JOINT LEGISLATIVE AUDIT AND REVIEW COMMISSION
OF THE VIRGINIA GENERAL ASSEMBLY

Review of the Highway Location Process in Virginia

House Document No. 60

Members of the Joint Legislative Audit and Review Commission

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Preface

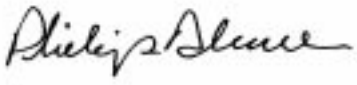
House Joint Resolution 222 (1996) directed the Joint Legislative Audit and Review Commission (JLARC) to review the highway location process used by the Virginia Department of Transportation to select corridors for new road locations in Virginia. The highway location process is used to select one alternative location for a highway among several, based on engineering and human resource impacts. The process is complex and is sometimes controversial, because of the multiple and often conflicting interests involved.

The study found that the highway location process appears to work relatively well in Virginia. Based on a detailed review of 20 highway location projects, it appears all entities with significant interests in a highway's location are provided the opportunity to participate in and impact the process. Further, the process generally leads to reasonable decisions about highway locations.

However, the review found that the process used for improvements to Route 29 in the Charlottesville area raises some concerns about the location process in that case. The Commonwealth Transportation Board's reversal of a prior location decision, participation by a Board member with a personal interest in the highway location, and the lack of coordination between projects all raise concerns about the process in that case.

The study also found that aspects of the process related to the Board's role and to public participation need to be modified. In addition, the Board and the Department of Transportation appear to have inappropriately used a planning process to determine the location for a proposed new road. Finally, the review found problems that need to be addressed concerning the workload and qualifications of Department staff. The report contains recommendations to modify the process and address these problems.

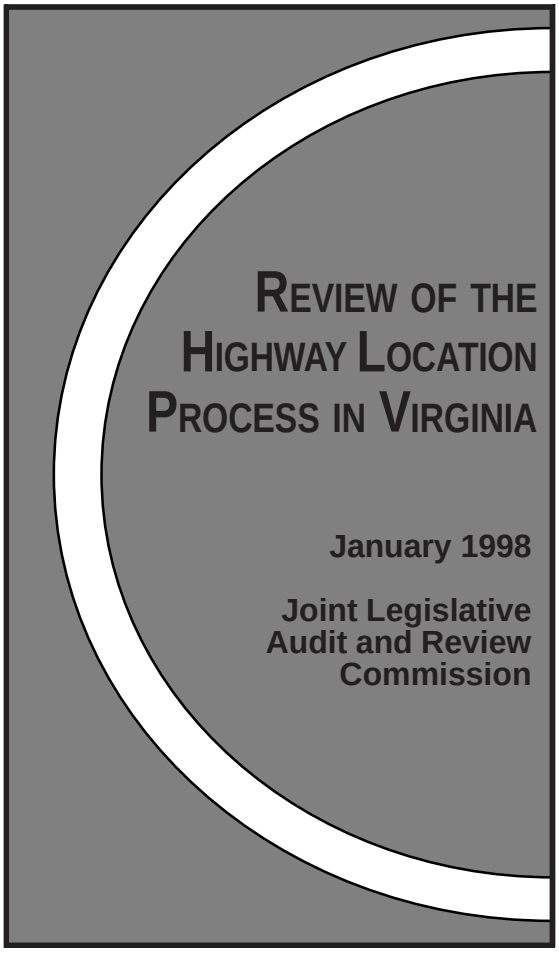
On behalf of the Commission staff, I would like to express our appreciation for the cooperation and assistance provided during this review by the Commonwealth Transportation Board and the Virginia Department of Transportation.



Philip A. Leone
Director

January 15, 1998

JLARC Report Summary



HJR 222, passed by the 1996 General Assembly, directed the Joint Legislative Audit and Review Commission to review the highway location process used by the Virginia Department of Transportation to select corridors for new road locations in Virginia. The location process is complex and involves numerous elements and many participants. The purpose of the process is to select one alternative location for a highway among several based on engineering and human and resource impacts. The process is often controversial and emotional because of the multiple, often conflicting, interests involved.

The JLARC staff review found that the process works relatively well in Virginia. However, the review raised concerns about how the location process worked for improvements to U.S. Route 29 in the Charlottesville area, as well as some broader concerns about the process that should be addressed. Significant findings of the report include:

- The highway location process works relatively well because it is an open process that allows for the participation of all interested parties.
- The location process used for improvements to Route 29 in the Charlottesville area raises some concerns about the process in that case.
- Several aspects of the location process related to the role of the Commonwealth Transportation Board and public participation need to be modified.
- The Virginia Department of Transportation and the Commonwealth Transportation Board appear to have inappropriately used the major investment study process to select a corridor location for a new road.
- The Virginia Department of Transportation has some location and design staffing concerns that need to be addressed.

Methodological Approach for the Study

The JLARC staff review of the highway location process involved an extensive review of VDOT files, structured interviews

with participants in the process, a mail survey of VDOT transportation engineers, attendance of several meetings, and review of audio transcripts of Commonwealth Transportation Board (CTB) workshops and meetings. JLARC staff conducted a comprehensive review of the files for twenty highway projects, 63 follow-up interviews for six of the twenty projects selected for review, and site tours of four of the projects. In addition, JLARC staff conducted 38 interviews with various participants in the process including CTB members, VDOT officials, local officials, representatives of citizen groups, and consultants.

Highway Location Process Works Relatively Well

The highway location process involves numerous elements and many participants. For major new location projects, the process is driven by federal environmental requirements. Environmental provisions require VDOT to examine all reasonable and prudent alternatives for new roads and to analyze in detail the impacts of these alternatives on natural and historical resources prior to selecting an alternative. Another major element of the location process is the public involvement process which includes public information meetings and location public hearings to receive public input. The process culminates in the selection of a corridor for a new road by the Commonwealth Transportation Board based on the recommendation of VDOT staff. Figure 1 provides a diagram of the location process for major new projects.

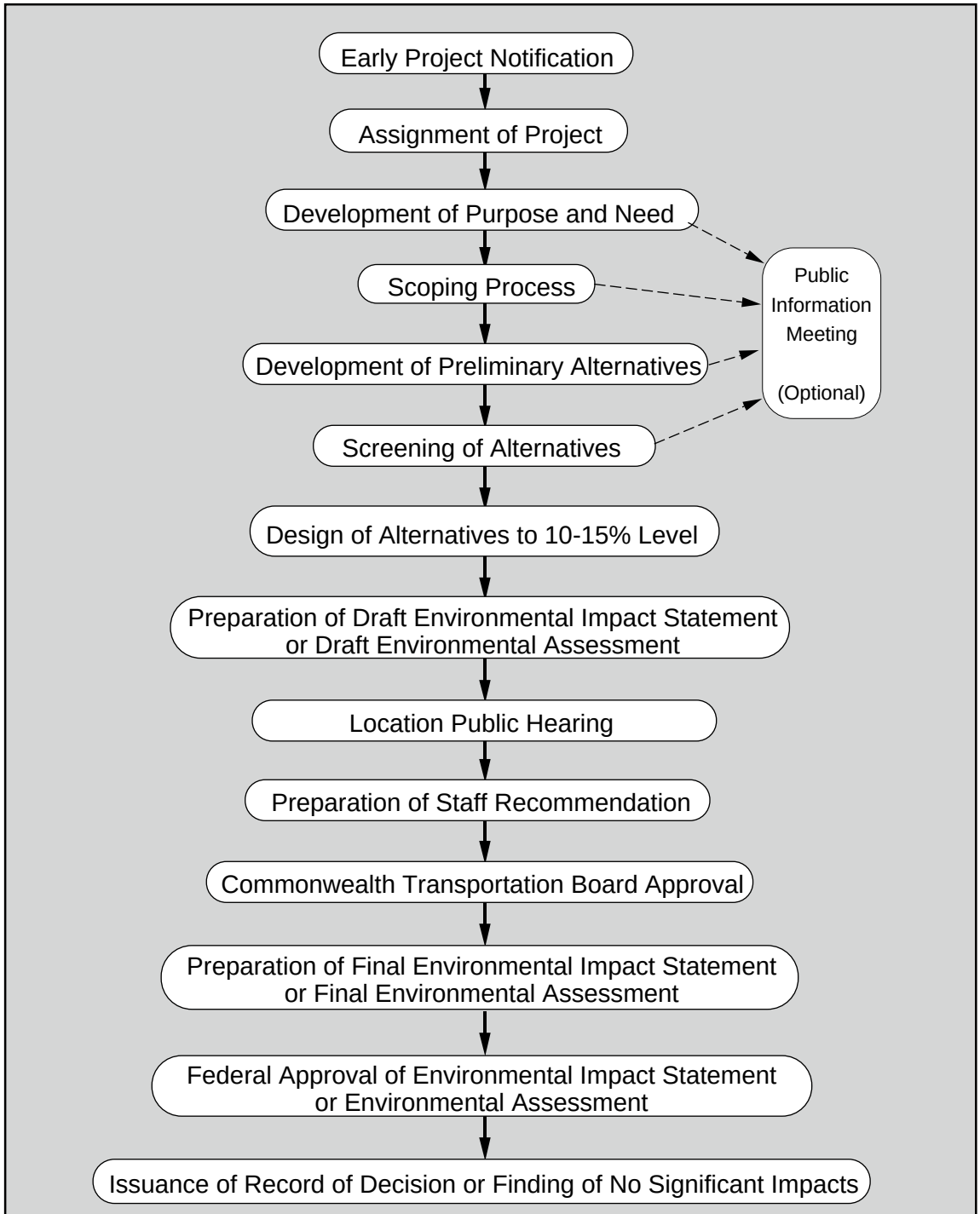
The highway location process appears to work relatively well in Virginia. Based on the JLARC staff review, it appears that most location decisions are reasonable decisions. In addition, one of the primary strengths of the process appears to be that all entities with significant interests in it have the opportunity to participate in the process and to impact it. VDOT works closely with affected local governments during the location process and tries to accommodate their concerns and needs. Individuals as well as interested citizens groups are also given the opportunity to provide input through various means. Moreover, federal and State resource agencies play an integral role in the location process through the environmental review process established pursuant to the National Environmental Policy Act.

Route 29 in Charlottesville Raises Some Concerns

While the highway location process appears to work relatively well in most instances, JLARC staff's review of the location process used for improvements to Route 29 in the Charlottesville area raises some concerns about the process in that case. The issue of how to address traffic problems on Route 29 has been extremely controversial. In recent years, there have been strong divisions among various local citizen groups and between local governments in the Charlottesville area regarding how to resolve transportation needs on Route 29. In addition, there has been tension between local transportation interests and regional and State interests which has further complicated the situation.

Over the last 20 years, VDOT as well as local officials have studied the issue of how to meet both local and regional transportation needs along the corridor. In 1987, an extensive location study was conducted to analyze how best to resolve the traffic congestion on Route 29 both for local users as well as through traffic. The study revealed that a combination of improvements would need to be undertaken in order to solve the congestion problem on Route 29 and to meet regional transportation needs. Based on the location study and VDOT's recommendation, the Commonwealth Transportation Board adopted the following sequence of improvements: (1) widen existing Route 29; (2) construct three grade-

Key Steps in the Location Process for Major New Highway Projects



Source: JLARC staff graphic based on federal regulations and VDOT rules and policies.

separated interchanges on existing Route 29; and (3) construct a bypass if justified in the future based on traffic conditions. A subsequent Commonwealth Transportation Board has significantly altered the initial location decision by withdrawing the interchanges and proceeding with construction of a western bypass.

A review of the process for this project raises some concerns about how the process worked in this case. The CTB's reversal of its prior decision regarding the interchanges, the participation of a CTB member with a personal interest in the decision process, and the lack of coordination between the widening and interchange projects all raise concerns about the process in this case as well as some broader concerns about the overall process.

Aspects of the Process Need to Be Modified

Although the process does not appear to need major changes, several aspects of the process need to be addressed. There are several procedural weaknesses related to the CTB's role in the location process. Decisions to rescind prior location decisions of the CTB should be made only after the public is provided with a formal opportunity to submit input through the public hearing process and after sufficient technical analyses have been prepared to assess the issue. In addition, members of the CTB should be expressly precluded from participating in decisions that directly impact their personal interests. Furthermore, local governments should be given the opportunity to directly address the Commonwealth Transportation Board prior to location decisions that directly impact their locality if there is disagreement over the preferred alternative between an affected locality and VDOT or between two or more localities that will be directly impacted by a location decision.

The JLARC review also found that the public participation process could be strengthened. While the current open forum type of public hearings appear to be popular, VDOT still needs to provide the public with the opportunity to provide input through the traditional hearing format in addition to the less formal open forum style hearing. VDOT also needs to establish regulations to govern its public participation process, as well as a written guide for citizens that explains the process.

Use of Major Investment Study (MIS) Process to Select a Corridor

Another concern raised by the JLARC review was the recent use by VDOT and the CTB of the major investment study process to select a mile-wide location corridor for a proposed new road. It appears well established that the major investment study process, which is a federal process, is intended to be used as a planning tool to evaluate the "purpose and need" for projects and to evaluate what mode of transportation would best meet that need. The process is not intended to be used to determine the location of proposed road projects.

Despite the defined purpose of the process, VDOT has used the major investment study process to select a mile-wide corridor in which to construct the proposed Western Transportation Corridor project. The use of the process to select a location corridor appears to be inconsistent with its intended purpose and raises several concerns. Localities are likely to rely on the assumption that the project will be limited to the corridor approved by the CTB, which is not necessarily the case. In addition, the use of the process to select a location raises the concern that the expenditure of funds on corridor selection during the MIS process may not have been an efficient and effective use of funds and, similarly, that funds may not be efficiently spent on the upcoming environmental impact statement process if the study is too narrowly focused on a single mile-wide corridor.

Location and Design Workload and Staff Qualifications Need to Be Addressed

Several trends in recent years raise concerns regarding staffing in VDOT's location and design division. The maximum employment level in the location and design division has declined steadily in recent years, and a significant number of transportation engineers with extensive experience have left during the same time period as a result of early retirement programs. In addition, VDOT appears to have difficulty retaining and attracting qualified persons because current salaries paid to transportation engineers are not competitive with those offered by private consultants.

Based on a survey of VDOT transportation engineers and interviews with VDOT staff, it appears that these trends have resulted in an inadequate number of staff in location and design to handle their current workload. In addition, too many transportation engineers working in the location and design area may have an inadequate combination of training and experience to handle their current job responsibilities. VDOT needs to evaluate the concerns about workload and staff qualifications and take appropriate actions to address them.

Table of Contents

I. Introduction

House Joint Resolution (HJR) 222, passed by the 1996 General Assembly, directed the Joint Legislative Audit and Review Commission to review the highway location process in Virginia (Appendix A). As part of this review, JLARC was requested to study whether the highway location process employed by the Commonwealth Transportation Board (CTB) and the Virginia Department of Transportation (VDOT) results in location decisions that: (1) make efficient use of transportation funding; (2) implement applicable environmental protection policies under federal and State laws; (3) are efficient as a matter of transportation policy; (4) involve minimal disruption to private property enjoyment and value; (5) are responsive to public input; and (6) accommodate local needs. In addition, the resolution requested JLARC to examine whether the process is too cumbersome and time-consuming.

HIGHWAY DEVELOPMENT PROCESS

The highway location process is only one phase of the overall road development process. The overall process begins with the prioritization of road projects and the decision regarding which projects to build. The second stage in the process is the determination of the highway location. After the location decision is made, the next major stage in the process is the design of the highway. After the design is completed, right-of-way is acquired and a road is constructed.

Development of the Six Year Improvement Program

The first stage in the process is the development of the State's Six Year Improvement Program. This program is a list of projects throughout the State that have been approved to receive funding. The program, which is updated annually, lists how much funding a highway project has been allocated for the current fiscal year and how much money is projected to be allocated to the project each year for the next five fiscal years. A project cannot be developed until it is listed in the Six Year Improvement Program.

One of the primary ways in which the list of projects presented in the Six Year Program is developed is through planning efforts at the staff level. Transportation planners work closely with local governments and regional transportation planners to develop long-range plans which identify needs for the localities for the next 20 to 25 years. Key factors that are considered in developing these plans are projected land use and traffic patterns in an area.

Another integral part of the development of the Six Year Improvement Program is the pre-allocation process that is conducted by VDOT. Every March, VDOT conducts pre-allocation hearings in each VDOT district around the State to consider

requests regarding interstate, primary, and urban road projects. At these hearings, the Commonwealth Transportation Board and VDOT receive comments from State legislators, local governments, metropolitan planning organizations (MPOs), and members of the public regarding projects that they would like to see undertaken in their districts. The comments received are reviewed by the CTB and VDOT staff. The CTB then sets priorities for each district in the Six Year Program and allocates funding for them accordingly. The Program is revised annually based on comments received through the pre-allocation process and changing priorities. Secondary roadway systems are addressed by the County Boards of Supervisors, usually at the end of the calendar year.

Location Process

The location process is triggered by the allocation of funds for a project in the Six Year Improvement Program. After a project is included in the Six Year Program, VDOT initiates the location process by authorizing preliminary engineering for the project. At this stage of the process, various alternatives for a project are developed, environmental studies are conducted, preliminary design work is begun, and the public is provided the opportunity to provide input on the location of the roadway. The location process ultimately leads to the selection of a corridor in which to construct a new highway or a decision not to build one. This process will be discussed in detail in the next chapter and will be the focus of the remainder of this report.

It should be noted that not all projects included in the Six Year Improvement Program are subject to the highway location process. The projects generally subject to the full location process are those projects which involve the construction of a roadway on an entirely new location. Many projects that involve the improvement of existing facilities are subject to a less extensive combined location and design process.

Design Phase

After the location phase, the next formal stage in the highway development process is the design phase. During this phase in the process, VDOT develops the specific alignment for the alternative that has been selected through the location phase. After 55 to 70 percent of the design is completed, VDOT conducts a design public hearing at which VDOT presents the proposed alignment. Members of the public are provided with the opportunity to comment on the design of the project at the hearing or in writing following the hearing. VDOT then presents the design alternatives to the CTB which then votes on the design. After the design is approved by the CTB, VDOT completes the design work.

Right-of-Way Acquisition

Right-of-way acquisition occurs in two phases. Most of the right-of-way acquisition occurs after the design work has been completed. VDOT's right-of-way agents

contact landowners who will be impacted by the road project. These agents then enter into negotiations with property owners to acquire the necessary right-of-way. In addition, VDOT agents work with utility companies to relocate gas, electric, telephone, water, and sewer lines.

While most right-of-way of acquisition occurs after the final design is completed, some properties are acquired after the location decision is made through VDOT's advanced acquisition program. Early acquisition is available to persons who can demonstrate a hardship that necessitates the purchase of their property prior to the completion of the design.

Construction

The final phase in the process is the construction phase. After the right-of-way acquisition is completed, VDOT engineers develop a final construction estimate based on the completed design work. The project is then publicly advertised, and the construction contract is awarded.

RULES GOVERNING THE HIGHWAY LOCATION PROCESS

Several statutes and two sets of regulations govern the highway location process. A majority of the laws and all of the regulations governing the process are federal. However, two State statutes also establish requirements for the process.

