



# **CORRIDOR STUDY**

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CITY OF CHARLOTTESVILLE AND ALBEMARLE COUNTY

**PROJECT: 6029-002-122, PE 100**

# **FINAL POSITION PAPER**



**November 9, 1990**



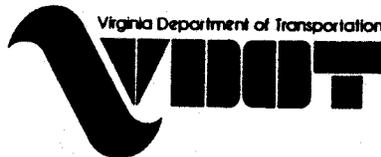
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CONTENTS

A.	PROJECT DESCRIPTION -----	1
1.	Location and General Design Features -----	1
2.	Purpose and Need -----	2
3.	Study Area -----	5
B.	PROJECT HISTORY -----	6
C.	STUDY PROCESS -----	9
D.	ALTERNATIVES -----	12
E.	COMPARATIVE SUMMARY -----	13
1.	Satisfaction of Travel Needs -----	13
2.	Costs -----	16
3.	Displacements -----	17
4.	Land Use -----	18
5.	Reservoir and Watershed -----	19
6.	Parks and Recreation -----	20
7.	Historic and Archaeological Sites -----	21
8.	Noise -----	22
9.	Natural Resources -----	23
10.	Aesthetics -----	24
11.	Constructability -----	25A
F.	COMMENTS AND COORDINATION -----	26
1.	Public -----	26
2.	Local Government Officials -----	28
3.	Agencies -----	29
G.	CONCLUSIONS AND RECOMMENDATIONS -----	31
1.	Conclusions -----	31
2.	Recommendations -----	33
3.	Additional Discussion -----	35
4.	Summary -----	36A

ROUTE 29 CORRIDOR STUDY  
POSITION PAPER

A. PROJECT DESCRIPTION

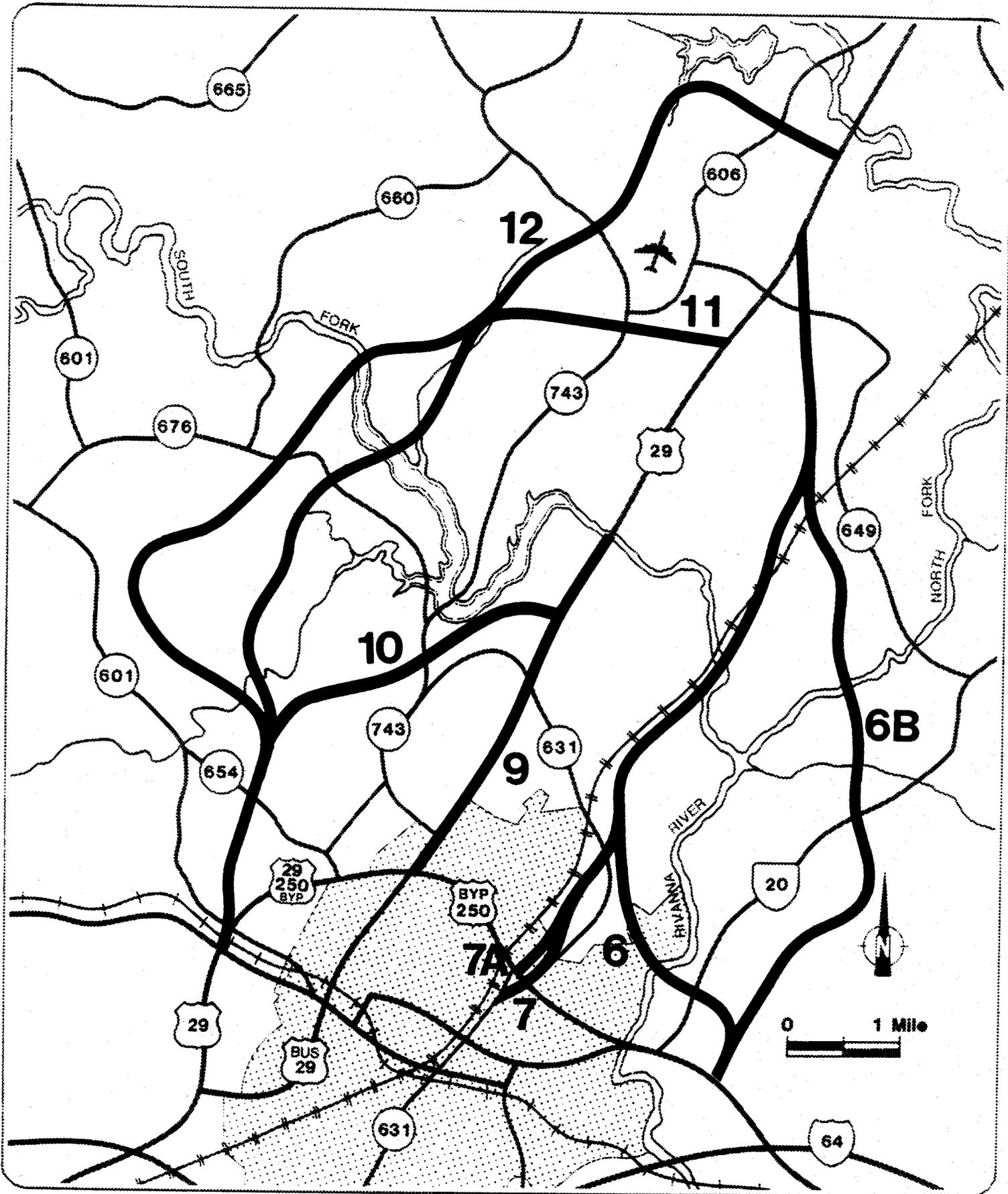
1. Location and General Design Features

As shown on the map on the next page, the project alternatives are located in the U. S. Route 29 corridor in the City of Charlottesville and Albemarle County between the U. S. Route 250 Bypass and the North Fork of the Rivanna River. Alternatives include seven bypass alternatives on new location and an Expressway along existing alignment.

Each bypass alternative would provide a four-lane divided, limited access highway on new location within a right of way approximately 300 feet wide. Grade-separated interchanges would provide access at selected cross roads.

The Expressway alternative, following the alignment of existing Route 29, would provide four express lanes between three-lane service roads on each side. The express lanes, separated from the local lanes by concrete barriers, would be depressed below existing ground level to provide grade separations at cross streets. Slip ramps would connect the express lanes and the service lanes.

The "Base Case" provides for improvements to the existing road programmed by VDOT for several years but delayed pending the outcome of this study. These improvements entail widening the



**Candidate Build  
Alternatives**

existing road to six lanes plus continuous right turn lanes. For this study, it has been assumed that the Base Case improvements will be built regardless of which alternative is selected (except for the Expressway). The Base Case improvements therefore served as the "No Build" alternative, a benchmark against which to compare the other alternatives.

During the study, City and County officials requested that a variant of the Base Case, referred to as the "Base Case with interchanges," be evaluated for its traffic service implications. This option was not evaluated for its social, economic, and environmental impacts.

## 2. Purpose and Need

The purpose of the project is to reduce 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 and to achieve Route 29's function as an arterial highway.

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 through central Virginia is a major part of the designated State Arterial System.

The functional classification of Route 29 is "principal arterial." According to the Highway Capacity Manual, a principal arterial serves major through movements between important centers of activities in a metropolitan area and a substantial portion of

trips entering and leaving the area. In small cities, an arterial's importance is derived from the service provided to traffic passing through the urban area.

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 area.

The section of Route 29 under study is an uncontrolled access, four-lane divided highway with at-grade signalized intersections. It provides direct access to the numerous businesses located along both sides of the road. The growing development, increasing traffic volumes, and the inadequate capacity of the existing road are causing increasing congestion, lower travel speeds, and deteriorating levels of traffic service as this section of Route

29 has become overloaded. The road functions more like an urban street than an arterial route.

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 major route connecting points north of Charlottesville with points south of Charlottesville.

If additional highway capacity is not provided, travel conditions will become steadily worse. Congestion on Route 29 will proliferate. Charlottesville will remain a bottleneck on this important central Virginia arterial.

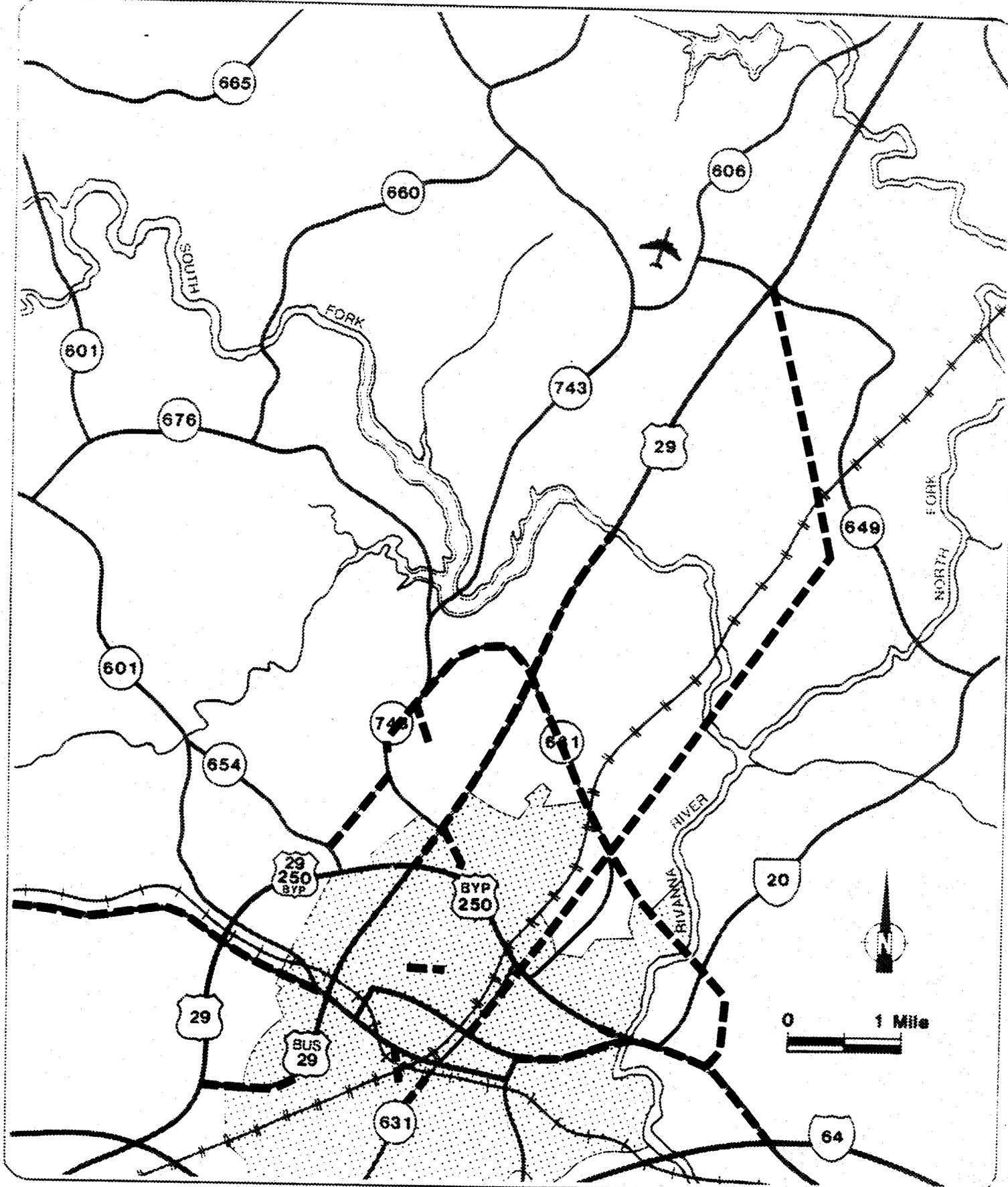
Without improvements to Route 29, continuing growth in travel demand along Route 29 will cause congestion and delay to become intolerable, with long lines of traffic waiting at each stop light. Congested conditions such as this may lead to:

