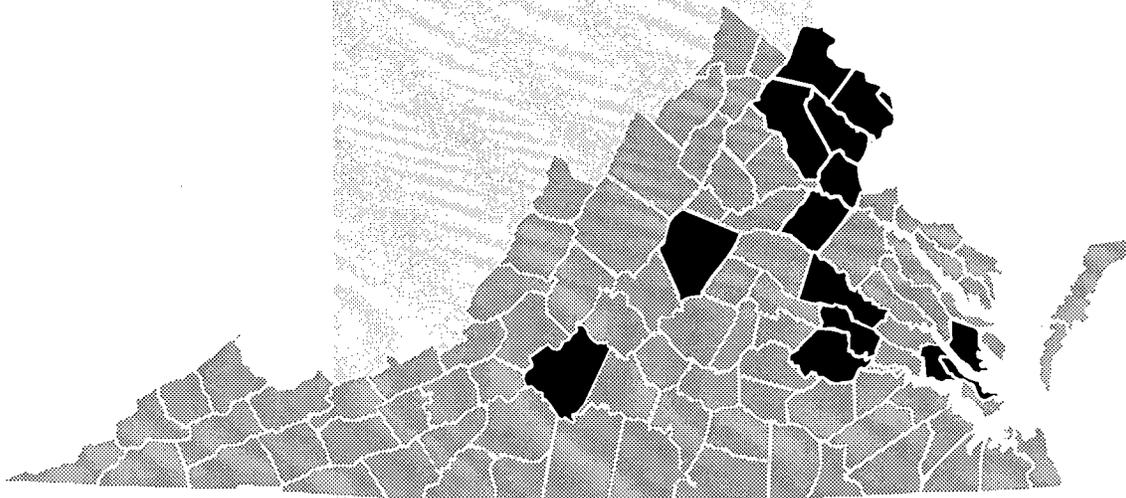


FINAL REPORT

BEYOND THE BYRD ACT: VDOT'S RELATIONSHIP WITH VIRGINIA'S URBAN COUNTIES



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(The opinions, findings, and conclusions expressed in this
report are those of the author and not necessarily
those of the sponsoring agency)

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ABSTRACT

Since the Byrd Road Act of 1932, the Virginia Department of Transportation (VDOT) has been responsible for secondary road maintenance and construction in all of the state's counties except two (Arlington and Henrico). Such an arrangement is unusual among the 50 states. The rapid growth of many urban counties since 1980 has raised questions about whether complete state responsibility for secondary roads is optimal. A few of the largest counties have also considered their statutory options for taking over this responsibility.

This study assesses the relationships between VDOT and 14 of the state's fastest-growing counties. It identifies factors that influence the relationships, and characterizes the kinds of secondary roads issues that arise most frequently. Potential constraints on significant change in any county's secondary roads responsibility are discussed. Data that are most likely to be useful to VDOT and the counties if any county decides to pursue greater responsibility for its secondary roads in the future are outlined. Interviews with VDOT residency staff also revealed organizational issues, a number of which relate to significant staffing losses in the wake of the 1991 and 1993 early retirement programs. These are also discussed.

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INTRODUCTION

The Byrd Road Act of 1932 "relieved" Virginia counties of all rights, powers, duties, and authority over their county [secondary] roads, transferring responsibility to the then-Virginia Department of Highways. Under the *Code of Virginia*, as amended, "The Boards of Supervisors or other governing bodies...shall have no control, supervision, management, and jurisdiction over...the secondary system of state highways" (§33.1-69). More than 60 years later, the statutory relationship between the Virginia Department of Transportation (VDOT) and most of Virginia's counties remains unchanged. Two counties are exceptions: Arlington and Henrico chose to retain control of their local road systems in 1932. They continue to be responsible for their own secondary road maintenance and construction, with funding allocations from VDOT.

Virginia's secondary roads arrangement is unusual among the 50 states. Alaska, Delaware, North Carolina, and West Virginia are the only other states in which county roads are the responsibility of the state department of transportation (DOT). In the other 45 states, counties and/or townships are responsible for local county roads. In other states, only a portion (sometimes a small portion) of county road funding is typically provided from state sources. Counties and townships levy a variety of taxes and fees to generate the remainder.

Virginia has changed tremendously from the predominantly rural state it was in the 1930s, when many counties were unable to keep local roads in passable condition. The distinction between counties and cities has blurred in many instances, especially in the urbanized "golden crescent" that extends from Northern Virginia to Hampton Roads. A 1988 report by the Local Government Attorneys of Virginia noted, "The growth of the urban counties in the last 20 years has been nothing short of explosive, and the urban counties are now much more like cities in the intensity of their development and the service requirements of their citizens." Virginia cities have considerably more autonomy over their streets than counties do, although they must meet certain VDOT requirements in order to receive state funding.

Transportation and land use issues in the urban counties draw VDOT, county governments, and developers into an often complicated web of relationships. In particular, subdivision street issues consume considerable VDOT staff time. At the same time, urban county citizens, staff, and elected officials have much to say about secondary roads matters. In the recent past, one urban county (Fairfax) funded a consultant study of its statutory options for completely taking over responsibility for its secondary roads (KPMG Peat Marwick, 1990). Other urban counties have also considered it. *Code of Virginia* section §15-1.724 (provided in Appendix A) outlines the process by which an eligible county may hold a referendum on this question. Prior to the

referendum, the Commonwealth Transportation Board (CTB) and the county's Board of Supervisors are to negotiate the terms of the takeover and the formula by which state funds would be allocated to the county.

PURPOSE AND SCOPE

Requested by the Administration and Finance Research Advisory Committee (AFRAC), this study examines VDOT's relationship with the state's fastest-growing urban counties. Second, it identifies the kinds of data that could be useful to both parties if any county should decide to pursue a roads takeover in the future. Originally, the study was also to have identified options for change in the VDOT-urban county relationships. Once the study was underway, however, it became clear that no urban county was currently seeking substantially more responsibility for its roads. On AFRAC's advice, the analysis of change options was dropped.

The study's specific objectives were as follows:

1. To identify factors that influence the relationship between VDOT and each of the urban counties
2. To identify the most prominent secondary roads issues that arise in VDOT's relationships with the urban counties
3. To explore potential constraints on significant change in secondary roads responsibilities in Virginia
4. To outline the specific kinds of data that could be useful to VDOT and the urban counties if the secondary roads takeover issue arises in the future, and
5. To provide suggested steps that VDOT might take to better address the demands of urban county environments

The study focused on 14 of the state's largest and/or fastest growing urban counties that met three criteria: (1) location within the boundaries of one of the state's Metropolitan Statistical Areas (MSAs)¹ as defined by the Census Bureau; (2) a 1980-1990 growth rate of 20 percent or more; and (3) a 1990 Census population of 30,000 or more. The three criteria were devised to identify those counties that would not only be considered "urbanized" by conventional Census Bureau definitions, but also those where development pressures were likely be most acute, due to rapid growth. Although the 30,000 population criterion was somewhat arbitrary, it captured Virginia counties that were in the top one-third with respect to population. Table 1 lists the counties that were included in the study.

Table 1. High Growth Urban Counties in Virginia

MSA/County	1995 Population (Provisional estimate)	Population Growth 1980-1990	Population Growth 1990-1995
Washington DC-MD-VA MSA			
Fairfax County	894,900	37.4%	9.4%
Prince William County	242,400	49.1%	12.4%
Arlington County	178,400	12.0% ¹	4.4%
Loudoun County	114,800	50.0%	33.3%
Stafford County	79,400	51.3%	29.7%
Spotsylvania County	71,400	79.4%	24.4%
Fauquier County	51,300	36.1%	5.0%
Charlottesville MSA			
Albemarle County	75,500	22.0%	10.8%
Lynchburg MSA			
Bedford County	52,800	30.7%	16.1%
Richmond-Petersburg MSA			
Henrico County	236,400	20.5%	8.5%
Chesterfield County	239,400	48.2%	14.2%
Hanover County	74,400	25.6%	17.5%
Norfolk-Va Beach-Newport News MSA			
York County	54,500	19.7%	28.4%
James City County	40,700	56.0%	16.4%
Gloucester County	33,000	49.9%	9.5%

¹ Although Arlington County's 1980-1990 growth rate was less than 20 percent, it is included in the study because it is responsible for its own county roads.

Source: Weldon Cooper Center for Public Service, University of Virginia

Although counties included in the Lynchburg, Roanoke, Danville, and Bristol MSAs might be considered "urban" in a number of respects, they were not initially included in the scope of this study because their populations grew less than 20 percent between 1980 and 1990.

RESEARCH DESIGN, METHODS, AND DATA

In some respects, the research design represented a series of case studies of individual urban counties. Ultimately, though, the study sought to identify similarities between counties. The study focused on the time period from 1980 to the present.