Federal Statutes and Regulations

The primary federal statute that governs the highway location process is the National Environmental Policy Act (NEPA). NEPA requires that federal agencies analyze all significant environmental impacts of a proposed governmental action on the environment. For those highway projects that trigger the NEPA process, much of the highway location process is governed by the NEPA requirements imposed by the statute and regulations developed by the federal Council on Environmental Quality and the Federal Highway Administration pursuant to the National Environmental Policy Act.

Title 23 of the *United States Code*, which is the title of the *Code* that addresses highways, contains two other statutory sections that specifically address the highway location process. Section 128 of Title 23 requires that state highway departments provide the opportunity for input regarding the location of major new highway projects. In addition, §138 of Title 23 restricts the ability of state highway departments to locate new highways through publicly owned parks or historic sites. This restriction is also set forth in § 303 of the Department of Transportation Act of 1983.

Two other federal statutes and a federal executive order apply directly to the highway location process. Section 106 of the National Historic Preservation Act requires federal agencies to take into account the impact of proposed projects on historic properties. In addition, section 6(f) of the Land and Water Conservation Act requires that VDOT obtain approval from the Secretary of Interior to use land acquired or developed under the Act for a highway project. Finally, executive order 12898 signed by the President in 1994 requires that VDOT consider the adverse impacts of location decisions on low income and minority populations.

State Statutes

Virginia law has three statutory provisions that apply to the highway location process. Section 33.1-18 of the *Code of Virginia* establishes the requirement that VDOT conduct a public hearing prior to any location decision if there is public interest in having one. In addition, § 33.1-12(1) of the *Code of Virginia* grants the CTB the authority to make highway location decisions. Finally, §10.1-1188 of the *Code* requires VDOT to coordinate review and comment on the environmental impact of projects with the State natural and historic resource agencies.

ADMINISTRATIVE STRUCTURE FOR THE HIGHWAY LOCATION PROCESS

The Virginia Department of Transportation has primary responsibility for developing locations for new highway projects in Virginia. The Commonwealth Transportation Board, however, has the ultimate authority to make highway location decisions. Other entities that have a role in the highway location process are the Federal Highway Administration and the federal and State resource agencies which are involved through the NEPA process.

Virginia Department of Transportation

Three divisions within VDOT's central office have responsibilities related to the highway location process. The division with the primary responsibility for the highway location process is the location and design division. The other divisions with responsibility for the process are the environmental and planning divisions. In addition to the central office, each of the districts has a location and design and environmental division which also are involved in the location process.

Location and Design Division. The central office location and design division, which is directed by the State Location and Design Engineer, has primary responsibility for the implementation of the location process in Virginia. Within this division, there are several sections. The public involvement section is responsible for developing the public involvement process and administers it statewide. Another section within the division with responsibility for the highway location process is the consultant ser-

vices section. This section has primary responsibility for managing location projects that are contracted out to consultants. Most of the projects handled by the central office are primary road projects.

In addition to the central office location and design division, each of the nine VDOT districts has a location and design section. These staff work primarily with the location and design of secondary road projects. However, district staff are sometimes involved with location and design work for primary road projects. As a result of the current workload of the location and design division, the management of consultant projects has been distributed throughout the central office division and the district location and design sections.

Environmental Division. Another VDOT division with an integral role in the highway location process is the environmental division. Like location and design, there is an environmental division in the central office as well as in each of the districts. Three staff in the central office have primary responsibility for managing the environmental process for major new location projects that are contracted out to consultants.

The environmental divisions in the districts handle environmental studies that VDOT conducts as part of the location process. Most of the environmental studies conducted by the district staff tend to be the smaller environmental studies, although VDOT will occasionally conduct a major environmental study in-house.

Transportation Planning Division. The other division with a major role in the highway location process is the Transportation Planning Division, which is in the central office. While this division's primary responsibility is transportation planning, it also provides traffic data and analysis to the location and design division during the highway location process.

Commonwealth Transportation Board

Another important participant in the highway location process is the Commonwealth Transportation Board. The Board is comprised of 16 members. Fourteen are appointed by the governor to serve four-year terms. The other two members are the Secretary of Transportation, who serves as the chairperson, and the Commissioner of VDOT, who serves as the vice chairperson. One member is appointed from each of the nine VDOT construction districts. In addition, the governor may appoint five at-large members. The CTB has the authority and responsibility to make all location decisions.

Federal Highway Administration

The Federal Highway Administration (FHWA) has a central role in the highway location process. The FHWA plays an integral role in all projects that require the preparation of an environmental impact statement or environmental assessment. It

acts as the lead agency for most projects that require the preparation of an environmental impact statement. In addition, the FHWA must approve other NEPA documents such as environmental assessments and categorical exclusions. The agency also has responsibility for making determinations regarding the impacts of proposed projects on public lands and historic resources.

Resource Agencies

For projects that trigger the National Environmental Policy Act (NEPA) process, there is also involvement in the process by both federal and State resource agencies. These agencies generally work with VDOT in the early part of the location process to identify environmental or cultural resource issues of concern. These agencies also have responsibility for reviewing NEPA documents and providing comments to VDOT regarding the alternative selection process. The role played by the resource agencies usually depends on the impact of the proposed project. Some of the agencies that tend to play the most active role in the process are the Army Corps of Engineers, the Environmental Protection Agency, and the Fish and Wildlife Service. Exhibit 1 provides a list of federal and State resource agencies.

For most projects that require the preparation of an environmental impact statement (EIS), the federal resource agencies act in the role of cooperating agencies, and the FHWA is the lead agency in the preparation of the environmental impact statement. However, a federal resource agency may act as the lead agency for projects that will not use federal funds but which are determined to require the preparation of an EIS because of their potential environmental impact.

State resource agencies generally do not play as active a role in projects at the location stage as federal agencies. With the exception of the Department of Historic Resources, these agencies appear to play only a minor role during the location process. State agencies do, however, provide database information.

Local Governments

Local governments also play a role in the location process. Localities work closely with VDOT on proposed urban and secondary road projects during the location process and play an active role in it. Local governments also play an active role in the process for primary projects that impact their jurisdictions.

Local governments also play a role in federally funded projects through metropolitan planning organizations (MPOs). MPOs are established in urban areas greater than 50,000 pursuant to federal law. MPOs are comprised of local elected officials and primarily serve as planning bodies. However, they also have the potential to influence the development of road projects during the location, design, and construction phases because they must approve projects that will use federal funds.

Exhibit 1

Resource Agencies That May Participate in the Location Process

Federal Agencies	**State Agencies**
Federal Highway Administration	Marine Resources Commission
US Coast Guard	Virginia Institute of Marine Sciences
National Marine Fisheries Service	Chesapeake Bay Local Assistance Department
US Army Corps of Engineers	Virginia Outdoors Foundation
Tennessee Valley Authority	Department of Environmental Quality - Water Division
US Environmental Protection Agency	Department of Environmental Quality - Air Division
US Department of Interior	Department of Environmental Quality - Waste Division
US Fish and Wildlife Service	Department of Environmental Quality - Division of Intergovernmental Affairs
US National Park Service	Department of Agriculture and Consumer Services
Advisory Council on National Historic Preservation	Department of Rail and Public Transportation
US Soil Conservation Service	Department of Mines, Minerals, and Energy
National Oceanic and Atmosphere Administration	Department of Health
	Department of Historic Resources
	Department of Conservation and Recreation
	Department of Game and Inland Fisheries
	Virginia Museum of Natural History
	Department of Forestry

Source: VDOT Environmental Document Handbook.

JLARC REVIEW

This review provides an assessment of the highway location process in Virginia. JLARC staff studied the process by examining a selected group of highway projects that have been through the process over the last ten years. The examination included a review of VDOT files for each of the projects selected for analysis and interviews with persons who had direct involvement with these projects. In addition, JLARC staff conducted a variety of other research activities.

Selection of Projects for Review

To complete the review of the process, JLARC staff developed a list of those projects which have been through the location process in the last ten years. The list was developed by identifying all highway location projects that have had a location public hearing during the period. A location hearing is required for any project that will require the acquisition of new right-of-way (parcels of land on which the highway will be built). The initial list included 61 projects. The list was then narrowed to 41 projects by eliminating those from further consideration that involved improving an existing roadway or constructing a new bridge or interchange. The 41 remaining projects all involved the planned construction of a significant new road segment.

JLARC staff then categorized the projects as large, medium, or small based primarily on the projected cost of the projects. Projects that were classified as large were those projects with a potential projected cost of greater than $100 million. Fifteen projects were classified as large, and all of them had new road segments ranging from six to 21 miles. The project files for all 15 of the large projects were reviewed as well as five of the medium and small projects. The primary criteria for the selection of medium and small projects was geography. JLARC staff selected for review projects from districts for which there were no large projects being reviewed. Also selected for review were three projects for which concerns were raised during the course of the study. A list of the projects that were selected for review is attached as Appendix B.

JLARC Project Review

The review of selected projects was conducted in two phases. First, JLARC staff examined VDOT files for each of the projects selected for review. Second, six of the 20 projects initially chosen were selected for a more in-depth review through interviews and site tours. The purpose of these interviews and site tours was to supplement the file reviews and to develop a more complete understanding of the process by discussing the process with many of the key participants and viewing firsthand some of the location corridors that were selected through the process.

Project File Review. For each of the projects identified for review, JLARC staff conducted a comprehensive review of VDOT files. This included a review of all of the planning, location, environmental, design, and early acquisition right-of-way files for each of these projects. The review also included an examination of correspondence files, study documents, location recommendations, and CTB resolutions. The purpose of the file review was to examine the documentation of the entire location process for each of the 20 projects selected for review.

Structured Project Interviews. Based on the file review, six projects were selected for more in-depth examination through interviews. Five of the projects selected for follow-up were projects that involved complex issues or raised serious community concerns. One project that did not raise much community concern was also selected for further review. JLARC staff conducted 63 interviews with key participants

in these projects in an effort to obtain the various perspectives associated with the projects and to develop a better understanding for how the location process worked with regard to these projects. Among those persons interviewed were local elected officials, local appointed officials, VDOT staff, private consultants, representatives of citizen groups, and members of local metropolitan planning organizations. Interviews were conducted with appointed officials or staff from twelve localities, elected officials from eight cities and counties, representatives of eight citizen or business interest groups, and four consultants.

Tour of Proposed Project Sites. The review also included tours of the approved corridors for three of the projects that JLARC staff identified for detailed review. Each tour involved an on-site review of the location corridor selected for the project.

Other Research Activities

In addition to the review of selected projects, JLARC staff also conducted other research activities. These activities included structured interviews, a mail survey, attendance of VDOT meetings and hearings, and a review of transcripts of CTB workshops and meetings.

Structured Interviews. In addition to interviews with selected project participants, JLARC staff conducted 38 interviews with VDOT staff, CTB members, and other participants in the highway location process. Interviews were conducted with the current and previous Secretaries of Transportation, ten current and former members of the CTB, the current and former Commissioners of VDOT, the current and former State Location and Design Engineers, the Environmental Administrator, the Director of the Right-of-Way Division, the State Transportation Planning Engineer, four District Administrators, and numerous other VDOT staff. Additional interviews were conducted with representatives from five environmental or cultural resource agencies and the Federal Highway Administration.

Mail Survey. A survey was conducted of all of the transportation engineers who manage location and design projects and central office staff who manage environmental studies during the location and design phase. The survey went to 36 project managers in the central office and 37 project managers in the district offices. This survey was used to assess workload and staffing within location and design and the environmental division as well as to elicit their views about the location process. The response rate for the survey was 89 percent.

Observation of Meetings and Hearings. To develop a further understanding of the process, JLARC staff attended several hearings and meetings, including six CTB meetings and workshops. In addition, JLARC staff attended two location public hearings and one design hearing. Staff also attended a design advisory committee meeting and one of VDOT's interagency coordination meetings.

Review of Audio Transcripts of CTB Workshops and Meetings. JLARC staff also reviewed audio transcripts of prior CTB workshops and meetings. This included an examination of approximately 25 hours of tapes from CTB workshops and meetings over the last ten years.

REPORT ORGANIZATION

The remainder of this report is organized into three chapters. Chapter II provides a description of the location process as well as some general observations and conclusions about the process. Chapter III provides a case study of the Route 29 location study in Charlottesville and discusses some concerns raised about the process by that project. Finally, Chapter IV discusses some concerns related to the highway location process and some recommended changes to improve the process.

II. Highway Location Process

The highway location process involves numerous elements and many participants. For major new location projects, the process is driven by federal environmental requirements and other federal statutory requirements. It involves the selection of one alternative among several for a new highway based on engineering and human and resource impacts. In addition, it is a process that is often controversial and emotional because of the multiple, often conflicting, interests involved.

Based on JLARC's extensive review of the highway location process, the process appears to work relatively well in Virginia. The strength of it appears to be that all entities with significant interests in the process have the opportunity to participate in the process and to impact it. This participation in the process by entities representing the major interests impacted by highway location decisions serves to ensure that VDOT complies with the applicable environmental laws, accommodates local needs, and considers public input. In addition, the process generally involves extensive technical analysis which is relied upon by VDOT and the Commonwealth Transportation Board in making location decisions. Finally, the process is strengthened by VDOT's efforts to reduce the adverse impacts of the location process on property owners through its advanced acquisition program.

While the location process appears to work relatively well, JLARC's review of the process has identified some concerns as well as potential areas for improvement that should be addressed. The next two chapters will discuss the areas of concern that have been identified by JLARC staff.

MAJOR ELEMENTS OF THE LOCATION PROCESS

The location phase of the highway development process is the stage at which the decision is made on where to locate a proposed highway project. For major new location projects, environmental requirements drive the process. Environmental provisions require VDOT to examine various alternatives for new roads and to analyze the impacts of these alternatives on natural and historical resources prior to selecting an alternative. The process begins with early notification of State resource agencies, the assignment of the project, and the development of a "purpose and need" statement. After the completion of these activities, VDOT typically scopes the project and collects data on the study area. Based on this information, preliminary alternatives are developed, screened, and analyzed. For projects that require the preparation of an environmental impact statement, the next stage in the process is the preparation of the draft environmental impact statement. A location public hearing is then held and public comments received. After the public hearing, staff recommend the selection of an alternative, and the Commonwealth Transportation Board makes the location decision. The final environmental impact statement is then completed for those projects that require one.

NEPA Provides the Framework

The National Environmental Policy Act (NEPA) requires the preparation of an environmental impact statement (EIS) for any project that could have a "significant effect" on the environment. Virtually all proposed major new highway location projects are determined to "significantly affect" the environment and thus trigger the preparation of an environmental impact statement. For those projects that trigger the EIS process, the EIS requirements serve as the primary framework for the location process. The EIS process involves a detailed analysis of the environmental factors that may be involved in a highway project in order to determine what impact a proposed project will have on the environment. The process involves several steps which begin with an extensive analysis of the various alternatives for a particular project. This process culminates in the preparation of draft and final environmental impact statements which will be discussed in further detail later in this section.

For projects in which the potential impact does not appear to be "significant," VDOT will usually prepare an environmental assessment. The primary purpose of conducting an environmental assessment is to confirm that a project will not have a "significant impact." An environmental assessment follows the same process as an environmental impact statement. However, the major difference is that an environmental assessment is a much less detailed evaluation than an evaluation conducted through the EIS process. Figure 1 provides a diagram of the highway location process for projects that involve the preparation of an environmental impact statement or environmental assessment.

Early Project Notification

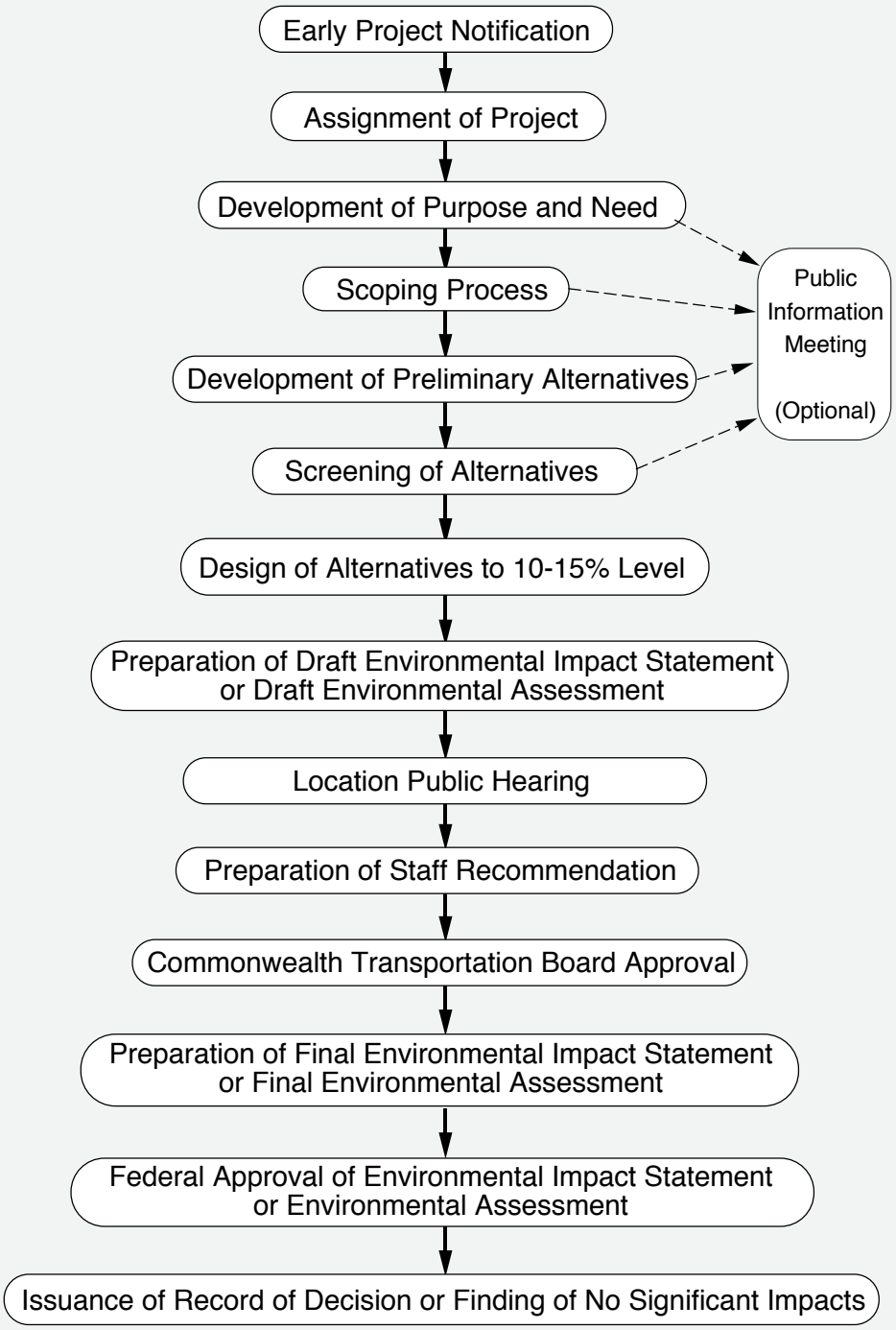
One of the first steps in the process after a project is assigned for preliminary engineering is the early project notification to State resource agencies. Early notification is required for any project that will involve the acquisition of right-of-way or easements, or require the disturbance of previously undeveloped land. This notification consists of preparing a form with basic information about the proposed highway project and sending it to all resource agencies in the State. The State agencies have 30 days to provide VDOT with information about the project area. The purpose of this notification is to obtain information that the resource agencies might have that could impact the proposed project. Based on this information as well as additional field visits, VDOT compiles a Preliminary Environmental Inventory (PEI) for the study area.