- Traffic, especially local traffic, seeking alternate routes through residential areas and on secondary roads not designed for heavy volumes of traffic;
- More congestion through many hours of the day, not just during typical morning and evening peak periods;
- More accidents, with a corresponding increase in property damage and injuries;
- Greater fuel consumption and pollutant emissions due to more stopped vehicles along Route 29;
- Restricted access to adjacent commercial and residential areas, creating a negative impact on commercial sales.

In an effort to address the transportation needs of the City of Charlottesville and Albemarle County, the Metropolitan Planning Organization developed the Charlottesville Area Transportation Study Year 2000 Transportation Plan (CATS). The map on the next page shows the CATS projects within the study area. The list below describes the projects in the Plan. A western bypass had originally been recommended as part of the plan but was deleted by the Metropolitan Planning Organization due to opposition from Albemarle County representatives. The need for a western bypass has been indicated in previous studies as described in the Project History section.

The first nine projects on the list are those that would most affect travel on Route 29 if not completed on schedule. Failure to construct one or more of these facilities in a timely manner could result in greater traffic volumes on Route 29. The traffic problems already described would then become even worse, thereby increasing the need for an alternate route.

- o Hydraulic Road (Route 743) between Route 657 and Route 631 (Rio Road) - widen to four lanes divided.
- o McIntire Road between Preston Avenue and Route 250 Bypass - widen to four lanes divided.
- o McIntire Road Extension (Meadowcreek Parkway) between Route 250 Bypass and Route 631 (Rio Road) - construct new four-lane limited access facility.
- o McIntire Road Extension (Meadowcreek Parkway) between Rio Road and Route 29 North - construct new four-lane partially controlled access facility.
- o Rio Road/Route 250 Connector - construct new four-lane divided facility.



**Charlottesville Area  
Transportation Study  
Planned Improvements**

- o Route 29 North between Route 250 Bypass and the South Fork of the Rivanna River - Improvements depend on outcome of Route 29 Corridor Study.
- o Route 656 (Georgetown Road) between Hydraulic Road and Barracks Road - reconstruct two lanes to improve alignment, spot improvement on a case by case basis.
- o Rio Road between Route 29 and McIntire Road Extended - widen to four lanes divided.
- o Rio Road between Hydraulic Road (Route 743) and Route 29 - widen to four lanes.
- o Route 250 Bypass (Long Street) between St. Clair Avenue and East High Street - widen to four lanes divided.
- o Ninth Street realignment between Cherry Ave. and Main St. - reconstruct and realign with Main Street/10th St. intersection and construct connection to proposed medical complex road.
- o Route 250 East between East High Street and Route 20 (including Rivanna River bridge) - widen to six lanes divided.
- o East High Street between Ninth St. and Route 250 Bypass - widen to three lanes with center lane reserved for turns.
- o Route 250 West between Route 29/250 Bypass and Route 677 - widen to four lanes divided.
- o Route 250 West between Route 677 and Route 637 - widen to four lanes undivided.
- o Ivy Road (Route 250 Business) between Emmett Street and Route 29/250 Bypass - widen to four lanes with flush median.
- o Route 631 South from 0.56 miles north of Route 706 to Route 1103 - construct new four-lane divided facility to improve alignment.
- o Route 250 East between Route 20 and Interstate 64 - widen to four lanes divided.
- o Ridge Street between West Main Street and Cherry Avenue - widen to four lanes divided within existing right of way.
- o Greenbrier Drive Extension between Whitewood Road and Hydraulic Road - construct new two lane facility.

- o Madison Avenue Extension between Madison Avenue and Preston Avenue - construct new two-lane facility.
- o Fontaine Avenue between Jefferson Park Avenue and Route 29/250 Bypass - widen to four lanes.
- o Route 637 between Route 250 West and Interstate 64 - reconstruct two lanes to improve alignment.

COMMONWEALTH TRANSPORTATION BOARD

COMMITTEES

Wednesday

1:00 p.m. Internal Audit  
Roudabush, Chair  
Lee  
Martin  
Prettyman  
  
(Sabo)

2:00 p.m. Board Workshop

Thursday

8:00 a.m. Federal Legislation  
Lionberger, Chair  
White  
Grubb  
  
(Tischer)

8:00 a.m. Finance & Budget  
Byrd, Chair  
Cogbill  
Martin  
Newsom  
  
(Atwell)

Thursday

9:00 a.m. Access Roads & Ground Transportation  
Porter, Chair  
Byrd  
Prettyman  
Roudabush  
Grubb  
Myers

(Atwell - Access Roads)  
(Garver - Ground Trans)

9:00 a.m. Rail Transit & HOV  
Newsom, Chair  
Lee  
Rich  
White  
Neale

(Bevon - Rail, Transit)  
(Lantz - HOV)

10:00 a.m. BOARD MEETING

Environment & Human Resources  
(Immediately after Bd. Mtg.)

Cogbill, Chair  
Lionberger  
Myers  
Porter  
Rich  
Neale

(Browder)  
(Atwell)

Note: All Committee Meetings are subject to call of Chair and occasional time changes.

7/15/96

## **Guidelines for Public Comments at Board Meetings**

During the June 19, 1986 meeting of the Commonwealth Transportation Board, the chairman announced that time for public comments would be scheduled at future board meetings as the first agenda item and the Commissioner's Office would establish and publish basic guidelines.

Following are the guidelines approved by the Board:

1. Issue addressed by individual making public comment must be on the agenda for that meeting.
2. Opportunity for public comment on the issue being addressed has not been afforded the public in another forum such as a public hearing.
3. Individual offering public comment should limit remarks to not more than five minutes.
4. If a group of citizens wishes to comment on an item, they are asked to select one individual to speak for the group.
5. Exceptions to Item 2 can be made upon the motion of a board member with the majority of the Board concurring.

### 3. Study Area

The City of Charlottesville and Albemarle County combined have about 100,000 residents. Stability and low unemployment characterize the area's economy. The University of Virginia, with 17,000 students and 10,000 employees, is the major employment, education, and cultural center of the region. The University expects to increase its student enrollment to 20,000. The U. Va. Medical Center, the downtown commercial area and several industries along Route 29 are other major employers. A major concentration of the region's retail businesses lies along the densely developed section of Route 29 north of Charlottesville between the Route 29/250 Bypass and the South Fork Rivanna River. Beyond the commercial and industrial strip lie residential areas and subdivisions of varying size. Further out, a more rural character prevails with farms, scattered residences, rolling hills, and forest land. Continuing development however is diminishing the rural character as additional subdivisions, residential lots, and business sites are approved by the county. Outlying developments are served by secondary roads upon which travel demands are steadily increasing. Route 29 remains the only major north-south traffic artery channeling local traffic to shopping, employment, and recreational centers while also providing the only route serving intrastate and interstate personal and commercial travel through central Virginia.

## B. PROJECT HISTORY

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 VDOT in January of 1979 recommended widening Route 29 to six lanes, building an eastern residential collector road, and building a limited access 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.

Between 1975 and 1985, the Charlottesville Area Transportation Study (CATS) Year 2000 Transportation Plan was prepared through the cooperative efforts of the City of Charlottesville, Albemarle County, VDOT, 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, with grade-separated interchanges at Hydraulic Road and Rio Road, and the construction of a western bypass. However, the plan adopted in 1985 deleted the proposed western bypass. The Metropolitan Planning Organization

was made aware at that time that, without a bypass, Route 29 would remain deficient.

Since 1982, other studies have attempted to refine the CATS plan by focusing on the Route 29 corridor from the Route 29/250 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 alternatives considered at that time appeared to provide adequate capacity to accommodate projected year 2000 travel demands in the corridor.

In April 1986, Charlottesville and Albemarle County officials presented their highway and transportation needs to the Governor's Commission for Transportation in the Twenty-First Century. Among their requests was development of a U. S. Route 29 bypass on the eastern side of the City of Charlottesville.

In October 1986, a location and design public hearing was held for the upgrading of Route 29 from Hydraulic Road 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. Opposition to the interchange expressed at the public hearing caused it to be removed from VDOT plans. These improvements to Route 29, with no grade-separated interchanges, constitute the Base Case.

The Albemarle County Board of Supervisors requested that an expressway concept along existing Route 29 be studied before the Base Case improvements were implemented. VDOT postponed the improvements pending further study.

Because of continuing uncertainties and differing opinions regarding what should be done about Route 29, a new study was initiated to fully and objectively analyze all reasonable alternatives. The current study, begun in October of 1987, included development of a complete traffic model, evaluation of eastern and western bypass alternatives on new location, and evaluation of an expressway alternative within the existing Route 29 corridor. The proposed Base Case improvements were used as a baseline against which to compare the alternatives. Preliminary plans of the candidate build alternatives, a Draft Environmental Impact Statement, technical reports, and other materials were presented to the public at a public hearing June 26, 27, and 28, 1990.