The researcher conducted lengthy face-to-face interviews to collect data. Appendix B lists the VDOT staff in the urban county residencies and in the Central Office who were interviewed. Data collection focused on the VDOT residencies because they typically have the closest daily working relationships with the counties. Resident engineers were interviewed in all cases; assistant resident engineers and other residency staff participated as available. For purposes of comparison, the researcher interviewed the resident engineer for one slower-growing urban county (Campbell County, part of the Lynchburg MSA). Although an interview guide (see Appendix C) was used to insure that certain topics were covered, the interviews were exploratory in nature. Respondents were not asked to rank or compare the significance of various issues, as this task might be more easily accomplished with a written questionnaire. The resident engineers who were interviewed tended to focus on a variety of topics. Some had prepared notes on their views prior to hearing the questions at the interview.

Cherie Kyte, a VTRC research associate, assisted with nearly all of the interviews. Interviews ranged in length from approximately 90 minutes to 4 or more hours. In some cases, residency staff provided a driving tour of the urban county or counties for which they were responsible. These tours were valuable for identifying areas of new development, high traffic density, and typical maintenance problems. The researcher then transcribed and analyzed the interviews to identify common themes.

Although the original study design called for parallel interviews with urban county officials, AFRAC recommended that these interviews be omitted when it became clear that no counties were seeking significantly more responsibility for their secondary roads. The revisions to the study's methodology give it some definite limitations. Since urban county officials in Virginia were not interviewed, their views on secondary roads issues could not be directly ascertained. Additionally, much of the study information came from the urban county residencies; VDOT district or Central Office staff who were not interviewed might hold different views.

FINDINGS AND DISCUSSION

Interview Findings

Although certain kinds of issues and factors that emerged were unique to particular counties (e.g., low elevation), several themes emerged in most of the interviews. These included:

- factors that affect the relationship between VDOT and the urban counties
- differences in the perspectives of VDOT and the urban counties
- communication issues
- citizens' secondary roads interests and expectations
- VDOT's interests and expectations
- financial issues
- constraints on change in secondary road responsibilities, and
- VDOT organizational issues

Many of the interview findings pertain to development review processes and subdivision street issues, since many of the contacts between VDOT and the counties revolve around these matters.

Factors that Affect the Relationships Between VDOT and the Urban Counties

Several factors define the relationship between the Department and individual urban counties: these include county staffing levels, local political environments, population growth trends, attitudes toward further growth, economic factors, and county land use regulations. Their effects are discussed briefly below.

Many respondents mentioned the size and expertise of an urban county's transportation staff, which determines the extent to which the county relies on VDOT for engineering expertise. A number of the smaller urban counties included in this study have minimal engineering staff, lacking even a public works department. The largest urban counties, in contrast, have both sizeable public works departments and transportation divisions. Consequently, they can affect how quickly various stages of the project development process are completed. These counties may take responsibility for project design, or other planning elements for example.

County political environments were cited as affecting the VDOT-urban county relationship in several ways. First, the extent to which any Board focuses on transportation affects the relationship. Second, the extent to which Board members are relatively unified was mentioned as an influence. Third, the extent to which a Board uses citizen advisory committees in transportation-related matters is important. Citizen advisory committees are common in the larger, more urbanized counties, and VDOT staff in these counties are accustomed to working with them.

All of the resident engineers interviewed mentioned population growth trends and population size as important influences on the VDOT-urban county relationship. Both traffic densities and the number of secondary roads tend to increase with population growth. Even though all of the counties included in the scope of the study can be characterized as "high growth," they differ in how long the rapid growth has been occurring and whether a lull occurred at any point. In counties that experienced a lull, VDOT staff reported that they had had time to adjust staffing and catch up with the workload. In counties with rapid, sustained growth, residency staff spoke of the difficulty of keeping up with the workload and of "backpedaling to revise plans" because things seemed to change overnight.

The interviews revealed distinct differences in the counties' attitudes toward further growth, which greatly affects what they want from VDOT. Some counties welcome additional growth and go to great lengths to be responsive to developers (and want VDOT to do the same). Others, struggling to provide services to all of their residents and/or valuing more rural land uses, want to limit growth or restrict development to certain corridors.

Economic factors affect VDOT's relationships with urban counties in multiple ways, according to the VDOT staff interviewed. The composition of a county's tax base is a very important factor. Several urban counties included in the study are "bedroom communities," with

relatively low commercial tax receipts. These counties tend to want roads taken into the state system quickly, and they typically want VDOT's maintenance responsibilities to be quite broad. Several resident engineers said that housing values also [indirectly] influence the VDOT-county relationship. Higher housing values tend to be associated with higher service expectations among county residents. Finally, a county's ability to draw upon additional sources of transportation funding—bonds, revenue sharing, and regional gas tax receipts, for example—is important. Counties that can draw upon these additional sources of financing can afford to expedite high cost road projects.

A county's land use regulations, including zoning, were mentioned by a number of interview respondents as fundamentally important to the VDOT-county relationship. What counties require of developers (based on their interpretations of VDOT policies and other factors), was the focus of many comments during the interviews. One resident engineer commented: "VDOT's rules are only as good as the county's zoning ordinances. The zoning ordinances must reinforce VDOT's policies."

Miscellaneous factors also affect VDOT's relationship with individual urban counties. Annexation, for example, was an overriding concern of two of the counties included in the study; VDOT staff stated that they had to be very attuned to this issue when working with these counties.

Differences between VDOT and Urban County Perspectives

In most other states, land use regulation and county road functions are typically the responsibility of the same entity, a county. But in Virginia, VDOT is responsible for the roads and the counties regulate land use. This division of responsibility means that VDOT staff and county officials bring quite different perspectives to their working relationship. VDOT interview respondents noted a number of ways in which these perspectives of VDOT and the counties may differ.

One resident engineer commented, "counties don't think of roads like other infrastructure." He explained that in their decision-making about development, counties may be much more concerned about how new development will affect their school enrollments or water than about its impact on local roads. More importantly, since they are not responsible for maintaining their local roads, urban counties may not consider the maintenance impacts of their development decisions. For example, one ARE for maintenance described how his county's approval of nonstandard drainage pipes in a subdivision forced VDOT to do all pipe-clearing operations by hand.

Counties also may not anticipate the traffic implications of their decisions, the residency staff said. Counties determine whether subdivision streets will end in cul-de-sacs or interconnects, which affects both VDOT's maintenance operations and cut-through traffic volumes. VDOT inherits any problems created as a result of too few interconnecting streets.

VDOT and urban counties may also bring different time perspectives to the table. Several resident engineers commented that VDOT has to solve transportation problems incrementally, in ways that are not always cost-effective, because citizens or county officials are not thinking in 20-year time frames. “People have to be in boiling water,” one resident engineer commented. “It’s hard to sell people on roads that will accommodate 10 years of future growth.”

Finally, VDOT takes a more regional view compared to a county’s more local one. One resident engineer noted that in his urban area (comprised of multiple counties and one city), one or more of the parties sometimes refused to participate in meetings about development projects planned outside their own boundaries, despite the fact that the project’s impact would be felt regionally. Another resident engineer commented that the localities that comprised his urban area had been unable to agree upon a regional master plan for spending federal funds.

Communications Issues

Communication was a major theme in virtually all of the interviews with residency staff. The importance of communication is underscored by the systematic procedures that the residencies have for logging every single phone call received (which amounts to hundreds of entries *per day* in some of the larger counties). Much of the communication in these high-growth counties focuses on development reviews, which involve developers, VDOT, and county staff.

Several resident engineers stressed that communication in fast-growing urban counties should be more proactive and innovative. One residency has established electronic links with county staff, so that paperwork exchanges will not hold up approvals. In addition to the considerable time spent in meetings with Board members and county staff, residency staff often spend substantial amounts of time in meetings with citizen advisory groups. Although it may take longer to work through citizen advisory groups, one resident engineer said, the environment in urban counties often demands that approach.

In some of the largest urban counties, a county transportation staff provides a communication layer between residency staff and the Board of Supervisors. According to VDOT staff in these counties, this arrangement often enhances communication, because individuals with similar educational backgrounds and experience are communicating. One resident engineer said that being able to iron out issues beforehand with county transportation staff greatly improved VDOT’s relationship with the planning commission.

Lack of communication can create definite problems in VDOT’s relationship with an urban county. A number of the interview respondents said that their counties had sometimes given developers inaccurate information when VDOT was “left out of the loop.” Several resident engineers also commented that counties’ lack of communication with VDOT field offices is sometimes a problem—complaints may be communicated first to VDOT upper management, bypassing the residency or area headquarters level. Ultimately, though, the field is responsible for resolving the problem. One resident engineer expressed the belief that many issues would be

most effectively resolved if the communication involved the lowest level VDOT employee talking to the lowest level county employee with authority to act in a situation.

