REPORT OF THE
JOINT LEGISLATIVE AUDIT
AND REVIEW COMMISSION

Review of the RMA and Powhite Parkway Extension Toll Facility Operations

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

HOUSE DOCUMENT NO. 33

COMMONWEALTH OF VIRGINIA
RICHMOND
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Preface

House Joint Resolution 64 of the 2000 General Assembly Session directed JLARC to evaluate the operation of toll facilities in the Richmond area owned by the Richmond Metropolitan Authority (RMA) and the Virginia Department of Transportation (VDOT). The language directed JLARC to focus on a number of issues, including the amount of debt issued by the facilities, the use of toll revenues, the schedule for retirement of debt, and the requirements for toll free operation of the facilities.

At the close of FY 2000, outstanding indebtedness attributed to the RMA expressway system totaled more than $200 million (consisting of $154.6 million in revenue bonds and $47.6 million in subordinate debt held by the City of Richmond). In the case of the Powhite Parkway Extension, outstanding debt totaled more than $114 million at the end of FY 2000, including $60.3 million in revenue bonds and $53.8 million in obligations to Chesterfield County and VDOT. The study findings indicate that both VDOT and the RMA appear on schedule to retire senior bonded debt in 2011 and 2022, respectively. However, there will not be sufficient revenue to repay the outstanding subordinate debt by those dates. Therefore, if the General Assembly wishes these facilities to operate toll free by the anticipated senior debt maturity date, additional sources of revenue will be required.

Even the retirement of both revenue bond and subordinate debt on the RMA's expressway system and the Powhite Parkway Extension does not ensure the removal of tolls. Upon retirement of senior debt, the *Code of Virginia* requires ownership of the RMA's expressway to transfer to the City of Richmond, which may retain tolls on the facility. In addition, the *Code of Virginia* language governing the Powhite Parkway Extension does not require tolls to be removed after debt has been retired.

If the General Assembly wishes to ensure that the facilities will operate toll free, it can address the current obstacles to toll-free operation by: (1) amending the *Code of Virginia* to transfer ownership of the RMA expressways to VDOT upon retirement of all senior debt, (2) amending the *Code of Virginia* to prohibit the RMA and VDOT from issuing any additional debt which extends the date for retirement of senior debt, (3) directing the Commonwealth Transportation Board to identify sources of funding to retire the subordinate debt to the City of Richmond and the Toll Facilities Revolving Account concurrent with retirement of all senior debt, and (4) creating a task force to examine and resolve the legal matters necessary to transfer ownership of the RMA facilities.

On behalf of the JLARC staff, I wish to express our appreciation for the assistance and cooperation provided by the Richmond Metropolitan Authority and VDOT staff during the course of this study.

Philip A. Leone
Director

January 9, 2001

JLARC Report Summary

REVIEW OF RMA AND POWHITE PARKWAY EXTENSION TOLL FACILITY OPERATIONS

January 2001

Joint Legislative Audit and Review Commission

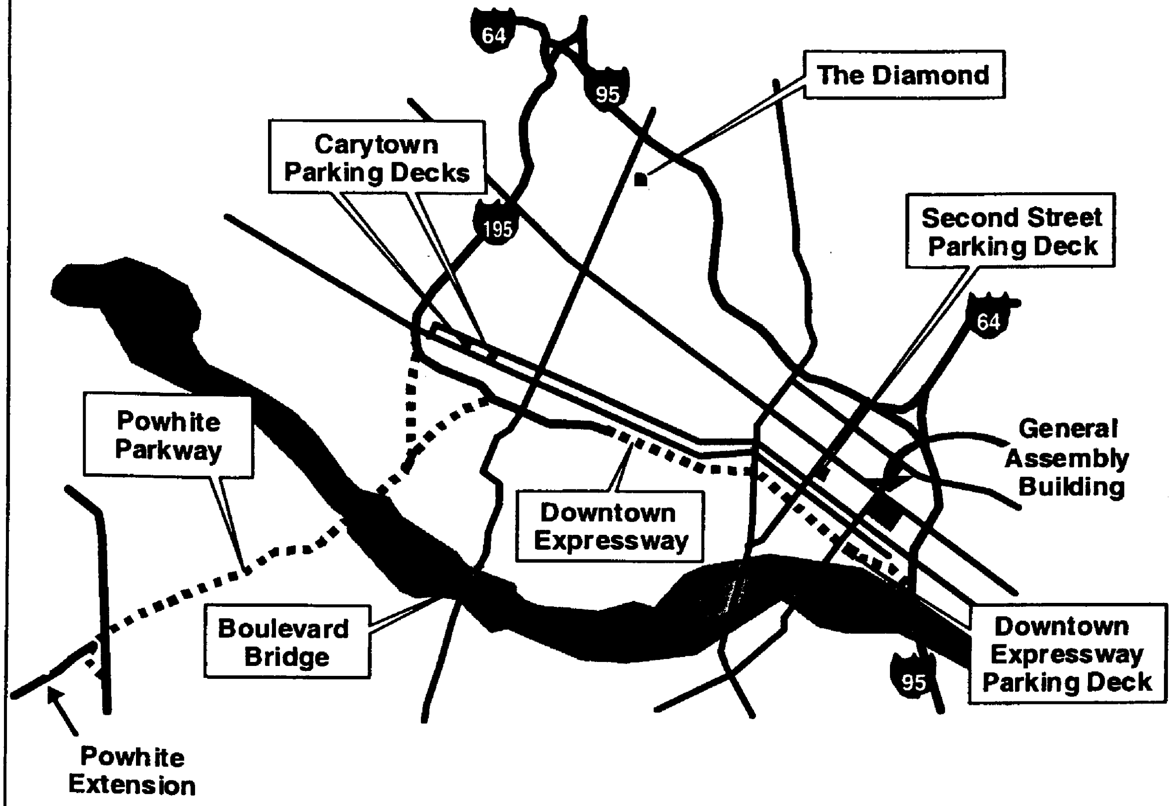
The Richmond Metropolitan Authority (RMA) was created by the General Assembly in 1966 for the purpose of constructing and operating a limited access expressway system to serve the Richmond metropolitan area. To accomplish this, the RMA issued more than $125 million in revenue bonds in the early 1970s to construct two major highway systems in the City of Richmond. The RMA expressway system includes two toll roads – the Powhite Parkway and the Downtown Expressway – as well as the Boulevard Bridge which was purchased by the RMA in 1969 (see figure, next page). The RMA toll roads and the Boulevard Bridge carried more than 52.8 million vehicles and collected more than $23.3 million in toll revenues in fiscal year 2000.

Linked to the RMA's Powhite Parkway expressway is the Virginia Department of Transportation's (VDOT) Powhite Parkway Extension toll road, which opened in 1988 at a total cost of $123 million. In FY 2000, the Powhite Parkway Extension carried more than 20.8 million vehicles and collected more than $9.7 million in toll revenues. Together the RMA and VDOT toll roads provide a limited access highway system connecting Chesterfield and Henrico counties to downtown Richmond, and to I-64 and I-95.

House Joint Resolution 64 of the 2000 General Assembly Session directed the Joint Legislative Audit and Review Commission (JLARC) to "...study the operation of the toll facility operated by the Richmond Metropolitan Authority and the retirement of debt to allow the toll free operation of the Downtown Expressway, the Powhite Parkway, and the Powhite Extension." The mandate further specified that this review focus on a number of issues including but not limited to: the amount of debt issued by the facilities, the use of toll revenues, and resources and schedule for the retirement of debt. Several factors apparently provided the impetus for this study, including concerns regarding the outstanding indebtedness of the facilities and the ability of the facilities to become toll-free in the future. Significant findings of this report include:

- Users of the RMA's expressway facilities have paid more than $300 million in tolls since opening in 1973. Yet, at the close of FY 2000, outstanding indebtedness attributed to the expressway system totaled more than $200 million (consisting of $154.6 million in revenue bonds and $22.7

RMA's Highway, Parking, and Sport Facilities



million in principal and $24.9 million in accrued interest on subordinate debt held by the City of Richmond), which is about $75 million more than the initial cost of construction. In the case of the Powhite Parkway Extension, users have paid more than $83 million in tolls in the 12 years the facility has been open, while outstanding debt totaled more than $114 million at the end of FY 2000. By contrast, construction of the Powhite Parkway Extension cost about $123 million.

- While the RMA has been able to operate without financial support from the City of Richmond since 1990, a major financial restructuring in 1992 was completed that enabled the RMA to fund capital construction projects, avoid a toll increase, and establish an unrestricted reserve fund. However, the restructuring also extended the final maturity of its bond debt from 2013 to 2022. The Powhite Parkway Extension, however, has required almost annual financial support from the State since it opened to cover operating expenses. As a result, both facilities will have substantial amounts of subordinate debt to repay after the senior bond debt is retired.

- Due to the level of outstanding debt on both toll road facilities, removal of tolls in the short-term would require substantial amounts of additional revenue. In addition, to ensure the removal of tolls on the RMA expressway system, RMA ownership and other legal issues will need to be systematically addressed.

- Controlling bond indentures require that toll revenues be applied entirely to the RMA expressway system and prohibit the co-mingling of funds with other enterprises and RMA's internal controls are designed to ensure compliance with the bond requirements. However, existing RMA or VDOT administrative processes should be formalized to ensure that the facilities' revenues continue to be allocated entirely to expressway debt payment and operating and maintenance expenses. For example, the RMA should formally approve existing practices for internal financial management processes, RMA and VDOT should monitor administrative expenses charged to the expressway systems, and the RMA Board of Directors should approve policies regarding use of the expressway's excess balances fund.

- Opportunities for increasing the amount of revenue available for debt retirement were also identified. These include limiting the future growth of RMA's operating and administrative costs and the use of Powhite Parkway Extension toll revenue for funding State Police services. In addition, opportunities for using available federal funding and for increasing the use of electronic toll collection technology should be pursued.

- Although the RMA and Powhite Parkway Extension plan to retire senior bond debt by 2022 and 2011 respectively, there will not be sufficient revenue available to repay the outstanding subordinate debt by those dates. Therefore, if it is a goal to have the facilities entirely debt free by the anticipated senior debt maturity date, additional sources of revenue will be required.

- Finally, retirement of all debt on the RMA's expressway system and the Powhite Parkway Extension does not ensure the removal of tolls. Upon retirement of senior debt, the *Code of Virginia* states that ownership of the RMA's expressway will transfer to the City of Richmond and that tolls can remain on the facility. However, a number of options are available to ensure that the facility is operated on a toll-free basis after the outstanding debt is retired.

Financing of the RMA and Powhite Parkway Extension Toll Roads

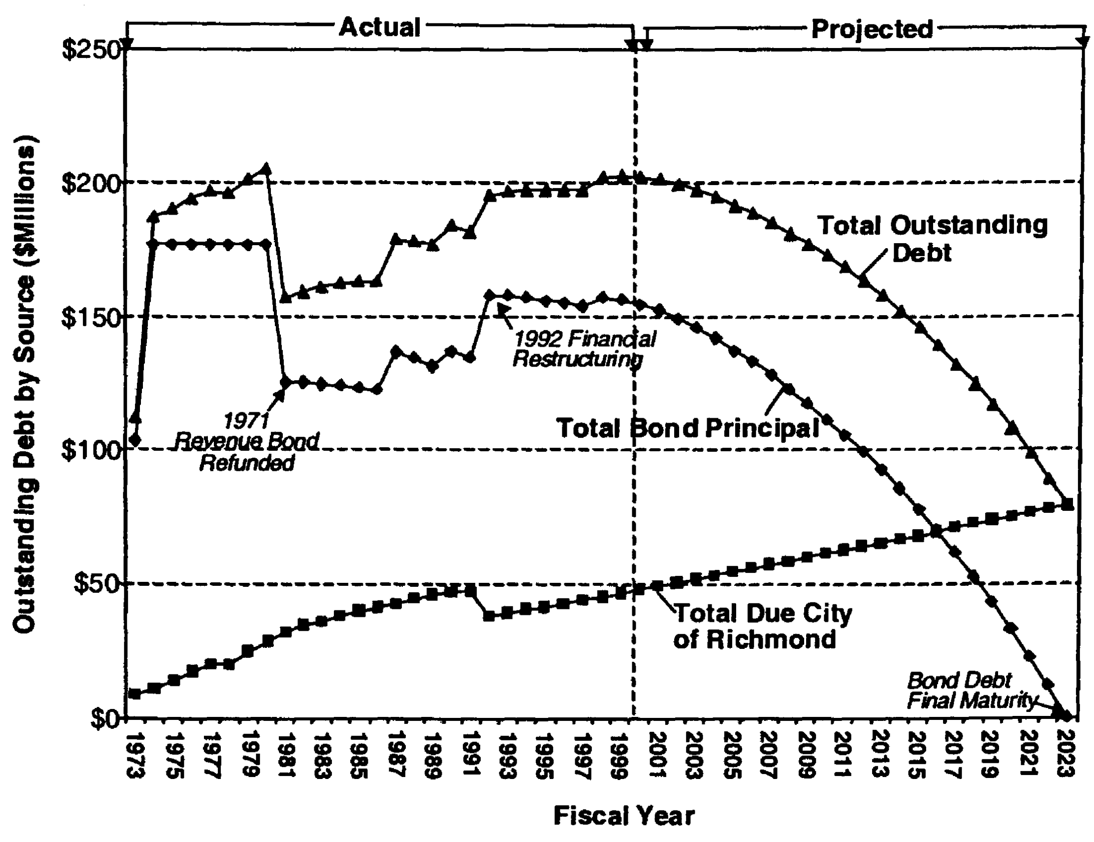
Both the RMA and VDOT toll roads were constructed with the intent that they would both operate as toll roads to repay the cost of construction, operation, and maintenance. Using the toll concept enabled both roads to be built sooner than would have otherwise been possible under traditional road construction financing mechanisms. However, both facilities have had only marginal success in progressing towards a debt-free operating status.

RMA Expressway Debt Structure Extends Beyond Repayment of Bond Debt. The RMA expressway system was constructed with $125 million in revenue bonds that were issued in 1973 with a 2013 maturity. In addition, the City of Richmond provided the funding for the RMA's bond reserve fund and had to provide subsidies to the RMA to cover revenue shortfalls on almost an annual basis. In 1992, the RMA refinanced its outstanding debt to accomplish four objectives which were to: (1) establish a true operating capital reserve (the excess balances fund), (2) level out existing debt service to avoid an immediate toll increase, (3) to provide revenue for capital construction projects and (4) repay the City of Richmond the funding it had provided for the expressway's debt service reserve fund. Most important among these from the RMA staff's perspective was the establishment of the excess balances fund, which improved the overall financial integrity of the expressway system. However, the restructuring also extended the final maturity on the bonds by nine years from 2013 to 2022.

In addition, the RMA issued 50-year subordinate notes to the City of Richmond to reflect the subsidies provided by the city through FY 1990. Interest accrues annually on the notes owed to the city, and if no payments are made by the RMA, the outstanding notes could total more than $76 million when senior bond debt is retired. As a result, when the RMA makes the final payment on senior bond debt in 2022, a substantial amount of debt will still remain on the expressway system (see figure below).

Powhite Parkway Extension Debt Also Extends Beyond Repayment of Bond Debt. As with the RMA expressway system, $78 million in revenue bonds were

RMA Expressway System Debt Structure
FY 1973 - FY 2023



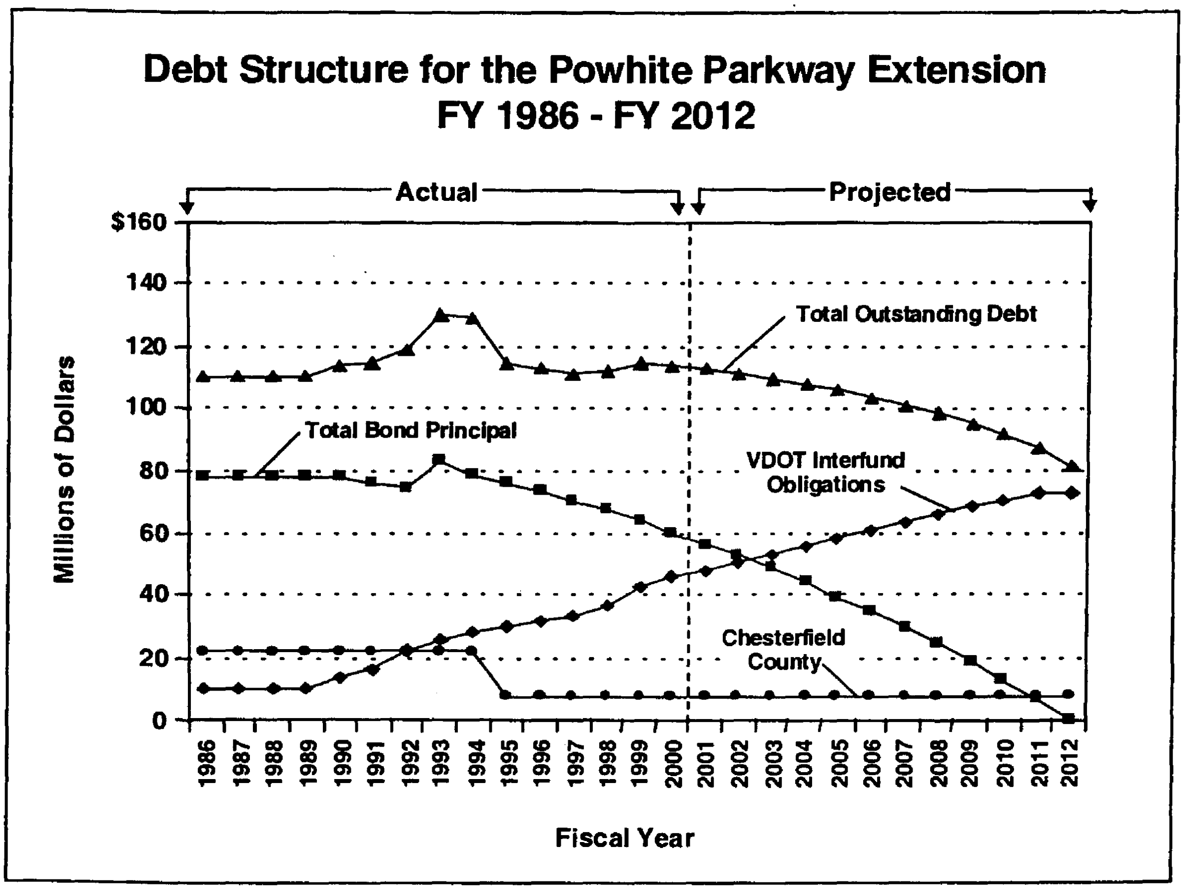
Notes: Final debt service payment on bond principal scheduled for July 15, 2022. Projected debt owed to the City of Richmond does not reflect any future payments that might be available from the RMA's surplus fund.

issued in 1986 to construct the Powhite Parkway Extension. Unlike the RMA expressway, the original maturity date of 2011 has been maintained despite one refinancing in 1993. However, like the RMA expressway system, other construction loans combined with annual operating subsidies provided through the Toll Facilities Revolving Account mean that debt will still be outstanding on the Powhite Parkway Extension after the senior bond debt is repaid in 2011 (see figure below).

Selected Toll Road Administrative Processes Should Be Developed or Enhanced

A primary element in the retirement of all expressway system debt is the appropriate collection, handling, and application of toll revenue. To ensure that this consistently occurs, the RMA should formalize written policies and procedures for the internal financial management processes that it has developed. Moreover, the RMA board of directors should approve the annual workplan developed by the RMA's internal auditor. Finally, RMA staff should seek board of directors' approval of policies for the administration of the relatively new excess balances fund. Establishment of this fund was a significant accomplishment for the RMA and could provide substantial flexibility in the future for the administration of the expressway system, including early retirement of debt. Therefore, the RMA board should strictly govern its use.

