered in the left hand margin. The responses to these numbered comments are provided on the right half of the page.

AGENCIES/ORGANIZATIONS COMMENTING ON DRAFT EIS

5/22/90 Virginia Department of Aviation
5/22/90 Virginia Outdoors Foundation
5/23/90 Virginia Department of Mental Health, Mental Retardation, and
Substance Abuse Services
6/05/90 U.S. Department of Commerce, National Oceanic and Atmospheric
Administration
6/07/90 Virginia Department of Historic Resources
6/19/90 Virginia Department of Agriculture and Consumer Services
6/22/90 U.S. Department of Health and Human Services, Public Health Service
6/28/90 Virginia Department of Forestry
7/02/90 Virginia Department of Air Pollution Control
7/03/90 Virginia State Water Control Board
7/03/90 U.S. Department of Transportation, Office of the Secretary
7/09/90 Virginia Department of Conservation and Recreation
7/09/90 U.S. Army Corps of Engineers, Norfolk District
7/12/90 Virginia Department of Mines, Minerals, and Energy
7/14/90 Piedmont Environmental Council
7/17/90 U.S. Environmental Protection Agency
7/18/90 U.S. Department of Housing and Urban Development
7/31/90 U.S. Department of the Interior, Office of the Secretary
8/10-90 City of Charlottesville, City Council Resolution
8/13/90 County of Albemarle, Office of Board of Supervisors
8/14/90 Virginia Department of Historic Resources
8/14/90 Virginia Marine Resources Commission
8/15/90 University of Virginia
8/16/90 Piedmont Environmental Council
8/28/90 Virginia Department of Game and Inland Fisheries
8/31/90 Virginia Council on the Environment
10/25/90 U.S. Department of Agriculture, Soil Conservation Service



VIRGINIA DEPARTMENT OF AVIATION 5/22/90

COMMONWEALTH of VIRGINIA

No response necessary.

KENNETH A. ROWE
Director

Department of Aviation
4508 South Laburnum Avenue

P.O. BOX 7716
RICHMOND, VIRGINIA 23231
(804/786-1364 (V/TDD))

May 22, 1990

Mr. R. L. Hundley
Environmental Engineer
Virginia Department of Transportation
1401 E. Broad Street
Richmond, VA 23219

Re: Project No. 6029-002-122, Charlottesville Bypass.

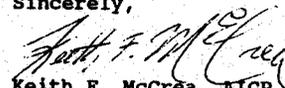
Dear Mr. Hundley:

In response to your request for comments regarding the above referenced project, please be advised of the following:

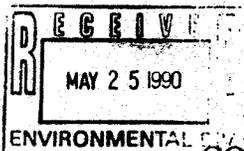
The Department of Aviation has no comments regarding the environmental consequences of the proposed alternatives.

Should you desire any additional information, please feel free to contact us.

Sincerely,


Keith F. McCrea, AICP
Aviation Planner

KFM:jbc



COMMONWEALTH of VIRGINIA
DEPARTMENT OF

Mental Health, Mental Retardation and Substance Abuse Services

KING E. DAVIS Ph.D. LCSW
COMMISSIONER

MEMORANDUM

MAILING ADDRESS
P.O. BOX 1797
RICHMOND, VA 23214
TEL. (804) 786-3921

VIRGINIA DEPARTMENT OF MENTAL HEALTH, MENTAL RETARDATION,
AND SUBSTANCE ABUSE SERVICES 5/23/90

No response necessary.

TO: Mr. R. L. Hundley
Environmental Engineer
Department of Highways and Transportation

FROM: *A.G. Sutherland*
A. G. Sutherland, Director
Architectural and Engineering Services

SUBJECT: Draft Environmental Impact Statement (DEIS)
For Route 29 Corridor Study
City of Charlottesville
Albemarle County
Project Code: 6029-002-122-PE100

DATE: May 23, 1990

This will acknowledge receipt of your letter dated May 17, 1990, to Mr. Howard Cullum, in which you requested comments on the draft environmental impact statement (DEIS) for Route 29 corridor study. Dr. King E. Davis, who assumed the position of Commissioner, Department of Mental Health, Mental Retardation, and Substance Abuse Services (DMHMRSAS) January 1990 has referred your request to this office for action.

DMHMRSAS has no comments on the study as it does not impose adverse affects on any of the sixteen (16) DMHMRSAS institutions, or traffic related patterns.

The designated person for future coordination on this study will be Wallace F. Mills, A.I.A., Office of Architectural and Engineering Services, telephone 804-786-3926.

Your continuing coordination with this agency when preparing environmental studies for Virginia Highway projects is appreciated.

AGS-WFM:csg

cc: Dr. King E. Davis, Commissioner
Wallace F. Mills

a:DEISltr.Hun



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
OFFICE OF CHARTING AND GEODETIC SERVICES
ROCKVILLE, MARYLAND 20852

U.S. DEPARTMENT OF COMMERCE, NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION 6/5/90

MAY 31 1990

1. The Virginia Department of Transportation maintains an accurate file on the locations of horizontal and vertical geodetic control survey monuments in the state. Existing monuments will be preserved if possible. If relocation of a monument is required, a minimum of 90 days notice will be given NOAA. Any relocations of monuments will be included in the project cost.

MEMORANDUM FOR: David Cottingham
Ecology and Environmental Conservation Office
Office of the Chief Scientist

FROM: Rear Admiral Wesley V. Hull, NOAA
Director, Charting and Geodetic Services

SUBJECT: DEIS 9005.07 - Route 29 Corridor Study,
City of Charlottesville and Albemarle County,
Virginia

The subject statement has been reviewed within the areas of Charting and Geodetic Services' (C&GS) responsibility and expertise and in terms of the impact of the proposed actions on C&GS activities and projects.

A preliminary review of C&GS records has indicated the presence of both horizontal (H) and vertical (V) geodetic control survey monuments in the proposed project area. Attached are the published geodetic control data for quadrangles 380782 (H & V) and 380783 (H & V).

① This information should be reviewed for identifying the location and designation of any geodetic control monuments that may be affected by the proposed project. If there are any planned activities which will disturb or destroy these monuments, C&GS requires not less than 90 days' notification in advance of such activities in order to plan for their relocation. C&GS recommends that funding for this project includes the cost of any relocation required for C&GS monuments. For further information about these monuments, please contact the National Geodetic Information Branch, N/CG17, Rockwall Bldg., room 20, National Geodetic Survey, NOAA, Rockville, Maryland 20852, telephone 301-443-8631.

Attachments

cc:
N/CG1x32 - Cohen
N/CG17 - Spencer



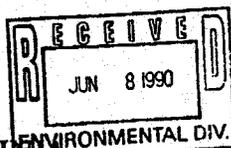


COMMONWEALTH of VIRGINIA

Department of Historic Resources
221 Governor Street
Richmond, Virginia 23219

Hugh C. Miller, Director

TDD: (804) 786-1934
Telephone (804) 786-3143
FAX: (804) 225-4261



June 7, 1990

Mr. R.L. Hundley
Environmental Engineer
Virginia Department of Transportation
Memorial Hospital
1201 East Broad Street
Richmond, VA 23219

RE: Route 29 Bypass, Charlottesville
DHR file # 4439-AB/CV

Dear Mr. Hundley:

For some time the Department of Historic Resources has been consulting with VDOT on the Route 29 Bypass study. Several meetings have taken place concerning eligibility of historic standing structures and the potential effects to them. I would like to take this opportunity to summarize those discussions. Following is a list of structures included in the project area, their significance, and the determination of effect:

Chapman Grove Baptist Church not eligible
Ridgeway Farm eligible no effect- alt 6 adverse effect- alt 6B
Red Hills Farm eligible adverse effect
Woodlands listed NRHP adverse effect
Retreat not eligible
Belvedere not eligible (interior photos needed)
John F. Elliot House not eligible
Wilton not eligible
Schlessinger Farm eligible adverse effect

Page 2

Pleasant Grove Baptist Church not eligible
Crenshaw Farm eligible adverse effect
Westover eligible no adverse effect - with alignment shift
Mount Faulcon not eligible
Darbey's Folly eligible adverse effect
Gale Hill not eligible
Union Ridge Baptist Church undetermined undetermined
Barracks Historic District eligible adverse effect
Oak Hill not eligible
Cochran's Mill undetermined no effect
Park Street Historic District (no further work necessary on individual structures in neighborhood) not eligible
Albemarle Court House Historic District listed NRHP no effect

In addition we have discussed a possible rural historic district in the Garth Road area. Should alternatives 11 or 12 be chosen, we request a phase II significance evaluation for this area.

Two of our staff members visited the project area last month in order to determine the effects on the above properties. While in the field they noticed a structure within one half mile of the center line that had not been surveyed and several structures that were not within one half mile of the center line, but clearly would be affected visually by one or more proposed alternatives. The decision to establish the area of potential effect as one half mile from the centerline was not done in consultation with this office. As you are aware, we do not feel an established measurement from centerline is an appropriate study area for all VDOT projects, particularly those that involve extensive construction of new alignments in areas where roadways of this magnitude are not currently present. We are concerned that additional situations such as this may exist throughout the project area; therefore, upon selection of an alternative, we request a reevaluation of the survey be undertaken to ensure all historic properties have been identified.

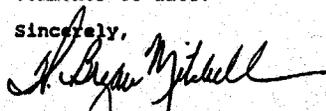
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Page 3

VIRGINIA DEPARTMENT OF HISTORIC RESOURCES 6/7/90

We look forward to receiving the final phase II for standing structures and continued consultation on this project. Please contact Elizabeth Hoge if you have any questions regarding our comments to date.

Sincerely,



H. Bryan Mitchell
Deputy State Historic Preservation Officer

cc: Advisory Council on Historic Preservation

1. The final listing of historic structures to be surveyed and the determination of effects were accomplished in consultation with the Department of Historic Resources.

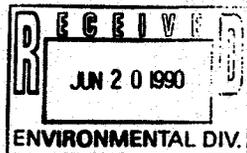
S. MASON CARBAUGH
COMMISSIONER



MARK D. TUBBS
DIRECTOR

COMMONWEALTH of VIRGINIA
DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES
Policy Analysis and Development
P. O. Box 1163, Richmond, Virginia 23209

June 19, 1990



Mr. R.L. Hundley
Environmental Engineer
Department of Transportation
1401 East Broad Street
Richmond, Virginia 23219

RE: Route 29 Corridor Study -- Draft Environmental Impact
Statement and Section 4(f)/106 Evaluation
Your Project 6029-002-122, PE100

Dear Mr. Hundley:

This agency has reviewed the captioned draft environmental
impact statement (EIS) and has the following comments:

1. Pesticides

① The draft EIS contains no discussion regarding the use of
pesticides in connection with the project that is the subject of
the EIS. This agency suggests that the EIS disclose whether
pesticides will be used in connection with the construction or
maintenance of the project. If pesticides are expected to be
used, this agency suggests that a plan be formulated for such
pesticide use which would emphasize the use of the least toxic
pesticides that are appropriate for the project and employment of
any of the principles of integrated pest management that would be
effective. If your agency has adopted a policy regarding
pesticide use in all of its projects, including a summary of that
policy in environmental impact statements and a discussion of
whether the project in question can be operated in accordance
with that policy would be an acceptable alternative.

VIRGINIA DEPARTMENT OF AGRICULTURE AND
CONSUMER SERVICES 6/19/90

1. No pesticide use is anticipated in connection with construction or maintenance of the project. Herbicides and growth retardants may be used for vegetation maintenance on the completed facility. All chemical use will be performed by applicators certified by the Virginia Department of Agriculture and Consumer Services in accordance with the specifications for each product used.
2. As shown in Table IV-21, the selected alternative takes fewer acres of prime farmland soils than any of the other alternatives except the Expressway (Alternative 9). The selected alternative has been refined so that it will not impact any Agricultural/Forestral District.

2. Endangered Species

The EIS states that the list maintained by the Virginia Natural Heritage Program has been consulted to determine whether any specimens of rare, threatened or endangered species are known to exist within the areas that would be affected by the proposed alternatives. Since the Virginia Natural Heritage Program's list includes specimens of those species under the protection of this agency, this agency has no comment at this time regarding this matter.

3. Agricultural Lands and Agricultural/Forestal Districts

② The EIS discloses that significant amounts of prime agricultural land would be affected by several of the proposed alternatives. This agency encourages your agency to give greater weight in choosing a preferred alternative to those alternatives that would not involve the loss of significant amounts of prime agricultural land. Several of the proposed alternatives could also affect existing agricultural/forestal districts by channeling growth to those districts. This agency encourages your agency to give greater weight in choosing a preferred alternative to those alternatives that would have less or no effect on agricultural/forestal districts.

I appreciate the opportunity to comment on the EIS.

Sincerely,

Mark
Mark D. Tubbs

cc: Mr. S. Mason Carbaugh



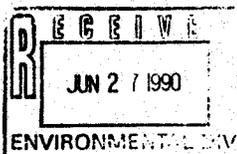
DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control
Atlanta GA 30333
June 22, 1990

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES,
PUBLIC HEALTH SERVICE 6/22/90

Mr. Robert L. Hundley
Environmental Engineer
Virginia Department of Transportation
1401 E. Broad Street
Richmond, Virginia 23219



Dear Mr. Hundley:

We have completed our review of the Draft Environmental Impact Statement (DEIS) for U.S. Route 29 Corridor Study, City of Charlottesville and Albemarle County. We are responding on behalf of the U.S. Public Health Service.

The proposed project is needed to solve existing and future traffic congestion problems and to complete the Charlottesville area element of ongoing improvements to Route 29 throughout central Virginia. This project has potential social impacts associated with relocation requirements for residences and businesses.

① It appears that appropriate mitigative efforts have been adequately addressed concerning potential water, air, and noise quality impacts. Minimum displacement and disruption of residential areas should be given priority consideration in selecting the preferred alternative. We noted that affected businesses and residences will be contacted by the Virginia Department of Transportation to ensure an orderly and satisfactory relocation is accomplished.

Thank you for the opportunity to review and comment on this document. Please insure that we are included on your mailing list to receive a copy of the Final EIS, and future EIS's which may indicate potential public health impact and are developed under the National Environmental Policy Act (NEPA).

Sincerely yours,

Kenneth W. Holt, M.S.E.H.
Environmental Health Scientist
Center for Environmental Health
and Injury Control

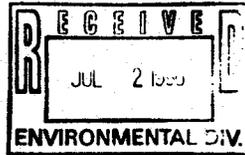
1. During the location and preliminary design of all of the alternatives, the minimization of impacts to residential areas was a primary consideration. As can be seen from Table IV-4, the selected alternative displaces fewer families than most of the other alternatives.

M. J. GRIFFIN
Regional Forester



COMMONWEALTH of VIRGINIA
DEPARTMENT OF FORESTRY

P. O. Box Q
Charlottesville, VA 22903
(804) 977-5193



VIRGINIA DEPARTMENT OF FORESTRY 6/28/90

June 28, 1990

R. L. Hundley
Environmental Engineer
Department of Transportation
1401 East Broad Street
Richmond, Virginia 23219

Project: 6029-002-122, PEI00

Dear Mr. Hundley:

It is evident that a great deal of work and study have gone into the Route 29 Corridor Study. The Department of Forestry does not have the manpower to properly evaluate the many alternatives in this study.

① As a general statement we would favor the alternative that would cause the least amount of disturbance to the environment and still accomplish the major objectives of the project. It appears that the widening of 29 and creating three over-passes at Rio, Hydraulic, and Greenbrier Drive with no additional by-pass, either east or west, may fit the bill. We will be glad to do our usual evaluation of the effects to forest products when an alternative has been selected.

If additional information is required, please do not hesitate to contact us.

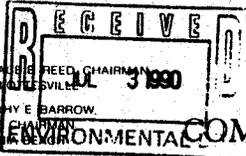
Very truly yours,

Brian W. Edson
District Forester

cc: Griffin
Coffman

/sks

1. The widening of Route 29 and building of three overpasses alone would not meet the objectives of the project, one of which is to provide a route for through traffic to bypass the congested sections of Route 29. As can be seen from Table IV-20, the selected alternative takes fewer acres of high-value habitat than any alternative except the Expressway, Alternative 9.



WALLACE N. DAVIS, CHAIRMAN
CHARLOTTESVILLE

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SAM C. BROWN, JR.
VIRGINIA BEACH

RICHARD L. COOK
RICHMOND

MANUEL DEESE
RICHMOND



COMMONWEALTH of VIRGINIA

Department of Air Pollution Control

ROOM 801 NINTH STREET OFFICE BUILDING

POST OFFICE BOX 10089

RICHMOND, VIRGINIA 23240

(804) 786-2378

FAX # (804) 225-3933

TDD # (804) 371-8471

DCS-565-90

VIRGINIA DEPARTMENT OF AIR POLLUTION CONTROL 7/2/90

This letter does not require a response.

WALLACE N. DAVIS
EXECUTIVE DIRECTOR

July 2, 1990

Mr. R. L. Hundley
Environmental Engineer
Virginia Department of Transportation
1401 East Broad Street
Richmond, VA 23219

Dear Mr. Hundley:

This responds to your May 17, 1990 letter to this Department, inviting comments on the Route 29 Corridor Study, City of Charlottesville and Albemarle County, Project: 6029-002-122, PE100.

This Department has reviewed the Draft Environmental Impact Statement--Section 4(f)/106 Evaluation and finds that the air pollution control issues have been adequately addressed. The traffic analyses tabulated in Table IV-9 predict no exceedance of the carbon monoxide standards for any of the build alternatives. The description of the required construction procedures on Pages IV-33 and -44 confirms that dust alleviation measures will be required and that construction debris will be disposed of in compliance with air pollution control regulations. With this understanding this Department has no objections to this project.

Your letter and the distribution list (Page VI-4) incorrectly address Mr. Richard L. Cook as the Executive Director. Mr. Wallace N. Davis is our current Executive Director.

Sincerely,

William W. Erskine, P. E.
Senior Air Pollution Control Engineer

WWE/dh

cc: Executive Director
Assistant Executive Director, Technical Operations
Director, Division of Computer Services
Director, Region IV
Charles H. Ellis III, Council on the Environment



COMMONWEALTH of VIRGINIA

STATE WATER CONTROL BOARD

2111 N. Hamilton Street

Richard N. Burton
Executive Director

Post Office Box 11143
Richmond, Virginia 23230-1143
(804) 367-0056
TDD (804) 367-9763

July 3, 1990

BOARD MEMBERS

William T. Clements
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W. Bidgood Wall, Jr.
Robert C. Winger

Mr. R. L. Hundley
Environmental Engineer
Department of Transportation
1401 East Broad Street
Richmond, Virginia 23219

RE: Draft EIS - Route 29 Corridor Study

Dear Mr. Hundley:

We have reviewed referenced document and the Associated Aquatic Resources and Water Quality Technical Memorandum and have the following comments:

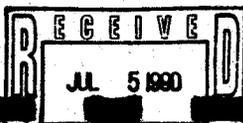
① Section III-F-7 "Wetlands", Page III-13, first paragraph. The sentence "All three must be present for an area to be wetlands." is incorrect. Generally speaking, all three parameters of hydrophytic vegetation, hydric soil, and positive hydrologic indicators must be present. However, in certain exceptional and rare cases, field indicators of one or more of the parameters could be missing, yet the area is still a wetland. Special procedures are required to determine the status of certain disturbed or "problem area" wetlands. We suggest that the sentence be revised to read: "Generally, all three parameters must be present for an area to be wetlands."

② Section IV-A "Traffic Impacts", Page IV-3. The last two paragraphs of this section discuss grade separated intersections along Route 29. Its inclusion in this section is problematical. This proposal is apparently not considered part of the Base Case alternative, nor as part of Alternative 9 (expressway). It is addressed in none of the other impact sections. However, according to the information given, this alternative would solve the traffic problems that none of the other alternatives can solve. We suggest that this proposal be discussed at the level of detail that the other alternatives have been accorded.

VIRGINIA STATE WATER CONTROL BOARD 7/3/90

1. The Federal Manual for Identifying and Delineating Jurisdictional Wetlands (January 1989) states that "The three technical criteria specified [hydrophytic vegetation, hydric soils, and wetland hydrology] are mandatory and must all be met for an area to be identified as wetland." Where one or more of the criteria are not readily apparent in disturbed or problem area wetlands, special procedures are provided for determining their presence. The sentence in Section III.F. has been revised as suggested.
2. The grade separated intersections along Route 29 are included in the selected alternative. They are discussed in Section G, the description of the selected alternative in Chapter II, and the effects of their construction have been included in the comparison of the alternatives throughout the FEIS.
3. The pattern and extent of new development will depend more on local economics, land use, and development policies than on any of the highway alternatives. Albemarle County has been vigorous in its attempts to channel most new development into designated growth areas. None of the alternatives would be expected to require or promote any additional related road improvements beyond those shown in the CATS regional transportation plan and included in the future highway network assumed for the traffic analysis.
4. During the project design phase, provision will be made for management of highway runoff in accordance with Commonwealth of Virginia Storm Water Management Regulations. The selected alternative does not include a crossing of the South Fork Rivanna River Reservoir.
5. The road names commonly used in the text are shown in Figure I-3.
6. Levels of service for the Candidate Build Alternatives are as follows:

Alternative	Level of Service
Alt. 6	B (≥57 MPH)
Alt. 6B	B (≥57 MPH)
Alt. 7	C (≥54 MPH)
Alt. 7A	C (≥54 MPH)
Alt. 9 Express Lanes Service Lanes	D (≥42 MPH) F (<10 MPH)
Alt. 10	A (≥60 MPH)



<u>Alternative</u>	<u>Level of Service</u>
Alt. 11	A (≥60 MPH)
Alt. 12	A (≥60 MPH)

3 Section IV-V-3, "Land Use", Page IV-8. The last paragraph discusses the potential for additional development being encouraged as a result of highway construction. Such development can be considered a secondary impact of the project. This document should assess the extent that this development is likely to occur with and without each alternative. One aspect of this should be a discussion of the additional road improvements promoted by each alternative.

4 Section IV-H-1, "Streams and Watersheds", Page IV-27. We commend VDOT for including the FHWA predictive procedures to estimate pollutant loadings to waters adjacent to highways due to highway use. During the project design phase, we would expect VDOT to develop specific information showing that long term highway runoff will be adequately managed to minimize pollutant loading to streams. This is particularly important in the case of any crossings of the South Fork Rivanna River Reservoir.

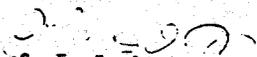
5 Figure II-2. It would help the reader if this figure included the road names commonly used in the text, such as Hydraulic Road, as well as those improvements identified in the Base Case Alternative, such as the Meadow Creek Parkway.

6 Figures IV-1 through IV-9. Values for "Level of Service" should be shown on these figures to improve understanding.

7 It is suggested that much of the air, noise, and energy technical information be placed in a separate technical document in order to simplify the EIS. A synopsis of this technical information could be provided in the primary document.

Thank you for the opportunity to comment.

Sincerely,


C. E. Easlick
Environmental Programs Analyst
Office of Water Resources Management

ed203/sph

This information was included in the brochure distributed at the Public Hearing, June 26-28, 1990.

7. Additional technical documentation on air quality and noise was presented in separate technical memoranda. It was felt that the information presented in the DEIS was necessary to discuss adequately the impacts of the alternatives.



U.S. Department of
Transportation
Office of the Secretary
of Transportation

Memorandum

U.S. DEPARTMENT OF TRANSPORTATION,
OFFICE OF THE SECRETARY 7/3/90

Subject Draft EIS and Section 4(f)/106 Evaluation
Virginia Route 29 Corridor Study
City of Charlottesville and Albemarle County ^{Date} **JUL 3 1990**
FHWA-VA-EIS-90-02-D

From Donald R. Trilling *Donald R. Trilling* ^{Reply to}
Director, Office of Transportation ^{Attn of}
Regulatory Affairs

To Eugene W. Cleckley, Chief
Environmental Operations Division, HEV-11

1. The Route 29 Corridor Study project included a number of technical reports and memoranda that document the analysis of the alternatives. These reports are referred to in the text of the EIS where appropriate. The technical memoranda serve as technical appendices to the EIS and are available for review by anyone interested in doing so. These memoranda provide the detailed analyses and data which support the material reported in the EIS. Comments of concerned agencies and the public are addressed in Chapter VII of the FEIS.
2. The Agricultural Resources section of Chapter IV has been revised to reflect additional coordination with the Soil Conservation Service's District Conservationist (see letter dated 10/29/90) and completion (to the extent possible) of the Farmland Conversion Impact Rating Form AD-1006.

- ① We have reviewed the above named environmental impact statement for the Virginia Route 29 Corridor study and note the lack of documentation in an appendix to support analysis of the alternatives and comments of concerned agencies and the public.
- ② Also, there is no Soil Conservation Service estimate of the relative value of the farmland impacted by the alternatives.

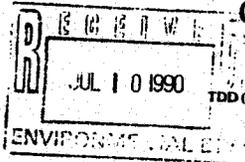
Thank you for the opportunity to review the environmental statement for the project.

B. C. LEYNES, JR.
Director



ADMINISTRATION
NATURAL AREAS CONSERVATION
PLANNING AND RECREATION SERVICES
SOIL AND WATER CONSERVATION
STATE PARKS

VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION 7/9/90



COMMONWEALTH of VIRGINIA

DEPARTMENT OF CONSERVATION AND RECREATION

203 Governor Street, Suite 302

TDD (804) 786-2121

Richmond, Virginia 23219 (804) 786-6124

FAX: (804) 786-6141

MEMORANDUM

DATE: July 9, 1990
TO: R.L. Hundley
Virginia Department of Transportation
FROM: John R. Davy
Planning Bureau Manager
SUBJECT: Route 29, Charlottesville and Albemarle County
Project No. 6029-002-122, PE100
Draft EIS and Section 4(f)/106 Involvement

The Department of Conservation and Recreation has reviewed the Draft Environmental Impact Statement (DEIS) and finds that the DEIS does an adequate job of identifying the environmental impacts associated with the several build alternatives.

Based on the data presented, the eastern alternatives 6, 6B, 7, and 7A would not perform as a bypass for Route 29; rather those alignments would add to the congestion of existing east-west roads in Charlottesville. Alternatives 6 and 7A would also adversely impact existing parkland. The DEIS identifies the amount of land necessary to replace the lands that might be required for highway purposes, but does not indicate whether suitable lands are available.

It should be noted that three of the eastern routes would bisect what the DEIS describes as a proposed residential development, "Dunlora." Dunlora was approved by the Board of Supervisors and construction is ongoing. This makes construction of these routes unlikely. This also eliminates two proposed routes which impact Pen and McIntyre Parks.

Alternatives 11 and 12, although they will impact few homes, will displace the greatest acreage of farm and forest lands and would require more stream crossings than eastern alternatives. As a result of these crossings, these alternatives may also impact the public water supply.

1. As the selected alternative does not take any parkland, the availability of suitable replacement land becomes moot.
2. Alternative 10 would produce the greatest pollution concentration of the new location alternatives because it would have the highest traffic volumes, a factor which argues strongly for its selection on the basis of traffic service and cost effectiveness. Because it is the shortest of the new-location alternatives, Alternative 10 would accumulate the lowest overall volume of pollutants.
3. Erosion and Sediment controls will be employed in accordance with VDOT's Road and Bridge Specifications. Provisions will be made for management of highway runoff in accordance with Commonwealth of Virginia Storm Water Management Regulations.
4. The Virginia Department of Game and Inland Fisheries, Biota of Virginia data base was consulted to obtain information on fauna species with a federal or state status that inhabit or might frequent Albemarle County. The Virginia Natural Heritage Program of the Department of Conservation was consulted to identify any exemplary, unique, rare, or endangered resources, especially flora, that exist or might exist in the study area. Information on the rare avifauna of Albemarle County was obtained from the Virginia Society of Ornithology. The Virginia Native Plant Society provided general information on ETS fauna of the Commonwealth and Albemarle County. VDOT will cooperate with the Virginia Department of Conservation and Recreation in conducting an inventory for rare species prior to construction.

Page 2
Route 29
July 9, 1990

② Alternatives 9 and 10 would have lesser impacts to parklands and open space than other alternatives. Alternative 10 is less desirable, however, because it would produce the greatest pollution concentration and is least capable of handling it.

③ Stream degradation from Alternative 9 would be minimal since only four stream crossings are involved, but already strained stormwater management facilities may be overtaxed since the Route 29 corridor is already so densely developed. A narrow construction easement area may also impede installation and maintenance of proper erosion and sediment control devices. Stringent erosion and sediment control measures and stormwater management planning must be employed to minimize impacts to the Rivanna watershed.

④ Although our Division of Natural Heritage database contains a record for a state rare mussel, Lasmigona subviridis (G4/S2, recommended state special concern), from the South Fork Rivanna River at the present Route 29 crossing, Alternative 9 would utilize the existing river crossing site and, therefore, should have the least impact on the entire river fauna. The Department recommends that an inventory for rare species be conducted prior to construction.

JRD:mre

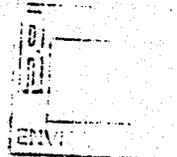
cc: Derral Jones
Katie Perry
Deborah Southard



DEPARTMENT OF THE ARMY
NORFOLK DISTRICT, CORPS OF ENGINEERS
FORT NORFOLK, 803 FRONT STREET
NORFOLK, VIRGINIA 23510-1094

REPLY TO
ATTENTION OF

July 9, 1990



Permits Section

Mr. R. L. Hundley, Environmental Engineer
Virginia Department of Transportation
1401 East Broad Street
Richmond, Virginia 23219

Dear Mr. Hundley:

This is in response to your letter of May 17, 1990, requesting comments on the Draft Environmental Impact Statement (DEIS) prepared for the Virginia Department of Transportation's (VDOT) proposed extension of and/or conversion to an expressway for Route 29 in the City of Charlottesville and Albemarle County (6029-002-122, PE100). As indicated in our November 9, 1988 letter commenting on this project (copy enclosed), the Norfolk District of the Corps of Engineers is participating as a cooperating agency in the preparation of documents. We have the following comments and recommendations to make concerning the DEIS.

Our regulations state that no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse consequences. Practicability can be dependent upon a number of factors, such as engineering constraints, cost, safety, etc. Our regulations state that an alternative is considered practicable if it is available and capable of being accomplished after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

If the activity associated with a discharge (proposed for waters of the United States) does not require access or proximity to or siting within waters of the United States to fulfill its basic purpose, practicable alternatives that do not involve waters of the United States are presumed to be available, unless clearly stated otherwise. In providing this information, applicants should be aware that the Corps will establish and evaluate practicable alternatives in terms of the project's basic purpose. While we will fully consider the applicant's views and information regarding the project's purpose and the existence of practicable alternatives, this review must be performed without undue deference to the applicant's wishes.

This project has been assessed in terms of meeting the needs and purpose for which it is designed while at the same time avoiding impacts to waters of the United States. A variety of public interest factors, such as traffic pressures, socioeconomic issues (particularly displacements), noise, and historical sites are given considerable weight in our evaluation of a project. However, the Corps' primary concern in reviewing the project is the impact to wetlands located within the project corridor.

① Based on the information provided, a relatively small area of wetlands will be impacted by each of the alternatives. In our 1988 letter, we requested that wetland delineation data sheets be provided to the Corps with the DEIS. As we stated, you should submit the data sheets both for areas determined to be wetlands and areas determined to be nonwetlands. In particular, we need to review data sheets for any areas determined to contain hydric soils, but which you determined were nonwetlands on the basis of plants or hydrology. We would appreciate the submittal of these sheets at the earliest possible date.

② In terms of the natural environment, Alternative 9 appears to be the preferable alignment, because it will have minimal or no impact on wetlands, streams, reservoirs, floodplains, forested land, or wildlife habitat. In addition, it minimizes noise impacts, will not displace any families, and will not impact any archaeological sites, parks, or historic sites. Furthermore, it is stated on page IV-2 that it carries the maximum traffic compared to other alternatives.

③ However, Table IV-3 indicates that the addition of grade-separated interchanges dramatically improves the levels-of-service (LOS) for all of the alternatives except Alternative 9. Apparently, grade-separated interchanges cannot be incorporated into the design of Alternative 9, since it is an expressway along the existing alignment whereas the other alternatives are bypasses. If you determine that grade-separated interchanges must be constructed in order for your project to serve its basic purpose, and that Alternative 9 will not serve that purpose, we recommend that the Base Case be given consideration. With grade separations at the interchanges, the Base Case provides traffic improvements similar to the Candidate Build Alternatives, while minimizing other impacts (wetlands, cultural resources, displacements, reservoirs, etc.).

④ Alternative 6 impacts the greatest area of wetlands (1.5 acres). However, it is stated on page IV-28 that the riverine wetland which accounts for 1.3 acres of this impact could be avoided altogether by a slight shift in the alignment. If you select Alternative 6, we recommend that that minor shift in the alignment be included in the design.

U.S. ARMY CORPS OF ENGINEERS, NORFOLK DISTRICT 7/9/90

5 Wetland impact minimization measures should be incorporated into the design of your selected alignment. In addition to alignment shifts such as that described above, you should investigate including each of the following in the final design of the roadway: reduced fill slopes, elimination or reduction of the median, bridging, and/or retaining walls. Considering the relatively small wetland impacts of the alternatives, it may be determined that these minimization measures are not practicable due to structural, logistical, or economic constraints. That information should be provided in the FEIS.

6 Compensatory mitigation must be provided for any wetland impacts which remain after the incorporation of avoidance and minimization measures. The FEIS should identify potential mitigation sites and include a plan for the construction of the site, showing grades and the planting scheme.

7 Bridges are preferred to other structures for stream crossings. Our standard bridge comments (copy enclosed) should be incorporated.

Thank you for the opportunity to review the DEIS. Should you have any questions regarding our comments, please telephone Ms. Alice Allen-Grimes at (804) 441-7219. You should also send the wetland delineation data sheets to her attention.

Sincerely,


William H. Poore, Jr.
Chief, Regulatory Branch

Enclosures

Copies Furnished (w/o encl)

U. S. Fish and Wildlife Service, Annapolis
U. S. Fish and Wildlife Service, White Marsh
Environmental Protection Agency, Philadelphia
National Marine Fisheries Service, Oxford
Virginia Marine Resources Commission, Newport News

1. The wetland delineation data sheets were submitted to the Corps of Engineers in August, 1990.
2. While Alternative 9 would have the fewest natural environment impacts, it would have other drawbacks, including impacts to businesses and residents along Route 29 and considerable disruption during construction. It would not fully meet the needs of the project, and would not provide satisfactory service for local traffic on Route 29. The express and local lanes under Alternative 9 would carry more traffic than Alternative 10 and Route 29 combined because Alternative 9 would divert more traffic from the Meadowcreek Parkway. Alternative 10 plus Meadowcreek and Route 29 would carry more north-south traffic than Alternative 9 plus Meadowcreek.
3. The Base Case with grade separated interchanges is included as a part of the selected alternative. It alone, however, will not meet the needs of the project, which include providing a means for through traffic on Route 29 to bypass the congested and highly developed area between the Route 250 Bypass and the South Fork Rivanna River. For this reason, a future bypass on the Alternative 10 alignment is also a part of the selected alternative.
4. Alternative 6 was not included as a part of the selected alternative.
5. The bypass on the Alternative 10 alignment is a long-range part of the selected alternative and final design will not take place for a number of years. At this point it is premature to determine specific design measures to minimize wetland impacts, such as reduced fill slopes, reducing the median, or retaining walls. These measures will be considered during the phase design.
6. Again, since construction of the Alternative 10 bypass portion of the selected alternative is a long-range project, it is premature at this time to identify mitigation sites and provide a detailed mitigation plan. When more detailed design is begun, VDOT will begin to identify and acquire potential mitigation sites as necessary.
7. The Corps of Engineers' standard bridge comments will be considered and incorporated wherever possible in bridge design for this project.

November 9, 1988

Permits Section

Mr. R. L. Hundley, Environmental Engineer
Virginia Department of Transportation
1401 East Broad Street
Richmond, Virginia 23219

Dear Mr. Hundley:

This is in reference to the Virginia Department of Transportation's (VDOT) proposed Route 29 in Albemarle County and the City of Charlottesville. This project was presented at the September interagency meeting to solicit comments regarding the selection of the Candidate Build Alternatives, and to allow the agencies to make recommendations for inclusion in the Draft Environmental Impact Statement (DEIS). In response to a request made at that meeting, VDOT supplied our office with a copy of the Corridor Study prepared for this project. Our review of that document is complete, and we now have comments as well as recommendations for the DEIS. The Norfolk District of the Corps of Engineers will participate as a cooperating agency in the preparation of the DEIS.

We have reviewed all of the quantitative evaluation data for the conceptual alternatives. These data indicate a very wide range of impacts. It appears that the screening process used to analyze the alternatives was adequate, the appropriate evaluation factors were used, and that the six Candidate Build Alternatives are reasonable alternatives.

Our primary concern in reviewing the project is the impact to wetlands located within the project corridor. Based on the data provided, all of the six Candidate Build Alternatives are among those with the least acreage of wetland impacts. It would appear, therefore, that wetland impacts were an important component in the screening process. We do not recommend the inclusion of any additional alternatives in the DEIS.

However, there is some confusion regarding the methods used to determine wetland impacts. At the September meeting, VDOT's consultant stated that wetland acreages were determined by using aerial photographs and National Wetland Inventory maps. On page 24 of the Corridor Study, it is stated that "an estimate of the wetlands area was determined using the distance between the contour lines adjacent to each side of the stream." Yet, the wetlands data submitted at the meeting are the same as that shown in the Corridor Study.