Assignment of Work

VDOT also decides early in the process whether to perform the location study in-house or contract the work to a consultant. For those studies that are conducted in-house, the decision must be made whether to perform the work using district staff or central office staff. Most secondary location projects are assigned to the location sections in the districts. In addition, some primary road projects are assigned to location

Figure 1

Key Steps in the Location Process for Major New Highway Projects



Source: JLARC staff graphic based on federal regulations and VDOT rules and policies.

and design staff in the districts if they have the resources to perform them. Some of the projects that involve environmental studies are conducted by the environmental staff in the districts.

The remainder of the location work is performed either by central office location and design staff or consultants. Location and design work that can be handled in-house is performed by the central office location and design staff. The remainder is performed by consultants hired by VDOT through the procurement process. Central office environmental staff generally do not perform major environmental studies. Therefore, most of the environmental studies not conducted by the district staff are conducted by consultants.

Most of the major location and design studies and environmental studies are conducted by consultants because of staff limitations at VDOT and specialized expertise required to perform the studies, although VDOT does retain some of the major studies and perform them in-house. According to VDOT, approximately 75 percent of the location work was contracted to consultants in the 1997 fiscal year.

When a study team is assigned, a project manager is selected for both in-house and contracted projects. In addition, for major environmental studies, there may also be an environmental project manager assigned.

Development of Purpose and Need

Another activity undertaken early in the location process is the establishment of the "purpose and need" for a project. According to the State Location and Design Engineer, VDOT currently emphasizes formally establishing the "purpose and need" statement for a project early in the location process. He noted that in the past, VDOT informally considered the "purpose and need" for the project at the outset of the process but often did not formalize it in writing until the environmental process was commenced.

The purpose and need statement establishes the justification for a project. It identifies the traffic problems or needs that will be served by a highway project and how a project can satisfy those needs. The basis for the purpose and need document is the traffic data on the area of the project. This data typically includes information about travel demand, level of traffic service on roads in the area, accident rates, and traffic congestion. This information is usually generated by the Transportation Planning division of VDOT.

The purpose and need statement often becomes a critical aspect of the location process. With projects that have significant environmental impacts or community opposition, federal environmental agencies may question whether a project is justified given its environmental impact, and the focus is often on the purpose and need statement. Likewise, citizen groups which are opposed to a project on environmental or other grounds may also question the purpose and need for a project. With some of the

more controversial projects, VDOT has been required by federal resource agencies to provide detailed justification to support the purpose and need statement developed for a project.

Scoping and Data Collection

At this point, VDOT begins the scoping process and collecting necessary data. The scoping process is used to identify major issues of focus for the location study and potential problems that may need to be addressed during the project. This process generally involves the collection of preliminary traffic, environmental, right-of-way, and cost data. The process may also involve meetings among persons in various disciplines within VDOT as well as some field reviews to confirm preliminary data and to obtain additional information.

By this point in the process, VDOT may also begin coordination with federal resource agencies that have a potential interest in a project. This may include correspondence and meetings with these agencies. VDOT may also present projects at the interagency coordination meetings for comment.

After scoping, VDOT begins to collect and analyze further information regarding the location study window (the land area in which alternatives for a new highway will be considered) in order to begin to develop alternatives. Aerial photographs are taken and an aerial mosaic (composite photograph of the area made from smaller photographs) is prepared. In addition, traffic information for the area is developed, assessed, and used to assist in the development of alternatives.

Development of Potential Alternatives

The development of possible alternatives for new highway projects varies considerably by project. A number of factors impact the extent to which alternatives are developed. For projects with significant impacts or considerable controversy, the development of preliminary alternatives generally is more extensive. In addition, projects that require the development of an environmental impact statement require full analysis of a range of location alternatives.

Development of Preliminary Alternatives. Preliminary alternatives may originate from a variety of sources. VDOT staff will develop some alternatives. Local governments in the affected area may also present their preferred alternatives. In addition, resource agencies with concerns about environmental impacts may offer suggested alternatives or more generally propose areas that should be avoided. Citizen groups or individuals may also offer alternatives that they wish to be considered. With some location studies, several proposed road segments are established from which multiple alternatives can be developed using various combinations of the segments.

First Stage of Screening. For several of the major new highway location projects, VDOT or its consultants have used a two-stage screening process. The first stage begins with the consideration of numerous alternatives that are eventually narrowed down to a reasonable number for analysis through the EIS process. During this stage of the screening process, preliminary alternatives are evaluated on environmental, engineering, and traffic factors to eliminate alternatives that would not be feasible, would not satisfy the purpose and need, or would have severe impacts.

Second Stage of Screening. At the second stage in the screening process, the remaining alternatives, sometimes referred to as "conceptual alternatives," are further evaluated using screening criteria developed by the project team. These screening criteria typically include indicators of such factors as cost, public input, engineering feasibility, natural resource impact, community and public facility impact, compatibility with comprehensive plans, and transportation service. Using these criteria, the alternatives are then scored and ranked. Based on the scoring of these alternatives, a subset of the conceptual alternatives is selected as the "reasonable and prudent" or "candidate build" alternatives which are carried forward for detailed analysis through the draft environmental impact statement process.

Design Development

Along with the development of alternatives, the location and design staff or consultants hired by VDOT become involved with the initial development of the design of alternatives under consideration. After preliminary alternatives have been screened, and flawed alternatives have been eliminated from further consideration, the location and design staff become involved in the development of the preliminary design of the remaining alternatives. Alternatives that are designated as "candidate build alternatives" are generally designed to a ten to 15 percent level of design completion. This level of design generally includes such elements as geometrics, grade, hydraulics (drainage), and quantity/cost. The primary purpose of performing this design work is to develop the design to a level that enables the project team to accurately assess the environmental impact and the cost of each alternative.

Public Information Meetings

During the course of the location process, VDOT or their consultant may decide to hold public information meetings at various points in the process. Decisions about when to hold public information meetings appear to be made on a case-by-case basis and depend on such factors as the impact of the proposed project and the amount of public interest there is in the project. Information meetings held early in the process are generally intended to provide the public with general information about the project, including the purpose of the study, a map of the study window, and a tentative schedule of remaining actions. Public information meetings may be held later in the process in order to receive input on proposed preliminary alternatives and to receive suggestions for additional alternatives.

Preparation of the Draft Environmental Impact Statement

For major new location projects, the next major phase in the process is generally the preparation of a draft environmental impact statement. The primary focus of the draft EIS is an evaluation of the alternatives that have been developed through the screening process that do not have "fatal flaws" and could be reasonably expected to meet the "purpose and need" for the project.

The principal element of the draft EIS process is an assessment of the environmental consequences of each of the alternatives under consideration. In assessing each alternative, VDOT or its consultant is required to assess several potential impacts of a project. The National Environmental Policy Act regulations require that a draft EIS evaluate the impact on the following: (1) traffic, transit and safety, (2) land use, (3) socio-economic conditions, (4) community facilities, (5) conservation, (6) aesthetics, (7) cultural resources, (8) air quality, (9) noise, (10) energy consumption, (11) water quality, and (12) hazardous material locations. For each of these issues, staff must analyze the consequences of each alternative. For some of the larger projects, this involves the development of extensive technical reports which analyze the impacts and are used to support the findings in the draft EIS. Some of the impacts are more significant than others in terms of the selection of the ultimate alternative. Impacts that are generally critical to the selection of an alternative are impacts on traffic, land use, cultural resources, and water quality. These key impacts will be discussed later in this chapter.

As part of its alternatives analysis during the EIS process, VDOT is also required to consider alternatives other than new facility alternatives. VDOT is required to consider the "no-build" alternative, which is the option of doing nothing further other than routine maintenance or minor restoration projects. Another alternative that must be considered is the "transportation system management" (TSM) option. This alternative involves increasing the operating efficiency of the existing traffic system such as commuter programs and high occupancy vehicle lanes. Finally, VDOT must consider the mass transit alternative when a project is proposed for an urban area of more than 200,000.

The analysis of the alternatives and their impact on the environment are discussed in detail in the draft EIS. The federal NEPA and FHWA regulations provide that a draft EIS may include a recommendation for a preferred alternative. However, VDOT and the FHWA have agreed that VDOT will not include a preferred alternative in draft EIS documents because the CTB and not VDOT has the authority to make the final location decision.

Submission for Public Comment and Location Hearing

The National Environmental Policy Act requires that the draft EIS be submitted for review and comment. Therefore, after the draft is completed for a project, VDOT

submits it to the Federal Highway Administration for a determination of whether it is suitable for public review. After the FHWA makes that determination, it is circulated to federal, State, and local agencies with an interest in the project for their review and comment. A notice of public availability of draft for comment is also published in the *Federal Register*.

Both federal and State law require that VDOT hold a public hearing to consider public comment on proposed new location projects if there is any interest in having one. Under Virginia law, notice of the hearing must be published at least 30 days prior to the hearing. With projects that involve the preparation of an environmental impact statement, a location hearing is conducted both to comply with the FHWA and Virginia statutory requirements that a location hearing be conducted if requested, as well as to receive comments from the public on the draft EIS.

The public hearings provide a forum for VDOT to present the alternatives to the public and to receive public comment. Over the last ten years, VDOT has moved away from the traditional style public hearing format to a less formal open house style of hearing. With the new type of hearing, VDOT typically has a video or slide presentation for citizens which provides basic information about the project and alternatives and is the only formal means for citizens to obtain information about a project. In addition, VDOT has available maps showing the location corridor and the alternatives under consideration. VDOT staff and project consultants are also available to talk with any citizens who have questions or concerns.

The hearings also provide citizens with the opportunity to comment on the draft EIS. Citizens may submit their comments in writing either at the hearing or within ten days of the hearing. In addition, VDOT provides citizens with the opportunity to present oral comments to a court reporter at the hearing. Typically, the court reporters are set up in a separate area, and persons presenting oral comments do so into a microphone provided by the court reporter with no one other than the reporter present to hear the comments. One critic of the public comment process described it as like “yelling into a barrel.” Chapter four will discuss some concerns with the current hearing process.

Staff Recommendation and Board Action

The next step in the process is the development of a staff recommendation. After the public comment period closes, a transcript of the comments is prepared. VDOT staff then review these comments along with the information developed during the location process. Based on this review, a staff recommendation regarding an alternative is developed. This recommendation typically begins with a recommendation from the administrator of the district in which the project is located to the State Location and Design and Engineer. The State Location and Design Engineer in turn makes a recommendation to VDOT’s Chief Engineer, who then prepares the final recommendation for the Commonwealth Transportation Board.

The CTB then has the final decision-making authority on the selection of an alternative. Prior to making its decision, the Board is provided with a summary of the transcript of public comments as well as the recommendation of the staff. In some cases, individual members of the CTB may ask for additional information prior to making their decision. With some of the more controversial projects, the Board may also hold a workshop session to discuss the project prior to making a location decision. The CTB then votes to approve one of the proposed alternatives by a majority vote. Board approval is made in the form of a resolution which outlines the approved alternative.

Final Environmental Impact Statement

After a location decision is made by the CTB, one of the last steps in the location process is the preparation of a final environmental impact statement for projects that require an EIS. The final EIS primarily contains the information discussed in the draft EIS. However, it also includes a transcript of the public and agency comments. In addition, it discusses the selected alternative and the rationale for its selection. It also discusses any mitigation measures that VDOT has agreed to implement to mitigate the impact of the alternative that has been selected.

VDOT is required to submit the final EIS to the Federal Highway Administration for approval. Once approved by the FHWA, it is distributed to all persons and organizations who commented on the draft EIS.

After the publication of the final EIS, the final step in the process is to obtain a record of decision from the Federal Highway Administration. The record of decision identifies the selected alternative, states the basis for the decision, outlines mitigation measures that VDOT agrees to undertake, and documents the approval of the public and historic property evaluation (referred to as “4(f) evaluation”).

GENERAL FINDINGS ABOUT THE LOCATION PROCESS

While each major location study is unique, there are some generalizations that can be made about the location process. The nature of the location process depends greatly on the population density and geography of the area under study. In addition, multiple interests influence the process. It also appears that certain factors such as displacements, wetland and cultural resource impacts, traffic service provided, and cost are primary factors in location decisions. Finally, the location process inevitably has adverse impacts on some property owners, at least in the short term.

Population Density and Local Geography Impact Location Studies

JLARC staff review of multiple highway location projects found that the type of area of a proposed project significantly impacts the nature of the location process for

a project. For instance, the location process for projects in urban areas is substantially different than for projects being developed in rural areas. In addition, the nature of the process is significantly impacted by the geographic location of the project within the State. As a result of these differences, the location process varies substantially by project.

Urban Versus Rural Projects. The level of interest and public involvement in projects varies substantially between projects in urban and rural areas. In urban areas, there is generally much more public involvement and individual interest because the projects have the potential to directly impact much larger numbers of persons. Much of the interest generated for such projects is from persons who would be impacted directly by a project and are actively opposed to it. As a result, the public involvement process is generally extensive with such projects.

In contrast, projects in rural areas do not tend to generate nearly as much public interest, because fewer persons tend to be adversely impacted by potential projects. As a result, there is generally less active public participation and a less extensive public involvement process.

Geographic Area. The geographic area of the State in which a proposed project will be located may also significantly impact the nature of the location process. The area of a location study greatly affects the potential environmental impacts that a project may have. For example, projects proposed for the eastern part of Virginia are likely to have significant wetland impacts. Therefore, with projects studied in this area of the State, a major focus of the location study is likely to be addressing the wetland impacts. Similarly, certain areas of Virginia have extensive historical resources. In those areas, a location study may be focused on avoiding impacts to those resources. In other geographic areas of the State, the environmental impacts of a proposed project may be minimal. As a result, the environmental issues may be only a minor component of the overall location study.

Multiple Interests Influence the Highway Location Process

The highway location process generally involves the participation of multiple entities with a variety of interests. With major proposed projects, there are often various citizen groups involved in the process. In addition, local governments and federal and State resource agencies all participate in the process.

Citizens Directly Impacted. With most major new location projects, the most active citizens in the process are those whose personal or business property may be directly impacted by a proposed project. These individuals typically organize and lead the opposition to a proposed project. Their opposition generally focuses on any proposed alternative that may directly impact their property.

Conservation and Preservation Groups. In addition to those directly impacted by proposed projects, there are also conservation groups and preservation groups

which participate in the process. Often these groups are concerned with the environmental impacts of a proposed project. In some cases, these groups will actively oppose the project in general and support the "no-build" option. In other instances, these groups may oppose specific alternatives for a proposed project because of the environmental impact those alternatives would have.

Pro-development Groups. Pro-development groups may play an active role in supporting projects during the highway location process. Groups such as chambers of commerce and business councils may actively support new road projects because they are believed to promote economic growth and provide an improved traffic network to serve existing businesses.

Local Governments. Local governments also actively participate in the highway location process. In many cases, local governments have proposed the highway projects and are thus strong proponents of the projects in general. In other instances, a locality may have strong preferences about the location of a proposed highway with regard to its impact on the existing road network or resources within the locality.

Federal and State Resource Agencies. Finally, federal and State resource agencies may play an active role in the highway location process. The extent of their participation generally depends on the potential environmental impact of a proposed project. If a project is likely to have a significant impact on a resource that the agency is responsible for regulating, then the agency is likely to actively participate in the location process. For projects with significant impacts, the agencies may question the need for the project in general or may express preferences for alternatives that will have the least impact on the resource that the agency has an interest in protecting.

Key Factors in Location Decisions

As discussed previously, there are numerous factors that are supposed to be considered in making location decisions. However, several key factors appear to be the primary factors that determine which alternative is selected for a new road. These factors are: displacements, wetland impacts, cultural resource impacts, traffic service provided, and cost.

Displacements. One of the primary concerns of VDOT in deciding on new locations is the impact of a proposed road on businesses and private residences. Alternatives that would require large numbers of displacements are typically eliminated if there are other alternatives with fewer displacements. Local governments consider this to be an extremely important factor in alternative selection.

Wetland Impacts. Another important factor that influences the selection of alternatives is their wetland impact. Under the federal Clean Water Act, activities that will involve filling wetlands must be permitted by the Army Corps of Engineers. Under the regulations promulgated pursuant to the Clean Water Act, the Army Corps may only issue permits for activities that are the "least environmentally damaging

practicable alternative." Many of the proposed major new road projects would involve the filling of substantial amounts of wetlands. With those projects, the Corps must be satisfied that the alternative selected through the highway location process is the "least environmentally damaging practicable" alternative before it will issue the wetlands permits necessary for VDOT to proceed with construction.

Cultural Resources. Another factor which has the potential to have a significant impact on the location of a new road is the possible impact of an alternative on cultural resources. Section 303 (c) of the 1983 Department of Transportation Act states that the Secretary of Transportation may not approve a highway project that requires the use of publicly owned parks, recreation areas, wildlife or waterfowl refuges or sites of historic significance unless there is no "prudent and feasible" alternative to using the land. As a result, there is typically considerable effort to select alternatives that will avoid or have minimal impacts on these resources.

Cost. Another important factor in location decisions is the cost of various alternatives. The cost of different alternatives may vary significantly for the same project for a variety of reasons. Proposed alternatives may have substantially different lengths. In addition, different alternatives may require different design features based on differences in geology or topography within the study area.

Transportation Service Provided. A final factor that appears to be important to location decisions is the traffic service that will be provided by the alternatives under consideration. During the location process, traffic studies are conducted and analyzed to determine what impact a proposed road alternative will have on the existing traffic network. With some projects, there are significant differences between alternatives in terms of the service that will be provided. In those instances, the traffic impact becomes an important consideration in selecting an alternative.

Highway Location Process Adversely Impacts Some Property Owners

One of the unfortunate aspects of the highway location process is that the process typically has the impact of placing properties in the area of a proposed highway project in a state of uncertainty during the location and design phases of a project. This period of uncertainty may begin with the development of alternatives during the location phase of the process and not end until right-of-way acquisition which occurs after the design of a project is completed and a precise alignment developed. While the prospect of a new road may increase the value of some properties, the possibility of a new road and the accompanying uncertainty adversely impacts many property owners.

Uncertainty During the Location Process. As soon as alternative alignments are identified for consideration during the early stages of the location process, property in or near the proposed alignments has the potential to be adversely impacted. Based on interviews with persons with experience in the process, the major adverse impact that is created by the location process is the uncertainty as to whether a proposed road will impact the properties in or near proposed alignments. According to

persons interviewed, the identification of a proposed alternative creates "a cloud over the property" located in or near proposed alignments during this period of uncertainty making it difficult for property owners to sell their property.