Allocation of administration expenses across the various RMA enterprises, as well as between the Powhite Parkway Extension and the soon-to-be opened I-895, should be

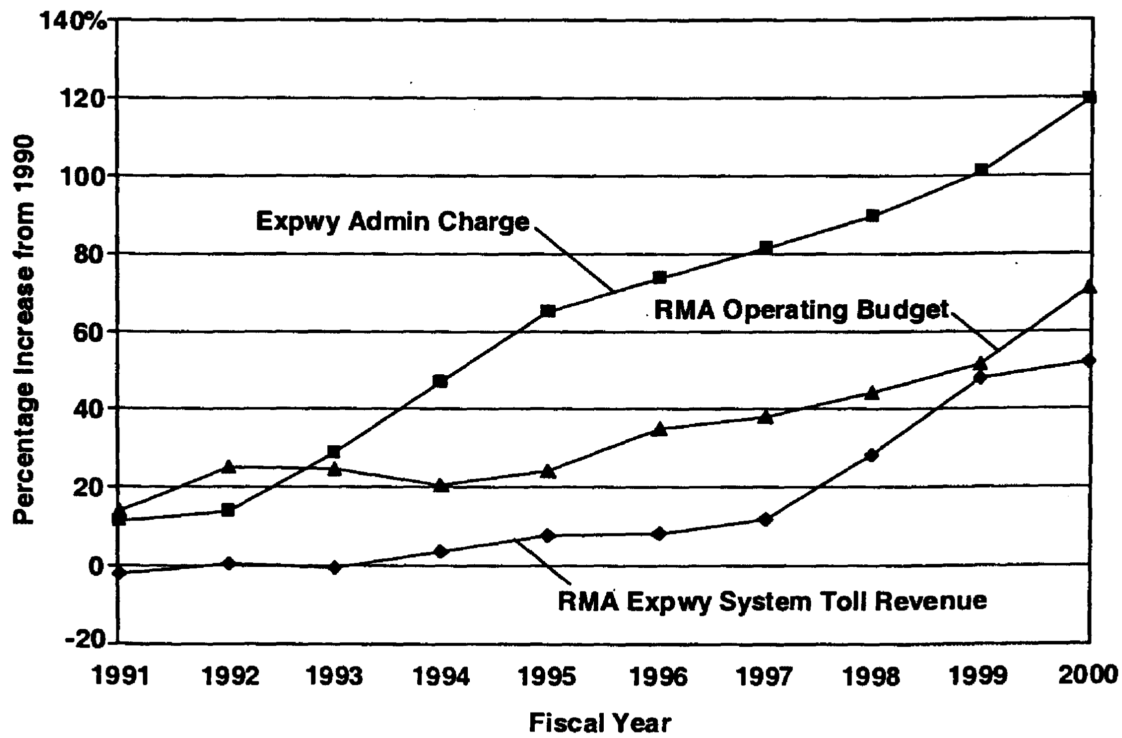


monitored. Administrative charges to the RMA expressway system have consistently increased year after year, and steps should be taken to actively monitor the charges for appropriateness. In addition, staff at the Powhite Parkway Extension will soon be dividing time between the extension and I-895. As work at both facilities commences, the allocation of administrative charges between the two facilities should be monitored for accuracy. Appropriate application of expenses will help ensure that the maximum amount of revenue will be available for debt retirement at both facilities.

Opportunities for Cost Savings or Avoidance Exist at the RMA and the Powhite Parkway Extension

While enhanced administrative processes can ensure the appropriate application of toll revenue, this review also identified areas in which potential savings or cost avoidance might be available. For example, RMA should focus efforts on curtailing growth in the toll facilities' operating costs as well as the administrative charges allocated to the expressway. The rate of growth of the operating expenses as well as the administrative charges allocated to the expressway have increased at a faster rate than toll revenue (see figure below). To increase the amount of revenue available for debt service on the Powhite Parkway Extension, State Police charges – totaling more than $3.6 million since FY 1993 – could be financed from revenue sources other than toll revenue. Finally, both facilities should identify opportunities to obtain federal funding in order to free other funds for debt retirement. Moreover, use of the new electronic toll col-

Growth in RMA Expressway System Revenues, Operating Budget, and Administrative Charge from 1990



lection system, Smart Tag, should be maximized by both the RMA and VDOT in order to increase the potential long-term benefits available through the use of this technology.

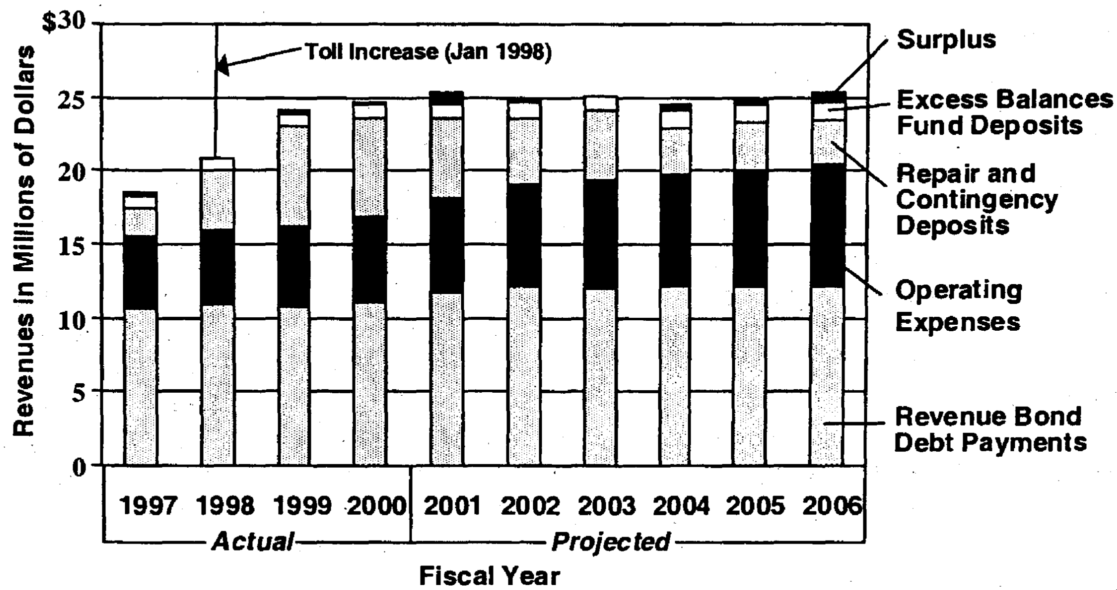
Accelerated Retirement of Debt Through Toll Revenues Will Be Difficult

The RMA expects to retire senior revenue bond debt according to the current 2022 maturity date. The Powhite Parkway Extension bond retirement is projected to occur in 2011. Yet, those dates do not reflect repayment of other subordinate debt that must be addressed after the senior revenue bond debt is retired. However, the vast majority of toll revenue collected by the RMA has been and is projected to be used to pay operating expenses, maintenance, and senior debt service requirements with only marginal amounts left to apply to subordinate debt (see figure below). The Powhite Parkway Extension consistently has lacked sufficient toll revenue to address both annual senior debt service requirements and operating expenses. As a result, expediting payment of outstanding debt is unlikely on that facility.

Opportunities Exist for Accelerating Retirement of Outstanding Toll Road Debt

Several options exist that would enable the RMA to expedite the retirement of its outstanding debt. The three options examined in this report include: (1) the provision of maintenance responsibilities by VDOT, (2) a toll increase, and (3) the provision of State or local grants. For each option, estimates were generated for dates at which all outstanding senior debt could be retired given the amount of additional funding provided. These estimates are based on revenue projections developed by the RMA, and are contingent upon the accuracy of the underlying revenue and expenditure assumptions and the assumption that all RMA fund balances could be used for debt retirement.

Allocation of RMA's Expressway Revenues FY 1997 - FY 2006



State Provision of Maintenance Services. If VDOT were to fund RMA's maintenance activities, the RMA would not have to make deposits into the repair and contingency fund for repairs that the independent consulting engineers have identified as necessary. If VDOT funded all maintenance, debt could potentially be retired as early as July 2015. This option would also have an impact on the outstanding subordinate debt as well. The projected total outstanding subordinate debt could be reduced from as much as $76 million to about $32 million in 2022. However, the impact of this proposal on VDOT's maintenance budget should be considered. If the Richmond District's maintenance allocations were not adjusted, the entire district would be required to subsidize the added expense of maintaining the RMA's expressway system.

Toll Increase Would Increase Revenue for Debt Retirement. A direct method of increasing revenue to use for repayment of debt is through a toll increase. Based on the toll sensitivity curves developed by the RMA's traffic and revenue consultants, a $0.05 increase would generate slightly more than $1 million additional revenue. Based on the revenue estimates, the effects of the alternative toll increases on early debt retirement were estimated. If the revenue and expense projections are accurate through 2022, senior debt could be retired by July 2015 if a $0.25 increase were implemented in July 2001. A $0.10 increase would enable the RMA to retire its senior debt by July 2016. A$0.05 increase would enable the RMA to retire its senior debt by July 2017. In addition, the projected balance for the outstanding subordinate debt would decrease as well.

State or Local Grants Could Be Used to Accelerate Retirement of Debt. In July 2001, a grant from the State or localities would have to equal $123 million in order to retire RMA senior debt at that time, assuming no penalties or additional fees were imposed and all RMA expressway fund balances could be utilized for debt retirement. Smaller grants deposited annually into an irrevocable escrow fund could help retire senior debt more quickly as well. An escrow type fund is used for illustrative purposes to ensure the grants will not enter the RMA's revenue stream and be subject to the flow of funds requirements. The amount needed to retire debt will decrease as the retirement date is extended. Finally, State or local grants could possibly be used to retire some of the RMA subordinate notes held by the City of Richmond, which would expedite the toll free status of the expressway system.

Removal of Tolls Not Linked to Retirement of Outstanding Debt

Payment of outstanding debt does not guarantee removal of tolls. The *Code of Virginia* provides that, if the RMA has received financial support from the City of Richmond, ownership of the facilities will be transferred to the city when all senior revenue bonds have been repaid. Although ownership of the RMA expressway system would revert to the City of Richmond, the city is not required to remove tolls when assuming ownership of the expressway system. Because the City of Richmond currently spends more on maintaining its city streets than it receives from the State for that purpose, it is likely that tolls would remain on the expressway. In the case of the Powhite Parkway Extension, VDOT has stated that tolls would be retained at least until enough revenues were generated to fully repay all outstanding debt. According to the VDOT Commissioner, after all of the debt is repaid, continued use of tolls on the Powhite Parkway Extension would be a policy decision for the Governor and the General Assembly.

Options Are Available for Ensuring Removal of Tolls on the RMA Expressway System

The removal of tolls on the RMA expressway will not be assured by the retirement of the senior bond debt on the facility. As currently structured, tolls will be required to repay the subordinate debt owed by the RMA to the City of Richmond. Even after the subordinate debt is fully repaid, the maintenance and operating costs of the facility will likely require tolls, as allowed by the *Code of Virginia*, even though ownership will have transferred to the City of Richmond.

However, there are a number of policy options available that would accomplish the objective of removing the tolls on the RMA expressway system. The options examined in this report include: (1) eliminating the city's authority to impose tolls and providing sufficient resources to the City of Richmond to recognize the road's extraordinary maintenance costs, (2) transferring ownership of expressway system to the State after all outstanding debt is retired, or (3) transferring ownership of the facility to the State prior to debt retirement.

If the General Assembly wishes to ensure that the facilities will operate toll free, it can address the current obstacles to toll-free operation by:

- amending the *Code of Virginia* to transfer ownership of the RMA expressways to VDOT upon retirement of all senior debt;
- amending the *Code* to prohibit the RMA and VDOT from issuing any additional debt which extends the date for retirement of senior debt;
- directing the Commonwealth Transportation Board to identify sources of funding to retire the subordinate debt to the City of Richmond and the Toll Facilities Revolving Account concurrent with retirement of all senior debt; and
- creating, by Appropriation Act language, a task force to examine and resolve the legal matters necessary to transfer ownership of the Downtown Expressway and the Powhite Parkway.

Finally, if the General Assembly wishes to ensure toll-free operation of the facilities prior to the current planned date for retirement of the RMA's senior debt, it could designate, by an appropriation from the Transportation Trust Fund or general funds, an amount needed to remove the tolls by the desired date.

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I. Introduction

The Richmond Metropolitan Authority (RMA) was created in 1966 by the General Assembly for the purpose of constructing and operating a tolled expressway to serve the Richmond metropolitan area. The RMA's expressway system includes two routes constructed under the authority of the RMA in the early 1970s – the Downtown Expressway and the Powhite Parkway – as well as the Boulevard Bridge located in the City of Richmond.

In 1988, the Virginia Department of Transportation (VDOT) opened the Powhite Parkway Extension, a 10.4-mile toll road extending from the terminus of the RMA's Powhite Parkway to State Route 288 in Chesterfield County. Together, the RMA's expressways and VDOT's Powhite Parkway Extension provide a limited-access system connecting Chesterfield and Henrico counties to downtown Richmond, I-64, and I-95.

HJR 64 (2000) directs the Joint Legislative Audit and Review Commission (JLARC) to complete a review of the RMA and Powhite Parkway Extension toll facilities (Appendix A). This chapter presents background information concerning the RMA's enterprises and VDOT's Powhite Parkway Extension. First, the history and development of the RMA are discussed. Second, the chapter provides an overview of VDOT's Powhite Parkway Extension. The chapter concludes with a discussion of JLARC's review and a summary of the report's organization.

OVERVIEW OF THE RICHMOND METROPOLITAN AUTHORITY

The RMA was established in part to enhance the transportation infrastructure in the Richmond metropolitan area. Governed by a board of directors appointed by the member jurisdictions, the authority constructed a limited access toll road that ultimately connects the City of Richmond with Chesterfield and Henrico counties. Today the RMA's expressway system carries 52.8 million vehicles a year with annual toll revenues of $23.3 million.

Establishment and Development of the Richmond Metropolitan Authority

In the early 1960s, the Richmond Planning Commission appointed a Trafficways Committee to explore the feasibility of an expressway system connecting downtown Richmond with the surrounding suburbs, and providing connections from south Richmond and Chesterfield County to both I-64 (via I-195) and I-95. The committee, in conjunction with VDOT and the area localities, hired a consultant to undertake an extensive study to evaluate the existing transportation system and outline a long-range roadway improvement plan for the Richmond metropolitan area.

After almost two years of study, the committee released a report calling for, among other improvements, the construction of a road or expressway system that became the Powhite Parkway and the Downtown Expressway. The committee's report won the endorsement of the City of Richmond and Chesterfield and Henrico counties. The 1966 Virginia General Assembly authorized the creation of the RMA, whose directors are appointed by the City of Richmond and Henrico and Chesterfield counties, to facilitate the development of the proposed expressway system. According to the *Code of Virginia*, the RMA is to be administered to:

> alleviate highway congestion, promote highway safety, expand highway construction, increase the utility and benefits and extend the services of public highways, including bridges, tunnels, and other highway facilities, both free and toll, and otherwise contribute to the economy, industrial and agricultural development and welfare of the Commonwealth and the City of Richmond and Counties of Henrico and Chesterfield....

When established in 1966, the authority of the RMA was limited to the construction and operation of highways and transit properties. Subsequently the RMA's authority was expanded through a number of legislative amendments. First, the General Assembly authorized the authority to provide vehicular parking facilities. Another amendment to the *Code of Virginia* authorized the RMA to acquire land, construct and own a baseball stadium, and then lease the stadium and attendant facilities. In 1992, an additional amendment to the *Code of Virginia* permitted the authority to own and operate sports facilities of any nature. The RMA's facilities are depicted in Figure 1.

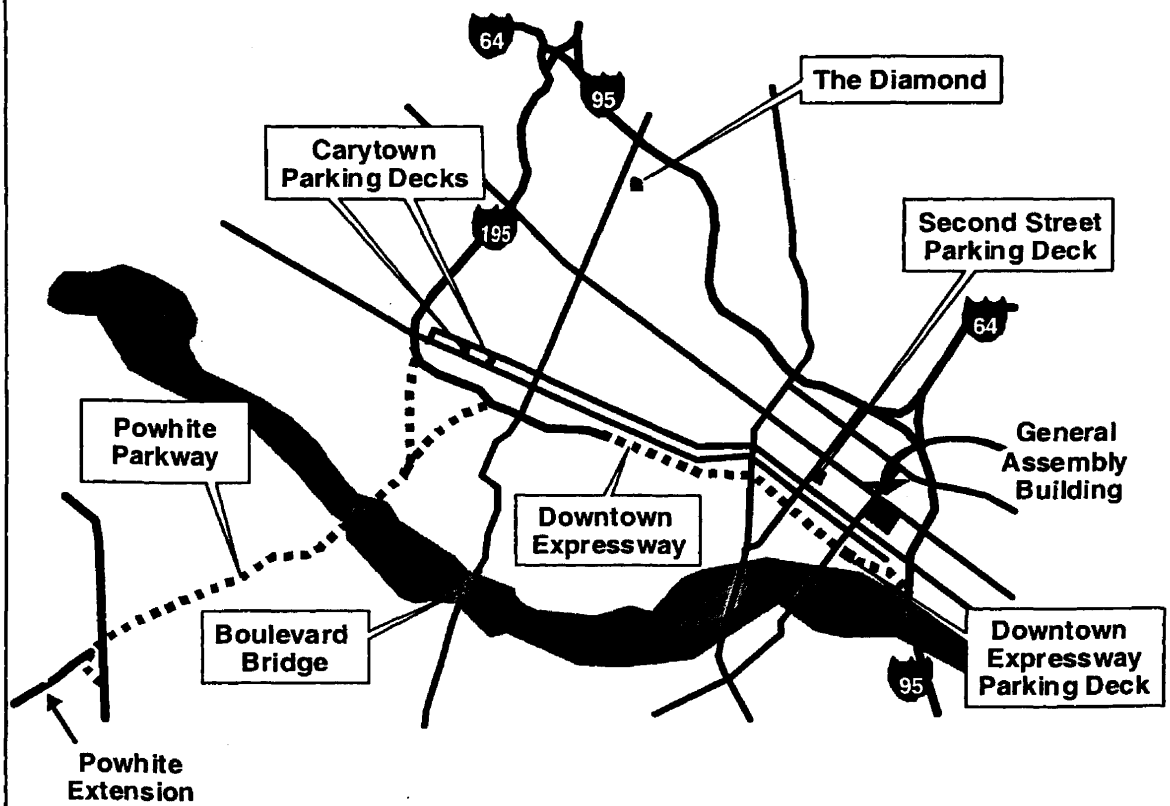
Boulevard Bridge. The first facility acquired by the RMA was the Boulevard Bridge, which the RMA purchased for $1.2 million in 1969. The Boulevard Bridge Company built the 2,030-foot bridge in 1925 to make the Westover Hills area more accessible to development. This bridge provides a link between the residential neighborhoods on the south side of the James River and Maymont Park and the west end of Richmond. The RMA spent $8.3 million to completely rehabilitate the almost 70 year-old Boulevard Bridge in 1992 and 1993. The Boulevard Bridge is part of the expressway system as defined by the bond indentures.

Powhite Parkway. The first facility constructed by the RMA was the Powhite Parkway, built to provide an additional crossing of the James River into the City of Richmond and to Henrico County. It opened to traffic in January 1973. The Parkway extends 3.4 miles between the Chippenham Parkway and the Cary Street ramps, and includes the almost one-half mile long Powhite Parkway bridge over the James River.

According to RMA publications, when the Powhite Parkway opened, approximately 6,000 vehicles used the facility the first day. Today, nearly 84,000 vehicles travel on the Powhite Parkway on an average day. Tolls at the mainline plaza initially were set at $0.20 and have risen to $0.50 (a ten percent discount is given to Smart Tag users at the RMA mainline and Forest Hill plazas). Toll rates last were increased in 1998.

Figure 1

RMA's Highway, Parking, and Sport Facilities



Source: JLARC staff graphic based on Richmond Metropolitan Authority graphic.

The RMA's traffic consultant developed an average daily traffic profile of the expressway system in FY 1999 using toll transaction data from the mainline and ramp plaza locations. On an average day, 82 percent of the traffic passed through the mainline Powhite Plaza and the remaining portion entered or exited the Parkway at the Forest Hill Avenue ramps. Of the traffic crossing the James River from the south, more than two-thirds continued north on I-195, and the remainder continued to the Downtown Expressway. The Powhite Parkway is primarily a commuter route with approximately 54 percent of the daily traffic traveling during the morning and afternoon rush hour peak periods of 7 a.m to 9 a.m. and 4 p.m. to 7 p.m. As a commuter route, the volume of traffic is much lower on weekends.

Downtown Expressway. The Downtown Expressway extends from the Meadow Street overpass approximately 2.5 miles east to its interchange with I-95. A small portion of roadway between the Powhite Parkway and the Downtown Expressway – about one mile in length – is part of the State highway system. The first portions of the Downtown Expressway opened to the public in 1976, and all connecting ramps and the remaining portion of I-195 were completed in September 1977. Completion of the Downtown Expressway was delayed because of lawsuits surrounding the relocation of more than 900 businesses and residents displaced by the construction.

According to RMA publications, when the Downtown Expressway opened, the average daily traffic on the facility was approximately 8,000 vehicles, and tolls were $0.20. Today, an average of approximately 46,000 vehicles utilize the Downtown Expressway each day, and the toll rate is $0.50 (a ten percent discount is given for Smart Tag transactions) at the mainline and Forest Hill plazas. The commuter nature of the Downtown Expressway is even more extreme than that of the Powhite Parkway; approximately 60 percent of the total daily traffic travels the route during the morning and afternoon rush hours. Approximately two-thirds of the traffic travelling through the main toll plaza on the Downtown Expressway originates from the Powhite Parkway. The remainder originates from city streets and from I-195 and Henrico County.