The DEIS should provide wetlands impacts for each alternative and include maps showing the wetlands locations. Wetlands data should be determined using the Corps' Wetland Delineation Method (three parameter approach). If the wetlands impacts described in the DEIS are significantly different from those shown in the Corridor Study, then we may request more accurate wetlands data for some of the conceptual alternatives which have been eliminated. We may also re-evaluate our determination that the Corridor Study is adequate. When you provide our office with a copy of the DEIS, please include copies of all of the wetland delineation field data sheets, for both the areas determined to be wetlands and those determined to be nonwetlands.

The DEIS should include a discussion of mitigation of impacts. With respect to wetlands, the preferred method of mitigation is avoidance. Compensation should be provided for all wetlands which cannot be avoided. Wetlands replacement is the Corps' preferred means of compensation. Potential wetlands replacement sites should be discussed in the DEIS.

If you have any questions regarding our comments or recommendations, please contact Ms. Alice Allen-Grimes at (804) 441-7219. You should also send the DEIS and the wetland delineation data sheets to her attention.

Sincerely,

William H. Poore, Jr.
Chief, Regulatory Branch

Copies Furnished:

U.S. Fish and Wildlife Service, Annapolis
Environmental Protection Agency, Philadelphia
National Marine Fisheries Service, Oxford

ATTACHMENT C
CORPS OF ENGINEERS' STANDARD BRIDGE COMMENTS FOR
VIRGINIA DEPARTMENT OF TRANSPORTATION PROJECTS

1. Span entire waterway.
 2. Minimize the abutments encroachment into the waterway.
 3. Permanent stream bank protection (at permit coordination let us know if vegetation will grow on not; if not, install riprap).
 4. Provide an erosion and siltation plan with narrative.
 5. Remove existing bridge and replaced roadway, regrade areas to surrounding natural contours; seed area with a wildlife mixture and replant streamside with riparian vegetation. This should be done for all bridge removals unless access is required for recreation purposes as recommended by the Division of Parks and Recreation.
 6. Minimize instream piers.
 7. Align instream piers with stream flow.
 8. Cofferdams and causeways are to be constructed out of nonerodible material.
 9. A permit is needed to cover cofferdams and causeways.
 10. Any additional support work needed requires a permit, i.e. haul roads and temporary detours.
- II. Utility lines need to be coordinated with the permit.

O. GENE DISHNER
DIRECTOR
KATHY J. REYNOLDS
ASSISTANT DIRECTOR
FOR ADMINISTRATION
BENNY R. WAMPLER
ASSISTANT DIRECTOR
FOR MINING

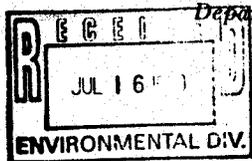


DIVISIONS
ENERGY
GAS AND OIL
MINED LAND RECLAMATION
MINERAL MINING
MINERAL RESOURCES
MINES

VIRGINIA DEPARTMENT OF MINES, MINERALS, AND ENERGY 7/12/90

COMMONWEALTH of VIRGINIA

This letter does not require a response.



Department of Mines, Minerals and Energy

The Bookbindery Building
2201 West Broad Street
Richmond, Virginia 23220
(804) 367-0330

July 12, 1990

K.E. Wilkinson
Virginia Department of Transportation
1404 East Broad Street
Richmond, Virginia 23219

Dear Mr. Wilkinson:

I am returning your copy of the Aquatic Resources and Water Quality Technical Report for the Route 29 project. We have no comments at this time. Thank you for the opportunity to comment.

Sincerely,

A handwritten signature in cursive script, appearing to read "Bill Edwards".

Bill Edwards
Policy Analyst

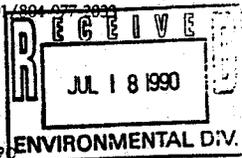


PIEDMONT ENVIRONMENTAL COUNCIL

28-C Main Street, Box 460, Warrenton, Virginia 22186 / 703-347-2334 / FAX 703-349-9003
1010 Harris Street, Suite 1, Charlottesville, Virginia 22901 / 804-977-2022

Mr. R. L. Hundley
Department of Transportation
1401 East Broad Street
Richmond, Virginia 23219

July 14, 1990



Re: Route 29 Corridor Study
Project 6029-002-122, PE 100

Dear Mr. Hundley:

Thank you for sending the Piedmont Environmental Council a copy of the May 1990, DEIS pertaining to the Route 29 Corridor Study, and for inviting its comment on the DEIS. The extension of time for public comment to August 15, 1990, is also greatly appreciated.

PEC staff have reviewed the DEIS as well as the extensive supplemental documentation contained in the technical reports. PEC staff have also reviewed both the questions posed by the Joint Transportation Committee and VDOT's answers to those questions. A member of our staff attended both of the public information sessions provided by VDOT at the Days Hotel in Charlottesville, as well as the public hearing. Finally, PEC staff have extensively consulted the PEC's transportation expert, Joseph Passonneau, regarding the information presented in the DEIS, in the technical reports and at the public information meetings. Mr. Passonneau attended the first of these information meetings and will be providing a separate report of his analysis as a supplement to this letter.

① The PEC believes that the DEIS as currently constituted fails to properly examine the "no-build" alternative as required by Federal law, and that the information contained within the DEIS is neither adequate, nor sufficiently organized to provide those who must review and comment upon the document, or make decisions based thereon, with a proper or fair comparison of all of the alternatives.

② Although the PEC appreciates the opportunity given members of the public to present their views at the "public hearing" conducted by VDOT staff on June 28, the PEC questions whether such a meeting satisfies the requirements of the Constitution of Virginia, as none of the members of the Commonwealth Transportation Board charged with the responsibility for making a final decision in this matter, with the exception of Mrs. Kinchloe, were present during the hearing. Full review by all of the Board's members of the extensive transcript of this "hearing" is, in the opinion of the PEC, neither likely, nor an adequate substitute for attendance of a majority of the Board members at the hearing.

Protecting The Environment Is Everybody's Business

PIEDMONT ENVIRONMENTAL COUNCIL 7/14/90

1. The no build alternative was included in the analysis presented in the DEIS. Data for the no build or Base Case was included where appropriate in the tables in the DEIS that compared impacts of the alternatives. The tables in the FEIS have been revised to include additional data on the Base Case with grade-separated interchanges.
2. The transcript of the public hearing was made available to the members of the Commonwealth Transportation Board. VDOT staff have kept the Board members informed on the project and on the issues. The public hearing was conducted in accordance with all applicable federal and state requirements.
3. This project has followed the Federal Highway Administration's environmental procedures and is consistent with the guidance provided in FHWA Technical Advisory T6640.8A. It is in compliance with the National Environmental Policy Act (NEPA) and with the FHWA's Environmental Impact and Related Procedures (23 CFR 771), as well as all federal and state requirements for public and agency comment and coordination.
4. The Base Case improvements on Route 29 will be built initially with the interchanges to be added at a later date.
5. The Meadowcreek Parkway is a part of the adopted regional transportation plan, and it was included in the transportation network used in the traffic analysis. Construction of the Meadowcreek Parkway is consistent with the selected alternative.
6. The Rio Road Connector is also a part of the adopted regional transportation plan. It can be deleted from the plan with the agreement of Charlottesville and Albemarle County acting through the Metropolitan Planning Organization (MPO).
7. The Base Case includes only the improvements programmed for Route 29 (widening to six lanes plus a continuous turn lane). The other roadway improvements in the regional transportation plan, including the Meadowcreek Parkway and the Rio Road Connector, were included in the future highway network used in the traffic model to analyze all of the alternatives, including the Base Case. These other roadway improvements, however, were not a part of the Base Case.
8. The Base Case improvements along with three grade-separated interchanges will provide an adequate level of service for local traffic in the year 2010, but the 30-mph travel speeds along Route 29 would not be adequate for through traffic and would not meet the project needs of providing a means for through traffic on Route 29 to bypass the congested area around Charlottesville.
9. The assumptions and data used in the study were the basis for the decision on the selected alternative. The bypass along the Alternative 10 alignment is included in

③ The PEC also questions the constitutionality of the exemption from independent environmental review afforded projects of the Department of Transportation.

The PEC's position as set forth hereafter is based upon the information which was made available to it, but the PEC reserves the right to change its position when and if information about a true "no-build" alternative is provided and when and if further information is made available in the DEIS to facilitate comparison of the alternatives.

④ 1. The PEC supports the "Base Case" improvements to Route 29 (six laning with two continuous right turn lanes), including grade separated interchanges at Rio, Greenbrier and Hydraulic Roads.

⑤ 2. The PEC supports the construction of the Meadowcreek Parkway utilizing the parkway design being developed by the City of Charlottesville and County of Albemarle. Because construction of this facility appears necessary to the proper functioning of Route 29 in the future, PEC advocates the funding of construction of this facility with State and Federal primary road funds, rather than out of secondary and urban funds.

⑥ 3. The PEC does not support the construction of the "Rio Road Connector" because it does not appear from the data provided to have a significant effect upon Route 29, and because it would require the taking of land from two public parks. Alternatives which would avoid the parkland could be very environmentally damaging due to the topography in the area, and could intrude upon the Southwest Mountains Rural Historic District currently under consideration and which has been under consideration since prior to the commencement of the current Route 29 study.

⑦ 4. The PEC takes no position on other elements of the "Base Case" included in the Charlottesville/Albemarle Transportation Study. We recognize that none of the elements of the "Base Case" improvements beyond those proposed on Route 29 itself have been considered by this study, including the Meadowcreek Parkway and the Rio Road Connector.

⑧ 5. From the data provided it is apparent that the "Base Case" improvements to Route 29, the three grade separated interchanges, and the Meadowcreek Parkway offer a system of roads which will provide an adequate level of service for arterial traffic on Route 29 in the year 2010. Representatives of Comsis also stated that the three grade separated interchanges can be designed to provide acceptable intersection levels of service in the year 2010 as well.

the selected alternative as a long-range project, to be constructed when future traffic demands require and economic conditions permit. If traffic grows faster than projected, it will be constructed more quickly, and if traffic grows slower than projected, it will be constructed at a later time.

10. The selected alternative, which includes the bypass Alternative 10 as well as grade-separated interchanges on Route 29, will provide an arterial level of service "A" on Route 29.
11. The travel speeds along Route 29 with the Base Case and grade-separated interchanges would be acceptable for an urban arterial street, but not for a major statewide arterial route such as Route 29.
12. Additional through traffic connects between Route 29 and Interstate 64 or Route 250, and this traffic would also use a bypass route. In addition, much of the local and regional traffic would also use a bypass of congested Route 29.
13. At another point along Route 29, a bypass would reduce traffic by 26.9 percent. Even the 16.4 percent reduction, at the most congested point, would make a considerable difference in improving traffic flow.
14. The cost of Alternative 10 is estimated to be \$123,306,000. The Base Case with grade-separated interchanges is estimated to cost \$49,574,000.
15. The Alternative 10 bypass, included as a part of the selected alternative, would have fewer overall impacts than the other bypass alternatives.
16. Alternative 10 goes through less of the reservoir watershed than any of the other western bypass alternatives.
17. The pattern and extent of development will depend more on local economics and on local land use and development policies than on any of the highway alternatives. Albemarle County has been vigorous in its attempts to channel most new development into designated growth areas.
18. This comment apparently refers to the Washington Bypass Study, conducted jointly by the Federal Highway Administration, the Virginia Department of Transportation and the Maryland Department of Transportation. This study looked at alternatives for a major regional highway improvement in a study area of more than 5,100 square miles. It analyzed potential changes in development patterns and estimated changes in population and land use on a county by county basis. The Scope of the Washington Bypass Study is not comparable to the route 29 study, and this type of analysis is not appropriate for Route 29. Since the Route 29 project will not alter regional transportation patterns, it is not expected to result in noticeable changes in population or employment in Charlottesville, Albemarle County or any adjoining counties.

Mr. R. L. Hundley
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It is understood that the adequacy of this network depends upon the validity of certain fundamental assumptions about land use and about the construction of the remainder of roads recommended in the Charlottesville/Albemarle Transportation Study. It is apparent that VDOT is skeptical about the validity of these assumptions and that VDOT anticipates more traffic demand than the study projects. The PEC believes that it is just as reasonable to guess that future demand will be lower than indicated using these assumptions as it is to guess that future demand will be higher than indicated using these assumptions.

9 The PEC believes that recommendations to and decisions of the Commonwealth Transportation Board in this matter must only be made upon the basis of the assumptions upon which this \$3,000,000 study was conducted. If those assumptions are not considered reliable then a new DEIS should be developed based upon other logically derived assumptions. To make decisions or recommendations based upon assumptions not included within the parameters of this statutorily mandated study process would throw into further question the validity of any final decision in this matter by the Commonwealth Transportation Board.

6. The PEC opposes the construction of any of the eastern or western "by-pass" alternatives considered in the DEIS for the following reasons:

10 a. The data shows that none of the by-pass alternatives will provide an acceptable level of service on Route 29.

11 b. The data shows that construction of any of the by-pass alternatives will only improve by one grade the already acceptable levels of service achieved by the construction of the "Base Case" together with the grade separated interchanges at Rio, Greenbrier and Hydraulic Roads.

12 c. The data shows that north-south through traffic continuing on Route 29 beyond the Charlottesville area (including traffic destined to or from the Lynchburg and Danville areas) amounts to less than 2400 vehicles per day, or less than 4% of total Route 29 traffic projected for the year 2010.

13 d. The data shows that the most effective by-pass reduces Route 29 traffic at its most congested point by only 16.4%.

14 e. The data shows that the least expensive by-pass alternative (including the cost of necessary "Base Case" improvements) will exceed \$180,000,000.

19. U.S. Route 29 is a major part of the State Arterial System designated by the Virginia General Assembly. The state has made extensive investments in improving Route 29 and in bypassing the most congested areas. With plans nearing completion for a bypass at Lynchburg, Charlottesville will remain as the principal bottleneck on Route 29 between I-66 and the North Carolina line.
20. Alternative 9, the expressway, would provide a marginally acceptable level of service on the express lanes and an unacceptable level of service on the service lanes.
21. The expressway would provide a marginal level of service "D" on the express lanes and an unacceptable level of service "F" on the local lanes. To provide a valid comparison with the bypass alternatives, the same criteria for levels of service were applied to the expressway through lanes as to the bypasses.
22. Alternative 10 and the Base Case with Interchanges are estimated to cost a total of approximately \$173 million while Alternative 9 alone is estimated to cost approximately \$161 million.
23. The adjustments would include additional turning and through lanes, which would increase the cost of the expressway and its impacts upon adjacent businesses. Even with these adjustments, the through lanes would operate at only a marginal level of service and they could not be expanded to accommodate additional future traffic increases.

Mr. R. L. Hundley
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15 f. In addition to the cost of engineering, right of way and construction, the by-pass alternatives will have substantial negative impacts upon existing residential areas now far removed from any major road, and upon rural land including farmland, forestland and wildlife habitat.

16 g. All of the western by-passes will pass through the watershed of the primary water supply for the County and City.

All of this data, chronicled through hundreds of pages of the DEIS and technical reports, provide the basis for the PEC's opposition to the by-pass alternatives. These alternatives are simply are not cost effective.

17 In addition to the foregoing concerns, the PEC is greatly concerned that construction of any of the by-pass alternatives will prompt inappropriate development patterns in what Albemarle County has for over twenty years designated in its Comprehensive Plan as Rural.

In spite of the DEIS assertion that the land use impacts of the by-pass alternatives can be effectively controlled by the County through its zoning ordinance, the history of the law of land use is to the contrary. Courts are generally sympathetic to the rezoning requests of landowners whose property has been divided by new roads. Courts hearing such cases are likely to consider local regulations which deny such landowners the right to use their land for other than rural uses to be invalid upon a number of grounds. Localities have no control over such decisions, and once made, they set a pattern of use virtually impossible to control through further restrictive zoning.

18 Information about the impact of the "candidate build alternatives" on surrounding land use should be included in the DEIS, as it is understood has been done in studies of the "Outer Beltway" in Northern Virginia.

19 7. The PEC opposes the construction of any new facility in the Route 29 corridor whose primary effect is to facilitate north-south through traffic. The data shows that all of the "candidate build alternatives," including by-passes and an expressway, have such an effect and do little to improve local conditions. Such facilities are not justified by current or projected traffic volumes, as reported by the DEIS and technical reports. Furthermore, development now occurring in the Route 29 corridor north of the Charlottesville area; the unlimited access to Route 29; and the geometry of the south bound lanes of substantial sections of Route 29 south of Gainesville make Route 29 unsuitable as a major link between Maryland and North Carolina.

Mr. R. L. Hundley
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20 8. If VDOT determines to construct a non-stop through facility in the Charlottesville area in spite of the failure of the Route 29 study to provide justification for such a project, the PEC believes that this facility should be Alternate 9, the expressway. Our reasons for taking this position are based upon the data provided and are as follows:

a. The expressway is less environmentally damaging than any of the by-pass alternatives.

b. The expressway takes no residences and will not result in the construction of a new road in the vicinity of any residences which are not now situated proximate to a major road.

c. The expressway will take no farmland, no forestland, and no land from any subdivision.

d. The expressway does not pass through the watersheds of any public drinking water impoundments.

e. The expressway has no impact upon structures eligible for the National Register nor does it have an impact upon any archaeological sites.

f. The expressway takes fewer businesses than any of the by-pass alternatives.

g. The expressway takes 282 acres less right of way than the shortest by-pass alternative.

h. The expressway will increase decibel levels along Route 29 by no more than 2 decibels over those projected to result along Route 29 in the event of construction of the "Base Case." This is less than the noise impact of any of the by-pass alternatives which would in many locations increase decibel levels by more than 10 decibels in residential areas.

21 i. The expressway provides through traffic and local commuter traffic with a facility which has no stop lights and which is 40% faster than the "Base Case" with the three interchanges. Using the standards applied to the level of service analysis of the "Base Case," the express lanes provide a level of service "A," according to Comsis representatives.

j. The expressway is the only "candidate build alternative" providing an improvement to the existing interchange of Route 29 and the 29/250 By-pass.

k. The expressway requires simpler and fewer interchanges at its northern and southern termini than any of the by-pass alternatives.

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l. The expressway will cost approximately \$19,000,000 less than the network of improvements necessary for the cheapest by-pass alternative.

m. The expressway is 14% less costly per vehicle served than the cheapest by-pass alternative.

23

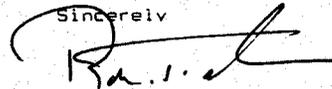
Although the expressway is rated at a level of service "F" on its local lanes due to congestion at the Rio and Hydraulic Road intersections, it appears from further analysis undertaken by Joseph Passonneau that these intersections may operate at acceptable service levels with only minor adjustments in the proposed design. Passonneau will provide a separate report on this matter.

If the local lane intersections of the expressway at Rio and Hydraulic Roads can be made to function at acceptable service levels, then the expressway is clearly superior to all of the by-pass alternatives in each of the categories of analysis provided in the DEIS.

Although an apparent shortage of construction funds makes it unlikely that any of the "candidate build alternatives" will be built in the near future, the PEC urges that any improvements to Route 29 itself be designed to allow construction of the expressway in the future.

Again, thank you for giving the Piedmont Environmental Council the opportunity to comment on this project.

Sincerely



Robert T. Dennis,
President



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107

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JUL 17 1990

U.S. ENVIRONMENTAL PROTECTION AGENCY 7/17/90

Mr. James M. Tumlin
Division Administrator
Federal Highway Administrator
400 N. Eighth Street
Richmond, Virginia 23240

Re: Route 29, City of Charlottesville
Albemarle County, Virginia

Dear Mr. Tumlin:

In accordance with the National Environmental Policy Act and Section 309 of the Clean Air Act, EPA has reviewed the Draft Environmental Impact Statement (DEIS) for the above-referenced project. We have rated the project EC-2 on EPA's rating scale, a copy of which is enclosed for your information. Our rating is based on the potential for the alternatives to impact farmland, forestal and agricultural preserve areas, wildlife habitat, and water quality, as well as, potential residential and business displacements. The following comments are provided for your consideration in the Final Environmental Impact Statement (FEIS).

NEED

As stated in the DEIS (IV-1), the principal objective of this project is to ease traffic congestion along Route 29 north of Charlottesville. However, based on the information presented in Section IV of the DEIS, the proposed candidate build alternatives will not relieve the traffic congestion problem without the construction of grade separated interchanges at Rio, Hydraulic, and Greenbriar Roads. Since the proposed build alternatives would not improve the Level of Service of Route 29, we question the need for a highway on a new alignment. It appears that Alternative 9 would satisfy the need of the project as well as any of the alternatives on a new location.

ALTERNATIVES

The DEIS states that Alternatives 6, 6B, 7, and 7A follow the general location of the programmed Meadowcreek Parkway. The Meadowcreek Parkway and the Rio Road/Route 250 Bypass Connector are included as part of the Base Case or No-build alternative. Since the Meadowcreek alignment is already included in the base case analysis, evaluating alternatives 6, 6B, 7, and 7A, may be redundant. The DEIS should clearly show the portions of the

1. The selected alternative, which includes three grade-separated interchanges along Route 29, will provide a satisfactory level of service on Route 29. Alternative 9 would grade separate the express lanes on Route 29, but the intersections of the service lanes with the cross streets would be at grade and would not operate at an acceptable level of service. Alternative 9 would also cause adverse impacts to the businesses and residences along Route 29 and would cause serious disruption to traffic during construction.
2. The alternatives that follow the Meadowcreek Parkway alignment were included in the analysis at the request of local officials acting through the Joint Transportation Committee. The Meadowcreek Parkway and Rio Road Connector are included in the Charlottesville Area Transportation Study (CATS) plan, the area's long-range transportation plan. In accordance with FHWA procedures, all of the roads in this adopted plan were included in the roadway network used to analyze future traffic impacts of the alternatives. The Base Case (no-build alternative) includes the costs and impacts of the improvements already programmed for Route 29 (widening to six lanes plus continuous right turn lane). The roadway network used to analyze traffic impacts of the Base Case also includes all the other roads in the adopted transportation plan, but the Base Case itself does not include the costs and impacts of those other roads.
3. Alternative 10, the selected bypass alignment, has less impact on the reservoir watershed, stream crossings, agricultural lands, and historic properties than the other western bypass alternatives. When compared to the eastern bypass alternatives, Alternative 10 has substantially fewer displacements and noise impacts and much better traffic service.
4. Alternative 9 would have fewer natural environmental impacts than the other Candidate Build Alternatives, but it would have adverse impacts on businesses along the existing Route 29 corridor. It would not adequately meet the needs of the project and would not provide a satisfactory level of service for traffic on the local lanes along Route 29.
5. Atmospheric concentrations of CO resulting from motor vehicle emissions from each of the proposed project alternatives were calculated using VACAL 3, a microcomputer program developed by the Virginia Department of Transportation from the Federal Highway Administration's Mobile 3/CALINE 3 Graphic Assessment Procedure. The Mobile 3 Emission Factors used in the VACAL 3 program were developed by the U.S. Environmental Protection Agency (EPA). These factors were published in EPA's "Mobile Source Emission Factors", June, 1985. The percentages of hot and cold starts were set at normal default values: 27.3% hot transient vehicle miles traveled by catalyst-equipped vehicles and 20.6% cold transient vehicle miles traveled by both catalyst and noncatalyst vehicles. The

② alternatives which coincide with Meadowcreek Parkway. In addition, the traffic analysis for the western alternatives (10,11,12) include both the Meadowcreek Parkway and Rio Road/Route 250 connector, as well as, the proposed alternative alignment (10,11,or 12). We believe that due to the way the analysis was structured, it may be biased against the eastern alternatives (6, 6B, 7, 7A).

③ The western bypass alternatives have the potential for greater impacts on the South Fork Rivanna River Reservoir, streams, Agricultural and Forestal Districts, Prime farmland, and National Register Historic structures. The eastern bypass alternatives have the potential for greater noise impacts, residential displacements, impacts on forest lands, high quality wildlife habitat and parklands. Alternative 9 minimizes impacts to natural resources and residential displacements but has the potential for greater business displacements.

④ One of our concerns is the ultimate selection of the preferred alternative. It is EPA's strong feeling that whenever possible, improvements to a highway network should utilize existing alignments in order to minimize environmental impacts. In light of the options presented in this study, EPA recommends the selection of Alternative 9 to satisfy this goal. Since none of the build alternatives relieve the traffic congestion along Route 29 without the construction of grade separated interchanges, we believe that Alternative 9 will satisfy the purpose and need for the project while minimizing the potential impacts to farmlands, Agricultural and Forestal preserve areas, water quality and communities.

AIR QUALITY

⑤ The FEIS should briefly describe the types of models used to predict the potential air quality impacts. CALINE 4 and MOBILE 4 are the air quality models presently in use. The assumptions used in the models should also be provided, as well as, the source for the existing or background air quality conditions.

⑥ In general a major shortcoming of air quality monitoring is the lack of intersection modeling. As the result of the lack of intersection modeling, the carbon monoxide concentrations may be underestimated. Since Route 29 has a severe problem with intersection congestion, intersection modeling should be completed for this project.

TERRESTRIAL

⑦ Table IV-19 and IV-20 indicate the types of habitats which are potentially impacted by the project. The FEIS should explain how the habitat types included on Table IV-19 are converted to the high, medium, and low quality categories in Table IV-20.

VACAL 3 program incorporates meteorological conditions that would promote CO concentrations. These conditions include:

- Low wind speed of one meter per second which inhibits turbulence and mixing.
 - Low wind angle of 10 degrees which reduces dispersion away from the road and increases concentrations along the road, and
 - Average temperature of 30 degrees Fahrenheit for the coldest month in Virginia based on National Oceanic and Atmospheric Administration 30-year averages. Vehicular emissions of CO are higher during colder weather.
6. The project is located in an attainment area for carbon monoxide and ozone. The maximum concentrations of carbon monoxide are very low and are expected to remain low based on the air quality analysis for the proposed project. The selected alternative, which includes three grade-separated interchanges along Route 29 will provide a satisfactory level of service on Route 29. Intersection modeling is not considered necessary on this project.
 7. Lands that are barren, urban, suburban, or consist of roadways and open water are considered of low value for wildlife. Agricultural fields are of moderate wildlife value, ranging from small fields with adjacent forests and hedge rows that provide better wildlife habitat, to large, unbroken fields that are of poorer value. Lands that are of highest value to wildlife are forested, old fields/shrub areas and wetlands.
 8. The arterial level of service on Route 29 for each of the build alternatives is shown in Table IV-3.
 9. The Base Case is described in Chapter II, Section B. Computer plots showing the 2010 ADT on the future roadway network were displayed at public meetings and were made available to the Joint Transportation Committee for their use. The LOS for selected area roadways for 1987 and 2010 was presented in Tables 5 and 7 of the technical memorandum, "Traffic and Transportation Analysis," March 1990. These data were not repeated in the DEIS in an attempt to limit the size of the document and eliminate unnecessary detail.
 10. The analysis did not identify any drinking water wells that would be impacted by the build alternatives. Should any be encountered during final design, they will be capped as described by State Water Control Board standards and techniques.
 11. The model used in this study was the STAMINA 2.0 model developed by the Federal Highway Administration. The model calculates noise levels for each noise receptor resulting from a series of straight-line roadway segments. Inputs to the model included coordinates for the site-roadway geometry and traffic data. Traffic data included volumes and speeds of automobiles, medium trucks, and heavy trucks. The data were developed from existing traffic counts, origin-destination studies, and land-

TRAFFIC

8 The FEIS should show the Level of Service (LOS) improvements on Route 29 associated with each of the proposed build alternatives. This will allow for a more direct comparison of the improvements associated with Alternative 9. The change in the Average Daily Traffic (ADT) values associated with Alternative 9 does not provide adequate information on the improvements to the traffic conditions on Route 29.

9 In addition, the FEIS should clearly identify the programmed improvements included in the Base Case. Also, the ADT and LOS (Figure III-1) for the area roadways should be provided for the 2010 Base Case and each of the build alternatives.

GROUNDWATER

10 The FEIS should indicate whether any drinking water wells will be impacted by the build alternatives. Mitigation for any potential impacts should be described in the FEIS.

NOISE

11 The noise model used to predict the future noise conditions should be identified and the assumptions described in the FEIS.

HISTORIC

12 We suggest that the Advisory Council on Historic Preservation be contacted regarding the development of a Memorandum of Agreement for project impacts to National Register Historic Places.

FARMLAND

13 The FEIS should explain the information needed to complete the impact rating score sheet required by the Farmland Protection Policy Act of 1981. Also, the FEIS should explain how the information will be attained and when the score sheet will be completed.

Thank you for allowing EPA the opportunity to comment on this project. If you have any questions concerning our comments, please contact Denise M. Rigney at (215) 597-7336.

Sincerely,
Phoebe C. Robb
Phoebe C. Robb, Team Leader
NEPA/309 Review Team

use and population projections. Maximum volumes (peak-hour) were used to produce worst-case conditions except for church and school sites where lower volumes were used to more fairly represent conditions during normal activity times for these facilities. Speeds used were representative of the analysis hour, in most cases the peak hour. The traffic data used in the modeling are presented in the technical memorandum, "Noise Analysis", April 1990.

12. One property eligible for the National Register of Historic Places will be adversely affected by the selected alternative. An executed Section 106 Memorandum of Agreement is incorporated in the FEIS.
13. The Agricultural Resources section of Chapter IV, Section K, has been revised to reflect the Farmland Conversion Impact Rating score sheet and additional coordination with the Soil Conservation Service's District Conservationist. See Soil Conservation Service letter of 10/29/90.

Enclosure



SUMMARY OF RATING DEFINITIONS
AND FOLLOW-UP ACTION*Environmental Impact of the Action

LO--Lack of Objections

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC--Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

EO--Environmental Objections

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU--Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

Adequacy of the Impact Statement

Category 1--Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2--Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3--Inadequate

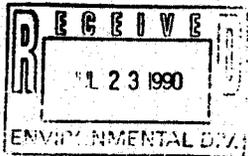
EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 109 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment.



U.S. Department of Housing and Urban Development
Philadelphia Regional Office, Region III
Liberty Square Building
105 South Seventh Street
Philadelphia, Pennsylvania 19106-3392

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT 7/18/90



JUL 23 1990

1. The selected alternative does not impact the proposed Wilton Arms Apartments.

Mr. R.L. Hundley
Environmental Engineer
Virginia Department of Transportation
1401 East Broad Street
Richmond, VA 23219

Dear Mr. Hundley:

① Thank you for the opportunity to review the DEIS on proposed changes to Route 29 in Charlottesville and Albemarle County. We are concerned about the possible impacts of Alternatives #6 and #6B on the proposed Wilton Arms Apartments. If either of these alternatives are preferred, we will require additional information, especially regarding probable noise levels.

Also, please be advised that Mr. Lawrence Levine has been replaced by Margaret A. Krengel. Our current mailing address appears above. Please correct your mailing lists.

Very sincerely yours,

Francis X. Healy Jr.
Harry W. Staller
Deputy Regional Administrator

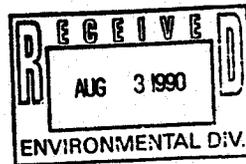


United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

L74 (MAR-PD)
ER 90/474

JUL 31 1990



Mr. James M. Tumlin
Division Administrator
Federal Highway Administration
400 North Eighth Street
P.O. Box 10045
Richmond, VA 23240-0045

Dear Mr. Tumlin:

This responds to a request for the Department of the Interior's comments on the draft Environmental/Section 4(f) Statement for US-29 Corridor Study, City of Charlottesville and Albermarle County, Virginia.

SECTION 4 (f) STATEMENT COMMENTS

① The draft document discusses nine project alternatives; however, none is identified as the preferred alternative. The Section 4(f) evaluation does not provide sufficient evidence for us to conclude that there is no feasible and prudent alternative to the use of Section 4(f) resources. Selection of alternatives 6B, 7, 9, 10, or Base Case, would be the most desirable from the standpoint of public parks and historic sites since all direct impacts would be avoided.

ENVIRONMENTAL STATEMENT COMMENTS

Fish and Wildlife Resources - Depending on the alternatives selected between 0.1 acres (alternatives 6B, 9 and 10) and 1.5 acres (alternative 6) of wetlands will be impacted. Nontidal wetlands provide a variety of functions. These include water pollution abatement, flood protection, groundwater discharge and recharge, and aesthetic, cultural, and fish and wildlife habitat values. Forested wetlands in particular play a major role in stream ecology by helping to control water temperature, contributing food matter, and stabilizing stream banks. Forested wetlands also provide nesting, escape, and feeding habitat for wildlife species including migratory birds, deer, beaver and other small mammals, reptiles, amphibians, and invertebrates.

U.S. DEPARTMENT OF THE INTERIOR, OFFICE OF THE SECRETARY 7/31/90

1. The selected alternative avoids taking any properties with Section 4(f) involvement.
2. The selected alternative will impact approximately 0.138 acres of palustrine forested wetland from a single wetland site. This loss is unavoidable and will be compensated for.
3. Because of the small size and low functional value of the wetlands impacted by all of the alternatives, wetland impacts were not major determinant in the selection of an alternative. A Breakdown of wetland types and acreages of impacts for the candidate alignments is presented in tables IV-16 and IV-17. More detailed information is presented in the Aquatic Resources and Water Quality Technical Memorandum. Detailed mitigation measures for unavoidable impacts will be developed during the design phase.
4. Geotechnical studies will be conducted as necessary at the time of the final design for the project. Structures on the project will be designed in accordance with applicable seismic standards to minimize risks of geologic hazards.
5. Mineral production in Albemarle County is limited to crushed stone and sand. Crushed stone of greenstone is produced near Shadwell, and crushed stone of granite gneiss is produced at Red Hill. Sand is produced by two companies at four locations on the Rivanna River. The Shadwell, Red Hill and Rivanna river locations are not impacted by the proposed alignments. Other minerals and rocks found within Albemarle County which have been produced in the past include iron ore, slate, clay, sandstone, and limestone. Other minerals known to exist in the county, but relatively unimportant, are amethysts, asbestos, barite, copper, feldspar, garnets, gold, limonite, hematite, and pyrite. No adverse impacts to pipelines from the selected alternative have been identified.
6. The ratios for providing replacement wetlands will be determined at the time of final design of the Alternative 10 bypass. According to Table 4.1 in the technical memorandum, "Aquatic Resources and Water Quality", April 1990, Alternative 10 would require less wetland area than Alternative 9 (0.138 acres vs 0.146 acres). Alternative 10 also does not cross the South Fork Rivanna River.
7. In choosing the selected alternative, it was necessary to achieve a balance among a number of factors, including natural environmental impacts, socio-economic and community impacts, transportation benefits, and project costs. While Alternative 9 would have the least impact in some areas, it would not effectively meet the transportation needs and it would have an adverse effect on communities and businesses along Route 29 and result in excessive disruption to traffic during construction.

Mid-Atlantic forested wetlands are experiencing a dramatic decline. In Virginia alone, between 1956 and 1977, approximately 57,000 acres of palustrine vegetated wetlands, most of which were forested, were destroyed (Tiner and Finn 1986). Construction of replacement wetlands is normally required where a project causes unavoidable wetland impacts. Such creation of palustrine forested wetlands has not reached a high level of success. Even in successful cases, it may take up to 30 years for planted saplings to grow to the size of mature trees.

The Department is especially concerned about losses of this wetland type because of the ecological importance, the rapid rate of their destruction on a region-wide scale, and the general lack of success in attempts to replace lost acreage. Although losses of wetlands caused by this project were not documented by wetland type and amount, we presume that forested areas comprise the bulk of the rights-of-way and wetland impacts. We consider large, unfragmented tracts of woodland habitat to be superior to smaller tracts for the maintenance of species diversity. Several of the alternatives proposed will fragment these forested areas, thereby reducing the quality of the remaining habitat.

The final document should provide the following:

Detailed diagrams depicting locations and boundaries of existing wetlands, streams, and ponds, in relation to the proposed roadway alignments.

A breakdown of wetland types and acreages of impacts for the candidate alignments.

Of the build alternatives, the Department finds alternative 9, construction of an expressway along the existing Route 29, to be the least damaging from a fish and wildlife resources standpoint.

Literature Cited

Tiner, R.W., and J.T. Finn. 1986. Status and Recent Trends of Wetlands in Five Mid-Atlantic States. U.S. Fish and Wildlife Service, Fish and Wildlife Enhancement, National Wetlands Inventory Project. Newton Corner, MA.

Geological Resources - The Terrestrial Ecology Technical Memorandum, cited on P.111-10 was not included for review and the draft EIS does not address the geologic character of the study corridor. The document should state the intention to conduct detailed geotechnical studies along the proposed project corridor. The project lies in Seismic Risk Zone II of the Uniform Building Code, indicating that a potential for moderate damage to structures exists in the event of a recurrence of the Charleston earthquake of 1886. Mitigation of this and other potential geologic hazards, if they exist, should be addressed in the final document.

Mineral Resources The draft document does not mention mineral resources, and according to the Bureau's Minerals Yearbook for 1987 crushed stone is produced in Albermarle County. In addition, a map by Palmer C. Sweet, (Mineral Industries and Resources of Virginia, 1983) shows four crushed stone quarry's west of Charlottesville. According to PennWell Publishing Co., Natural Gas Pipelines map (1982) of the United States and Canada, a pipeline is located in the northwest part of the county and one in the northern part. Mineral resources, impacts to those resources, and plans for relocating or protecting pipelines, if they pass through the project area, should be discussed in any subsequent reports or environmental documents. If no adverse impacts to mineral resources or pipelines are identified, a statement to that effect should be include in the final document.