Adverse Impact Created by Selection of an Alternative. The potential adverse impact on property owners appears to be even greater after an alignment has been approved through the location process. For those in the corridor that is selected for approval, the probability of a road being constructed through or near property in the corridor increases. While there is an increased likelihood that the project will be constructed at this point, there is still enough uncertainty about the precise alignment of the project and whether the project will be constructed to create a significant "cloud" over the properties in or near the selected corridor.

Another problem at this point in the process is that the period of uncertainty for property owners may be substantially longer than the period of uncertainty during the location process. The normal right-of-way acquisition process does not begin until approval of the final design for a project. The completion of final design, however, generally does not occur until several years after the location decision is made by the CTB. The final environmental impact statement must first be prepared for some projects. Then after the completion of the environmental impact statement process, the design has to be developed and approved. Only after design approval does right-of-way acquisition begin, unless a property owner qualifies for early acquisition which is discussed in the next section of the report.

With some projects, the period of uncertainty is even longer because the location process is undertaken in an effort to preserve a corridor for a road with the knowledge that the design and construction of the road may be many years in the future. For these projects, the period of potential uncertainty is extended even further until funding is available to proceed with the design and right-of-way acquisition.

LOCATION PROCESS WORKS RELATIVELY WELL

Based on JLARC's detailed review of 20 major highway projects, the process appears to work relatively well. Location decisions appear to be based primarily on the technical analysis. In addition, involvement in the process by the resource agencies, local governments, and the public serves to ensure that environmental laws and regulations are complied with, local needs are accommodated, and public input is received. In addition, VDOT has developed an early acquisition process that appears to reduce the adverse impacts of the location process for some property owners. Finally, while concerns have been raised that the process is cumbersome or time-consuming, the process appears to be fairly efficient given the requirements and goals of the process. Exhibit 2 summarizes elements of the process that appear to be important to its success.

Exhibit 2

Key Elements Important to the Success of Location Process

Involvement by resource agencies to ensure compliance with environmental laws and regulations	Staff location recommendation based on technical analysis of professionals
Cooperation between VDOT and local governments during the location process	Consideration of interests and preferences of local governments by the CTB
Consideration of public input through hearing process	CTB location decision based on staff recommendation
	Early acquisition process is used to minimize impacts on those mostly adversely impacted by location decisions

Source: JLARC analysis based on file reviews and structured interviews.

Location Decisions Generally Supported by Professional Analysis

Based on the JLARC staff review of the location decision process, it appears that the location recommendations made by VDOT are reasonable decisions based on location study findings. Likewise, the ultimate location decisions made by the CTB appear to be reasoned decisions, usually based on the recommendations of VDOT staff.

Staff Location Recommendations Appear to Be Reasonable. Based on a review of numerous project files, it is apparent that findings from the various technical studies on the environmental impact, traffic impact, property impact, and cost provide the primary basis for the recommendations by staff regarding the location of proposed highways. In some cases, there remains substantial discretion in making the selection of an alternative because the technical analysis may not clearly support one alternative among several options. In those instances, staff are required to weigh the various factors in reaching a decision on the best location. While it is difficult to conclusively determine whether VDOT staff correctly weigh the various factors in reaching their ultimate location recommendations, it appears that VDOT staff generally reach well reasoned conclusions based on the information provided.

CTB Decisions Usually Follow Staff Recommendations. With most location decisions, the CTB follows the staff recommendation in making a final location decision. The study team identified only two instances in which the CTB made a location decision that was different than the staff recommendation. In one instance, the CTB appeared to have been influenced by an economic development prospect in reaching a different location decision. In the other instance, the CTB was influenced by the objection of the local board of supervisors to the recommendation of VDOT staff.

Location Decisions Generally Implement Environmental Regulations and Policies

Under the current highway location process, there is considerable involvement by federal resource agencies to ensure that the location process and the ultimate highway construction comply with environmental laws. Federal and State resource agencies monitor the progress of the highway projects through the interagency coordination meetings held by VDOT monthly with the resource agencies. For projects with major potential environmental impacts, the United States Army Corps of Engineers, the Environmental Protection Agency, and the United States Fish and Wildlife Service are all active in reviewing the environmental analysis developed during the environmental impact statement process.

In addition, the Army Corps' permit authority pursuant to the Clean Water Act serves to further ensure that the location decisions comply with environmental laws and regulations. As discussed previously, any road project which requires VDOT to fill wetlands requires VDOT to obtain a wetlands (404) permit. Federal regulations require that the Army Corps only issue permits for projects in which it is demonstrated that the alternative selected for a road project is the "least environmentally damaging practicable alternative." As a result, the Army Corps is generally actively involved during the location process in assessing whether alternatives under consideration would meet the Army Corps requirement. The Army Corps has the final authority to issue permits for projects that impact wetlands. Therefore, they must be satisfied that the location selected by VDOT for a new road is the "least environmentally damaging practicable" alternative in order for VDOT to obtain the permit approvals necessary to proceed with road construction.

VDOT and CTB Try to Accommodate Local Needs

Based on JLARC staff's review of location project files, it appears that VDOT and the CTB attempt to accommodate local needs during the location process. Both VDOT and the CTB communicate closely with local governments and appear to weigh the local governments' opinions heavily in making location decisions.

VDOT Works Closely with Local Governments. Based on the review of project files, it is apparent that VDOT staff worked closely with local governments during the location process. With most projects, there was frequent communication between VDOT staff and local governments. Moreover, VDOT appeared to generally be responsive to local government concerns during the process. The study team found several examples in which location studies were modified to include the evaluation of alternatives suggested by localities during the course of the study process. With most projects reviewed, there was agreement between VDOT staff and the localities regarding the alternative ultimately recommended by VDOT.

CTB Tries to Accommodate Local Government. The CTB also generally tries to accommodate local governments. Based on JLARC staff's observation of CTB

proceedings, it is apparent that the CTB weighed heavily the interests and preferences of the local governments that were impacted by their location decisions. All of the CTB members interviewed by JLARC staff indicated that the position of the local governments impacted by a proposed location decision was important to the members in making their location decisions. In addition, most of the local government officials interviewed indicated that the CTB and VDOT generally worked closely with local governments during the location process to address their needs. However, some local officials want more access to the CTB as discussed later in this report.

VDOT's Responsiveness to Public Input

VDOT appears to be responsive to public input in terms of the consideration of potential alternatives. However, the results are mixed with regard to the selection of the final location because some decisions appeared to be consistent with public input, while other decisions appeared inconsistent with it (often because there was no consensus among those who commented).

VDOT Is Responsive to the Public in Consideration of Alternatives. Based on interviews and the review of projects, it appears that VDOT is responsive to the consideration of alternatives proposed by individual citizens or citizens groups during the location process. With some projects, VDOT has held public information meetings for the purpose of receiving public input regarding the alternatives for a project under consideration. In several instances, VDOT has included alternatives proposed by the public in its formal analysis of alternatives.

Responsiveness to Public Input in Decision-Making. It is difficult to assess how responsive VDOT and the CTB are to public input in making location decisions. With some of the projects reviewed, it was apparent that public input impacted the final location decision. For example, with two projects reviewed, the ultimate location decision was not to build the projects. In both cases, there was significant public opposition to the projects and strong support for the "no-build" option. With both projects, the location decision made by the CTB was responsive to public input. In addition to these projects, the study team reviewed several other projects in which the alternative chosen for a project through the location process was consistent with the preference expressed by a majority of the public comments. With these projects, it was difficult to determine whether public input influenced the location decision significantly or whether the decision reached by VDOT and the CTB merely happened to coincide with the preference of those making comments.

To the extent that displacements are a key factor in the location decision, there is often a correlation between public input and the location decision that is made. With many of the projects reviewed, the majority of comments received were from persons expressing concern with the impact of a proposed alternative on their property. Therefore, in those cases in which there were significant differences in the number of displacements for the different alternatives under consideration, the selection of an

alternative that minimized displacements appeared to be responsive to public input even if the decision was not based directly on the public comments received.

With several projects reviewed, the location decision does not appear to have been significantly impacted by public input. In several cases, the ultimate location decision was not consistent with the preference of a majority of those making public comments. In some cases, there was no consensus from the public with regard to the best alternative. With those projects, any location decision would not be responsive to a majority of those submitting comments.

VDOT Provides Relief to Those Most Adversely Impacted

VDOT has established a process to minimize the impact on those property owners most adversely impacted by location decisions. The Department has developed the early acquisition process which enables persons who experience hardships as the result of the uncertainty created by location decisions to have their property acquired by VDOT much earlier in the process. VDOT will generally acquire the property of persons whose property is likely to be directly impacted by a proposed project after a location decision is made if the delay in acquisition will impose a hardship on the property owner. A hardship is defined by VDOT as a situation in which a person has been placed in an extraordinary or emergency situation due to the inability to sell their property because of an impending highway project. Generally, a person must establish a compelling reason for selling their home as well as demonstrate the inability to sell their home at a reasonable price in order to be eligible for hardship acquisition. Examples include persons with medical disabilities that require them to sell their homes or persons who are required by their employers to relocate.

VDOT appears to administer the hardship program effectively. Based on the JLARC staff review of right-of-way files, VDOT fully evaluates all requests for hardship acquisition. In addition, VDOT generally appears to grant early acquisition to persons who can demonstrate a legitimate hardship.

While the hardship process appears to lessen the adverse impact of the location process, there remain many persons who are adversely impacted but do not qualify for early acquisition. For example, property owners who are placed in an uncertain position prior to the selection of an alternative are not eligible for early acquisition. In addition, there may be property owners living near a designated location corridor who may be unable to sell their homes at a reasonable price but are not eligible for early acquisition because they do not live in the actual corridor. Furthermore, there are many persons without emergencies who are severely inconvenienced because their ability to sell their home is restricted. While these adverse impacts may be unfortunate, it does not appear to be realistic for VDOT to attempt to compensate all persons who are adversely impacted.

Location Process Appears to Be Reasonably Efficient, Given Constraints

The location process appears to be relatively efficient given the many statutory and regulatory requirements and the desire to involve the public and local governments in the process. One of the primary factors that lengthens the process is the federal statutory and regulatory requirements which establish an extensive review process for projects that have the potential to have significant environmental impacts. The efficiency of the process is also limited by efforts to provide for public and local government involvement in the process.

Federal Environmental Requirements. One of the factors that strongly impacts the length of the location process is the requirements established pursuant to the National Environmental Policy Act. As discussed previously, the regulations developed pursuant to this Act establish a multi-stage process with multiple points of review for projects that have the potential to have a significant environmental impact. With the extensive regulatory requirements and the number of agencies involved in the environmental review process, this process can significantly lengthen the time taken to complete the location process.

With a few projects that had major potential environmental impacts, JLARC staff found that there were delays of as long as several years during the highway location process as a result of differences of opinion between VDOT and the resource agencies. In some cases, these disagreements resulted from differing opinions as to the extent of analysis that needed to be conducted to assess the environmental impacts of proposed projects. With one project, the environmental agencies questioned whether the project was needed given the potential environmental impacts. These disagreements have usually resulted in requests by the environmental agencies to VDOT to conduct additional analysis which has substantially delayed the location process.

The Federal Highway Administration along with the federal resource agencies have proposed the use of a more integrated process for major highway projects, which they contend would help to resolve disagreements earlier in the process and improve the overall efficiency of the environmental review process. They assert that increased coordination and cooperation from the outset of the environmental process would reduce the extent to which environmental issues would have to be revisited later in the permitting process and thus would improve the efficiency of the process. VDOT has rejected the use of a more integrated process. According to VDOT, such a process would be too costly and bureaucratic and would further delay projects. In addition, VDOT asserts that the process would not be compatible with the State's location process which requires project approval by the Commonwealth Transportation Board.

Public Involvement. Another factor that lengthens the location process is public involvement. For projects with substantial public interest, the public participation process inevitably lengthens the process. Public participation efforts such as informal community meetings, public information meetings, and the establishment of citizen advisory committees can serve to lengthen the process. In addition, efforts to incorporate public input in the consideration of alternatives may also lengthen it.

Local Government Involvement. The participation of local governments in the process also serves to lengthen the process. JLARC staff found several instances in which efforts on the part of VDOT to accommodate local requests significantly extended the location process. For example, JLARC staff reviewed several projects in which local governments requested that VDOT evaluate additional alternatives in the midst of a location study. The review also found instances in which local governments have sought delays in action by the CTB on location decisions so that local governments could address remaining concerns. Similarly, in two instances, local governments petitioned the Commonwealth Transportation Board for a rehearing of location decisions which, in both instances, delayed the projects considerably.

It should also be noted that many of the lengthy delays in highway projects occur after the location process has been completed. With several projects reviewed by JLARC staff, there were long delays between the completion of the location process and the commencement of the design phase. These delays appear to occur for a variety of reasons. In some cases, funding may not be available to continue with the design work. In other cases, there may have been a desire to proceed with the designation of a corridor but no intention to proceed directly to design.

In conclusion, it appears that VDOT and the CTB generally follow established policies and procedures in making location decisions. As a result, the process usually involves decisions based on professional analysis of relevant issues and provides for the participation and input of interested parties. In addition, the process appears to be relatively efficient given the statutory and regulatory constraints as well as the desire to include the public and local governments in it. However, in one major project, concerns about the process point to the need to modify the process in some ways. This project as well as proposed modifications will be discussed in the remaining two chapters.

III. Case Study: U.S. Route 29 in Charlottesville

While JLARC's review of numerous highway projects found that VDOT followed a relatively systematic location process for most projects, the review of the location process used for improvements to Route 29 in the Charlottesville area raises some concerns about the process in that case. The process for this project appears to have deviated from the typical location process used by VDOT. Review of this project also raises broader concerns about aspects of the location process in general.

Several factors have combined to make resolution of the traffic problems associated with the U.S. Route 29 corridor in the Charlottesville area difficult. Within the community there are strong opinions and sharp divisions among various interests regarding how to address these problems. In addition, the tension between the local transportation interests of city and county officials and the regional transportation interests of State officials, as well as other communities along Route 29, has further complicated the situation.

Over the last 20 years, VDOT as well as local officials have studied the issue of how to meet both local and regional transportation needs along the Route 29 corridor. In 1987, the most extensive study to date was conducted to analyze how to best resolve the traffic congestion on Route 29 both for local users as well as through traffic. The study revealed that a combination of improvements would need to be undertaken in order to solve the congestion problem on Route 29 and to meet regional transportation needs. Based on this study and VDOT staff's recommendation, the Commonwealth Transportation Board approved the development of a series of improvements. The CTB resolved that the improvements should be made in the following sequence: (1) widen existing Route 29; (2) construct three grade-separated interchanges (highway underpasses or overpasses) on existing Route 29; and (3) construct a bypass if justified in the future based on traffic conditions. A subsequent Commonwealth Transportation Board has significantly altered the initial location decision by withdrawing the interchanges and proceeding with the development of a western bypass. The decision to proceed with the bypass, which has an estimated cost of approximately $184 million, has been controversial; and there continues to be considerable local opposition to it.

While it is clear that there is not an easy solution to meet all of the transportation needs and satisfy all of the interests in the Charlottesville area, review of the process for this project raises some concerns about how the process worked in this case. The CTB's reversal of its prior decision regarding the interchanges, the participation of a CTB member with a personal interest in the decision process, and the lack of coordination between the widening and interchange projects all raise concerns about the process in this case. These concerns also raise some broader questions about the overall process that will be discussed in the next chapter.

CONSIDERABLE DIVISION WITHIN THE COMMUNITY

The issue of how to address traffic problems on Route 29 in the Charlottesville area has been extremely controversial within the Charlottesville area and within other communities along Route 29. In recent years there have been strong divisions among various local citizen groups and between local governments in the Charlottesville area regarding how to resolve transportation needs on Route 29. In addition, there has been tension between the local transportation interests and regional and State interests which has further complicated the situation.

Conflicting Interests Within the Area

Within the Charlottesville area, there are multiple parties with strongly conflicting viewpoints on how to resolve the traffic problems based on differing interests. The county of Albemarle has been opposed to the development of a western bypass for approximately 20 years. The county's primary reason for opposing a bypass has been a concern about further development in the Rivanna watershed. The reason for the county's concern is that the watershed flows into the Rivanna reservoir which is the county's primary drinking water supply. For the last 20 years, the county has demonstrated a commitment to the protection of the watershed by limiting development within it. It views the development of a bypass within the watershed as an unacceptable risk.

In addition, there is an active group of Albemarle County residents who live in the vicinity of the proposed bypass who are concerned with the impact of the proposed bypass on their neighborhoods and property. These persons feel strongly that the need for the bypass has not been justified, particularly given the projected cost of the road. They have been very active in their opposition to the proposed western bypass since VDOT began to study the option of a bypass.

Businesses along Route 29 have also been active in the location process. They have been strongly opposed to the construction of an expressway or grade-separated interchanges on existing Route 29. They are generally concerned with the direct impact of such improvements to their businesses. The proposed improvements would have required several businesses to relocate and would have impacted access to others.

While the business community appears to be fairly unified in their opposition to the construction of an expressway or interchanges on existing Route 29, this community appears to be divided in their support for the bypass. Some in the business community view a bypass as an opportunity for further economic development within the community. Others in the business community along Route 29 view the bypass as potentially diverting prospective customers from existing Route 29. The business community has worked actively to oppose the construction of grade-separated interchanges on existing Route 29.

The city of Charlottesville's position has changed during the planning for the Route 29 improvements. In 1990, the city agreed to the construction of the three interchanges along Route 29. However, in 1995 the city council passed a resolution expressing opposition to the design of the proposed interchange at Hydraulic Road. The city has never taken a strong position regarding the bypass although the city council agreed to support it in 1991. The city's larger concern appears to be the construction of the Meadow Creek Parkway and what impact that would have on the city. The proposed Meadow Creek Parkway would run parallel to Route 29 to the east and would provide an alternative to Route 29 for some local traffic. All of the proposed projects are illustrated in Figure 2.

Regional and State Interests *Versus* Local Interest

In addition to the different interests within the local community, there has also been some tension between local interests and State and regional interests. While local officials and citizens are primarily interested in solving the traffic congestion on existing Route 29, State transportation officials as well as officials in other local communities in the region have expressed a strong interest in developing a bypass around Charlottesville to meet regional and State transportation needs.

State Interest. State transportation officials have expressed the need for a bypass around Charlottesville for more than 20 years. During the development of the Intermodal Surface Transportation Act legislation, the State, along with North Carolina, worked successfully to have Route 29 designated as a "Highway of National Significance." This designation means that Congress considers the Route 29 corridor to be an important corridor that is not adequately served by the Interstate System, and therefore, it requires further highway development to serve the travel and economic development needs of the region. State transportation officials view Route 29 as a regional road that serves important regional transportation interests.