Citizens' Secondary Roads Interests and Expectations

A substantial portion of each interview was spent discussing what the citizens and elected officials of each urban county expected from VDOT, and their major interests with respect to secondary roads. Since county officials were not interviewed for this study, these are the expectations and interests of county residents *as perceived by VDOT staff*—there may be omissions. These expectations and interests can be grouped into the following categories:

- development reviews
- preliminary engineering
- funding
- road maintenance priorities
- drainage
- roadway standards
- unpaved roads
- traffic operations

VDOT staff also offered some general observations about urban county residents in describing citizens' expectations. A number of those who had previously worked in more rural residencies said that urban county residents tended to be more highly educated, and “were more aware of how the processes work.” One resident engineer described how citizens asked him many detailed technical questions about a traffic simulation software package (Traf NetSim) during a location public hearing. Urban county residents also value more aesthetically pleasing roads, with more landscaping, and amenities like bicycle or recreational paths, respondents said. One resident engineer said local residents wanted certain road medians to look more “park-like” than he could make them look within the constraints of his maintenance budget.

One characteristic of many of the urban counties included in the study is their expectation of a fast VDOT turnaround on development reviews, according to residency staff. One highly urbanized county with a large planning staff of its own sometimes asks the residency to “fast track” development reviews and to complete them in three days (usual turnaround time is 1-2 work weeks). This is an area where the effects of county staffing levels may be evident. In counties with minimal staffing, it may not be possible for VDOT to “fast-track” reviews to this degree, because the county does little of the work. At times, developers and/or county officials also express impatience with the number of steps involved in the review of an application, a number of interview respondents said.

VDOT staff noted that county residents may not be aware of the complexity of the environmental permitting process or the large number of active projects at any one time. One resident engineer said that his large urban county's chief concern was preliminary engineering “because that is where the bottlenecks occur.” It may take 4-6 years for a project on

a county's Six Year Plan to become a reality, several respondents said, and citizens and elected officials in urban counties sometimes do not understand why it takes this long.

Some of the larger, more urban counties try to expedite preliminary engineering by hiring consultants to do project design or other portions of the work. The consultants are paid from the county's regular VDOT allocation. At least one resident engineer from a large urban county said that his county was capable of completely handling a project from start to finish in this way. Some of the smaller, urbanizing counties have just recently begun to venture into taking responsibility for a few preliminary engineering activities (such as design).

Secondary road construction allocations are an interest of urban counties of all sizes. County staff from the biggest urban counties may actively lobby for more funding and may question the allocation formula factors and factor weights in the *Code of Virginia*. By contrast, some of the smaller, urbanizing counties tend to simply leave it up to the residency staff to seek more funding, interview respondents said. Depending on the particular county, relatively few citizens may understand precisely how this funding works. A resident engineer from one of the smaller, fast-growing counties said, "Citizens don't understand how the funds flow, or how construction jobs are funded. Only those few who attend the annual road hearing hear about this." Another resident engineer said that what citizens sometimes perceive as unresponsiveness on VDOT's part may really represent a funding issue.

Maintenance funding was not mentioned as an interest of county residents nearly so often as construction funding, but maintenance priorities were. A number of resident engineers said that urban county residents and Board members wanted more control over where maintenance was done. An assistant resident engineer in one of the larger counties said: "There are more complaints about sidewalks, curbs, and gutters than anything else. No one lives on the Interstate." In some of the smaller, urbanizing counties, though, citizens are less concerned with maintenance priorities than in "what they see." Urban county residents may also care about *how* maintenance is done, in addition to where. A resident engineer for one of the larger urban counties said that residents of some of the more affluent subdivisions in his county objected to mechanized maintenance operations (e.g., ditching) on subdivision roads; they preferred for the work be done by hand.

Drainage was mentioned very frequently as an interest of citizens. Responsibility for storm drainage across private property and responsibility for drainage easement maintenance were two specific problem areas mentioned by many residency staffs. According to interview respondents, a number of counties tell citizens "it's your problem" or "it is VDOT's problem" on virtually all drainage issues (perhaps because they have minimal engineering staffing). However, as the VDOT employees reported, the Department is not responsible in cases where the source of the drainage problem is off the state right of way and/or it is not attributable to a road.

Residents of several urban counties had an interest in changing VDOT's minimum standards for secondary roads, for a number of different reasons, according to interview respondents. (Note: VDOT made its standards for subdivision streets more flexible in mid-1995, about the time the interviews were completed, so some of the counties' concerns have been addressed). For example, counties that want to preserve a rural lifestyle and limit growth tell VDOT staff

that roadway standards are too high, or that minimum roadway widths are too large. These counties may not want VDOT to improve particular secondary roads, lest development follow. Other counties may object to VDOT's [unrevised] minimum standards because they think it contributes to excessive speeds in residential areas. Counties' attitudes about the standards may also be influenced by what developers tell them about the costs of building streets in conformance with the standards.

In at least one of the smaller, urbanizing counties, citizens have a major interest in unpaved roads, according to residency staff. Many subdivisions in that county are built on unpaved roads and a significant proportion of the county's secondary road mileage is unpaved. Several hundred miles are currently eligible for paving under the 50 vehicles per day criterion. However, if this criterion were ever changed to 100 vehicles per day (as has been proposed several times), relatively few miles would be eligible for paving. Several hundred people attend the annual road hearing in this county each year. This county's resident engineer estimates that 90 percent of those who attend want their roads paved. As noted earlier, however, not all urban county residents living on unpaved roads want them paved. For some citizens, preservation of a rural environment is paramount.

Nearly all of the resident engineers who were interviewed said that they spent large amounts of time responding to traffic engineering issues such as signals, four-way stop signs, cut-through traffic, reduced speed limits, and restrictions on through traffic. In one larger urban county, the residency receives an average of 50 requests per month related to traffic engineering. VDOT staff said that they sometimes have difficulty convincing citizens and elected officials of the need to study potential signal locations. They also said that citizens and Board members sometimes do not understand the risks (such as noncompliance) of having traffic control devices where they are not warranted. An ARE in one of the larger urban counties noted that citizens' beliefs about the purpose of certain traffic control devices are sometimes inaccurate. Citizens may think that VDOT installs four-way stop control to lower travel speeds, she said, when VDOT has really done so to reduce cut-through traffic problems.

Responses to a recent survey conducted for VDOT's Salem District (which includes the urban counties surrounding the city of Roanoke) provide some insight into citizens' secondary road interests. Citizens responding to the Salem District survey said that the most important services VDOT provided were (1) snow removal, (2) drainage and ditch maintenance, (3) signs and signals, (4) street and surface repair, and (5) bridge inspection (VDOT *Friday Report*, September 22, 1995).

VDOT's Interests and Expectations

VDOT field staff also had some interests and expectations stemming from their experiences in the urban counties, primarily about encouraging counties to take greater responsibility for matters that are not truly road-related. As one interview respondent put it, "We could use more definition of the responsibilities [of VDOT and the counties] than we currently have." VDOT field employees' interest in getting counties to take greater responsibility in some areas was probably heightened by the Workforce Transition Act (WTA) of 1995, which occurred when the

interviews were being conducted. There were heavy staffing losses in a number of residencies with the WTA, and a number of those interviewed expressed concerns about how all of the work that is clearly VDOT's responsibility would get done. In other words, some respondents felt that VDOT was no longer in a position to provide extra services as a courtesy to counties.

Many of the VDOT field staff interests with respect to counties fell in 6 categories:

- land use planning
- inspection
- drainage
- other maintenance issues
- counties' requirements for developers
- special agreements

More land use planning by the counties was a chief interest of several VDOT interview respondents in the rapidly urbanizing counties. "VDOT would like to depend more on the counties from a planning standpoint," one resident engineer said, "and the Department would like earlier involvement." Without proper county planning, piecemeal development and growth around very congested corridors would continue unabated, respondents said. One resident engineer described how one of his counties was experiencing significant problems because it had granted so many rezoning approvals years ago. Growth was continuing in an already-congested corridor, because some of the rezoning approvals were only now being put to use.

Inspection was another interest of VDOT staff in some of the most urbanized counties. In some counties, there are too few VDOT inspectors available to inspect all of the subdivision streets as they are being built. In these situations, either the county must employ its own inspectors to certify the roads or developers can be required to post three-year performance bonds. VDOT staff in some large urban counties that employ their own inspectors expressed concerns about the quality and timeliness of the inspections. "Inspection has been a bone of contention," said one resident engineer. These respondents said that when the inspection function is separated from maintenance responsibility, whoever does the inspection may not approach the task with as critical an eye as a VDOT inspector would. There appears to be some county-to-county variability in this, however. Other VDOT residency engineers said that private inspectors employed by their counties had learned to do a good job.