FISH AND WILDLIFE COORDINATION ACT COMMENTS

The U.S. Fish and Wildlife Service's (FWS) most probable position on a U.S. Army Corps of Engineers permit for recommended alternative 9 would be that of no objection, provided that wetland impacts are minimized and compensation for unavoidable wetland impacts is provided. The FWS recommends that replacement wetlands be provided on a 2:1 basis for losses of palustrine forested wetlands and a 1:1 basis for other wetland types. Implementation of other alternative alignments is not satisfactory, since they either do not avoid impacts to wetlands or require a new crossing of the South Fork Rivanna River.

SUMMARY COMMENTS

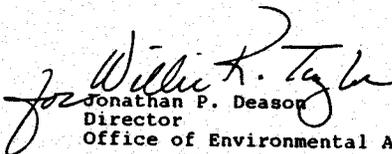
The Department of the Interior recommends that, of the build alternatives, alternative 9 be selected as the preferred alternative since it would have the least impact to public park, historic, and fish and wildlife resources.

As this Department has a continuing interest in this project, we are willing to cooperate and coordinate with you on a technical assistance basis in further project evaluation and assessment. For matters pertaining to recreational and cultural resources, please contact the Regional Director, National Park Service, Mid-Atlantic Region, 143 South Third Street, Philadelphia, Pennsylvania 19106, (telephone: FTS 597-7013, commercial 215/597-7013). For matters pertaining to fish and wildlife resources please contact the Field Supervisor, U.S. Fish and Wildlife Service, 1825 Virginia Street, Annapolis, MD 21401 (telephone: FTS 922-2007, commercial 301/269-5448). For matters pertaining to geologic resources, please contact the Acting Assistant Director for Engineering Geology, U.S. Geological Survey, Reston, VA 22092 (telephone: 703/648-4422). For matters pertaining to mineral resources, please contact the Chief, Intermountain Field

Operations Center, Bureau of Mines, P.O. Box 25086, Building 20,
Denver Federal Center, Denver, Colorado 80225 (telephone: FTS
776-0263, commercial 303/236-0263).

We appreciate the opportunity to provide these comments

Sincerely,


Jonathan P. Deason
Director
Office of Environmental Affairs

✓ cc:
Robert L. Hundley
Environmental Engineer
Virginia Dept. of Transportation
1401 East Broad Street
Richmond, VA 23219

Va. SHPO
Va. SLO

CITY OF CHARLOTTESVILLE

Office of the Mayor
P.O. Box 911 • Charlottesville, Virginia • 22902
Telephone 804-971-3113



August 10, 1990

The Honorable Raymond D. Pethtel
Commissioner
Virginia Department of Transportation
1401 E. Broad St.
Richmond, Va. 23219

Dear Commissioner Pethtel:

Enclosed is a resolution which was passed by the Charlottesville City Council on Monday, August 6, 1990. The resolution sets forth the City's position on the Route 29 North issue and is our official statement for inclusion in the public record for the Draft Environmental Impact Statement.

We had hoped that a joint City-County-University of Virginia statement on this issue would have been possible, but that appears to not be possible at this time. Thank you for extending the public comment period so we might have an opportunity to enter this statement into the record.

Sincerely yours,


Alvin Edwards
Mayor

AE/jc

Enclosure

RESOLUTION

WHEREAS, traffic congestion in the Route 29 North corridor is an increasing problem and immediate improvements are needed to alleviate local traffic problems and to help move north-south through traffic; and

WHEREAS, we are in agreement with Albemarle County and the University of Virginia that all base case improvements including Meadowcreek Parkway to the 250 Bypass; construction of three grade separated interchanges at Hydraulic, Greenbrier and Rio Roads; construction of additional access to the North Grounds of the University; and traffic reduction strategy including expanded transit service, park and ride requirements, bicycle lanes and some reduction of student cars should be undertaken to address the Route 29 North traffic problem; and

WHEREAS, after reviewing the DEIS, however, the City of Charlottesville does not believe these improvements alone handle all north-south traffic by the year 2010. We believe the limitations of this solution pointed out in the DEIS will be compounded by the recent addition of three traffic lights to the three mile stretch of road under study, and by the likelihood that population and traffic growth will exceed the projections contained in the study; and

WHEREAS, the DEIS has identified available corridors to serve as a part of a Route 29 North network. We think it is critical that a corridor be designated and acquired as soon as possible. If we delay these corridors will no longer be available and much of the State's investment in this study will be lost;

THEREFORE, for these reasons, the City of Charlottesville requests that the Virginia Department of Transportation recommend and the Commonwealth Transportation Board adopt the following phased solution to traffic needs in the Route 29 North corridor:

1. Improvements to Route 29 North. The widening of Route 29 North to six lanes with two continuous turn lanes is necessary and should begin as soon as possible.

① 2. Reservation of a Limited-Access Western Corridor. Using the data contained in the DEIS the State should designate and acquire a limited-access corridor west of Route 29 North that will have the least potential impact on the environment.

CITY OF CHARLOTTESVILLE 8/10/90

3. Improvements to Rio Road, Hydraulic Road, Georgetown Road and the Barracks Road/250 Bypass Intersection. These roads should be widened to four lanes and the intersection should be upgraded to help reduce local traffic on Route 29 North.

4. Grade Separated Interchanges at Hydraulic, Greenbrier and Rio Roads. Diamond-shaped grade separated interchanges should be constructed at these three intersections.

5. Additional Access to the North Grounds of the University of Virginia. An additional exit should be constructed off the 250 Bypass to provide access to the North Grounds of the University of Virginia.

6. Meadowcreek Parkway. Meadowcreek Parkway should be constructed as far as the 250 Bypass along with other remaining base case improvements as part of a comprehensive north-south road network. This would be a limited access parkway engineered for 45 m.p.h. and for passenger vehicles only. The road shall be signed to discourage through traffic from traveling through the center of Charlottesville. Neither McIntire Road nor Ridge Street shall be widened because of the negative impacts on the City and its neighborhoods.

7. Limited-Access Western Corridor. A limited-access western corridor should be constructed as the final step in the Route 29 North corridor improvements.

1. These improvements are all a part of, or are consistent with, the selected alternative.

Approved by Council
August 6, 1990

Jeanne Cox
Clerk of City Council

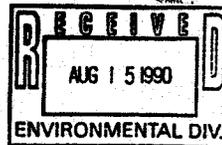


COUNTY OF ALBEMARLE 8/13/90

Edward H. Bean, Jr.
Samuel M. Blair
David P. Bruerman
Charlotteville
F. R. (Rich) Bruce
Roanoke

COUNTY OF ALBEMARLE
Office of Board of Supervisors
401 McIntire Road
Charlottesville, Virginia 22901-4596
(804) 296-5843 FAX (804) 979-1281
August 13, 1990

Chronic V. Hampton
Jack Jones
Walter F. Perkins
W. V. Mc
Peter T. Wal
Sweeney



Mr. Ray D. Pethtal, Commissioner
Commonwealth of Virginia
Virginia Department of Transportation
1401 East Broad Street
Richmond, Virginia 23219

Re: U.S. Route 29 Corridor Study - Draft Environmental Impact Statement
Project 6029-002-122, PE 100

Dear Mr. Pethtal:

The County of Albemarle appreciates the Department of Transportation's earlier extension of the comment period regarding the U.S. Route 29 DEIS and wishes to reiterate our earlier position as well as offer additional enhancements to our position paper given during the DEIS public hearing on June 28, 1990 (Copy at Attachment A).

In 1966, the City of Charlottesville began drawing its drinking water from the then new Rivanna Reservoir. In 1965, a year prior to delivery of water, the State Health Department warned the City that there was serious eutrophication and that the drinking supply was in jeopardy. The Charlottesville City Council then requested the Board of Supervisors to take whatever action necessary to protect the drinking water supply. This began a twenty-five year effort to do just that, which included massive downzoning and a whole body of ordinances and regulations designed to protect the watershed. We have successfully defended our actions in both State and Federal courts. (A brief chronology of these actions is included as Attachment B.)

At a joint meeting of the City, County and University held on August 3, 1990, John Casteen, President of the University of Virginia, announced that the University would allow limited or controlled access to the North Grounds from the Route 250 Bypass. This significant contribution to the solution of the Route 29 traffic problem makes the "Improved Base Case" even more viable as the solution to Route 29 North traffic. Attachment C is a map which depicts the Base Case improvements. Highlighted in red is the western collector road utilizing Rio Road, Hydraulic Road and other existing roadways. With access to the North Grounds, as shown, this collector should move more traffic off of Route 29 than any proposed western alignment. This collector road will provide a north-south route for our heaviest residential population west of Route 29. Also, with the completion of Hillsdale Drive, north-south traffic for our major

1. The improved access to the University to be developed as a separate project and the planned widening of Route 29 with the three grade-separated interchanges would not meet all the needs of the project.
2. VDOT will continue to cooperate fully with Albemarle County, the City, and the University in highway planning in the metropolitan area.
3. VDOT will also cooperate with and aid the local entities in planning non-highway transportation improvements.
4. While numerous signalized intersections exist on Route 29 between Charlottesville and I-66, most of these do not cause major delays to through traffic. VDOT has been building bypasses around the principal areas of congestion. With plans nearing completion for a bypass at Lynchburg, Charlottesville will remain as the main bottleneck on Route 29 between I-66 and the North Carolina line.

①

Mr. Ray D. Pethel
August 13, 1990
Page 2

shopping centers to the east of Route 29 are served without the necessity of driving on Route 29. The three grade-separated interchanges will provide east-west flow between these major traffic areas without interrupting Route 29 traffic.

② It is imperative that deterioration of the level of service (LOS) on U.S. Route 29 not be allowed to happen again. As required by State law, the City and County have developed five-year Comprehensive Plans, and the University has a Five-Year Master Plan. The three bodies have brought their review years into synchronization so that all are reviewed at the same time. The COT-21 study requires five-year reviews of highway plans. We recommend that the City, the County, and the University include Route 29 as a specific item in their Plan review process and, with VDOT, monitor the LOS to ensure that any future deterioration is immediately detected.

③ In addition to roadway improvements, the County stands ready to cooperate with VDOT, the City of Charlottesville and the University of Virginia in implementing other corridor transportation measures such as park-and-ride lots, mass transit, bicycle routes, etc. Strategic planning for these types of improvements should begin immediately.

④ Finally, part of the justification for the western alignment seems to be a desire for non-stop, north-south traffic from Northern Virginia to the Danville area. A count conducted this date by Albemarle County shows that between the South Fork of the Rivanna River north of Charlottesville, to the intersection with Interstate 66 north of Warrenton, there are currently 18 stop lights, including one under construction. Two of these stop lights are near the new Warrenton bypass. If a non-stop, north-south route is necessary for economic development, it is already too late to consider U.S. Route 29, and an alternate route should be found.

On behalf of the Board of Supervisors, we appreciate the opportunity of being a part of this process and look forward to the Commonwealth Transportation Board's actions.

Sincerely,

F. R. Bowie

F. R. Bowie
Chairman

FRE/RWTJr/plm

Attachments (3)

cc: Mayor Alvin Edwards
President John Casteen
Mrs. Constance Kinchloe
Mr. Thomas Farley
Mr. R. L. Hundley
Albemarle County Board of Supervisors



COMMONWEALTH of VIRGINIA

Department of Historic Resources

221 Governor Street
Richmond, Virginia 23219

August 14, 1990

Hugh C. Miller, Director

TDD (804) 786-1934
Telephone (804) 786-3143
FAX (804) 225-4261

VIRGINIA DEPARTMENT OF HISTORIC RESOURCES 8/14/90

This letter does not require a response.

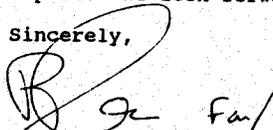
Mr. R.L. Hundley
Environmental Engineer
Virginia Department of Transportation
1401 East Broad Street
Richmond, VA 23219

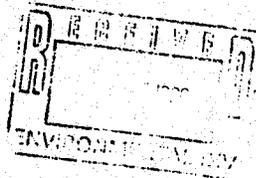
RE: 6029-002-122, PE100
EIS and 4(f) Statement
DHR file # 90-396-F

Dear Mr. Hundley:

Thank you for submitting a copy of the Draft Environmental Impact Statement and 4(F) Statement for our review and comment. The document accurately represents our discussions on cultural resources, to date. Please be reminded that we have not yet received the phase II architectural report and no determinations of eligibility are final until we have received and reviewed this report. We look forward to reviewing it.

Sincerely,


H. Bryan Mitchell
Deputy State Historic Preservation Officer





COMMONWEALTH of VIRGINIA

Marine Resources Commission

P. O. Box 756

2600 Washington Avenue

Newport News, Virginia 23607-0756

ASSOCIATE MEMBERS

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Poquoson, Virginia
JOHN W. FREEMAN, SR.
Hampton, Virginia
TIMOTHY G. HAYES
Richmond, Virginia
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Chincoteague, Virginia
PETER W. ROWE
Chesapeake, Virginia
JANE C. WEBB
Newport News, Virginia

VIRGINIA MARINE RESOURCES COMMISSION 8/14/90

1. The types of stream crossings will be determined during final design. This information will be available for evaluation during the permit review process.

August 14, 1990

Commonwealth of Virginia
Department of Transportation
ATTN: Mr. R. L. Hundley
Environmental Engineer
1401 East Broad St.
Richmond, VA 23219

RE: Route 29
City of Charlottesville
Albemarle County
Project: 6029-002-122, PE100

Dear Mr. Hundley:

This will respond to your request for our agency comments regarding the above-described highway project.

① Since all stream crossings associated with any selected alternative will require authorization from the Marine Resources Commission, specific methods to be used for each crossing will eventually need to be evaluated. If this level of detail cannot be included in the Final Environmental Impact Statement, it will need to be available for evaluation during the permit review process.

Should you have any questions regarding this matter, please do not hesitate to call.

Sincerely,

Tony Watkinson
Deputy Chief, Habitat Management

TW/bac
HM

cc: Ms. Ellie Irons, Council on the Environment

UNIVERSITY OF VIRGINIA
CHARLOTTESVILLE

UNIVERSITY OF VIRGINIA 8/15/90

OFFICE OF THE PRESIDENT

August 15, 1990

The Honorable Raymond D. Pethtel
Commissioner
Virginia Department of Transportation
1401 E. Broad Street
Richmond, Virginia 23219

Dear Commissioner Pethtel:

The City of Charlottesville, Albemarle County and the University of Virginia have been working together to identify those elements of the Route 29 Corridor "solution" on which we agree. Your willingness to extend the public comment period until August 15th has facilitated our discussions and I want to express our appreciation for this extra time.

I have confirmed with Mayor Edwards and Chairman Bowie that the Charlottesville City Council and Albemarle County Board of Supervisors are in agreement with the University of Virginia that the following should be elements in the Route 29, North corridor "solution" and we request that the Virginia Department of Transportation schedule construction of these elements in a sequence that will be least disruptive to local and U.S. 29 traffic:

- Widening of Route 29 North;
- Construction of the four-lane, base case improvements west of Route 29, North, on Rio Road, Hydraulic Road and Georgetown Road;
- Construction of grade separated interchanges at Hydraulic Road, Greenbrier Drive and Rio Road;
- Construction of an alternate controlled vehicle access for traffic bound for University areas only, including the North Grounds from Route 29/250 Bypass;
- Construction of other base case improvements including the Meadowcreek Parkway and the Rio-connector.

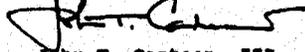
1. These elements are all a part of, or are consistent with, the selected alternative. In addition, the selected alternative includes preservation of right of way for and eventual construction of a new highway on the Alternative 10 alignment.

The Honorable Raymond D. Pathtel
Page Two
August 15, 1990

The City, County and University also agree to begin work immediately on an aggressive traffic reduction plan to include improved transit service, increased use of park and ride lots, reduction of student automobiles, and additional bicycle lanes.

We thank you for your consideration of our position on this matter of significant importance to our community and the Commonwealth of Virginia.

Sincerely,



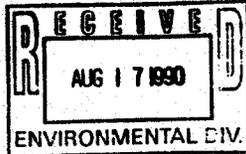
John T. Casteen, III
President

JTC:lb

cc: Mr. Edward E. Elson
Mayor Alvin Edwards
Chairman F. R. Bowie
Mr. Leonard W. Sandridge, Jr.

PIEDMONT ENVIRONMENTAL COUNCIL

Protecting The Environment Is Everybody's Business



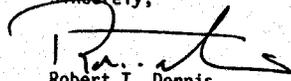
August 16, 1990

Mr. R. L. Hundley
Department of Transportation
1401 East Broad Street
Richmond, Virginia 23219

Dear Mr. Hundley:

Here is additional commentary on the Route 29 EIS. I'm sorry we were unable to get this to you by yesterday -- but that's the way the world seems to work.

Sincerely,


Robert T. Dennis
President

RTD/khh
Enclosures

PIEDMONT ENVIRONMENTAL COUNCIL 8/16/90

1. Levels of service and operating speeds on each of the alternatives are shown below.

<u>Alternative</u>	<u>Level of Service</u>
Alt. 6	B (≥ 57 MPH)
Alt. 6B	B (≥ 57 MPH)
Alt. 7	C (≥ 54 MPH)
Alt. 7A	C (≥ 54 MPH)
Alt. 9 Express Lanes Service Lanes	D (≥ 42 MPH) F (< 10 MPH)
Alt. 10	A (≥ 60 MPH)
Alt. 11	A (≥ 60 MPH)
Alt. 12	A (≥ 60 MPH)
Base Case (Route 29)	F (< 10 MPH)
Base Case (with grade Separations)	B (30 MPH)

Alternative 9, the Expressway Alternative, would have a lower level of service and slower speeds than any of the other Candidate Build Alternatives.

2. It is agreed that the Expressway would attract more drivers and provide higher speeds for through traffic than the Base Case with interchanges. However, the selected alternative, Alternative 10 plus grade-separated interchanges on Route 29, provides better services for both through traffic and local Route 29 traffic than the Expressway.
3. While adding lanes at intersections could bring levels of service up to marginally acceptable levels according to this analysis, those improvements would increase the Expressway Alternative's costs and its impacts upon Route 29 property owners and businesses.

Chairman of the Board
Charles S. Whitehouse

Vice Chairman
John H. Budsalt, III

Secretary
Jean S. Brown

Treasurer
Charles H. Southermer, Jr.

President
Robert T. Dennis

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& Charlottesville

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Noel T. Jones

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Orange County

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Cynthia S. DeCanso

Mrs. John B. Jaskie

Spencer K. Neale

Frank A. Thomas, III

Rappahannock County

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Werner A. Johnson

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Directors Emeritus

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George C. McGhee

Mrs. James P. Mills

Mrs. James B. Murray

Joseph Proedergerast

Duncan H. Reed

Theodore G. Scott, Jr.

Sandra Speden

Mrs. James L. Wiley

* Executive Committee

Joseph Passonneau & Partners
Architecture/Civil Engineering
2114-A O Street, N.W. • Washington, D.C. 20037
202-296-8017

August 10, 1990

MEMORANDUM

To: Robert Dennis, President
Piedmont Environmental Council

Timothy Lindstrom, Director
Charlottesville Office
Piedmont Environmental Council

From: Joseph Passonneau

Re: Review of "TRAFFIC AND TRANSPORTATION ANALYSIS, 6029-002-122,
PE 100, Route 29 CORRIDOR STUDY, CITY OF CHARLOTTESVILLE AND
ALBEMARLE COUNTY, March 1990" and "INTERSECTION ANALYSIS WORKSHEETS,
using NCAP by PSI, COMSIS, Silver Spring, MD", received June 1990.

Summary: The following conclusions can be drawn from these documents, and from
discussions in the public meetings:

- ①
1. Through traffic on Route 29 in the year 2010 would travel faster, and with less congestion, on the Expressway (Alternative 9) than on any other alternative, including the Improved Base Case, and the Expressway would draw more traffic from other streets in Albemarle County and Charlottesville than would any of the other alternatives (see 3. below). The Level of Service "D", assigned to the Expressway in the Draft EIS, compared to the reported Level of Service "A/B" of the Improved Base Case, is misleading. The Expressway LOS is defined by different and more exacting criteria (a design speed of 60 miles per hour) than is the Base Case LOS (40 miles per hour).

②

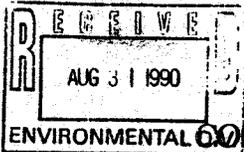
The Levels of Service are artificial categories of no importance to drivers, unless they reflect reality. The Expressway would attract more drivers, and therefore would provide better service, than the Improved Base Case (both on Route 29 and on those congested local streets from which it draws traffic), because travel is about 10 miles per hour faster on the Expressway than on the Improved Base Case.

2. The intersections of Expressway service roads with major cross arterials operate at or below capacity and at Levels of Service E or better. Specifically:

③

<u>Intersection</u>	<u>V/C</u>	<u>Delay</u>	<u>LOS</u>
Hydraulic Road	1.074	54.1 sec.	"E"
Greenbrier Drive	0.735	25.6 sec.	"C/D"
Rio Road	0.966	30.1 sec.	"D"

The "INTERSECTION ANALYSIS WORKSHEETS" that supplement the Draft EIS report Levels of Service "F" and very long delay times at the Expressway service road/arterial intersections (see below). The intersection performances summarized above are a consequence of minor improvements in the intersection geometry and changes in signalization. The analytical procedures are based on the "Operational Analysis" procedures from Section 9.0 of the 1985 HIGHWAY CAPACITY MANUAL, as was the Draft EIS analysis. The analyses of the revised intersections are described in this memorandum, and copies of the worksheets are enclosed.



ENVIRONMENTAL COMMONWEALTH of VIRGINIA

Department of Game and Inland Fisheries

4010 WEST BROAD STREET
BOX 11104
RICHMOND, VA 23230
1-800-252-7717 (V/TDD)
(804) 367-1000 (V/TDD)

August 28, 1990

Mr. R. L. Hundley
Virginia Dept. of Transportation
1401 East Broad St.
Richmond, VA 23219

Dear Mr. Hundley;

We have reviewed the draft EIS for the Charlottesville - Albemarle County Route 29 corridor which you transmitted to Jim Remington on May 17, 1990.

① Construction and operation along the proposed corridors would impact the North Fork and the main stem of the Rivanna River. Both streams provide very high quality habitat for smallmouth bass, redbreast sunfish, walleye, channel catfish, and crappie populations.

Alternatives 9 or 10 would have less detrimental impacts on the aquatics in the area than other corridors.

Sincerely,

William E. Neal
Environmental Manager

WEN/lb
cc: J. Raybourne
D. Whitehurst

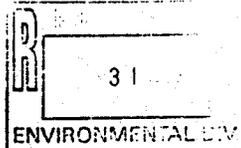
VIRGINIA DEPARTMENT OF GAME AND INLAND FISHERIES 8/28/90

1. The bypass alignment included as a part of the selected alternative is Alternative 10, which does not cross the North Fork or South Fork of the Rivanna River, thereby minimizing impacts on aquatic resources.



COMMONWEALTH of VIRGINIA

Council on the Environment



STATE BUDGET
ADMINISTRATION

100 SOUTH STREET OFFICE BUILDING
RICHMOND 23219
804 786 4500

August 31, 1990

Mr. R. L. Hundley
Environmental Quality Engineer
Department of Transportation
1221 East Broad Street
Richmond, Virginia 23219

Dear Mr. Hundley:

The Council on the Environment has completed its review of the Draft Environmental Impact Statement and Sections 4(f)/106 Evaluation (hereinafter the Draft EIS), Route 29 Corridor Study, City of Charlottesville and Albemarle County (VDOT/FHWA #6029-002-122, PE 100). We appreciate the extra time your staff provided for our review and submission of comments. The comments of this agency concerning the project and the Draft EIS follow.

Alternatives

We believe that the Draft EIS adequately discusses alternative alignments for a bypass road and alternatives to road construction. The discussion of mass transit was a realistic analysis, appropriate to the area and its transit capabilities and to the scale of the proposed project.

The basic issues in our environmental review of any alternatives discussion are the routing of road alternatives and the respect given to transportation alternatives that do not involve road construction. These questions are driven by two sets of concerns. For road alignments, we hope to see a sufficient variety of alternatives with varying degrees of direct and indirect natural, scenic, and historic resource impacts to allow for a rational choice of environmentally preferable routes. For other transportation alternatives, we hope to see realistic consideration given to courses of action that are technically feasible, in light of the essentially irrevocable nature of construction decisions and the relative impacts of transit modes (car/truck versus trains, cars versus buses, cars versus bicycling) on the landscape, on water resources, and on air quality.

As indicated, we think that this Draft EIS on Route 29 was generally adequate in its discussion of alternatives. However,

VIRGINIA COUNCIL ON THE ENVIRONMENT 8/31/90

1. The Base Case was included in the tables in the DEIS comparing impacts of the alternatives. In the FEIS, these tables have been revised to also include the Base Case with grade-separated interchanges.
2. Alternative 9 does have grade separations between the express lanes and Rio Road, Hydraulic Road and Greenbrier Drive.
3. Highway facilities are not the only factor influencing the rate and pattern of development. Of greater importance in this area would be the local economy and the land-use and development policies of the local governments. If Albemarle County restricts utilities and enforces land-use regulations, it should be able to prevent commercial development and limit residential development to the densities shown in the Comprehensive Plan. The selected Alternative includes a bypass on the Alternative 10 alignment, but it does not include any intermediate access points that could cause indirect impacts.
4. Protection of the reservoir was one of the considerations in developing the selected alternative. Alternative 10 does not cross the Reservoir and it has fewer miles through the Reservoir watershed than the other western bypasses. During the project design, provision will be made for management of highway runoff in accordance with the Commonwealth of Virginia stormwater management regulations. In the watershed, construction of the facility will follow restrictions outlined in the Albemarle County runoff control ordinance to minimize siltation of the Reservoir. The pattern and extent of new development will depend more on local economics, land-use and development policies than on any of the highway alternatives. Albemarle County has been vigorous in its attempts to protect the watershed and to channel most new development into designated growth areas. The selected alternative includes the bypass on the Alternative 10 alignment, but it does not include any interchanges between the terminus points. Such access will be added only at the request of the County.
5. The selected alternative avoids any impacts on parks and recreation areas.
6. Alternative 6 is not a part of the selected alternative.
7. The construction of the Alternative 10 bypass on new location is a long-term part of the selected alternative. Replacement of affected wetlands will be determined at some time in the future; the ratio is expected to follow the state and federal policies in effect at that time.

① while each of these alternatives presupposed the Base Case improvements on Route 29 (widening to six lanes plus continuous right-turn lanes, p. II-2), there was no analysis of the effects of the Base Case as an alternative, with or without several grade-separated intersections. We recommend that the Final EIS include such an analysis, for two reasons. First, although the Base Case with grade separations was considered and opposed at earlier public hearings (page II-8), it would improve traffic in the Route 29 corridor with lesser environmental impacts than the other alternatives. Secondly, it could be considered with other variations: (1) exclude the additional right-turn lanes, which would preclude the building of eight lanes of road in favor of six; (2) put grade-separated interchanges where at-grade intersections are now contemplated (page II-2); (3) examine a combination of variations 1 and 2.

② We also recommend that the Final EIS analyze the impacts of Alternative 9 with grade separations at Rio, Hydraulic, and Greenbrier Roads. This would allow, among other things, a determination whether this alternative is at all viable from the traffic standpoint. Impacts might be similar to the Base Case, and variations (narrower median, with screens to prevent headlight glare at night, for example) might make it more acceptable than the Base Case now under consideration.

Environmental Impacts

In general, the Draft EIS did not sufficiently address indirect impacts of construction of any of these alternatives. The primary indirect consequence of most road construction is the increased rapidity of suburban development in areas that were previously undeveloped. While this cannot be predicted with great specificity, some understanding of road-induced development, and characterization and quantification of its impacts so far as planning information allows, should be articulated in an environmental impact statement, as the rules implementing the National Environmental Policy Act contemplate (see Title 40, Code of Federal Regulations, parts 1500-1508, particularly sections 1502.16 and 1508.8.) Accordingly, we recommend that the Final EIS provide an analysis of indirect impacts resulting from the alternatives under consideration.

③ Alternative 9 is clearly the alternative with the least environmental impact because it uses the existing corridor of Route 29 as it goes north to the Rivanna River crossing from the Route 250 bypass. As illustrated in the comparative summary of impacts (page S-2), this alternative does not affect farmland, forest land, cultural resources, parks, historic sites, the Rivanna Reservoir, or floodplains; its impacts on wetlands are as limited as any other alternative. We recognize, however, that this alternative, as contemplated in the Draft EIS, will not accomplish the intended result of the project, which is to improve traffic movement (Table IV-3). Therefore, we offer the following recommendations for consideration in the Final EIS and

the decision process for this project.

Considerations Associated with Western Routes

The South Fork, Rivanna River Reservoir is a water supply resource of critical importance to the Charlottesville area. If one of the western alternatives (10, 11, or 12) should be chosen, construction of the road and associated development would require extensive and continuing mitigation efforts, first by the Department (for road construction and maintenance) and then by the localities and private developers (for later development of the land). This is because the water resources of the Reservoir could be adversely affected by either the construction of a road or the private development of the landscape which might follow such construction. The Draft EIS described the reservoir and indicated that its working life could be affected by sedimentation, prior eutrophication problems, and runoff problems (page III-12). However, the discussion of environmental consequences did not follow up with analysis of potential impacts or ways to ensure that existing problems and risks would not be exacerbated. An underlying consideration for the Commonwealth and the affected localities is that if, for any reason, the working life of the Reservoir is reduced, the need for public water supplies will result in construction of a replacement water supply source with attendant impacts upon other river corridors and the limited wetlands of the Piedmont region.

④ Accordingly, we recommend that the Final EIS demonstrate an understanding of the critical importance of the reservoir and indicate, for any western alternatives still under consideration, the commitments of the Department and affected localities to the installation and maintenance of mitigation measures which ensure the effective protection of the reservoir. Specifically, design alternatives that avoid stimulating development in the reservoir watershed should be discussed.

The analysis of indirect impacts which we suggested above is particularly pertinent to the three western alternatives because much of the land area to the west of the Route 29 corridor is undeveloped or sparsely developed, and because of the importance of the Reservoir, which is in that land area.

Considerations Associated with Eastern Routes

In general, the eastern routes proposed would affect the area differently, from the standpoints of parks and recreation areas, wetlands, and community impacts than would the western routes.

We appreciate the provision of Alternatives 6B and 7A in efforts to avoid the local parks. As between these, Alternative 7A avoids adverse impacts to a National Register of Historic Places property as well (Table IV-7), and is preferable. If local parks must be affected, mitigation efforts should include

5 an endeavor to replace lost park and recreation areas; we recommend consultation with the City and the Department of Conservation and Recreation in your effort to mitigate or avoid impacts on park and recreation areas.

6 Although Alternative 6 would give rise to the greatest acreage of wetland impacts of all the choices (1.5 acres), a small shift in the roadway could eliminate impacts to 1.3 of these acres (see page IV-28). Accordingly, we recommend that if Alternative 6 is chosen, the Department of Transportation make the small shift in order to ensure that these avoidable wetlands are in fact avoided, and that effective mitigation is provided for the unavoidable impacts.

7 As indicated in the Draft EIS (page III-12), few wetland areas exist in the region. For this reason, it is critical that every effort be made to avoid wetland impacts as the first step in the wetland mitigation process. As you know, wetlands provide critical habitat and food sources for wildlife; ameliorate the impacts of stormwater runoff and sedimentation on water quality of adjacent streams; and moderate stream flooding. When wetlands are directly affected by a project, their re-creation is difficult and the outcome of such mitigation effort is uncertain. For these reasons, the Council recommends that where direct losses of forested wetlands are unavoidable, re-creation be accomplished at the rate of 2 acres replacement for each acre lost.

Justification for the Project

The Draft EIS makes a reasonable case for the proposition that traffic conditions in the Route 29 corridor in the Charlottesville area are congested and that transportation improvements are needed. The level-of-service analysis and table I-1 (pages I-3 through I-5) indicate that morning and afternoon traffic along Route 29 is presently congested in and near Charlottesville and is expected to become much more so in twenty years, based upon traffic models.

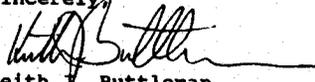
The document states that contributing factors to the level of service include an increasing number of heavy trucks, each of which counts for five automobiles in VDOT traffic calculations (page I-1). This is among the factors which persuade us that there is a need for road improvements in the area.

The Document

Apart from the deficiencies mentioned above, the Draft EIS was informative on most issues; it reflects a careful effort, for example, to identify historic sites, residential areas, and noise impact receptors; and the analysis of noise mitigation in particular is likely to be helpful to reviewers and to the Department in developing appropriate mitigation measures.

Thank you for the opportunity to review this Draft EIS. We look forward to reviewing the Final EIS.

Sincerely,


Keith J. Buttleman

- cc: The Honorable Elizabeth H. Haskell
- Mr. James Tumlin, FHWA
- Mr. John R. Davy, DCR
- Mr. Anthony Watkinson, MRC
- Mr. C. E. Easlick, SWCB
- Ms. Elizabeth Hoge, DHR
- Mr. William W. Erskine, DAPC
- Ms. Alice Allen-Grimes, Corps of Engineers
- Ms. Carol Wienhold, USFWS

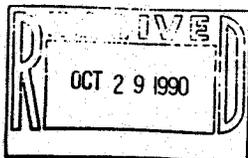


United States
Department of
Agriculture

Soil
Conservation
Service

401 McIntire Road
Charlottesville, VA 22901
October 25, 1990

U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE 10/25/90



Mr. Robert A. Neely
Environmental Division Manager
James R. Reed & Associates, Inc.
813 Forrest Drive
Newport News, VA 23606

Dear Bob:

① I have reviewed Form AD-1006 Farmland Conversion Impact Rating for alternative routes of the Rt. 29 Bypass around Charlottesville. The prime farmland, state-wide and local important farmland, portion of this form have been adequately addressed. The Land Evaluation and Site Assessment System has not been formally adopted for this area. Therefore, Section V of this form cannot be completed.

It was a pleasure meeting with you and if you have any further questions, please give me a call.

Sincerely,


J. Gordon Yager
District Conservationist

JGY/dfs

D. PUBLIC HEARING COMMENTS AND RESPONSES

Statements for the public hearing record were accepted in three ways - individual statements at the public hearing recorded and transcribed verbatim, public hearing testimony recorded and transcribed by a court reporter, and written comments.

On all three days of the hearing, an area was set aside near the displays where individuals could make an oral statement to a stenographer who would transcribe it as a part of the hearing record. Seventy-six persons provided oral testimony in this manner during the hearing.

On the third day of the hearing, June 28, speakers could also make public statements in the Performing Arts Center auditorium. The VDOT District Engineer and Resident Engineer served as the public hearing officers. Persons wishing to speak were asked to sign up at the registration table on the day of the hearing. Following a presentation on the project, elected officials were first given the opportunity to speak, then members of the public were called on in the order they had signed up. Speakers were asked to limit themselves to five minutes and to provide any supplementary material by written comment. Sixty-five persons gave public testimony. Following the last speaker, the hearing was adjourned shortly before 8:30 p.m. on June 28, 1990.

To make it convenient for persons wishing to submit written statements, preprinted comment sheets were handed out at the registration table of the hearing, and also were stacked on tables near the displays. Other formats of written comments could also be submitted. A box was provided at the hearing to deposit comment sheets or they could be mailed in to VDOT. Sixty-five comments sheets were submitted during the three days of the hearing. Written comments received during the comment period following the hearing were also a part of the hearing record. The due date originally announced for written comments was July 9, 1990, but before the hearing this was extended to July 16. The public was notified of the extension as they registered at the hearing, and signs were posted around the display area with the new date. After the hearing, at the request of Charlottesville and Albemarle County, the due date for comments was extended again, to August 15, 1990.

This section provides a summary of all comments, recorded and written, received during the three days of the hearing and the comment period following it. The complete record of all public comment, both oral and written, has been documented in a three volume transcript that is available for review at VDOT offices.

In many cases, similar or identical comments or questions were received from more than one person. Where possible, these questions or comments were combined and a single response provided. The comments are divided into the following major categories:

1. Alternatives
2. Traffic
3. Water Quality
4. Natural Environment
5. Socio-Economics
6. Miscellaneous

Following is a summary of all public comments that require a response, along with the responses to these comments. The comments are arranged into the six major categories listed above. Each comment and response is given a number so that it can be referenced to the person or persons making that particular comment. An index of commenters is provided at the end of the comments and responses.