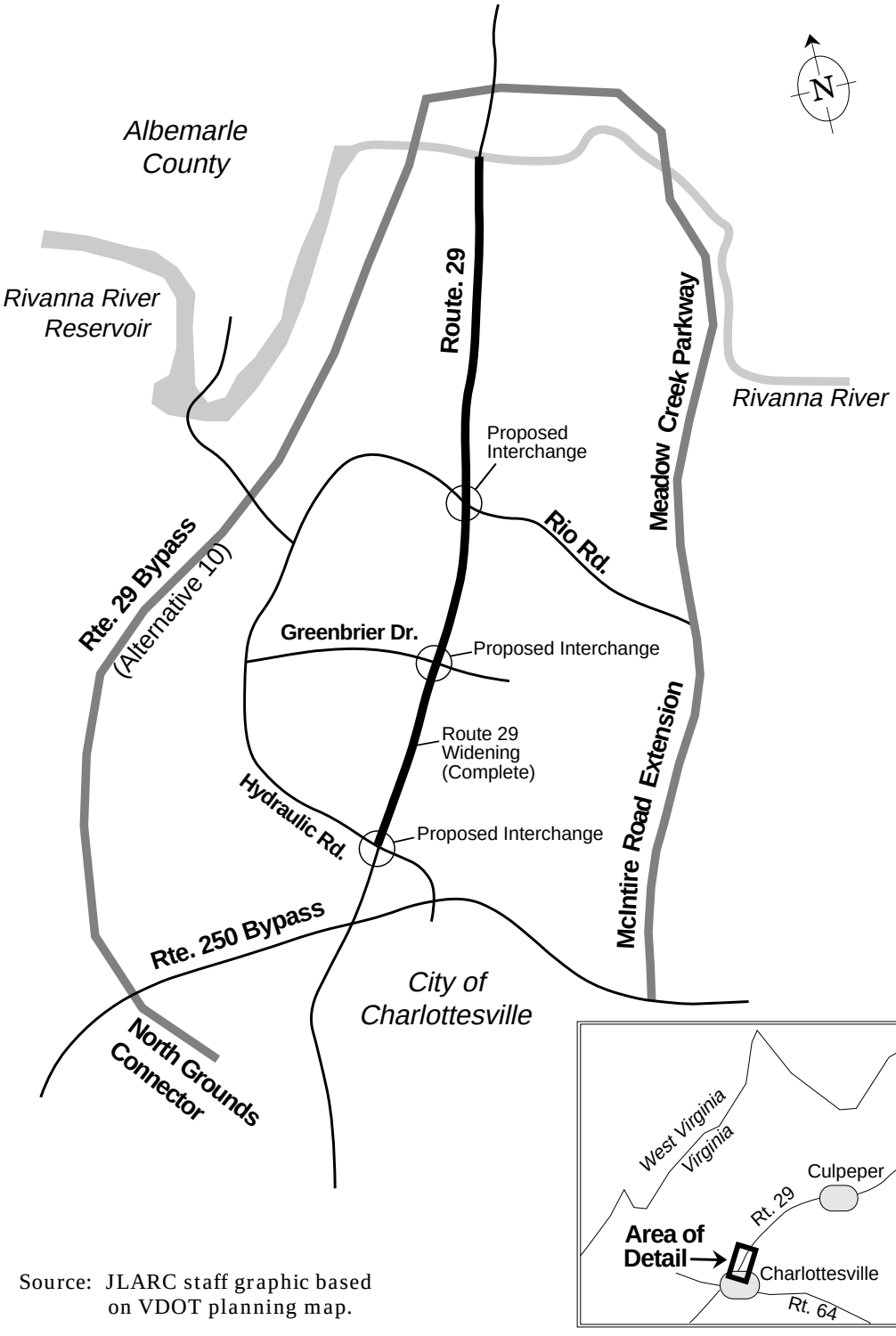
Danville and Lynchburg Have Sought the Bypass. Likewise, communities along Route 29 have expressed a strong interest in the development of a bypass around Charlottesville. Two communities that have expressed especially strong support for the bypass are Danville and Lynchburg. Both communities believe that a bypass is needed so that their citizens traveling to and from points north of Charlottesville can bypass the area. In addition, they contend that a bypass is needed so that commercial trucks traveling through the Charlottesville area can do so unimpeded. They further assert that the bypass is needed to serve the economic development needs in the region.

HISTORY OF THE LOCATION STUDY PROCESS FOR ROUTE 29

State highway planners and local officials have been searching for a solution to the traffic congestion on Route 29 through Charlottesville and Albemarle for more

Figure 2

Proposed Transportation Improvements in the Route 29 Corridor



Source: JLARC staff graphic based on VDOT planning map.

than 20 years. This search has involved numerous studies, many public hearings, and constant negotiations between VDOT and local governments. Exhibit 3 summarizes the history of the location process.

A location study commissioned by VDOT in 1987 presented a comprehensive analysis of the traffic problems in the area as well as an assessment of what was needed to solve these problems. In response to these study findings, the Commonwealth Transportation Board adopted resolutions in 1990 and 1991 that outlined which transportation projects would be pursued to address the traffic problem in Charlottesville and the order in which they would be prioritized. The resolution called for the widening of existing Route 29 in the short term, the construction of grade-separated interchanges, and the construction of a bypass if future traffic demand justified it after the construction of the other improvements. However, in 1995 the CTB voted to rescind its prior approval of the interchanges and to make the development of a bypass a priority.

Route 29 Corridor Problems Studied

Since the 1970s, Albemarle county, the city of Charlottesville, and VDOT have been involved with a number of studies to plan for growth and alleviate traffic problems on Route 29 from Hydraulic Road to the Rivanna river. Between 1979 and 1985, several studies were conducted to determine how best to solve traffic congestion in the area.

Each study proposed very similar solutions to the traffic problems in the area. The improvements recommended by the studies included: widening Route 29, constructing a limited access western bypass, constructing interchanges on existing Route 29, and constructing a local route east of Route 29 connecting Route 29 with the 250 bypass (referred to as the Meadow Creek Parkway).

In response to the findings of these studies, VDOT held a location and design public hearing in 1986 regarding the proposed widening of Route 29 and the construction of a grade-separated interchange at Route 29 and Rio Road. Due to the opposition against the proposed interchange and the interest within the community in studying an expressway option, VDOT decided to postpone the proposed improvements until a broader corridor study could be completed.

Route 29 Corridor Study Completed in 1990

In 1987, VDOT commissioned a consultant to conduct a comprehensive Route 29 corridor study ("consultant study") to examine how best to address the problem of traffic congestion in the Route 29 corridor between the 250 bypass and the Rivanna river. The "purpose and need" for the consultant study was stated as follows:

> 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.

Exhibit 3

History of Location Process for Route 29 Improvements

Jan. 1979	VDOT completes Route 29 Corridor Study.
Aug. 1985	Metropolitan Planning Organization adopts Charlottesville Albemarle Transportation Study for the year 2000.
Oct. 1986	VDOT holds a location and design public hearing regarding widening Route 29 and constructing an interchange at Route 29 and Rio Road.
Sept. 1987	VDOT contracts with a consultant to conduct a location study for improvements to Route 29.
May 1990	Consultant completes the study draft environmental impact statement.
June 1990	VDOT holds location public hearing to present Route 29 improvement options.
Nov. 1990	The CTB approves a western bypass option but resolves to first widen Route 29, construct the Meadow Creek Parkway, and build interchanges on existing Route 29.
Dec. 1991	The Charlottesville City Council and the Albemarle County Board of Supervisors sign an agreement which states that Route 29 should be widened, Meadow Creek Parkway constructed, and three interchanges constructed before a bypass is planned.
Dec. 1991	The CTB re-affirms its commitment to its November 1990 resolution prioritizing the improvements to Route 29.
Jan. 1992	CTB approves the first phase of widening of Route 29.
Feb. 1992	UVA signs onto agreement made between county and city regarding the prioritization of Route 29 improvements.
1993-1994	VDOT conducts design study for three proposed interchanges on existing Route 29.
Sept. 1993	VDOT awards contract for first phase of widening project.
Oct. 1994	VDOT holds a citizen information meeting on the design of the proposed interchanges at Rio, Greenbrier, and Hydraulic roads.
Jan. 1995	The City of Charlottesville withdraws its support for the design of the Hydraulic Road interchange.
Feb. 1995	The CTB votes to rescind its approval for the location, design, and construction of the interchanges on Route 29.
May 1995	Albemarle Board of Supervisors resolves that its number one priority is the Meadow Creek Parkway and withdraws its support for the grade-separated interchanges on Route 29.
Nov. 1997	Design of bypass 75 percent complete.
Dec. 1997	Right of way acquisition scheduled to begin.
May 2001	Construction bids scheduled to be accepted.

Source: VDOT Route 29 Bypass project files.

> Route 29 between the 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.

The consultant study, which cost approximately $3.7 million, was conducted within the framework of the environmental impact statement process. The study began with the consideration of a large range of preliminary alternatives. These preliminary alternatives were then screened based on environmental, traffic, and engineering factors. Alternatives that were not feasible, had severe impacts, or did not satisfy the need, were eliminated.

Through this process, the consultant reduced the number of alternatives under consideration to 27 conceptual alternatives for a bypass. The study also considered an expressway option which would have involved the construction of an expressway using the existing corridor along with a network of access roads. In June 1988, the consultant presented the conceptual alternatives publicly in an information meeting.

Based on public input and further evaluation of the 27 alternatives, the consultant developed eight "candidate build alternatives" which included an expressway option and corridors both east and west of Route 29. A comprehensive technical analysis was performed on these alternatives to evaluate environmental impacts and traffic service. In addition, preliminary plans for these alternatives were presented to the public in June of 1989. Upon the request of the local governments and the metropolitan planning organization, the consultant also considered the construction of three grade-separated interchanges as an option to address the traffic congestion on existing Route 29.

A major part of the consultant study was the development of a traffic demand model based on detailed land use and socioeconomic data, household surveys, roadside surveys, historical traffic data, and the existing road network. One of the major components of the traffic analysis was an extensive origin and destination survey of motorists on Route 29. This survey revealed that most motorists using Route 29 in the study area had a local destination.

Using the model that was developed based on the origin destination study as well as other data, the consultant analyzed each of the alternatives under consideration. The analysis revealed that none of the bypass alternatives would have much impact on the level of service on existing Route 29 in the long term. The analysis indicated that if any of the bypass alternatives alone were constructed, the level of service (LOS) on existing Route 29 would be at "F" in the year 2010. VDOT rates the level of service that a road provides. A level of service of "A" is the highest level that a road can provide and "F" is the worst rating a road can receive. LOS ratings of "E" and "F" are generally considered unacceptable by VDOT unless land use and development make it impossible to construct new facilities.

The consultant study also examined the impact on the LOS that the three grade-separated interchanges would have using the traffic model that was developed. This analysis revealed that the combination of widening existing Route 29 and constructing the three grade-separated interchanges, without construction of a bypass, would increase the LOS on existing Route 29 from an "F" to a "B" in the year 2010. The study further found that if both the interchanges and a western bypass were constructed in addition to the widening, that the LOS would improve from an "F" to an "A" level of service in the year 2010. The study projected that the cost of a bypass would be from $98 million to $198 million and the cost of the three interchanges would total approximately $45 million.

Solutions to Route 29 Problems Considered

The analysis of the seven build alternatives, the expressway alternative, and the grade-separated interchanges, as well as the base case or no-build alternative were presented in the draft environmental impact statement in the spring of 1990. Following the publication of the draft EIS in the spring, VDOT conducted a location public hearing to receive comments on the proposed alternatives in June 1990.

Approximately 3,000 persons attended the location public hearing. VDOT received 202 comments and 3,103 petition signatures in opposition to either one or all bypass options and 117 comments in support of one or more bypass options. In addition, VDOT received 175 comments and 30 petition signatures in support of the construction of grade-separated interchanges and 16 comments in opposition to them.

Citizens had four primary reasons for opposing the bypass. These reasons were: (1) concern about the disruption the bypass would have on the community, (2) the desire to protect the South Fork Rivanna River Reservoir (the major source of drinking water for Charlottesville and Albemarle residents), (3) fear that the bypass would have a negative impact on the value of their homes or businesses, and (4) the belief that a bypass would do less to improve local congestion than widening and adding interchanges to the existing Route 29. Citizens who supported the bypass did so primarily because they believed it would improve the congestion problem on Route 29.

The State and federal natural resources agencies also commented on the Route 29 improvement alternatives proposed in the draft EIS. Each commenting agency expressed a preference for adding interchanges and widening Route 29 or the expressway option. They preferred these two options because they had the least damaging impact on the environment and would best meet the "purpose and need" stated in the draft environmental impact statement.

Decision Makers Respond to Study Findings

Based on the consultant study and the public comments received, VDOT developed a position paper with recommendations regarding how to proceed in the fall of

1990. In the paper, VDOT staff recommended to the CTB a series of short, medium, and long range improvements to the Route 29 corridor through Charlottesville and Albemarle County. The position paper concluded the following:

> 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.

VDOT staff recommended in their final position paper the following sequence of improvements:

(1) widening of Route 29 from Hydraulic Road to the Rivanna River,

(2) development of the North Grounds access facility at the University of Virginia along with additional mass transit,

(3) construction of grade-separated interchanges at Rio Road, Greenbrier Drive, and Hydraulic Road, and

(4) "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."

The staff recommended "Alternative 10" as the corridor for the bypass if it was ultimately determined that the bypass was needed. VDOT recommended "Alternative 10" based on several factors. It would provide the highest level of traffic service, it did not cross the reservoir, and it was the least costly of the western alternatives. In addition to this sequence of improvements, VDOT also recommended that the city, county, and State work to preserve the rights-of-way for the future development of the Route 29 bypass. However, the construction of the Route 29 bypass itself was listed as a "long range" solution.

In November 1990, the issue was presented to the CTB. The CTB adopted a resolution that reflected the staff recommendation. The resolution called for the sequence of improvements recommended by staff which included the widening of existing Route 29 and the construction of the three grade-separated interchanges. It also stated that the bypass was only to be constructed if necessary after the construction of these alternatives. The resolution also approved "Alternative 10" as the corridor for the bypass but stated that the bypass would only be considered if the other improvements did not resolve the traffic congestion on existing Route 29.

In December 1991, the Charlottesville City Council and the Albemarle County Board of Supervisors signed an agreement, which is referred to as the "three party

agreement," (the third party was the University of Virginia) that stated their support for a sequencing of improvements for the Route 29 corridor in the CTB resolution. The CTB passed a resolution in December 1991 recognizing this agreement, re-affirming its support for the prioritization of improvements outlined in its November 1990 resolution, and adding support for the construction of the Meadow Creek Parkway. In February 1992, the University of Virginia also signed the agreement made by the city and county. The metropolitan planning organization also endorsed this agreement.

Widening Proceeded but Support for Interchanges Was Withdrawn

After the adoption of the December 1991 resolution by the CTB, VDOT proceeded with the widening of existing Route 29 as well as the design work for the interchanges. However, in 1995 VDOT stopped work on the interchanges after the CTB withdrew its support for them.

Widening of Route 29 Proceeded. Work on the widening of existing Route 29 proceeded after the adoption of the second resolution in December 1991 by the CTB affirming the sequence of improvements. In January 1992, the CTB voted to approve the design for the first phase of the widening. Between April of 1992 and May of 1993, VDOT acquired the right-of-way for the first phase of widening. The project was then submitted for advertisement in July of 1993.

VDOT Proceeded with Design for Interchanges. In 1993, VDOT retained a consultant to prepare the design work for the interchanges. This consultant evaluated different designs for interchanges. In October 1994, with the design work less than 25 percent complete, VDOT held a design public information meeting to present information for the purpose of comparing alternative interchange types.

Approximately 1,100 citizens attended the public information meeting for the interchanges. In conjunction with the meeting, VDOT received 1,698 comments and 1,572 petition signatures expressing opposition to the interchanges. In addition, VDOT received 989 comments and 790 petition signatures in support of the interchanges. The primary reasons given for opposing the interchanges were: (1) the access problems that would be created; and (2) the cost of construction, because VDOT would be required to tear up a large portion of the newly completed widening work.

In January 1995, the city of Charlottesville passed a resolution expressing opposition to the interchange proposed for Hydraulic Road. The city council's resolution cited as reasons for its opposition the impact on existing buildings, the destruction of a large percentage of the widening just constructed, and that the interchange would be out of character with the community. The county of Albemarle continued to support the interchanges.

CTB Withdraws Its Support for the Grade-Separated Interchanges. In January of 1995, the CTB conducted a workshop at which the interchanges were discussed. The following month, the CTB voted to withdraw support for the design and

construction of the interchanges. The CTB cited the following reasons for withdrawing its support in the resolution:

(1) citizen comments against the interchanges at the citizen's information meeting to discuss the design,

(2) comments made by the City of Charlottesville, University of Virginia, and Greene County,

(3) the cost of the interchanges which were estimated to be between $12 and $15 million each,

(4) construction of the interchanges would result in the destruction of more than 60 percent of the widening recently completed on Route 29,

(5) construction of the interchanges would inconvenience motorists on Route 29 for two years, and

(6) the interchanges would only result in a minimal level of improvement in the "ultimate level of service."

CTB Resolves to Move Ahead with the Route 29 Bypass. The CTB's February 1995 resolution supported the continuation of the other improvements to Route 29 referenced in the 1990 and 1991 resolutions, including construction of the Meadow Creek Parkway, and the development of the Route 29 Bypass. In addition, the resolution rescinded the conditions of the earlier resolutions which conditioned the bypass on the establishment of a justified traffic need. The 1995 resolution stated, "the phasing of construction for the Route 29 bypass based on increases in traffic and economic condition [shall] be rescinded and that the Department continue the design of the Route 29 (Alternative 10) Bypass." The resolution also directed that funds set aside for the interchanges be redirected to the widening and bypass projects.

Project Remains Controversial

The project remains controversial since the decision to proceed with the design phase in 1995. Both the county and the metropolitan planning organization publicly oppose the bypass. In addition, there remains active opposition to the project among many citizens in the Charlottesville-Albemarle area.

In 1996, the Charlottesville metropolitan planning organization (MPO) removed the bypass project from their Transportation Improvement Program (TIP) for the expenditure of construction funds. Under current federal law, the local MPO must include a project in their TIP for it to be eligible for the authorization of federal funds. As long as the project is not included in the TIP, the project will not be eligible for federal funds for construction because construction funds have not yet been authorized for the project.

In addition, the Design Advisory Committee, a group of citizens assembled by the MPO to provide input to VDOT on the design of the project, announced that they had passed a resolution stating their opposition to the bypass. They stated that they had such fundamental concerns about the project that they would not be able to support it regardless of its design.

During 1997, there have been several expressions of opposition to the bypass. At the design hearing for the bypass held in February, 3,001 citizens submitted oral or written comments, and 4,980 citizens signed petitions stating their opposition to the bypass. Comments were submitted by 1,118 citizens in support of the bypass. In addition, in April of 1997, prior to the CTB vote on approval of the design, Albemarle county passed a resolution expressing opposition to the bypass. The metropolitan planning organization also voted again in August 1997 to leave the western bypass out of its transportation improvement program.