Many resident engineers mentioned that drainage-related responsibilities were a recurring issue. Several said that their counties would not acknowledge that drainage was a joint VDOT-county responsibility, advising county residents to call VDOT no matter what the problem or its cause. Maintenance of drainage easements is a frequent point of contention: although VDOT is not required to do this task, a number of counties expect it. Other strains may arise in the VDOT-urban county relationship because the county's actions cause more water to drain onto VDOT right-of-way than expected.

What urban counties require from developers was a chief concern of residency staff in some of the fastest-growing urban counties. Interview respondents said that VDOT policies on developer contributions have limited effectiveness if the counties do not do their part. Problems

occur when there are differing interpretations of VDOT policies that require developers to make improvements beyond those strictly required by the initial development. The improvements in question include turn lanes, signals, interconnects, and stub streets to adjoining subdivisions. In some situations, VDOT respondents said, counties are not requiring developers to address the future traffic impacts of their development. "It's an extreme injustice to the citizens that developers don't pay for the costs of development," said one VDOT employee.

In some cases, differing interpretations of policies are not the only obstacle to obtaining developer contributions to road improvements. Some resident engineers commented that their counties were significantly hampered in negotiations with developers by the lack of conditional zoning (proffer) authority. Such authority must be granted by the General Assembly.

Finally, VDOT, the urban counties, and developers frequently negotiate legal responsibility for dams, pedestrian underpasses, storm water detention facilities, and other special roadway features. A number of the VDOT interview respondents said that the Department has a continuing interest in negotiating effective special agreements with the counties. One ARE commented that negotiating agreements about dams can be difficult, but VDOT has to have an agreement (even if as little as one inch of water is being held back by a road), because of the legal and financial responsibility involved.

Financial Issues

In the course of the interviews, VDOT respondents described a number of related financial issues that arise in urban counties. Unlike some of the topics discussed earlier, these are not typically "who pays?" issues. Rather they focus on how best to allocate limited funds to meet many needs in high-growth counties.

Residency staff from the larger, fastest growing urban counties said that in their counties, VDOT frequently has to build four-lane secondary roads in more costly locations, rather than the two lane roads that will accommodate traffic in less urbanized counties. One resident engineer described how completed plans to build two-lane roads have had to be abandoned more than once for four-lane facilities because development is occurring so rapidly. Similarly, in areas where there is rapid development, costly interchanges may be needed, leaving less money for other needed projects in the county. Another problem respondents mentioned was that subdivisions in high-growth counties may empty onto inadequate two-lane roads, but limited Six Year Plan dollars may be earmarked for improving secondary roads carrying very high traffic volumes (50-60,000 vehicles daily).

Some of the smaller urbanizing counties may face different kinds of financial problems. When development is occurring in "pockets," leaving some areas much less developed, VDOT faces a real challenge. The Department may be hard-pressed to meet both the needs of the rapidly growing portions of a county and still address other needs in the rest of the county. Also, some of the counties with the highest growth rates still have relatively small populations, which greatly affects their secondary improvement allocations (population is the main factor in current secondary allocation formula).

Many of the larger urban counties included in this study were participating in revenue sharing to the maximum extent possible. In some of the smaller counties however, VDOT staff mentioned that their Boards did not seem to fully understand revenue sharing and avoided it because they thought the funds would be “locked in” to a specific use, leaving them without any flexibility.

Some large counties participate in funding both secondary and primary roads by issuing bonds to expedite high-priority projects. Also, some have been authorized by the General Assembly to form special (tax) assessment districts to enable them to use bonds as a project financing mechanism. For special assessment districts to work well, however, development has to occur at a certain rate and be of a certain type. If growth slows, or the type of development changes, covering the interest on the bonds can become problematic.

According to the VDOT respondents, counties are quite selective in which road projects they elect to help finance. Respondents said that participation has occurred usually on projects in which the county has a significant financial stake (because of potential development) and/or on major projects that the county wants to expedite. Clearly, counties have many competing uses for their own funds, and some have stronger tax bases than others for financing infrastructure of any type.

Constraints on Change in Secondary Road Responsibilities

The interview results indicate that no urban counties are seriously considering their statutory options for a takeover of their secondary roads at present. VDOT respondents saw a number of potential constraints on any significant future change in secondary roads responsibility. The constraints involve the following:

- cost
- counties’ lack of facilities, equipment, and staff
- counties’ interests
- accountability
- other factors

Under the current statute, any county wishing to assume secondary roads responsibility must take over **both** maintenance and construction. Furthermore, the *Code* says that “...the agreement between the Commonwealth Transportation Board and the board of supervisors...may provide for the transfer and conveyance to any such county without further consideration such highway construction and maintenance equipment as is fairly allocated or assigned to such county, provided, that such agreement is approved and ratified by the General Assembly prior to submitting same to referendum”(§15.1-724) (Appendix A). As presently written, however, the *Code* is silent about the transfer of VDOT land, facilities, or staff.

VDOT respondents saw cost issues as the primary constraint on any county’s takeover of secondary road responsibilities. The 1990 county road takeover study prepared for Fairfax County projected that a significant property tax increase could be required to support a county-run roads program (KPMG Peat Marwick, 1990). VDOT residency staff noted that many of the

urban counties included in this study currently do not spend **any** of their own funds on roads (apart from revenue sharing projects). One VDOT resident engineer commented that many urban counties want more authority in secondary road matters, but apart from the very largest counties, they do not want to have to spend any of their own funds. In this context, several interview respondents mentioned how a number of the state's larger cities (which have more statutory responsibility for their roads than counties do) supplement their state allocations with significant amounts of local tax funds. Several resident engineers commented that citizens in their counties would probably have to be convinced that the same level of service (or better) could be provided by the county *at no greater cost* before they would approve a county roads takeover.

Cost issues have arisen as some of the larger urban counties have taken responsibility for pre-construction activities on particular projects. In some of these situations, VDOT staff reported, cost overruns on items for which the county has taken responsibility (e.g., utility relocations) have created "huge problems and battles." This experience suggests that counties may be unable and/or unwilling to absorb significant cost overruns. Similarly, having to absorb large maintenance cost overruns because of an unexpectedly severe winter or other natural events could be very problematic for an individual urban county. VDOT, in contrast, can spread out the costs of severe winters, floods, or other events among all of the counties in the state secondary road system. An interview respondent from one of the larger urban counties commented: "VDOT's maintenance is driven by needs, not dollars. It is not likely to be thus for any county [that takes over its roads]."

The urban counties' general lack of equipment, facilities, and staff to improve and to maintain the roads represents another significant constraint on change, respondents said. As noted earlier, Virginia law only mentions transfers of *equipment* in the event of a county road takeover. One resident engineer predicted that his urban county would only take over its roads if it inherited **all** VDOT facilities, equipment, and staff.

The issue of facilities, in particular, seems to represent a major constraint on change. The initial capital outlay requirements might be impossible for any but the two or three largest urban counties to even consider. The consultants who performed the road takeover study for Fairfax County estimated that it would take three to four years to develop new fixed facilities for a county-run road program (KPMG Peat Marwick, 1990). Alternatively, they suggested, VDOT and the county could "co-locate facilities," meaning they could share existing VDOT area headquarters sites. The effects of such an arrangement on either party's operational efficiency were not discussed in the KPMG report.

Staffing would also likely be a significant issue for any county that wished to take over its own roads. One VDOT staff member commented that it would take considerable time and money for any urban county to recruit a road staff with the diversity of knowledge and experience needed for maintenance operations. Another VDOT employee asked, "What are the costs to the citizens while the county learns to build and maintain roads?" The staffing constraint seems all the more significant in light of the fact that a number of the urban counties included in the study do not even have a public works department.

Urban counties' interests represent another potential constraint on change in their secondary roads responsibilities. A number of VDOT interview respondents said that their urban counties were quite interested in preliminary engineering functions but had little or no interest in being involved in secondary roads maintenance operations. And even though citizens and urban county officials display much interest in traffic operations issues, counties' involvement in this activity has been quite limited to date.

In the past, VDOT upper management has generally had an "all or nothing" perspective on the road takeover issue: maintenance responsibility goes along with any other major functions which counties might want to take over. The "all or nothing" perspective is embodied in the applicable statute at present. Interview respondents made a number of comments about the risks (to VDOT) of separating maintenance responsibility from other kinds of responsibilities. More specifically, they said that it was crucial to insure that roads were well built initially, to avoid costly maintenance expenditures early in the pavement's life.