PUBLIC HEARING COMMENTS

- 1.1 Comment: Make modest changes to access and turn-off lanes on Route 29.
Response: Refinements such as this will be considered in the design for the Base Case.
- 1.2 Comment: Put limits on unplanned growth.
Response: The extent of growth planned in the County is delineated in Albemarle County's Comprehensive Plan. It is the responsibility of the County to limit unplanned growth through zoning and other land use controls.
- 1.3 Comment: Need new north-south corridor - Route 15?
Response: The primary purpose of the study was to find a solution to existing and future congestion on Route 29 between U.S. 250 Bypass and the South Fork of the Rivanna River. Utilizing Route 15 would not have achieved this objective. Another objective of the study was to eliminate a gap in ongoing improvements to U.S. 29, which has been designated an arterial highway by the Virginia General Assembly.
- 1.4 Comment: Connect Route 29 north of airport to Shadwell.
Response: Many configurations of far eastern bypasses were examined in the initial phases of the study. Through a series of steps, the majority of these were eliminated due to environmental, socioeconomic, cost, or traffic factors.
- 1.5 Comment: Study did not look far enough to the east or west for best route.
Response: In the initial phases of the study, far eastern and far western bypass alignments were analyzed. They were eliminated from further study because of excess cost and because they would not carry sufficient traffic to relieve congestion on Route 29.
- 1.6 Comment: Objects to extension of Indian Springs Road to provide access to Carrsbrook. Suggests running a service road immediately adjacent to the northbound Route 29 lanes connecting old Woodbrook Drive and the old Carrsbrook Drive.
Response: The proposed Berkmar Drive extended, which parallels Route 29 to the west, will connect to Route 29 directly across from the proposed "extension" of Indian Spring Road. The addition of a service road parallel to Route 29 would create more impacts to the Woodbrook Shopping Center as well as Carrsbrook subdivision.
- 1.7 Comment: Need new limited access highway located between Charlottesville and Richmond.
Response: Such a facility would not satisfy the needs in the Route 29 corridor.
- 1.8 Comment: Use Route 15 as bypass south of Ruckersville.
Response: 1.3
- 1.9 Comment: Supports Base Case with grade separated interchanges. Need to allow for room for expressway in the future.
Response: The Base Case with grade separated interchanges is part of the selected alternative. The Alternative 10 bypass was included as a future project to carry through traffic. With this bypass, a future expressway is not needed.
- 1.10 Comment: Supports "rectangle" plan for road improvements.
Response: The planning of local roads is determined by the Metropolitan Planning Organization which consists of representatives of the County of Albemarle, City of Charlottesville, and the Virginia Department of Transportation.
- 1.11 Comment: Proposes express tunnel under Route 29.
Response: This alternative was dropped from consideration in the early stages of the study due to excessive cost.
- 1.12 Comment: Start farther north with the bypass.
Response: In the initial phases of the project, bypasses were studied as far north as Greene County line. They were eliminated because of cost and other impacts and would not relieve traffic congestion on Route 29.
- 1.13 Comment: Upgrade Free Bridge.
Response: The 1988-89 through 1993-94 Six Year Improvement Plan (VDOT) calls for widening Free Bridge to seven lanes.
- 1.14 Comment: Leave access to front of Pleasant Grove Baptist Church on Route 743.
Response: Pleasant Grove Baptist Church will not be affected by the selected alternative.

PUBLIC HEARING COMMENTS

- 1.15 Comment: Need new north-south interstate from N.Va. to intersect I-64 midway between Charlottesville and Richmond.
Response: That would not be analyzed as part of this study since it would not serve the objectives of the study (see response 1.3).
- 1.16 Comment: Supports collector roads surrounding Route 29.
Response: 1.10.
- 1.17 Comment: Don't consider a bypass until all other things are in place.
Response: The Commonwealth Transportation Board's decision on the selected alternative is first to construct the Base Case improvements, second to construct the grade separated interchanges, and last to construct Alternative 10.
- 1.18 Comment: DEIS fails to clarify what the "Base Case" improvements are to the Route 29 Corridor.
Response: As described in Section II.B, the Base Case consists of programmed improvements to existing Route 29 to include widening to six lanes with continuous right turn lanes.
- 1.19 Comment: The Draft Environmental Impact Statement fails to clarify what the costs are of the Base Case improvements
Response: The cost of the Base Case improvements is located in Table II-4 "Cost Summary".
- 1.20 Comment: Will the Base Case improvements be funded by the state or localities?
Response: At this time the Base Case is anticipated to be funded with state funds.
- 1.21 Comment: State should commit to fund the Meadowcreek Parkway so the localities can be assured that it will be built.
Response: The funding for the Meadowcreek Parkway has not been determined.
- 1.22 Comment: The Draft Environmental Impact Statement (DEIS) fails to consider a true "no action" alternative as required under the CEQ and NEPA guidelines. The DEIS describes the "Base Case" as the no action alternative. However, the "Base Case" is not a no action alternative because it includes the Meadowcreek Parkway which is a major road which will no doubt require state funding.
Response: The Meadowcreek Parkway is not part of the "Base Case." The Meadowcreek Parkway is part of the Charlottesville Area Transportation Study (CATS) Plan which is a part of the future highway network assumed for traffic forecasting. The Base Case is the widening of Route 29 to six lanes with continuous right turn lanes. These improvements are already planned and programmed and will be built regardless of which alternative is selected.
- 1.23 Comment: Need a median express lane from U.S. 29 and 250 intersection all the way to Airport Rd.
Response: The Base Case will make improvements on Route 29 from the intersection of U.S. Route 29 and U.S. 250 Bypass north to the South Fork of the Rivanna River. The 1988-89 through 1993-94 Six Year Improvement Plan (VDOT) calls for widening of U.S. Route 29 to six lanes from the South Fork of the Rivanna River to Airport Road.
- 1.24 Comment: Supports expressway if commercial development is to continue along Route 29 North.
Response: 1.2.
- 1.25 Comment: Continue plans for a future northside bypass connecting Route 29 with I-64 at points east and west of town.
Response: The primary purpose of the study was to find a solution to existing and future congestion on Route 29 North between the U.S. 250 Bypass and the South Fork of the Rivanna River. It was determined the farther out a bypass was located, the less traffic would be diverted from Route 29 and the less cost effective it would be.
- 1.26 Comment: A western bypass should begin much farther out to allow for the current rate of growth along Route 29.
Response: 1.25
- 1.27 Comment: Need to plan for a bypass that will truly be a bypass.
Response: 1.25
- 1.28 Comment: Build highway through undeveloped land.
Response: The selected alternative and the other alternatives studied were carefully designed to avoid developed areas wherever possible.

PUBLIC HEARING COMMENTS

- 1.29 Comment: Supports Route 15 for through traffic.
Response: 1.3.
- 1.30 Comment: A bypass should be constructed in a location to serve the maximum through traffic as well as commuters. Alternative 10 seems to be too close to the City.
Response: The selected alternative, Alternative 10 plus improvements and grade separated interchanges on Route 29, provides the most benefits to both local and through traffic.
- 1.31 Comment: Supports additional access lane paralleling each of the existing north and south lanes.
Response: The Base Case improvements will provide continuous right turn lanes in both directions.
- 1.32 Comment: New arterial north-south highway through state is necessary.
Response: 1.3, 1.7.
- 1.33 Comment: The parkway intersection at McIntire Road and the 250 Bypass should be grade-separated with the bypass passing over the parkway.
Response: A grade-separated interchange at the intersection of McIntire Road and the 250 Bypass has been determined not to be feasible due to the impact on McIntire Park.
- 1.34 Comment: Finds no data that warrant Alternatives 6 or 6B.
Response: Alternatives 6 and 6B are not part of the selected alternative.
- 1.35 Comment: Improve Free Bridge and U.S. 250 East from Free Bridge to I-64.
Response: 1.13
- 1.36 Comment: Consider high occupancy vehicles.
Response: High occupancy vehicles (HOV) would be of limited effectiveness. Only about 17 percent of trips are home-based work trips with an average trip length of approximately 3.86 miles. The occupancy rate determined by the traffic surveys indicate 1.18 persons per vehicle for work purposes. Parking at work locations is ample and inexpensive or free. Therefore, there is little incentive for ridesharing.
- 1.37 Comment: Need a network of local roads east and west of Route 29.
Response: 1.10.
- 1.38 Comment: Need parallel access roads east and west of Route 29.
Response: 1.31.
- 1.39 Comment: Don't put a bypass through people's homes when there is so much undeveloped land.
Response: 1.28.
- 1.40 Comment: Dedicate a right of way as soon as possible for a bypass.
Response: The selected alternative includes the preservation of a corridor for the Alternative 10 bypass.
- 1.41 Comment: Supports eastern or western bypass but need to have them farther out.
Response: 1.25.
- 1.42 Comment: Recommends that Alternative 7 or 7A be built from 250 Bypass only to its intersection with Rio Road.
Response: Constructing Alternatives 7 or 7A from U.S. 250 Bypass to Rio Road would only take a nominal amount of traffic off of U.S. Route 29.
- 1.43 Comment: Choose an alternative now.
Response: 1.17.
- 1.44 Comment: Secondary road structure needs to be improved.
Response: Prioritization of improvements to secondary roads in Albemarle County is under the jurisdiction of The Albemarle County Board of Supervisors.
- 1.45 Comment: Declare Route 29 corridor to be a limited access highway.
Response: The section of Route 29 under study can not be declared a limited access highway due to the amount of extensive development along it. The selected Alternative 10 bypass will be a limited access facility.

PUBLIC HEARING COMMENTS

- 1.46 **Comment:** Land be acquired for the eventual provision of a limited access highway into the 29/250 bypass.
Response: 1.40.
- 1.47 **Comment:** Designate a bypass which is truly a bypass and start acquiring the land for it.
Response: 1.40.
- 1.48 **Comment:** Build an interstate between I-81 and I-95.
Response: 1.7.
- 1.49 **Comment:** Need early construction of Meadowcreek Parkway.
Response: 1.21.
- 1.50 **Comment:** Supports a bypass north and far west of the city.
Response: 1.25.
- 1.51 **Comment:** If a western bypass is chosen, make it far enough west to prevent any commercial zoning.
Response: 1.2.
- 1.52 **Comment:** Route 29 can not function as a major arterial.
Response: This is part of the need for the project as discussed in Chapter I.
- 1.53 **Comment:** Some sort of raised road could take the through traffic in and out of Charlottesville.
Response: Alternative 9, the Expressway is similar in concept, but it is depressed in most areas rather than raised to reduce impacts to adjacent properties. This alternative was not selected.
- 1.54 **Comment:** Complete Meadowcreek Parkway to the intersection of McIntire Road and Route 250 Bypass.
Response: Meadowcreek Parkway is part of the approved Charlottesville Area Transportation Study (CATS) Plan.
- 1.55 **Comment:** Opposes "rectangle" plan for Charlottesville.
Response: 1.10.
- 1.56 **Comment:** Supports new road between Lovingson and Ruckersville east of Charlottesville.
Response: 1.15.
- 1.57 **Comment:** Prefers Route 15 as second north-south road.
Response: 1.3.
- 1.58 **Comment:** The Draft Environmental Impact Statement does not present a no build alternative. Is the Base Case the "no build alternative".
Response: As stated in Section II-B., the Base Case improvements already planned and programmed by VDOT constitute the No-Build Alternative.
- 1.59 **Comment:** Route 29 is congested and slow elsewhere in Virginia.
Response: The state has made extensive investments in improving Route 29 and in bypassing the most congested areas. With plans nearing completion for a bypass at Lynchburg, Charlottesville will remain as the principal bottleneck on Route 29 between I-66 and the North Carolina line.
- 1.60 **Comment:** Move Alternative 10 connection with Route 29 further north.
Response: 1.12.
- 1.61 **Comment:** Recognizes need for a bypass but opposes Alternatives 10, 11, and 12 because they go through his property. Access to remaining property is cut off.
Response: Access to properties will be maintained or replaced where possible. If access can't be provided and the property becomes landlocked, that will be taken into consideration during negotiations for right of way.
- 1.62 **Comment:** Supports collector roads surrounding Route 29 and a controlled entrance to the North Grounds.
Response: A controlled entrance to the North Grounds is a recognized need which will be developed as a separate project. By "collector roads", it is assumed that the commentor means service roads on both sides of Route 29. The Base Case improvements will include continuous right turn lanes on both sides of Route 29 to serve adjoining development.

PUBLIC HEARING COMMENTS

- 1.63 **Comment:** Acquire right of way from the South Fork of the Rivanna River to Route 649 for the building of an expressway.
Response: The 1988-89 through 1993-94 Six Year Improvement Program (VDOT) calls for widening of U.S. Route 29 to six lanes from the South Fork of the Rivanna River to Route 649 (Airport Road). VDOT and Albemarle County are working together to restrict access to this section of Route 29.
- 1.64 **Comment:** Recommends a bypass be built along the Rivanna River or at least as far away as Crozet.
Response: A roadway along the Rivanna River could have significant impacts on the river's floodplain which are prohibited by Executive Order 11988. Crozet is approximately six miles west of Route 29. Alternatives investigated this far out were determined not to be feasible.
- 1.65 **Comment:** Existing section of Route 29 from Airport Road to the 250 Bypass needs to be widened.
Response: 1.23.
- 1.66 **Comment:** Develop a plan to return Route 29 to its original purpose of being mainly a state arterial road.
Response: The selected alternative is intended to do this.
- 1.67 **Comment:** Supports eastern and western bypasses and should pick up in the area of Route 33.
Response: 1.12.
- 1.68 **Comment:** Supports western bypass with direct access to the shopping areas and University of Virginia. North end of bypass should be in the vicinity of Route 649 (Airport Road).
Response: 1.62. At the request of Albemarle County, no intermediate access will be provided along the Alternative 10 bypass. Bypasses terminating farther north than Alternative 10 were studied but were too costly and did not divert sufficient traffic.
- 1.69 **Comment:** Need new north-south route through Louisa.
Response: 1.3, 1.37.
- 1.70 **Comment:** Some type of road system is required to move traffic between downtown and northern Albemarle County.
Response: The Meadowcreek Parkway will serve this function and is a part of the approved regional transportation plan, the Charlottesville Area Transportation Study (CATS).
- 1.71 **Comment:** Build a "phased" Route 29 bypass to the south and the east.
Response: 1.17.
- 1.72 **Comment:** Supports Alternative 10 and extend 10 further north at a later date.
Response: 1.17, 1.25.
- 1.73 **Comment:** Supports extension of McIntire Road (Alternative 7A) from 250 Bypass to Rio Road.
Response: McIntire Road extension (Meadowcreek Parkway) is one of the projects in the Charlottesville Area Transportation Study (CATS).
- 1.74 **Comment:** A bypass should be located farther out.
Response: 1.25
- 1.75 **Comment:** Supports Base Case with grade separated interchanges if too many businesses aren't destroyed.
Response: There are four businesses taken by the Base Case with grade separated interchanges. The Base Case improvements and grade separated interchanges are part of the selected alternative.
- 1.76 **Comment:** Favors an eastern bypass to link 29N with I-64.
Response: 1.4.
- 1.77 **Comment:** Wants 29N widened to six lanes from 250 Bypass to Airport Road.
Response: 1.23.
- 1.78 **Comment:** Plan for a new north-south interstate.
Response: 1.7.

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- 1.79 Comment: Widen Route 29 immediately.
Response: 1.17.
- 1.80 Comment: Supports a western bypass or use of Route 15 as an eastern bypass.
Response: 1.3.
- 1.81 Comment: Widen Route 29 to six lanes from the congested area north to the South Fork Rivanna River.
Response: 1.23.
- 1.82 Comment: Improve traffic flow on existing parallel roadways.
Response: The only "parallel" roads are secondary roads such as Route 743 which neither provide a direct route comparable to Route 29 nor are designed to carry traffic volumes such as those carried by Route 29.
- 1.83 Comment: Supports an expressway similar to the Cross Bronx Expressway.
Response: Alternative 9, an expressway with parallel service roads, was one of the alternatives analyzed in the study. It is similar to the Cross Bronx Expressway concept.
- 1.84 Comment: Construct an access from U.S. 250 Bypass West into the University of Virginia.
Response: A new access into the North Grounds of the University of Virginia will be developed as a separate project.
- 1.85 Comment: Doesn't feel the Expressway is being presented as a true alternative.
Response: All Candidate Build Alternatives presented in the Draft Environmental Impact Statement were analyzed to the same depth in regards to impacts including costs, human environment, etc.
- 1.86 Comment: As an alternative to the expressway, one could build the Meadowcreek Parkway or Alternative 7A in conjunction with the Base Case with grade separated interchanges.
Response: The Meadowcreek Parkway is part of the Charlottesville Area Transportation Study (CATS) Plan which has been approved. The funding for this project has not been determined. The Base Case with grade separated interchanges is part of the selected alternative.
- 1.87 Comment: An Expressway or any overpasses without building a bypass would be inadequate as far as future transportation needs are concerned.
Response: 1.17.
- 1.88 Comment: Alternative 9 should be extended to the airport.
Response: 1.23.
- 1.89 Comment: Need some solution that will not congest Route 29 any more.
Response: 1.17.
- 1.90 Comment: Don't construct Meadowcreek Parkway until Route 29 improvements and other network improvements are underway.
Response: The funding for the Meadowcreek Parkway has not been determined nor has the sequence of construction of various facilities in the network been determined.
- 1.91 Comment: Utilize mass transit.
Response: 6.8.
- 1.92 Comment: Dedicate right of way for eastern or western bypass.
Response: 1.40.
- 1.93 Comment: Route 29 needs to be complete from Greensboro to Northern Virginia to be a viable highway.
Response: 1.59.
- 1.94 Comment: Supports four-lane controlled access road on Rio Road from 29N east and south to connect with the tail end of Alternative 7A.
Response: 2.4. Alternative 7A is not a part of the selected alternative.
- 1.95 Comment: Need a new interchange off 29/250 Bypass to connect Arlington Blvd.
Response: 2.4.

PUBLIC HEARING COMMENTS

- 1.96 Comment: Need to build a future high-speed road north and south.
Response: 1.7.
- 1.97 Comment: Wants interchanges added at Barracks Road and where Hydraulic Road intersects with the 250 Bypass at Rugby Road.
Response: Not in scope of study.
- 1.98 Comment: Need a limited access north-south road.
Response: 1.7
- 1.99 Comment: Do not turn the Meadowcreek Parkway into a bypass.
Response: The selected alternative does not include a bypass along the Meadowcreek Parkway corridor.
- 1.100 Comment: Supports eastern and western bypass and they should connect to Route 29N at the most northern section to the 250 Bypass.
Response: The most northern section of the U.S. 250 Bypass is at its intersection with U.S. 29. Current land use would not accommodate either an eastern or western bypass terminating at that point.
- 1.101 Comment: Bypass should go east of Charlottesville, down around Shadwell and follow Route 20 and come out on Barboursville Road.
Response: 1.4.
- 1.102 Comment: Meadowcreek Parkway should be built in conjunction with a western alternative.
Response: 1.90.
- 1.103 Comment: Growth along Route 29 should be restricted.
Response: 1.2.
- 1.104 Comment: Route 29 can not function as a major arterial.
Response: 1.59.
- 1.105 Comment: Need north-south route through relatively unpopulated middle of the state.
Response: 1.7.
- 1.106 Comment: How can Route 29 function as an arterial with so many traffic lights on it?
Response: 1.59.
- 1.107 Comment: Follow Alternative 11 to where it merges with Alternative 12 and then follow Alternative 12 to Route 29.
Response: Many combinations of alternatives were analyzed, and were dropped from further consideration either due to cost, engineering difficulties, environmental, or socioeconomic impacts.
- 1.108 Comment: Don't make "band-aid" applications to Route 29. Let VDOT solve the Route 29 issue.
Response: 1.17.
- 1.109 Comment: What is the impact of not completing the Meadowcreek Parkway?
Response: Approximately 17,000 vehicles will be put onto Route 29 to the Route 250 Bypass.
- 1.110 Comment: What is the impact of not completing the Rio Road/Route 20 Connector?
Response: The amount of traffic will increase in the Pantops area which is already congested.
- 1.111 Comment: Convinced that the Expressway is a much better solution than Alternative 10.
Response: The matrix and the Environmental Consequences Chapter in the Final Environmental Impact Statement delineate the impacts and benefits associated with each of the Candidate Build Alternatives.
- 2.1 Comment: Doesn't believe the validity of traffic models.
Response: MinUTP, a commercial software package developed by COMSIS Corporation for urban transportation analysis, was used to implement the travel demand forecast. The model was validated with counts of existing traffic. The development of the model was based on survey data, which included external, internal, through traffic, truck, and shopping center travel data, as well as land use and demographic data provided by Albemarle County, the City of Charlottesville, and the University of Virginia.

PUBLIC HEARING COMMENTS

- 2.2 Comment: Alternative 10 will be inadequate to handle traffic twenty years from now.
Response: Alternative 10 is forecasted to carry between 17,400 and 17,900 vehicles per day in 2010. The bypass is a divided four-lane limited-access facility, which will be capable of handling the traffic predicted for 2010.
- 2.3 Comment: Proposed bypasses will not solve the traffic problems on Route 29.
Response: Please refer to Table IV-2 and IV-3 and Levels of Service for traffic diverted from Route 29. The selected alternative includes three new grade separated interchanges along Route 29 as well as the Alternative 10 bypass.
- 2.4 Comment: Need traffic activated traffic signals on the side roads.
Response: That needs to be addressed to the VDOT Resident Engineer in Charlottesville.
- 2.5 Comment: Does level of service assume rural or urban standards?
Response: Rural standards were used for the expressway and bypasses. Urban standards were used for Route 29 and the expressway frontage roads.
- 2.6 Comment: How high does the level of service have to be on the service roads flanking the expressway?
Response: VDOT generally accepts level of service "C" as the minimum to be achieved by a highway improvement for the Charlottesville area, excluding downtown.
- 2.7 Comment: Can't a motorist going somewhere in a hurry simply take the expressway for the portion of the trip?
Response: Accessibility between the Expressway and the service lanes would be provided by on/off ramps in numerous locations.
- 2.8 Comment: Traffic survey should be done on Route 29.
Response: Surveys of existing traffic were conducted as part of the traffic study done for this project. These surveys are described in the Technical Memorandum Traffic and Transportation Analysis, March, 1990.
- 2.9 Comment: Synchronize traffic signals on Route 29.
Response: Traffic signals are already synchronized to accommodate a speed of 40 mph.
- 2.10 Comment: None of the alternatives work from a traffic standpoint.
Response: Under the selected alternative, levels of service on both the bypass and Route 29 will be at Level of Service "A" in 2010.
- 2.11 Comment: Alternative 10 reduces traffic at the most congested segment of the Route 29 Corridor by over 16%, but it also increases the traffic from Woodbrook to the South Fork Rivanna River by several percent.
Response: Refer to Table IV-2 that indicates Alternative 10 reduces traffic by 26.9% from Rio Road to the South Fork Rivanna River on Route 29.
- 2.12 Comment: How was the Level of Service on Route 29 with grade separations determined?
Response: The Level of Service was done assuming that traffic on express lanes was unimpeded under the grade separated intersections and the Level of Service was performed for the cross street intersections over top of the express lanes. Traffic would have to be getting on or off the cross streets from the express lanes to be included in the analysis.
- 2.13 Comment: What is the Level of Service on side streets?
Response: The Level of Service on side streets was not determined. However, the Level of Service on the side streets is better than the intersection Level of Service.
- 2.14 Comment: Alternative 10 removes less than 5% of traffic from the proposed Meadowcreek Parkway.
Response: The purpose of the project is to reduce traffic congestion on Route 29, not the removal of traffic from the proposed Meadowcreek Parkway.
- 2.15 Comment: Alternative 10 adds 2% more traffic than the Base Case to Route 29 segment between Woodbrook and South Fork Rivanna River. The Draft Environmental Impact Statement indicated a decrease of 26.9% in traffic, but it ignored the traffic on this segment due to Alternative 10 - Table IV-2.
Response: The 26.9 percent decrease in traffic on Route 29 under Alternative 10 shown in Table IV-2 refers to a location just north of Rio Road. While there would be a slight increase in traffic on Route 29 north of the Alternative 10 interchange, in the more congested section of Route 29 south of this interchange, a decrease in traffic could be expected.

PUBLIC HEARING COMMENTS

- 3.1 Comment: Opposed to any bypass due to the possible pollution of the public water supply.
Response: The bypasses are designed to meet VDOT's standards for safety. The selected alternative does not cross the South Fork of the Rivanna River Reservoir, though it does go through the reservoir watershed.
- 3.2 Comment: The Draft Environmental Impact Statement (DEIS) fails to adequately assess the impacts of the proposed western bypass routes on the water supply reservoir for Charlottesville and Albemarle County.
Response: Refer to page IV-27 in the DEIS.
- 3.3 Comment: The DEIS fails to adequately assess the construction impacts of stream crossings and the potential for toxic spills at the crossing of streams that flow into the reservoir.
Response: Refer to page IV-33 in the DEIS. For more information, refer to Aquatic Resources and Water Quality Technical Memorandum.
- 3.4 Comment: Alternative 11 runs along Naked Creek which drains directly into the reservoir.
Response: Alternative 11 parallels Naked Creek in some areas. Alternative 11 is not part of the selected alternative.
- 3.5 Comment: Consequences to aquatic and water resources are not well defined. The projected wetlands impacts do not appear to be realistic. Are these projections based upon field survey of wetlands and do they consider the impacts of construction activities with mitigation measures implemented?
Response: Wetlands identification and impact analysis were based on field investigations as described in the Aquatic Resources and Water Quality and wetland data sheets are contained in the appendix of that report. Construction activities and mitigation measures have been considered and described in the report and summarized in the Final Environmental Impact Statement.
- 3.6 Comment: Will wetland areas be field identified by the Department of Transportation, the Army Corp of Engineers or independent consultants? Will the Federal Manual for Identifying and Delineating Jurisdictional Wetlands be the basis for identifying wetland areas.
Response: Wetland areas were identified in the field by a consultant using the Federal Manual for Identifying and Delineating Jurisdictional Wetlands as described in detail in the technical memorandum Aquatic Resources and Water Quality.
- 4.1 Comment: The bypasses are ecologically harmful.
Response: Chapter IV of the Environmental Impact Statement addresses ecological effects. Additional data and analysis on ecological impacts are presented in the supporting technical memoranda, Terrestrial Ecology, April, 1990, Aquatic Resources and Water Quality, April, 1990, and Agricultural and Forest Resources, April, 1990.
- 4.2 Comment: Bypasses would destroy woodlands and habitat.
Response: Refer to Table IV-19 and IV-20 for impacts on habitat. Alternative 10 would have fewer impacts than the other bypass alternatives.
- 4.3 Comment: Bypasses would cause erosion and siltation of streams.
Response: Refer to Table IV-16. Alternative 10 has fewer stream crossings than the other bypass alternatives.
- 4.4 Comment: The Draft Environmental Impact Statement identifies Alternatives 6, 6B, 7, 7A, 9, 10, 11, and 12. The assessment of the environmental consequences for each of these alternatives do not appear to be based upon field identification and survey. The conclusions summarized in the "Comparative Summary of Impacts" are general and fail to provide adequate information for evaluation and decision making.
Response: The "Comparative Summary of Impacts" is a condensation of the detailed data presented throughout the document and is intended to serve as a synopsis of comparative impacts of each alternative. Field identification and survey were a major part of assessing the environmental consequences. Field work included ground-truthing of aerial photography, collecting data on existing conditions and potential impacts to the environment such as wetlands, archaeological resources, noise and air sites, and traffic surveys.
- 5.1 Comment: Bypasses would bring tremendous development pressures.
Response: Transportation is only one of the factors influencing new development. Others include local land use regulation, provision of public utilities, and location of public services and facilities. Albemarle County has been vigorous in attempting to restrict unplanned development in rural areas. In addition, control of access would restrict development pressures along the length of a facility. Interchanges at Barracks Road and Route 743 on the Alternative 10 bypass have been eliminated from the project design. They will be put back in only if requested by Albemarle County.

PUBLIC HEARING COMMENTS

- 5.2 Comment: Opposes shift of western bypasses to go through St. Anne's-Belfield School.
Response: The shift of the western bypasses to go through St. Anne's-Belfield School property was made when the Virginia Department of Historic Resources determined that the Westover property was eligible for the National Register of Historic Places. This information was received in April, 1990, following a Phase II analysis of historic structures.
- 5.3 Comment: The DEIS states that only Alternative 11 would adversely affect the "Barracks" property. Alternative 12 would severely degrade both parts of the "Barracks" property.
Response: Alternative 12 runs to the west of Jumping Branch Creek which is outside the property of the 334 acre "Barracks" historic district.
- 5.4 Comment: The DEIS fails to adequately address the growth inducing impacts of the bypass alternatives.
Response: 1.2, 5.1.
- 5.5 Comment: Wants a list of residences within a 1/4 mile from the alternatives—it was done in the June 1988 matrix.
Response: The impacts of the Candidate Build Alternatives are clearly delineated in the Final Environmental Impact Statement. Refer to the matrix and the Environmental Consequence Chapter.
- 5.6 Comment: Western bypass would cause the aesthetic quality of life to be disrupted.
Response: Aesthetics and visual impacts are addressed in Chapter III, Section D, and Chapter IV, Section D.
- 5.7 Comment: Alternative 6B will eliminate alternative access to our farm and substantially lower the market value.
Response: If access to a property is taken it will be replaced. If that is not possible, monetary compensation will be provided. Alternative 6B is not part of the selected alternative.
- 5.8 Comment: Avoid established neighborhoods.
Response: The alternatives were designed to minimize impacts on established neighborhoods while still diverting a sufficient amount of traffic from Route 29.
- 5.9 Comment: Supports growth moratorium on Route 29 corridor to stop growth northward creep.
Response: 1.2.
- 5.10 Comment: Halt the commercial development along Route 29.
Response: 1.2.
- 5.11 Comment: Western bypasses will have noise impact on Colthurst.
Response: All Candidate Build Alternatives to some degree impact subdivisions to the east and west of each alternative. The Environmental Consequences Chapter and the matrix delineate the impacts.
- 5.12 Comment: Alternative 11 - why was the road moved from undeveloped land to a position right through a subdivision surrounded by undeveloped land? (referring to Wyngate).
Response: Alternative 11 was shifted to avoid a property that is recommended potentially eligible for the National Register (Woodlands). Alternative 11 is not a part of the selected alternative.
- 5.13 Comment: Are the counts of homes taken accurate?
Response: VDOT's Right-of-Way Division did field investigations and determined the number of houses taken by each alternative. This was reported in the Stage I Relocation Report. The estimate is made without the benefit of individual contacts with the affected property owners and/or tenants. The counts are considered accurate for this stage of the project.
- 5.14 Comment: What recourse do people have when their home is taken? How are they going to be compensated? What about pollution and noise levels during construction?
Response: All displacees (both owner and tenant) are assisted at the time of relocation in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. For a discussion of pollution and noise levels during construction refer to Section M of Chapter IV.
- 5.15 Comment: Opposes Alternative 10 due to possible toxic spill in the vicinity of schools.
Response: The bypass will be designed to meet VDOT's current safety standards and will be safer than old roads built to lesser standards.

PUBLIC HEARING COMMENTS

- 5.16 Comment: Opposes shift in Alternative 10 to avoid Schlesinger Farm.
Response: The shift of Alternative 10 to avoid Schlesinger Farm was made after the Virginia Department of Historic Resources determined that the entire property was eligible for the National Register of Historic Places. This determination was made in April, 1990 following a Phase II analysis of historic structures.
- 5.17 Comment: Fears impact on Greer Elementary and Jack Jouett Schools.
Response: The Alternative 10 bypass will be about 600 feet from Greer School and 1200 feet from Jack Jouett School. It will not take a part of either school's existing play area. Noise will increase substantially over current levels at the Greer School playground, but will not exceed the applicable Noise Abatement Criteria. Since the schools are air conditioned, interior noise also will not exceed the applicable criteria. Various forms of abatement measures were considered (depressing the roadway, noise barrier, shifting the alignment, etc.) but were proven not to be feasible.
- 5.18 Comment: Opposes re-routing of Alternatives 10, 11, and 12 to avoid Westover. Affects the University Village retirement center.
Response: 5.2.
- 5.19 Comment: Consequences to the historical resources seem to be under estimated and fail to provide specific information for evaluation. "Historic sites" includes not only the built structures but the land on which they stand, and the vistas which they command. To adversely effect either the structure, the site, or the vista may diminish these cultural resources.
Response: Consequences to historical resources have been thoroughly evaluated and coordinated with the Virginia Department of Historic Resources. These findings are presented in the Phase II Historical Architectural Investigations Report and summarized in the Environmental Impact Statement. Furthermore, Section 106 Memoranda of Agreement, among the Federal Highway Administration, Virginia Department of Historic Resources, and VDOT regarding effects on historic resources and mitigation measures that may be required, have been executed for the selected alternative and included in the appendix.
- 5.20 Comment: A family cemetery of 50 to 150 graves is impacted by Alternative 10 which is not indicated in the Draft Environmental Impact Statement.
Response: Woodfolk Family Cemetery, east of Woodburn Road, is not impacted by the selected alternative.
- 5.21 Comment: Alternative 10 required a 125' cut in Stillhouse Mountain to produce a 4.6% and 5.0% grade, well over the 4.0% maximum listed in the standards. This will cause a horrendous scar on the environment and a horrendous noisemaker for trucks shifting gears - none of this was in the Draft Environmental Impact Statement.
Response: The most recent plans for the Alternate 10 alignment indicate a maximum grade of 6% which, although it exceeds the standards used for designing the alternatives, is consistent with mountainous terrain design standards and reduces the maximum cut to roughly 70 feet at the centerline. Exceptions to design standards are often used in special situations such as this. The grade should not substantially affect the projected noise levels.
- 5.22 Comment: If Alternative 10 is constructed, the developer of University Village estimates lost value per unit at \$75,000, resulting in a total condemnation value of approximately \$19,000,000. Lost tax revenues to the county from this project alone would be \$142,000 per year at the present tax base.
Response: Alternative 10 does not encroach on the University Village property.
- 5.23 Comment: Alternative 10 eliminates at least 19 residences and the Draft Environmental Impact Statement states that 15 residences are eliminated.
Response: The number of residences have been recomputed due to the elimination of interchanges at Barracks Road and Route 743.
- 6.1 Comment: Optic cable has been put in vicinity of Alternatives 6 and 6B.
Response: During construction of a highway project, precautions are taken to avoid when and where possible, underground facilities. Alternatives 6 and 6B are not a part of the selected alternative.
- 6.2 Comment: Questions feasibility of the study and by and whom it was requested.
Response: The study was requested by VDOT, in conjunction with the City of Charlottesville and Albemarle County, to determine how to relieve the congestion on Route 29 between the South Fork of the Rivanna River and the U.S. 250 Bypass.

PUBLIC HEARING COMMENTS

- 6.3 Comment: Questions assumption that Route 29 can or should become a major north-south interstate by putting in bypasses around a few towns like Charlottesville.
Response: For most of its length through Virginia, Route 29 is a four-lane divided highway, with controlled access features on some sections. It is the only major north-south highway serving the expanding development north of Charlottesville and surrounding portions of Albemarle County. It also is the only route connecting points north of Charlottesville with points south of Charlottesville.
- 6.4 Comment: Consultant made no in-depth study of ways to facilitate local traffic flows on Route 29.
Response: The Route 29 Corridor Study included a detailed traffic and transportation analysis which studied in depth both existing travel conditions within the study area and the effect of various alternatives upon the future traffic in the corridor. This is reported in the Technical Memorandum Traffic and Transportation Analysis, March, 1990.
- 6.5 Comment: Plat of Squirrel Ridge subdivision is inaccurate in that one lot on Pine Cove Circle is omitted.
Response: Field investigations updated the aerial photography and other materials used for determining impacts.
- 6.6 Comment: Need traffic reduction strategy (i.e. dis-incentives for single-occupancy car driving).
Response: 1.36.
- 6.7 Comment: Use system of local streets which run behind the businesses along Route 29 to provide access to them. Put stop light and cross over street at the post office entrance.
Response: 1.10.
- 6.8 Comment: Adopt plans for public transportation to be developed.
Response: One of the alternatives studied was the Mass Transit alternative. It was determined that this alternative consisting of transit-served park-and-ride lots could be considered as an alternative travel option for commuters or shoppers, but it will not be a viable solution to traffic needs on Route 29.
- 6.9 Comment: If Alternative 10 is chosen, could the diamond interchange at Route 743 be eliminated, thus allowing traffic to travel Rio Road and Route 743 as it now does?
Response: Alternative 10 is a part of the selected alternative, however, interchanges with both Route 743 and Barracks Road have been eliminated from the project.
- 6.10 Comment: Suggests a 264 Interstate Bypass loop around the City of Charlottesville.
Response: 1.7.
- 6.11 Comment: Why is a bypass necessary?
Response: A bypass has been determined to be necessary to solve the existing and future congestion on Route 29 North between the U.S. 250 Bypass and the South Fork of the Rivanna River, and to serve through traffic on Route 29.
- 6.12 Comment: Favors construction of Georgetown Road Extension through Canterbury Hills to US250/US29.
Response: 1.10.
- 6.13 Comment: Supports improved mass transportation and a provision for safe bicycle routes.
Response: 6.8.
- 6.14 Comment: Supports four-lane controlled access on Route 631 from 29N east to connect further east and south with the tail end of Alternative 7A. Wants new interchange on 29/250 Bypass to connect Arlington Blvd.
Response: 1.10.
- 6.15 Comment: Change the traffic signalization at Rio Road's intersection with Route 29.
Response: 2.4.
- 6.16 Comment: Have a lane designated for trucks only.
Response: 2.4.
- 6.17 Comment: CATS plan that is now referred to is not the original plan.
Response: The regional transportation plan referred to in this study is the current approved Charlottesville Area Transportation Study (CATS) Plan.