### C. STUDY PROCESS

The current study has provided recent and quantifiable data on the benefits and impacts of the project alternatives to enable a decision to be made. In accordance with the study scope developed by VDOT with participation by Albemarle County and the City of Charlottesville, the initial study area 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. Between October, 1987 and June 1988, using topographic maps, aerial photography, and field reconnaissance, many potential bypass alternatives within a large study area were examined. Preliminary results of the traffic studies showed that bypass alternatives located further out from Charlottesville would carry little traffic and would not solve the Route 29 congestion problem. Consequently, the focus was shifted to alternatives closer in.

Preliminary alternatives were screened based on environmental, traffic, and engineering factors. Those that were not feasible, did not satisfy the need, or had severe impacts were eliminated. In June, 1988, 27 conceptual bypass 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 Section 4(f) avoidance alternatives were added to avoid impacts to McIntire Park, Pen Park, and Rivanna Park. An interim report on Expressway options and analyses was prepared. The report suggested that the

Expressway concept would be less disruptive than interchanges to adjacent businesses since less right of way would be required. Through the screening process, the study area was reduced to a window nine miles long and eight miles wide.

All of the Candidate Build Alternatives were then developed at a 1"=200' scale and preliminary plans were presented to the public in June of 1989. The alternatives were then refined as additional data became available. This refinement continued right up until just before the public hearing at which plans and technical data for all of the alternatives were presented to the public.

All of the alternatives were subjected to detailed scrutiny regarding traffic service capabilities and many impact categories. Comprehensive technical analyses were performed for traffic levels of service, air quality, noise, water quality, wetlands, community impacts, family and business displacements, endangered species, and other social, economic, and environmental factors.

In addition to technical analyses, the views of citizens, local officials, and resource agencies were considered during the alignment development process. Throughout the study process, regular meetings were held with the Joint Transportation Committee of elected officials and staff from Albemarle County, the City of Charlottesville, and the University of Virginia. Meetings were also held with local civic groups. Contacts with federal, state, and local agencies were made to identify resources, sensitive areas, and agency concerns.

From Ed Noel

2-3-9-

### FACT SHEET

#### Improvements to Route 29 from the North Corporate Limits of Charlottesville to the South Fork of the Rivanna River.

- \* 1979 - Albemarle County Board of Supervisors, concerned over rapid development and traffic congestion in the Route 29 corridor, requests a transportation study of the corridor.
- \* May 1979 - The Albemarle County Board of Supervisors adopts the recommendations of the Route 29 Corridor Study with a Western Bypass and six laning of Route 29.
- \* June 1982 - The Department reexamines the findings of the Route 29 Corridor Study. As stated in the report, An Analysis of the Route 29 North Corridor, the need for a Western Bypass is reconfirmed as well as the six laning of Route 29.
- \* April 1983 - Albemarle County adopts the Charlottesville Area Transportation Study - Year 2000 transportation plan without a Western Bypass.
- \* May 1986 - In response to the request by the Commission On Transportation In The Twenty - First Century for a list of critical highway needs, Albemarle County indicates support for the eight lane / six lane concept for improving existing Route 29 as a high priority.
- \* October 1986 - A Combined Location and Design Hearing was held providing 230 individual responses for the record. As a result of the concerns expressed at the public hearing, the Department chose to delay action on this project until such a time as a study to determine the feasibility of a bypass alternative could be developed. As a result seven bypass alternatives on new locations and an expressway alternative along existing alignment were developed. In addition the Base Case (widening of Route 29 between Hydraulic Road and the South Fork of the Rivanna River) which had been delayed pending the result of this study, was considered the No - Build option in this study.
- \* June 1990 - Location Public Hearings were held for the Route 29 Corridor Study.
- \* November 1990 - As a result of these hearings, on November 15, 1990 the Commonwealth Transportation Board approved the location of Route 29 from the Route 29 / 250 Bypass to the North Fork of the Rivanna River. This approval was in three phases. Phase 1 approved the Location Features of the Route 29 Base Case improvements from Hydraulic Road to the South Fork of the Rivanna River. These improvements would provide six lanes plus continuous right turn lanes with signalized at - grade intersections.

- \* January 1992 - The Commonwealth Transportation Board approves the major design features of the project as presented at the October, 1986 Public Hearing with modifications adopted in the Boards resolution of November, 1990.

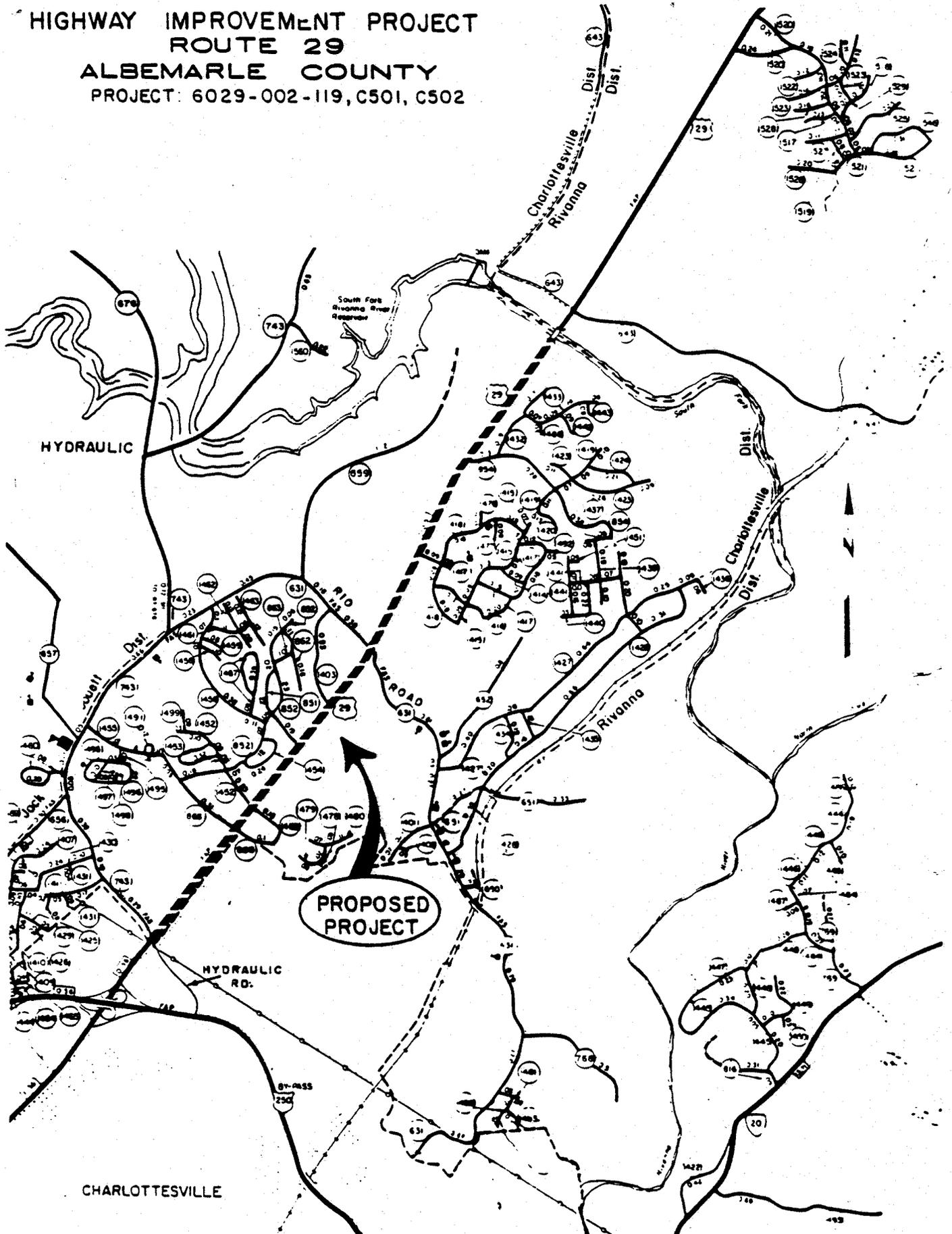
**The following applies to the C-501 section from the North Corporate Limits of Charlottesville to Rio Road (Route 631):**

- \* April 1992 - Authorization for the aquisition of right of way approved.
- \* June 1993 - Completed plans submitted for the July advertisement of project.
- \* September 1993 - The Commonwealth Transportation Board awards contract of project as submitted for advertisement.
- \* This project is currently under construction and is 10% to 15% complete.

**The following applies to the C-502 section from Rio Road (Route 631) to the South Fork of the Rivanna River:**

- \* February 1992 - A Value Engineering Review of project is made by the Departments Management Services Division.
- \* August 1992 - Authorization for the acquisition of right of way approved.
- \* March 1993 - Value Engineering Review opportunities are approved by the Chief Engineer for incorporation into plans.
- \* This project is currently in the final design stages and will be submitted for a July advertisement.
- \* A determination needs to be made as having this section under construction at the same time as the adjacent section.

HIGHWAY IMPROVEMENT PROJECT  
ROUTE 29  
ALBEMARLE COUNTY  
PROJECT: 6029-002-119, C501, C502



CHARLOTTESVILLE

The alternatives presented at the June, 1990 hearing were consistent with regulatory requirements, transportation needs, public and government official desires, and impact minimization goals. The alternatives and analyses were summarized in the Draft Environmental Impact Statement. Background and supporting technical data were presented in nine technical reports, maps, plans and profiles, aerial photography, and other displays.

#### D. ALTERNATIVES

The next page gives descriptions of the alternatives studied, as presented in the public hearing brochure, and as were studied in the Draft Environmental Impact Statement.

The "Base Case with Interchanges" was described as a variant of the Base Case. Since considerable interest has been expressed in this option, a more detailed description is provided here. The "Base Case with interchanges" refers to the Base Case improvements plus three grade-separated interchanges: one at Rio Road, one at Greenbrier Drive, and one at Hydraulic Road. The interchanges would be urban diamond type interchanges to minimize impacts to businesses adjacent to Route 29. This variation of the Base Case was evaluated only for traffic service at the request of City and County officials. It was not evaluated in detail for environmental impacts which may be assumed to be similar to, though somewhat greater than, than those of the Base Case.