The Diamond. The 12,148 seat Diamond baseball stadium was constructed between the 1984 and 1985 baseball seasons to operate as a baseball facility for the Richmond Braves, the AAA minor league team of the Atlanta Braves. It was built on the site of its predecessor, Parker Field, which had been owned by the City of Richmond. Bonds were issued to finance the construction of the stadium, but Chesterfield and Henrico counties, along with the City of Richmond, are morally obligated for the debt service and any deficit from operations at the stadium. The Atlanta Braves retain all revenues from ticket and concession sales. The RMA receives revenues only from its rental contract with the Braves, rental of the 15 skyboxes, and parking fees.

Parking Facilities. Currently, the authority owns and operates three parking facilities in the City of Richmond. The Second Street Parking Deck, built at the request of the City of Richmond through bonds issued by the RMA, opened in November 1975. It provides 370 parking spaces in support of the retail and office markets in the surrounding area. In January and April 1991, two virtually identical parking structures with a total of 220 parking spaces were opened in the Carytown area of Richmond, to support merchants in that area. Bonds were issued by the City of Richmond to finance construction of these facilities. Parking at these two decks is free of charge, financed through a rental agreement with the City of Richmond, which reimburses the RMA for costs of operation and administration.

The third parking facility is the 1,000 space Downtown Parking Deck, located at 10th and Canal Streets, which opened in February 1992. Bonds to finance the facility were issued by the RMA. The city subsequently issued general obligation bonds and purchased the RMA's bonds. RMA is responsible for paying operating costs of the facility. Any revenues remaining are paid to the city for debt service. If revenues are insufficient to cover debt service, this does not constitute default on the part of the RMA. Instead, interest accrues and the RMA repays the city when sufficient revenues are available.

RMA's Administrative and Management Structure

Although the RMA is a political subdivision, it is an independent entity governed by an 11-member board of directors. The authority currently employs 102 full-time staff, with the majority assigned to operating the expressway system. Consistent with the allocation of staff, the majority of the authority's FY 2001 operating budget is appropriated to the expressway system. Seventeen full-time employees manage the authority's central administration. RMA employee benefits are largely the same as those received by State employees.

RMA Governance and Management. The RMA is independent of any formal reporting relationships with either the State or local governments. An 11-member board of directors governs the operations of the RMA. As established in the RMA's enabling legislation, six members of the board are appointed by the City of Richmond, and two members each are appointed by Chesterfield and Henrico counties. One *ex-officio* member is appointed by the Commonwealth Transportation Board. The board of directors hires the general manager, who is responsible for the day-to-day operations of the RMA. Under the general manager, the executive staff is comprised of the director of administration, director of finance, and director of operations (Figure 2).

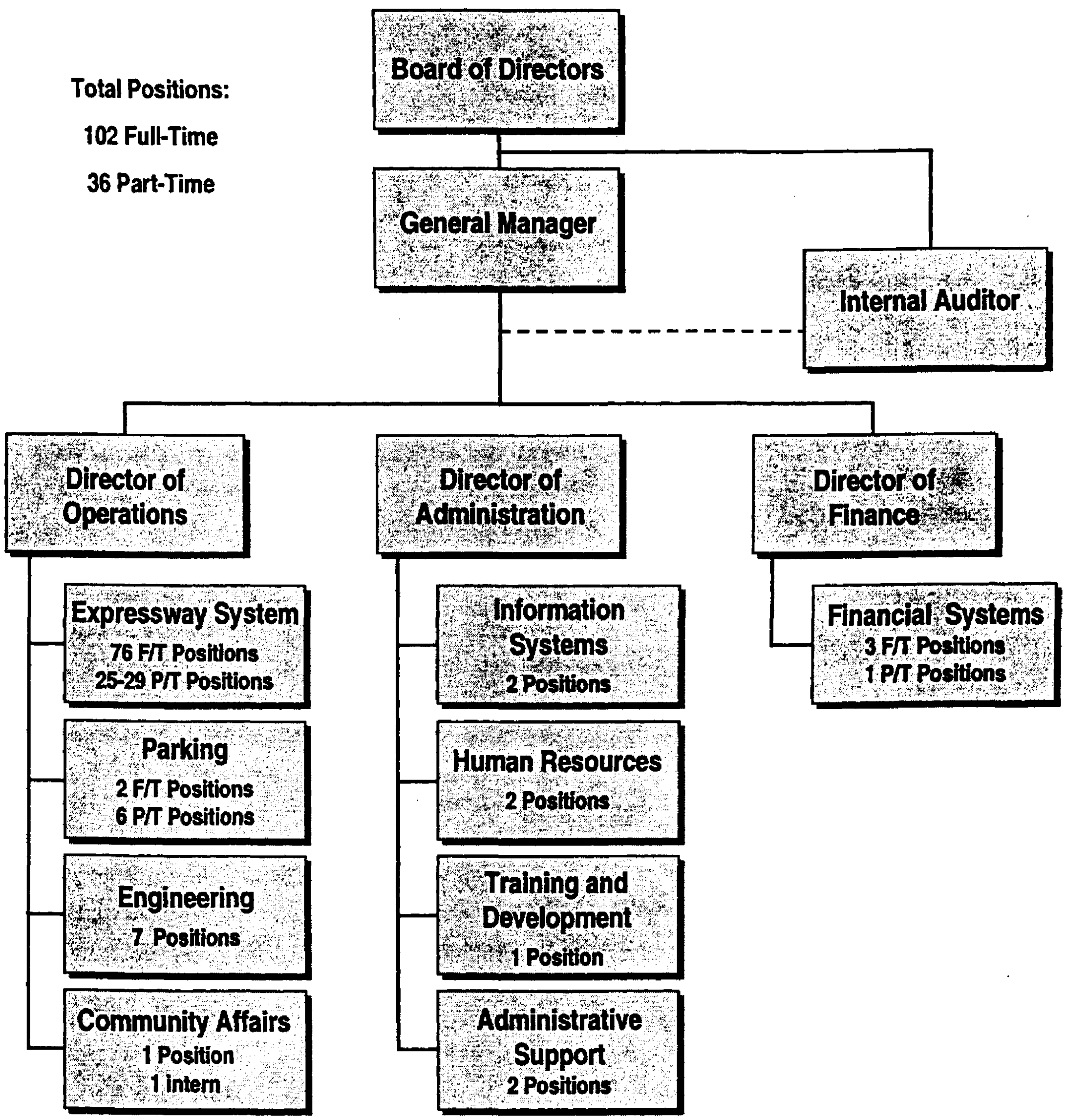
In addition, the RMA board of directors appoints a stadium operating committee to advise the board on the most "cost-effective and best use of the stadium and its activities." The stadium operating committee is composed of 11 voting members and five nonvoting "resource" members, who serve indefinite terms until replaced by the RMA Board of Directors.

RMA Staffing. In FY 2001, 102 full-time staff were employed by the RMA. An additional 36 part-time staff are employed as well. Of this total, 17 full- time and two part-time positions are assigned to the RMA's central office. Personnel in these positions provide support and services – accounting, human resources, and information systems support – to all of the RMA's enterprises. The expressway system accounts for 76 full-time positions and 29 part-time positions. Finally, staff in the maintenance division provide support and services to the expressway, parking decks, and to the stadium.

The RMA follows many of the State's personnel policies. In terms of employee benefits, RMA staff participate in the Virginia Retirement System (VRS) retirement, group life, and disability programs. The RMA pays the full cost of these programs, including the required employee contributions. RMA employees also may participate in the deferred compensation program offered through VRS, although there is no employer cash match as with the State program. RMA employees accrue sick and annual leave at the same rate as State employees not participating in the Virginia Sickness and Disability Program. However, the RMA does not use the State's compensation and classification system.

Figure 2

Organization of the Richmond Metropolitan Authority



Source: JLARC staff analysis of RMA organization chart.

RMA's 2001 Operating Budget

The RMA's budget is segregated into five enterprise funds for which separate accounts are maintained as prescribed by the bond resolutions. A separate fund is maintained for each of the three parking facilities. A fourth fund is used for the Diamond baseball facility, and a fifth fund for the expressway system, which includes the Powhite Parkway, the Downtown Expressway, and the Boulevard Bridge.

The RMA's operating budget for FY 2001 totals $7.4 million for all facilities. Not surprisingly, the expressway system's FY 2001 operating budget accounts for about

87 percent of the RMA's total budget (Table 1). This reflects the fact that more than 75 percent of RMA's full-time staff are assigned to the toll facilities, and these facilities require extensive maintenance of equipment and infrastructure. In addition, the expressway system accounts for the overwhelming majority of the RMA's revenues. In contrast, the Carytown parking decks account for less than one percent of RMA's FY 2000 operating budget, as these decks are not staffed even on a part-time or limited basis and reportedly require only limited services from the RMA.

Table 1

RMA's FY 2001 Operating Budget, by Enterprise

Enterprise	Operating Budget	Percent of Total
Expressway System	$6,457,300	86.9%
Downtown Parking Deck	$ 427,100	5.7%
Second Street Parking Deck	$ 98,900	1.3%
Carytown Parking Decks	$ 53,200	0.7%
Baseball Stadium	$ 392,800	5.3%
Total:	**$7,429,300**	**100.0%**

Note: Does not include maintenance, capital, or debt service budgets.

Source: JLARC staff analysis of RMA's FY 2001 operating budget.

RMA Expressway System Utilization by Locality

In 1998, the RMA's traffic consultants conducted a survey of local registration stickers on passenger vehicles traveling through the RMA toll plazas. The survey data indicated that across the three facilities, slightly more than 35 percent of the vehicles were from Chesterfield County, 21 percent were from the City of Richmond, 15 percent were from Henrico County, and 28 percent were from other localities (Table 2). JLARC staff obtained Smart Tag transaction data from the Virginia Department of Transpor-

Table 2

RMA Expressway System Vehicle Registration Survey
January 1998

	County/City of Residence				
RMA Facility	Chesterfield	Henrico	Richmond	Other	Total
Downtown Expressway	28.2%	23.1%	20.9%	27.8%	100%
Powhite Parkway	42.9%	10.9%	17.5%	28.7%	100%
Boulevard Bridge	20.8%	11.9%	42.1%	25.2%	100%
Average:	**35.8%**	**15.1%**	**21.0%**	**28.1%**	**100%**

Source: Richmond Metropolitan Authority.

tation for a one-week period in July 2000. Results of the Smart Tag analysis indicate that approximately 48 percent of Smart Tag users were from Chesterfield County, about 24 percent were from the City of Richmond and about 16 percent were from Henrico County. Although based only on Smart Tag users, the data appear to be consistent with the results of the RMA local vehicle registration survey.

RMA Expressway System Toll Rates

Tolls are charged at both mainline and ramp plazas on the Powhite Parkway and Downtown Expressway to support the debt payments and maintenance of these facilities. The toll at both the mainline and Forest Hill plazas is $0.50 (a ten percent discount is provided to Smart Tag users); ramp tolls vary depending on the length of the trips. On the Powhite Parkway, the mainline plaza is located southwest of the Forest Hill Avenue interchange, and ramp toll plazas are located at Forest Hill Avenue and Douglasdale Road. On the Downtown Expressway, the mainline plaza is located east of Meadow Street and two ramp toll plazas are located at 2nd and 11th Streets. A toll of $0.25 is collected at a single plaza for all trips on the Boulevard Bridge.

As the data in Table 3 indicate, the current toll rates went into effect in January 1998 when tolls were increased $0.15 at the mainline plazas. This was the first toll increase since 1988 and was intended to provide the funding necessary to complete the RMA's capital improvement program, which included the installation of electronic toll collection (Smart Tag) and an asphalt overlay of the Downtown Expressway, among other capital improvements.

According to the RMA's analysis, the toll increase also allowed the authority to keep pace with inflation over the decade, thereby maintaining an acceptable coverage ratio for its bonds. Although the most recent toll increase allowed the RMA to keep

Table 3

History of RMA Toll Schedules for Two-Axle Vehicles
Opening-of-Facilities – January 1998

RMA Facility	Original	July 1978	November 1986	April 1988	January 1998
Boulevard Bridge	$0.10	$0.10	$0.10	$0.20	$0.25
Downtown Expressway	$0.15	$0.25	$0.30	$0.35	$0.50
Powhite Parkway	$0.20	$0.25	$0.30	$0.35	$0.50

Notes: Original rate for the Boulevard Bridge effective 1969.
Original rate for Powhite Parkway effective 1973.
Original rate for Downtown Expressway effective 1976.

Source: Richmond Metropolitan Authority.

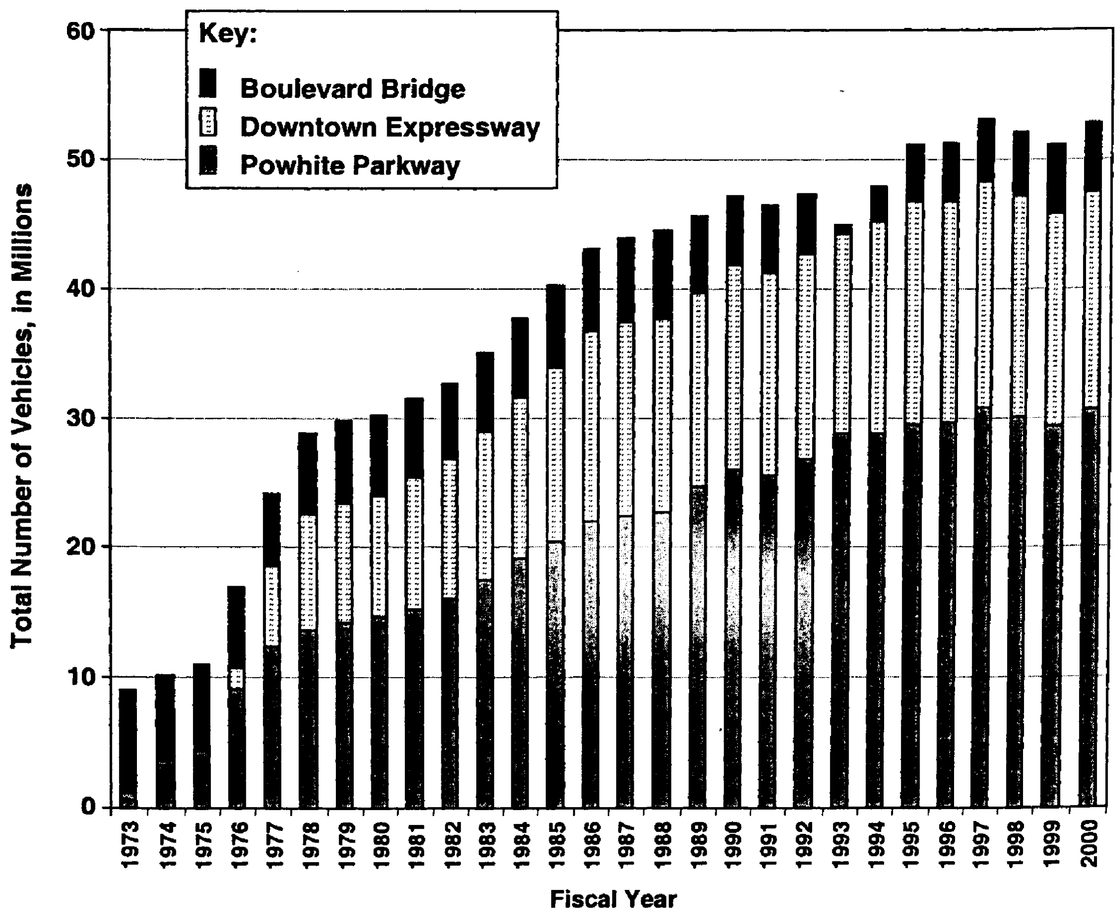
up with inflation over the last decade, toll rates have substantially lagged behind inflation since the facilities opened. If the toll increases had matched the rate of inflation since 1973, tolls currently would be about $0.80 at the mainline plazas.

RMA Expressway System Traffic and Revenue Trends

Traffic on the RMA's expressway system generally has increased annually with marginal decreases occurring following toll rate increases and the opening of competing roadways (Figure 3). Systemwide growth averaged almost 1.4 percent annually over the past decade. Traffic grew at an average annual rate of almost two percent per year on the Powhite Parkway between FY 1991 and FY 2000; transactions on the Downtown Expressway grew at less than half that annual rate during the same period.

Figure 3

RMA Expressway System Traffic, FY 1973 - FY 2000



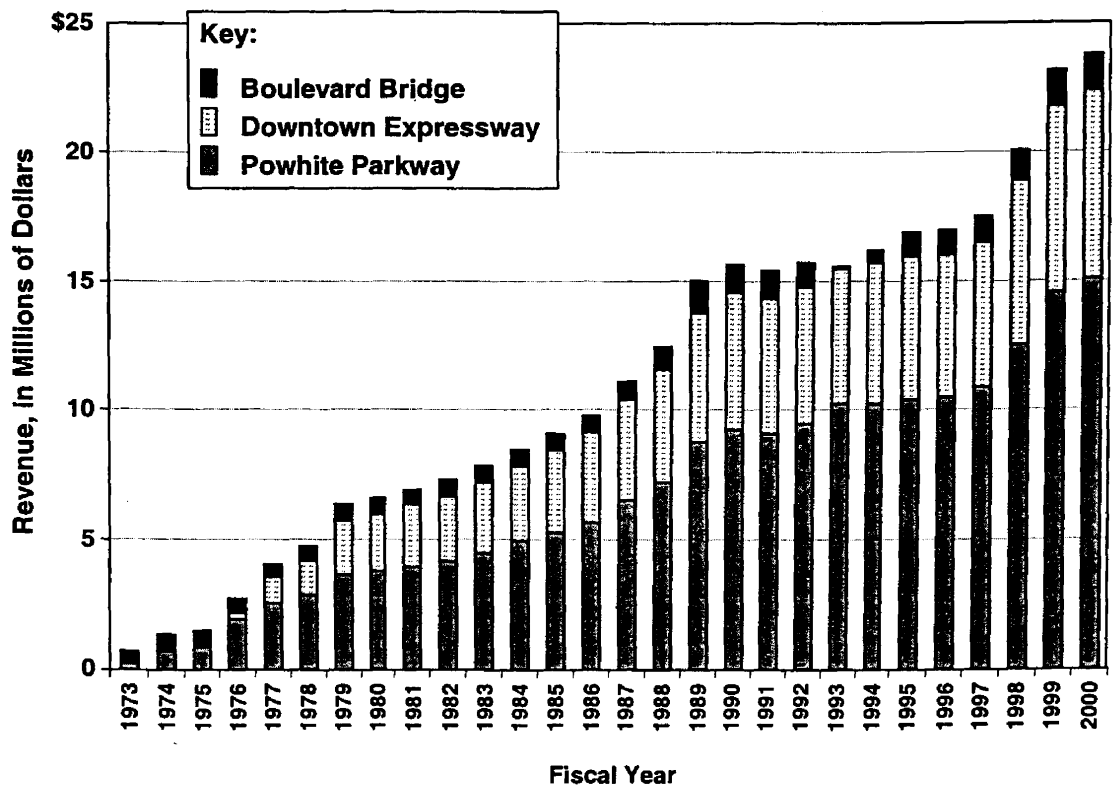
Source: JLARC staff analysis of RMA data.

Not surprisingly, following the toll increase in January 1998, traffic on the expressway system declined. The decrease in traffic during the second half of the fiscal year – those months in which the toll increase was in effect – resulted in an overall annual decline in volume of 3.6 percent for FY 1998. Traffic volume began to increase again in FY 1999 (in comparison to the second half of FY 1998), although the annual figures still reflected a two percent decline for the fiscal year. Other events, such as the opening of the Wiley Bridge and the closure of the Boulevard Bridge for reconstruction, impacted systemwide vehicular traffic. Systemwide, 52.7 million vehicles traveled on the system during FY 2000, a 3.2 percent increase over FY 1999. Yet even with this increase, total traffic remained below levels recorded in FY 1997.

Although traffic decreased following the 1998 toll increase, revenues have continued to grow because of the higher per transaction charges. As indicated in Figure 4, FY 1999 revenues – the first full year after the toll increase – were 32 percent higher than total expressway revenues in FY 1997. Revenues increased an additional 2.5 percent in FY 2000 and totaled $23.3 million for the three elements of the RMA's expressway system for that fiscal year.