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- 6.18 Comment: Just do something.
Response: 1.17.
- 6.19 Comment: Need overpass at Barracks Road and Route 29.
Response: 1.10.
- 6.20 Comment: Improve mass transit.
Response: 6.8.
- 6.21 Comment: Have the highway department do their job and get on with it.
Response: 1.17.
- 6.22 Comment: Run a road by the Southern Railway track from south of Charlottesville to north of Charlottesville.
Response: The railway corridor is not wide enough for the 300 foot right of way used for the bypasses.
- 6.23 Comment: Shouldn't spend so much money to divert such a small percentage of the traffic.
Response: The selected alternative, Alternative 10, is forecasted in the year 2010 to divert between 10,600 and 14,000 vehicles per day from Route 29. That amount of traffic warrants the construction of the bypass.
- 6.24 Comment: Draft Environmental Impact Statement is biased towards a western bypass.
Response: The analysis has shown the Alternative 10 bypass to meet the needs of the project best with fewer overall adverse community and environmental impacts.
- 6.25 Comment: Decision is purely political.
Response: The study was conducted by consultants whose charge was to collect and analyze data on the Route 29 Corridor and to present their final findings in the DEIS. The Commonwealth Transportation Board made their decision based on these findings as well as public comments.
- 6.26 Comment: Take away political pressure and make an objective decision.
Response: 1.17.
- 6.27 Comment: There is a favoritism by the VDOT staff towards a bypass.
Response: The bypass has been included as a part of the selected alternative because it is necessary to meet the needs of the project and accommodate both local and through traffic on Route 29 in future years.

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 Opposes any bypass, supports Base Case with grade-separated interchanges.
 Opposes any bypass, supports Base Case with grade-separated interchanges.
 Opposes any bypass, supports Base Case with grade-separated interchanges.
 Opposes any bypass, supports Expressway, 1.9, 2.3, 4.1.
 Opposes Expressway.
 Opposes any bypass, Improve Route 29.
 Opposes any bypass, supports Meadowcreek Parkway, 1.9.
 Opposes any bypass, 1.9, 2.3, 3.1, 5.1, 1.10.
 Supports far western and eastern bypasses.
 Opposes eastern bypass, 1.11.
 Opposes Expressway, 1.12.
 Supports any bypass, opposes Expressway, Improve Route 29. Just make a decision and do it.
 Support Alternative 11, 6.1.
 Supports any bypass, opposes Expressway.
 Opposes any bypass, supports Expressway, Improve Route 29.
 Opposes any bypass, supports Base Case with grade-separated interchanges.
 Support any bypass, oppose Expressway, support Base Case without grade-separated interchanges.
 Supports Base Case with grade-separated interchanges and the CATS plan.

Bowie, Rick

Boyd, James

Boyd, Kenneth
 Brammick, George
 Brewer, James
 Britton, Bruce & Jeanene
 Brown, Glenardlyn
 Brown, Joe, Jr.

Brunton, Laurence
 Burgh, Robert

Burton, Henry & Maxine
 Bushay, card
 Burnick, Sherry

Campbell, Steve
 Caplin, Jeremy
 Caplin, Mr. & Mrs. Mortimer
 Carey, Theodora
 Carr, David

Carr, David (Citizens Committee for City-County Cooperation)

Carr, David, Jr.
 Carr, George
 Carver, D. W.

Casaoli, Walter
 Casey, Theodora & Robert
 Cassada, Deborah
 Cassada, Lawrence, Jr.
 Cavanaugh, Rita
 Celli, Vittori

Changes
 Chapman, Sarah
 Chassman, Lara
 Chastain, Kenneth & Janice
 Clark, J. H.

Clary, Ken
 Clement, Wittington
 Clemont, Lucille
 Coates, Helen

Cohen, Sue
 Coleman, Robert
 Coler, Robert
 Collier, David
 Collier, Jackie
 Corner, Mr. & Mrs. Thomas

Corover, John
 Corvey, Rev. George (St. Anne's-Bethel School)

Opposes any bypass, opposes Expressway, supports Base Case with grade-separated interchange at Greenbrier Drive.
 Supports western bypass, supports Meadowcreek Parkway.
 Opposes eastern bypass, opposes Rio Connector.

5.2
 Supports any bypass, opposes Expressway, Improve Route 29.
 Support Expressway, 1.13.

1.14
 Opposes Expressway, supports Base Case with grade-separated interchanges.
 1.3
 Supports western bypass, opposes eastern bypass, opposes Expressway.
 Support any bypass, oppose Expressway, oppose Base Case, 1.6.
 Opposes any bypass, 1.15.
 Opposes any bypass, supports Expressway, supports Base Case with grade-separated interchanges, supports Meadowcreek Parkway.

7% of respondents to survey oppose Alternatives 7 and 7A.
 Opposes western bypass, supports Meadowcreek Parkway, 1.9.
 Oppose any bypass, Improve Route 29.
 Opposes western bypass, Improve Route 29.

Opposes any bypass, supports Base Case with grade-separated interchanges, supports Meadowcreek Parkway, supports controlled entrance to North Grounds of University, 1.9, 1.16, 1.17.
 Opposes any bypass, supports Base Case with grade-separated interchanges, supports Meadowcreek Parkway, and opposes connector roads.

1.18, 1.19, 1.20, 1.21, 1.22, 3.2, 3.3, 5.3, 5.4, 1.58, 3.5, 3.6, 4.4, 5.19.
 Supports Meadowcreek Parkway, supports three grade-separated interchanges, 1.23, 1.25, 2.4.

Opposes any bypass, supports Expressway.
 Support Base Case with grade-separated interchanges.
 Supports Meadowcreek Parkway, Improve Route 29, 1.27, 1.26.

Opposes Rio Connector.
 Opposes any bypass, supports Meadowcreek Parkway, Improve Route 29, 1.28.
 Oppose Alternative 6B.
 Supports any bypass.
 Opposes any bypass, Improve Route 29.

1.28
 Supports eastern bypass.
 Supports solution that best meets need of community.
 Supports any bypass.

Opposes any bypass, supports Expressway.
 Opposes western bypass, supports Base Case with grade-separated interchanges, supports Meadowcreek Parkway.
 Supports Alternative 6B, supports Expressway.

3.4
 Supports the position taken by Albemarle County.
 Opposes any bypass, opposes Expressway, Improve Route 29.
 Opposes any bypass.

Oppose Alternatives 11 and 12. Improve Route 29, develop a network of close-in options.
 Supports Alternative 12.
 5.2

COMMENTER INDEX TO PUBLIC HEARING COMMENTS

Cooper, Phillip & Terri	Oppose western bypass, support Base Case with grade-separated interchanges, support Meadowcreek Parkway, support Rio Connector, 5.5.	Eaton, Brian	Oppose any bypass, supports Base Case with grade-separated interchanges.
Cooper, Rev. & Mrs. Cornell, Dewey	Support any bypass, opposes Expressway, supports any bypass or pathway, opposes Expressway, improve Route 29.	Epps, Mary Lee	Opposes Alternative 6B, supports grade-separated interchanges, 5.7, 6.4.
Couch, Esther	Opposes any bypass, improve Route 29, 6.23.	Ewavs, Muriel	Opposes any bypass, supports Base Case with grade-separated interchanges.
Couch, James	Opposes any bypass.	Falger, Mr. & Mrs. T. C.	Support Meadowcreek Parkway, 1.35, 1.107.
Craddock, Ellen	Opposes any bypass, supports Base Case with grade-separated interchanges, supports Meadowcreek Parkway, improve Route 29, 1.6, 1.30.	Farnell, Gloria	Opposes any bypass, 3.1.
Craig, James	Supports Base Case with grade-separated interchanges, supports Meadowcreek Parkway.	Farnell, Jim	Oppose any bypass, supports Base Case with grade-separated interchanges.
Craw, Mrs. Dennis	Supports Base Case without grade-separated interchanges, supports Expressway.	Farnell, Mr. & Mrs. J. A.	Supports Meadowcreek Parkway, widen Route 29, 1.103.
Chickner, Patricia	Opposes eastern bypass, opposes Rio Connector.	Fisher, Ronald	Supports western bypass, supports Meadowcreek Parkway, widen Route 29 slightly.
Chickner, Richard	Supports ALERT's position, wants to see final action in the very near future.	Finch, Carol	Oppose any bypass, support Base Case with grade-separated interchanges, support Meadowcreek Parkway.
Chickner, Richard & Patricia	Oppose any bypass, oppose Expressway.	Flynn, John & Margaret	Supports Base Case with grade-separated interchanges.
Chigler, Anne	Supports Alternatives 7 and 10, supports Base Case, 3.1.	Flynn, Thomas	Supports any bypass, opposes Expressway.
Critzer, Wilson	Support any bypass, supports Meadowcreek Parkway, 1.31.	Forness, Jessica	Supports Base Case with grade-separated interchanges, 1.86.
Critzer, Wilson & Beverly	Support any bypass, oppose Expressway, oppose grade-separated interchanges, improve Route 29.	Forbes, John	Opposes eastern bypass except 6B, supports Base Case with grade-separated interchanges.
Critchfield, Betty	Opposes any bypass, improve Route 29.	Fornes, Gaston	Opposes any bypass, supports Base Case with grade-separated interchanges, supports Meadowcreek Parkway.
Critchfield, Dale	Opposes any bypass, supports Meadowcreek Parkway, 3.1, 5.6.	Fountain, Doris	Opposes western bypass, 3.1.
Curtis, Nat	Opposes any bypass, improve Route 29.	Fowler, Margaret	Opposes any bypass, supports improving Route 29 or an elevated expressway.
Darne, Karen	Opposes western bypass, 1.9, 1.32, 3.1.	Frampton, William	Opposes western bypass, improve Route 29.
David, Opal	Opposes any bypass, supports Expressway.	Freestone, Harry	Opposes western bypass, 1.37.
Davis, Coralee	Supports Alternatives 7, 7A, 6, 6B, and/or Alternative 11 or 12.	Freestone, Virginia	1.38, 1.39, 2.8.
Davis, Dickey	Opposes western bypass, supports Base Case, supports Meadowcreek Parkway.	Frieden, Charles	Supports a far out bypass including one exit for University of Virginia at Colomade area, supports a road through McIntire Park.
Davis, Edward	Expressway is the least disruptive of the alternatives.	Gaines, Denise	Oppose Alternatives 6 & 6B, improve Route 29.
Davis, Richard	Supports western bypass.	Gaines, Richard	Supports Expressway.
Deets, Edward	Supports Base Case with grade-separated interchanges, supports Meadowcreek Parkway, 1.33.	Gale, Pam	Opposes any bypass, 6.21.
Degood, Drene	Supports Base Case without grade-separated interchanges.	Galloway, Kate & Bruce	6.5.
Dell, Susan	Supports Expressway.	Ganong, Anne	Opposes Expressway, supports Base Case with grade-separated interchanges.
Densmore, Katharine	Opposes any bypass, improve Route 29.	Ganong, Steve	Supports Alternative 12, opposes Expressway, not opposed to Alternatives 6 & 6B.
Dent, Mrs. Magruder	Opposes western bypass, supports Base Case with grade-separated interchanges, supports Meadowcreek Parkway.	Ganong, Steve	Opposes any bypass, 1.9.
Dockery, Hugh	Opposes any bypass, improve Route 29, 6.2.	Gentry, William	Opposes any bypass, especially Alternative 10.
Dockery, Hugh	Opposes western bypass, supports Expressway, supports Base Case with grade-separated interchanges.	Gervais, George	Leave Route 29 alone.
Doyle, Ann	Opposes western bypass.	Gervais, Felicia	Opposes Alternatives 6B, 7, 11, & 12, Alternative 10 will be necessary, supports grade-separated interchanges, 1.97.
Doyle, Janice	Opposes western bypass.	Gillespie, Nancy	Supports western bypass, widen Route 29.
Doyle, Robert	Opposes western bypass, supports Expressway.	Goddard, William	Supports Base Case with grade-separated interchanges, 1.40.
Doyle, Susan	Supports Expressway.	Goodman, Debbie	Supports eastern bypass.
Dunn, Bonnie	Supports Base Case with grade-separated interchanges, supports Meadowcreek Parkway.	Goodman, Scott	Supports Base Case, 1.41.
Dunsmore, Cecil	Supports Base Case with grade-separated interchanges, supports Meadowcreek Parkway.	Gordon, Susan	Alternative 10 second choice, Expressway first choice, 1.42.
Easter, Debbie	Opposes western bypass.	Grady, Paul	Supports Alternative 10, supports Expressway, Alternative 7 or 7A second choice.
Easter, Peter	Opposes western bypass.	Graft, Andrew	Supports western bypass, opposes Expressway.
Ehrlich, Catherine	Opposes any bypass, especially Alternatives 11 and 12.	Graft, John	Support Base Case without grade-separated interchanges, 1.17.
Ehrlich, Charles	Opposes any bypass, improve Route 29 by adding lanes or build another road over Route 29.	Griffin, John	
Eckford, Lindsay	Opposes any bypass.	Grishow, Mr. & Mrs. William	
Edgerton, William		Gruhb, Donald & Isabella	

COMMENTER INDEX TO PUBLIC HEARING COMMENTS

Lloyd, John	Supports Base Case, supports Meadowcreek Parkway, supports Rio extension.	Moore, Gerald	Supports any bypass, supports widening of Route 29 plus two parkways with the Meadowcreek Parkway beginning at Route 649 or further north near the Rappahannock River.
Locher, Preston	Opposes any bypass, supports Base Case with grade-separated interchanges, supports Meadowcreek Parkway.	Moore, Jane	Opposes any bypass, supports Base Case with grade-separated interchanges, supports Meadowcreek Parkway.
Loud, Mrs. T. E.	Opposes any bypass.	Moore, Milton & Scully	Oppose western bypass, support Expressway, if that not feasible then Base Case with grade-separated interchanges.
Lovern, Pat	Supports any bypass.	Morgan, Cecil	Opposes western bypass, supports Meadowcreek Parkway.
Lowenstein, Jared & Gerke	Oppose any bypass, 1.52, 1.104.	Morley, Alfred	Supports Base Case with grade-separated interchanges.
Lucas, Lee	Supports Alternative 10 or 11.	Morris, Caleb	Supports Base Case 1.40.
Lynch, Robert & Mary	Oppose any bypass.	Morris, Lynn	Opposes any bypass, supports Base Case, supports Meadowcreek Parkway, 1.3.
Lyons, John	Opposes any bypass, supports Base Case with grade-separated interchanges, 1.3.	Mulliner, Mr. & Mrs. Robert	Oppose Meadowcreek Parkway.
Lyons, Patricia	Opposes any bypass, supports Base Case with grade-separated interchanges.	Murray, Elizabeth	Opposes Alternatives 6 and 6B, 6.6.
MacCracken, Thomas	Opposes any bypass, supports Expressway if needed.	Murray, James	Opposes any bypass, supports Meadowcreek Parkway, supports construction of remaining network of local roads as in the Charlottesville Area Transportation Study, 1.9, 2.5, 2.6, 2.7.
Malone, Thomas	Opposes western bypass.	Nebbett, James	Opposes Alternative 10, opposes Expressway, supports Meadowcreek Parkway, improve Route 29.
Malone, Mary	Opposes any bypass, supports Meadowcreek Parkway, opposes Rio Connector.	Neilligan, James	Opposes western bypass, supports Base Case with grade-separated interchanges, supports Meadowcreek Parkway, 1.61.
Mandel, Judy & Gerald	Oppose western bypass, support Expressway, or improve Route 29.	Newman, James	Opposes any bypass, improve Route 29.
Mangrove, Wilma	Opposes any bypass, improve Route 29, 1.82.	Nolling, Louise	Opposes any bypass, improve Route 29.
Marshall, Jack	Opposes any bypass, supports Base Case with grade-separated interchanges, supports Meadowcreek Parkway.	Nuschterlein, Donald	Opposes any bypass, 1.9.
Marshall, Shirley	Supports Expressway.	Nuschterlein, Mildred	Opposes western bypass.
Marshall, Sonny	Opposes any bypass, supports Expressway.	Oghe, Robert	Opposes western bypass, supports Expressway.
Marin, Bruce	Opposes any bypass, 3.1.	Oudy, Jean	Opposes western bypass, widen Route 29, 1.32.
Marin, F. Warren	1.87.	Owen, Helen	Supports Base Case, supports Meadowcreek Parkway.
Martin, Frances	Opposes any bypass.	Owen, John	Opposes any bypass, improve Route 29.
Masters, Michael	Supports a limited access highway.	Owen, Ryland	Supports any bypass, supports Base Case with grade-separated interchanges.
Mays, William	Supports any bypass.	Page, Elizabeth	Supports Base Case with grade-separated interchanges, supports Meadowcreek Parkway, 1.62.
McCann, Chris	Opposes western bypass, supports Expressway.	Palmer, George, II	Support Alternative 10, oppose Expressway, support Base Case without grade-separated interchanges, 1.63.
McClellan, Peter	Opposes any bypass.	Parler, Samuel	Opposes any bypass.
McCloskey, Mary	Opposes any bypass.	Parish, David	Opposes western bypass, 1.64.
McConnell, B. M.	Opposes any bypass.	Paschal, Donald	Supports PEC proposal for eight-laning Route 29 with grade-separated interchanges.
McConnell, Shirley	Opposes any bypass.	Paul, Marjorie	Opposes western bypass, 6.7.
McCallloch, Edith & Frank	Opposes any bypass.	Pegau, L. Byrd	1.83.
McDonald, Robert	Opposes any bypass.	Pence, Richard	Supports western bypass, supports Alternative 6B, supports Base Case with grade-separated interchanges, 1.85.
McEachern, Frances & T. A.	Oppose any bypass, improve Route 29.	Pennock, Ruth & Caleb, Jr.	Oppose Expressway.
McIntosh, Tom	Opposes any bypass, improve Route 29, 1.55.	Perrine, Tamara	Opposes any bypass, improve Route 29.
McLaughlin, Robert	Opposes western bypass, supports Expressway.	Phillips, Martin	Supports any bypass, opposes Expressway.
McLean, Cathie	Supports Base Case with grade-separated interchanges.	Platts-Mills, Roberta	Opposes any bypass.
Mcklure, Frances	Widen Route 29.	Plotkin, James	Supports western bypass, supports Base Case without grade-separated interchanges, supports Meadowcreek Parkway.
McKunro, Muriel	Oppose Alternative 12, support Alternative 10, 1.109, 1.110, 2.12, 2.13.	Porter, Constance	Supports Expressway, supports Meadowcreek Parkway.
McLebb, Bruce & Linda	Opposes any bypass, supports Meadowcreek Parkway, 1.9.	Powell, Tom	Supports Expressway.
Melton, DeForest	Opposes any bypass, supports Base Case, 1.57.	Pretzer, Dwayne & Mildred	Oppose any bypass, support Base Case with grade-separated interchanges.
Michel, Tim	Supports Alternative 6B, opposes Expressway.	Pritchett, Ernie	Opposes eastern bypass.
Minerhart, Mrs. Ralph	Supports any bypass.	Pritchett, Lucy	Opposes eastern bypass.
Mitchell, E. H.	Supports any bypass, opposes Expressway.	Raborn, Richard	1.100.
Mull, Mrs. Wilhelm	Opposes Expressway, supports Alternative 11 or 12.	Record, Stephen	Opposes any bypass, supports Base Case with grade-separated interchanges.
Mooney, James		Reel, Marie	6.26.

COMMENTS INDEX TO PUBLIC HEARING COMMENTS

Rellly, Allen
 Rellly, Joan
 Residents of Albemarle County
 (20 signatures)
 Riccio, Diane
 Roberts, Marlene
 Robinson, A. L.
 Robinson, Alexander
 Rochester, Dudley
 Rochester, Lois
 Romanesko, Ivo
 Romanesko, Leslie
 Romanesko, Leslie & Rooker, Ann
 Rooker, Ann
 Rooker, Dennis
 Rooker, Elizabeth
 Rooker, Lauren
 Rose, J. E.
 Rosenblum, Elizabeth & Marvyn
 Rovnyak, James & Virginia
 Rovnyak, Virginia
 Russha, Ed & Mary Ann
 Ryan, Sharon
 Rys, T. J.
 Sandridge, Mr. & Mrs. Cole
 Saunier, Paul
 Schaeff, Arthur
 Schatz, Virginia
 Schwab, Jan
 Scott, Betty
 Scott, Mrs. Frederic
 Seale, Rita
 Shea, William
 Shelton, William
 Shiley, E. Shannon

Opposes Alternative 10.
 Opposes any bypass, widen Route 29 and provide new interchanges.
 Support Base Case with grade-separated interchanges, support Meadowcreek Parkway.
 3.1.
 Improve Route 29.
 Oppose any bypass, supports Expressway.
 Supports a lower expressway for through traffic.
 Supports Alternatives 6 and 10, opposes Expressway, supports Base Case with grade-separated interchanges, supports an extension from Alternative 6 along Meadowcreek Parkway but with limited access.
 If Expressway isn't selected, then favors Alternative 10, supports Meadowcreek Parkway, 1.105.
 Opposes any bypass, supports Base Case, supports Meadowcreek Parkway, 1.3.
 Oppose Alternative 10.
 Oppose any bypass.
 Opposes Alternative 10, 5.15.
 Opposes any bypass, especially Alternative 10, supports Base Case with grade-separated interchanges, 2.10, 2.14, 2.15, 5.22, 5.23.
 Opposes any bypass, supports Base Case.
 Opposes any bypass, improve Route 29.
 Opposes any bypass.
 Improve Route 29 by adding lanes and improving intersections at Rio, Hydraulic, and Baracks Roads, support Meadowcreek Parkway, 1.66, 6.8.
 Oppose any bypass, support Expressway, support Base Case with grade-separated interchanges.
 1.98, 1.106.
 Support Base Case without grade-separated interchanges, 1.40.
 Supports Alternative 10, opposes Alternative 9, supports Base Case without grade-separated interchanges.
 Supports Alternative 7A, 7, or 10.
 Oppose any bypass, support Expressway or Base Case with grade-separated interchanges, 6.9.
 Opposes any bypass, supports Meadowcreek Parkway, 1.3, 1.9.
 Opposes Expressway, supports Base Case without grade-separated interchanges, 1.40.
 Meadowcreek Parkway should not be built until there is a plan to take traffic off of it and distribute it, such as a western bypass or the Ivy Creek connector, 6.17.
 Opposes any bypass, 1.9.
 Supports Meadowcreek Parkway, 1.9.
 Opposes any bypass, supports Base Case with grade-separated interchanges, supports Meadowcreek Parkway, supports Ivy Creek Parkway.
 Supports Meadowcreek Parkway, improve Route 29, improve Rio Road, 1.85, 6.27.
 Supports either eastern or western bypass or combination of both, opposes Expressway, opposes grade-separated interchanges, widen Route 29, 1.67, 6.10, 1.68.

Shortall, John
 Simpson, D. P.
 Sisson, V. Sherrin & Cooper, James
 Slier, Jeffrey, Herman, & Janet
 Slaughter, Ann
 Slaughter, Edward
 Slaughter, Peggy & Thomas
 Sloan, Gary
 Smith, Hunter
 Smith, Jeffrey & Alison
 Snook, Lloyd
 Soderquist, Irene
 Sodomka, Stan & Helene
 Sours, Donald
 Stark, Grace
 Stark, Robert
 Stroud, Bob
 Strzapek, Joseph
 Sudduth, Kathryn
 Sudduth, Robert
 Sussmann, Michael
 Suter, Jean
 Swift, Tai & Rick
 Tatum, R. Stanley
 Taylor, Sarah
 Tracker, Betty
 Tracker, Henry
 Tracker, Mary Leigh
 Thompson, Brooke
 Thompson, Elise
 Thompson, Paige
 Thompson, Polly
 Thompson, W. M.
 Thoup, Oscar & Barbara
 Tice, Frederick
 Tice, Gordon
 Todd, John & Helen
 Torchia, S. James
 Towe, Darden
 Tower, Jeanne & William
 Travers, Janis
 Travs, J. Edwin, Sr.

Supports Alternative 11, if not that then Alternative 10, supports Expressway.
 Supports western bypass.
 Support Base Case with grade-separated interchanges, support Meadowcreek Parkway.
 5.12, 5.13, 5.14, 6.11.
 Opposes any bypass.
 1.7.
 Concur with ALERT's position. Also favor a four-lane expressway over the Southern Railway tracks with three exits into Charlottesville.
 Opposes any bypass, improve Route 29, supports Meadowcreek Parkway.
 Opposes any bypass, 1.3.
 Oppose any bypass, support Base Case with grade-separated interchanges.
 Supports western bypass, supports Meadowcreek Parkway.
 Opposes any bypass.
 Oppose western bypass, support Base Case with grade-separated interchanges, support Meadowcreek Parkway.
 Supports western bypass, supports Base Case and the grade-separated interchanges when necessary, supports Meadowcreek Parkway, 1.64.
 Opposes western bypass, improve Route 29, 5.16.
 Opposes any bypass, 1.9.
 Opposes any bypass, supports Expressway, second choice is the Base Case with grade-separated interchanges, supports Meadowcreek Parkway.
 Opposes any bypass, supports Expressway or Base Case.
 Opposes Base Case with grade-separated interchanges, 1.70.
 Supports any bypass.
 Opposes any bypass, supports Meadowcreek Parkway, improve Route 29.
 Opposes any bypass, supports Base Case with grade-separated interchanges.
 Opposes western bypass, expand Route 29.
 Supports any bypass, opposes Expressway.
 Opposes western bypass, 1.3.
 Supports any bypass.
 Supports any bypass, improve Route 29.
 Supports any bypass, supports Meadowcreek Parkway, improve Rio Road.
 Opposes Alternative 10.
 Support Base Case with grade-separated interchanges.
 Opposes any bypass.
 Opposes Alternative 10, 5.15, 5.17.
 Opposes western bypass, expand Route 29.
 Oppose any bypass, support Base Case with grade-separated interchanges.
 Supports western bypass, supports grade-separated interchanges and restriction of access onto Route 29, 2.9.
 Opposes Expressway, 6.19.
 Support any bypass.
 Opposes Expressway.
 Supports any bypass, supports widening of Route 29, supports Meadowcreek Parkway.
 Oppose any bypass, support Expressway, support Meadowcreek Parkway.
 Supports Alternative 6B, opposes western bypass.
 1.71.

COMMENTER INDEX TO PUBLIC HEARING COMMENTS

Ternath, Myron
 Tucker, Ely
 Tucker, Ely & BH
 Turner, Ann
 Turner, Edith
 Vandell, Warren
 Volpft, Forrest
 Wall, James
 Walsh, William, III
 Walters, Robert, Jr.
 Warner, Edith
 Waters, Elizabeth
 Watson, Clyde, Jr.
 Weary, Janet
 Weary, Payton
 Wierschnek, Henry
 Wemple, William
 Whitley, C. Reggle
 Whitley, Joseph
 Wiech, Tammy
 Wiedman, Susan
 Wierschnek, Zulema
 Wilhelm, Morton
 Williams, Earl
 Williams, Vera
 Williamson, S. L., Jr.
 Wilson, Stephen & Lynne
 Wingfield, J. R.
 Wood, Horace
 Wood, Mrs. Joseph, II
 Worthington, Mrs. D. O.
 Wright, Kay
 Wyllie, Evelyn
 Young, Lincoln
 Zimmerman, Mark
 Zuk, William

Supports Base Case, 1.72, 1.73.
 Opposes western bypass, supports Expressway or Base Case.
 Oppose western bypass, support Base Case, support Meadowcreek Parkway.
 Opposes any bypass, supports Base Case with grade-separated interchanges, supports Meadowcreek Parkway.
 Opposes Expressway, 1.74.
 Opposes Expressway, supports Meadowcreek Parkway, 1.75, 6.12.
 Opposes any bypass.
 Opposes any bypass, supports Base Case with grade-separated interchanges.
 Supports Alternative 11, supports Base Case.
 Supports Meadowcreek Parkway, 1.78.
 Supports Meadowcreek Parkway, 1.9.
 Supports an alternative west of Route 29, improve Route 29 with basic improvements, improve access to the University of Virginia grounds, 1.90, 1.91, 1.40, 1.77.
 Opposes any bypass, 1.9.
 Supports Base Case with grade-separated interchanges, 1.78.
 Opposes Expressway, supports Base Case without grade-separated interchanges, supports any bypass.
 Opposes any bypass.
 Supports any bypass.
 Opposes western bypass.
 Opposes any bypass.
 Opposes any bypass, improve Route 29.
 Opposes Expressway, opposes overpasses.
 Opposes Alternative 10, 1.9.
 Supports Base Case with grade-separated interchanges and expressway, if necessary.
 Supports mass transit instead of new highways.
 Supports any bypass, opposes Expressway, supports Base Case with grade-separated interchanges, supports Meadowcreek Parkway.
 Support a bypass, 1.10, 6.13.
 Opposes eastern bypass, improve Route 29, 1.79, 1.90.
 Opposes any bypass, supports Expressway, supports Meadowcreek Parkway.
 Opposes any bypass, 1.9.
 Supports Alternative 11, supports Base Case, 1.81, 1.94, 1.95, 6.14.
 Supports far eastern bypass, opposed to Meadowcreek Parkway until a bypass around the city has been constructed.
 Supports Alternatives 6, 6B, 7, 7A, 9, 10 with 11 and 12 reserved for long range future decision. Land for Alternatives 11 and 12 should be locked now.
 1.88.
 Supports Alternative 11, supports Meadowcreek Parkway once a western bypass has been constructed.

VIII. SECTION 4(f)/106 EVALUATIONS

A. DESCRIPTION AND NEED FOR THE PROPOSED ACTION

The need for the proposed action and descriptions of all the alternatives are included in Chapters I and II of this Final Environmental Impact Statement.

B. OVERVIEW

The U.S. Department of Transportation Act of 1966 (23 U.S.C. 138 and 49 U.S.C. 303), Section 4(f), requires that no publicly-owned land from a public park or public recreation area, or land from a significant historic site be used for federal-aid highways unless there is no feasible and prudent alternative. Specific alternatives and actions to minimize harm must be considered. Furthermore, the Land and Water Conservation Fund Act of 1970, Section 6(f), requires land conversion approval by cognizant park authorities where these funds were used in purchase or development of park lands or facilities. Section 106 of the National Historic Preservation Act of 1966 requires federal agencies to consider the effects of their actions on historic properties.

There are many parks and historic resources in the Charlottesville-Albemarle County area. Two alternatives under study would require use of land in three public parks; two alternatives would require use of land from two sites currently on or eligible for the National Register of Historic Places. Refer to Figure VIII-1 for a map of the project area, project alternatives, and general Section 4(f)/106 locations. Figure VIII-2 shows specific locations for 4(f) park locations. Figure VIII-3 shows specific locations for 4(f)/106 historic sites.

The selected alternative, which consists of the Base Case improvements and grade separated interchanges on existing Route 29, and Alternate 10 (the near western Bypass), will have no Section 4(f) impacts. Therefore, no further evaluations under section 4(f) are necessary. The Alternative 10 component of the selected alternative will have visual effects on two historic properties (Westover and Schlesinger Farm). These effects are discussed in the Section 106 Memorandum of Agreement in Appendix B. The Alternative 10 bypass alignment is the long range component of the selected alternative and it is anticipated that it will not be built for a number of years, thereby postponing effects on the properties. The proposed Base Case short range improvements and the medium range construction of grade-separated interchanges on Route 29 will have no effect on historic properties since none are nearby. Potential effects on historic properties by other alternatives have been presented in Section IV.C., Table IV-7, Figure IV-11, Section VIII.E., and Section VIII.F.

Alternative 10 is the only feasible and prudent Candidate Build Alternative that avoids all Section 4(f) involvements. Alternatives 6, 7A, 11, and 12 all require the use of Section 4(f)

property. Alternatives 6B, 7, 9, and the No-Build Alternative avoid Section 4(f) involvements but are not prudent alternatives because they would not adequately satisfy the identified traffic needs.

<u>Alternative</u>	<u>Feasible and Prudent</u>	<u>Uses 4(f) Land</u>	<u>Harm to Section 4(f) Land (After Mitigation)</u>
No-Build	No	No	None
6	No	Yes	Greatest
6B	No	No	None
7	No	No	None
7A	No	Yes	High
9	No	No	None
10	Yes	No	Visual Effect Only
11	Yes	Yes	Medium
12	No	Yes	Medium

C. SECTION 4(f) EVALUATION ON RIVANNA AND PEN PARKS

1. Description of Rivanna Park

a. Relationship to Alternatives

Figures VIII-1 and VIII-2 show the location of Rivanna Park in relation to the project alternatives. Figure VIII-4 is a detailed map of the park showing how it would be affected by Alternative 6.

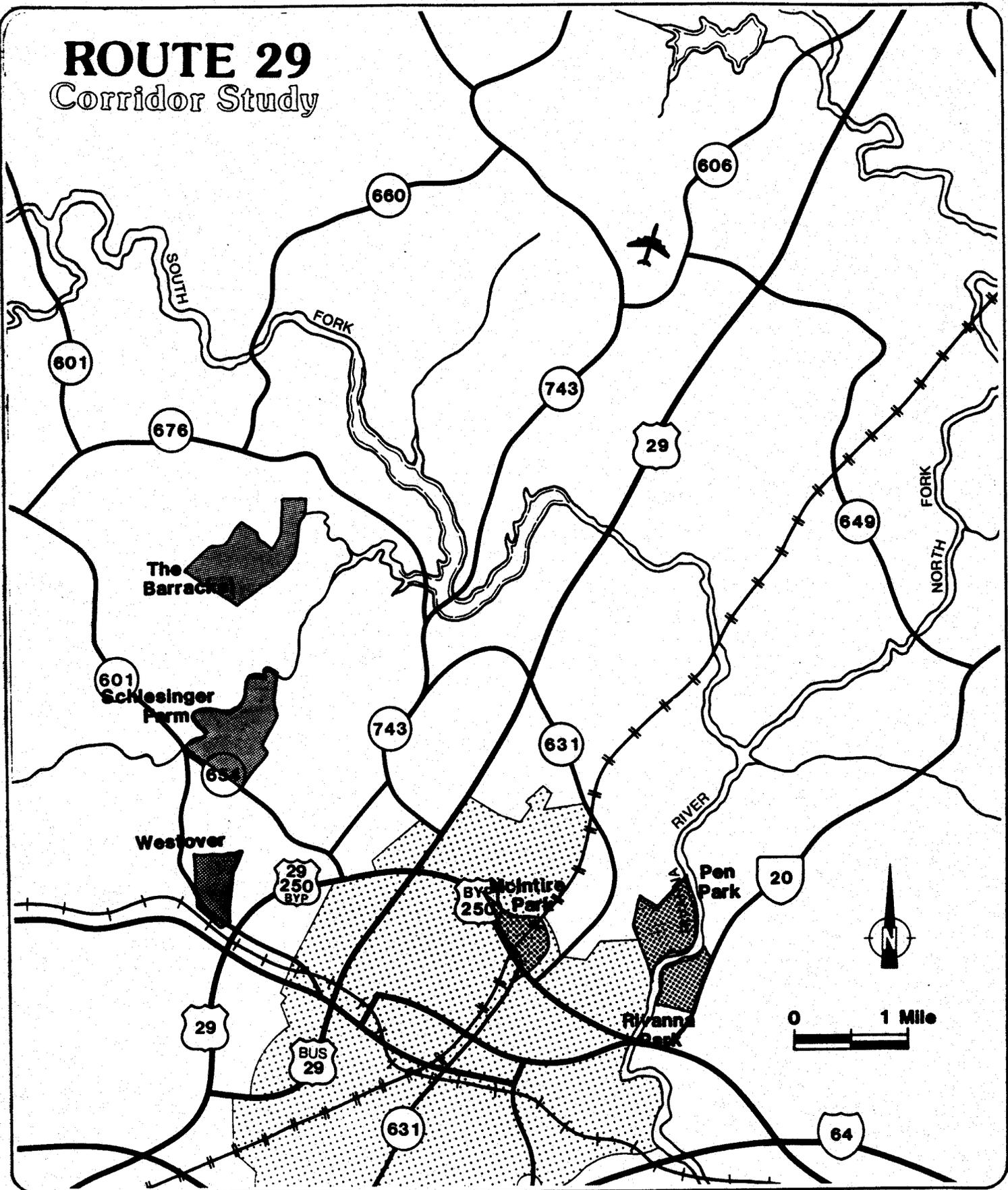
b. Size and Location

Rivanna Park is a new 111-acre park located in Albemarle County approximately one-half mile north of the intersection of U.S. Route 250 and Va. Route 20. The park is bounded by Elk Drive to the south, the Rivanna River to the west and north, and Route 20 to the east.

c. Ownership and Type of Property

Rivanna Park is a public park co-owned by the City of Charlottesville and Albemarle County.