The upgrade of Route 29 had formerly included a grade-separated interchange at Rio Road when presented to the public at the design public hearing in 1986. The interchange was deleted due to public opposition. From the comments received at the June 1990 public hearing, it appears that many now favor the construction of interchanges along Route 29.

# ALTERNATIVES

## Base Case

As contained in the Virginia Department of Transportation's six-year improvement plan, the Base Case consists of widening three 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. A variant of the Base Case incorporating grade-separated interchanges at Rio Road, Greenbrier Drive, and Hydraulic Road has also been evaluated for its implications to traffic levels of service.

## 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.

## CANDIDATE BUILD ALTERNATIVES

### 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 By-

pass 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 (Hydraulic Road). This alternative avoids impacts to the Schlesinger Farm, a property determined by Virginia Department of Historic Resources to be eligible for the National Register of Historic Places.

### 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 (Miller Road).

### 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.

## OTHER ALTERNATIVES

### 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 because 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 this brochure.

## **E. COMPARATIVE SUMMARY**

The Candidate Build Alternatives were evaluated and compared with regard to satisfaction of traffic needs, costs, and environmental impacts. The major items of environmental concern were residential and business displacements, land use, reservoir and watershed, parks and recreation, historic and archaeological sites, noise, natural resources, and aesthetics. The comparative summary of impacts matrix on the next page quantifies the relative impacts and costs of the alternatives. The following paragraphs summarize these items.

### **1. Satisfaction of Travel Needs**

The traffic analysis confirmed that, because of the intense development along Route 29 between Route 29/250 Bypass and the South Fork Rivanna River, the preponderance of traffic wants to be there. Approximately 90 percent of the traffic on Route 29 in the vicinity of Hydraulic Road (closer to the City of Charlottesville) is local traffic. About 10 percent of the traffic continues through the Charlottesville area. Near the North Fork of the Rivanna River (further from the City of Charlottesville and less densely developed), approximately 81 percent of the traffic is local while about 19 percent continues through.

Without improvements, Route 29 will ultimately reach its maximum capacity. At that point, while the demand may continue to grow, the traffic volumes along Route 29 could not increase because there would be no unused capacity. The combination of high volumes

# COMPARATIVE SUMMARY OF IMPACTS (a)

ALTERNATIVE	6	6B	7	7A	9	10	11	12	BASE CASE
<b>TRAFFIC IMPACTS ON ROUTE 29</b>									
<b>% Change in Traffic from</b>									
<b>Base Case Between:</b>									
Rte 250 and Hydraulic Rd	-2.2	-3.1	-4.2	-1.1	+16.2	-16.4	-11.4	-8.0	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
Rio Rd and S. Fork Rivanna	-5.0	-3.8	-3.8	-8.3	+18.8	-28.9	-10.0	-7.5	0.0
Rte 29 Arterial LOS	F	F	F	F	F	F	F	F	F
<b>RIGHT OF WAY REQUIRED (ACRES):</b>	373	420	311	306	24	325	473	500	2
<b>DISPLACEMENTS:</b>									
Families	40	33	51	27	0	15	13	19	0
Businesses	1	1	2	1	7	5	0	2	7
Non profit organizations	0	0	1	0	0	0 (b)	0 (b)	0 (b)	0
<b>ESTIMATED TAX REVENUE LOSS:</b>									
Albemarle County	\$52,270	\$49,658	\$39,662	\$39,662	\$98,018	\$162,615	\$73,161	\$82,804	\$44,909
City of Charlottesville	\$0	\$0	\$37,575	\$5,650	\$47,241	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$52,270</b>	<b>\$49,658</b>	<b>\$77,237</b>	<b>\$45,312</b>	<b>\$145,259</b>	<b>\$162,615</b>	<b>\$73,161</b>	<b>\$82,804</b>	<b>\$44,909</b>
<b>CULTURAL RESOURCES IMPACTED:</b>									
Standing Structures Eligible for National Register	0	2	0	0	0	2	4	5	0
Archaeological Sites	6	2	10	6	0	1	2	1	0
<b>4(f) INVOLVEMENTS:</b>									
Parks	2	0	0	1	0	0	0	0	0
Historic Sites	0	0	0	0	0	0	2	1	0
<b>NOISE RECEPTORS IMPACTED:</b>	138	53	172	177	48	56	43	46	44
<b>AGRICULTURAL/FORESTAL LAND USE (ACRES):</b>									
Agricultural (c)	27.9	47.6	11.9	11.9	0.0	31.7	100.1	133.9	0.0
Forestal (c)	18.8	16.8	7.9	7.9	0.0	0.0	0.0	0.0	0.0
Ag/Forestal District	0.0	0.0	0.0	0.0	0.0	13.5	116.3	174.2	0.0
Prime Farmland	89.5	78.1	78.2	78.2	0.0	48.7	101.7	157.6	0.0
<b>AQUATIC AND WATER RESOURCES:</b>									
Stream Crossings (Number)	27	26	26	27	4	13	28	41	4
Length Across Watershed (Miles)	0	0	0	0	0	4.2	7.4	8.4	0
Reservoir Crossings (Number)	0	0	0	0	0	0	1	1	0
Wetland Sites (Number)	5	3	4	4	1	1	3	4	1
Wetland (Acres)	1.5	0.1	0.2	0.2	0.1	0.1	0.3	0.6	0.1
Floodplains Crossed (Number)	7	5	9	9	0	0	4	8	0
<b>COST (\$1000s):</b>									
Construction and Engineering	\$103,287	\$108,304	\$87,732	\$89,395	\$133,859	\$77,523	\$98,338	\$180,315	\$17,584
Right of Way	\$10,078	\$9,802	\$12,095	\$8,102	\$23,618	\$30,429	\$18,890	\$16,064	\$8,487
Utility	\$927	\$836	\$745	\$567	\$3,684	\$1,160	\$1,359	\$2,228	\$343
<b>Total</b>	<b>\$114,292</b>	<b>\$118,942</b>	<b>\$100,572</b>	<b>\$98,064</b>	<b>\$161,161</b>	<b>\$109,102</b>	<b>\$118,587</b>	<b>\$198,607</b>	<b>\$26,414</b>

**Notes:**

- (a) Candidate Build Alternatives do not include Base Case costs or impacts
- (b) Displaces two support units of University of Virginia
- (c) These areas do not include "Agricultural/Forestal Districts"

and insufficient capacity will cause unacceptable levels of traffic service. The goal, of course, is to not let this happen but to keep traffic at manageable levels by constructing roads where and when needed. The following sections compare the alternatives with respect to traffic volumes, capacity, and levels of service.

a) Traffic Volumes

The table on the next page shows the annual average daily traffic (AADT) volumes projected for each of the Candidate Build Alternatives and for the Base Case. The projected volumes are based on the assumption that all of the improvements contained in the CATS plan will be in place by 2010. These include the Meadowcreek Parkway and the Rio Road/Route 250 Connector. Without these CATS improvements, traffic along Route 29 would be greater than projected, with corresponding increases in congestion, delays, and accidents.

The traffic volumes on the bypass alternatives represent traffic that would be diverted from existing Route 29. The effect of this diversion is to reduce the traffic volume, and therefore congestion, on existing Route 29. Alternative 9 (Expressway) would not divert but would add traffic to the existing Route 29 corridor. The graph below shows the effect of each of the Candidate Build Alternatives upon traffic volumes on Route 29.

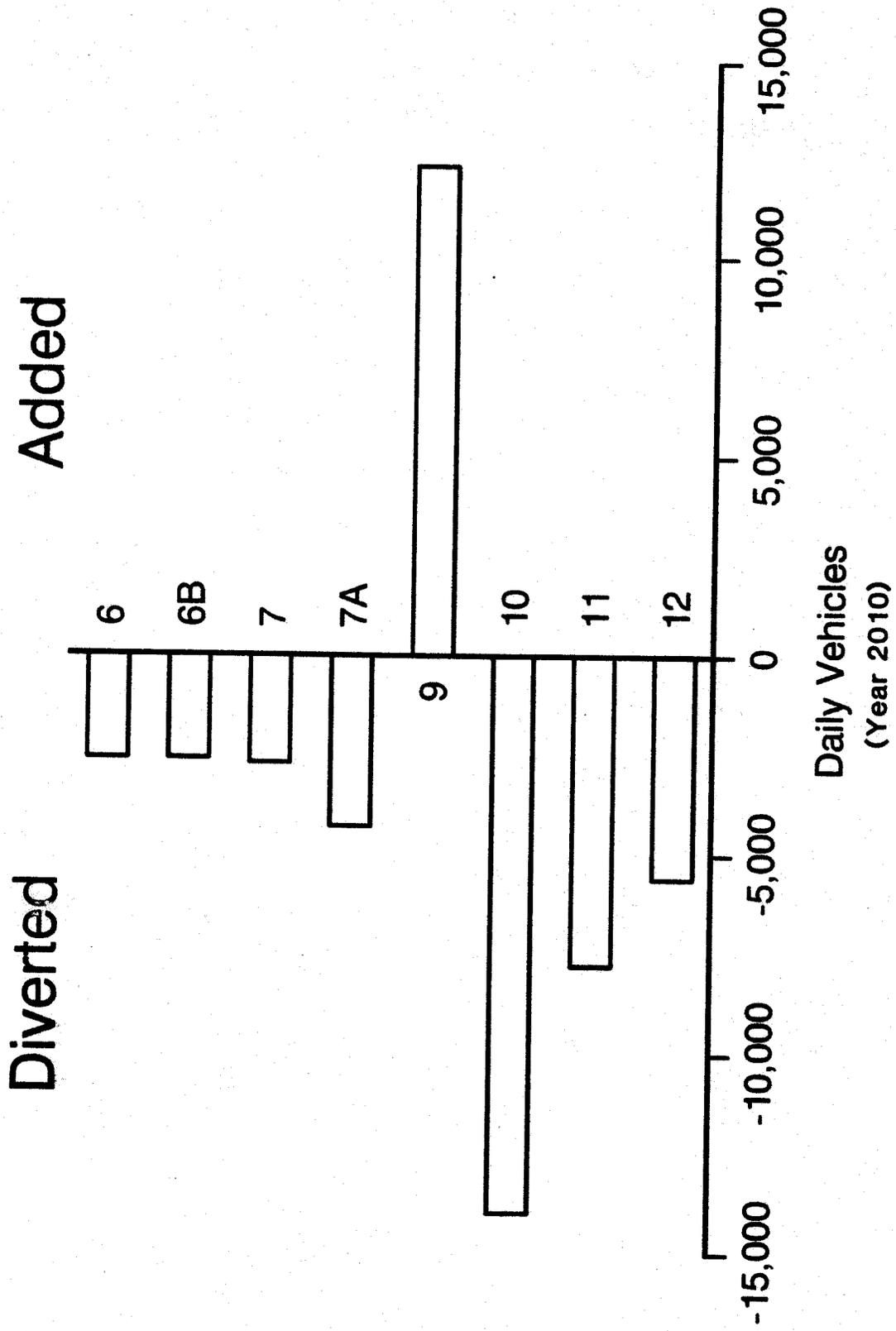
The three western bypass alternatives provide more direct routes connecting Route 29 north and Route 29 south of Charlottesville than do the eastern bypass alternatives. The