Nearly every VDOT staff member who was interviewed said that accountability was likely to be a significant constraint on change in secondary road responsibilities. Most VDOT respondents said that it is advantageous for county officials or staff to be able to point to VDOT as the responsible party. As a resident engineer for one of the larger urban counties said, "a resident engineer can't be responsible for all that happens in a county, but the citizens hold the resident engineer responsible."

KPMG Peat Marwick projected that if Fairfax County took over its secondary roads, increases in citizens' expectations would necessitate level of service increases ranging from 100% to 300% for many maintenance and operations activities. Many of the projected increases were at the higher end of that range (KPMG Peat Marwick, 1990). If these projections are accurate, full accountability for the roads might be an even less appealing prospect for county officials.

VDOT interview respondents commented that if a county took over its own roads, maintenance crews' activities might be affected by shift of accountability to the local level. There might be pressure to do more "quick fixes," deferring activities that cost more, take longer to do, and/or are less visible to the citizens, they said. Counties might also have a more difficult time turning down citizens' requests for signals, stop signs, etc. than VDOT does because of the accountability factor.

Responsibility for utility relocations and right-of-way acquisition were mentioned as other potential constraints on change. Currently, when VDOT improves roads, utility companies relocate their lines at their cost. If a county took over its roads, utility companies might refuse to absorb these relocation costs, instead expecting the county to pay. Counties might also be reluctant to take over responsibility for right-of-way acquisition and property condemnation; these tasks are time-consuming, expensive, and can upset affected landowners.

Individual respondents mentioned a number of other potential problems that could arise if an urban county took over its secondary roads in the future. These included:

- The safety of the road network as a whole, given the interrelated nature of the system.
- The welfare of a county's small towns, since county officials might be under considerable pressure to spend limited funds in the most urbanized areas
- Resolution of disagreements between neighboring counties about development and transportation issues
- Some counties' limited ability to exact contributions from developers, and the risk that levels of service and safety would be compromised by rapid growth.
- A single county's competitive disadvantage against much larger customers (e.g., state DOTs) for materials such as de-icing chemicals. A single county might be "last in line" to receive these kinds of materials.
- Citizen opposition to some potential consequences of a county road takeover, such as higher taxes. Voters could be the most fundamental constraint of all.

VDOT Organizational Issues

Certain VDOT organizational issues were mentioned in a number of the interviews. They are outlined briefly here, because they reflect the demands of the VDOT-urban county relationship on the Department's residency employees. It was beyond the scope of this study to compare the views of VDOT district or Central Office staff with those of residency employees. Clearly, other levels within the Department might have other views on these matters and may operate under some different constraints.

The organizational issues can be categorized as follows:

- residency staffing levels
- maintenance funding
- residencies' desire to modify their organizational structure
- residencies' relationships with the District Offices and the Central Office
- outsourcing issues
- other miscellaneous issues

Residency staffing levels was an issue mentioned by many of the interview respondents. The timing of the interviews, just before and just after the Workforce Transition Act (WTA) of 1995, caught residency staff at a time when the effects of actual (or impending) retirements were being felt acutely. A number of resident engineers mentioned that staffing levels had not kept pace with growth in their urban county or counties, even before the WTA. A few individuals said that fluctuating county growth rates had made it difficult to accurately predict staffing needs, compounding the problem. In urban counties that experienced a lull in growth at some point, respondents said that staffing had caught up to some extent, but not all counties experienced such break. At least one urban county residency was having problems related to high vacancy rates and high turnover before the WTA occurred.

Residency staff said that meeting the needs of the urban counties had been made especially difficult by larger than average losses in some job classifications—inspectors in particular. In the two or three largest urban counties, the inspection and permitting workload is partially absorbed

by county staff. Consequently, residency staff in medium-sized urban counties may actually be responsible for more inspections and permits than the staff in the largest urban counties.

Maintenance staffing levels were also mentioned by a number of the residency employees. Some respondents mentioned that the ratio of (maintenance employees/secondary lane mile) varied considerably between residencies. Some respondents noted that their residency's maintenance overtime hours had increased substantially last few years, reflecting the effects of both retirements and high citizen expectations.

Two of the main consequences of reduced staffing levels, residency staff said, are that crew sizes are smaller and it simply takes longer to get work done. Developers may also have wait longer for inspections and permits. Remaining VDOT staff may have to be involuntarily shifted from one area headquarters to another. And with the WTA staffing losses, some decision-making and oversight has shifted to lower levels of residency staff than ever before, a number of resident engineers said.

In addition to maintenance staffing levels, maintenance funding was mentioned as an issue by a number of interview respondents. There were a number of comments about how many [secondary] miles had been added to the state system in a residency without a corresponding increase in maintenance funding. Residency staff noted some other aspects of the maintenance funding issue: in the past, some residencies underspent their maintenance allocations, they said, which may have been a reason for level-funding. A number of respondents said that it is very difficult to forecast maintenance expenditures accurately for several reasons, including the weather and unplanned maintenance activities in response to citizens' requests.

Several resident engineers mentioned that modifications of their residencies' organizational structure would better enable them to meet the demands of one or more fast-growing counties. In several cases, resident engineers said they needed an additional assistant resident engineer. The additional assistant would focus upon either land development or construction issues (most of the urban county residencies have an assistant that focuses on one of these functions, but not both). Several resident engineers mentioned that having an office manager and/or having a human resources specialist in the residency would free up more time for them to deal with urban county demands. Many resident engineers said that day-to-day personnel issues and adjusting workloads consumed tremendous amounts of their and their assistants' time.

When the interviews were being conducted in the spring of 1995, the Fairfax Residency was undergoing a widely publicized adaptation of its organizational structure, merging a number of residency functions with those of the VDOT Northern Virginia District Office. Fairfax currently does not have a resident engineer per se; four assistant resident engineers are assigned to that residency. The four assistants work out of the Northern Virginia District Office. A separate working group within VDOT is evaluating the results of that adaptation. The conditions that made the Fairfax Residency's organizational adaptation possible (residency size, proximity to the District office, duplication of functions) do not exist in any other urban county, however.

Residency staff mentioned several issues in their working relationships with other levels of VDOT. District office turnaround time on development review work and communication back

to the residencies about it were mentioned as specific concerns by the staff in several smaller urban county residencies. These respondents said that there was pressure from their counties to complete development reviews quickly. They (the residency staff) also said that they needed to receive more information from district staff about where development was slated to occur so that road improvements could be prioritized accordingly. Staff in one residency had another concern: they thought that other levels within VDOT were not sufficiently aware of their county's growth and urbanization—they felt they were still being treated as a rural residency.

Staff from a several residencies said that inflexibility on the part of District traffic engineering staff had been a source of strain in their relationship with an urban county (or counties). Some residency staff offered the opinion that traffic engineering problem solving in the urban counties could not be done exclusively “by the book,” and that some problems called for “common sense solutions.”

Some urban county residency staff expressed concerns about the possible impacts of then-new Secondary Roads Division requirement that all Boards of Supervisors submit their Six Year Plan revisions in the same quarter of the year (previously counties did this in all quarters of the year). The concern was that “lame duck” Board members might draft one list of priorities, which might then be modified significantly by new Board members taking office in January.

Some residency staff commented the field was not receiving enough guidance from other levels in VDOT about what the Department is trying to accomplish and what its philosophy is. (Note: VDOT's new Strategic Plan and mission and goals statements were only in the early stages of development when the interviews were conducted in early to mid-1995). In particular, these respondents said, resident engineers and AREs receive too little training about how to deal with county staff and Board members, and how to work in sometimes highly political environments. Learning by experience seems to be the norm. Although some current and former resident engineers say that this is unavoidable on-the-job training, others who were interviewed said, “this has more bad than good effects.”

Outsourcing of various secondary road functions formerly performed by VDOT employees was an organizational issue that most interview respondents mentioned. Some of the comments focused on what VDOT functions should or should not be outsourced, in the respondents' view. Residency staff in some urban counties felt strongly that as long as VDOT has maintenance responsibility for the roads, inspection functions were best performed by VDOT employees. Private inspectors might be less motivated to do a very close inspection, these respondents said, because maintenance was somebody else's responsibility (i.e., VDOT's). VDOT staff in other urban counties, however, said that private inspectors had learned to do a good job. Other interview respondents expressed the view that certain kinds of maintenance work should not be outsourced for a host of reasons—safety concerns, the need to get the work done quickly, the high expectations of county residents and/or elected officials, or VDOT's own standards for the work

One resident engineer offered a different perspective on the issue of outsourcing road maintenance activities: “*everything* we [VDOT] do can be outsourced,” he said. The problem, he said, is that after VDOT decides to contract out an activity, it typically takes several years to develop a pool of experienced private contractors. For the first few years, costs may be higher

and quality lower than if VDOT did the work itself. Ultimately, though, he said, quality improves and costs go down, to the point that the private sector can do the activity more cheaply than VDOT. VDOT may have to deal with higher levels of customer dissatisfaction in the early phase, when quality declines. VDOT managers may also have to reassign employees formerly responsible for the outsourced activity, he said, which can be difficult.