ROUTE 29 Corridor Study



-  PARKS
-  HISTORIC PROPERTIES

**Location of
4(f)/106 Properties**

ROUTE 29 Corridor Study

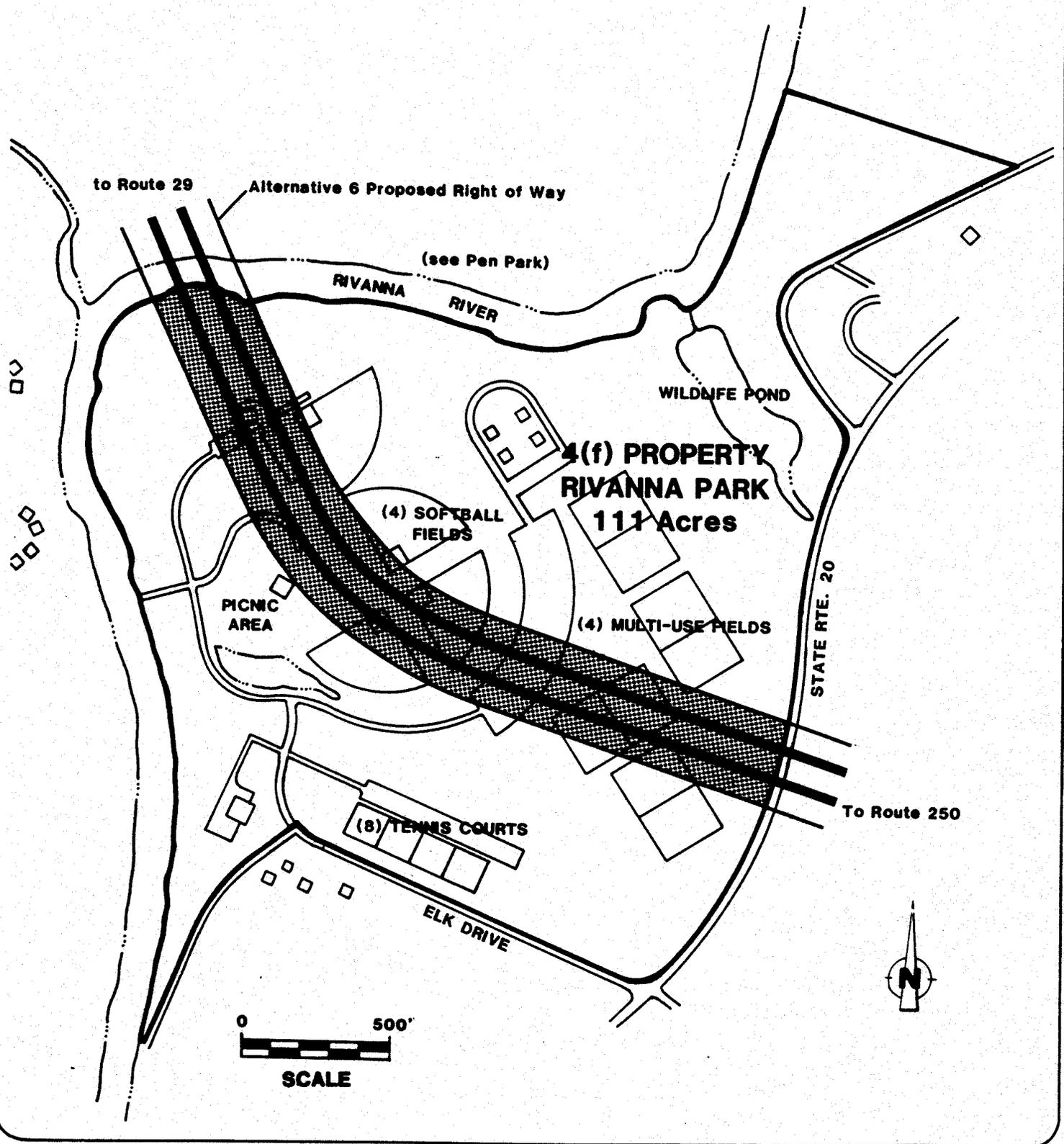


■ 4(f) PROPERTIES

Location of 4(f) Park Properties

Figure No. VIII-2

ROUTE 29 Corridor Study



 AREA OF POTENTIAL 4(f) INVOLVEMENT
(18 Acres)

**Rivanna Park
Alternative 6**

d. Function

The function is to provide active and passive recreation, including ball playing, tennis, soccer, football and picnicking.

e. Facilities

The park offers, in its first phase of development, parking facilities, three unlighted softball fields, a concession building, four tennis courts, four multi-use fields and a playground. A wildlife pond is situated in the northeastern portion of the park; there are picnic and grassy areas adjacent to the river banks.

f. Access

Access is principally by automobile from Elk Drive off of Route 20.

g. Relationship to Similarly Used Lands

As shown in Figure VIII-2, Rivanna Park is immediately across the Rivanna River from Pen Park, the largest City-owned park. It is also within two miles of McIntire Park in the city of Charlottesville.

h. Applicable Clauses Affecting Ownership

There are no reversionary clauses affecting ownership. City and County funds for the park's purchase were supplemented by a grant from the Virginia Department of Transportation, and from the Virginia Outdoors Fund; Section 6(f) does not apply.

i. Unusual Characteristics

Rivanna Park is in a valley of the Southwest Mountain, and has been virtually entirely regraded since its purchase to provide level playing surfaces and to minimize encroachment of floods from the low-lying Rivanna River. It lies in Monticello's viewshed and is visible from three neighboring historic properties. Adjacent land use to the east and south of the site is primarily residential, although the Elks Club is located south of Elks Drive.

2. Description of Pen Park

a. Relationship to Alternatives

Figure VIII-1 and VIII-2 show the location of Pen Park in relation to the project alternatives. Figure VIII-5 is a detailed image of the park showing how it would be affected by Alternative 6.

b. Size and Location

Pen Park is a 267 acre park located in the City of Charlottesville. It is situated east of Park Street, west of the Rivanna River, and approximately one mile north of U.S. Route 250 Bypass.

c. Ownership and Type of Property

Pen Park is a public park, owned by the City of Charlottesville. It is the largest park in Charlottesville.

d. Function

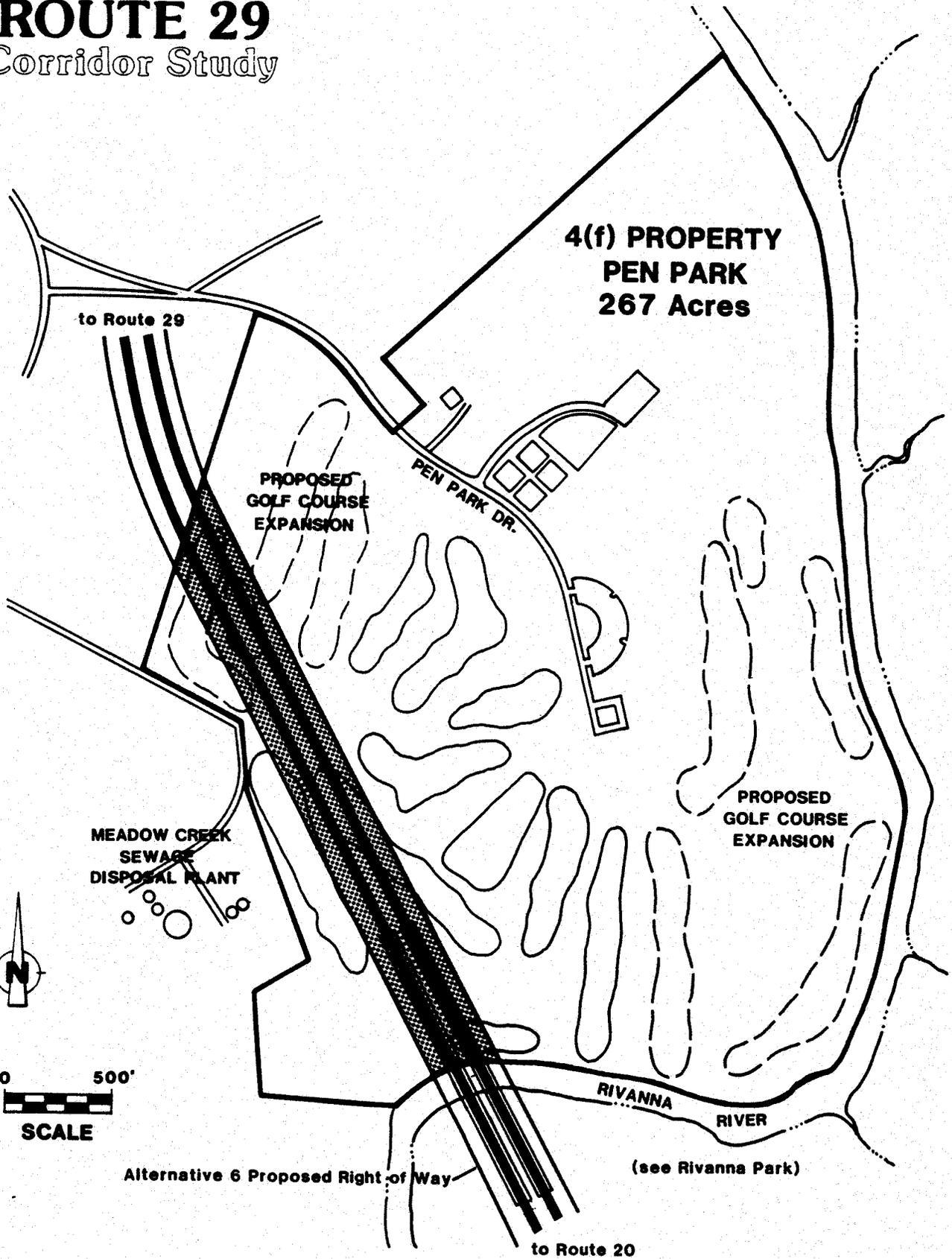
The function of the park is to provide active and passive recreation, including golf, tennis, soccer, Little League baseball, picnicking, and gardening.

e. Facilities

It contains a nine hole golf course, a club house and proshop, eight tennis courts, four outdoor picnic shelters, two soccer fields and a Little League baseball field. An outdoor physical fitness jogging course is specially adapted to also accommodate the blind and handicapped. Additionally, there are 223 garden plots available to rent from the City. Proposed enhancements to the present facilities at Pen Park include expanding the golf course to 18 holes, and a bike path and trail system linkage with Rivanna Park.

The City plans to expand the recreational capabilities of Pen Park to include bicycle paths, nature trails, boating facilities, and an amphitheater along the Rivanna River. There is a plan to provide "progressive tree planting" primarily near the shelters.

ROUTE 29 Corridor Study



 AREA OF POTENTIAL 4(f) INVOLVEMENT
(12.6 Acres)

Pen Park
Alternative 6

f. Access

Access to the park is via Pen Park Drive which intersects with Rio Road, with paved entrance and parking facilities. It is readily accessible to the entire City, and public transit service to Pen Park provides major recreational opportunities not available at neighborhood or community parks in other parts of the City.

g. Relationship to Similar Lands

As shown in Figure VIII-2, Pen Park is immediately across the Rivanna River from Rivanna Park. It is also within two miles of McIntire Park.

h. Applicable Clauses Affecting Ownership

There are no reversionary clauses affecting ownership. The majority of the park was purchased in 1972, with 33 more acres purchased in 1979; it was annexed to the City in 1988. Land and Water Conservation funds were used in the purchases, so Section 6(f) applies to any proposed action affecting any portion of the park.

i. Unusual Characteristics

The park is situated on rolling terrain, with views of several mountains and open land in all directions. The land to the west and north is residential, and to the south is industrial with the Meadowcreek sewage disposal plant. To the southeast, across the Rivanna River, lies the new Rivanna Park.

3. Impacts of Alternative 6 on Rivanna Park and Pen Park

Approximately 18 acres of parkland from Rivanna Park will be required by Alternative 6. The alignment is 300 feet wide, and traverses the center of the park for a distance of approximately 3,000 feet. It crosses two playing fields, half of the parking area, and two softball fields. Two of the remaining softball fields (one is undeveloped) will be in such close proximity to the alignment that they would have to be slightly realigned to be avoided.

Noise and air quality impacts to the park would result from Alternative 6. Noise levels will exceed Federal Highway Administration noise abatement criteria by two decibels and will increase 22 decibels over existing noise levels. The soccer fields and tennis courts in the park would be impacted by the increased noise levels. The Air Quality Analysis determined that Rivanna Park would experience only a slight increase (0.1 parts per million) in carbon monoxide concentrations.

Construction activities will have an impact upon water and air quality, noise, traffic flow, etc. Short-term water quality impacts will come from erosion and associated sedimentation. Construction impacts on air quality would include exhaust emissions from construction equipment and dust generated by construction activities on disturbed earth. Additional emissions could be generated by burning of debris from clearing operations if this method of disposal is used.

The location of the alignment would alter the existing visual quality of the park by acting as a permanent divider of the facility. The most noticeable feature of the proposed roadway would be the bridge approximately 1400 feet long spanning the Rivanna River.

The western edge of Pen Park is impacted by Alternative 6, requiring approximately 12.6 acres. The alignment is approximately 300' wide and traverses the park for approximately 1,800 linear feet.

Although leaving the majority of the park intact, the alignment would impact three of the holes of the existing golf course, and impact two of the proposed holes for the course expansion. The entrance drive to the park would be crossed on structure, but outside the park boundary.

If Alternative 6 is built, noise levels will exceed Federal Highway Administration noise abatement criteria by two decibels and will increase 22 decibels over existing noise levels. Four remaining holes of the golf course would be impacted by the increased noise levels. The Air Quality Analysis determined that Pen Park would experience only a slight increase (0.1 parts per million) in carbon monoxide concentrations.

Construction impacts to Pen Park will involve dust and noise similar to those described in the previous discussion on Rivanna Park. The resulting visual impact is lessened somewhat because Alternative 6 is situated to one extreme side of the park, the side adjacent to the sewage disposal plant.

4. Avoidance Alternatives

Alternative 6B was specifically developed as an alternative to avoid Rivanna Park and Pen Park. Its termini are the same as those of Alternative 6 but most of its alignment lies further east to avoid historic sites and residential areas. Any alternatives closer to, but still outside the park, would have severe impacts on residential communities.

Alternative 6B the avoidance alternative, would not take any park land, though it would take 46.7 more total acres for right-of-way than Alternative 6. Alternative 6B would displace seven fewer families and impact 85 fewer noise receptors than Alternative 6. Alternative 6B would have a total cost about \$4.6 million more than Alternative 6 and would be about 0.3 miles shorter.

5. Measures to Minimize Harm

Should this Alternative 6 continue to be studied following public and agency review of the Draft Environmental Impact Statement and the Location Public Hearing, all possible measures to minimize harm to both Rivanna Park and Pen Park would be undertaken.

Consideration will be given to reducing the roadway typical section through the parks, depressing the roadway, providing landscaped screening, and other techniques to reduce impacts.

Crossing of the Rivanna River and floodplain will be on structure; passive recreation uses under the structure (e.g. fishing) are possible.

Construction activities would involve all necessary permitting, sedimentation and erosion control, and restoration work.

In the case of Pen Park, suitable replacement property of at least equal fair market value and reasonable equivalent usefulness and location will be sought in accordance with Section 6(f) regulations.

6. Coordination

Documentation for Rivanna Park and Pen Park included contacts with the City Department of Parks and Recreation and Department of Community Development. Should Alternative 6 be selected, additional coordination, specifically with the Virginia Department of Parks and Recreation will be necessary to satisfy Section 6(f) requirements of documentation of approved mitigation plans for Pen Park.

D. SECTION 4(f) EVALUATION ON MCINTIRE PARK

1. Description of McIntire Park

a. Relationship to Alternatives

Figures VIII-1 and VIII-2 show the location of McIntire Park in relation to the project alternatives. Figure VIII-6 is a detailed map of the park showing how it would be affected by Alternative 7A.

b. Size and Location

McIntire Park is a 143 acre park located in the City of Charlottesville north and east of the U.S. Route 250 Bypass. The park is traversed by the Southern Railroad, which in fact separates the park into two parcels, east and west. Route 250 Bypass also severs a portion of the park; lighted tennis courts and a maintenance facility are located south of the bypass, east of McIntire Road.

c. Ownership and Type of Property

McIntire Park is a public park, owned by the City of Charlottesville.

d. Function

McIntire Park is one of two major parks in the City, the other being Pen Park. Because of its size and location, McIntire Park functions as a major recreational resource for City residents. Activities include picnicking, golf, softball, and tennis.

e. Facilities

The park's rolling terrain, pockets of woods, winding streams, nine hole golf course, children's wading pool, and flowering azaleas, provide numerous opportunities for use. Additionally, facilities include 11 tennis courts, a bathhouse/restroom, playground, concession building, paved parking, two softball fields, and picnic areas. Expansion and rehabilitation of several of the facilities has been ongoing in recent months.

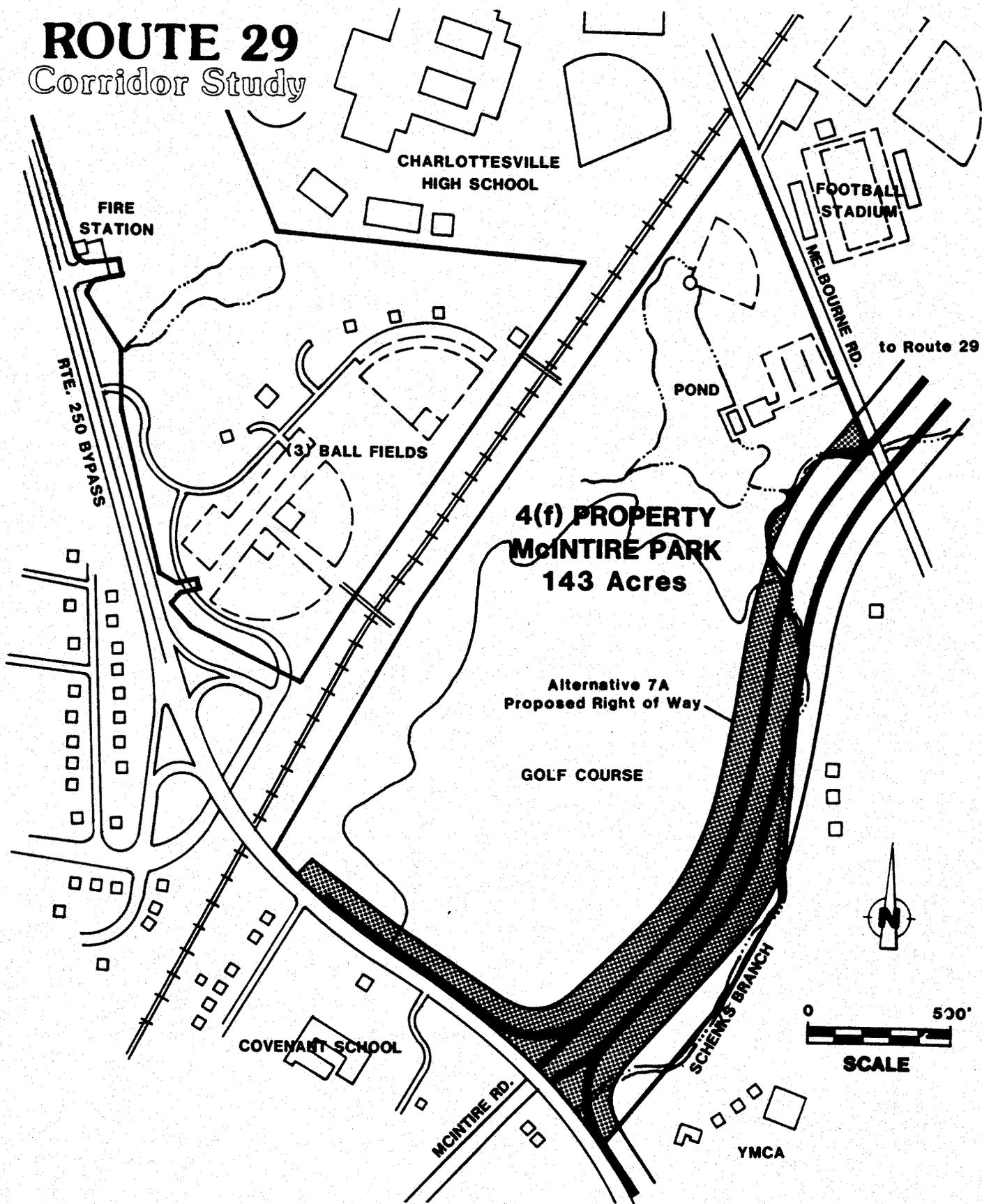
f. Access

Access to the park is principally by automobile. Pedestrian access is restricted to the west and south due to Route 250 Bypass. The valley formed by Schenks Creek to the east also limits pedestrian access. The railroad corridor prohibits any direct access between the eastern and western portions of the park.

g. Relationship to Similarly Used Lands

To the north, McIntire Park abuts the Charlottesville High School grounds, allowing a blending of the expanse of fields and woods. East of Schenks Branch is a well developed residential area; the tennis courts are also bounded by residences to the east. Two other large parks, Pen Park and Rivanna Park, are located within two miles of McIntire Park.

ROUTE 29 Corridor Study



 **AREA OF POTENTIAL 4(f) INVOLVEMENT**
(11 Acres)

McIntire Park Alternative 7A

h. Applicable Clauses Affecting Ownership

The park is owned by the City of Charlottesville, having been donated by Paul Goodloe McIntire. There is no reversionary clause to the city's title, and section 6(f) does not apply.

i. Unusual Characteristics

McIntire Park has no unusual characteristics.

2. Impacts of Alternative 7A on McIntire Park

The eastern portion of McIntire Park would be impacted by Alternative 7A. Approximately 11 acres along Schenks Branch are within the proposed right-of-way. Alternative 7A tapers from about 250' to 300' wide, and would run almost 2000' in the park north from U.S. Route 250 Bypass. Additionally, limited acreage along the north side of Route 250 Bypass would be required for acceleration and deceleration lanes. Three holes of the nine hole golf course would be taken.

Noise and air quality impacts would result from Alternative 7A. Noise levels would exceed Federal Highway Administration noise abatement criteria by six decibels and increase 20 decibels over existing noise levels within the golf course. Although the tennis courts on McIntire Road would experience noise levels exceeding the noise abatement criteria by nine decibels, existing noise levels are already seven decibels greater than the criteria. The Air Quality Analysis determined that McIntire Park tennis courts would experience increases in carbon monoxide concentrations of 1.8 parts per million for one hour and 1.0 parts per million for eight hours.

The construction impacts will be similar to those stated in the Rivanna and Pen Park discussions. Greater interruption of local traffic flow may occur since the Park is located in a more congested portion of Charlottesville.

Because Alternative 7A follows the natural boundary of Schenks Branch on the eastern portion of the Park, the greatest visual impact may be the bridge which crosses the creek.

3. Avoidance Alternatives

Alternative 7 was developed to avoid the park. Alternative 7 differs from 7A only for the southern terminus. The two alternatives are identical from a point north of Melbourne Road. Alternative 7 runs east of the park impacting several homes and apartments, and ties in at grade with Park Street and Route 250 Bypass. It crosses Route 250 Bypass, runs

behind the tennis courts, takes the Rescue Squad Building, and ties in at-grade with McIntire Road.

Alternative 7, the avoidance alternative, takes no park land, but it would take five more total acres of right-of-way than Alternative 7A. It would displace 24 more families, one more business and one more non-profit organization than Alternative 7A, but it would impact five fewer noise receptors. Alternative 7 would cost about \$2.5 million more than Alternative 7A; construction cost would actually be about \$1.7 million less but right-of-way and utility relocation costs would be about \$4.2 million more.

4. Measures to Minimize Harm

Should Alternative 7A continue to be studied following public and agency review of the Draft Environmental Impact Statement and the Location Public Hearing, all possible measures to minimize harm would be undertaken.

Among the measures likely to be studied would be roadway geometric changes which may lead to further reducing the right-of-way width or merge areas, and providing landscaped screening. Purchase of property for conversion to parkland may be possible. However, contiguous properties appear limited in suitability or access.

Construction activities would involve all necessary permitting, sedimentation, and erosion control, and restoration work.

5. Coordination

Documentation for the McIntire Park included contacts with City staff in the Department of Parks and Recreation, and Department of Community Development. Elected City officials participating in the Joint Transportation Committee on the Route 29 study advised the Project Study Team to maintain both Alternative 7 and Alternative 7A as corridors for this study.

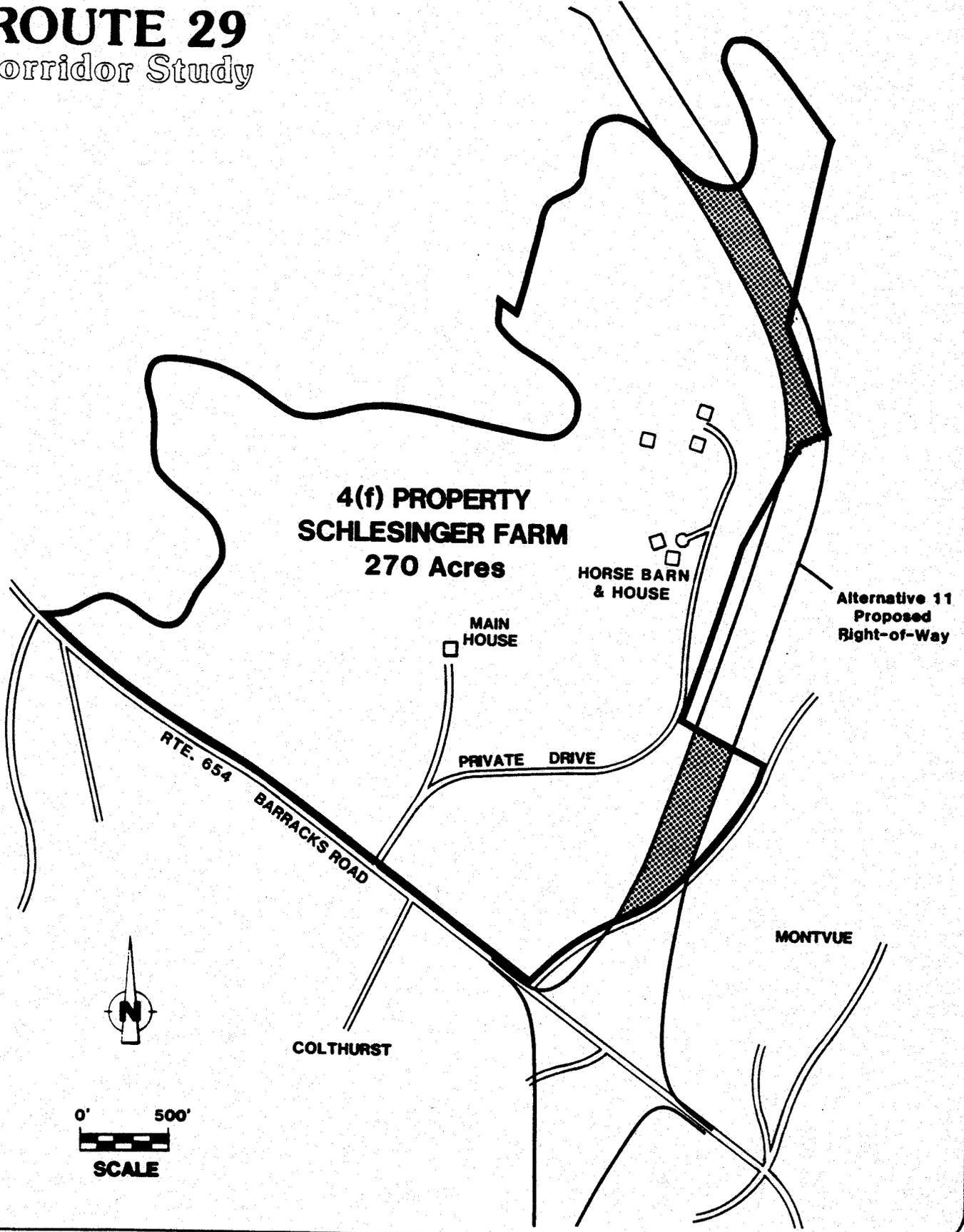
E. SECTION 4(f)/106 EVALUATION ON SCHLESINGER FARM AND THE BARRACKS AS AFFECTED BY ALTERNATIVE 11

1. Description of Schlesinger Farm

a. Relationship to Alternatives

Figures VIII-1 and VIII-3 show the location of Schlesinger Farm in relation to the project alternatives. Figure VIII-7 is a detailed map of the site showing how it would be affected by Alternative 11.

ROUTE 29 Corridor Study



 AREA OF POTENTIAL 4(f)/106 INVOLVEMENT
(17.7 Acres)

Schlesinger Farm
As Affected by Alternative 11

b. Size and Location

The present Schlesinger Farm property totals 270 acres. The size of the property has not changed since it was acquired by Henry Schlesinger in 1937. The property is located in Albemarle County on the north side of Barracks Road about a mile northwest of Bypass 250.

c. Ownership and Type of 4(f)/106 Property

Schlesinger Farm is a privately-owned farm that has been determined by VDHR to be eligible for the National Register of Historic Places. This property appears to have been developed circa 1937 by Henry J. Schlesinger. The property remains in the Schlesinger family.

The main house is a single-story frame building with board-and-batten siding. A large barn is located near the house. Several additional outbuildings are located on the property. The house, barn, and many of the outbuildings appear to retain a high degree of integrity. This property appears to be a relatively rare, intact example of a Depression-era farm. The property boundaries encompass the eligible historic resource.

d. Function

There are no public activities on this property.

e. Facilities

There are no public facilities.

f. Access

Access to the property is by private drive from Barracks Road.

g. Relationship to Similarly Used Lands

Other privately owned farm properties some of which have been determined to be eligible for the National Register are located throughout Albemarle County.

h. Applicable Clauses Affecting Ownership

Research of property deeds did not reveal any reversionary clause affecting this property.

i. Unusual Characteristics

This property has no unusual characteristics other than those described which make the property eligible for the National Register.

2. Description of The Barracks

a. Relationship to Alternatives

Figure VIII-1 and VIII-3 show the location of The Barracks in relation to the project alternatives. Figure VIII-8 is a detailed map of the site showing how it would be affected by Alternative 11.

b. Size and Location

The historic site includes three separately owned parcels, The Barracks, the Farm Manager's House, and Barrackside Farm. Together they total 335 acres. The property is located in Albemarle County north of Ivy Farm subdivision at the end of Route 658.

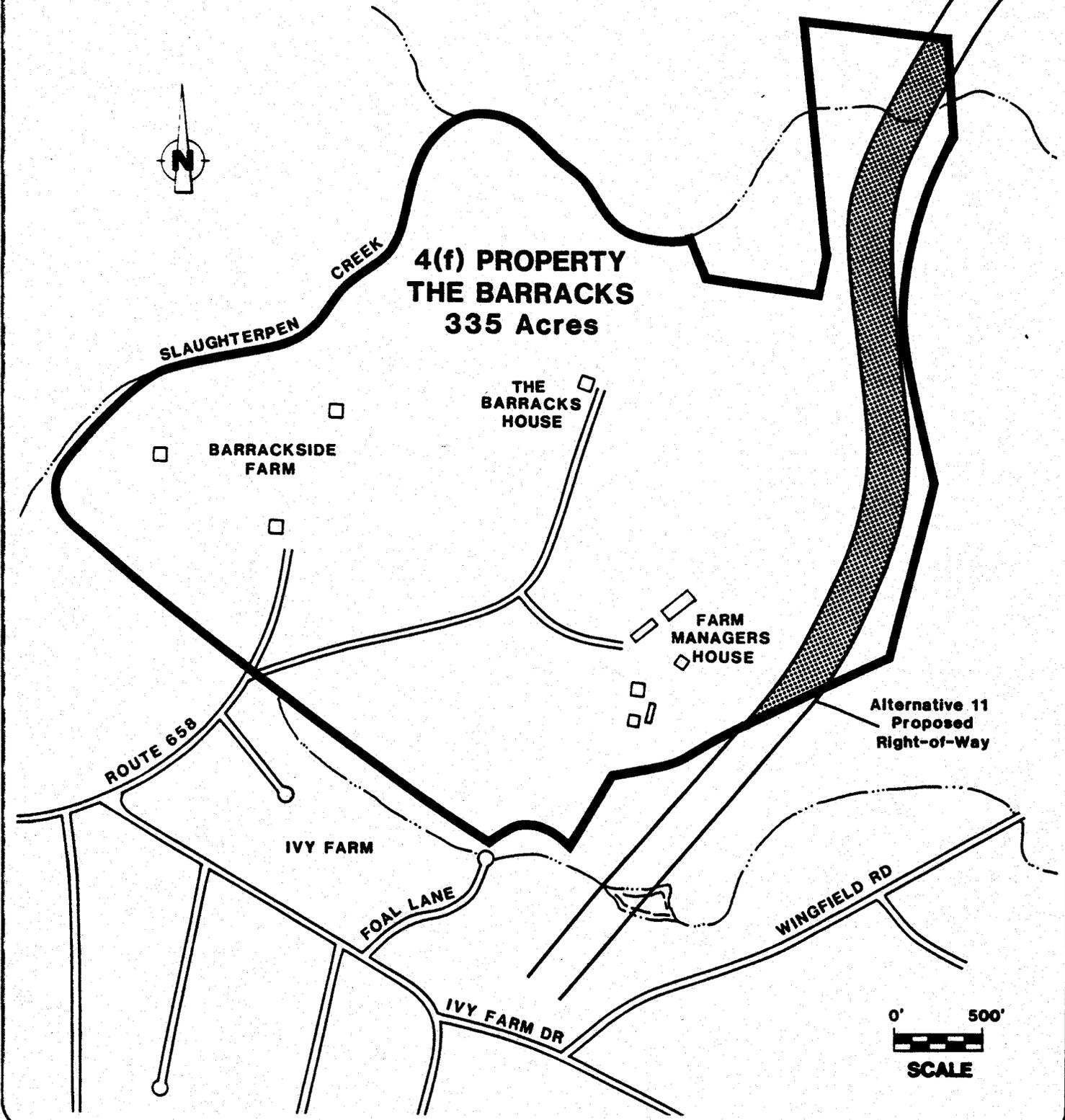
c. Ownership and Type of Property

The Barracks consists of privately-owned properties that have been determined by VDHR to be eligible for the National Register of Historic Places.

Thomas Garth acquired the 1,616-acre Barracks property, site of a prisoner-of-war camp during the Revolutionary War, in 1811. Garth willed 875 acres of the property to his son Garland Garth in 1812.

Garland Garth erected the house presently known as The Barracks in 1819. Garland Garth lived in The Barracks until 1862, when business reverses forced him to sell the house and 597 acres, acting through his son Garland A. Garth, to George Carr. The Barracks property consists of the large house built by Garland Garth in 1819, its associated gardens, and a group of 1930's outbuildings and cottages. The integrity of the main house and its grounds are excellent. The interior of the house retains much of its original plan and trim.

ROUTE 29 Corridor Study



 AREA OF POTENTIAL 4(f)/106 INVOLVEMENT
(30.6 Acres)

The Barracks
As Affected by Alternative 11

The Barracks Farm Manager's House appears to date from the mid-twentieth century. It is a one-and-one-half-story vernacular style frame building on a concrete-block foundation. The interior trim appears to date from ca. 1930s. The building may have been erected as a residence for the manager of The Barracks Farm.

The Barrackside Farm was included within The Barracks tract until 1892. Following the death of George Carr, George Carr, Jr., received this portion of his father's farm. The property has remained in the Carr family until the present. The property presently includes three houses, two of which appear to date from the mid-nineteenth century, a large, deteriorated barn, and an assortment of outbuildings. The older houses, both of which have been greatly altered over the years, were probably tenant houses associated with the period when this property was a portion of the larger Barracks tract. The third house is a single-story frame cottage with two large additions that may have been constructed in the late nineteenth century as the residence of George T. Carr.

d. Function

There are no public activities on these properties.

e. Facilities

There are no public facilities on these properties.

f. Access

Access is from Route 658.

g. Relationship to Similarly Used Lands

There are other privately-owned farm properties located throughout Albemarle County some of which have been determined to be eligible for the National Register.

h. Applicable Clauses Affecting Ownership

Research of property deeds did not reveal any reversionary clauses affecting these properties.

i. Unusual Characteristics

These properties have no unusual characteristics.

3. Impacts of Alternative 11 on Schlesinger Farm and The Barracks

The 300 foot wide right-of-way for Alternative 11 would take 17.7 acres along the eastern edge of the Schlesinger Farm property. The closest distance to the main house from the edge of pavement would be about 800 feet.

Alternative 11 would traverse the eastern edge of The Barracks site and would take 30.6 acres. The closest that the edge of pavement would come to the Farm Manager's House would be 450 feet and the closest it would come to the main Barracks house would be 1600 feet. In addition to the taking of property, the proximity of this alternative would constitute adverse visual effects.

4. Avoidance Alternatives

The other two west side alternatives, Alternatives 10 and 12, have the same southern terminus as Alternative 11 and provide similar traffic service. Alternative 12; however, also takes a part of the Schlesinger Farm property. Alternative 10 takes no 4(f) properties. Alternative 10; therefore, will be considered as the 4(f) avoidance alternative to Alternative 11.

Compared with Alternative 11, Alternative 10 is four miles shorter, takes 148 fewer acres, and costs \$20.8 million less. Alternative 10 would displace two more families and five more businesses than Alternative 11, and it would impact 13 more noise receptors.

5. Measures to Minimize Harm

Should Alternative 11 continue to be studied following public and agency review of the DEIS and the Location Public Hearing, all possible measures to minimize harm to the Schlesinger Farm and The Barracks would be undertaken. Among the measures to be considered will be reducing the roadway typical section to reduce takings of these historic sites and providing landscaped screening to reduce visual impacts.

6. Coordination

Coordination has been carried out with the Virginia Department of Historic Resources in identifying potential historic structures and project impacts. VDHR made the determination that both Schlesinger Farm and The Barracks are eligible for the National Register.

Should Alternative 11 be selected, an appropriate memorandum of agreement will be executed among VDOT, VDHR, and FHWA, in accordance with Section 106 of the Historic Preservation Act. The memorandum of agreement will outline measures to be taken to minimize adverse impacts to these historic properties. The measures will be developed in close coordination with VDHR.