**ALTERNATIVE**

**2010 AADT ON ALTERNATIVE**

	<b><u>MINIMUM</u></b>	<b><u>MAXIMUM</u></b>
2010 Base Case (Route 29)	52,100	64,700
Alt 6	14,400	25,300
Alt 6B	5,000	22,300
Alt 7	23,200	36,400
Alt 7A	22,700	33,900
Alt 9	61,900	75,200
Alt 10	17,400	17,900
Alt 11	12,200	19,300
Alt 12	9,500	15,100

# Traffic Impacts of Alternatives on Route 29 North



western alternatives would divert more traffic from existing Route 29 than would the eastern bypass alternatives, thereby having the greatest effect in reducing congestion along Route 29 in the year 2010.

b) Capacity

The table on the next page compares the total number of highway lanes and the total traffic capacity of major north-south highways for each alternative. The table shows that Alternatives 6B, 9, 10, 11, and 12 provide substantially greater capacity than the other alternatives. Further, it shows that Alternative 9 (Expressway) provides only slightly less total capacity than bypass Alternatives 6B, 10, 11, and 12. However, a major disadvantage of Alternative 9 is that, once built, it cannot be expanded in the future to accommodate increases in traffic volumes after the design year. The bypass alternatives could be expanded in the future since sufficient space would be available within the right of way.

c) Levels of Traffic Service

Level of service refers to the operating efficiency of a highway and is based on volume, capacity, and speed relationships.

Based on year 2010 traffic projections, satisfactory levels of service would be provided along each of the bypass alternatives. Projections for the bypass alternatives assume that the Base Case will also be built. However, the level of service on Route 29 with

1. d. Discussion

Existing Route 29 will remain a principal route offering access to the University of Virginia, regional shopping and employment sites along the corridor, and downtown Charlottesville for those living in the northern part of the study area or in counties north of Albemarle County. Moreover, it will serve the interaction between the University of Virginia and the proposed University Research Park near the airport. Due to the substantial growth in daily north-south traffic by the year 2010 (from 50,700 in 1987 to 78,700 vehicles in 2010, with Meadowcreek Parkway carrying almost 17,700 vehicles), the traffic condition along the Route 29 will deteriorate. Conflicts between the through traffic and local movements around shopping areas, and between east-west traffic and north-south traffic at critical intersections such as Rio Road/Route 29 and Hydraulic Road/Route 29, will become severe. With the Meadowcreek Parkway assumed to be in place, construction of an inner western bypass has been shown by the traffic model to offer maximum relief to the Route 29 traffic condition in comparison with other bypass alternatives. The above two facilities enhance the highway capacity to handle the growth in north-south traffic by 2010 and beyond.

If you look only at projected levels of service, it may appear that construction of the improved Base Case Alternative, with three grade-separated interchanges, would satisfy the travel needs for this corridor. However, levels of service alone do not tell the

whole story. While the projected arterial level of service on Route 29 is B, 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. Through traffic would experience unwarranted delays. Local traffic would have to contend with volumes of through traffic, 16 percent of which is heavy trucks. While an acceptable level of service may be provided through the year 2010, albeit at low speeds, degradation could be expected in subsequent years.

Alternative 10, the innermost western bypass alternative, is the most effective alternative in reducing the projected year 2010 traffic volume along the segment of Route 29 between Rio Road and Hydraulic Road. Compared to the future Base Case, the above segment of Route 29 is projected to experience a decrease in year 2010 daily traffic by almost 11,000 vehicles with Alternative 10 in place.

Though the intersection level of service on Rio Road at the Rio Road/Route 29 intersection and on Hydraulic Road at the Hydraulic Road/Route 29 intersection would remain at F in spite of the completion of Alternative 10, this alternative reduces peak hour approach volumes at the Rio Road intersection by almost 1,700 vehicles (A. M. peak) and at the Hydraulic Road intersection by 1,300 vehicles (P. M. peak). Such a magnitude of reduction in

approach volumes during peak hours will diminish approach delays for every vehicle using the above intersections.

As Rio Road remains the only major east-west facility intersecting Route 29 north of US 250, it will predominantly serve traffic between Route 29 and the western part of the County, and the downtown or eastern part of the City. By the year 2010, left turning and east-west movements at the Rio Road intersection will grow causing deterioration in the Level of Service of this intersection. During peak hours it will induce diversion of traffic, particularly to those minor streets that offer viable alternatives to Route 29 and Rio Road such as Greenbrier/Brandywine Dr. and Carrsbrook Drive/Old Brook Road in the east, and Hydraulic Road, Georgetown Road, and Barracks Road in the west. Since the inner western bypass (Alt. 10) in addition to reducing traffic on Route 29, will improve the distribution of traffic between radial routes: Rio Road, Hydraulic Road, US 250, Barracks Road, and Ivy Road, the spreading of traffic to minor roads will be restrained.

In the absence of a western bypass, existing Route 29 will continue to carry at least 68 percent of the daily through traffic (5,000 vehicles in 2010). Since the origins and destinations of this traffic are along the western and southwestern routes (e.g. Route 29 south and I-64 west), the Meadowcreek Parkway will not be an attractive route for the diversion of this traffic. A western bypass will divert the above traffic from existing Route 29.

As traffic growth continues to deteriorate the level of service on Route 29, the Meadowcreek Parkway and a western bypass would provide two alternative routes to divert traffic. By the year 2010, the Meadowcreek Parkway and the Alternative 10 bypass would offer an extremely good arterial level of service (above 50 mph along the western bypass and 45 mph along Meadowcreek Parkway) compared to an intersection level of service F at the Rio Road and Hydraulic Road intersections with Route 29.

1. e. Assumptions

Traffic forecasting is an engineering science, but it is only as good as the assumptions it is based on regarding the future highway network and future land use. The future highway network was assumed to include all improvements in the Charlottesville Area Transportation Study Year 2000 Transportation Plan (CATS) adopted by the Metropolitan Planning Organization. Failure to construct one or more of these facilities in a timely manner could result in greater traffic volumes on Route 29. For example, should the Meadowcreek Parkway not be built by the year 2010, over 17,000 additional vehicles per day will be forced to use Route 29 or secondary roads not designed to handle traffic volumes of this magnitude.

Future land use and population assumptions were based on data provided by the localities including future land use plans. If

future development outstrips projections, or does not conform to local land use plans, additional traffic burdens will be placed on Route 29. If development continues at its present pace, and no action is taken to provide for alternate transportation routes, options for pursuing such routes without significant community disruption will be foreclosed.

While future traffic volumes have been predicted as accurately as possible with the data and models available, the actual future volumes are likely to differ for the following reasons:

- o Land use patterns are likely to be different from the land use projections used in the traffic forecasting model. The Albemarle County Comprehensive Plan was under revision and a new one was adopted during this study. The timing, location, and degree of land development is influenced by such a range of social, economic, and political factors that it would be difficult to predict accurately regardless of how carefully it is planned by the local jurisdiction. What is certain is that growth will occur.
- o The future highway network is likely to be different from that used in the traffic forecasting model. Regional transportation plans, such as the CATS Plan, are seldom implemented in their entirety or on schedule. Traffic forecasting methodology, by necessity assumes that they will be. Failure to implement the CATS Plan in its entirety and on schedule will increase the traffic demands on Route 29.
- o Traffic demand for Route 29 is likely to be higher than that predicted for this study because of variances in land use patterns and the highway network as discussed above and because VDOT historically has been conservative in traffic volume forecasts. Actual traffic volumes have customarily exceeded the forecasted volumes, especially in developed and developing areas such as Charlottesville and Albemarle County.

VDOT experience has been that it is not realistic to expect that all the land use, all the same economic conditions, and all the planned transportation improvements will prevail exactly as

projected for the traffic forecasts for Route 29. Divergences already occurring in the study area reinforce that experience. After the County adopted the new Comprehensive Plan, rezoning applications for several hundred acres have been submitted. A major commercial site along Route 29, a proposed new school behind Rio Hills shopping center (in the path of Alternative 10), and University Real Estate Foundation intentions for developing the historic Westover property are three prominent examples of changes in land use in Albemarle County which would affect the forecasts made for the Route 29 Corridor Study. Newspaper articles have pointed out how development is occurring in areas of Albemarle County not designated by the County as growth areas. Several projects in the CATS Plan have been postponed. One project, the Rio Road Connector, is likely to never be built according to Metropolitan Planning Organization representatives, although it continues to be part of the CATS Plan which VDOT must assume will be in place by the year 2010 for traffic forecasting purposes.

Experience has shown that traffic projections and land use projections seldom conform to what actually occurs because of changes over time in economic and political environments. It is likely that such will be the case for this project and for Albemarle County. Already it is apparent that not all projects in CATS will be built and some will not be built as scheduled. Already development apparently is not conforming to the adopted land use plan and goals of the County. Hence, the need to provide an alternative route such as bypass Alternative 10 is even more critical.