Despite the continued opposition from Albemarle county, the MPO, and some citizens within the community, VDOT is proceeding with the development of the bypass. The design for the bypass is approximately 75 percent complete, and VDOT staff plan to begin purchasing right-of-way in the corridor in December 1997. VDOT currently projects that construction bids for the project will be accepted in 2002.

CONCERNS WITH THE ROUTE 29 PROJECT

A detailed review of the location process for the Route 29 bypass and improvements raises some process concerns regarding this project. The CTB's decision to rescind its previous location decision and change completely the traffic need addressed without a public hearing or completion of technical analysis is of concern. In addition, the participation by a CTB member with a personal interest in the project in a location decision presented the appearance of a conflict within the community. Finally, VDOT's failure to coordinate the widening of Route 29 and the approved interchanges as well as VDOT's failure to fully analyze impacts of the interchange alternative prior to the location public hearing also raise significant questions.

Process Used to Withdraw Support for the Interchanges Raises Concerns

The process by which the CTB acted to withdraw support for the interchanges raises questions about how the process worked in this case. The interchanges were approved by the CTB after an extended study in which the interchanges, bypass alternatives, and an expressway alternative were all analyzed through the location process. In contrast, the support for the interchanges was withdrawn by the CTB without the benefit of any completed technical reports or analysis, any public hearing, or any staff recommendation. The manner in which the decision was made is of particular concern because the decision changed entirely which traffic needs would be addressed along

the Route 29 corridor in Charlottesville. Exhibit 4 contrasts the process used to make the initial location decision in 1990 and the process used to rescind this decision in 1995.

Exhibit 4

Elements Important to the Success of Location Process

Key Element	*Route 29 Project* 1990 Location Decision	1995 Location Decision
Involvement by resource agencies to ensure compliance with environmental laws and regulations	✔	N/A
Cooperation between VDOT and local governments during the location process	✔	❍
Consideration of public input through hearing process	✔	✘
Staff location recommendation based on technical analysis of professionals	✔	✘
Consideration of interests and preferences of local governments by the CTB	✔	❍
CTB location decision based on staff recommendation	✔	✘
Early acquisition process to minimize impacts on those mostly adversely impacted by location decisions	✔	N/A

Key: ✔ **Present** ❍ **Partially Present** ✘ **Not Present** **N/A Not Applicable**

Source: JLARC analysis based on file reviews and structured interviews.

Interchanges Were Approved After Three-Year Study and Public Hearing in 1990. As discussed previously, the interchanges were approved by the CTB only after the completion of an extensive consultant study in which the interchanges were evaluated during the location process through a sophisticated traffic model along with the other alternatives. In addition, the interchanges were discussed as an option in the draft environmental impact statement prepared in 1990 and were presented for public comment at the location public hearing held that same year. VDOT received 208 comments regarding the interchanges at the public hearing. After the location public hearing, VDOT staff evaluated the option of the interchanges and presented them as a recommendation in their final position paper which was prepared by VDOT after the completion of the consultant study and the public involvement process.

Interchanges Were Withdrawn in 1995 Without Completion of Design Analysis. In contrast, the CTB withdrew support for the interchanges without: (1) completion of the design study on the interchanges, (2) a public hearing, or (3) a staff recommendation. VDOT had contracted with a consultant to conduct a design study

for the interchanges in 1993. The consultant had begun the design work for the proposed interchanges as well as the traffic analysis on the impact of various interchange alternatives. However, the design consultant had completed only 24 percent of the design work when they were instructed by VDOT to stop work on the project. By this time, VDOT had spent approximately $750,000 on design work for the interchanges.

Interchanges Withdrawn Without Public Hearing. In addition, no public hearing was held prior to the decision by the CTB to withdraw support for the interchanges. A public information meeting was held in October of 1994, four months prior to the decision by the CTB to withdraw support for the interchanges. However, the design public hearing that was scheduled for February of 1995 was canceled.

The CTB has cited the opposition at that public information meeting as one of its primary reasons for withdrawal of support for the interchanges. However, comments submitted pursuant to public information meetings are not considered official comments for the record. In fact, for most projects, public comments received through public information meetings are not provided to CTB members for their consideration in making location and design decisions.

Interchanges Withdrawn Without Staff Recommendation. VDOT staff do not appear to have prepared a staff recommendation to the CTB regarding the issue of withdrawal of support for the interchanges prior to CTB action on this issue. It was inconsistent with common practice for staff not to prepare a recommendation prior to a major location decision. The decision to withdraw support for the interchanges at the February 1995 CTB meeting appears to have been brought to a vote upon the initiative of a CTB member.

Decision by CTB Leaves Local Congestion Unresolved. The manner in which the CTB decided to withdraw support for the interchanges is of particular concern in this instance because the decision changed entirely the traffic needs that would be addressed in the Charlottesville area. The bypass will address the need to provide a route for through traffic traveling around Charlottesville. However, the decision not to construct the interchanges will leave the congestion problem on existing Route 29 unresolved. Alleviating this congestion was the primary purpose of the location study, according to the "purpose and need" statement.

According to VDOT and its consultant, the congestion on existing Route 29 will not be improved significantly without the construction of the grade-separated interchanges. The consultant study concluded that the level of service on existing Route 29 will return to a level of service of "F," which is considered unacceptable by VDOT, by the year 2010. As mentioned previously, in its position paper prepared for the CTB dated November 9, 1990, VDOT staff concurred with this study finding, stating that the study "shows that no single alternative by itself will satisfy all of [the traffic] needs. For example, a bypass alone will not substantially improve traffic conditions on existing Route 29."

The magnitude of the decision to withdraw support for the interchanges raises serious concerns about the process by which the decision was made to withdraw support for them. While there were valid concerns raised about the interchanges, these concerns should have been considered through the formal location process prior to a CTB decision to reverse a major location decision of a prior Board.

Participation by CTB Member Created the Perception of Impropriety

Another issue that arises out of the Route 29 project is the active participation in the decision of the CTB to withdraw support for the interchanges by one Board member with a personal interest in the issue. This CTB member, who was not a member of the Board when the original Route 29 improvements were approved, owned a business near the intersection at which one of the proposed interchanges was proposed to be constructed. Based on the design sketches for the proposed interchange alternatives, it appears that a ramp for the interchange might have required VDOT to take a small section of the front of his property. However, in addition to this impact, this individual had expressed the concern publicly in 1993 at a VDOT pre-allocation hearing that as a business owner on Route 29, he was opposed to the construction of the interchanges because of the disruption that would result to businesses on Route 29 during the construction process.

Prior to Board discussions regarding the Route 29 interchanges, this member disclosed the fact that he had a direct personal interest which might be impacted by the decision regarding the construction of a grade-separated interchange at Rio Road. This disclosure appears to comply with Virginia's conflict of interest statute, which merely requires disclosure in that context.

The concern with his participation is not that he violated the current statute but that his participation created the perception among some within the community that he had improperly influenced the process to serve his personal interests. While this member of the CTB may have been well intended in his participation, the appearance of impropriety raised in the minds of some by his participation is problematic to the integrity of the overall location process.

VDOT's Failure to Coordinate and Plan for Interchanges Contributed to CTB's Decision to Withdraw its Support for Interchanges

Another concern raised regarding the Route 29 project is the failure to plan and coordinate the interchanges with the widening of Route 29. The failure to coordinate the two projects appears to have contributed to the decision not to proceed with the interchanges.

The widening and interchange projects were both approved in 1990 in the same CTB resolution. The design for the first phase of the widening was not approved

until January of 1992 and the construction contract was not awarded until September 1993.

Despite the almost three-year time period between the initial approval of the widening and interchanges and the award of the widening contract, JLARC staff did not find any evidence of efforts on the part of VDOT to coordinate or plan for the widening and interchange projects. In 1991, the county administrator of Albemarle county wrote the Secretary of Transportation recommending that the design for the widening of Route 29 be developed to "facilitate the later construction of the grade-separated interchanges at Rio, Greenbriar and Hydraulic Roads." VDOT staff, in responding to Albemarle County's letter about the need for coordination in the planning of the two projects, wrote that merging the planning of these two improvements "would delay the advertisement for construction to widen Route 29 by a minimum of three to five years while we [VDOT] prepared plans, conducted public hearings and acquired rights of way for the interchanges." VDOT further stated in its response that the proposed interchanges could be constructed later with "minimum changes" to the widening.

This failure to plan for and coordinate the construction of the interchanges is of particular concern because one of the primary reasons cited by the CTB for withdrawing support for the interchanges is the fact that construction of the interchanges would require the destruction of 60 percent of the widening work that had been completed. This has been used as a reason for not proceeding with the interchanges despite the fact that the interchanges had been approved by the CTB prior to the approval of the final design for the first phase of the widening. While the timing of the two projects and the need to move forward with the widening may have made coordination difficult, VDOT at a minimum should have fully analyzed the issue and made the CTB aware of the potential problem with the timing of the two projects prior to beginning construction of the widening.

VDOT Should Have More Fully Analyzed Impact of Interchange Alternative

A final concern with the Route 29 project was the failure of VDOT and their consultant to fully analyze the interchange alternative during the draft environmental impact statement process and prior to the location public hearing. The interchange alternative was presented as an alternative in the draft environmental impact statement and was prominently presented in the brochure distributed in conjunction with the location public hearing. However, the evaluation of the interchange alternative was limited to an analysis of its transportation impacts. Neither the draft EIS nor the hearing brochure included any analysis of the environmental and right-of-way impacts of the interchanges.

The public and the CTB should have been provided some analysis of the impacts of the interchanges prior to the location public hearing and the CTB's decision to approve the interchanges. The impact of the interchanges subsequently became a major issue which should have been addressed more extensively much earlier in the process.

In summary, the location process used for improvements to Route 29 raises questions about the process in that case. The decision to rescind a prior location decision and the participation by a member of the CTB with an interest in the project in the location process raise concerns about the Route 29 process. The concerns raised by this project point to aspects of the broader location process that need to be modified. These broader concerns will be discussed in the next chapter.

IV. Areas of Concern with the Location Process

While VDOT and the CTB appear to comply with the federal and State processes, JLARC staff identified several aspects of the location process that could be improved. The review found several procedural weaknesses related to the CTB's role in the location process that should be addressed. In addition, VDOT needs to modify its public participation process to increase the opportunity for public comment, establish procedures for the public involvement process, and educate the public regarding the location process.

The review also revealed two other potential problems directly related to the highway location process. The CTB appears to have inappropriately used the major investment study process to select a location corridor in one recent case. In addition, the study identified several staffing concerns in the location and design divisions within VDOT.

SOME CTB PRACTICES SHOULD BE MODIFIED

While the CTB's participation in the location selection process appears generally sound, the experience of the Route 29 project in Charlottesville as well as the review of other projects raises some questions about the process that should be addressed. First, the procedural requirements that govern initial location decisions should also be applied to decisions of the CTB to rescind or modify previous decisions of the Board. In addition, the State's conflict of interest statute should be amended to prohibit CTB members with financial interests in location decisions from participating in such decisions. Finally, localities should have greater access to the CTB to express their views regarding location decisions before the Board.

Location Process Should Apply to Actions to Rescind Prior CTB Decisions

One of the concerns raised by the experience of the Route 29 project is the difference between the process used to approve location decisions and the process to rescind previous CTB location decisions. While the CTB may only approve a location for a new road project after an extensive process, the CTB may act to rescind a prior location decision of the Board merely upon a vote of the CTB.

The location process is an extensive process which involves detailed technical analysis and considerable public involvement. Under current Virginia law, VDOT is required to conduct a location public hearing prior to the CTB making a location decision. In addition, federal law requires that major new location projects undergo the NEPA process which involves detailed analysis of multiple alternatives.

In contrast, there are no limitations on the CTB's authority to rescind location decisions made by a prior Board. There is no hearing or other requirement. The CTB may make a decision to rescind an earlier location decision merely upon a majority vote.

The Route 29 project demonstrates this disparity. As mentioned previously, the CTB voted to approve a sequence of improvements to the Route 29 corridor in accordance with a three-year, $ 3.7 million study. The study included detailed environmental and traffic analyses. In addition, it included an extensive public involvement process that involved several public information meetings, a two-day location public hearing, as well as numerous meetings with a locally formed transportation committee. In contrast, the CTB made the decision in 1995 to rescind major aspects of its earlier decision without an additional public hearing or the completion of any further technical analysis.

The process needs to be modified to require additional public involvement prior to a decision by the CTB to rescind an earlier decision. Initial location decisions are made only after an extensive public involvement process. Therefore, decisions to rescind prior location decisions of the CTB should be made only after the public is provided with the formal opportunity to submit input through the public hearing process. In addition, the CTB should ensure that sufficient technical analyses have been completed to adequately assess any major location issue on which the CTB intends to vote.

Recommendation (1). **The General Assembly may wish to consider amending § 33.1-18 of the *Code of Virginia* to require that the Commonwealth Transportation Board provide the opportunity for a public hearing prior to any decision to rescind or significantly modify a previous location decision of the Commonwealth Transportation Board.**

CTB Members Should Not Be Permitted to Participate in Location Decisions Which Directly Impact their Personal Interests

Another concern with the current process is that members of the CTB are not precluded from participating in decisions that impact their own personal interests, as long they disclose their interest. Under Virginia's current conflict of interest statute, an "officer" of the State, which would include CTB members, may participate in a transaction in which they have a personal interest if: (1) they are the member of a business, profession or group which is affected by the transaction; or (2) the transaction affects the public generally. The current statute provides fairly wide latitude for CTB members to participate in location decisions in which they have a personal interest as long as they disclose their interest.

While CTB members may be able to fairly and objectively participate in matters that affect their personal interest, a potential problem with allowing them to do so

is that their participation may create the appearance among some that they are improperly influencing the process for their own personal gain. With the high level of controversy often associated with the highway location process, the CTB needs to avoid the appearance of impropriety in making highway location decisions. In an interview with JLARC staff, a former Secretary of Transportation stated that the conflict of interest statute should be amended to prohibit participation by CTB members in decisions that directly impact their interests.

A good example of the potential problem with allowing members to participate in location decisions in which they have a personal interest is the Route 29 project. As discussed in the previous chapter, the perception existed among many in the community that one member of the CTB had improperly influenced the process. This perception appears to have contributed to a distrust of the process by many in the Charlottesville community.

With a process that often involves controversial issues and decisions, every effort should be made not only to ensure the integrity of the process, but also to maintain the public perception that the process has integrity. Therefore, the Comprehensive Conflict of Interest Act should be amended to prohibit any CTB member with a direct personal interest in a highway location decision from participating in the decision. This prohibition should also be extended to design decisions, contract approval decisions, and any other decisions before the Board in which members have a direct personal interest.

Recommendation (2). **The General Assembly may wish to amend § 2.1 - 639.11 of the *Code of Virginia* to require that any member of the Commonwealth Transportation Board who has a personal interest in a location decision or any other highway project or contract decision before the Board recuse himself from participating in the decision.**

More Access to CTB Should Be Provided under Certain Circumstances

Under the current location process, there is no opportunity for anyone to present their viewpoint directly to the full CTB regarding a major location decision. Individual CTB members may attend location public hearings for projects in the districts that they represent, but rarely do members attend hearings outside of the districts in which they reside. Therefore, local government officials, citizen groups, and individual citizens do not have the opportunity to address the Commonwealth Transportation Board on location decisions that impact them.

Access to the Board Is Limited. In 1986, the CTB established guidelines that restricted access to the Commonwealth Transportation Board. Prior to that time, the Commissioner of VDOT, who chaired the CTB, had the discretion to select who would be permitted to present public comments directly to the Board at their monthly meetings. The decision to establish guidelines restricting public comments apparently

was the result of a decision of the Commissioner to increase involvement by CTB members in the process through the workshops but to also ensure that the Board was not overwhelmed by citizen involvement.

One of the guidelines approved in 1986 stated that the Board would not hear public comments on issues for which a public hearing had been held to receive comments. This guideline effectively eliminated the opportunity for public comment to the CTB regarding location decisions because location projects typically have a public hearing.

Concern Expressed with Limited Access. In interviews with local officials, officials from two localities expressed strong concern that the CTB is too insulated from the public and that the local government officials should be provided the opportunity to address the Board prior to location and design decisions that directly impact their localities. One official stated that major location decisions potentially have enormous impacts on the localities over the long term and that local governments clearly should have the right to address the Board which has the authority to make the location decisions.

Some CTB Members Would Like Increased Access. In interviews with CTB members, some of those interviewed thought that localities should have the right to present their positions to the Board. Other members interviewed believe that the local governments have ample opportunity to communicate with the CTB through the current location hearing process or through informal means. Several of the members interviewed were concerned that providing further access to the Board would create too much additional work for the CTB members who already have substantial responsibilities as citizen board members.

Additional Access Should Be Provided. Based on a review of the process and interviews, it appears that further access to the CTB would be beneficial. Under Virginia law, the CTB is given substantial authority to make location decisions which may have significant impacts on the communities involved. Local governments with an interest in the location decisions which directly impact their jurisdiction should have the right to directly address the Board which ultimately makes those decisions. The interest served by providing this additional access would appear to outweigh any concern about additional workloads for members of the Board.

The additional access to the full CTB could be limited to minimize the burden on the Board. The right to address the Board could be limited to those situations in which there is some indication of disagreement between a locality and VDOT staff over the preferred alternative or when there is a disagreement between two or more localities that will be impacted by a location decision over the preferred alternative. With many location decisions, there is only one locality directly impacted, and there is agreement between the locality and VDOT regarding the preferred alternative. Therefore, the number of projects in which the CTB would have to provide access would be relatively small. Moreover, to further minimize the burden on the CTB, the opportunity for local government comment could be integrated into the current CTB process. The com-

ment period could be provided on the same day as the monthly CTB workshops or meetings to minimize the additional time commitment on the part of Board members.

Recommendation (3). **The Commonwealth Transportation Board should provide the opportunity for local governing bodies to directly address the board regarding major road projects in those cases in which: (1) there is disagreement between the location alternative recommended by the Virginia Department of Transportation and the alternative preferred by a locality that will be directly impacted, or (2) more than one locality will be directly impacted by a location decision, and there is some disagreement between the localities regarding the preferred location alternative.**

PUBLIC PARTICIPATION PROCESS COULD BE STRENGTHENED

While the Virginia Department of Transportation appears to effectively present project information and receive public comments through the public involvement process, some aspects of the process need to be improved. Along with having informal location public hearings, VDOT should also provide the opportunity for persons to comment through the traditional hearing format. In addition, VDOT needs to establish written procedures that govern the public participation process to ensure uniformity and reduce discretion in the implementation of the process. VDOT also needs to place more emphasis on helping the public to understand the process.

VDOT Provides Adequate Information and Effectively Elicits Comments

VDOT appears to provide adequate project-specific information to the public. Through public information meetings, location hearings, and newsletters, VDOT generally provides detailed information about individual projects. Most local officials as well as representatives from citizen groups told JLARC staff that VDOT generally provides adequate information about projects.

VDOT also generally appears to provide multiple means for the public to provide their input. The public is provided the opportunity to submit comments in conjunction with public information meetings and through hot-lines and the public hearing process.