Some interview respondents commented that residency staff did not have time to administer or oversee all of the contracts being let to accomplish work formerly done by VDOT. In some cases, they said, contracts are being overseen by lower levels of residency employees than ever before (e.g., area headquarters staff was overseeing contracts that used to be overseen by construction inspectors). A resident engineer from a smaller urban county said that he could not afford to outsource any of its functions; another resident engineer said that he had run out of money relatively early in the FY because of outsourcing.

The Highway Helpline was a miscellaneous organizational issue mentioned by staff from a number of different residencies. These respondents expressed concerns that the Highway Helpline, intended to enhance VDOT's customer service, might be having some unintended consequences. Their chief concern was that citizens may think it is better to call the Helpline *first*, without ever having contacted the residency with their problem or request. These residency employees indicated that they preferred to hear directly from the local customer as much as possible, particularly since Helpline requests are ultimately passed down to a residency for action.

Finally, a resident engineer for one of the smaller, urban counties identified VDOT's public involvement processes as a miscellaneous organizational issue of interest. He expressed concern that the Department's current public involvement processes may permit a small number of highly vocal citizens to have an inordinate amount of influence on decisions. He oversees an urban county in which relatively few people attend public hearings; those who attend often have a fairly narrow range of opinions. He felt that the views of other segments of the county's population were not being heard to nearly the same extent.

• Data for Future Assessments of the County Road Takeover Question

In addition to exploring VDOT's relationships with the urban counties and identifying potential constraints on change, this study had another objective: to identify the kinds of data that might be useful in any future discussions of county road takeovers. The interview results indicate that none of Virginia's counties are seriously considering a secondary roads takeover at present. However, it is worth considering what kinds of data might be most valuable to VDOT and the counties, should the issue surface in the future.

The county road takeover study performed by KPMG Peat Marwick for Fairfax County in 1990 provides a useful framework for identifying the relevant data for future discussions of the issue. KPMG outlined six alternatives for Fairfax County, one of which (Option 2) was a county takeover of all secondary road functions as well as construction and pre-construction activities for county-funded primary road projects. Their discussion of what Fairfax would require to

assume responsibility for its roads suggests several categories of data that could be useful to VDOT and a county in any future discussions of secondary roads takeovers. These include:

- VDOT-occupied land and facilities, including information systems
- VDOT-owned or rented vehicles and heavy equipment, and costs to maintain them
- VDOT staffing (permanent and temporary) by job classification
- secondary roads funding and expenditures
- secondary road system size and features
- customer service and satisfaction measures

The resource requirements for any urban county desiring to take over its secondary roads are greatly affected by two aspects of the current *Code of Virginia* section on this issue (§15.1-724)(Appendix A). First, a county cannot choose to make VDOT retain maintenance responsibility if it chooses to take over the construction and operations functions. Second, only negotiated transfers of VDOT equipment are mentioned in the Code, **not** transfers of land, facilities, or staff. These aspects of the current statute influence the kinds of data that are likely to be useful to VDOT in any future discussions of the takeover issue. Data on secondary roads maintenance, in particular, become potentially very important, because urban counties have generally had very little involvement in this function.

Land and facilities

It is apparent from their report that KPMG regarded the acquisition of land, facilities, and information systems as a potentially enormous, costly undertaking for Fairfax County. KPMG estimated that it would require a minimum of **four years** and cost \$61-\$65 million (1990 dollars), unless existing VDOT facilities were transferred to the county.

The kinds of land and facilities data that might be useful to VDOT and a county for future assessments of the roads takeover issue are listed below. The data would be residency-level, since that level is dedicated to VDOT's secondary roads program in any county. If a residency serves multiple urban counties, consideration would need to be given to that fact in estimating land and facilities requirements for any single county that wanted to take over its roads. Additionally, some percentage of a VDOT district office's land and facilities are required to support the operations of each residency in the district (though it might be difficult to estimate this percentage accurately). Clearly, any county that decided to take over its secondary roads would also have to provide additional space for new or expanded support functions (e.g., equipment repair shop) that would be needed with the addition of a road program.

Potentially useful information on residency facilities and information systems could include:

- Acreage and value of land occupied
- Square feet of building space by category of use and value
- Cost of any space rented for residency operations
- Maintenance costs for land and buildings

- Computer hardware by type and its value
- Value of off-the-shelf computer software

The VDOT Right of Way Division does periodic appraisals of residency land and buildings, and could be the source of some of the data listed above. Since many VDOT residency facilities were built some time ago, their value would probably provide a conservative estimate of a county's potential facilities costs if it were to take over its secondary roads.

KPMG projected information systems development costs (including software) in the event that Fairfax decided to take over its secondary roads. Since VDOT often develops its information systems for statewide use, it might not be possible to estimate a single urban county's systems development costs based on VDOT's costs. The exception would be any off-the-shelf software that VDOT purchases for use by residencies. It is possible that this cost might be estimated with information from Arlington and Henrico counties, and/or selected non-Virginia counties that oversee their own secondary roads.

Vehicles and heavy equipment

Very prominent in the KPMG report is the cost of a fleet of vehicles and heavy equipment, most of which would be required for road maintenance. The consultants assumed that 66% of needed maintenance equipment would be contracted (assuming no transfers of VDOT equipment to the county). KPMG estimated that a county-run secondary roads program would require the purchase of approximately 600 vehicles (mostly pickup and dump trucks) at a cost of \$20 million (1990 dollars).

If any county pursues a roads takeover in the future, it would be useful for VDOT and the county to have the following kinds of data about the vehicles and heavy equipment used by the residency serving that county:

- Number, replacement cost, and value of VDOT-owned vehicles, by type
- Number, replacement cost, and value of VDOT-owned pieces of heavy equipment, by type
- Maintenance and repair costs for VDOT-owned vehicles, by type

The VDOT Equipment Division maintains data, including maintenance and repair costs, on the vehicles and equipment that residencies rent from it. Residencies also have cost and repair data on the non-rental equipment that they own. Nonetheless, it would be hard to precisely capture a residency's true equipment costs for secondary roads activities in a county because charges for equipment hired from the private sector include operators for the equipment. Also, when VDOT contracts out maintenance activities to the private sector, it pays by the job (equipment, materials, and labor costs are not typically separated).

Staffing

Any urban county that decided to pursue a roads takeover in the future would have to hire a large number of additional employees, even if it planned to contract out substantial percentages of the secondary roads construction and maintenance work. For example, KPMG projected that Fairfax County would need between 545 and 637 additional county employees to take over its secondary roads (compared to approximately 320 employees at VDOT's Fairfax residency in recent years). At the time, this would have represented an increase of **482 - 564%** in the size of the Fairfax County workforce dedicated to road functions. KPMG estimated that such an increase would be needed even if the county contracted out 100% of the design, 100% of the construction, and 50% of the maintenance work on roads that would be taken over from VDOT. It is conceivable that any smaller urban county wishing to take over its secondary roads might have to increase the size of its workforce by a similar percentage.

KPMG projected that the additional Fairfax County employees would be assigned as follows:

- 54% in maintenance functions
- 15% in construction
- 14% in operations
- 12% in road program support functions within other county agencies, and
- 5% in pre-construction

Fairfax was already heavily involved in pre-construction functions in 1990; hence the small projected increase in county employees assigned to that function. Although it is not mentioned in the KPMG report, any county that decided to take over its roads would also likely incur training costs for new (or newly assigned) employees.

VDOT residencies in the urban counties look to their district office or the VDOT Central Office for various secondary road program support functions. For that reason, the number of additional employees a county would need could not be projected purely on the basis of residency staffing levels. Although the largest urban counties, such as Fairfax, may already have most or all of the kinds of support services needed for a road program, smaller urban counties might not. And even the largest urban counties would undoubtedly have to increase staffing levels in some support function areas if a roads takeover occurred. Equipment maintenance personnel comprised the largest category of additional support staff anticipated in the KPMG study.

The kinds of staffing data that might be useful to VDOT and a county if the roads takeover issue arises in the future include:

- number of (FTEs) in certain residency-level job classifications and their VDOT payroll or contract costs
- estimated numbers of FTEs in VDOT district office job classifications needed to support residency operations in an urban county and associated VDOT payroll or contract costs

For any job classification, a pay range average or some other figure could be used for cost estimation in lieu of actual VDOT payroll figures, if desired. As noted earlier in the discussion of equipment data, if VDOT outsources an activity, personnel costs may not be separable from costs for equipment and materials.