Figure 4

RMA Expressway System Revenue, FY 1973 - FY 2000



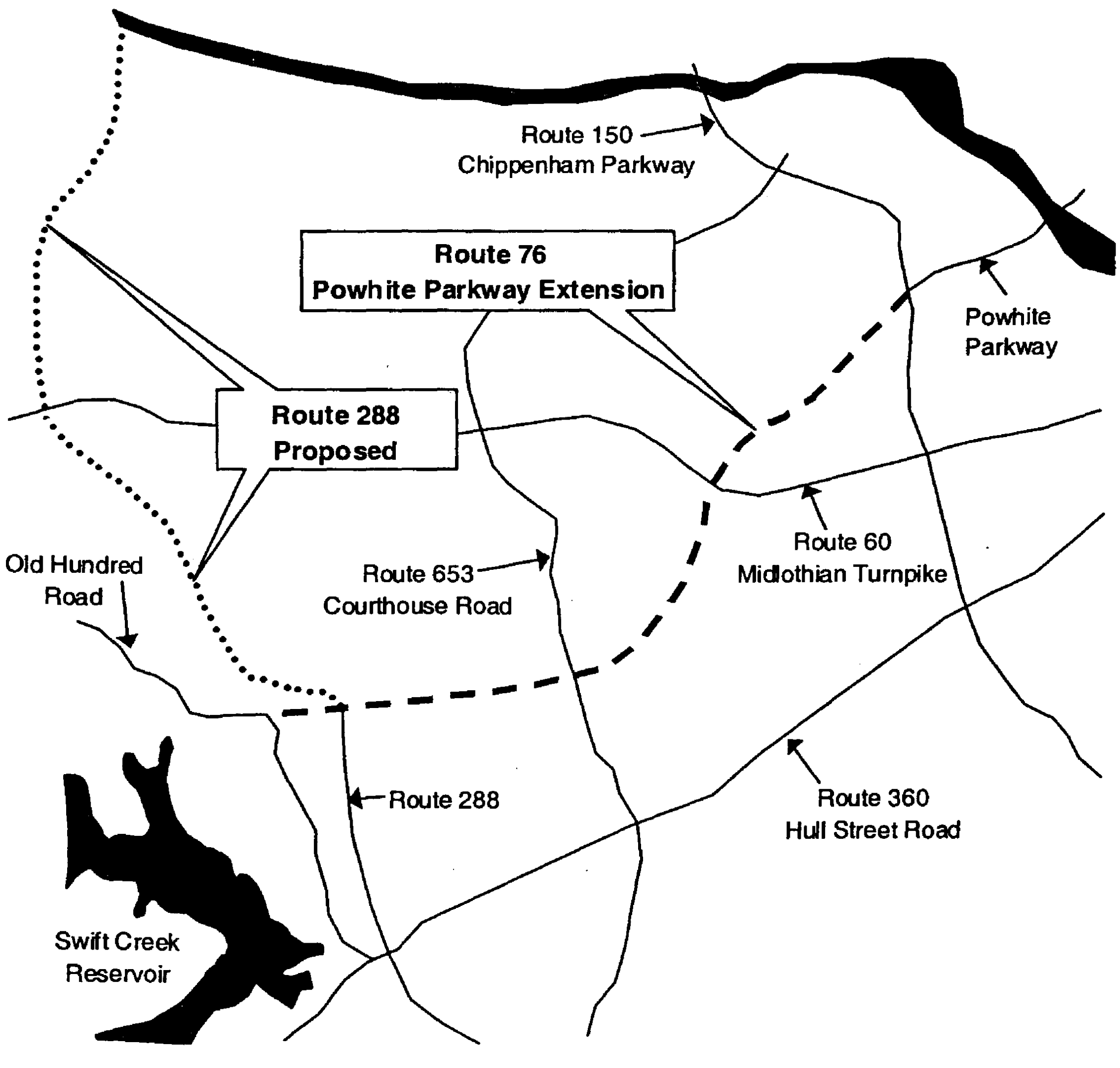
Source: JLARC staff analysis of RMA data.

VDOT'S POWHITE PARKWAY EXTENSION

The Powhite Parkway Extension is a limited access toll facility owned and operated by the Virginia Department of Transportation. Approximately ten miles in length, the highway extends from the end of the RMA's Powhite Parkway at the Chippenham Parkway interchange and runs to Old Hundred Road near the Swift Creek Reservoir (Figure 5). The highway was built in an effort to relieve traffic congestion due to a rapidly increasing population in Chesterfield County. It was built as a toll facility in order to provide needed transportation improvements to the area sooner

Figure 5

Powhite Parkway Extension



Source: JLARC staff graphic.

than would have been possible using only traditional highway funding sources. The roadway opened to traffic on September 30, 1988.

Powhite Parkway Extension Administrative Structure

Unlike the RMA's independently owned and operated expressway system, the Powhite Parkway Extension is maintained and operated by VDOT as part of the State's highway system. Operationally, the Powhite Parkway Extension is part of VDOT's Richmond District. A toll facilities director, or resident engineer, manages the daily operation of the toll facility and reports directly to the VDOT Richmond District Administrator (Figure 6). In FY 2001, a total of 54 full-time staff are employed at the Extension. Thirty-two salaried VDOT toll collectors are employed at the facility, and 25 additional toll collectors on an hourly basis through a private vendor. The contractual toll collectors are used on a part-time basis to reduce overtime and work for salaried employees who are on sick and annual leave. Contract toll collectors also handle many of the late night and weekend shifts.

Eight employees at the facility manage the administration of the Powhite Parkway Extension. This includes the resident engineer, the toll operations superintendent, the systems software manager, fiscal procurement and accounts payable staff, human resources staff, internal audit, and the administrative secretary. Day-to-day physical plant maintenance work is done by a staff of six, including groundskeepers and electronic technicians. A large component of this work is the maintenance of toll collection equipment. The Powhite Parkway Extension staff is responsible only for the toll collection facilities, not maintenance of the roadway. Highway maintenance work is coordinated by VDOT's Chesterfield Residency through its Pocahontas Area Headquarters.

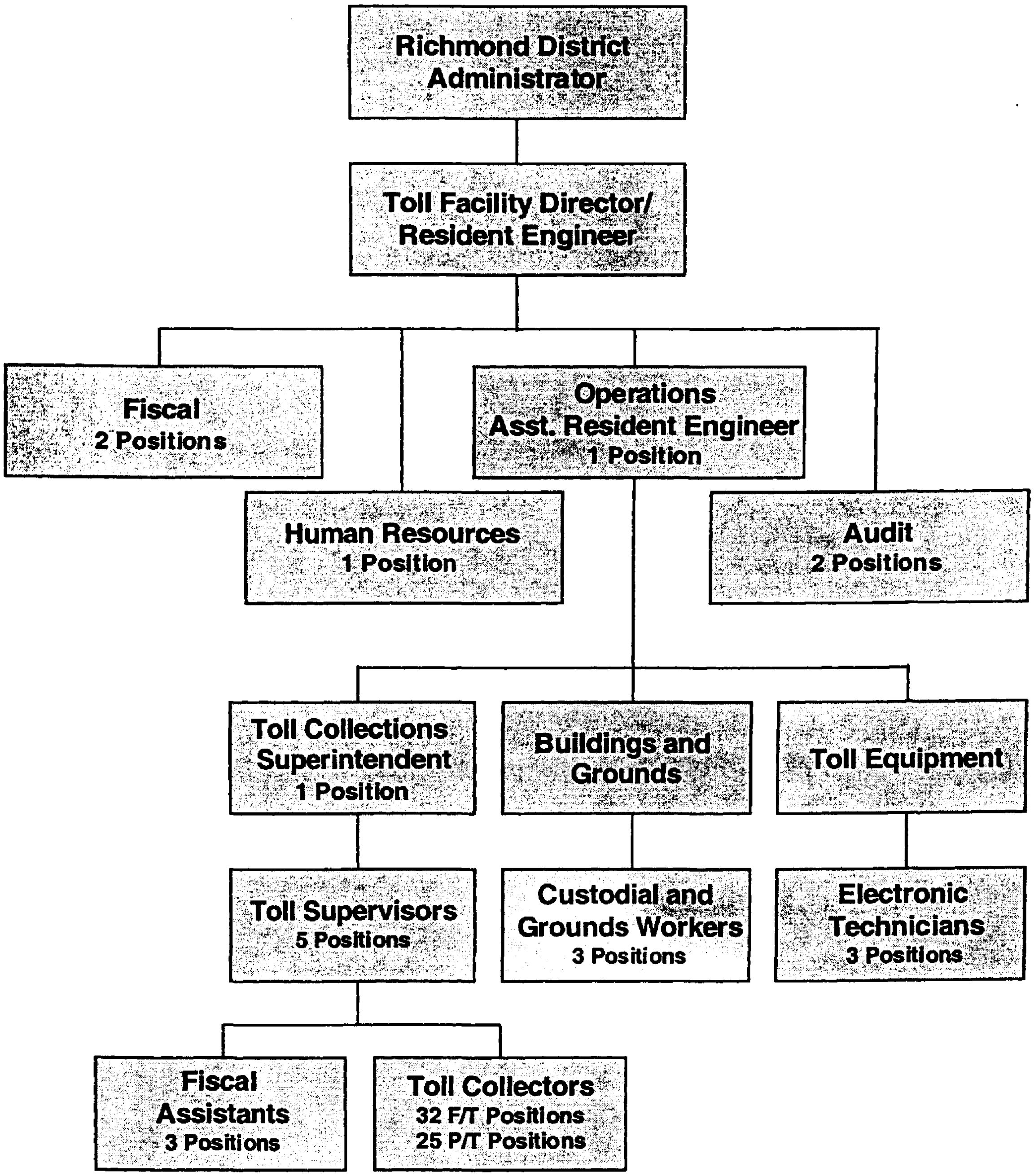
Powhite Parkway Extension Usage

JLARC staff analysis of one week of Smart Tag transactions from July 2000 indicates that the Powhite Extension is used predominantly by residents of Chesterfield County (Table 4). During that period, about 70 percent of the Smart Tag transactions on the facility were with customers who had Smart Tag accounts with a Chesterfield County address. Drivers with Smart Tag account zip codes from the City of Richmond and Henrico County accounted for less than 20 percent of the Smart Tag transactions on the facility. While this analysis does not include all vehicles using the Powhite Parkway Extension, it does provide some insight on the locality of residence of users who are enrolled in Smart Tag.

Finally, like the RMA expressway roads, the extension is also a predominantly commuter route. Although "rush hour" on the extension, especially during the morning hours, is more spread out than on the RMA, over 54 percent of the roadway traffic occurs between 6 and 10 a.m., and between 4 and 7 p.m.

Figure 6

VDOT Organization for the Powhite Parkway Extension



Source: Virginia Department of Transportation.

Table 4

Powhite Parkway Extension Smart Tag Transactions
By Account Zip Code, July 25 – 31, 2000

	County/City of Residence				
Plaza	**Chesterfield**	**Henrico**	**Richmond**	**Other**	**Total**
Mainline Plaza	75%	6%	6%	12%	45,606
Mainline Ramp	85%	4%	6%	5%	26,120
Courthouse Ramp	52%	14%	16%	18%	39,453
Midlothian Ramp	87%	2%	4%	7%	15,282
Total:	**71%**	**8%**	**9%**	**12%**	**126,461**

Source: JLARC staff analysis of VDOT Smart Tag transaction data.

Powhite Parkway Extension Toll Rates

The Powhite Parkway Extension has four toll plazas, including a mainline plaza at the Courthouse Road interchange, and three ramp plazas at Courthouse Road and Midlothian Turnpike (Route 60). Tolls for passenger vehicles are $0.75 at the mainline plaza, and range from $0.25 to $0.50 at the three ramp plazas (Table 5). Toll rates have not increased since the facility opened in 1989.

Powhite Parkway Extension Traffic and Revenue Trends

The number of vehicles using the Powhite Parkway Extension has increased 188 percent since the facility first opened in 1989. The increase has averaged less than

Table 5

Powhite Parkway Extension Toll Rates, by Plaza
October 2000

Toll Plaza	Description	Toll
Mainline Plaza	Northbound and southbound barrier on Route 76.	$0.75
Courthouse Ramp	Northbound on-ramp to Route 76; Southbound off-ramp to Courthouse Road.	$0.50
Mainline Ramp	Southbound on-ramp to Route 76; Northbound off-ramp to Courthouse Road.	$0.25
Midlothian Ramp	Northbound on-ramp to Route 76; Southbound off-ramp to Midlothian Turnpike.	$0.25

Source: Virginia Department of Transportation.

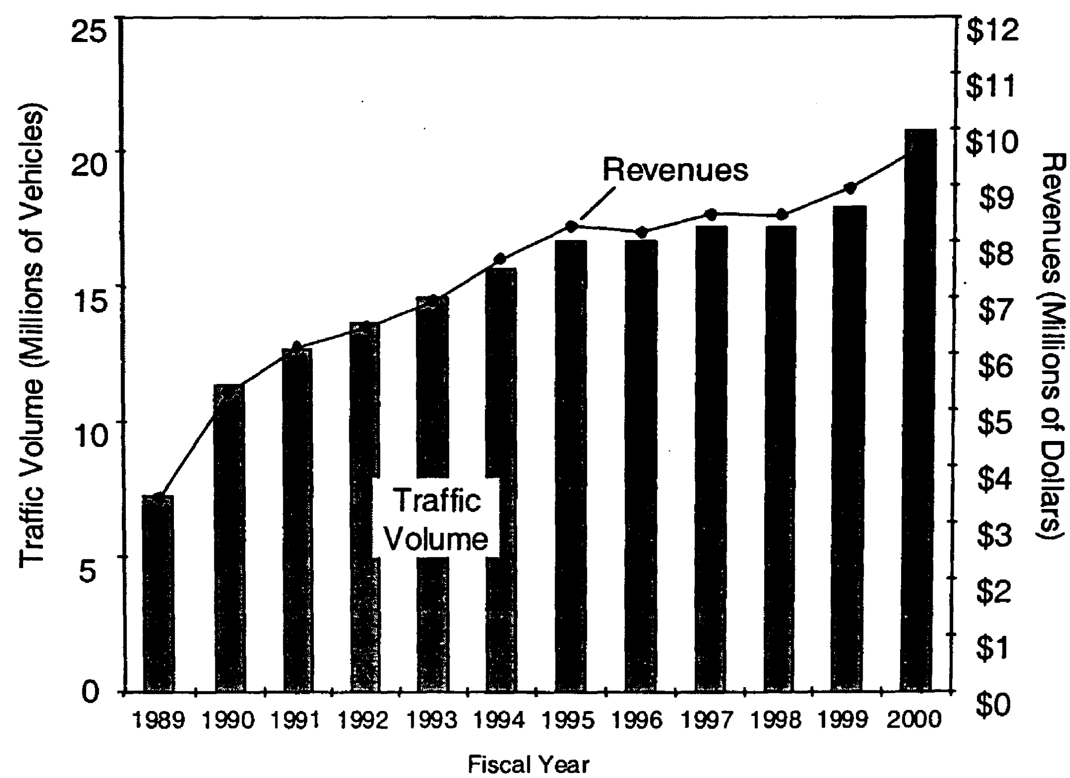
six percent each year for the past nine fiscal years. This rate of increase is substantially higher than traffic increases on the RMA's roads, reflecting the more recent construction of the Powhite Parkway Extension as well as its growing use for suburb-to-suburb trips.

However, traffic on the Powhite Parkway Extension apparently is impacted by travel patterns on the RMA's expressway system. In FY 1998, the year of the RMA's most recent toll increase, Powhite Parkway Extension traffic increased only 0.02 percent. However, Powhite Parkway Extension traffic has rebounded more rapidly than traffic on the RMA routes, increasing 4.3 percent in FY 1999 and 15.8 percent in FY 2000.

Although toll rates at the Powhite Parkway Extension have remained unchanged since the facility opened in 1989, revenues continue to increase with traffic growth (Figure 7). In FY 2000, revenues on the extension increased 15.8 percent due largely to increased traffic at the Court House Road ramp plazas. In FY 1999, revenues increased approximately 4.3 percent over the prior year.

Figure 7

Powhite Parkway Extension Traffic and Revenues FY 1989 - FY 2000



Source: JLARC staff analysis of RMA data.

JLARC REVIEW AND REPORT ORGANIZATION

House Joint Resolution 64 of the 2000 General Assembly Session directs JLARC to "...study the operation of the toll facility operated by the Richmond Metropolitan Authority and the retirement of debt to allow the toll free operation of the Downtown Expressway, the Powhite Parkway, and the Powhite Extension." The mandate also stipulates that this review is to identify the methods, resources, and schedule necessary for the retirement of debt to enable toll-free operation of the facilities. This section of Chapter I provides a summary of the study issues and research activities for the review, and a brief overview of the report organization.

Study Research Activities

During the course of the study, JLARC staff focused on issue areas clearly articulated by House Joint Resolution 64. Specifically the resolution requires the study to include a review of the:

- amount of debt issued in connection with the construction and maintenance of the expressway system;
- use of the toll revenues;
- existing relationships between RMA and VDOT; and
- policies in place to ensure the fiscal management of revenues and debt.

A number of research activities were undertaken as part of this study in order to obtain a comprehensive understanding of the structure and financing of the RMA and VDOT toll facilities. Research activities undertaken to address these issues included structured interviews, extensive document reviews, and analysis of secondary data. Staff also visited the RMA's facilities and VDOT's Powhite Parkway Extension and Dulles Toll Road facilities.

Structured Interviews. Throughout the study, JLARC staff conducted numerous interviews with the RMA staff, board members, and financial advisor regarding both the financing and operations of the RMA's expressway system. Similarly, JLARC staff met with VDOT toll facility staff, as well as staff at VDOT's Richmond District and Central Office, regarding the operations and financing of the Powhite Parkway Extension and VDOT's interrelationship with the RMA. JLARC staff also met with representatives of the RMA's three member jurisdictions and with staff at the Department of Treasury and the State Police. Finally, phone interviews were conducted with representatives from other public and private toll facilities across the nation.

Site Visits. JLARC staff made site visits to each of the RMA's facilities to view the operation of the toll facilities and the electronic toll collection system (Smart Tag) in operation. JLARC staff also visited VDOT's Powhite Parkway Extension to compare the facility's operations with those of the RMA. Finally, JLARC staff visited VDOT's Dulles Toll Road in order to view the operations of a toll system in a larger urban area with a longer history using electronic toll collection.

Document Reviews. JLARC staff reviewed or analyzed a number of documents in the conduct of this study. Documents reviewed included the:

- RMA operating budgets, FY 1990-2001;
- Powhite Parkway Extension operating budgets, FY 1990-2001;
- Bond covenants governing the RMA's 1973, 1992, 1998, and 1999 bond issuances;
- Bond covenants governing VDOT's Powhite Parkway Extension 1986 and 1993 bond issuances;
- RMA board of directors meeting minutes;
- RMA annual financial reports, 1973-2000;
- RMA and VDOT contracts for electronic toll collection;
- RMA biennial inspection report, 1998;
- RMA and VDOT traffic and revenue reports;
- Powhite Parkway Extension annual reports, 1990-2000;
- RMA annual reports, 1990, 1993, 1997, 1998 and 1999;
- *Code of Virginia* language authorizing the creation of the RMA; and
- Federal law and regulations regarding toll facilities and the use of federal-aid highway funds.

Data Analysis. As required by the study mandate, JLARC staff analyzed the financial status of the RMA to determine the schedule for the retirement of bonds. In order to accomplish this analysis, JLARC staff utilized the RMA's financial forecasting model to determine debt retirement dates under a number of different scenarios. Variables examined included administrative and operating costs, maintenance and capital costs, and revenue streams. Staff also assessed the impact of funding from sources outside of the RMA to be used for debt retirement.

Report Organization

This report is organized into five chapters. This chapter provided an historical overview of the RMA as well as an overview of VDOT's Powhite Extension. Chapter II provides a review of the financing and debt structure of the RMA and Powhite Parkway Extension toll facilities. Chapter III discusses enhancements to the RMA and Powhite Extension toll facilities operations that could facilitate early debt repayment within the existing organizational and revenue structures of the two entities. Chapter IV assesses potential changes to the revenue structures of the facilities that could be used to expedite retirement of debt. Finally, Chapter V addresses issues relating to the removal of tolls on the expressway systems.

II: Financing of the RMA and Powhite Parkway Extension Toll Road Facilities

Although the Richmond Metropolitan Authority's (RMA) and Virginia Department of Transportation's (VDOT) expressway facilities are owned and operated by different entities, they share many similarities in terms of financing. First, the initial construction financing for each facility was obtained through bond issues. Second, operating and debt service revenues are obtained through tolls paid by users of each of the facilities. Third, for most of the first two decades of its operation (until 1990) the RMA required, and the Powhite Parkway Extension continues to require, financial support to meet operating or debt service obligations. Both facilities also have debt obligations that will be outstanding following the repayment of the bonds issued to construct the facilities. As a result, tolls likely will need to continue beyond the repayment of revenue bond debt at both facilities.