Location Hearings Should Provide an Opportunity to Comment Publicly

While VDOT provides several means for the public to provide input through the location process, the current process does not provide the opportunity for citizens to present their comments directly to VDOT officials in a public forum. Under the recently adopted open forum style of public hearing, members of the public may only submit their hearing comments in writing or present them directly to a court reporter

in a one-on-one setting. While the new, less formal approach to public hearings appears to have strengths, citizens should also be provided with the opportunity to present their comments in a traditional public hearing format.

Conversion to Open Forum Style Hearings. In 1989, VDOT began experimenting with open forum style location public hearings in place of the traditional style of hearing and, by the early 1990s, had completely converted to the use of the open style hearings. Open style location hearings are much less formal than traditional hearings. Instead of a presentation by VDOT staff, these hearings typically have a running slide show or video presentation that presents a project. In addition, there are aerial photographs, maps, and environmental documents available for review. VDOT employees are also available to answer questions.

VDOT Officials Prefer Open Forum Style of Hearings. VDOT officials clearly prefer the open forum style of hearing. They assert that the open forum provides an opportunity for persons to obtain information in an informal setting through one-on-one contact with VDOT employees and to provide their comments in a relaxed atmosphere. VDOT asserts that the open forum style results both in an increase in the number of comments received as well as the quality of the comments received.

Proponents of the open forum style told JLARC that the problem with traditional hearings was that they became a political platform for those who were strongly opposed to a project. They contend that the traditional format was often used to stir the emotions of the citizens and had the effect of intimidating supporters of projects.

Many Would Prefer Traditional Hearing. While the open forum style of hearing appears to be popular, there are a significant number of persons experienced with the process who feel strongly that citizens should still be allowed to comment in a public forum. Several local officials as well as representatives from two citizen groups stated in interviews that they believe citizens should have the right to present their comments in a traditional hearing format. In addition, several current members of the CTB have stated publicly that they believe that citizens should have the right to express their comments through a traditional hearing. According to proponents of the traditional hearing format, citizens should have the right to present their viewpoint in the presence of other interested citizens as well as the right to hear the opinions of others. One CTB member stated the following: "In a true public hearing, citizens should have the right to persuade fellow members of the public to your way of thinking. I do not think that people should be deprived of this opportunity."

Location Hearing Should Combine Traditional and Open Formats. Combining the elements of the open forum style of hearing with the opportunity for comment through the traditional hearing format should accommodate the concerns of VDOT as well as the public. The open forum style of hearing appears to have been a successful means to provide information and receive comments. Therefore, VDOT should continue to retain this approach.

However, VDOT should also provide citizens with the opportunity to present their comments in the traditional hearing format. VDOT officials have expressed concern with the fact that the traditional hearing format merely provides a forum for the opponents of a project to grandstand and intimidate their neighbors from supporting projects. Opponents of a project should have the right to express their viewpoint about a project directly to VDOT in a public forum. With a combination hearing, citizens would have the option of participating in the process through a informal hearing, but would also have the opportunity to attend a more formal hearing to express their views publicly and to hear the views of others.

Recommendation (4). **The General Assembly may wish to consider amending § 33.1-18 of the *Code of Virginia* to require that for all location public hearings, citizens be provided the opportunity to present their comments through a traditional public hearing.**

VDOT Does Not Have Adequate Guidelines Governing the Public Involvement Process

VDOT does not adequately set forth the process for public involvement on highway location issues in any of its regulations or other guidelines. As a result, VDOT is left with considerable discretion which has led to some inconsistencies in the implementation of the public involvement process. While VDOT should retain some discretion in administering the process, the rules of the process need to be developed and clearly set forth in one document.

Regulations Filed by Description Are Deficient. The "regulations" that VDOT has filed by description governing the location hearing process are not regulations within the meaning of the word. Instead, the document that VDOT cites as its regulation is a five-page policy memorandum dated May 30, 1995. This memorandum does not set forth detailed policies or procedures governing the public involvement process. It primarily consists of charts outlining what type of hearing to conduct in specific situations.

The policy memorandum references a staff policy manual. However, this manual is intended as a guidance manual for staff to use in implementing the public involvement process and does not set forth rules governing the public involvement process. Moreover, it has not been updated in several years and does not even discuss the open forum style of hearing that is currently used.

Lack of Established Procedures May Create Inconsistencies. Without regulations or other written procedures for the public participation process, there is greater potential for inconsistent implementation of the public involvement process. Review by JLARC staff revealed two examples of inconsistent applications of the process.

The first example involved a project for which the location hearing was held in March of 1997. The hearing was conducted using the open forum style of hearing. The project generated considerable public interest, and there were several hundred persons who attended the hearing. However, there was no video or slide presentation to explain the project. To obtain information about the project at the hearing, citizens were required to interpret the posted maps or aerial photographs on their own or ask one of the VDOT officials any questions that they had. When asked by JLARC staff why VDOT did not provide an audio-visual presentation to explain the project, the VDOT employee responsible for organizing the hearing stated that VDOT had decided it was not necessary to provide a presentation.

Another example in which there appears to have been inconsistency in the implementation of the public involvement process involved the consideration of comments received at a public information meeting. It appears to be the general policy that public comments received pursuant to public information meetings are not considered part of the public record for the purpose of making location or design decisions. Generally, the CTB is not even provided such comments prior to making location decisions. However, with one project reviewed by JLARC, the CTB appears to have considered public comments received pursuant to a public information meeting in making a decision to rescind a prior location decision. Reliance on comments received pursuant to a public information meeting appears to be inconsistent with the general policy that such comments are not part of the public record considered by the CTB. This is an example in which VDOT should have established procedures that specify what significance comments received in conjunction with a public information meeting have in the overall location and design process.

Establishment of Public Involvement Procedures. VDOT should establish written procedures that outline the requirements of the public involvement process. These procedures should be sufficiently specific to establish the fundamental elements of the process. Among the issues that the procedures should address are the requirement that VDOT provide the opportunity for a traditional hearing in addition to the open forum and that VDOT be required to provide some form of presentation to the public at each location hearing. In addition, the procedures should clearly define the difference between public information meetings and location public hearings as well as the significance of the comments received in each forum. These procedures should be established by VDOT and approved by the Commonwealth Transportation Board.

Recommendation (5). **The General Assembly may wish to consider amending § 33.1-18 of the *Code of Virginia* to require the Virginia Department of Transportation to establish written procedures setting forth the rules governing public participation in the location of highways. Such rules should be approved by the Commonwealth Transportation Board.**

Lack of Understanding of the Overall Process by the Public

Another concern that has been raised about the public involvement process is that the public may not have a sufficient understanding of the highway location process, which may sometimes limit its ability to effectively participate in it. While VDOT appears to provide extensive project-specific information, VDOT does not provide much information to the public regarding the overall process.

Lack of Understanding. Several persons stated in interviews with JLARC staff that they are concerned that the public does not adequately understand the highway location process. One longtime VDOT employee stated that VDOT's biggest problem with the current process is the public's lack of understanding of it. An MPO official with extensive involvement in the process stated that many citizens are confused about the process and lack an overall understanding of how it works.

During the course of this study, it became apparent to JLARC staff that many of those interviewed who had experience with the process did not fully understand it. For example in several interviews, persons used the terms public information meeting and public hearing interchangeably, often referring to information meetings as public hearings or hearings as meetings. The failure to distinguish between the two types of gatherings reflects a lack of understanding of the process because the relative significance of the comments made at the two types of meetings is substantial.

Another indication of confusion about the process is some of the public comments received at both location hearings and design hearings. Many of the comments received at location public hearings are related to design issues and are not relevant to the location phase of the project. Likewise, many comments received at design public hearings are more relevant to location issues. This is further evidence that many of those who are participating in the process have a lack of understanding of the overall location and design processes.

Development of a Location Process Guide. VDOT does not currently have a written guide for citizens explaining the public involvement process for the location and design of roadways. VDOT does have a handout called *Building a Road* which very generally describes the overall highway development process. However, its discussion of the location process and public involvement is limited. As mentioned previously, VDOT also has a manual for staff about the process, but this manual is outdated and is not written in a format that would be useful to citizens trying to develop an understanding of the process.

VDOT should prepare a written guide for the public that describes the location process. This guide should focus on the public participation process and fully explain the role of the public in the overall location process. It should be freely distributed early in the process through information meetings, informal neighborhood meetings, or other reasonable means.

Recommendation (6). **The Virginia Department of Transportation should develop a written guide for citizens that fully explains the highway location process in general as well as the public participation process. The Virginia Department of Transportation should disseminate this guide freely to citizens in impacted communities early in the location process.**

CTB RECENTLY USED THE MAJOR INVESTMENT STUDY PROCESS TO SELECT CORRIDOR

In the review of the highway location process, JLARC staff found that VDOT may have inappropriately used the major investment study (MIS) process, required by federal law for major transportation projects, to make a decision regarding the location of a highway corridor. While the primary goals of the MIS process are to identify the "purpose and need" for a project as well as the mode of transportation that would best fulfill that purpose and need, VDOT and its consultant recently conducted an MIS study in which the primary focus of the study appeared to be the selection of a mile-wide corridor in which to locate a new highway. The use of an MIS study in this case to select a location corridor raises two primary concerns. First, it raises the concern that local governments as well as others will rely on the assumption that the project will ultimately be located within the corridor identified during the MIS process, which may not necessarily be the case. Secondly, it could result in the environmental impact study being too narrowly focused, which could result in an inefficient use of resources.

The Major Investment Study Process

The Intermodal Surface Transportation Efficiency Act, which was enacted by Congress in 1991, included provisions establishing the major investment study (MIS) process as an additional planning requirement for major transportation projects. The MIS process was intended to be used as part of the planning process to help in the development of constrained long-range transportation plans by metropolitan planning organizations.

Based on interviews as well as a review of the MIS regulations and guidance documents, it is apparent that the process was not intended to be used to select specific highway corridors. Federal Highway Administration officials indicated to JLARC staff that the purpose of the MIS process, unless conducted in conjunction with an environmental impact statement, is to define the "purpose and need" for a major project and to determine what mode of transportation would best meet that need. Officials from the FHWA further stated that the purpose of the MIS process is not to select location corridors for new highway facilities. Senior VDOT officials confirmed that this was their understanding of the purpose of the process as well. These officials indicated that the process should not extend beyond a very general discussion of location.

This purpose is also reflected in "Guidelines for Conducting Major Investment Studies in Virginia" recently developed between VDOT, the Department of Rail and Public Transportation, the Federal Highway Administration, and the Federal Transit Administration. These guidelines state that the MIS process is intended to be used as a "sketch-level" planning study "initiated to provide an understanding of the transportation problems in an area or corridor, and to provide strategies to solve the problem(s) while considering the impacts to the natural and human environments." The Guidelines further state that at this stage, it is acceptable to determine the general location of a recommended strategy but not make a final location decision.

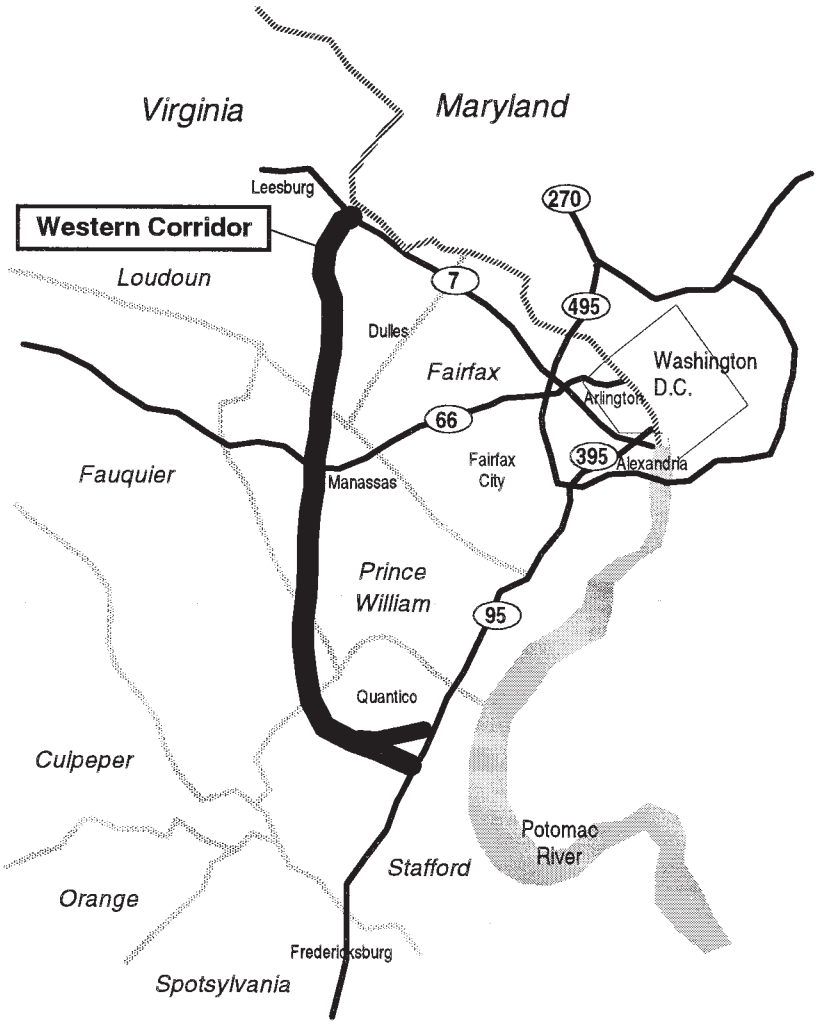
VDOT Has Recently Used the MIS Process to Select a Mile-Wide Corridor

With the recently completed major investment study for the Western Transportation Corridor project, a major focus of the MIS study was the selection of a mile-wide corridor in which to locate a new highway. Figure 3 shows the location of the selected mile-wide corridor. The following describes the MIS process for this project:

> *In 1988, a first tier environmental impact statement was initiated to examine a possible eastern or western bypass in the Northern Virginia area. The first tier draft environmental impact statement was issued in 1990 and the final environmental impact statement (EIS) was never completed. In 1995, the Secretary of Transportation directed that the study be converted from an EIS study to a major investment study. The Secretary stated that this would allow for a much more streamlined process which would result in the selection of a corridor for the project within a year.*
>
> *VDOT retained a private consultant to conduct the actual MIS study. In addition, a policy advisory committee was established which was comprised of elected officials from each of the five localities directly affected and chaired by a CTB member. A technical advisory committee was also formed that was comprised of VDOT, county, and MPO staff.*
>
> *The study team proceeded with identification of a broad range of options, screening of those options to eliminate unsuitable options, selection of alternatives for more detailed study, and selection of the preferred alternative. The study team examined various alternatives including the "no build" option, the transportation systems management option, the upgrade of existing road segments, and the construction of a new highway. In addition, the committee examined in some detail corridor options which were each approximately one mile wide.*
>
> *A series of public information meetings were held in the summer of 1995 to elicit input, increase public awareness, and receive citizen comments with regard to the study. Then in the fall of 1995, an additional*

Figure 3

Approved Western Transportation Corridor



Source: JLARC staff graphic based on CTB corridor study map.

series of public information meetings were held to update the public on the initial study findings and to display alternative corridors that were under consideration. In the fall of 1996, public information meetings were held to present the findings of the study and to receive comments regarding the various highway corridors under consideration. Then in December 1996, the policy advisory committee met and recommended further study of certain corridor segments.

In a resolution dated September 5, 1997, the advisory committee selected one corridor and recommended it for further study. On Septem-

ber 18, 1997 the CTB approved a single mile-wide corridor as the study area for the EIS study.

According to VDOT, the next step in the process is to conduct an EIS study. Funds have already been allocated for this study, and it is scheduled to begin this year.

Use of MIS Process to Select a Corridor Raises Concerns

The primary problem with the process used in this case is that VDOT has used what is intended to be a planning process to select a specific location corridor for a major proposed highway. This approach appears to be inconsistent with the intent of the MIS process. As a result, the mile-wide corridor selected by the CTB for the project would appear to have no legal significance under federal law. However, local governments may proceed under the assumption that a new highway will be built in the corridor when in fact it may not, and VDOT's EIS study may be too narrowly focused on this approved corridor.

Federal and State Officials Express Concern with Use of MIS Process. In an interview with JLARC staff, U.S. Army Corps of Engineers officials stated that they are concerned that VDOT is using the MIS process to select a highway location corridor for the Western Transportation Corridor. In a 1996 letter from the Army Corps to the FHWA, the District Engineer for the Corps expressed the concern that the Army Corps was being left out of the MIS process for the Western Transportation Corridor, and their input was not being considered. He stated that the Army Corps and the other federal advisory agencies had not been provided the opportunity to be directly involved in the MIS process. The Army Corps emphasized in the letter that the project would still have to go through the National Environmental Policy Act process after completion of the MIS process. The District Engineer further stated that the Army Corps regulations require that it authorize only the "least environmentally damaging practicable alternative." Therefore, the Army Corps would have to conduct its own alternatives analysis as part of the environmental impact statement process in order to fulfill their regulatory requirements prior to the selection of an alternative.

A senior VDOT official told JLARC staff that the selection of a mile-wide corridor went beyond the purpose of the MIS process. This official further stated that limiting the study window for purposes of the EIS study to a mile in width would be too narrow for a proposed project of this magnitude, and persons who believe that the EIS study window will be confined to the one mile corridor will be "very surprised." When asked whether VDOT would be able to confine the EIS to the single corridor approved by the CTB through the MIS process, FHWA officials indicated to JLARC staff that there would be no guarantees that the consideration of alternatives through the EIS process would be limited to that corridor if the Army Corps or other federal resource agencies had concerns with it.

Reliance on MIS Approval. In discussing its decision to approve the one mile-wide corridor at the September 1997 CTB workshop and meeting, the Secretary of

Transportation stated that every effort would be made to prepare for the construction of the new facility within the one mile corridor that was approved by the CTB. He stated publicly that the focus of the EIS would be the mile-wide corridor and did not mention any possibility that other corridors might ultimately have to be considered.

The potential problem is that the localities in the area as well as other interested parties are likely to rely on that assumption in making planning decisions when in reality, the selection of a single corridor for further analysis during the MIS process appears to have limited legal significance. In its April 5, 1996 letter to the FHWA, the Army Corps discussed this concern. In the letter, the Army Corps District Engineer wrote: "I am concerned that localities within the vicinity of the study area will make planning decisions based on the results of the MIS, without an understanding that the conclusion of the MIS is not necessarily the conclusion of the consideration of alternatives."

Possible Inefficient Use of Planning Resources. Another concern with the use of the major investment study process to select a corridor is that the efforts to do so may result in wasted resources. A major focus of the MIS consultant study was to examine various mile-wide alternative corridors. Since the selection of a location corridor should not have been a central component of the MIS process, the expenditure of funds on corridor selection during the MIS process may not have been an efficient and effective use of funds.

A similar future concern is that funds may not be efficiently spent on the upcoming EIS if the study is improperly focused on a single mile-wide corridor as indicated by the Secretary of Transportation. If the focus of the EIS study is too narrow and is ultimately required to be expanded substantially by the resource agencies, then the current approach may result in wasted time and financial resources.