## North-South Highway Capacity of Alternatives

<u>Alternative</u>	<u>Number of Lanes (1)</u>	<u>Estimated Maximum Vehicles Per Hour (2)</u>		
		<u>Freeway Facility</u>	<u>Signalized Facility (3)</u>	<u>Total</u>
Base Case (4)	10	4,400	2,400	6,800
Alt 6 (5)	10	4,800	2,400	7,200
Alt 6B (4)	14	9,200	2,400	11,600
Alt 7 (5)	10	4,800	2,400	7,200
Alt 7A (5)	10	4,800	2,400	7,200
Alt 9 (4)	14	8,800	2,400	11,200
Alt 10 (4)	14	9,200	2,400	11,600
Alt 11 (4)	14	9,200	2,400	11,600
Alt 12 (4)	14	9,200	2,400	11,600

**Notes:**

- (1) Number of lanes is through lanes only.
- (2) Service volumes for Level of Service C for major north-south highways.
- (3) Route 29 Base Case under bypass alternatives and service roads for Expressway Alternatives.
- (4) Includes Meadowcreek Parkway assumed to be in place as free-flowing, unsignalized facility.
- (5) Most or all of alignment overlaps Meadowcreek Parkway alignment and alternative would supplant Parkway.

the Base Case improvements would remain unsatisfactory. By adding the three grade-separated interchanges to the Base Case, a satisfactory level of service could be attained on Route 29 (but not on streets crossing Route 29 or the ramps intersecting those streets at the interchanges).

Satisfactory levels of service would be provided on the express lanes of the Expressway Alternative (but not as good as those on the bypass alternatives). Unsatisfactory levels of service would be provided on the service roads on either side. The intersections of the service lanes with cross streets would operate at unacceptable levels of service due to interference from cross-traffic movements. To make these intersections work, third-level flyover ramps would have to be constructed at several locations, at considerable expense both in construction costs and in right-of-way impacts.

Unsatisfactory levels of service would be provided by the Base Case. By adding the three grade-separated interchanges to the Base Case, the traffic volume would be the same but a satisfactory level of service could be attained on Route 29 (but not on streets crossing Route 29 or the ramps intersecting those streets at the interchanges).

## 2. Costs

The summary matrix shows the estimated costs for each alternative. It should be noted that if a bypass alternative is selected, the base case or base case with interchanges improvements

to Route 29 should also be constructed. Therefore, it has been suggested by some that the costs for the bypass alternatives should also include the costs of the Route 29 improvements. Furthermore, if combinations of alternatives were to be selected, for example, a combination of alternatives 10 and 7, the listed costs for each alternative would be added to get the total cost.

### 3. Displacements

All of the bypass alternatives would entail displacements of homes as shown in the matrix. All bypass alternatives except 11 would also entail business displacements. Alternative 7 would displace one nonprofit organization, a YMCA. Alternatives 10, 11, and 12 would displace two support units of the University of Virginia: the print shop and the university police headquarters. These are located on U. S. Route 250 in the bypass interchange area for all three western bypass alternatives.

Of the bypass alternatives, Alternative 11 would have the fewest displacements. Alternative 9 (Expressway) and the Base Case would displace no homes but would displace seven businesses. Preliminary estimates based on conceptual interchange plans for the Base Case with interchanges indicate displacement of 15 businesses.

Following the public hearing, in response to public comments, additional refinements were made to Alternatives 10, 11 and 12 in the vicinity of St. Annes-Belfield school. This recent shift

avoids displacement of the headmaster's house and provides room to relocate the athletic field on the school property.

#### 4. Land Use

Each alternative would require a number of acres of land for right of way as shown in the matrix. The longer bypass alternatives would require more land. Alternative 9 (Expressway) and the Base Case would require the least land.

Of concern to many citizens is the potential inducement of development by the improved access that would be provided by the bypass alternatives. While additional development may occur, highway access is only one of the factors influencing development patterns. County zoning and land use regulations, provision of adequate utilities, and County building permit decisions control development. While the County has officially designated growth areas in its land use plan, much of the actual development occurring in recent years has been outside these designated areas (55% of all new homes built from 1984 to 1989 were in rural areas). Continuance of such development in the future will result in greater traffic generation, greater traffic congestion on existing roads, and foreclosure of undeveloped corridors for new highways to accommodate the growth.

Another item of citizen concern in this category is the proximity of Mary Greer Elementary School to Alternative 10 (approximately 600 feet away) and the proximity of Belfield School to Alternatives 10, 11, and 12 (approximately 600 feet away).

Alternatives 10, 11, and 12 also pass through a portion of the Belfield School property, requiring relocation of an athletic field.

5. Reservoir and Watershed

The South Fork Rivanna River Reservoir and its watershed are major concerns of citizens for the western bypass alternatives 10, 11, and 12. Alternatives 11 and 12 would actually cross the reservoir. Alternative 10, while not crossing the reservoir, crosses 4.2 miles of the reservoir's watershed, less than alternatives 11 and 12 as shown in the matrix. Many citizens feel that the potential for hazardous material spills into the reservoir, and consequent potential disruption of the area's current primary water source, should militate against construction of any new highways in the area.

County officials have asserted that for 20 years, efforts have been directed to protecting the reservoir and its watershed by controlling development within the watershed. In contrast to this view, many existing roads, including Interstate Route 64, pass through the watershed and three roads cross the reservoir itself. Much of the development approved by the county in the last several years has been within the watershed. Realistically, it is not practical to prevent development within the watershed. Bathymetric surveys through the years have shown that siltation continues to reduce the capacity of the reservoir (see table).

**SOUTH FORK RIVANNA RIVER RESERVOIR**  
**WATER STORAGE CAPACITY LOSSES DUE TO SEDIMENTATION**

1966	Reservoir Open
1975	4.71%
1980	5.94%
1988	<u>5.77%</u>
Total Loss	16.42%

**Major Sediment Sources:**

- o Development
- o Agriculture

This siltation has resulted from development and agriculture and not highway construction.

The risk of hazardous material spills into the reservoir is considered slight. The presence of hazardous materials in the environment is unavoidable in today's society. Transportation of hazardous materials is regulated by the U. S. 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 that meet modern safety standards (including wide shoulders, a median separating opposing traffic, and appropriate roadway geometry) and by considering provision of special drainage facilities such as detention ponds. 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.

#### 6. Parks and Recreation

Two of the alternatives go through public parks. Alternative 7A takes a part of McIntire Park. Alternative 6 goes through Rivanna Park and Pen Park. The proposed alternatives will have no other major impacts on parks or recreational areas.

In accordance with Section 4(f) of the U.S. Department of Transportation Act of 1966, no publicly-owned land from a public park or public recreation area may be used for federal-aid highways unless there is no feasible and prudent alternative.

7. Historic and Archaeological Sites

Seven standing structure historic sites on or eligible for the National Register would be affected by one or more of the Candidate Build Alternatives. None of the structures would be displaced. Alternative 11 would require the use of property from two sites. Alternative 12 would require the use of property from one site. The remaining impacts shown in the summary matrix would be visual only.

Archaeological surveys located 17 sites recommended for further investigation. The matrix shows the number of sites affected by each alternative. All of these sites are important only for the information they contain which can be retrieved by accepted professional archaeological methods.

Section 4(f) also protects historic or archaeological sites on or eligible for the National Register of Historic Places. Land from such sites may not be used for federal-aid highways unless there is no feasible and prudent alternative. However, if an archaeological site is important chiefly for the information it contains, then 4(f) does not apply. Alternatives 11 and 12 in their present configurations require the use of land from sites on

or eligible for the National Register and would come under the purview of Section 4(f).

Section 106 of the National Historic Preservation Act of 1966 also protects these sites. If the selected alternative impacts one or more of these sites, an appropriate Memorandum of Agreement (MOA) will be executed among the Virginia Department of Historic Resources, the Federal Highway Administration, and the Virginia Department of Transportation. The MOA will outline measures to be taken to minimize adverse effects to the sites.

#### 8. Noise

The matrix shows the number of noise-sensitive receptors (exterior activity areas, mostly at residences but also at school playgrounds and parks) impacted by each alternative. An impact occurs when projected noise levels for the year 2010 substantially exceed existing noise levels or equal or exceed the Federal Highway Administration Noise Abatement Criteria. Alternatives 6B, 9, 10, 11, 12, and the Base Case all have the same order of magnitude of noise impacts. Alternatives 6, 7, and 7A have roughly three to four times the number of impacts.

A variety of noise abatement measures was considered, including rerouting through trucks, shifting alignments, depressing the roadway, and constructing sound barriers. The only measure found feasible and reasonable is depressing the roadway at several locations.

## 9. Natural Resources

Wetland impacts would be minimal for any alternative. Alternative 6 would impact the most at 1.5 acres. Other alternatives would impact between 0.1 and 0.6 acres as shown in the matrix.

The number of stream crossings on the new-location alternatives is roughly proportional to length, ranging from 13 for Alternative 10 to 41 for Alternative 12. Modeling for pollution loads of highway runoff showed that no violations of water quality standards would occur as a result of the project.

The alternatives cross from zero to nine designated 100-year floodplains. All of the 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.

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.

The prime farmlands acreages impacted by the new-location alternatives range from 48 to 158. The impact of each alignment is generally proportional to its length with Alternative 10 having

the least impact and Alternative 12 having the greatest. Alternative 9 (Expressway) would have no impact on prime farmland.

With regard to Agricultural/Forestal Districts, the eastern alternatives and Alternative 9 (Expressway) would have no impacts. For the western alternatives, Alternative 10 would take about 14 acres, Alternative 11 about 116 acres, and Alternative 12 about 174 acres. Much of the area northwest of Charlottesville is in Agricultural/Forestal Districts and it is not possible to avoid taking portions of the Districts for the western alternatives.

No significant differences in impacts to wildlife among the new-location alternatives have been identified. Alternative 9 (Expressway) would have the least impact among the Candidate Build Alternatives since it follows an existing urbanized corridor with little wildlife habitat value.

#### 10. Aesthetics

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 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.

Alternative 9 (Expressway) goes through a developed urbanized commercial area. 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 will be an urban arterial highway with express lanes in the center. Except at the southern end near Route 29/250 Bypass, the expressway lanes would be depressed below cross streets. In most areas, the expressway lanes will 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.

## 11. Constructability

Constructability refers to construction-related factors such as ease of access for construction equipment, construction staging, maintenance of traffic, and ability to expand the facility in the future. The greatest ease of access for construction with minimum disruption to drivers on existing roads is achieved when a facility is built on new location. Construction of an expressway within the confines of the existing roadway area would be difficult in terms of maintenance of traffic, temporary detours, and access of equipment to construction areas. Interruption of traffic flow within construction zones could be expected to be greater for this alternative. With regard to construction phasing, in order to get a usable facility out of the expressway it would be necessary to construct all of it (the entire typical section and the entire length). Further, once built, the expressway could only be expanded with great difficulty, huge expense, and disruption of traffic and development

In contrast, for the bypass alternatives, existing traffic and temporary detours would be of concern only at interchange areas since all the bypass alternatives would be on new location. With the bypass alternatives, it would be possible to phase construction over a period of years, building two lanes within a four-lane right of way, as has been done with other projects throughout the state, with the final two lanes being constructed at a later date. Usable segments could also be built between interchanges without completing the entire length at one time. The bypass alternatives could be expanded relatively easily in the future since sufficient right of way would be available.