F. SECTION 4(f)/106 EVALUATION ON SCHLESINGER FARM AS AFFECTED BY ALTERNATIVE 12

1. Description of Schlesinger Farm

The description of Schlesinger Farm was presented in Section E.1. Figure VIII-9 is a detailed map of how the property would be affected by Alternative 12.

2. Impacts of Alternative 12 on Schlesinger Farm

The 300 foot wide right-of-way for Alternative 12 would take 25.2 acres along the eastern edge and in the northern portion of the Schlesinger Farm property. The closest distance to the main house from the edge of pavement would be about 500 feet. In addition to the taking of property, the proximity of Alternative 12 to the farm would constitute an adverse visual effect.

3. Avoidance Alternatives

The two other west side alternatives have the same southern terminus as Alternative 12 and provide similar traffic service. Alternative 11; however, also takes a part of the Schlesinger Farm property. Alternative 10, which takes no 4(f) properties, will be considered the avoidance alternative to Alternative 12.

When compared with Alternative 12, Alternative 10 is 7.5 miles shorter, requires 175 fewer acres and costs \$89.5 million less. Alternative 10 would displace four fewer families and three more businesses and it would impact 10 more noise receptors than Alternative 12.

4. Measures to Minimize Harm

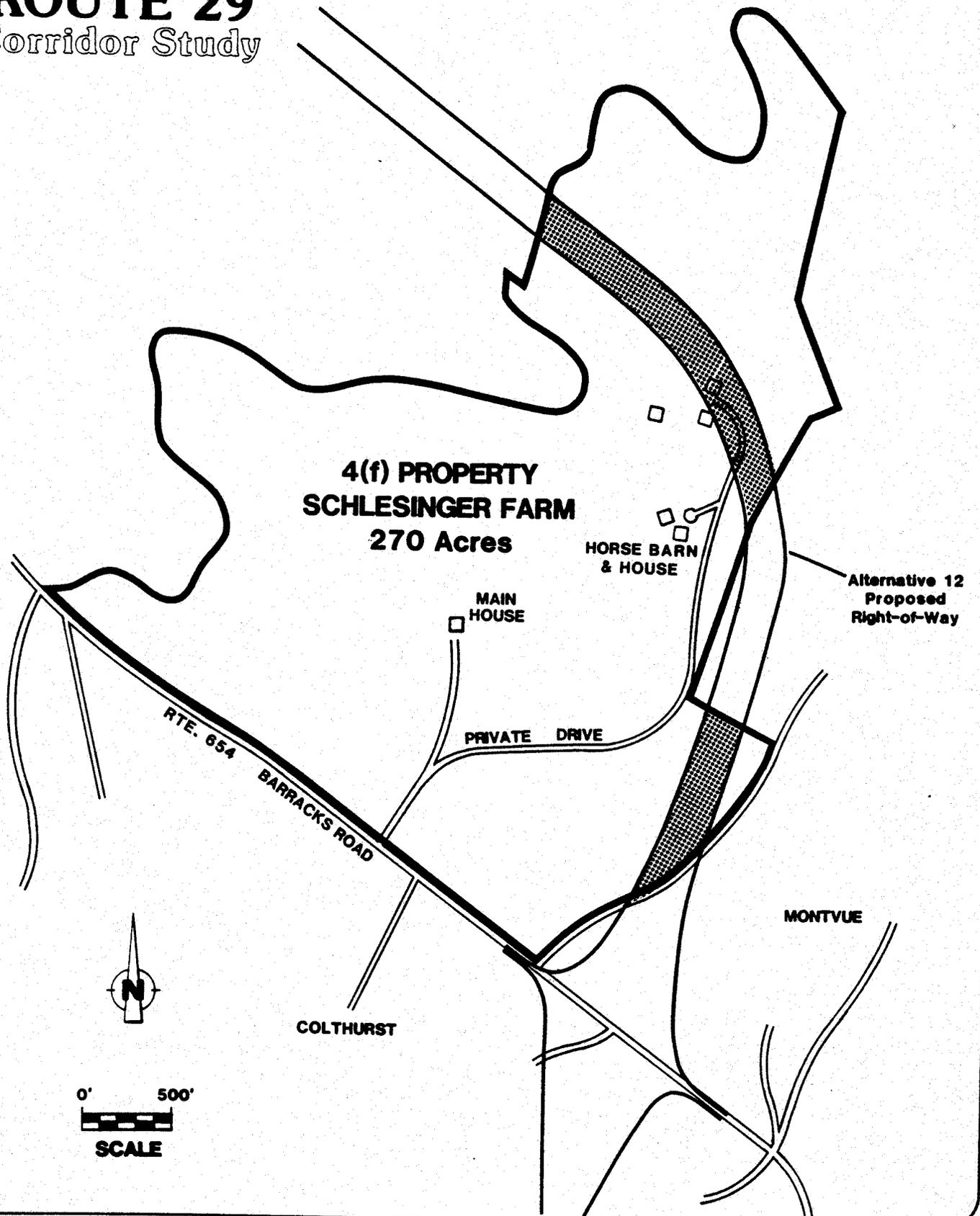
Should Alternative 12 continue to be studied following public and agency review of the DEIS and the Location Public Hearing, all possible measures to minimize harm to the Schlesinger Farm would be undertaken. Among the measures to be considered will be reducing the roadway typical section to reduce the amount of land required from this historic site and providing landscaped screening to reduce visual impacts.

5. Coordination

Coordination has been carried out with the Virginia Department of Historic Resources in identifying potential historic structures and project impacts. VDHR made the determination that Schlesinger Farm is eligible for the National Register.

Should Alternative 12 be selected, an appropriate memorandum of agreement will be executed among VDOT, VDHR and FHWA, in accordance with Section 106 of the Historic Preservation Act. The memorandum of agreement will outline measures to be taken to minimize adverse impacts to this historic property. The measures will be developed in close coordination with VDHR.

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 AREA OF POTENTIAL 4(f)/106 INVOLVEMENT
(25.2 Acres)

Schlesinger Farm
As Affected by Alternative 12

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APPENDIX A

Quantitative Evaluation Data for Conceptual Alternatives

ALTERNATES	FAR EAST					NEAR EAST					ROUTE 29				
	1	1A	2	2B	3	3B	4	4B	5	5B	⑥	⑦	8	⑨	BASE CASE
TRAFFIC															
Facility Level of Service (LOS)	C*	C*	C*	C*	C*	C*	C*	C*	C*	C*	C*	C*	F	D	F
LOS @ Rte. 29 N @ Rio Road**	NEAR	NEAR	NEAR	NEAR	NEAR	NEAR	NEAR	NEAR	NEAR	NEAR	NEAR	OVER	UNDER	UNDER	NEAR
LOS @ Rte. 29 @ Hydraulic Road**	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	NEAR	UNDER	UNDER	OVER
% Diverted from Rte. 29 @ Hydraulic Road															
Local	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	9	36	36	0
Commuter	<1	<1	1	1	1	1	4	4	4	4	14	28	96	96	0
Through	41	41	46	46	46	46	47	47	47	47	20	20	100	100	0
Total	3	3	4	4	4	4	5	5	5	5	6	15	58	58	0
% Diverted from Emmet St. @ Barracks Road															
<1	<1	<1	<1	<1	<1	<1	<5	<5	<5	<5	<10	<30	>5	>5	0
SOCIO-ECONOMIC ENVIRONMENT															
Archaeological Sites															
Known archaeological sites (# taken)	0	0	1	1	0	0	0	0	2	2	1	1	0	0	0
Known archaeological sites (w/in 1/4 mi.)	0	1	3	4	0	1	0	1	2	3	9	13	0	0	0
Potential areas for pre-historic archaeological sites (acres)	207	408	219	420	285	486	225	426	171	372	233	150	0	0	0
Potential areas for historic archaeological sites (acres)	85	148	63	104	62	103	48	89	42	83	14	8	0	0	0
Businesses (# taken)	0	0	2	3	2	3	6	7	3	4	1	1	19	36	0
Businesses access relocated (#)	0	0	2	2	2	2	4	4	2	2	1	0	3	3	0
Cemeteries (# taken)	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0
Cemeteries (w/in 1/4 mi.)	6	11	6	10	4	8	3	7	6	10	5	4	0	0	0
Churches (# taken)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Churches (w/in 1/4 mi.)	2	3	1	2	2	3	1	2	2	3	1	1	1	1	1
Commercial and Industrial Area (Existing) Acres	0	0	6	8	5	7	14	16	5	7	6	1	24	45	3
Commercial and Industrial Areas (Zoned) Acres	0	0	57	57	57	57	74	74	75	75	43	18	25	49	3
Commercial and Industrial Land Designated in the Comprehensive Plan (Acres)	0	0	57	57	57	57	74	74	75	75	46	18	25	49	3
Historical Sites															
National Register Listed or Eligible or Potential (#)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Sites (#)	2	3	0	0	0	0	0	0	2	2	0	0	0	0	0
National Register Listed or Eligible (w/in 1/4 mi.)	6	12	7	10	5	8	3	6	5	6	1	1	0	0	0
National Register (Potential) Districts (w/in 1/4 mi.)	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
Other Sites (w/in 1/4 mi.)	38	47	23	24	19	20	14	15	26	29	11	11	0	0	0
National Register Listed or Eligible (acres)	0	0	0	21	0	21	0	21	0	21	0	0	0	0	0
National Register Potential District (acres)	372	372	280	280	252	252	245	245	152	152	48	0	0	0	0
National Register—Listed View Sheds (w/in 1/4 mi.)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Medical facilities (w/in 1/4 mi.)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Neighborhoods (# traversed)	1	4	1	5	1	5	1	5	2	7	2	2	0	0	0
Parks (acres)	0	0	0	0	0	0	0	0	0	0	37	17	0	0	0
Other public/recreation areas (w/in 1/4 mi.)	0	0	0	0	1	1	1	1	0	0	0	2	0	0	0
Residences (# taken)	12	22	10	28	9	27	15	33	13	31	8	17	1	1	0
Residences (w/in 1/4 mi.)	160	237	129	272	138	281	192	335	134	277	318	586	353	353	353
Residential (existing) (acres)	26	42	21	45	17	41	27	51	32	56	11	16	1	1	0
Residential (zoned) (acres)	0	0	31	69	36	74	38	76	70	108	155	164	0	0	0
Residential land designated in Comprehensive Plan (acres)	0	0	31	31	31	31	55	55	62	62	149	151	0	0	0
Schools (# taken)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Schools (w/in 1/4 mi.)	0	0	0	0	0	0	0	0	0	0	0	3	2	2	2
Major streets crossed (#)	2	7	1	5	1	5	1	5	1	5	1	1	2	2	2
Minor streets crossed (#)	4	11	7	10	7	10	6	9	3	6	3	4	9	9	9
NATURAL ENVIRONMENT															
Agricultural and Forestal Districts (acres)															
Bridge structures over Rivanna Reservoir & its major tributaries total length (feet) number	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Farmland (acres)	179	368	217	323	218	325	200	306	115	222	143	124	0	0	0
Prime Farmland Soils (acres)	103	56	77	100	69	92	54	77	38	61	72	58	1	2	0
Floodplains (acres)	43	75	19	43	49	73	23	47	28	52	27	23	0	0	0
Major Stream Crossings (#)	8	15	6	17	4	15	4	15	5	16	4	3	0	0	0
Conservation Easements (acres)	0	0	0	0	15	15	3	3	0	0	0	0	0	0	0
Rare and Endangered Species (w/in 1/4 mi.)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Scenic Roads & Rivers Crossed (#)	1	3	1	3	1	3	1	3	1	3	1	0	0	0	0
Unique Habitats (acres)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reservoir Watersheds (acres)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wetlands (acres)	24	38	19	31	16	28	15	27	14	26	4	6	0	0	0
Woodlands (acres)	400	835	251	394	241	385	165	309	179	322	179	143	3	5	0
ENGINEERING															
Total length (mi.)	16.1	33.6	13.2	29.1	12.5	28.4	10.3	26.2	8.1	24.0	8.9	7.2	3.3	3.3	3.0
Construction Cost (\$ millions)	192.8	384.5	147.3	344.2	144.4	341.3	118.5	315.4	89.5	286.5	78.9	52.2	130.3	138.2	15.6
Right-of-Way Cost (\$ millions)	6.8	13.0	18.8	29.0	18.3	28.5	20.6	30.8	24.7	34.9	32.9	15.4	14.4	28.7	1.1
Engineering Cost (\$ millions)	23.1	46.1	17.7	41.3	17.3	41.0	14.2	37.8	10.7	34.4	9.5	6.3	17.8	18.9	2.0
Total Cost (\$ millions)	222.7	443.6	183.8	414.5	180.0	410.8	153.3	384.0	124.9	355.8	121.3	73.9	162.5	185.8	18.7
Average Cost/mi. (\$ millions)	13.8	13.2	13.9	14.2	14.4	14.5	14.9	14.7	15.4	14.8	13.6	10.3	49.2	56.3	6.2
Interchanges (#)	4	11	4	7	4	7	4	7	4	7	4	3	2	2	0
Tunnels (#)	1	2	0	1	0	1	0	1	0	1	0	0	0	0	0
Cuts/fills over 80 ft. (length in feet)	150	550	350	750	350	750	700	1,100	1,550	1,950	300	0	0	0	0

* Level of Service C or better ○ = Recommended by Project Study Team
 ** Under capacity
 Near Capacity
 Over Capacity

ALTERNATES	ROUTE 29		NEAR WEST					FAR WEST								
	BASE CASE	8	9	10	11	12	13	13C	13D	14	14C	14D	15	15C	15D	
TRAFFIC																
Facility Level of Service (LOS)	F	F	D	C*	C*	C*	C*	C*	C*	C*	C*	C*	C*	C*	C*	
LOS @ Rte. 29 N @ Rio Road**	NEAR	UNDER	UNDER	UNDER	NEAR	NEAR	NEAR	NEAR	NEAR	NEAR	NEAR	NEAR	NEAR	NEAR	NEAR	
LOS @ Rte. 29 @ Hydraulic Road**	OVER	UNDER	UNDER	NEAR	NEAR	NEAR	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	OVER	
% Diverted from Rte. 29 @ Hydraulic Road																
Local	0	36	36	10	3	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Commuter	0	96	96	22	25	23	4	4	4	2	2	2	2	2	2	
Through	0	100	100	100	100	100	59	59	59	60	60	60	60	60	60	
Total	0	58	58	21	18	16	5	5	5	5	5	5	5	5	5	
% Diverted from Emmet St. @ Barracks Road	0	>5	>5	<10	<20	<15	<1	<1	<1	<1	<1	<1	<1	<1	<1	
SOCIO-ECONOMIC ENVIRONMENT																
Archaeological Sites																
Known archaeological sites (# taken)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Known archaeological sites (w/in 1/4 mi.)	0	0	0	2	2	2	1	2	1	0	1	0	0	1	0	
Potential areas for pre-historic archaeological sites (acres)	0	0	0	81	169	228	228	333	363	408	467	484	425	489	501	
Potential areas for historic archaeological sites (acres)	0	0	0	15	21	21	69	90	97	76	125	104	79	127	106	
Businesses (# taken)	0	19	36	20	21	21	1	1	1	1	1	1	1	1	1	
Businesses access relocated (#)	0	3	3	2	1	0	0	0	0	0	0	0	0	0	0	
Cemeteries (# taken)	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	
Cemeteries (w/in 1/4 mi.)	0	0	0	2	0	2	3	3	5	6	6	8	10	10	12	
Churches (# taken)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Churches (w/in 1/4 mi.)	1	1	1	0	1	0	1	1	2	1	1	2	3	3	4	
Commercial and Industrial Area (Existing) Acres	3	24	45	5	5	5	1	1	1	1	1	1	1	1	1	
Commercial and Industrial Areas (Zoned) Acres	3	25	49	53	22	45	27	27	27	0	0	0	0	0	0	
Commercial and Industrial Land Designated in the Comprehensive Plan (Acres)	3	25	49	45	41	45	27	27	27	0	0	0	1	1	1	
Historical Sites																
National Register Listed or Eligible or Potential (#)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Other Sites (#)	0	0	0	2	0	0	0	0	1	0	0	1	1	0	2	
National Register Listed or Eligible (w/in 1/4 mi.)	0	0	0	2	5	2	2	7	9	4	9	11	15	20	22	
National Register (Potential) Districts (w/in 1/4 mi.)	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	
Other Sites (w/in 1/4 mi.)	0	0	0	8	3	5	13	14	20	23	24	30	22	23	29	
National Register Listed or Eligible (acres)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
National Register Potential District (acres)	0	0	0	0	0	0	0	0	0	0	0	0	77	77	77	
National Register—Listed View Sheds (w/in 1/4 mi.)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Medical facilities (w/in 1/4 mi.)	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	
Neighborhoods (# traversed)	0	0	0	3	1	1	13	2	3	2	3	4	4	5	6	
Parks (acres)	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	
Other public/recreation areas (w/in 1/4 mi.)	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	
Residences (# taken)	0	1	1	12	18	12	6	10	26	13	17	33	24	28	44	
Residences (w/in 1/4 mi.)	353	353	353	448	310	369	197	256	264	168	227	235	250	309	317	
Residential (existing) (acres)	0	1	1	38	37	23	9	15	52	45	51	8	60	66	103	
Residential (zoned) (acres)	0	0	0	43	59	56	42	42	42	7	7	7	1	1	1	
Residential land designated in Comprehensive Plan (acres)	0	0	0	56	32	48	16	16	16	16	16	16	17	17	17	
Schools (# taken)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Schools (w/in 1/4 mi.)	2	2	2	4	1	1	0	0	0	1	1	1	1	1	1	
Major streets crossed (#)	2	2	2	2	3	3	5	6	6	5	6	6	5	6	6	
Minor streets crossed (#)	9	9	9	2	2	2	5	9	10	7	11	12	8	12	13	
NATURAL ENVIRONMENT																
Agricultural and Forestal Districts (acres)	0	0	0	0	15	42	100	124	124	99	123	123	49	74	74	
Bridge structures over Rivanna Reservoir & its major tributaries total length (feet) number	0	0	0	0	1360	1260	760	760	760	500	500	500	500	500	500	
Farmland (acres)	0	0	0	43	133	186	308	389	401	361	441	454	301	389	402	
Prime Farmland Soils (acres)	0	1	2	26	44	66	118	153	154	113	148	149	132	167	168	
Floodplains (acres)	0	0	0	2	9	9	55	79	77	47	70	69	15	27	25	
Major Stream Crossings (#)	0	0	0	1	4	3	7	9	9	9	11	11	7	10	10	
Conservation Easements (acres)	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	
Rare and Endangered Species (w/in 1/4 mi.)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Scenic Roads & Rivers Crossed (#)	0	0	0	1	1	1	2	2	2	2	2	2	2	2	2	
Unique Habitats (acres)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Reservoir Watersheds (acres)	0	0	0	146	216	253	468	538	538	493	563	563	499	569	569	
Wetlands (acres)	0	0	0	1	7	6	21	53	50	19	50	47	10	35	32	
Woodlands (acres)	0	3	5	116	158	172	190	298	291	344	452	445	430	490	483	
ENGINEERING																
Total length (mi.)	3.0	3.3	3.3	5.2	8.7	10.6	14.0	19.3	19.6	19.5	24.8	25.1	20.2	25.5	25.8	
Construction Cost (\$ millions)	15.6	130.3	138.2	38.8	60.7	77.7	121.0	172.1	172.4	137.3	188.4	188.7	139.6	193.5	193.9	
Right-of-Way Cost (\$ millions)	1.1	14.4	28.7	24.4	17.1	18.2	14.2	15.7	16.7	11.9	13.5	16.0	8.3	9.9	10.7	
Engineering Cost (\$ millions)	2.0	17.8	18.9	4.7	7.3	9.3	14.5	20.7	20.7	16.5	22.6	22.6	16.8	23.2	23.3	
Total Cost (\$ millions)	18.7	162.5	185.8	67.9	85.1	105.2	149.7	208.5	209.8	165.7	224.5	227.3	164.7	226.6	227.9	
Average Cost/mi. (\$ millions)	6.2	49.2	56.3	13.1	9.8	9.9	10.7	10.8	10.7	8.5	9.1	9.1	8.2	8.9	8.8	
Interchanges (#)	0	2	2	4	5	5	6	8	8	6	8	8	7	9	9	
Tunnels (#)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cuts/fills over 80 ft. (length in feet)	0	0	0	0	100	200	100	700	700	0	600	600	0	600	600	

* Level of Service C or better
 ** Under capacity
 Near Capacity
 Over Capacity
 ○ -Recommended by Project Study Team

APPENDIX B

Section 106 Evaluation and Memorandum of Agreement

SECTION 106 EVALUATION
FINDING OF ADVERSE EFFECT ON SCHLESINGER FARM
FINDING OF NO ADVERSE EFFECT ON WESTOVER

Section 106 of the National Historic Preservation Act requires federal agencies to consider the effects of their actions on historic properties. The purpose of Section 106 is to avoid unnecessary harm to historic properties.

For this project, two properties determined by the Virginia Department of Historic Resources (VDHR) to be eligible for the National Register of Historic Places require Section 106 documentation.

A. PROJECT DESCRIPTION

The need for transportation improvements in the Route 29 corridor through Charlottesville, Virginia, has been apparent for many years. For nearly two decades, various studies and planning documents have recommended additional highway capacity and bypasses. Improvements are needed to relieve congestion for local traffic along the highly-developed section of Route 29 north of the City of Charlottesville and to provide a route for through traffic along Route 29 to bypass this congested stretch of highway. In 1987, the Virginia Department of Transportation (VDOT) began the Route 29 Corridor Study, which led to selection of the recommended improvements.

The study initially developed a large number of potential alternatives for bypassing the congestion on Route 29, as well as several expressway options along the existing Route 29 corridor. These were reduced to 26 conceptual alternatives, which were analyzed and presented to the public in June 1988. The analysis included impacts of the alternatives, including potential impacts on historic resources. Eventually, eight Candidate Build Alternatives (seven bypass alignments and an expressway alternative) were selected for detailed study and were developed and analyzed in the Draft Environmental Impact Statement (DEIS) published in May 1990. During the preliminary design process, these alternatives were shifted and refined to minimize to the extent possible the environmental impacts, including those on historic resources.

Based on the DEIS, and on the public and agency comments received during and following a June 1990 public hearing, the Commonwealth Transportation Board in November 1990 selected the proposed improvements in the Route 29 corridor. The proposed improvements include:

1. Construction of improvements already planned and programmed (but held in abeyance until completion of this study) referred to in the DEIS as the "Base Case." These improvements consist of widening the existing four-lane Route 29 to provide six lanes plus two continuous right turn lanes.
2. Preservation of right of way for, and eventual construction of, three grade-separated interchanges on existing Route 29 at Hydraulic Road, Greenbrier Drive, and Rio Road.

3. Preservation of a corridor for, and eventual construction of, a bypass to the west of existing Route 29 along the corridor identified in the DEIS as Alternative 10.

The locations of these improvements are shown in Figure 1.

B. DESCRIPTIONS OF HISTORIC PROPERTIES

Two historic properties determined by the Virginia Department of Historic Resources to be eligible for the National Register of Historic Places are in the vicinity of the Alternative 10 bypass alignment and would be affected by the proposed improvements. These properties, located as shown in Figure 2, are known as the Schlesinger Farm and Westover. The Schlesinger Farm will be adversely affected and Westover will not be adversely affected.

1. Schlesinger Farm

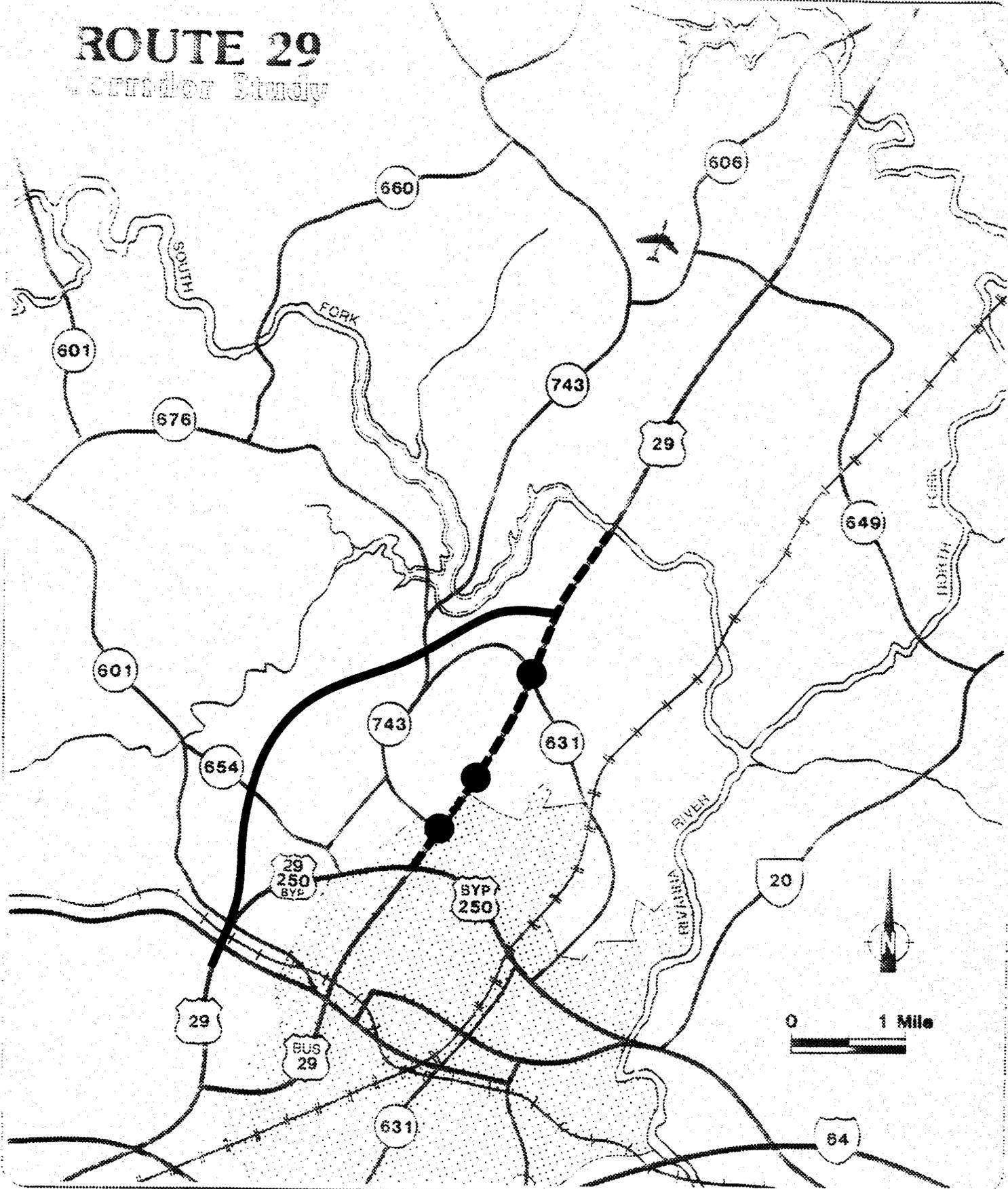
Figure 3 shows the location of the Schlesinger Farm on a U.S. Geological Survey map. The relationship of the property to the selected alternative is shown in Figure 4. This property appears to have been developed ca. 1941 by Henry J. Schlesinger. Schlesinger purchased the 270-acre tract in December 1937 from John Porter Jones. Albemarle County tax records date the existing buildings from 1941. The property remains in the Schlesinger family.

The farm consists of a two-story brick dwelling, a single-story frame house with board-and-batten siding, and a large barn. Photographs of the frame house and barn are reproduced in Figures 5 through 7. The frame house apparently served as a residence of the employee responsible for the farm's horses. Several additional outbuildings are located on the property. The two dwellings, the barn, and many of the outbuildings appear to retain a high degree of integrity.

The present Schlesinger Farm property totals 270 acres. The size of the property has not changed since its acquisition by Henry J. Schlesinger in 1937. The property boundaries encompass the eligible resource. Although the buildings were constructed in 1941, this property is a relatively rare, intact example of a Depression-era farm. It was determined by the Virginia Department of Historic Resources to be eligible for the National Register.

ROUTE 29

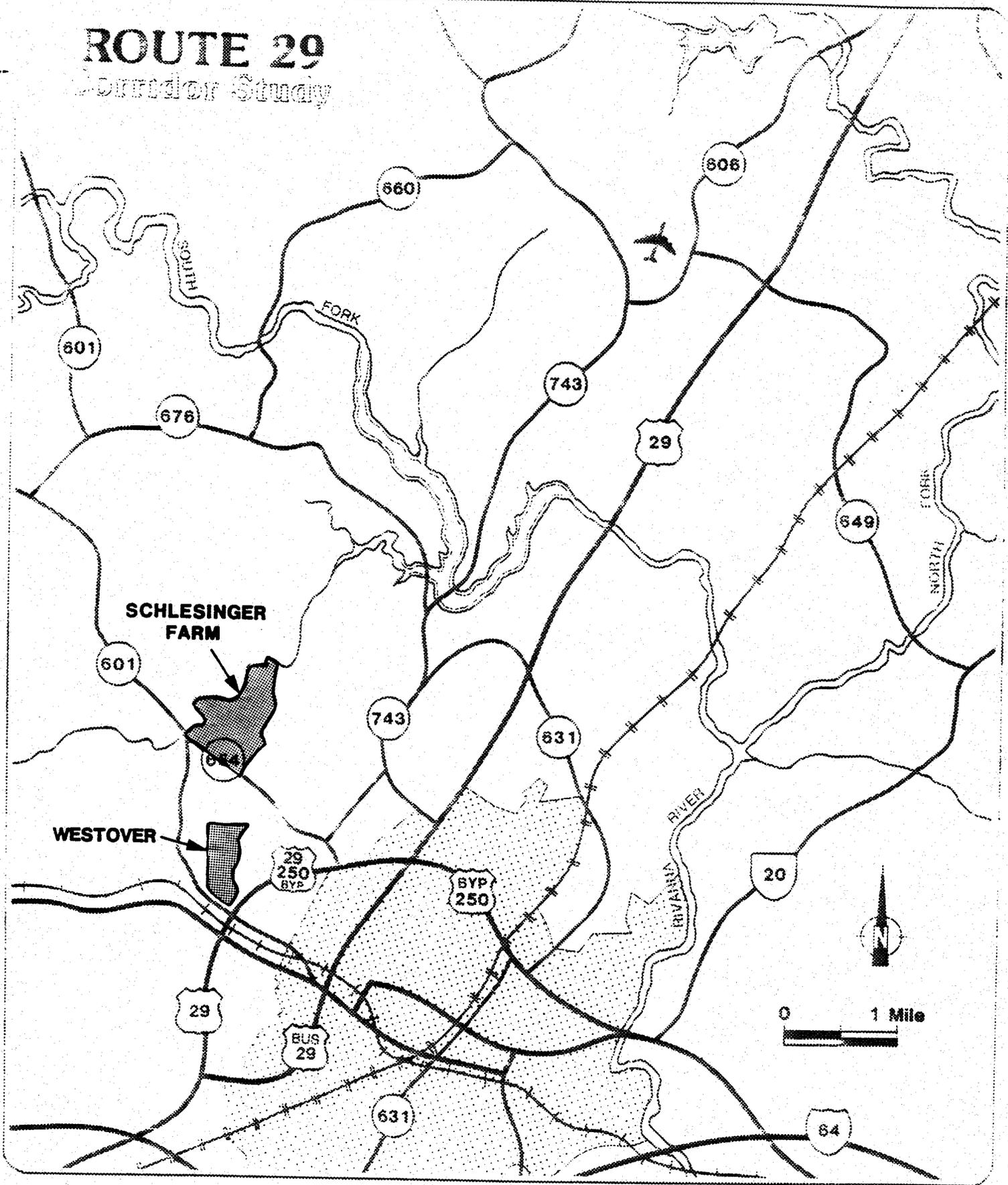
Corridor Study



Proposed Improvements

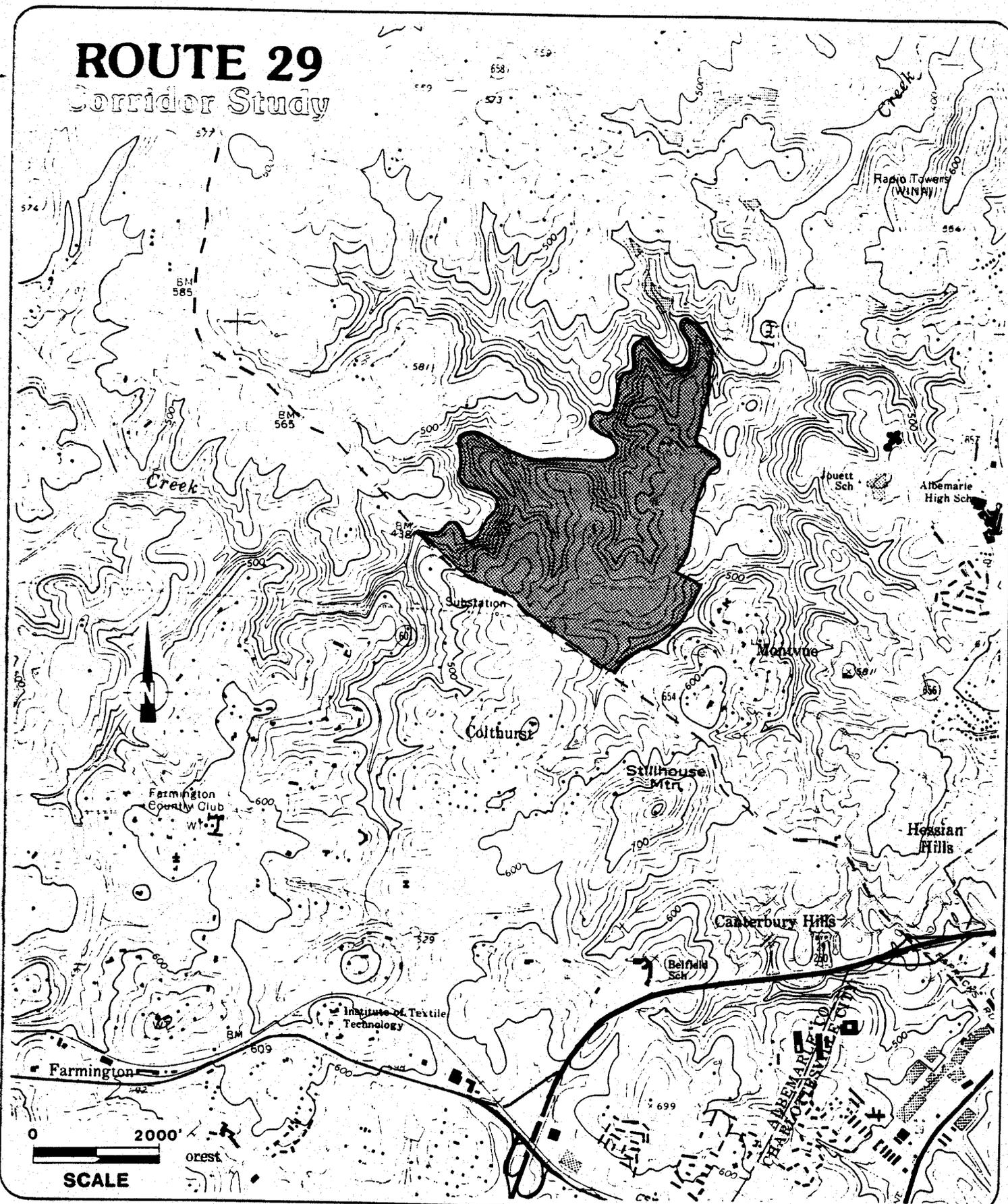
Figure No. 1

ROUTE 29 Corridor Study



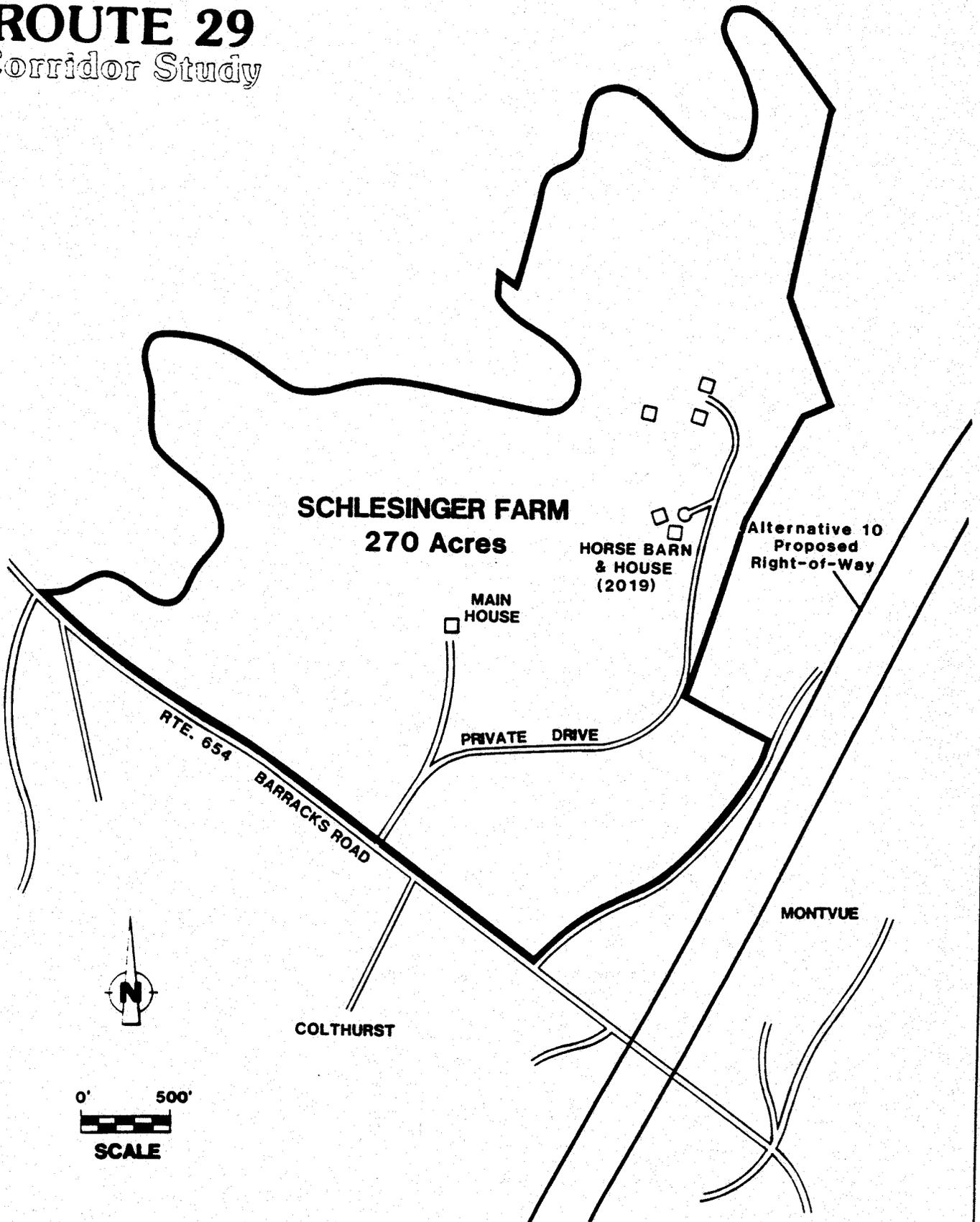
Historic Resources

ROUTE 29 Corridor Study



**Schlesinger Farm
Property Location**

ROUTE 29 Corridor Study



Schlesinger Farm



Schlesinger Farm (JMA No. 2019). House. View to Northeast.