VDOT and the CTB should reassess whether the EIS can realistically be confined to the mile-wide corridor approved by the CTB through consultation with the Army Corps of Engineers, Environmental Protection Agency, as well as other resource agencies. In addition, the CTB and VDOT should fully disclose to the impacted localities that the study window for the upcoming EIS is not likely to be confined to the one mile corridor that was approved by the CTB. With regard to future projects, VDOT should confine the MIS process to its intended purposes and avoid using it to make location decisions.

Recommendation (7). **The Virginia Department of Transportation and the Commonwealth Transportation Board should limit the use of the major investment study process for transportation planning and avoid using it to make location decisions unless there are statutory or regulatory changes that broaden the purpose of the major investment study process.**

VDOT LOCATION AND DESIGN STAFFING ISSUES

Several trends in recent years have raised questions regarding staffing in VDOT's location and design division. The maximum employment level has been reduced steadily over the last six years. In addition, a significant number of persons with extensive experience have left VDOT over this same time period.

While the Commissioner of VDOT says that the current level of staffing is adequate, these trends could mean that VDOT does not have adequate staff in location and design to handle its current workload. In addition, the concern has been raised that some of the persons who have been hired to replace those who have left do not have an adequate combination of training and experience to effectively handle their current job responsibilities.

Several Factors Have Contributed to a Loss in Workforce

Several factors have contributed to the reduction in the total number of location and design division staff as well as the loss of experienced employees. The maximum employment level (MEL) for the central office location and design division has declined annually between 1991 and 1997. Retirements of career employees have resulted in a substantial loss of experience and institutional knowledge in location and design. In addition, VDOT has had difficulty retaining and attracting qualified staff.

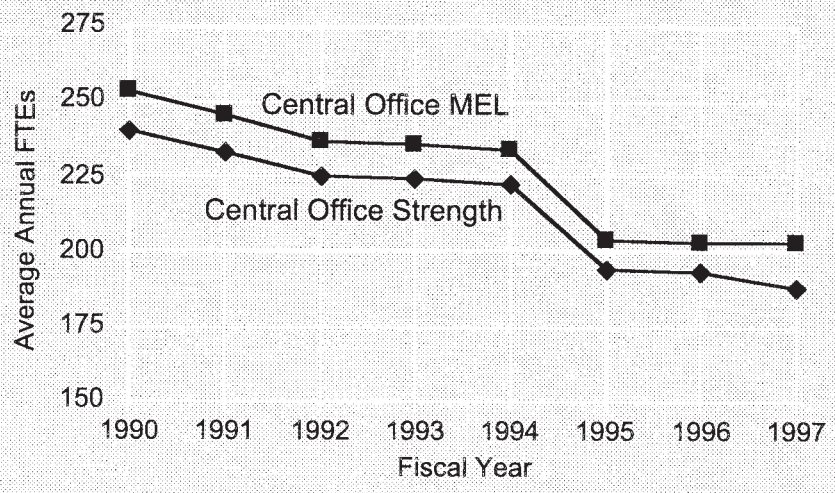
MEL Has Steadily Declined Since 1991. Between 1991 and 1997, the maximum employment level in the central office location and design division has steadily declined. The central office MEL has declined from 253 full-time equivalent employees (FTEs) in 1991 to 203 FTEs in 1997 (Figure 4). This decline of 50 employees over the six year period represents a 20 percent reduction in total positions. As Figure 4 indicates, the greatest decline in the MEL came in the 1995 fiscal year, when 30 full-time positions were eliminated as part of the Workforce Transition Act downsizing.

VDOT Cannot Fill Vacant Positions. Another factor that has impacted the location and design division is the inability to fill vacant positions. As Figure 4 indicates, VDOT has remained below their maximum employment level in recent years. According to the State Location and Design Engineer, the primary reason that VDOT cannot fill all of its positions in the location and design division is that VDOT cannot attract qualified applicants with its current salary structure. Currently, VDOT has 27 unfilled transportation engineer positions in location and design.

VDOT Has Been Impacted by Early Retirements. In addition to a declining maximum employment level, two early retirement incentive programs have resulted in the retirement of 74 experienced VDOT transportation engineers in the location and design division between 1991 and 1995. Twenty-seven transportation engineers retired in 1991 under the early retirement program. In 1995, an additional 47

Figure 4

Location and Design Manpower Analysis



Source: Manpower analysis provided by VDOT.

transportation engineers retired pursuant to the Workforce Transition Act. VDOT estimates that the agency has lost 3,920 years of experience in location and design since 1991.

VDOT Employees Take Opportunities with Consultants. Another factor that has impacted the workforce is the increased opportunity to work for consultants. The outsourcing of highway projects in Virginia has created a demand for VDOT employees with substantial location and design experience in the private sector. VDOT has lost eight transportation engineers in location and design to consulting firms in the last two years.

Trends Raise Concerns about Ability to Manage Projects

The reduction in the total workforce in location and design over the last several years as well as the inability to fill positions raises concerns regarding whether there are an adequate number of staff to handle the current workload. Based on survey results and interviews with VDOT staff, it appears that the reduction in staff has resulted in unreasonable workloads for some of the current project managers at VDOT in the location and design area.

Survey Results Raise Concerns about Staff Workloads. Results of a survey by JLARC of projects managers in location and design revealed that almost all managers believe that VDOT does not have enough staff to handle their current workload. The project managers, who are responsible for managing location and de-

sign projects, were asked whether they agreed with the statement "staffing is adequate to manage the current number of location and design projects." Eighty-six percent of the respondents "disagreed" or "strongly disagreed" with the statement. In addition, 62 percent of those surveyed agreed that they had more work assigned than they could handle, and 65 percent disagreed that expectations for the amount of work they should perform are reasonable (Table 1).

Table 1

Survey Responses Regarding Agency Workload

N=65

Statement	Strongly Agree %	Agree %	Disagree %	Strongly Disagree %	No Opinion %
Staffing is adequate to manage the current number of L&D projects	5	8	28	58	2
I have more work assigned than I can handle	22	40	35	0	3
Expectations for the amount of work I perform are reasonable	0	32	42	23	3

Note: Percentages may not add to 100 due to rounding.

Source: JLARC Survey of selected VDOT employees about the highway location process, September 1997.

Based on Workload, Staffing Level May Be Inadequate. Analysis of the workloads of the project managers also raises questions about the adequacy of staffing. As part of the JLARC survey, project managers were asked to provide data on their current workloads. Based on the data provided, it appears that transportation engineers manage on average 23 projects and that the average total estimated construction cost of the projects each engineer is responsible for managing is $118 million (Table 2). Six transportation engineers indicated that they were responsible for managing more than 40 projects. Within this group, one transportation engineer indicated that he manages 69 projects, another 66 projects, and a third 57 projects.

While the transportation engineers who primarily manage consultant projects generally manage fewer projects than those engineers who manage mostly in-house projects, the total value of the projects that they are responsible for managing is substantial. Survey results indicated that transportation engineers with primary responsibility for managing consultant contracts manage on average 18 projects, but that the total average estimated construction cost of the projects they are responsible for managing is $274 million. One respondent to the survey who manages only consultant

Table 2

Location and Design Project Manager Workloads

	Average number of projects managed per engineer	Average total estimated construction cost of projects per engineer
Project managers who manage primarily consultant projects	20	$274 million
All project managers	23	$118 million

Note: Figures in the table were based on data provided by transportation engineers whose primary responsibility is to directly manage projects and does not include data provided by senior transportation engineers. Managers were classified as managing primarily consultant projects if more than 75 percent of the projects that they managed were consultant contracts.

Source: JLARC survey of selected VDOT employees about the highway location process, September 1997.

projects indicated that he currently manages 17 projects with a total estimated construction cost of $783 million. Another survey respondent indicated that he manages 39 consultant projects with a total estimated cost of $416 million.

Employees Noted Inadequate Staffing in Interviews. In interviews with JLARC staff, current and former VDOT employees raised concerns about the workload of the location and design staff. One project manager stated that the managers are frustrated that they do not have enough time to manage all of their projects effectively. Another project manager, who primarily manages consultant projects, told JLARC staff that he was responsible for managing more projects than is feasible. A former senior VDOT official stated that he was concerned that many project managers had unreasonable workloads that were too great for one transportation engineer to handle effectively. One district administrator noted that project managers in private consulting firms which handle location and design work generally manage no more than eight projects at a time, which is substantially less than the typical workload of a transportation engineer at VDOT.

Increased Workload Has Resulted in Less Oversight. According to the project managers surveyed, the impact of the increased workload has had negative consequences. Several of those surveyed responded that as a result of their heavy workload, they are unable to adequately oversee projects which they are responsible for managing. In some cases they are not able to adequately review the work of consultants to ensure quality. One respondent wrote: "I do not have the time to thoroughly field review projects which makes me dependent on the consultants' evaluation of project conditions." Another respondent wrote: "[the] time available for quality control is limited. I do not have the time to check as much as I should - both in-house and consultant projects." In the design area, respondents indicated that heavy workloads have led to increased delays and more design errors.

VDOT May Lack Staff with Adequate Experience and Training

In addition to potentially inadequate numbers of staff, the JLARC study also found that training and experience of the staff in location and design may be weak. The large number of retirements over the last several years have resulted in persons with less experience and training moving into positions of additional responsibility. The potential problem appears to be exacerbated by the increased use of consultants. Many of the more experienced VDOT employees are leaving VDOT to work for consultants.

Limited Combination of Experience and Education. The recent departure of a significant number of transportation engineers in the location and design area has raised concerns about the adequacy of the experience of the current staff. One district administrator stated that VDOT does not currently have persons with sufficient qualifications in the area of location and design. Another senior official stated that the Central Office location division is in "poor shape given the loss of people and expertise." In addition, a former senior official at VDOT stated that in recent years there has been a dilution in the quality of staff as the department has hired from within to replace those who have left. This individual stated that while he was at VDOT, there were some employees promoted before their time, but VDOT did not have any choice but to do so to fill the vacancies. One person on the transportation staff of a planning district commission told JLARC staff that he is concerned with the educational background and experience of some of the persons who are managing location and design projects at VDOT.

One of the potential consequences of the lack of experience and education of some VDOT transportation engineers is that they may be less able to effectively manage consultant projects. A district administrator told JLARC staff that experienced engineers in consulting firms are not inclined to take direction from transportation engineers with substantially less experience than they have. This district administrator further stated that as a result, consultants tend to assume control of the projects that are being managed by less experienced VDOT engineers.

Survey Results Indicate Some Have Limited Training and Experience. The survey results indicate that many of the staff who have responsibility for managing location and design projects may have a limited combination of training and experience. According to the survey, 45 percent of the respondents do not have a bachelor of science degree in engineering and have been transportation engineers for five years or less.

Transportation Engineers May Not Meet Job Requirements. The combination of the lack of experience and training suggests that many of those being hired to fill the project manager positions may not meet the stated requirements for the position of transportation engineer. According to the position description, a transportation engineer should have a college degree in engineering, but that a suitable combination of experience and training may be substituted. In the past, it is apparent that many of the transportation engineers did not have engineering degrees but had extensive expe-

rience which substituted for their lack of formal training. With many project managers now having less experience and no engineering degree, it appears that some of those in transportation engineer positions may not meet the requirements set forth in the job description.

Inability to Compete with Consulting Firms Exacerbates Problem. With the increase in the number of location and design projects contracted to private consulting firms, there has been an increase in job opportunities for experienced VDOT transportation engineers to go to work for consultants. As a result, many experienced VDOT project managers have recently accepted positions with consulting firms.

Consultants apparently have been successful at recruiting VDOT employees because VDOT salaries are not competitive with those of consulting firms. One district administrator indicated to JLARC staff that VDOT is not able to retain high quality staff with sufficient qualifications in location and design because VDOT cannot compete with the private sector. A former VDOT official stated that consulting firms tend to hire away some of VDOT's better staff in location and design. He stated that the current salaries paid to transportation engineers at VDOT simply are not competitive with private consultants.

Workload and Staff Qualifications Need to Be Addressed

The issues raised regarding staff workload and experience and training need to be evaluated by VDOT management. There is a strong consensus among transportation engineers working in location and design that they are understaffed and cannot adequately fulfill their job responsibilities. VDOT management needs to evaluate this concern and determine whether the current number of positions for project management is adequate. If management concludes that it is not, then VDOT should seek the additional positions necessary to handle the current workload.

In addition, VDOT needs to evaluate whether the staff have adequate training and experience to perform their job responsibilities. Persons with limited experience and training should be given sufficient training to ensure that they have the necessary qualifications to perform their job responsibilities adequately.

Management also needs to examine the issue of competitiveness with the private sector for qualified transportation engineers. VDOT does not appear to be competitive with the private sector currently. Therefore, VDOT should examine this issue and whether the current job classification and pay structure is adequate for VDOT to retain and attract individuals who are qualified to manage multi-million dollar location and design projects.

According to the current State Location and Design Engineer, some of these issues are currently being addressed. He told JLARC staff that he has requested and received permission to convert eight technician positions to transportation engineer

positions with responsibility for project management. However, this will result in less support for the existing transportation engineers. The Location and Design Engineer also indicated that there are plans to require transportation engineers to have engineering degrees. These plans, however, appear to be long-term plans and may not address the situation existing currently.

Recommendation (8). **The Commissioner of the Virginia Department of Transportation should evaluate the concerns raised about workload, training and experience, and pay structure. The Commissioner should report the findings of the evaluation to the House Appropriations and Senate Finance committees before July 1, 1998.**

Appendixes

Appendix A

Study Mandate

House Joint Resolution No. 222
1996 Session

Requesting the Joint Legislative Audit and Review Commission to study the highway location process.

WHEREAS, recent projections have predicted a $19 billion shortfall in funding to meet the Commonwealth's transportation needs by the year 2009; and

WHEREAS, § 33.1-18 of the Code of Virginia ("Location of routes") provides all of the statutory guidance which exists for the location of new highways; and

WHEREAS, § 33.1-18 requires the Commonwealth Transportation Board to notify the governing body of the county, city, or town in which the route is to be located of its willingness to hold a public hearing on the matter; and if the locality requests a public hearing, the Board must provide 30 days' notice to the public before the hearing may be held; and

WHEREAS, § 33.1-12(1) provides that the location of routes is the first power and duty of the Commonwealth Transportation Board; and

WHEREAS, the Governor of Virginia appoints the members of the Commonwealth Transportation Board to make final decisions on locations of routes; and

WHEREAS, as directed by § 10.1-1188, the Secretaries of Transportation and Natural Resources jointly established review and comment procedures which, prior to the decision to locate a new highway, address the environmental impact of all road projects, any adverse environmental effects which cannot be avoided if a project is undertaken, the measures proposed to minimize the impact of a project, any alternatives to the proposed construction, and any irreversible environmental changes which would be involved in the project; and

WHEREAS, the National Environmental Protection Act requires an environmental impact assessment or environmental impact statement and a range of alternative analyses for all projects using federal money prior to the decision to locate a new highway; and

WHEREAS, the Virginia Department of Transportation discretionary guidelines provide for citizen and local government participation in the location of all highways, in-

cluding interstate, primary, secondary, and urban, throughout the Commonwealth of Virginia; and

WHEREAS, it is in the interest of some localities and citizens to have the route selection process conducted as expeditiously as possible within the statutory guidelines; now, therefore, be it

RESOLVED by the House of Delegates, the Senate concurring, That the Joint Legislative Audit and Review Commission be directed to study the highway location process, including conformity with federal environmental laws, regulations, policies, and transportation requirements relative to location, interconnections, and financing requirements. The Commission shall examine the process employed by the Transportation Board and the Virginia Department of Transportation to determine whether it results in location decisions which (i) make the most efficient use of transportation funding; (ii) implement applicable environmental protection policies under federal and state laws and regulations; (iii) are efficient as a matter of transportation policy; (iv) involve minimal disruption to private property enjoyment and value; (v) are responsive to public input; and (vi) accommodate local needs. Further, the Commission shall examine whether the current location process is too cumbersome and time-consuming. In its review, the Commission may consider examples in which the process has worked in the past, and location decisions for projects in which the location and design processes have been completed and construction contracts awarded. The Commission's recommendations shall not reverse any design, location, or construction decision previously made by the Commonwealth Transportation Board. The Commission may make recommendations for changes to current law, regulations, or policy designed to expedite the delivery of projects.

The Commission shall complete its work in time to submit its findings and recommendations to the Governor and the 1998 Session of the General Assembly as provided in the procedures of the Division of Legislative Automated Systems for the processing of legislative documents.

Appendix B

Highway Projects Selected for Review

Original Highway Projects Selected

Project	Location	Size	VDOT District
Route 460	Buchanan County	Large	1
Route 460	Montgomery County	Large	2
Blacksburg/Roanoke Connector	Montgomery County and Blacksburg	Large	2
*East Roanoke Circumferential	Roanoke, Vinton, Bedford, Botetout and Roanoke Counties	Large	2
*Route 29 Corridor Study	Lynchburg, Amherst and Cambell Counties	Large	3
*Route 288	Chesterfield and Henrico County	Large	4
Clarksville Bypass	Clarksville and Mecklenburg County	Large	4
I-664	Chesapeake and Suffolk	Large	5
*Southeastern Expressway	Chesapeake and Virginia Beach	Large	5
James River Crossing Study	James City and Surry Counties	Large	5
Midtown Tunnel	Portsmouth and Norfolk	Large	5
Route 168	Chesapeake	Large	5
*Route 29 Corridor Study	Charlottesville and Albemarle County	Large	7
*Route 37	Frederick County	Large	8
Appalachian Corridor H	Middletown, Strasburg, Frederick and Shenandoah Counties	Large	8
Route 58	Lee County	Medium	1
Routes 212 and 218	Stafford County	Medium	6
Route 221	Roanoke County	Small	2
Route 614	Gloucester County	Small	6
Herndon Parkway	Herndon	Small	9

*Denotes those projects for which JLARC staff conducted interviews with project participants

Appendix B (continued)

Other Highway Projects Selected

Project	Location
Route 17 George Washington Highway	Chesapeake
Hampton Roads Crossing Study (MIS)	Hampton Roads
Western Transportation Corridor Study (MIS)	Northern Virginia

Appendix C

Agency Responses

As part of an extensive data validation process, State agencies involved in a JLARC assessment effort are given the opportunity to comment on an exposure draft of the report. Appropriate technical corrections resulting from written comments have been made in this version of the report. Page references in the agency responses relate to an earlier exposure draft and may not correspond to page numbers in this version.

This appendix contains the following:

- Response from the Secretary of Transportation
- Response from the Commissioner of the Virginia Department of Transportation

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The Feasibility of Modernizing Land Records in Virginia, January 1997
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Virginia's Progress Toward Chesapeake Bay Nutrient Reduction Goals, February 1997
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Services for Mentally Disabled Residents of Adult Care Residences, July 1997
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Review of the Highway Location Process in Virginia, January 1998
Overview: Year 2000 Compliance of State Agency Systems, January 1998
Special Report: Status of Automation Initiatives of the Department of Social Services, February 1998

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