F. COMMENTS AND COORDINATION

1. PUBLIC

Two citizen information meetings, an open house, and a three-day public hearing were held. Eight newsletters were distributed to over 1000 individuals on the mailing list reporting the progress and upcoming events of the study. Over 20 meetings were held with various civic and community organizations. Throughout the study, a telephone hotline was maintained by which citizens could receive information and express opinions.

Written and recorded comments made by citizens during the public hearing and in the comment period following the hearing are contained in a three-volume transcript. The table on the next page summarizes these comments in terms of support of or opposition to the various alternatives. Most comments opposing bypass alternatives are based on perceived degradation of the South Fork Rivanna River Reservoir watershed or of the rural nature of the area in general. Most comments opposing the Expressway alternative are based on perceived impacts to businesses along Route 29 or opinion that an expressway is inappropriate for the Charlottesville area. Most comments supporting the Expressway are based on opposition to bypasses. Likewise, most comments supporting bypasses are based on opposition to the Expressway.

## SUMMARY OF PUBLIC HEARING COMMENTS

	<u>Support</u>	<u>Oppose</u>
Improve Route 29	156 (1)	0
Base Case	2,037 (2)	3
Base Case With Interchanges	205 (3)	16
Expressway	2,829 (4)	2,030 (2)
<b>Bypass Alternatives</b>		
Any	51	3,212 (5)
East	10	15
West	31	47
6	1	0
6B	3	5
7/7A	5	0
10	10	26
11	3	0
12	3	0
<b>Other</b>		
Meadowcreek Parkway	245 (6)	1
Rio Road/Route 250 Connector	0	4
Western Parkway	129 (1)	0

**Notes:**

- (1) Includes 129 signatures on ALERT petition.
- (2) Includes 1,961 signatures on Community Planning Coalition petition.
- (3) Includes 30 signatures on Residents of Albemarle County petition.
- (4) Includes 2,751 signatures on Citizens for Albemarle petition.
- (5) Includes 2,751 signatures on Citizens for Albemarle petition and 352 signatures on Charlottesville-Albemarle Transportation Coalition (CATCO) petition.
- (6) Includes 129 signatures on ALERT petition and 30 signatures on Residents of Albemarle County petition.

Additional miscellaneous comments are listed below.

Just do something now.  
Upgrade Route 15.  
Put express tunnel under Route 29.  
Support collector roads around Route 29.  
Connect Route 29 and I-64 east and west of town.  
Wants controlled entrance to North Grounds of U.Va.  
Need new north-south highway.  
Start land acquisition now for bypass.  
Improve mass transit.  
Use Route 33.  
Construct network of local roads as described by CATS.  
Improve Rio Road.  
Move interchange of Alternative 10 and Route 29 further north.  
Bypass should be further out.  
Support no-build.  
Support mass transit improvements.  
Avoid school impacts.  
Concerned about potential hazardous material spills.

Several citizen groups submitted petitions. The numbers of signatures are included in the tabulation for the comment summary.

The Charlottesville-Albemarle Transportation Coalition (CATCO) with 352 signatures opposes all bypass options. Citizens for Albemarle with 2,751 signatures opposes any bypass and supports the Expressway. The Community Planning Coalition with 1,961 signatures opposes the expressway and supports the Base Case (with no grade-separated interchanges). ALERT with 129 signatures supports the Meadowcreek Parkway, a western parkway, and improvements to Route 29. Residents of Albemarle County with 30 signatures support the Base Case with interchanges and the Meadowcreek Parkway.

Representatives of approximately 10 community associations submitted statements reflecting concerns for adverse effects to each particular community. Their support or opposition for the

various alternatives corresponds with the geographic locations of the communities (i.e. they oppose alternatives with greatest effect on community and support those with least effect).

The Charlottesville Downtown Foundation and the Chamber of Commerce conducted a survey through the newspaper. A summary of the 1,149 responses and a copy of the survey form are included at the end of this chapter.

## **2. Local Government Officials**

The Joint Transportation Committee, also known as the Task Force, consisting of officials and staff of Albemarle County, the City of Charlottesville, and the University of Virginia, participated in the study process. Because of the different interests and perceived needs of the County, the City, and the University, a consensus position was not achieved. Each jurisdiction and the University submitted its own statement regarding what highway improvements should be implemented. Some elements of each jurisdiction's position were the same.

The City of Charlottesville passed a resolution on August 6, 1990, that supports the following:

- The widening of Route 29 to six lanes with two continuous turn lanes [Base Case];
- Grade separated interchanges at Hydraulic, Greenbrier, and Rio Roads [Base Case with interchanges];
- Reservation of a limited-access western corridor;
- Improvements to Rio Road, Hydraulic Road, Georgetown Road, and the Barracks Road/250 Bypass intersection;

- Additional access to the North Grounds of the University of Virginia;
- Construction of a limited-access western corridor.

The Albemarle County Board of Supervisors supports the Base Case with three grade-separated interchanges and opposes any bypass or expressway alternatives. The Board also supports U.Va's idea of allowing limited or controlled access to the North Grounds from the Route 29/250 Bypass.

The University of Virginia supports the Base Case with grade separated interchanges, construction of facilities contained in the CATS plan such as the Meadowcreek Parkway and improvements to Georgetown Road, Rio Road, and Hydraulic Road; and construction of controlled access to the University's North Grounds off of Route 29/250 Bypass.

The Lynchburg City Council passed a resolution on June 26, 1990 endorsing a Route 29 bypass.

### 3. Agencies

Twenty-two agencies commented on the Draft Environmental Impact Statement. In general, comments reflected the mandates of the individual agencies. For example, natural resource agencies such as the U. S. Environmental Protection Agency, the U. S. Fish and Wildlife Service, and the U. S. Army Corps of Engineers were most concerned with impacts to such resources as wetlands, streams, parks, forests, and farmlands. Agencies such as the U.S. Department of Housing and Urban Development and the U.S. Department

of Health and Human Services were most concerned with impacts to housing resources. Many of the agencies stated a preference for Alternative 9 (Expressway) or the Base Case with interchanges because these would have the least environmental impacts.

ANALYSIS OF SURVEY "CAMPAIGN FOR A COMMUNITY CONSENSUS ON ROUTE 29"

A total of 1,149 survey forms were received. Below is a breakdown of the information received.

PERSONAL BACKGROUND OF PARTICIPANTS:

786 live in Albemarle County  
342 live in the City of Charlottesville  
1 lives on the University of Virginia Campus

247 work in Albemarle County  
342 work in the City of Charlottesville  
172 work at the University of Virginia  
146 checked "other"

VIEWS

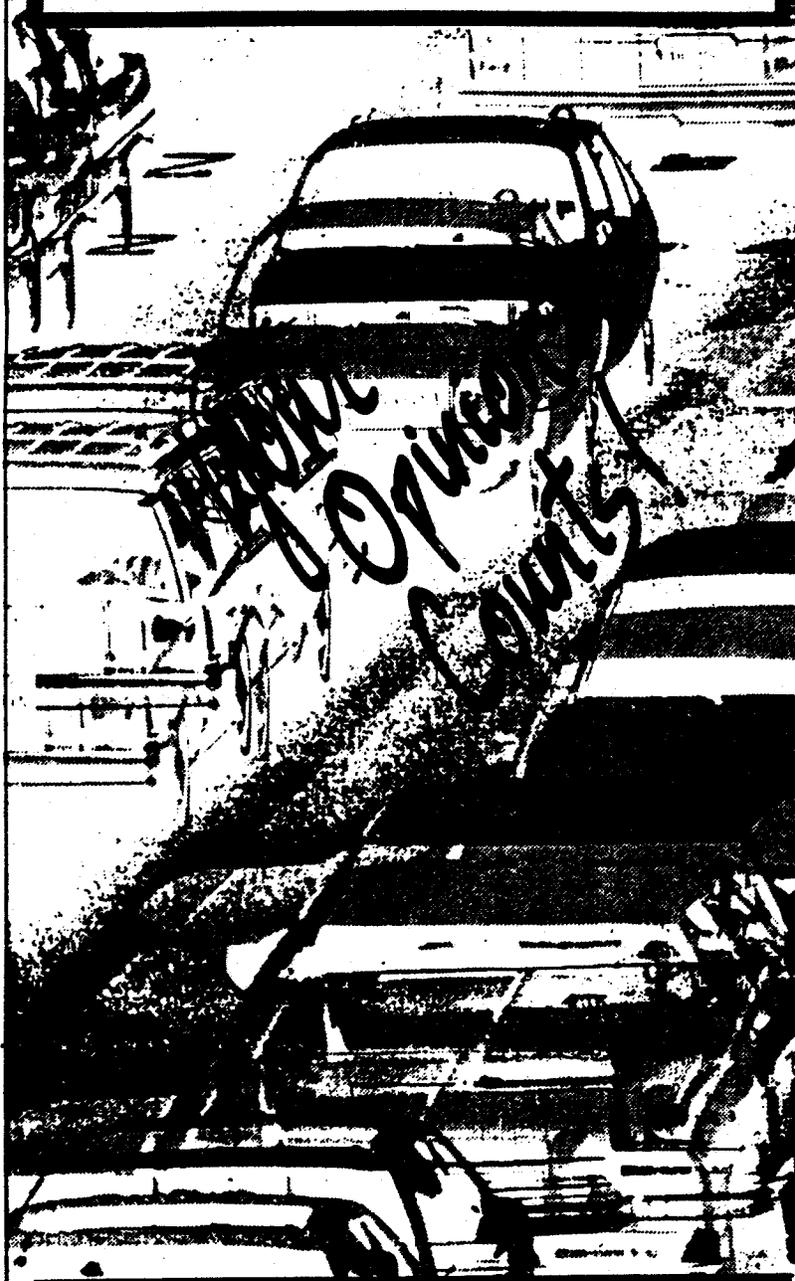
653 believe the traffic on Route 29 is bad enough to need immediate improvements.  
327 believe the traffic on Route 29 is getting bad enough to need improvements in the next ten years.  
68 believe the traffic on Route 29 is an acceptable level now and in the immediate future.  
95 believe Route 29 is in need of one of the currently studied improvements but can't decide because the information on the improvements is too confusing.  
55 believe Route 29 is in need of one of the currently studied improvements but can't decide because the information on the improvements is too complicated.  
37 do not feel Route 29 is a major issue in this community now or in the immediate future.  
161 believe Route 29 is in need of improvements but really question whether any of the improvements currently being studied will solve the problems.  
488 believe the Route 29 issue is a regional traffic issue that is important to the region as well as the immediate community.  
400 believe the Route 29 traffic is mostly a local traffic problem and should be solved with that in mind.