Despite the similarities, there are some significant differences as well. First, the RMA is required by its expressway bond indentures to comply with a number of ongoing operational, financial, and administrative requirements. The Powhite Parkway Extension does not have such requirements. In addition, the RMA also must appropriate a substantial amount of revenue for maintenance and capital improvements of its facilities. For example, the RMA has spent more than $60 million for repairs and capital improvements since 1987. As a new facility, the Powhite Parkway Extension's has maintenance requirements that are far less substantial than does the RMA, and VDOT can schedule the work based on the availability of funding.

FINANCING AND DEBT STRUCTURE OF THE RMA'S EXPRESSWAY SYSTEM

Construction of RMA's Powhite Parkway and Downtown Expressway was financed primarily through the issuance of revenue bonds. The revenue bonds, which impose some significant restrictions on the RMA's operations of the facilities, were to be repaid with toll revenues. However, after the toll roads opened, financial support from the City of Richmond was needed for most of the first 20 years of operation. Since a 1992 financial restructuring, RMA has operated the toll road without financial support from the city. Nonetheless, RMA's 1992 financial restructuring extended the maturity of the revenue bond debt from 2013 to 2022.

Construction and Initial Operational Financing of the RMA's Expressway System

Initial construction financing for the RMA expressway system was obtained through two separate revenue bond issues. The first bond issue for $51.3 million was completed in 1971 with the proceeds from that offering used to finance construction of the Powhite Parkway, the James River Bridge, and the connections to I-195. A second bond issue valued at $73.3 million was completed in 1973. This was used to complete the Downtown Expressway including the trestle bridge connections with I-95.

Moreover, in 1973, the RMA also issued revenue refunding bonds in the amount of $52.2 million to refund the 1971 bonds. However, the 1971 bonds could not be refunded prior to 1981. As a result, the proceeds from the revenue refunding bonds remained on the RMA's balance sheet until 1981 when the 1971 revenue bonds were refunded. All of the bond issues were for a term of 40 years with debt retirement originally scheduled for 2013.

A key factor in the construction and early operation of the RMA's expressway system was the financial support provided by the City of Richmond. The RMA needed access to the capital markets to sell revenue bonds at market rates to construct the expressway system. However, the RMA did not have a history of operating toll roads yet or an annual revenue stream on which financial markets could evaluate its ability to repay the debt in a timely fashion. In addition, RMA staff reported that in 1973 some toll facilities in the United States were facing financial difficulties, making investing in toll facilities less attractive relative to other available investments.

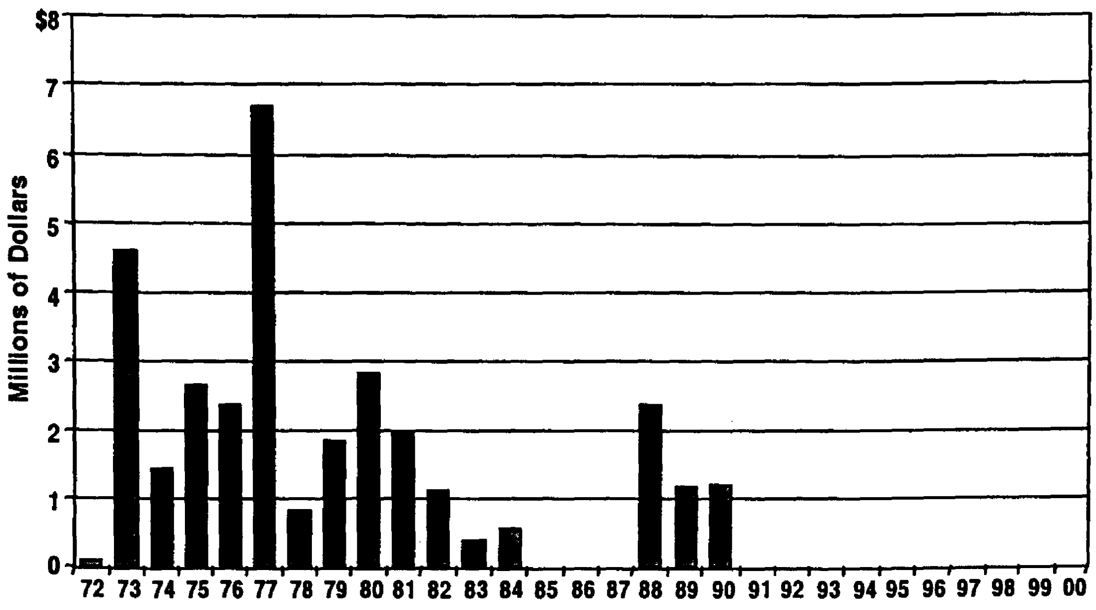
Therefore, it was important that the RMA have a source of financial support to assure investors of the long-term viability of the project. As a result, the City of Richmond provided its moral obligation for the RMA's initial bond issue as a form of security for the bonds, decreasing the default risk associated with owning the bonds. However, using the City of Richmond's moral obligation resulted in the RMA's debt being included as part of the city's debt structure.

In addition, the City of Richmond initially financed the RMA's debt reserve fund, which is required to hold sufficient revenue to provide for approximately one year of debt service payments on outstanding bonds. Finally, the City of Richmond provided, and continues to provide, police services to the RMA's expressway system at no cost.

The city also provided almost annual financial support in the form of subsidies to cover operating expense shortfalls. On 16 occasions from 1972 to 1990, the City of Richmond provided the RMA with direct operating subsidies (Figure 8). The subordinate debt was necessary to avoid toll increases, cover operating deficits, and to fund the reserve fund. To account for the financial subsidies provided by the City of Richmond, the RMA issued 50-year subordinate notes equal to the amounts contributed by the city under its moral obligation, which was removed in 1992. The principal amount of these notes has remained constant since the repayment of approximately $10 million in 1992, and presently stands at $22.8 million. Interest on the notes continues to accrue at approximately $1.35 million annually, less 50 percent of any expressway system surplus after the RMA has funded all operating, debt service, and capital needs. Should the authority make no surplus payments to the city, the total principal and

Figure 8

City of Richmond's Financial Support to the RMA Expressway System, FY 1972 - Present



Source: Richmond Metropolitan Authority.

interest on the subordinate notes will reach $77.6 million when the final payment on the revenue bonds is made in 2022.

This debt is considered subordinate debt because the City of Richmond can have claim to the expressway system's revenues for repayment of the notes only after the expressway's responsibilities to the senior bondholders are met. According to the current bond indentures, only 50 percent of any surplus generated by the RMA expressway system can be applied to interest, but not the principal, on the outstanding subordinate notes held by the city.

RMA's Maintenance Requirements Have Been Substantial

Since 1988 the RMA has invested more than $45 million in capital expenditures and $15 million from the repair and contingency fund to finance major maintenance of and improvements to the expressway system. Included among these were the:

- 1988 widening of the Powhite Parkway toll plaza, roadway, and the James River Bridge,

- reconstruction of the Boulevard Bridge in 1992 and 1993,
- addition of lanes to the Downtown Expressway's 7th and 12th Street ramps in 1992,
- application of a latex overlay of the James River Bridge in 1996,
- purchase and implementation of an electronic toll collection system in 1999, and
- rehabilitation of the roadway surface on the Downtown Expressway in 2000

RMA staff stated that had these improvements not been made, the long-term costs would have been substantial, the system's throughput substantially diminished, and congestion would have reached a level where consistent movement of traffic would be difficult. For example, RMA staff noted that had the reconstruction of the Boulevard Bridge not occurred, the bridge would likely be closed to traffic due to safety considerations.

State Provides Ordinary Maintenance Activities to the RMA Expressway Facilities

The RMA funds the bulk of its maintenance and project improvement activities through toll or bond revenues. However, VDOT's Richmond District has provided ordinary maintenance activities on the RMA's expressway system. Ordinary maintenance includes activities such as grass-cutting, snow removal, and minor or temporary road repairs. The value of the ordinary maintenance services provided by VDOT to the RMA in FY 1999 and FY 2000 totaled almost $850,000.

Bond Requirements Impact Administration of RMA Expressway System

The revenue bonds issued by the RMA were purchased by investors, thereby providing a source of funding to construct the expressway. However, the bonds also imposed a number of requirements on the RMA concerning the operation and finances of the expressway system. For example, under the bond indenture, which is a contract between the bond issuer (the RMA) and the purchasers of the bonds, the minimum maintenance requirements of the facility are determined by independent engineers. In addition, toll revenues must be certified by independent traffic and revenue consultants. Finally, the use of the revenues collected at the toll facilities is controlled by a flow of funds requirement established in the bond indentures.

Administration of the Expressway System Finances Impacted by Bond Requirements. Although the RMA was established in the *Code of Virginia* as a political subdivision, important components of the administrative, financial, and operational requirements of the expressway system are dictated broadly by the terms agreed to by the holders of the expressway system's bonds. These requirements are stated in the bond indenture. The bond covenants are consistent with §33-255.44:18 of the *Code of Virginia,* which authorizes the RMA to agree to covenants in order to secure the revenue bonds.

Generally, the purpose of the indenture is to ensure that the expressway system is operated and maintained properly by the RMA, thus allowing it to remain a viable investment for bondholders. Significant requirements the RMA must follow address toll rates and adequacy of revenues, maintenance certifications, and how revenue must be used (Exhibit 1).

Exhibit 1

Significant Requirements Imposed on the RMA Regarding the Operation and Administration of the Expressway System

Use of Revenue and Engineering Consultants	The RMA is required to retain the services of independent engineering firms to carry out the requirements of the bond covenants related to the maintenance of the physical assets of the expressway system and determining the adequacy of toll revenues.
Toll Rates	The RMA is required to fix and adjust as necessary the tolls, fees, and charges in order to generate sufficient revenue each year to at least equal: (1) the annual debt service on bonds and all amounts required to be deposited in the bond reserve fund and the repair and contingency fund, or (2) 120 percent of debt service on parity bonds.
Certification of Revenues	Six months before the end of each fiscal year, the RMA is required to review its expressway finances to determine whether the revenues for that fiscal year are sufficient to comply with the requirements above. If the revenue is insufficient, the RMA is required to direct its traffic and revenue consultant to recommend a schedule of tolls and fees sufficient to meet the toll rate requirement.
Restrictions on Use of Expressway Revenue	A charge and lien of all revenues deposited into the RMA's funds and accounts secure the expressway system's outstanding bonds. Revenues include all fees, tolls, rents, rates, receipts, monies, and income derived by the RMA through the ownership and operation of the expressway system.
Maintenance of the Expressway System	The RMA will employ an independent engineer or engineering firm to conduct an inspection of the expressway at least once in a three year period to: • report whether the RMA has properly maintained the system; • determine whether capital improvements or repairs are necessary; and • recommend the necessary amount of funding required to effect repairs.

Source: JLARC staff analysis of the 1970 and 1992 RMA bond resolutions and the 1992 and 1998 revenue and refunding bond issues' official statements.

For example, minimum maintenance requirements on the expressway system are dependent largely on the recommendations of the independent consulting engineer. An analysis of the adequacy of the system's toll revenue to maintain the expressway's debt coverage ratios is certified by the traffic and revenue consultants. As a part of the RMA's annual budget process, the traffic and revenue and engineering consultants certify that revenues for the current fiscal year and the upcoming fiscal year are sufficient to cover the operating expenses, debt service and maintenance requirements. If the consultants cannot certify that the revenues will be sufficient, the RMA would have to take steps to address the shortfall, or the consultants would conduct a study to determine the toll rates required to generate revenues sufficient to meet the rate covenants.

Application of RMA Toll Revenues also Controlled by Bond Requirements. The RMA, as required by bond indentures, has established a flow of funds to account for the revenues collected from the expressway system (Figure 9). The flow of funds further ensures that bondholders' interests in the maintenance and repair requirements which the consulting engineers have identified as necessary are met. With the required allocation of revenue to the various funds, bondholders generally are assured that bond payments will be made and required repairs to the expressway system completed. The requirements of each fund in the flow of funds chart in Figure 9 are described more fully below:

- **Operating Fund:** On a monthly basis, the RMA is required to make deposits into this fund so that the balance is sufficient to pay two months operating expenses.

- **Debt Service Reserve Fund:** Approximately one year of debt service payments are required to be maintained in this fund to be used when RMA revenue is insufficient to cover required debt service payments. If the balance is properly maintained, no deposits from the revenue fund are required. If withdrawals from this fund are made to cover debt service, transfers from the revenue fund will be made until the balance requirement is met.

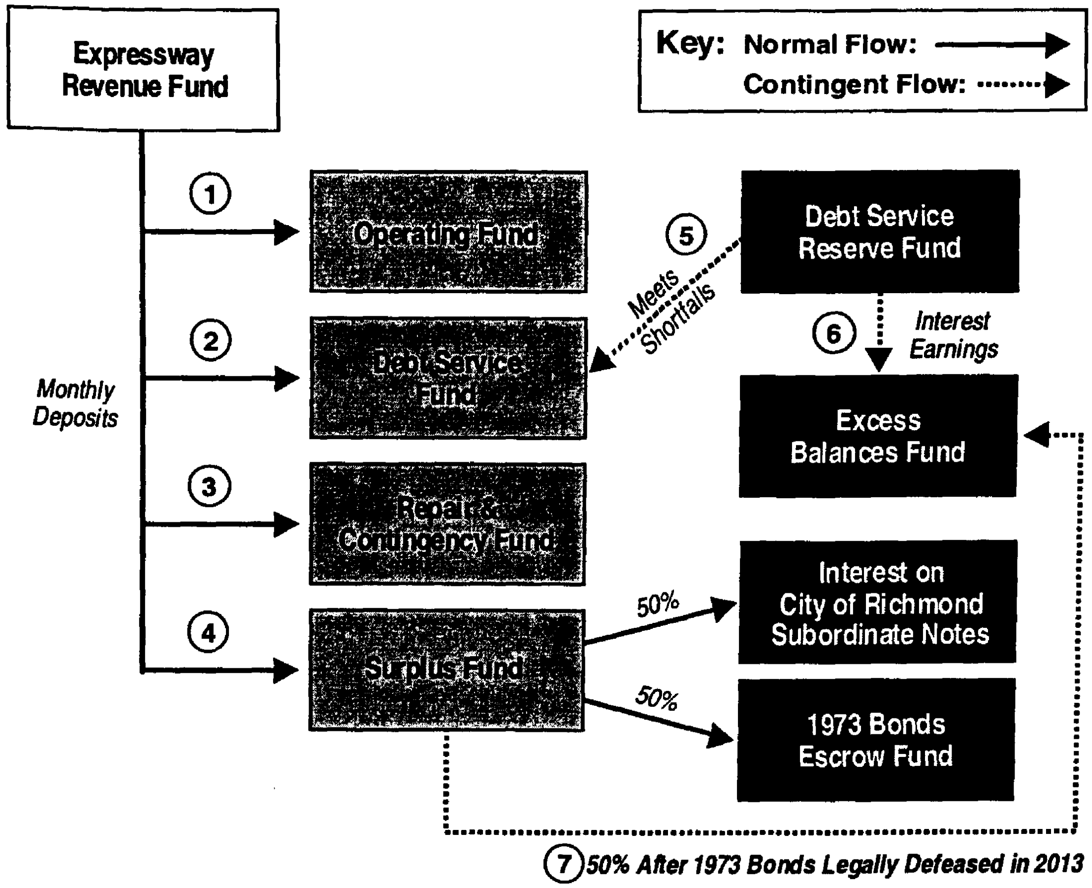
- **Debt Service Fund:** Deposits from the revenue fund totaling $1/12^{th}$ of the yearly debt payment requirements are deposited monthly into this account for debt payments as required throughout the fiscal year.

- **Repair and Contingency Fund:** After deposits to the operating fund and the debt service fund are made, revenue is then deposited to the repair and contingency fund until sufficient revenue is available to meet the needs certified by the consulting engineers or an amount the RMA may deem necessary provided that it shall not exceed the amounts used in the current fiscal year.

- **Surplus Fund:** At the end of the fiscal year, revenues not deposited into the operating, debt service, debt service reserve, or repair and contingency

Figure 9

Required Flow of Funds for the RMA Expressway System



Source: Richmond Metropolitan Authority and 1992 RMA Bond Resolution.

fund are considered surplus. According to bond indentures, 50 percent of the surplus must be applied to the outstanding interest on the City of Richmond subordinate notes and 50 percent must be allocated to the 1973 escrow fund to retire outstanding 1973 bonds. Once the 1973 bonds have been redeemed in full, the 50 percent of the surplus fund dedicated to the 1973 bond escrow fund will be allocated to the excess balances fund. Since 1992, $923,181 has been paid to both the City of Richmond and to the 1973 escrow fund.

- <u>**Excess Balances Fund:**</u> This fund was established in 1992 to provide a true operating and capital reserve fund that can be used by the RMA to meet unanticipated revenue shortfalls, system maintenance, or early debt retirement. If all required payments are made to the operating, debt service, and repair and contingency funds, interest earnings from the debt service reserve fund are deposited into the excess balances fund.

With a flow of funds established, revenues collected from the operations of the RMA's expressway system are substantially controlled by bondholders through the bond covenants to ensure that funds are available to meet all operating, debt service, and maintenance requirements. Moreover, the flow of funds structure strictly limits the ability to co-mingle expressway funds with the other RMA enterprises. Once revenue is deposited to the expressway revenue account, it can only be used to meet the requirements imposed by the expressway flow of funds. Even use of surplus expressway revenues is controlled by the bond indentures.

1992 Bond Refinancing Provided RMA with Financial Independence But Extended Final Maturity of Revenue Bond Debt

The RMA's expressway system was constructed using $125.5 million of revenue bonds issued that had a final maturity of 2013. However, by 1987 according to RMA staff, major improvements to the expressway system were required and the RMA had no source of revenue to use to fund the projects. As a result, the RMA issued additional debt in 1987 and 1990 to complete major enhancements to the system, such as the widening of the James River bridge and system improvements to the Downtown Expressway. While these issues increased the system's total outstanding debt, they did not extend the final maturity date of the bonded debt beyond 2013.

Nonetheless, RMA staff reported that by 1992, significant changes to the financing structure of the RMA expressway system were necessary. First, despite capital improvements completed in 1987 and 1990, approximately $35 million of additional improvements to the expressway's infrastructure were necessary. According to RMA staff, neither existing revenue nor additional RMA debt capacity to fund these enhancements were available. Off-system impacts such as the removal of tolls on I-95 also were anticipated to negatively affect the RMA's toll revenue. Further, RMA staff reported that the City of Richmond wished to remove its moral obligation to the RMA. Because the RMA would then by wholly self-sufficient, the city gained approximately $132 million in debt capacity because for the first time, the RMA debt would not be treated by the rating agencies as contingent debt of the city.

To address these factors, the RMA issued $156 million in revenue and refunding bonds in 1992. The majority of the funding from this issue was used to defease the outstanding 1973 and 1990 bonds as well as accomplish a number of other objectives. For example, approximately $10 million was returned to the City of Richmond to repay the funding it had provided for the expressway system's bond reserve fund. The RMA also used proceeds from the 1992 bond issue to replenish the bond reserve fund as required by bond indentures. In addition, major capital improvements, such as the rehabilitation of the Boulevard Bridge, were completed from the 1992 bond issue. Because the RMA, and not the City of Richmond, funded the bond reserve fund, the interest earnings from that fund were used to establish the excess balances fund. This fund is the expressway system's operating and capital reserve fund.

The 1992 bond issue provided the RMA with the opportunity to become financially independent from the City of Richmond and to accomplish a number of other objectives. However, the total bond debt of the expressway system increased by about $25 million (Table 6). While the RMA's 1992 financing restructuring extended the final maturity of the revenue bonds by nine years from 2013 to 2022, RMA staff felt it was necessary so it could avoid toll increases, pay the city more than $10 million to relieve the city's moral obligation, level out the debt service, and obtain funds for capital improvements.

Table 6

Outstanding Bonded Indebtedness of the RMA Expressway System, Adjusted for the 1992 Bond Issue (May 1992)

Source of Debt	Outstanding Debt Prior to 1992 Bond Issue	Debt Adjusted for 1992 Bond Issue
Revenue Bonds (1973)	$67,490,000	$0
Refunding Revenue Bonds (1973)	$43,435,000	$0
Series 1990 Bonds	$20,905,000	$0
Series 1992 Bonds	$0	$157,620,000
Total Revenue Bond Debt:	**$131,830,000**	**$157,620,000**
Subordinated Debt Owed to City of Richmond	$47,690,615	$38,490,615
Total Expressway Indebtedness:	**$179,520,615**	**$196,110,615**

Note: Subordinated debt owed to the City of Richmond included $15.5 million of accrued interest.