Residency level job classifications include managers (Resident Engineers and Assistant Resident Engineers, maintenance managers, construction project managers), construction inspectors, contract administrators, subdivision and site plan specialists, maintenance crews and supervisors, survey crews, and equipment mechanics. Examples of residency support functions at the VDOT district office level include design, right-of-way acquisition, environmental, materials, research, traffic engineering, human resources, accounting, information systems, procurement, and project scheduling. Although an urban county might already be staffed for some of these functions (e.g., human resources), it would probably need additional support staff if it hired many additional employees for a county-run roads program.

KPMG Peat Marwick projected that many secondary roads activities would be outsourced to a greater extent than VDOT's practice (in 1989-1990, when their report was being drafted). Nevertheless, contracts have to be administered, and contract work has to be overseen. Given the consultants' assumptions about citizens' heightened expectations under a county-run road program, VDOT residency staffing levels may represent a rather conservative estimate of the size of a county's road program staffing requirements, in the event of a transfer of responsibility.

Funding allocations and expenditure patterns

Data on various costs for VDOT's secondary roads program in an urban county would be important for the Department and a county to have if the roads takeover issue arises in the future. In particular, detailed data on VDOT's maintenance expenditures, including their variability, would be useful. The Department has relatively good county-level data on the total cost of any given series of secondary system maintenance activities, whether the work is done by VDOT or contracted out (although it is not route-specific data). As noted earlier in the section on equipment, though, it is not always possible to separate the Department's total costs for an activity into equipment, labor, materials, and other costs. According to a VTRC research scientist knowledgeable about VDOT's maintenance cost data, the data for specific activities are not as reliable as the data for an activity series, because field employees may differ somewhat in how they categorize elements of a task.

It would be especially important to have several years' worth of maintenance expenditure data, because the amounts can be quite variable from year to year due to such factors as severe winter weather, floods, and other natural disasters.

KPMG assumed that if Fairfax County assumed responsibility for its secondary roads, its maintenance costs would be 43% higher and its operations costs 50% higher than VDOT's were in the late 1980's. Barring some sort of special action by the General Assembly, a county anticipating cost increases of that magnitude would necessarily have to identify county revenue

sources to cover the increased cost. Hence the Fairfax consultants' comment: "Beyond the Commonwealth's funding commitment, the County needs to identify stable, long-term funding sources to ensure that road program functions taken over from VDOT can be supported at desired levels without interruptions due to competing budget priorities." If the issue arises in the future, both VDOT and the county in question would be very interested in knowing how much of its own money the county would need to spend to meet citizens' expectations for a county-run road program.

Some of the funding and expenditure data that would probably be most useful in any future discussions of change in secondary roads responsibility include:

- VDOT secondary roads maintenance expenditures in the county, by activity series
 - for multiple years, to show variation
 - including expenditures for contract services
- Projected state maintenance payments to a county if it takes over its roads
- VDOT's past secondary roads improvement expenditures in a county
 - for several years
 - from all applicable VDOT funding sources
- Projected VDOT secondary improvement formula allocations to the county
- Projected amounts from other special transportation improvement funding sources (e.g., share of transportation district revenues, if any).

VDOT might also be interested in other kinds of data about a county's finances, if the road takeover issue were to arise in the future.

- County's current level of debt versus its debt ceiling
- Trends in county expenditures for other major spending categories
- Projected revenue yield for each one percent increase in county property tax

Secondary road system size, features, condition, and needs

Any future discussion of the county roads takeover issue would benefit from the availability of detailed data about the size and features of the county's secondary road system. Examples of this kind of data include:

- lane miles of secondary roads by functional classification
- average daily traffic for particular secondary road segments
- information on structures and their condition
- information on number of signals and signs, feet of guardrail, etc. and any available information on VDOT's costs to maintain them.

- VDOT data on identified secondary maintenance and improvement needs (in dollars)

The goal would be capitalize on inventory data that VDOT already collects in order to better project all of the potential costs for a county to maintain and improve its secondary road system over the long term. Although data on secondary system pavement condition might be useful, they are not currently available. Maintenance levels of service data, although collected, are not reliable below the VDOT district level and are not route-specific, according to a knowledgeable VTRC research scientist. Since most secondary roads are functionally classified as local, relatively few are rated for congestion, which would otherwise be useful information.

Customer service and satisfaction data

There is an additional category of information that would probably be quite important in future discussions of county roads takeovers: customer service and satisfaction data. A number of the VDOT residency employees who were interviewed said that citizens in their counties were unlikely to support a county roads takeover unless “they could obtain better service at the same or lower cost.” If true, it could be important to have high quality data on county residents’ ratings of VDOT’s service. Although VDOT has a statewide system for tracking responses to citizen requests, there is some resistance in the field to using it because of the time required to input the information, residency staff said. Consequently, additional customer service and satisfaction data would likely be useful. The Department’s 1996 draft strategic initiatives call for a customer service survey (or surveys) that could yield a variety of useful data. (Note: that survey has now been completed).

Conclusions about potentially useful data

This discussion of data that might be useful to VDOT in any future discussions of county road takeovers suggests several points. First, *maintenance-related data is the key*. Some of the larger urban counties have been substantially involved in preliminary engineering, but they have had little or no involvement in road maintenance. Apart from initial land and facilities costs, the major road takeover costs projected by KPMG were maintenance-related.

Second, under the provisions of the current county road takeover statute (Appendix A), it seems likely that only the largest urban counties could handle the large initial capital outlay required for the land and facilities necessary for road maintenance and management.

Third, if KPMG’s assumptions about increased level of service demands for a county-run road program are accurate, only a county with a stable, long-term funding source to supplement its state allocations could realistically consider a roads takeover. A county would also need to have financial reserves that it could tap in case of an unusually severe winter, cost overruns on a major construction project, or other unforeseen problems.

Finally, to seriously consider a roads takeover, an urban county would need to have (or establish) a transportation office or division with much more specialized expertise than many urban counties’ public works divisions likely have. The county’s transportation division would

need to have enough staffing to handle all of the secondary-roads related development review that VDOT currently does. The county would require specialized expertise for oversight of the private contractors who would do the majority of the work formerly done by VDOT.

Several resident engineers from urban counties commented that if the county road takeover issue arises in the future, “the Department will see it coming.” In their judgment, an urban county would not seriously pursue a takeover unless there were a build up of concerns, over time, about VDOT’s performance. They offered the opinion that the Department had improved its responsiveness considerably since 1990, when the Fairfax road takeover study was done.

In the past, the roads takeover issue has been more prominent during periods when urban counties were spending significant amounts of their own funds for road improvements, one resident engineer pointed out. Currently, he noted, this kind of spending by many counties has slowed considerably or stopped altogether.

RECOMMENDATIONS

Three recommendations based on the findings of this study are outlined below.

1. *VDOT should gather detailed information from the four other states with state oversight of county roads (Alaska, Delaware, North Carolina, and West Virginia). VDOT’s secondary road management and control practices and its partnership arrangements with counties should be compared to those of other states. Information on other states’ secondary road management practices could suggest additional ways to address some of the issues identified in this study (e.g., development-related issues, drainage responsibilities). An investigation of this kind could also reveal additional partnership arrangements that VDOT and Virginia’s counties might adopt.*
2. *If VDOT gathers significant amounts of customer service data as part of the implementation of its Strategic Initiatives, the data should be sub-analyzed for the state’s urban counties, if possible. If VDOT gathers substantial customer service data as part of the implementation of its Strategic Initiatives, it would be very useful to sub-analyze the data for the state’s urban counties (in addition to any overall analyses that are done). This exercise would make it possible to identify any additional customer service issues, as well as customer service successes in the urban counties. Many of those interviewed for this study said any future discussion of the county road takeover issue would be symptomatic of unresolved customer service issues.*
3. *VDOT should take additional steps at an appropriate time to gather information from urban county officials about their counties’ relationships with VDOT, with the goal of identifying strengths, weaknesses, and areas that need clarification. If there are unresolved customer service issues in the future, or if any county expresses an interest in taking over its roads,*

VDOT would benefit from information about how county officials and staff view their county's relationship with VDOT. This would be a necessary step to insure that VDOT is aware of all of a county's interests or concerns and can respond accordingly.

ACKNOWLEDGMENTS

My sincere thanks to all of the current and former VDOT employees in the urban county residencies and the Central Office who agreed to be interviewed, especially the resident engineers. I learned a tremendous amount from them. My thanks also to the current and former members of the Administration and Finance Research Advisory Committee for their ideas and guidance throughout the study. Cherie Kyte provided able research assistance, and Dan Roosevelt willingly shared his knowledge of field operations and VDOT data sources. Margaret Edwards edited and produced the report.