# CAMPAIGN FOR A COMMUNITY CONSENSUS ON ROUTE 29

The Charlottesville Downtown Foundation and the Charlottesville/Albemarle Chamber of Commerce sponsors this campaign for a Community Consensus of Route 29 as a public service:

Community Citizens, please do not let this chance slip past without having your input on our Community Vision, particularly Route 29. Many have said that this issue is very important to the future quality of all our lives. *Please Participate!*

We have studied the roads and we have studied the cars. It is now time to ask the People.



Please  the statements that best identify your thinking about this issue. Do Not  the statements you cannot identify with:

## YOUR BACKGROUND

- I live in Albemarle County
- I live in Charlottesville City
- I live on the University Campus
- I work in Albemarle County
- I work in Charlottesville City
- I work at the University of Virginia
- Other \_\_\_\_\_

## YOUR VIEWS

- I believe the traffic on Route 29 is bad enough to need immediate improvements.
- I believe the traffic on Route 29 is getting bad enough to need improvements in the next 10 years.
- I believe the traffic on Route 29 is at an acceptable level now and in the immediate future
- I believe Route 29 is in need of one of the currently studied improvements but I can't decide because the information on the improvements is too confusing.
- I believe Route 29 is in need of one of the currently studied improvements but I can't decide because the information on the improvements is too complicated.
- I do not feel Route 29 is a major issue in this community now or in the immediate future.
- I believe Route 29 is in need of improvements but I really question whether any of the improvements currently being studied will solve the problem
- I believe the Route 29 issue is a regional traffic issue that is important to the region as well as our immediate community.
- I believe the Route 29 traffic is mostly a local traffic problem and should be solved with that in mind.

## CRITERIA

Listed below are criteria often mentioned with various improvements of Route 29. Please prioritize this list as best you can as to which criterion is most important to you. Please note  1 means most important.  2 means not as important and so on:

- The preservation of our local water supply.
- The preservation of the environment of our more rural areas.
- The preservation of the natural beauty of our community.
- The preservation of our historic landmarks.
- The preservation of the University of Virginia Historic Campus.
- The preservation of our Neighborhood systems.
- The preservation of our parks and associated wild-life.
- The quality of the built environment of Route 29.
- The reduction of time to get through our community in a car or truck.
- The reduction of time to get somewhere within our community using Route 29 in a car or truck.
- The creation of an acceptable entry to our Downtown from the North.
- The creation of an acceptable entry to UVA from the North.
- The generation of more traffic Downtown.
- The reduction of "passing through" traffic on Route 29.
- The reduction of traffic in residential areas.

## IMPROVEMENTS

Listed below are improvements often mentioned with Route 29. Please prioritize this list as best you can as to which improvement is most important to you. Please note  1 means most important.  2 means not as important and so on:

- No change to Route 29
- Eastern bypass
- Western bypass
- Route 29 expressway
- Upgrade of existing Route 29 Corridor
- Meadow Creek Parkway
- Combination of above alternatives

Please list below:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

I believe a strategy for handling this problem in the future should be:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Name: \_\_\_\_\_

All information will be published and forwarded to state and local officials. Thank you for filling this form out. Please mail it or take it to:

Charlottesville Downtown Foundation  
P.O. Box 2472, 111 East Main Street  
Charlottesville, VA 22902

or

The Chamber of Commerce  
P.O. Box 1564, 5th & East Market Street, N.E.  
Charlottesville, VA 22902

PLEASE ACT NOW  
Return forms by August 10, 1990

Additional forms are available at both locations

Charlottesville Downtown Foundation

Charlottesville/Albemarle County Chamber of Commerce

## G. CONCLUSIONS AND RECOMMENDATIONS

### 1. Conclusions

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

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

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.

Competing views of local officials and citizens have prevented a clear local consensus of support for any of the Candidate Build Alternatives. Nevertheless, 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.

A general consensus indicates that this combination of improvements should consist of the Base Case with interchanges, the Meadowcreek Parkway, the CATS plan improvements, and a controlled access facility from the existing bypass to the University's North Grounds.

The University's access to the North Grounds can be enhanced by construction of a western alternative, thereby removing some traffic from the present bypass. Also, new access to the University's North Grounds will improve the level of service on Business Route 29 (Emmet Street) between the Route 29/250 Bypass and the University, and free up parking around the grounds of the University.

The Department feels that, in conjunction with the above noted combination of improvements, travel in the total area can be further improved by the construction of a western bypass. This will also preserve Route 29's role as a key element in the states' overall transportation system.

## 2. Recommendations

In view of the above, the following improvements are recommended. These recommendations are made with the assumption that other improvements as contained in the CATS plan, including the Meadowcreek Parkway, will also be built. It is also assumed that additional improvements to Route 29 will be built between the South Fork Rivanna River and Airport Road to provide six lanes as contained in VDOT's Six Year Improvement Program (currently scheduled for construction in 1995/96).

### a) Short Range

Construct Route 29 Base Case improvements from Hydraulic Road to the South Fork Rivanna River. These improvements will provide six lanes plus continuous right turn lanes with signalized at-grade intersections. These improvements will help satisfy the immediate needs for additional highway capacity on existing Route 29.

The right of way necessary for the construction of interchanges as they may be needed at Rio Road, Greenbrier Drive, and Hydraulic Road should be reserved initially.

Albemarle County and the City of Charlottesville should be encouraged to restrict, to the extent possible, further development on the needed right of way in these areas.

Should it be necessary, we recommend that the Department acquire any needed right of way under our advance acquisition policies.

We recommend that the North Grounds access facility be developed as soon as possible, along with additional mass transit to immediately begin to improve traffic conditions along Business Route 29 (Emmet Street) between the Route 29/250 Bypass and the University, and free up parking around the grounds of the University.

We recommend that Alternative 10 be approved as a corridor for future development and Albemarle County assist in preserving the necessary right of way - developing local plans to minimize any future adverse impacts associated with the future development of this corridor.

Refined preliminary plans for Alternative 10 will be provided to Albemarle County to aid local officials in the preservation of the corridor and development of compatible land use plans.

The preservation of the Alternative 10 corridor will assist the County in a no-growth position in the watershed. Access to the corridor would only be provided at the request of the County.

b) Medium Range

As traffic continues to increase and economic conditions allow, we recommend interchanges at Rio Road, Greenbrier Drive, and Hydraulic Road be constructed.

We recommend continuation of the preservation of right of way for recommended Alternative 10 and advance acquisition of right of way procedures be exercised as needed and economics permit.

c) Long Range

At such time that traffic conditions along the Route 29 corridor become unacceptable and economic conditions permit, we recommend the construction of the preserved corridor - Alternative 10.

3. Additional Discussion

A key ingredient to the successful implementation of Alternative 10 is the protection the South Fork Rivanna River Reservoir. Much of the local opposition to western bypass alternatives has centered around the potential impacts on the reservoir, specifically possible increases in sedimentation and the possible introduction of hazardous material spills into the reservoir. Alternative 10 does not cross the reservoir, only the watershed, and is therefore the least objectionable of the western alternatives with regard to potential impacts to the reservoir and its watershed.

Effective January 1, 1991, all state projects must comply with new Stormwater Management Regulations being developed by the Commonwealth of Virginia. These regulations will require a comprehensive stormwater management plan for each highway project and compliance with provisions of the State Erosion and Sediment Control law. These regulations will require such things as detention basins, infiltration facilities, slope protection and monitoring to ensure that the post-development runoff characteristics, including both water quantity and quality, as

nearly as practicable, will not worsen from pre-development runoff characteristics. Stormwater management plans developed during the design phase should alleviate concerns regarding further sedimentation of the reservoir resulting from the project.

The related concern regarding hazardous material spills reaching the reservoir could also be addressed in the stormwater management plan development since stormwater management facilities can be used to reduce the chances of hazardous substances affecting the water quality of the reservoir. To further alleviate this concern, consideration could be given to prohibiting hazardous material carriers from using the Alternative 10 route. These carriers could be restricted to using the existing Route 29.

#### 4. Summary

In summary, the engineering, traffic, and environmental data developed for this study show that Alternative 10 is the best long range solution:

- o It is projected to carry more traffic than other bypass alternatives.
- o It is projected to divert more traffic from existing Route 29 than other bypass alternatives.
- o It is the most direct route for through traffic on Route 29.
- o It is the shortest and least costly of bypass alternatives.
- o It does not cross the reservoir as do the other two western bypass alternatives. Watershed impacts can be minimized by use of design features.
- o Its environmental impacts compare favorably with those of other bypass alternatives.
- o It can be built in stages (two lanes on four-lane right of way)
- o It could be built in usable segments without completing the entire length of the project at once. An example would be the section between Barracks and Hydraulic Roads (Routes 654 and 743).
- o It could be expanded in the future if warranted within the planned right of way.
- o It avoids National Register-eligible historic properties.
- o It has been refined to minimize impacts to St. Annes's Belfield School.
- o It will enhance access opportunities to the University's North Grounds.
- o It will supplement the planned Meadowcreek Parkway in providing additional north-south routing for both local and through traffic.

If the corridor for Alternative 10 is not preserved, continuing development will close out the possibility of future expansion of highway capacity to serve local, regional, and statewide traffic growth. Available land will be used up making it infeasible to build any new transportation corridors. Without any additional transportation corridor, traffic conditions will continue to deteriorate in the future, especially if other facilities in the CATS Plan are not built as scheduled. Without an additional transportation corridor, Route 29 will remain inadequate. Existing Route 29 cannot be expanded much beyond proposed Base Case improvements without substantial business disruptions. Even when expanded, existing Route 29 would inadequately serve arterial traffic needs because of the continuance of low speeds and signalized intersections. In contrast, Alternative 10 would provide a limited access, high speed, nonstop facility to serve the arterial needs.