Source: JLARC staff analysis of the official statement *Richmond Metropolitan Authority Expressway Revenue and Refunding Bonds, Series 1992.*

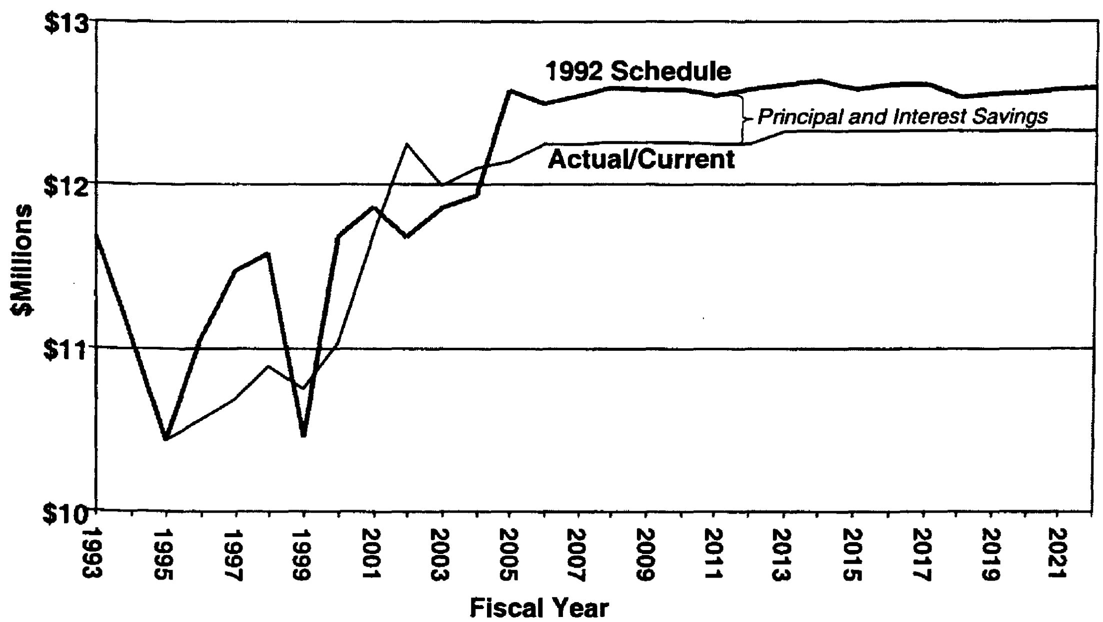
Subsequent RMA Bond Issues Were Used to Generate Cost Savings

Subsequent to the major debt restructuring in 1992, the RMA has issued bonds four additional times: in 1996, 1998, 1999, and 2000. Analysis of the four post-1992 issues indicate that the objectives of the various issues generally were achieved. According to RMA staff, each issue was focused on accomplishing a variety of objectives. For example, after lower than expected revenue collections from the expressway system in 1995 and 1996, the RMA was in danger of violating the covenant that requires the system's annual net revenues to exceed annual debt service and operating requirements by 120 percent. The 1996 bond issue enabled the system to comply with the net revenue requirement and avoid a toll increase by reducing the debt payments from FY 1996 through FY 1998.

The 1998, 1999, and 2000 bond issues were undertaken for two primary purposes – to generate principal and interest savings and prepare the system for the opening of Route 288. In preparing for the opening of Route 288, the RMA structured higher debt service payments prior to FY 2003 when revenue growth is projected to be strong, after which it will likely moderate. In terms of savings, the three bond issues resulted in total principal and interest savings of approximately $6.7 million in annual debt service payments through 2022 as compared to the 1992 bond repayment schedule (Figure 10).

Figure 10

Annual Bonded Debt Service Requirements for 1992 Bond Issue Compared to Current Bond Repayment Schedule FY 1993 - FY 2023



Source: JLARC staff analysis of RMA's *Expressway Revenue and Refunding Bonds, Series 1992 Official Statement*, and RMA data.

1998 Toll Increase Improved the Expressway System's Overall Financial Structure

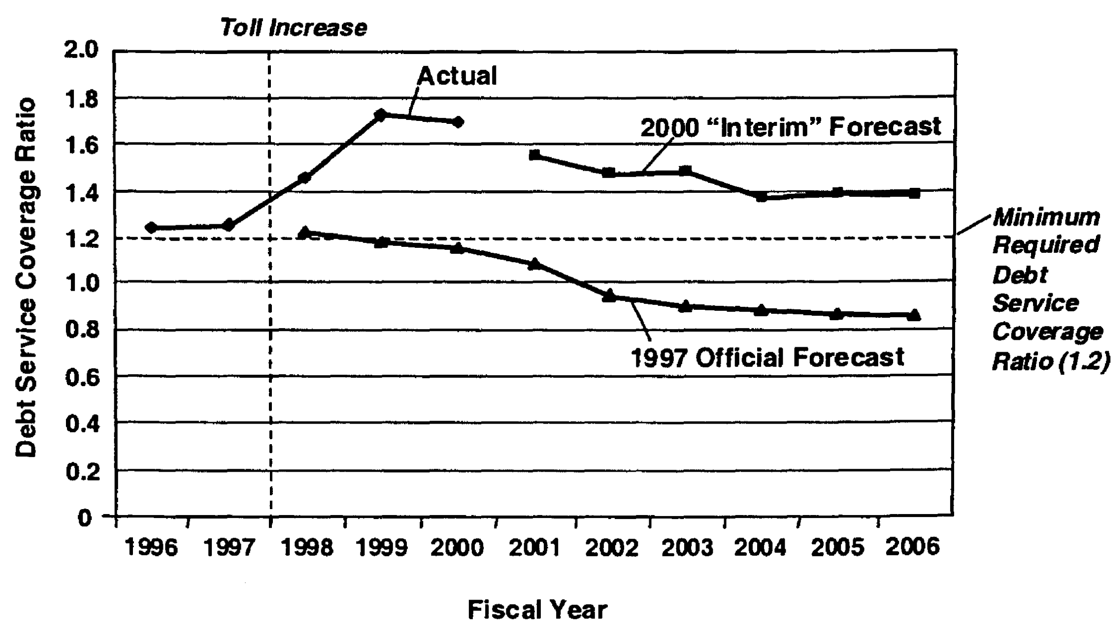
As noted earlier, the RMA must consistently measure its finances against the debt-to-net revenues coverage requirement found in the various bond covenants. At the present time, the bond covenants require that annual net revenues (total revenues minus operating expenses) must equal or exceed the greater of: (1) the sum of annual bond debt service and the repair and contingency fund deposits, or (2) 120 percent of the annual senior debt service requirements.

In 1996, staff reported that the RMA was in a position in which violation of the rate covenant was possible due to slow revenue growth. At that time, bonds were issued to restructure RMA's outstanding debt to provide the flexibility necessary to comply with the rate covenants and not raise tolls. While the rate covenant was met and a toll increase avoided, the RMA's debt service coverage was still only slightly above the 120 percent debt to net revenue requirement.

In addition, when the construction of a toll-free Route 288 in western Chesterfield County was announced, RMA's traffic and revenue consultants forecasted that the impact of Route 288 on future toll revenues would cause the RMA to fail to comply with the rate covenant. It was not until the 1998 toll increase that the RMA's debt service coverage increased substantially above the 120 percent requirement (Figure 11). Moreover, the coverage ratio is forecasted to remain above the rate covenant requirement beyond FY 2006.

Figure 11

Impact of 1998 Toll Increase on RMA's Debt Service Coverage Ratio, FY 1996 - FY 2006



Note: Debt service coverage ratio is net revenue divided by senior debt service.
Source: JLARC staff analysis of RMA data.

The RMA has increased toll rates on the expressway system four times since the facilities opened in the early 1970s. However, although the most recent toll increase allowed the RMA to keep up with inflation over the last decade, toll rates substantially lag inflation since the facilities opened. If the toll increases had matched the rate of inflation since 1973, tolls currently would be about $0.80 at the mainline plazas, 60 percent higher than the actual $0.50 rate at the mainline plazas.

RMA Received A- in a Recent Debt Issue Rating

In anticipation of a proposed revenue bond issue in October 2000, the RMA requested a financial review from Fitch and received an A- rating for the proposed issue. The review noted that the rating is reflective of the RMA's long operating history, its demonstrated ability to raise tolls, and the fact that the traffic growth projections are fairly conservative. Fitch also reported that it tested several different scenarios in which traffic growth was lower than anticipated and the negative impact on revenues from the opening of Route 288 was greater than projected. Another reason for the A- rating was the creation of the excess balances fund, which overcame one of the expressway system's shortcomings. Prior to its creation, the RMA was hampered by the lack of a unrestricted operating and capital reserve fund.

This is the first credit rating that the RMA has achieved independently of its insured revenue bonds. Investors consider credit ratings when making investment decisions. The rating also reflects "...the ability of the entity or securities issue to meet financial commitments ... on a timely basis." The A- rating assigned by Fitch indicates that the RMA has a low credit risk and a strong ability to pay its financial obligations. This rating may enable the RMA to capture savings in future bond issues that would not otherwise be possible.

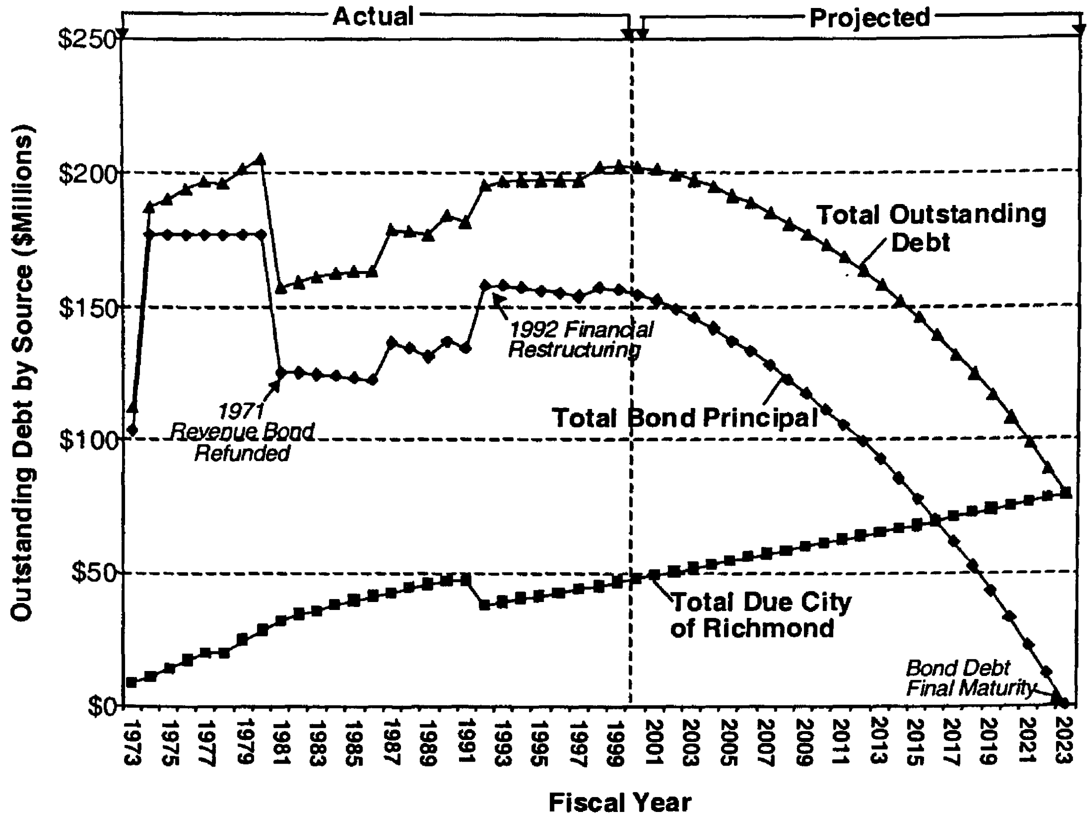
Expressway System's Outstanding Debt Structure Extends Beyond Repayment of Revenue Bond Debt

The RMA expressway system's debt structure has undergone a number of changes since the first revenue bond was issued in 1971. These changes reflect a number of factors that each bond issue was intended to address: financial independence from the City of Richmond, avoiding a potential violation of the bond issues' debt to revenue ratio requirements, and achieving cost savings while managing the expressway's debt structure to prepare for the opening of State Route 288.

As of June 30, 2000, the total RMA expressway debt stood at $202 million (Figure 12). After the RMA's bond refundings of 1998 and 1999, outstanding principal on the revenue bonds peaked in FY 1999 and stood at $154.6 million on June 30, 2000. This is projected to decrease steadily as principal on the revenue bond debt is retired until the final payment is made on the outstanding bonded debt on July 15, 2022.

Figure 12

RMA Expressway System Debt Structure
FY 1973 - FY 2023



Notes: Final debt service payment on bond principal scheduled for July 15, 2022. Projected debt owed to the City of Richmond does not reflect any future payments that might be available from the RMA's surplus fund.
Source: JLARC staff analysis of RMA financial data.

However, outstanding subordinate debt owed to the City of Richmond as of June 30, 2000 was $47.6 million which, with the exception of FY 1992, has increased steadily due to the accrual of annual interest, despite the payment of more than $1.3 million to the city by the RMA since FY 1990. While it is likely that the outstanding subordinate debt will continue to increase, the actual amounts for each future year are not known because there currently is no amortization schedule for this debt as with the senior bond debt. However, if no payments are made on this interest, the outstanding subordinate debt will be greater than the revenue bond debt outstanding in 2017. Specifically, if no additional payments are made on the subordinate debt interest, RMA has projected that more than $76 million in subordinate debt will be outstanding when senior revenue bond debt is retired in FY 2023.

FINANCING AND DEBT STRUCTURE OF THE POWHITE PARKWAY EXTENSION

Construction of the Powhite Parkway Extension in Chesterfield County was financed primarily through the issuance of Commonwealth of Virginia revenue bonds, a loan from Chesterfield County, and other VDOT funds. The revenue bonds and additional debt were to be repaid with toll revenues collected at the facility. However, since the facility opened in September 1988, traffic volume on the roadway has been lower than expected, resulting in consistent annual shortfalls.

While VDOT has been able to meet required debt service payments and reduce the outstanding bonded debt on the Powhite Parkway Extension, it has done so only by borrowing money from other VDOT funds to cover operating expenses. The accumulated debt from these VDOT loans is subordinate to the revenue bonds, and will be paid only after the revenue bonds are retired. The total debt structure of the Powhite Parkway Extension is examined in the following sections, as are the subsidies provided to the extension from VDOT that enable the facility to meet its annual debt service requirements and operating expenses.

Construction Financing of the Powhite Parkway Extension

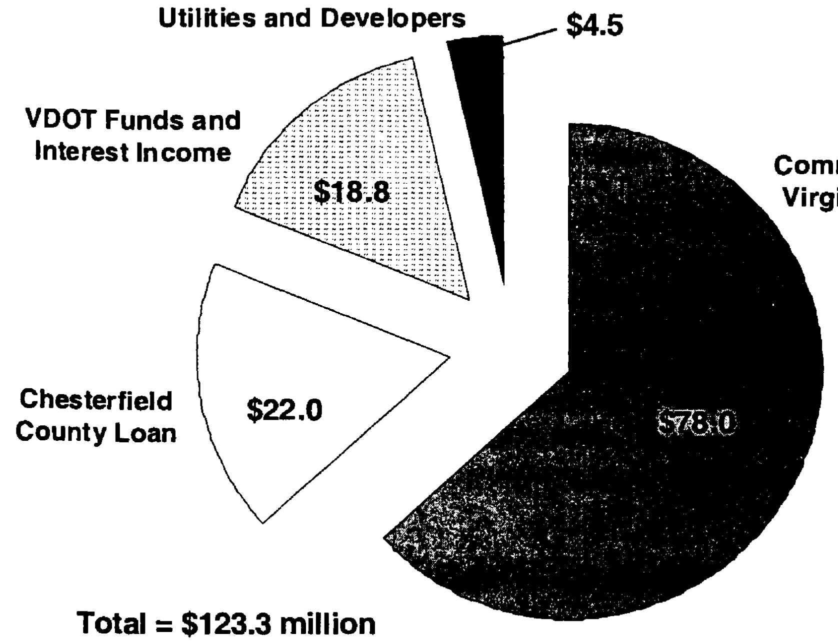
The total cost of constructing the Powhite Parkway Extension in 1986 was approximately $123 million. Construction of the facility was financed with a $78 million Commonwealth of Virginia revenue bond issue, a $22 million loan from Chesterfield County, and $4.5 million from utilities and developers. The remaining $18.8 million was financed with the interest income on the bond issue and by borrowing money from other VDOT funds (Figure 13).

Commonwealth of Virginia Revenue Bonds. The revenue bonds used to finance the extension are classified as "9(c)" debt. Article X, §9 (c) of the *Virginia Constitution* authorizes the General Assembly to create debt for certain revenue producing capital projects, provided that the anticipated revenues will be sufficient to meet principal and interest payments on the debt. This debt is backed by the full faith and credit of the Commonwealth of Virginia. In 1986, the General Assembly passed legislation to authorize the issuance of $78 million in 9(c) debt to fund the construction of the Powhite Parkway Extension. The legislation also specified that the duration of the bonds would not exceed 25 years. In August 1986, $78 million in Commonwealth of Virginia Transportation Facilities Bonds were issued with a final maturity of 2011.

In order to capture lower interest rates and reduce the debt service requirement, the 1986 bonds were refunded through the issuance of Series 1993A Transportation Facilities Refunding Bonds. The Series 1993A bonds, totaling $74.3 million, were used to refund $66 million in Series 1986 bonds maturing after 1996. While this refinancing increased the outstanding bond principal, the lower interest rates on the re-

Figure 13

Sources of Funding for Powhite Parkway Extension, 1986
(in Millions of Dollars)



Source: JLARC staff analysis of VDOT data.

funding bonds reduced overall principal and interest payments through 2011 and did not extend the maturity date of the initial bond issue.

Chesterfield County Provided Funding for Right-of-Way Costs. Prior to the issuance of the Commonwealth revenue bonds, Chesterfield County provided VDOT $22 million to finance the right-of-way costs for the Powhite Parkway Extension. Chesterfield County financed these costs by issuing its own general obligation bonds. Chesterfield issued $62.3 million in General Obligation Public Improvement Bonds, $22 million of which helped fund construction of the extension.

An agreement was reached between Chesterfield County and the Department of the Treasury whereby interest would be charged on the loan at 7.6 percent, which was the true interest cost on the Chesterfield bonds. The agreement also stated that total interest payments would not exceed $18.5 million. Payments toward debt reduction on the Chesterfield County loan would be applied to interest until it was paid in full or total payments had reached $18.5 million, after which payments would be applied to the loan principal.

The obligation to Chesterfield County was reduced to $8 million in 1994. After completion of the extension and at the request of Chesterfield County, a ramp and loop were constructed at the interchange of Route 76 and Route 288. In exchange for the construction of the ramp and loop and VDOT's agreement not to place a toll at the interchange, Chesterfield County agreed to absolve $14 million of its $22 million loan, including associated interest on this portion of the loan. The $14 million absolved was calculated based on the tolls that VDOT projected would have been collected at that interchange. The debt owed to Chesterfield County is also subordinate to the outstanding debt on the Commonwealth's revenue bonds.

Additional Sources of Funding Were Also Used. The remaining $23 million of the construction costs were financed through interest income on the revenue bond proceeds ($8.4 million), previous VDOT contributions ($6.8 million), utilities and developers ($4.5 million), and the Critical Highway Improvement Program ($3.6 million). Funding received from the Critical Highway Improvement Program and the previous VDOT contributions must be repaid to VDOT. This debt also is also subordinate to the outstanding debt on the Commonwealth revenue bonds.

Bond Requirements Have Little Impact on Powhite Parkway Extension's Administration and Operation

Unlike the bond requirements imposed upon the Richmond Metropolitan Authority, the bond indenture for the Commonwealth revenue bonds imposes few of the same requirements on the Powhite Parkway Extension. Since the revenue bonds are backed by the full faith, credit, and taxing power of the Commonwealth of Virginia, there is little risk to the bondholders. Therefore, the bond indenture does not have strict requirements for the use of revenue and engineering consultants, the adjustment of toll rates, or the certification of revenues. Also, there is no corresponding debt coverage ratio requirement.

The bond indenture states that revenues generated by the extension will be used in accordance with 1986 legislation authorizing the issuance of the bonds. In accordance with this legislation, net revenues received from the operation of the extension will be used to pay principal and interest on the bonds as they become due. The indenture defines net revenues as:

> ... all revenues received from tolls, rates, fees and charges for or in connection with the use of the Powhite Parkway Extension, less such amounts as may be required to pay the ordinary maintenance, repair and operation expenses of the Powhite Parkway Extension.