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APPENDIX A

Code of Virginia Section 15.1-72

§ 15.1-724. Conduct of election; form of ballot; referendum on responsibility for highways.

The regular election officers of such county at the time designated in the order authorizing the vote shall open the polls at the various voting places in the county and conduct the election in such manner as is provided by law for other elections, insofar as the same is applicable. The election shall be by secret ballot and the ballots shall be prepared by the electoral board and distributed to the various election precincts as in other elections.

If the petition or the resolution provided for in § 15.1-723 shall ask for a referendum on the question as to whether the county shall adopt that form of county organization and government designated herein as the urban county executive form, the ballot shall be printed to read as follows:

Question. Shall the county adopt the urban county executive form of government and be empowered to assume the debts and acquire the assets of all towns within the county in which the voters determine to dissolve their town charters?

Yes

No

Voting shall be in accordance with the provisions of § 24.1-165.

The ballots shall be counted, returns made and canvassed as in other elections, and the results certified by the electoral board to the circuit court. If it shall appear by the report of the electoral board that a majority of the qualified voters of the county voting are in favor of changing the existing form of government therein provided for, the circuit court shall enter of record such fact and the additional fact as to the form of county organization and government adopted.

If such form of government is adopted, and after the same has become effective, the board of supervisors may petition the circuit court of the county for a referendum on the question as to whether the county shall assume the responsibility for the construction, control, maintenance and repair of the primary and secondary system of state highways or the secondary system of highways within the county. Provided, however, that the notice of such election published as required herein shall contain a statement as to terms and conditions upon which the transfer of such system or systems of state highways would be made for such purposes as well as the formula by which state funds would be distributed to the county for such purposes, all as agreed to by the Commonwealth Transportation Board and the board of supervisors of the county. Such election shall be called and conducted as provided in this article for other referenda. The ballot shall be printed to read as follows:

Question. Shall the county assume the responsibility of the construction, control, maintenance and repair of the primary and secondary system of state highways (or secondary system of state highways, as the case may be) within the county?

Yes

No

The ballots shall be counted, returns made and canvassed and the results certified as provided for herein. If a majority of the qualified voters of the county voting are in favor of the county

assuming such responsibility the judge of the circuit court shall enter of record such fact and shall include in the order the terms and conditions contained in the agreement between the Commonwealth Transportation Board and the board of supervisors as set forth in the notice of election. On the date set forth in said agreement the transfer of said system or systems of highways to the county shall take effect. Any agreement hereunder may provide for the transfer and conveyance to any such county without further consideration such highway construction and maintenance equipment as is fairly allocated or assigned to such county, provided, that such agreement is approved and ratified by the General Assembly prior to submitting same to referendum.

(Code 1950, § 15-384.12; 1960, c. 382; 1962, c. 623; 1966, c. 464; 1968, c. 797; 1975, c. 517; 1980, c. 74.)

APPENDIX B

List of Individuals Interviewed

List of Individuals Interviewed

Urban County or Counties	Individual(s) Interviewed	Job Title ¹
Albemarle	Dan Roosevelt	Former Charlottesville RE ²
Bedford	Glenn Kessler Glenn Feagans	Bedford RE Bedford Maintenance Mgr
Campbell	Sandra Lindsay Don Austin	Appomattox RE Appomattox ARE
Chesterfield	Jim Smith Barbara Kelley	Chesterfield RE Chesterfield ARE
Fairfax	Ho Chang	Former Fairfax RE
Fauquier	Bob Moore	Warrenton RE
Gloucester	W.W. Woodward Larry Dickerson	Saluda RE Saluda ARE
Hanover	Roy Cleek John Neal	Ashland RE Ashland ARE
Henrico	Bob Riley	Sandston RE
James City and York	Quintin Elliot Chris McDonald	Williamsburg RE Acting Williamsburg ARE
Loudoun	Tom Butler	Leesburg RE
Prince William	Dan Liston Helen Cuervo Bill Costis	Manassas RE Manassas ARE Manassas ARE
Spotsylvania and Stafford	Glen McMillan	Fredericksburg RE
All counties	Jim Givens	VDOT Secondary Roads Division Administrator
All counties	Gerry Fisher	Former Secondary Roads Division Administrator
All counties	Bob Hofrichter	Transportation Engineer Sr. Secondary Roads Division
Northern Virginia counties	Richard Harrison	Former head of Land Development Section, Northern Virginia District

Notes:

¹ Job titles are those at the time the person was interviewed

² RE is Resident Engineer

³ ARE is Assistant Resident Engineer

APPENDIX C

VDOT Resident Engineer Interview Guide

VDOT Resident Engineer Interview Guide

QUESTIONS ON URBAN COUNTY ISSUES

[Interviewer instructions:

Describe study's purpose: to look at the relationship between VDOT and the state's largest, fastest growing urban counties, to consider the possibility of counties assuming more responsibility for their local secondary roads, and to consider the implications of any change for the affected county or counties, VDOT, and the state's other counties.

In most other states, of course, counties are responsible for the maintenance and construction of local roads, but in 1932, nearly all of Virginia's counties gave those responsibilities to the State].

Background [get a picture of what is occurring in the county]

1. Could you describe the county's overall growth and land development patterns over about the last 10 years
2. What effects has this growth had on the county's existing secondary road network and its secondary road needs?
3. Is the county currently
 - Supplementing its VDOT secondary roads allocation with funds of its own?
 - Building any secondary roads?
 - Doing any of the preconstruction work for secondary road projects?
 - Doing any traffic operations work on secondary roads?
 - Performing any maintenance activities on secondary roads?
4. Does the county have a Transportation Office or department? or a Public Works department? What is its staffing level? What functions does it perform?
5. In general, what are the views of the county officials [Board of Supervisors, maybe others] about the county's secondary road needs and what it will take to meet those needs?

[Interviewer: intro to next series of questions:

I'd like to ask you about VDOT's relationship with the county on secondary road matters in several areas, such as

- site plan reviews,
- other preconstruction activities,
- traffic operations, and
- maintenance.

I'm interested in your perceptions about the division of responsibility between VDOT and the county in these areas, and whether there would be any advantage to doing things differently than they are done now.

7. As I understand it, the process of identifying and programming secondary road improvements is a collaborative effort between a county's Board of Supervisors and the resident engineer, that results in the 6 Year Plan and its updates.

From your perspective, could the responsibilities for identifying and prioritizing improvements be divided up any differently between the Resident Engineer and the county? What would be the benefits and drawbacks of doing so?

8. How much of your time and your staff's time is taken up by **development review** activities for secondary roads? Has it been necessary to negotiate many special agreements or master agreements in the process? What have the county's concerns, if any, been with the development review process? From your perspective, could development review responsibilities be divided up differently? What would be the benefits and drawbacks of doing so?

9. What about **other preconstruction activities** for secondary roads, such as project design, right of way acquisition, and administration of consultant contracts? Does the county do any of these activities on selected projects? What have the county's concerns, if any, been with these other preconstruction activities? From your perspective, could the responsibilities be divided up differently? What would be the benefits and drawbacks of doing so?

10. Is the county currently involved in **constructing** any secondary roads? What have the county's concerns been with current arrangement for constructing secondary road projects? Could construction responsibilities be divided up any differently, in your opinion? What would be the benefits and drawbacks of doing so?

11. **Traffic operations**, in particular, is an area where some larger urban counties seem to want a larger role in decisionmaking. Does the county currently do traffic operations work on the secondary system? What concerns, if any, has the county had with the current way traffic operations decisions are made? Could traffic operations responsibilities be divided up any differently, in your opinion? What would be the benefits and drawbacks of doing so?
12. How about **maintenance**? Does the county perform any maintenance on its secondary roads? What concerns, if any, has the county had with the current way that maintenance is planned and performed? Could maintenance responsibilities be divided up differently, in your opinion? What would be the benefits and drawbacks of doing so?
13. What do you think would happen to the level of service demands by the citizens if the county had more responsibility for local roads?
14. Would this county's citizens be willing to pay more in taxes for higher levels of service on their secondary roads? How much more?
15. Has this County ever done a study (or hired consultants) to look at the possibility of having more responsibility for its local roads?
16. Do you think this County would ever want to adopt the arrangement that Arlington and Henrico County have with VDOT? Why or why not?
17. Who else would you recommend that I talk with about secondary road needs and responsibilities in this county? (VDOT staff / County staff / Developers / Others)

[Interviewer: Conclude interview

Thanks very much for your time. Is there anything else you would like to say on the subject of State versus county responsibility for local roads?]