Figure No. 6

Schlesinger Farm (JMA No. 2019). View to Northeast.

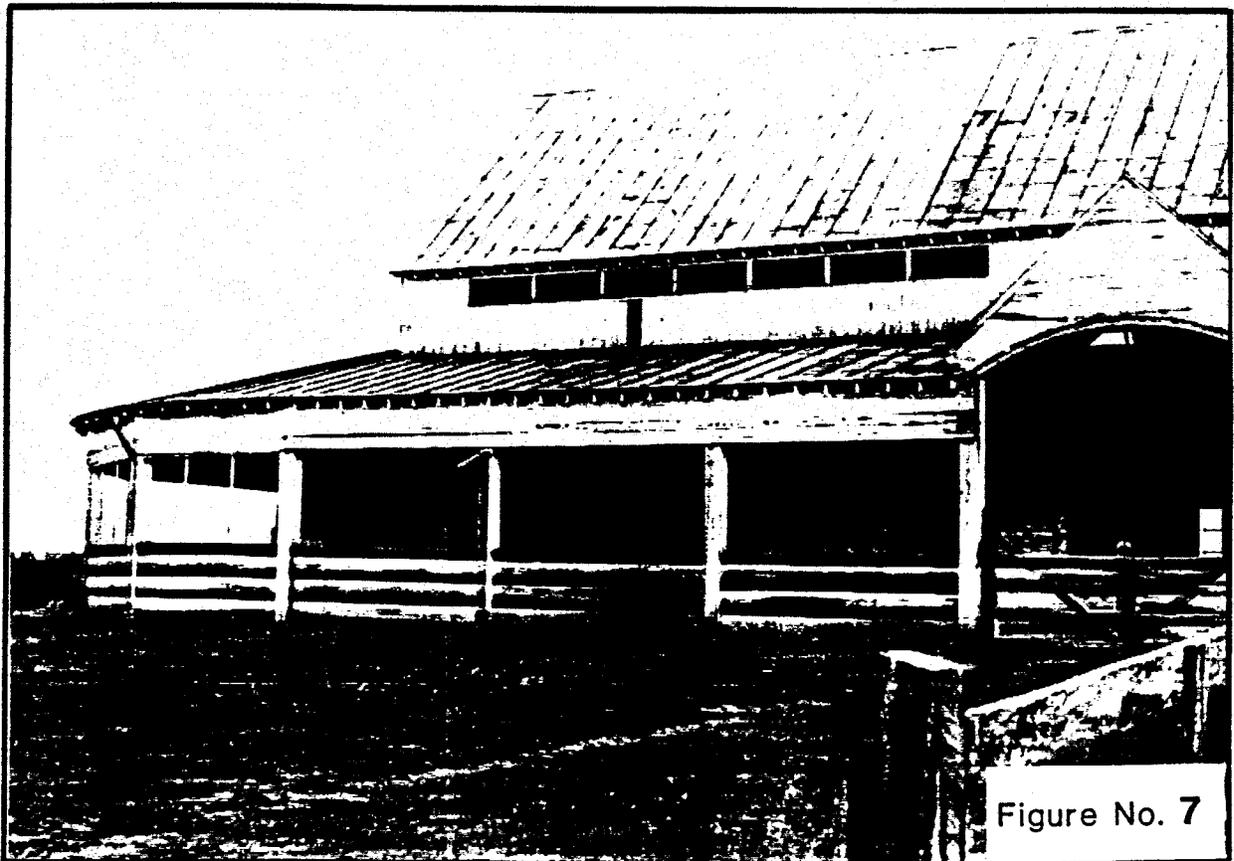


Figure No. 7

Schlesinger Farm (JMA No. 2019). Barn. View to East.

2. Westover

The location of the Westover property on a U.S. Geological Survey map is shown in Figure 8. The relationship of the property to the selected alternative is shown in Figure 9. Westover is a massive stuccoed Classical Revival style mansion house with a pedimented two-story entry portico supported on four large Doric columns. Photographs of the exterior and interior of the house are reproduced in Figures 10 through 12. The house was designed by Richmond architect H. K. Howell. Landscaped grounds, with pergolas and outbuildings, surround the house. The building is a typical example of an early twentieth-century upper-class house. Due to its architectural integrity, both interior and exterior, and its setting, the Virginia Department of Historic Resources has determined the property to be eligible for the National Register.

Percy H. Faulconer constructed this mansion in 1915. He served as president of Rinehart and Dennis Company, railroad contractors, in 1920, and in 1927 was president of Barnes Lumber Company.

Faulconer acquired the Westover property between 1915 and 1919, including buying up virtually all of a subdivision that had been laid out by the Madison Park Corporation on a 220-acre tract in 1910. Percy Faulconer died in 1947, leaving the Westover house and five acres of lawns and gardens to his wife Stella. Upon her death, the property passed to Faulconer's son, Hunter.

Hunter Faulconer continues to live at Westover. He has deeded the property to the Alumni Association of the University of Virginia, with a life estate to the main house and its grounds.

Percy H. Faulconer's 1947 will and Hunter Faulconer's 1986 deed to the Alumni Association both separate the five-acre tract including the main house and gardens from the remainder of the property. All of the Faulconer property west of Faulconer Drive, about 200 acres, was determined by the Virginia Department of Historic Resources to constitute the eligible resource.

C. MEASURES TO MINIMIZE HARM

In 1988, a Phase I historic architectural survey was conducted for standing structures along the corridors of the 27 conceptual alternatives. This survey identified historic buildings potentially eligible for the National Register. Following a June 1988 public meeting, six of the conceptual alternatives were selected as Candidate Build Alternatives for detailed analysis in the DEIS, and two additional Candidate Build Alternatives were developed.

As these Candidate Build Alternatives were undergoing preliminary engineering and design during 1988 and 1989, cultural resource staff met with the project planners and engineers to review the alignments and to suggest refinements to reduce impacts to potentially historic

resources. Numerous shifts were made in the alignments to avoid impacts to these structures and properties.

During the spring of 1990, Phase II architectural investigations were conducted on the historic structures identified along the Candidate Build Alternatives. The objectives of the Phase II investigations were to evaluate the significance of properties potentially eligible for the National Register of Historic Places and to provide data to the Virginia Department of Historic Resources for the determination of eligibility and for determination of the effects of the project on eligible properties. To evaluate the properties, the project team conducted historical research and field examination. Evaluations of effects were based on the field examination and review of the project maps current at that time.

During preparation of the DEIS, the Virginia Department of Transportation and its consultants continued to consult with the Virginia Department of Historic Resources on the eligibility of and the project's effects on each of these properties. Refinements continued to be made in the alignments to avoid, minimize and mitigate impacts to these historic resources. When both the Schlesinger Farm and Westover were determined to be eligible for the National Register, the alignment of Alternative 10 was altered so that it would not encroach on either property.

Following publication of the DEIS and designation of Alternative 10 as part of the selected alternative, the interchanges with Routes 654 and 743 were eliminated from the project design. These interchanges will not be a part of the project unless Albemarle County officials request them at some future time. Elimination of the Route 654 interchange further reduces the visual impact of the project on the Schlesinger Farm property.

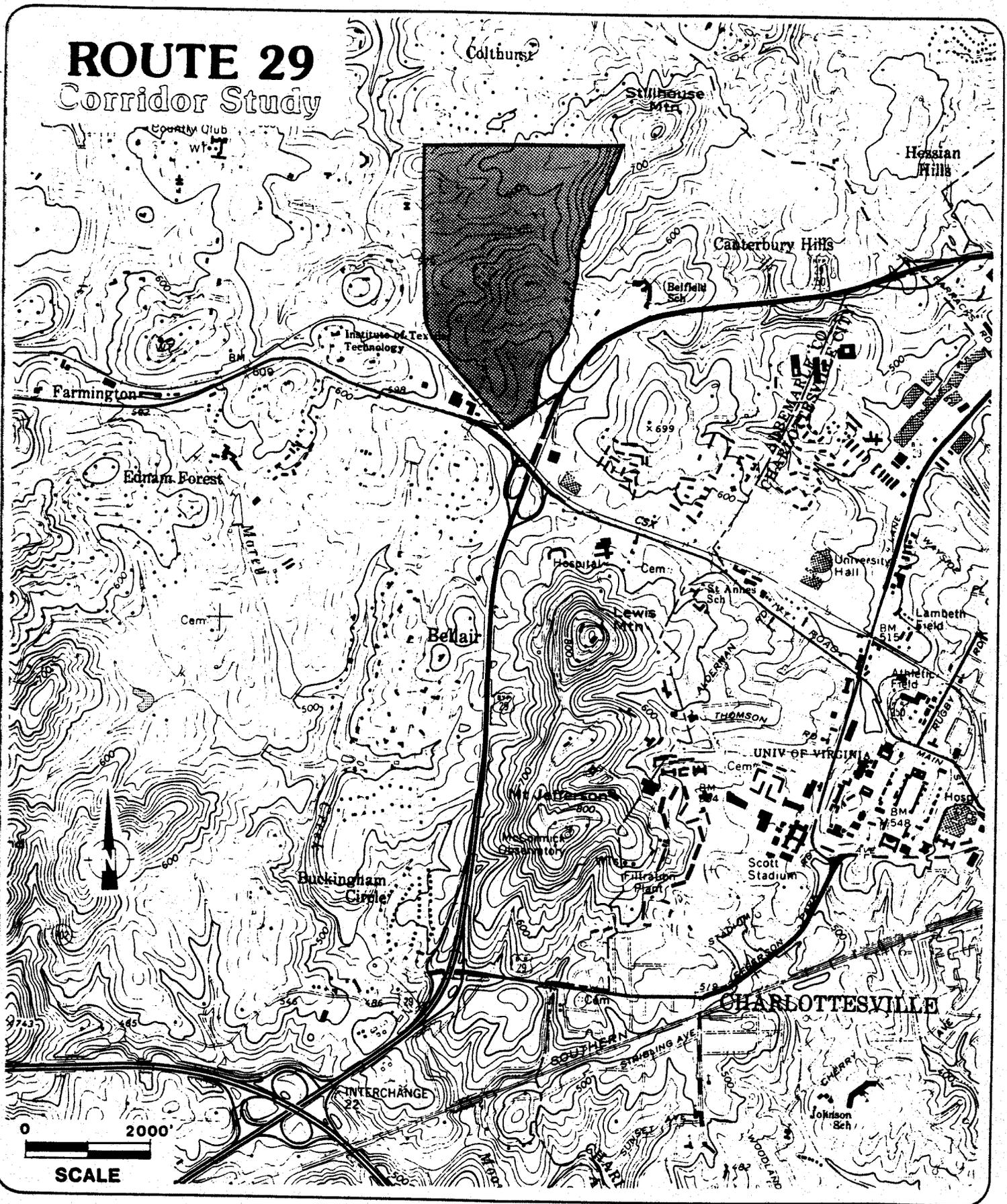
To further ensure that all potential historic resources potentially affected by the project have been identified, additional investigations and reevaluation of surveys on the selected alternative were conducted in late 1991 and early 1992. No additional historic properties were found to be affected.

D. REASONS FOR FINDING OF ADVERSE EFFECT ON SCHLESINGER FARM

The Federal Highway Administration, in conjunction with the Virginia Department of Transportation, found the criteria of adverse effect to be applicable to Schlesinger Farm for this project. The areas of significance identified for this resource could be adversely affected by the project.

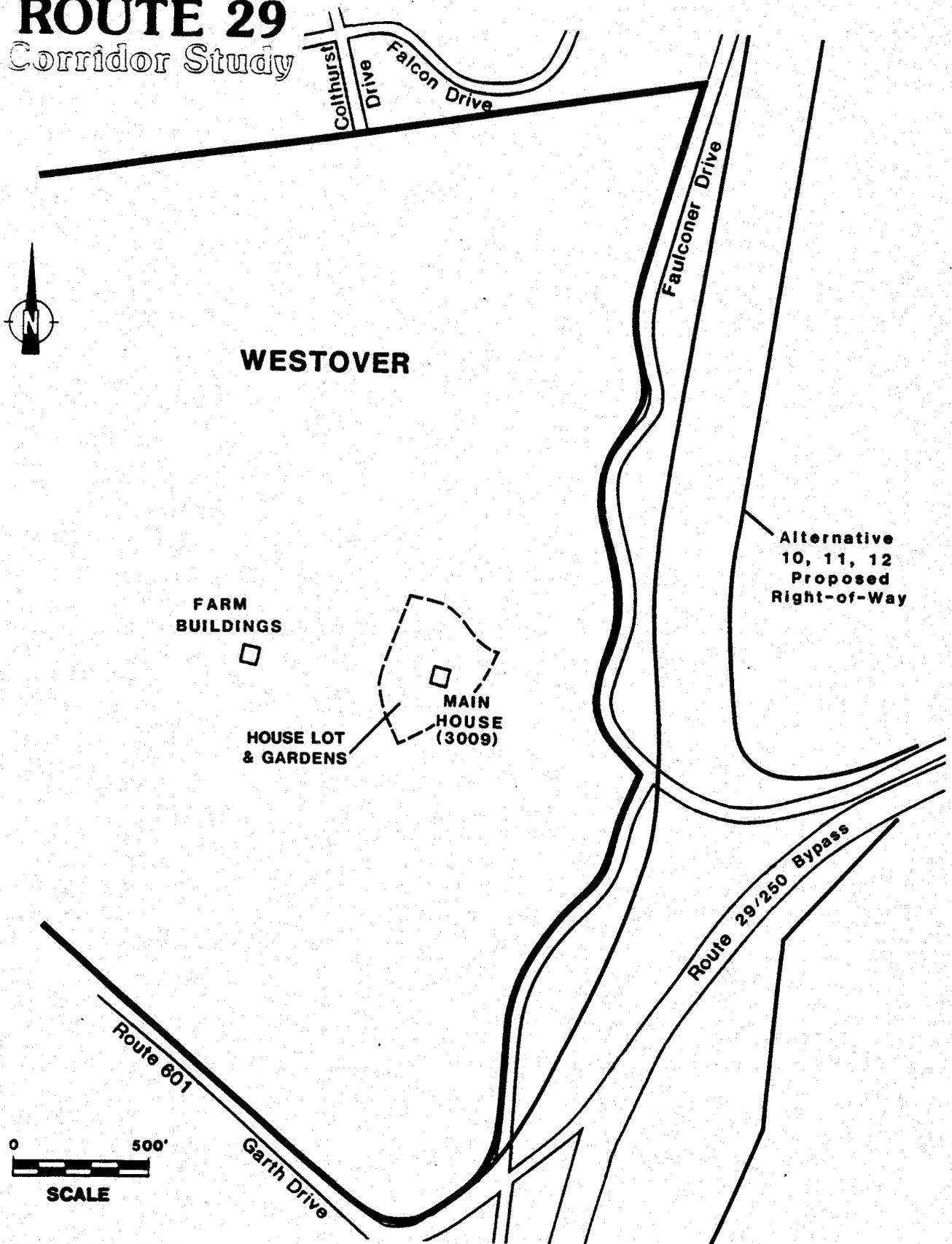
The alignment of Alternative 10 has been shifted to avoid taking any part of the 270-acre Schlesinger Farm property (Figure 4). Two other Candidate Build Alternatives, 11 and 12, require use of portions of the property, but they have not been selected as the preferred alternative. In the Section 4(f) evaluation included as Chapter VIII of the DEIS, Alternative 10 was presented as the "avoidance alternative" to Alternatives 11 and 12, since it avoided taking any part of this historic property. Nevertheless, the proximity of Alternative 10 could still have an adverse effect on the property.

ROUTE 29 Corridor Study

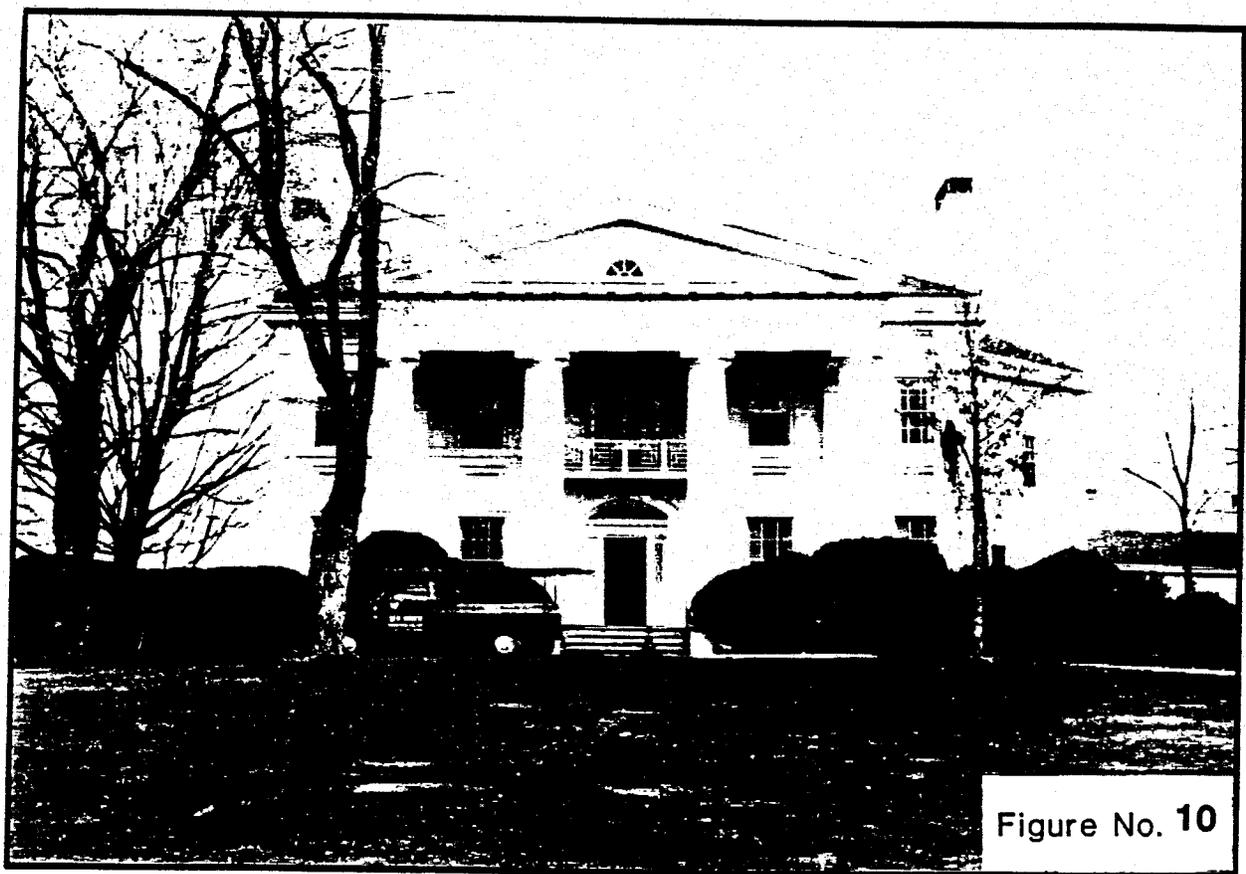


**Westover Property
Location**

ROUTE 29 Corridor Study



Westover



Westover (JMA No. 3009). View to East.



Figure No. 11

Westover (JMA No. 3009). First Floor Interior. View to East.



Figure No. 12

Westover (JMA No. 3009). Main Stairs. View to East.

The right of way for the proposed new highway would be approximately 1500 feet from the nearest building on the property. The highway would be visible from the property. The view of the highway would disturb the tranquil rural setting that is a contributing factor of this historic resource.

Though the elimination of the Route 654 interchange helps to reduce the impact of the project upon Schlesinger Farm, the main line of the highway would still be visible and would cause an adverse impact. The Schlesinger Farm is not open to the public. Therefore, the project will have no effect on public use and enjoyment of the historic resource.

E. REASONS FOR FINDING OF NO ADVERSE EFFECT ON WESTOVER

The Federal Highway Administration, in conjunction with the Virginia Department of Transportation, found the criteria of adverse effect to be not applicable to Westover's historic resources for this project. The areas of significance identified for these resources will not be adversely affected by the project, and the enjoyment by the public of the historic characteristics will not be diminished.

While many citizen comments have been received by VDOT both in support of and in opposition to the proposed project, these comments have expressed very little concern over the possibility of adverse impacts to this and other historic properties.

When the entire portion of the Westover property west of Faulconer Drive was determined to be eligible for the National Register, the alignment of three of the Candidate Build Alternatives, 10, 11, and 12 was shifted to avoid taking any of this resource (Figure 9) This shift occurred shortly before the presentation of the alternatives in the DEIS.

While approximately 200 acres of the property has been determined to constitute the eligible resource, the house and its surrounding five-acre landscaped parcel are the principal features contributing to the property's historic significance. This five-acre parcel was separated from the rest of the property by both Percy Faulconer's 1947 will and by Hunter Faulconer's 1986 deed to the University of Virginia Alumni Association. The project right of way is adjacent to Westover, but it is more than 800 feet from the house and 600 feet from the five-acre parcel, and will have no adverse effect on them.

The property is currently affected by its proximity to the existing Route 29/Route 250 Bypass, which currently has more traffic than is forecast to use the new bypass in the year 2010. In addition, the University could be expected to further impact this historic resource with its future development. While the University is expected to maintain and use the existing mansion, it is likely to develop and build on other parts of the Westover property that surround the house and its five-acre landscaped parcel.

Westover is not open to the public. Therefore, the project will have no effect on public use and enjoyment of the historic resource.

F. COMMENTS FROM STATE HISTORIC PRESERVATION OFFICER

Representatives of the State Historic Preservation Officer (Virginia Department of Historic Resources) met with the Virginia Department of Transportation and its consultants several times during the Route 29 Corridor Study. A June 7, 1990 letter from the SHPO to VDOT (Attachment A) summarizes the decisions regarding historic resources that took place during those meetings. Of the eligible historic structures listed in the letter, three are affected by the selected alternative, Schlesinger Farm, Westover, and Union Ridge Baptist Church.

The reference in the letter to an adverse effect on Schlesinger Farm refers both to Alternatives 11 and 12, which would take a part of this property, and to Alternative 10, which would take none of the property, but would affect it by proximity. Westover is listed in the letter as not being adversely affected.

After reviewing the revised Phase II report in early 1991, the SHPO determined that Union Ridge Baptist Church is not eligible for the National Register. This determination is contained in a March 1, 1991 letter from the SHPO to VDOT.

MEMORANDUM OF AGREEMENT

WHEREAS, the Federal Highway Administration (FHWA), in cooperation with the Virginia Department of Transportation (VDOT), has determined that the implementation of Alternative 10, a near western bypass of U.S. Route 29 near the City of Charlottesville in Albemarle County, Virginia, (FHWA-VA-EIS-90-02-D, State Project 6029-002-122, PE 100) will have an effect upon Schlesinger Farm, a property eligible for inclusion in the National Register of Historic Places, and has consulted with the Virginia State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (Council) pursuant to the regulations (36 CFR Part 800) implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470(f)), and

WHEREAS, The Federal Highway Administration, the State Historic Preservation Officer, and the Virginia Department of Transportation have jointly reviewed the plans and data for the described project and agree that it will have no adverse effect on the National Register-eligible property, Westover, and

WHEREAS, VDOT has participated in the consultation and has been invited to concur in this Memorandum of Agreement,

NOW, THEREFORE, FHWA, VDOT, the Virginia SHPO, and the Council agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account its effects on historic properties.

STIPULATIONS

FHWA will ensure that VDOT takes measures during project design, in addition to those measures taken during preliminary design, to further minimize harm to the Schlesinger Farm historic property. These measures may include adjustments in vertical and horizontal alignment, where feasible and consistent with VDOT standards, safety considerations, and minimization of other adverse project impacts; and the provision of landscaping to reduce the unwanted visual effects of the project on the historic property. Since this is a long-range project, the specific measures cannot be determined until project design begins at some point in the future. When VDOT's final design plans for the roadway and for landscaping in the vicinity of Schlesinger Farm are completed, they will be submitted to the Virginia SHPO and the Council for review and comment.

Should the SHPO or the Council object within 30 days to any plans, specifications, or actions proposed pursuant to this agreement, then FHWA and VDOT shall consult with the objecting party to resolve the objection. If the FHWA determines that the objection cannot be resolved, the FHWA shall forward all documentation relevant to the dispute to the Council. Within 30 days after receipt of all pertinent documentation, the Council will either:

- a. provide the FHWA with recommendations, which the FHWA will take into account in reaching a final decision regarding the dispute; or
- b. notify the FHWA that it will comment pursuant to 36 CFR Part 800.6(b), and proceed to comment. Any Council comment provided in response to such a request will be taken into account by the FHWA in accordance with 36 CFR Part 800.6(c)(2) with reference to the subject of the dispute.

Any recommendation or comment provided by the Council will be understood to pertain only to the subject of the dispute; the FHWA's and VDOT's responsibility to carry out all actions under this agreement that are not the subject of the dispute will remain unchanged.

Execution of this Memorandum of Agreement and carrying out its terms evidences that FHWA has afforded the Council an opportunity to comment on the implementation of Alternative 10, a near western bypass, and its effects on historic properties, and that FHWA has taken into account the effects of the project on historic properties.

Advisory Council on Historic Preservation

By: Robert O. Bush

Date: 10-1-92

Federal Highway Administration

By: James M. Tumlin
For James M. Tumlin, Division Administrator

Date: 8-11-92

Virginia Deputy State Historic Preservation Officer

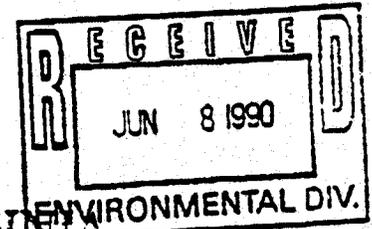
By: H. Bryan Mitchell
H. Bryan Mitchell

Date: 8/4/92

Concur:
Virginia Department of Transportation

By: Earl T. Robb
Earl T. Robb, Environmental Engineer

Date: 8-6-92



COMMONWEALTH of VIRGINIA

Hugh C. Miller, Director

Department of Historic Resources
221 Governor Street
Richmond, Virginia 23219

TDD: (804) 786-1934
Telephone (804) 786-3143
FAX: (804) 225-4261

June 7, 1990

Mr. R.L. Hundley
Environmental Engineer
Virginia Department of Transportation
Memorial Hospital
1201 East Broad Street
Richmond, VA 23219

RE: Route 29 Bypass, Charlottesville
DHR file # 4439-AB/CV

Dear Mr. Hundley:

For some time the Department of Historic Resources has been consulting with VDOT on the Route 29 Bypass study. Several meetings have taken place concerning eligibility of historic standing structures and the potential affects to them. I would like to take this opportunity to summarize those discussions. Following is a list of structures included in the project area, their significance, and the determination of effect:

Chapman Grove Baptist Church	not eligible	
Ridgeway Farm	eligible	no effect- alt 6 adverse effect- alt 6B
Red Hills Farm	eligible	adverse effect
Woodlands	listed NRHP	adverse effect
Retreat	not eligible	
Belvedere	not eligible (interior photos needed)	
John F. Elliot House	not eligible	
Wilton	not eligible	
Schlessinger Farm	eligible	adverse effect

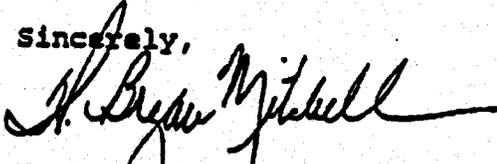
Pleasant Grove Baptist Church	not eligible	
Crenshaw Farm	eligible	adverse effect
Westover	eligible	no adverse effect - with alignment shift
Mount Faulcon	not eligible	
Darbey's Folly	eligible	adverse effect
Gale Hill	not eligible	
Union Ridge Baptist Church	undetermined	undetermined
Barracks Historic District	eligible	adverse effect
Oak Hill	not eligible	
Cochran's Mill	undetermined	no effect
Park Street Historic District (no further work necessary on individual structures in neighborhood)	not eligible	
Albemarle Court House Historic District	listed NRHP	no effect

In addition we have discussed a possible rural historic district in the Garth Road area. Should alternatives 11 or 12 be chosen, we request a phase II significance evaluation for this area.

Two of our staff members visited the project area last month in order to determine the effects on the above properties. While in the field they noticed a structure within one half mile of the center line that had not been surveyed and several structures that were not within one half mile of the center line, but clearly would be affected visually by one or more proposed alternatives. The decision to establish the area of potential effect as one half mile from the centerline was not done in consultation with this office. As you are aware, we do not feel an established measurement from centerline is an appropriate study area for all VDOT projects, particularly those that involve extensive construction of new alignments in areas where roadways of this magnitude are not currently present. We are concerned that additional situations such as this may exist throughout the project area; therefore, upon selection of an alternative, we request a reevaluation of the survey be undertaken to ensure all historic properties have been identified.

We look forward to receiving the final phase II for standing structures and continued consultation on this project. Please contact Elizabeth Hoge if you have any questions regarding our comments to date.

Sincerely,

A handwritten signature in cursive script, appearing to read "H. Bryan Mitchell". The signature is written in black ink and is positioned above the typed name.

H. Bryan Mitchell
Deputy State Historic Preservation Officer

cc: Advisory Council on Historic Preservation

APPENDIX C

Farmland Conversion Impact Rating

FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency) Date Of Land Evaluation Request

Name Of Project: **Route 29 Study-Charlottesville Bypass** Federal Agency Involved: **FHWA/VDOT**
 Proposed Land Use: **Highway - 4-Lane** County And State: **Albemarle County, Virginia**

PART II (To be completed by SCS) Date Request Received By SCS

Does the site contain prime, unique, statewide or local important farmland? Yes No
 (If no, the FPPA does not apply. - do not complete additional parts of this form)
 Acres irrigated: **0** Average Farm Size: **243 acres**
 Major Crop(s): **Pasture Land, Hay** Farmable Land In Govt. Jurisdiction: **Acres: 201,409 % 42.5**
 Name Of Land Evaluation System Used: **N/A** Amount Of Farmland As Defined In FPPA: **Acres: 201,409 % 42.5**
Name Of Local Site Assessment System: **N/A** Date Land Evaluation Returned By SCS:

PART III (To be completed by Federal Agency)

	Alternative Site Rating			
	Alt 6	Alt 6B	Alt 7A	Alt 9
A. Total Acres To Be Converted Directly	373	420	311	24
B. Total Acres To Be Converted Indirectly	0	0	0	0
C. Total Acres In Site	373	420	311	24

PART IV (To be completed by SCS): Land Evaluation Information

A. Total Acres Prime And Unique Farmland	89.5	78.1	78.2	0
B. Total Acres Statewide And Local Important Farmland	283.5	341.9	232.8	24.0
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	.0018	.0020	.0015	.0001
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	0	0	0	0

PART V (To be completed by SCS): Land Evaluation Criterion:
 Relative Value Of Farmland To Be Converted (Scale of 0 to 100 Points)

PART VI (To be completed by Federal Agency)

Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b))	Maximum Points	Alternative Site Rating			
		Alt 6	Alt 6B	Alt 7A	Alt 9
1. Area In Nonurban Use	15	6	12	5	0
2. Perimeter In Nonurban Use	10	4	9	3	0
3. Percent Of Site Being Farmed	20	0	0	0	0
4. Protection Provided By State And Local Government	20	0	0	0	0
5. Distance From Urban Builtup Area	N/A	N/A	N/A	N/A	N/A
6. Distance To Urban Support Services	N/A	N/A	N/A	N/A	N/A
7. Size Of Present Farm Unit Compared To Average	10	10	10	10	0
8. Creation Of Nonfarmable Farmland	25	0	0	0	0
9. Availability Of Farm Support Services	5	5	5	5	5
10. On-Farm Investments	20	0	10	0	0
11. Effects Of Conversion On Farm Support Services	25	0	0	0	0
12. Compatibility With Existing Agricultural Use	10	0	0	0	0
TOTAL SITE ASSESSMENT POINTS	160	25	46	23	5

PART VII (To be completed by Federal Agency)

Relative Value Of Farmland (From Part V)	100				
Total Site Assessment (From Part VI above or a local site assessment)	160	25	46	23	5
TOTAL POINTS (Total of above 2 lines)	260				

Site Selected: Date Of Selection Was A Local Site Assessment Used? Yes No

Reason For Selection:

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency) Date Of Land Evaluation Request

Name Of Project **Route 29 Study-Charlottesville Bypass** Federal Agency Involved **FHWA/VDOT**

Proposed Land Use **Highway - 4-Lane** County And State **Albemarle County, Virginia**

PART II (To be completed by SCS) Date Request Received By SCS

Does the site contain prime, unique, statewide or local important farmland? **Yes** **No**
 (If no, the FPPA does not apply -- do not complete additional parts of this form) Acres Irrigated: **0** Average Farm Size: **243 acres**

Major Crops/ **Pasture land, hay** Farmable Land In Govt. Jurisdiction Acres: **201,409** %: **42.5** Amount Of Farmland As Defined In FPPA Acres: **201,409** %: **42.5**

Name Of Land Evaluation System Used: **N/A** Name Of Local Site Assessment System: **N/A** Date Land Evaluation Returned By SCS:

PART III (To be completed by Federal Agency)

	Alternative Site Rating			
	Alt. 10	Alt. 11	Alt. 12	Site D
A. Total Acres To Be Converted Directly	325	473	500	
B. Total Acres To Be Converted Indirectly	0	0	0	
C. Total Acres In Site	325	473	500	

PART IV (To be completed by SCS) Land Evaluation Information

A. Total Acres Prime And Unique Farmland	48.7	101.7	157.6
B. Total Acres Statewide And Local Important Farmland	276.3	371.3	342.4
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	.0016	.0023	.0024
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	0	0	0

PART V (To be completed by SCS) Land Evaluation Criterion
 Relative Value Of Farmland To Be Converted (Scale of 0 to 100 Points)

PART VI (To be completed by Federal Agency)
 Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b)).

	Maximum Points			
1. Area In Nonurban Use	15	6	12	15
2. Perimeter In Nonurban Use	10	4	8	10
3. Percent Of Site Being Farmed	20	0	9	12
4. Protection Provided By State And Local Government	20	1	5	7
5. Distance From Urban Builtup Area	N/A	N/A	N/A	N/A
6. Distances To Urban Support Services	N/A	N/A	N/A	N/A
7. Size Of Present Farm Unit Compared To Average	10	10	10	10
8. Creation Of Nonfarmable Farmland	25	0	0	0
9. Availability Of Farm Support Services	5	5	5	5
10. On-Farm Investments	20	0	10	10
11. Effects Of Conversion On Farm Support Services	25	0	0	0
12. Compatibility With Existing Agricultural Use	10	0	0	0
TOTAL SITE ASSESSMENT POINTS	160	26	59	69

PART VII (To be completed by Federal Agency)

Relative Value Of Farmland (From Part V)	100			
Total Site Assessment (From Part VI above or a local site assessment)	160	26	59	69
TOTAL POINTS (Total of above 2 lines)	260			

Site Selected: _____ Date Of Selection _____ Was A Local Site Assessment Used? Yes No

Reason For Selection: _____