The indenture also notes that the Commonwealth Transportation Board may fix and revise toll rates, and that it may pay certain maintenance expenses from its regular appropriations, but is not required to do so.

Pre-Construction Forecasts Indicated Revenues Would Cover Operating Expenses and Debt Service

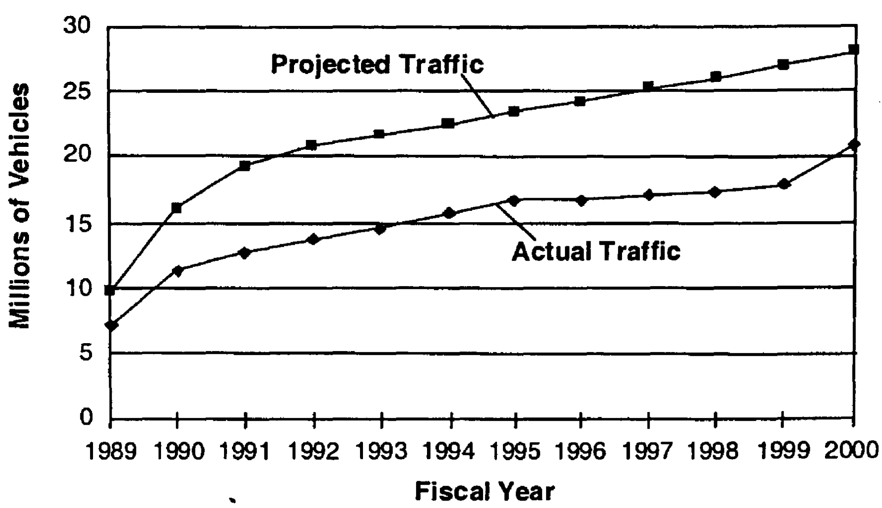
Before the bonds were approved, a feasibility study was conducted to determine if toll revenues from the Powhite Parkway Extension would be sufficient to cover operating expenses and debt service requirements. The feasibility study was conducted by an independent consultant, and indicated that toll revenues from the facility would cover operating expenses and debt service each year over the life of the bond. However, actual traffic on the Powhite Parkway Extension has been considerably less than projected. Figure 14 shows the relationship between projected and actual traffic volumes for each year of operation through the FY 2000.

Revenue Shortfalls Have Required Consistent Support from VDOT

Despite the pre-construction forecasts, the Powhite Parkway Extension has had to have consistent financial support from VDOT due to operating deficits. Operating deficits on the Powhite Parkway Extension are subsidized in two ways: (1) through interest-free loans from the Toll Facilities Revolving Account, and (2) by VDOT's Richmond District Office funding ordinary maintenance expenditures on the roadway. The Toll Facilities Revolving Account (TFRA) provides additional revenue for the Powhite Parkway Extension to make its debt service operating payments, while VDOT's maintenance subsidy reduces the facility's operating expenses.

Figure 14

Annual Traffic on Powhite Parkway Extension Actual vs. Projected



Source: VDOT, Powhite Parkway Extension Toll Road Revenue & Traffic Analysis, Projected vs. Actual, May 2000.

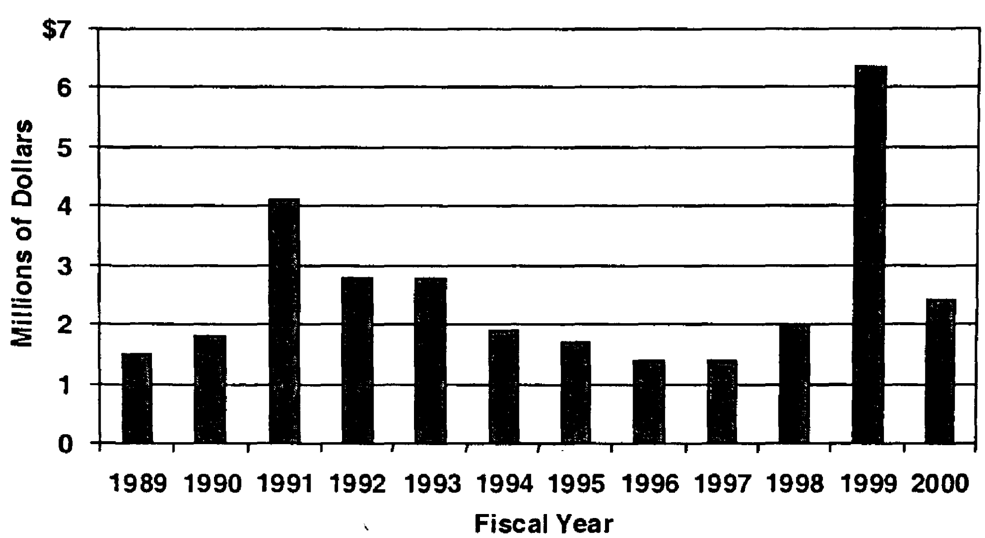
Toll Facilities Revolving Account Has Funded Operating Deficits. The TFRA, funded from interest earnings on the Transportation Trust Fund, is a source of funds that VDOT toll facilities can draw from to help meet their debt service or operating expenses. Money from the TFRA is advanced to the facilities based on expected operating deficits for the next fiscal year. Funds borrowed from the TFRA must be repaid when revenues exceed debt service and operating expenses, but the loans do not bear interest, and there currently is no timetable for the repayment.

The extension has borrowed funds from the TFRA every year of its operation, and the cumulative debt owed to the TFRA now stands at $30.2 million. The TFRA serves a similar purpose for the Powhite Parkway Extension as the City of Richmond did for the RMA prior to 1992, in that they both assisted the toll road systems in making their required operating and debt service payments. The difference is that no interest has accumulated on the money borrowed from the TFRA, so the extension still owes only $30.2 million on this debt. In contrast, the RMA has borrowed $22 million from the City of Richmond since 1972, but now owes over $47 million because of accumulated interest on the debt.

Figure 15 shows the annual financial support provided to the Powhite Parkway Extension from TFRA funds. The largest single loans from the TFRA occurred in 1991 (the first year of maturity for the 1986 revenue bonds) and in 1999 (when Smart Tag was implemented).

Figure 15

Toll Facility Revolving Account Support to the Powhite Parkway Extension, FY 1989 - FY 2000



Source: VDOT's Financial Planning and Debt Management Division data.

Powhite Parkway Extension Roadway Maintenance Has Been Funded by VDOT. VDOT's Richmond District Office provides ordinary maintenance on the extension through its Chesterfield residency. Ordinary maintenance includes activities such as grass-cutting, snow removal, minor pothole repairs, and lane marker painting. These maintenance expenses amounted to approximately $300,000 per year in fiscal years 1999 and 2000. In addition to ordinary roadway maintenance, maintenance replacement activities (larger structural repairs) also have been provided to the extension without charge. For example, in 1995, VDOT provided more than $800,000 of maintenance replacement activities on the extension.

VDOT's policy on providing maintenance to its toll facilities is to provide it from district maintenance allocations until the facility produces surplus revenue to fund its own maintenance requirements. For example, the Dulles Toll Road in Fairfax County pays for its own ordinary maintenance and maintenance replacement expenditures, because it generates sufficient surplus revenues to cover the cost. VDOT staff have reported that the extension will be expected to pay for its maintenance expenses once it generates sufficient operating revenues. Toll revenues will be used to pay these maintenance expenses before any surplus is applied to the retirement of subordinate debt.

VDOT Support Has Helped Keep Toll Rates Constant. Since the extension can draw on funds in the TFRA to cover operating deficits, VDOT has not been forced to raise toll rates on the facility. The toll rate structure of $0.75 on the barrier plaza and $0.50 and $0.25 on the ramp plazas has remained the same since the facility opened to traffic in 1988. Because of the TFRA loans, the extension has been able to continue operating and meeting its debt service payments, even though revenues generated at the current toll rates are insufficient. As a result, the toll rates on the extension have not kept up with inflation since September 1988. Based on the inflation rate as measured by the Consumer Price Index, the $0.75 toll on the barrier plaza would have been $1.08 in July 2000 had the toll rate kept pace with inflation.

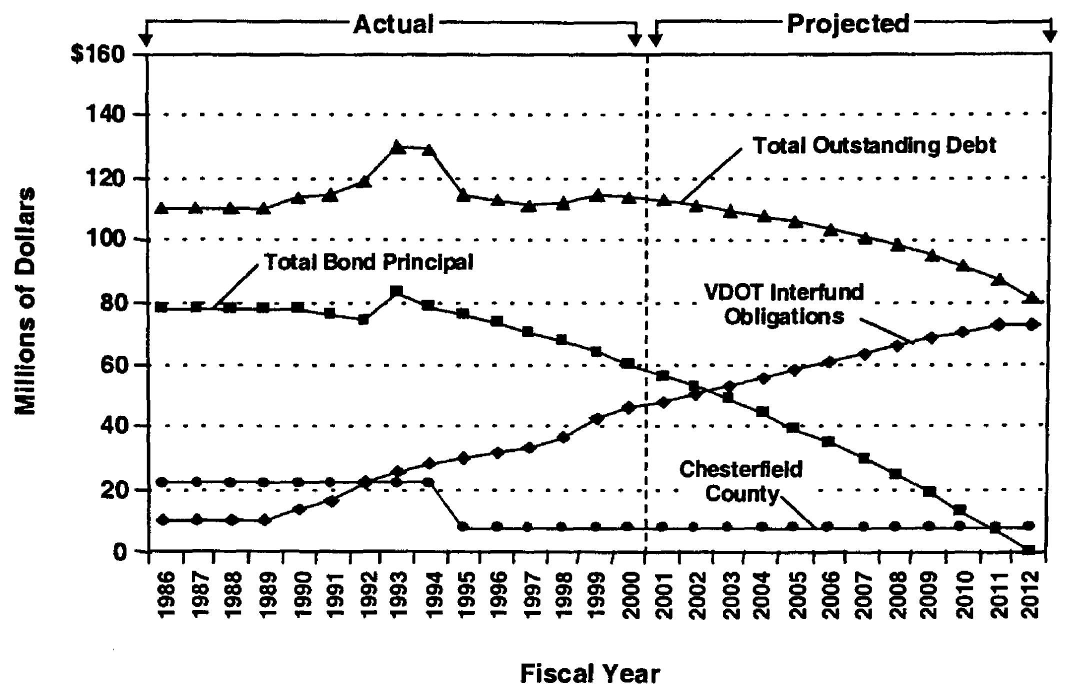
Debt Structure on the Powhite Parkway Extension Also Extends Beyond Repayment of Bond Revenue

The Commonwealth revenue bonds issued to finance the Powhite Parkway Extension are scheduled to retire on July 1, 2011. After the revenue bonds are retired, surplus revenues will be used to repay the subordinate debt owed to the TFRA, VDOT Construction Fund, and Chesterfield County. VDOT currently does not have a retirement schedule for the subordinate debt. However, the agreement between VDOT and Chesterfield County states that operating expenses and advances of funds from VDOT will be paid before surplus revenue will be applied to the debt owed the county. Also, VDOT staff reported that Powhite Parkway Extension revenues would be applied to maintenance expenses before surpluses would be applied to debt owed to the TFRA, VDOT Construction Fund, and Chesterfield County.

The overall debt structure of the extension is characterized by declining principal on the Commonwealth revenue bonds and increasing subordinate debt resulting from annual advances from the TFRA which are projected to continue through at least 2006. There were two major occurrences that impacted the debt structure. The first came with the refunding of the 1986 revenue bonds in 1993, which increased the outstanding principal on the bonds but reduced interest payments over the life of the bonds. The second occurrence came in 1994 with the release of $14 million owed to Chesterfield County. Figure 16 shows the outstanding debt structure of the Powhite Parkway Extension. While the retirement of the revenue bonds is scheduled for July 1, 2011, outstanding debt owed to VDOT (interfund obligations) and Chesterfield County is projected to increase through FY 2012. The projection of outstanding debt on the total interfund obligations through 2006 is based on VDOT's estimated budget shortfalls. The total interfund obligations projection for FY 2007 through FY 2012 is based on the average projected shortfall for FY 2001 through FY 2006.

Figure 16

Debt Structure for the Powhite Parkway Extension
FY 1986 - FY 2012



Source: JLARC staff analysis of VDOT financial data.

CONCLUSION

As discussed in this chapter, the RMA's and VDOT's Powhite Parkway Extension facilities share some similar characteristics as well as some differences. The RMA has collected more than $300 million in toll revenue from its toll facilities' operations since FY 1973. Yet, the expressway system's outstanding debt at the end of FY 2000 totaled more than $202 million, which is $75 million more than the cost of the bonds issued to construct the system. This debt includes $154.6 million in revenue bonds and $47.6 million in principal and interest on subordinate debt owed to the City of Richmond. In addition, since 1988 the RMA has invested more than $60 million in capital expenditures on the expressway system.

While the RMA's 1992 financial restructuring provided funds for capital improvements, allowed the RMA to avoid a toll increase, and removed the City of Richmond's financial obligation for the RMA, it also extended the final maturity of revenue bonds by nine years to 2022. Only after retirement of service debt can substantial repayment of subordinate debt owed to the city begin.

After operating for 12 years and collecting more than $83 million in tolls, VDOT's Powhite Parkway Extension has made somewhat better progress relative to the RMA in retiring its total debt. At the end of FY 2000, the Powhite Parkway Extension's outstanding debt from all sources stood at $114.1 million compared to the $123 million cost of constructing the facility. However, the final maturity on the Powhite Parkway Extension's revenue bond debt remains at 2011 as originally scheduled. At that point, repayment of other outstanding obligations will commence, unless revenue growth exceeds toll road expenses prior to 2011.

At the close of fiscal year 2000, total combined outstanding debt – including both bonded and subordinate obligations – stood at over $316 million for the RMA expressway system and VDOT's Powhite Parkway Extension. Table 7 lists the outstanding obligations by source.

Table 7

Total Outstanding Indebtedness of the RMA Expressway System and VDOT's Powhite Parkway Extension as of June 30, 2000

VDOT's Powhite Parkway Extension	**Debt by Source**
Revenue Bonds	$60,300,000
VDOT Interfund Obligations	$45,829,886
Chesterfield County	$8,000,000
Total Powhite Parkway Extension Debt	$114,129,886
RMA Expressway System	
Revenue Bonds	$154,630,000
City of Richmond (principal)	$22,772,022
City of Richmond (accrued interest)	$24,866,636
Subtotal RMA Expressway Debt	$202,268,658
Grand Total	**$316,398,544**

Source: JLARC staff analysis of VDOT and RMA financial data.

III: Review of Selected Administrative Processes and Areas for Potential Cost Savings

The Richmond Metropolitan Authority (RMA) and the Virginia Department of Transportation (VDOT) operate connected toll roads that provide a direct link with I-95 in the City of Richmond to State Route 288 in western Chesterfield County. As discussed in the Chapter II, there are a number of differences between the two facilities. However, both facilities carry a large volume of traffic, have staffs that provide services to the motorists that use the facilities, and collect a large amount of toll revenue.

Through this review, JLARC staff have identified a number of administrative processes that can be improved to facilitate the mission of both facilities as well as ensure that toll revenue available for debt retirement is maximized. For example, although the RMA has a very centralized and structured process for administering the expressway's revenues and expenses, there are no board approved written policies and procedures available for fiscal staff to use. Also, the proportion of RMA's administrative costs charged against the expressway system has steadily increased indicating the need for an ongoing review by the RMA in the future. Moreover, when the Pocahontas Parkway (I-895) is operational, Powhite Parkway Extension staff will need to monitor the allocation of time between the two VDOT facilities.

JLARC staff identified several areas that could contribute to the overall objective of maximizing revenue for toll road debt retirement. For example, the RMA should review its toll road operating and administrative expenses for which future growth could be reduced. Finally, both VDOT and the RMA should continue efforts to use Smart Tag as a method to moderate capital costs and reduce operating expenses in the long term.

SELECTED ADMINISTRATIVE PROCESSES SHOULD BE ESTABLISHED OR ENHANCED

Critical to the retirement of all expressway system debt is the appropriate collection, handling, and application of toll revenue. To ensure that the revenue is consistently collected and applied to the expressway systems' operations and debt retirement, several areas were identified for improvement. First, the RMA should seek formal board approval of existing policies and procedures for the internal financial management processes that it has developed. This would supplement the clear process that has been developed by ensuring consistent application by all staff. Second, the RMA board of directors, not RMA management, should approve the internal auditor's annual workplan.

In addition, board of directors' approved policies for the administration of the excess balances fund should be immediately established by the RMA. Establishment of this fund was a significant accomplishment for the RMA and could provide substantial benefits in the future for the administration of the expressway system, including early retirement of debt. Therefore, the board should tightly control its use. Finally, the RMA should monitor allocation of administrative expenses across its various enterprises, and VDOT should monitor the allocation of expenses between the Powhite Parkway Extension and the soon-to-be opened Pocahontas Parkway as well. Appropriate application of expenses will help ensure that the maximum amount of revenue will be available for debt retirement.

RMA's Audits Have Resulted in Unqualified Opinions

As required by the various covenants of the expressway system's revenue bonds, the RMA is audited annually by a certified public accountant "of nationally recognized ability and standing." The audit is an important component of the RMA's financial structure as both the bond covenants and the *Code of Virginia* impose requirements on the use of revenue collected through the expressway system. For example, section VII of the 1970 resolution authorizing the RMA to issue revenue bonds notes that:

> So long as any bonds are outstanding and unpaid, the Authority covenants and agrees that it will fix, charge and collect fees, rents, rates and other charges for the use of the Project. The Authority further covenants and agrees that the revenues when collected will be deposited, held and disbursed at the times, in the manner and for the purposes set forth in this Resolution.

In addition the *Code of Virginia* requires that:

> ...all revenues when collected, and the proceeds from the sale of revenue bonds, shall be held in trust for the benefit of the holders of bonds of the Authority issued for the construction or acquisition of the Authority Facilities and the proper maintaining, operating, and repairing of the Authority Facilities.

Clearly, both the resolution used to issue the expressway revenue bonds and the *Code of Virginia* require that the funds collected from the operation of the toll roads be used entirely for the expressway system.

The RMA's FY 2000 audit resulted in an unqualified opinion by the external auditor. An unqualified opinion means that the auditor has no reservation as to the fairness of presentation of a company's financial statements and their conformity with generally accepted accounting principles. The RMA's comprehensive annual financial reports reviewed since FY 1992 also contained unqualified opinions.

In addition, the FY 2000 audit report addressed compliance with the various debt covenants by issuing negative assurance reports. A negative assurance report is provided when the information is to be used by the investment banking industry and indicates that the auditor noted nothing of an adverse nature. The RMA provides copies of the audit reports to, among others, the participating local governments, the Commissioner of VDOT, the bondholders' trustee for due diligence purposes, and the Federal Highway Administration.

Approved Policies and Procedures for Selected RMA Financial Processes Are Necessary

As required by the study mandate, a review of RMA's processes for maintaining the integrity of the revenues and expenses for the various enterprises was conducted. This review indicates that the RMA financial department has a clear and ongoing process for accounting for expressway revenue and expenses to ensure compliance with the requirements of the *Code of Virginia* and the controlling bond resolutions. Their process clearly identifies the flow of funds and prohibits co-mingling of funds. For example, RMA has established a chart of accounts and separate checking accounts for each fund. In addition, all toll revenue is deposited in the toll facility vaults, then picked up and deposited by an armored car service. On a 24-hour basis the deposit receipts are reconciled with the number of vehicles that used the RMA's expressway system for that same period. RMA financial staff noted that there are always two staff involved in reconciling revenue deposits. In addition, the RMA internal auditor reported that cash count audits are completed at selected toll plazas on a monthly basis.

In terms of expenses, RMA's finance department sends invoices to the appropriate division director for approval and to identify which enterprise the charge is to be allocated against. Every invoice is then forwarded to the finance director for review and final approval for payment. After the check for the invoice is processed, the finance director again reviews the invoice prior to signing the check. Finally, all invoices are batch processed by each RMA enterprise, eliminating another potential source of allocating an invoice against the wrong enterprise.

In addition, RMA finance staff conduct monthly reviews of the RMA operating budget for each enterprise to compare actual expenditures against approved budgets. Copies also are provided to each division director and toll plaza manager for their review, with questions or concerns regarding specific budget items highlighted by finance staff. This provides another level of review to ensure revenues and expenses are applied appropriately.

However, at this time, the RMA has no formally approved policies and procedures for the processes that have been established. RMA staff reported that because they are a small organization, all of the processes have been essentially formalized and strictly followed. Moreover, because the RMA's finance director is involved directly in the entire process, RMA staff noted that this further ensures consistency and conformance.

Yet, given the clear need to comply with bond requirements for almost all of the various enterprises, written policies and procedures that formalize the RMA's financial management processes should be developed. RMA staff are in the process of developing draft policies and procedures to guide its financial transactions. When completed, the policies should be reviewed and approved by RMA's finance director and general manager, as well as by the board of directors or the board's finance or audit committee.

Recommendation (1). **The Richmond Metropolitan Authority should complete the process of developing written policies and procedures governing the authority's internal financial processes. The draft procedures should be provided to the authority's Board of Directors for review, comment, and subsequent approval.**

RMA's Internal Auditor's Activities Should Be Approved by the Board of Directors

In the early 1990's, RMA created an internal auditor position. This position reports directly to the board of directors through the board's audit committee. For administrative purposes, the internal audit position reports to the RMA's general manager.

As part of the JLARC staff review of financial policies and procedures, JLARC staff reviewed the internal auditor's role. RMA's internal auditor reported that she had access to all of RMA's financial reports and data. In addition, she noted that she has a great deal of independence to conduct her activities and that the board of directors enhances the position's independence and authority. Finally, the internal auditor reported that she communicates directly with the chairman of the board's audit committee.

The internal audit function is an important link in the effectiveness of the RMA's overall financial system. It enhances the board of directors' ability to meet its governance responsibilities as well as to provide management with recommendations for improving the financial management of the various enterprises. In that the role, the internal auditor conducts monthly audits of toll plaza cash management and periodic audits of all RMA enterprises.

However, based on interviews with RMA staff, the RMA board of directors is not actively involved in the development of the internal audit plan of work. RMA staff noted that the internal auditor's annual plan of work was basically developed "ad-hoc," based on input from the general manager, division directors, and other staff as necessary. The actual workplan for each individual audit is reviewed by the board's audit committee. When the audit is completed, the audit committee reviews the report and recommends that the entire board accept the report.

Ultimate responsibility for the internal audit function rests with the RMA board of directors, not the general manager or senior staff. Moreover, the individuals on the board of directors have a great deal of experience in government or private sector business that could be useful when reviewing an internal audit workplan. Board of directors involvement in the development of the internal audit work plan would ensure that the areas which, from the board's perspective, pose the greatest risk to the RMA or its enterprises are systematically addressed.

Recommendation (2). **The Richmond Metropolitan Authority's internal auditor's annual audit plan should be presented to the Board of Directors' audit committee for review, comment, and subsequent approval.**

Policies for RMA's Excess Balances Fund Are Needed

When the RMA issued revenue bonds in the early 1970s for the construction of the expressway system, no provisions were made at that time to establish an unrestricted operating and capital reserve fund. According to RMA staff, a reserve was not needed because the City of Richmond was obligated to provide financial support should toll revenues be insufficient to cover debt service costs. In addition, there was no revenue source available that could be used to establish this fund.

In the early 1990s, RMA staff reported that the city wanted to remove its obligation to provide direct financial support to the RMA expressway system. Therefore, as part of the 1992 bond issue, the RMA created the excess balances fund. This fund was established to provide the RMA's expressway system with a source of revenue to be used at the discretion of the authority.

The excess balances fund currently receives revenue from two sources – investment earnings from its own balances, and investment earnings from the debt service reserve fund. As of July 15, 2000, the balance in the excess balances fund was $5.5 million. After 2013, the 50 percent of the surplus currently allocated to the 1973 bond escrow account will be allocated to the excess balances fund as well.

Since the fund was established in 1992, the RMA has withdrawn funds on three occasions as part of the bond issues of 1996, 1999, and 2000. In 1996, $1.04 million was withdrawn from the excess balances fund to help fund the debt service reserve fund requirement in order to defease a total of $1.4 million of 1992 revenue bonds by July 15, 2001. As this amount is funded through normal debt service deposits, the total amount will be returned to the excess balances fund. As of June 2000, two payments totaling $303,000 have been made to the excess balance fund. The final payment of $1.06 million is scheduled to be made in June 2001. The additional $324,000 repaid to the excess balances fund represents interest earnings.

The other use of revenue from the excess balances fund was a $976,000 short-term deposit to the debt service reserve fund to maintain required coverages as part of the 1999 bond issue. The funds were returned to the excess balances fund within a matter of weeks. As part of the 2000 series bond issue, $864,000 was used to fund the debt service reserve fund requirements. All of the funds borrowed from the excess balances fund will be returned by July 2001.

Regarding the allowed uses of the excess balances fund, the 1992 resolution establishing the excess balances fund states that the funds are to be used for:

> (1) the optional redemption of Parity Bonds or Subordinated Bonds of any series; (2) the payment of interest with respect to Parity Bonds or Subordinated Bonds of any series; (3) the purchase of Parity Bonds or Subordinated Bonds of any Series at a prices not to exceed the principal amount thereof, the amount of premium, if any, which would be payable on the redemption date to the Holders thereof ... (4) the payment of all or part of the Costs of Construction of any Improvement Project; or (5) any other lawful purpose.

RMA staff have reported that "other lawful purpose" is applicable only within the context of the expressway system and other controlling aspects of the various bond indentures.

The uses of the excess balances fund revenue were in support of the expressway system and enabled the RMA to fully meet the objectives of the bond issues. In the future, the excess balances fund could represent a source of funds for early retirement of outstanding debt. However, RMA staff noted that they view the fund in part as a reserve fund to deal with unanticipated revenue reductions or expressway physical plant or infrastructure problems that could cause a violation of any number of bond covenants, thereby requiring an immediate toll increase. To provide this protection, there should be a level of funding in the excess balance fund that is always available for such contingencies. By FY 2006, the balance in the fund is projected to increase to more than $13 million.

While the fund was established almost eight years ago, there are no board approved policies regarding the minimum amount of revenue that should be maintained in the excess balances fund. Moreover, because there is some discretion in the bond documents regarding the purposes for which the funding should be used, board guidance on that issue is necessary as well. The revenue in the fund should be tightly controlled as it represents the primary source of funding that the RMA controls that can be used for unexpected contingencies or for early debt retirement.

The guidelines the RMA board of directors establish should be very clear and unambiguous, and require that board approval be obtained before any of the revenue in the excess balances fund is used. In addition, the amount of revenue that the RMA Board establishes as a minimum balance for the fund should be reevaluated once the impact on RMA toll revenues of the opening of State Route 288 is known. The objective should be to ensure sufficient revenues are available in the fund to meet unanticipated needs, but also to maximize the availability of revenue for early debt retirement.

Recommendation (3). **The Richmond Metropolitan Authority should develop, for approval by the authority's Board of Directors, policies and procedures governing the expressway system's excess balances fund. The policies and procedures should, at a minimum, address: (1) the minimum balance to be maintained in the fund, (2) that use of the fund is only for the benefit of the expressway system, (3) the specific purposes for which the fund can be used and when, and (4) that approval of the Board of Directors is necessary before any of the funds can be used.**

RMA Should Systematically Review Allocation of Administrative Costs to the Expressway System

A significant cost that the expressway system must absorb is the annual charge allocated for RMA's administrative costs. The administrative costs include the expressway's share of central administrative staff support, accounting and financial services, legal fees, rent, and director costs. Because the RMA operates four other separate facilities, the RMA's total annual administrative costs are allocated across each individual facility to capture the costs of providing services to those facilities.

RMA staff reported that the respective division director estimates the charges for administrative office staff during the yearly budget development process. The remaining non-personnel administrative expenses are allocated using the same proportion as determined for the overall administrative personnel expenses. This allocation is reported in the proposed budget approved annually by the RMA board of directors.

Because the administrative charges allocated to the expressway system account for about 20 percent of the system's annual operating costs, JLARC staff reviewed the allocations of the actual charges across RMA's enterprises for FY 1990 through FY 2000 (Table 8). As depicted in Table 8, the total proportion of the administrative charge allocated to the expressway system increased from a low of 76 percent in FY 1991 to 87 percent in FY 2000. The figures for the RMA expressway system also include any charges allocated to the expressway system's repair and contingency and project funds.

However, the allocations for the other enterprises, with only few exceptions, have steadily decreased since FY 1990. RMA staff reported that for facilities such as the Second Street Garage, the decline in administrative costs is linked to decreasing utilization of the facility. The decline in the Expressway Parking Deck's administrative charge is due to the fact the facility required less central administration time after most of the spaces had been leased. Higher administrative charges were assessed against the facility during its first few years of operation.

The growth in the service charge assessed to the expressway system is due to a number of factors. RMA staff noted that the expressway system would be responsible for the majority of the administrative costs because:

Table 8

Allocation Factors for RMA's Administrative Costs
FY 1990 – FY 2000

	Expressway System	Second Street Garage	Diamond	Carytown Decks	Expressway Parking Deck
FY 1990	79.10%	6.40%	8.40%	0.00%	6.20%
FY 1991	76.10%	5.80%	7.90%	2.10%	8.30%
FY 1992	76.80%	5.80%	7.80%	1.03%	8.70%
FY 1993	77.69%	4.88%	8.03%	1.09%	8.31%
FY 1994	80.70%	1.70%	8.30%	0.97%	8.40%
FY 1995	81.98%	1.62%	7.32%	1.01%	8.07%
FY 1996	84.90%	1.70%	7.20%	0.95%	5.30%
FY 1997	85.90%	1.71%	6.47%	0.96%	4.97%
FY 1998	86.11%	1.64%	6.50%	1.00%	4.77%
FY 1999	86.55%	1.51%	6.34%	1.06%	4.54%
FY 2000	87.26%	1.55%	5.78%	0.90%	4.51%

Notes: FY 1998, 1999, and 2000 expressway allocations include charges to the Repair and Contingency Fund.
FY 1991 expressway allocation includes charges to the 1990 Project Fund.
1992, 1997, and 1998 expressway allocations include charges to the 1992 Project Fund.

Source: JLARC staff analysis of RMA financial data.

...it has the most employees, the largest budget, the most revenue to account for, and most of the major project expenditures. The allocations are also project oriented. If a major construction project is underway, such as the Downtown Rehabilitation Project, then we will know that extra staff time will be required.

The RMA expressway system has been undergoing a significant capital improvement and maintenance program, has installed Smart Tag, and has issued revenue bonds to strategically refund higher cost debt. These activities likely have required more central administrative time and attention. In addition, the procurement, installation, and start-up of Smart Tag required substantial staff resources from the operations and finance division.

Yet, allocations to other enterprise facilities raise questions. For example, in 1997 the Diamond had substantial structural problems with the roof, requiring repairs that the RMA was responsible for planning and supervising. In addition, the RMA paved the Diamond's parking lot in 1999. Further, RMA's internal auditor conducted a special review of the records of the contractor who operated the RMA's parking lot at the Diamond during the months of September through October 1999. Yet, in those years the percentage of administrative staff time allocated to the Diamond generally decreased over the previous years' amounts.

Moreover, after 2003, the RMA's current maintenance and capital program will begin to moderate. Therefore, the need to allocate administrative staff time to the expressway system due to the current maintenance program should moderate as well. Finally, activities at other RMA facilities, such as the proposed renovation of the Diamond, will likely require substantial time for selected administrative staff.

As a result, RMA staff should periodically review the allocation of administrative time among the enterprises. To facilitate this review, RMA should consider the use of a timekeeping system for central administrative staff to maintain comprehensive records of time allocated to the various enterprises. The RMA internal auditor could incorporate monitoring the allocation of administrative charges to the various RMA enterprises as part of a periodic review with reports provided to RMA management and the board of directors.

Recommendation (4). **The Richmond Metropolitan Authority should conduct a review of the allocation of the administrative costs across all of the authority's enterprises and provide a report to the Board of Directors. The authority's Board of Directors should also consider requiring the board's internal auditor to periodically evaluate the allocation of administrative costs to the various enterprises.**

Powhite Parkway Extension Should Monitor Allocation of Administrative Costs After Opening of I-895

The agreement signed pursuant to the Pocahontas Parkway Association's Public Private Transportation Act proposal specifies that once built, the Pocahontas Parkway (I-895) transfers to the Virginia Department of Transportation. The road is currently scheduled to open in 2002, and VDOT will administer the Pocahontas Parkway's toll facilities through its Powhite Parkway Extension toll facility office. Through the operation of both toll roads, the extension will be able to distribute some of its administrative costs across both facilities.

Powhite Parkway Extension staff stated that they plan to allocate seven administrative positions between the two facilities. These positions are responsible for toll facility management, procurement, auditing, human resources, and maintenance and electronic supervision. The initial plan projects 50 percent allocation of staff time to each facility, although this may change for some positions depending on the final organizational structure of the Pocahontas Parkway facility. The combined salaries of the seven positions total approximately $235,000 for FY 2001. Thus, if the costs are assigned equally to each facility, the PPE could reduce its annual administrative staff costs by more than $115,000.

Once the Pocahontas Parkway opens, Powhite Parkway Extension staff should actively monitor the actual hours allocated between the two facilities. VDOT staff reported that they intend to do this and will likely use some type of timekeeping system similar to that used when staff worked both the I-95 toll facilities and the Powhite Parkway Extension. This should help ensure that the Powhite Parkway Extension does not subsidize the operation of the Pocahontas Parkway, maximizing available revenue to retire extension debt.

***Recommendation (5).* After the Pocahontas Parkway begins operation, Powhite Parkway Extension staff should monitor the allocation of administrative time between the Parkway and the Powhite Parkway Extension. In addition, the Powhite Parkway Extension should consider incorporating allocation of costs between the two facilities as an item for review by the Virginia Department of Transportation's internal auditor.**

OPTIONS FOR COST SAVINGS OR COST AVOIDANCE EXIST AT THE RMA AND THE POWHITE PARKWAY EXTENSION

Another avenue for maximizing the amount of toll revenues available for the retirement of debt is to generate cost savings or identify potential avenues for future cost avoidance. Within that context, this review examined areas in which potential savings or cost avoidance might be available. In terms of the RMA, the only areas over which substantial managerial discretion exists in the toll roads' operations is operating and administrative costs. Based on a review of the operating and administrative cost structure of the RMA, there may be a potential for some cost savings in these areas. Because the RMA expects future growth in toll revenues to be slow, strong emphasis should be placed on curtailing growth in operating and administrative costs.

The Powhite Parkway Extension has fewer options for controlling growth in its budget. One area JLARC staff identified is the State Police charges paid by the facility for the patrol of the extension. These charges have totaled $3.6 million since 1993, and account for more than 13 percent of the extension's annual budget. To facilitate quicker debt retirement on this facility, it might be possible to finance these services through different sources.

RMA Should Identify Opportunities to Moderate Growth in Expressway Operating Costs

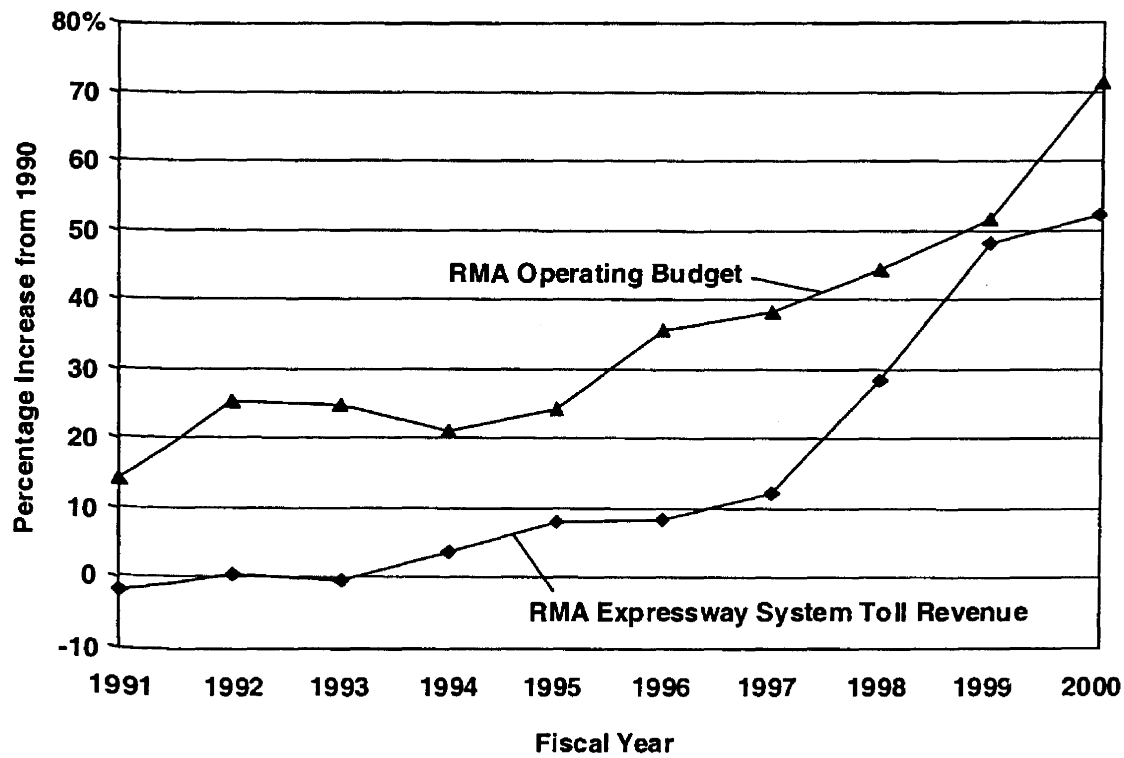
The growth in RMA expressway system operating costs was reviewed during the course of this study for a number of reasons. First, the RMA expressway system's operating budget requires a substantial portion of the expressway toll revenues. In FY 2000, 28 percent of the total toll revenues was used to fund operating expenses. Second, unlike debt service deposits (which are fixed) and repair and contingency fund deposits (which are determined largely by independent consultants), the RMA has some discretion over its operating expenditures. Finally, because the RMA develops detailed annual operating budgets, JLARC staff were able to use this data to examine operating cost trends.

From FY 1990 through FY 2000, the cumulative increase in the RMA's expressway system operating budget was 71 percent. In contrast, toll revenues increased 52 percent during the same period. As depicted in Figure 17, the growth in toll revenues approached the growth in operating costs in FY 1999 only because of a $0.15 toll increase implemented in 1998. The revenue and operating budget growth rates diverged again in FY 2000 when operating costs increased as a result of the implementation of Smart Tag at an annual cost of approximately $600,000. This will be an ongoing charge to the RMA's operating budget.

Furthermore, this disparity is projected to increase. The RMA's current revenue forecast predicts minimal growth in toll revenues over the next five years, largely because of the projected impact of the opening of Route 288. In contrast, operating costs are projected to increase 37 percent between FY 2000 and FY 2005. The express-

Figure 17

Growth in RMA Expressway System Revenues and Operating Budget from 1990



Source: JLARC staff analysis of RMA data.

way system, now more than 25 years old, is considered a "mature" toll road. As such, future revenue growth is expected to be moderate, even without the impact of Route 288. Combined, these trends severely limit the RMA's ability to generate additional revenue to use to retire debt.

To evaluate the increase in RMA's operating budget, JLARC staff compared the RMA's and the Powhite Parkway Extension's operating budgets from FY 1990 through FY 2000. In contrast to the growth rate of RMA's operating expenses, the Powhite Parkway Extension's operating budget increased much more slowly. While the RMA's expressway system operating budget increased 44 percent since fiscal year 1995, at the Powhite Parkway Extension that increase was only about ten percent.

RMA staff stated that the difference in operating costs between the VDOT and RMA toll facilities is the result of different management philosophies. According to its staff, the RMA has focused on providing a high level of customer service because they believe users have higher service expectations for toll roads. One step the RMA has taken to ensure consistently superior customer service is to shift to a larger percentage of full-time toll collection attendants, and reduce the use of part time toll collectors. This has likely resulted in increased personnel costs at the RMA.

Because the operating budget is one area over which the RMA has some discretion, and growth in operating costs has exceeded toll revenue growth, identifying opportunities to limit increases in operating costs should be undertaken by the RMA. The cumulative effect of reductions in future growth assumptions could be substantial.

For illustrative purposes, JLARC staff used the RMA's financial model to test the impact of varying rates of increase of the operating budget. This analysis indicated that reducing anticipated growth in the toll facility salary and benefit costs by one-half percent each year would result in a net reduction in operating costs of almost $6.3 million through fiscal year 2022. A reduction of expenses of this magnitude would be only a very small portion of the $224.5 million in operating expenses projected between FY 2002 and FY 2022. These savings then could be available for the surplus fund and applied to the City of Richmond subordinate debt interest and the 1973 bond escrow fund.

Recommendation (6). **The Richmond Metropolitan Authority should review its expressway system operating costs to identify areas – particularly personnel and administrative expenses – in which future cost savings could be achieved. Any identified savings should be dedicated to the surplus fund for payment as required to the 1973 revenue bond escrow fund and to the City of Richmond for subordinate debt interest.**

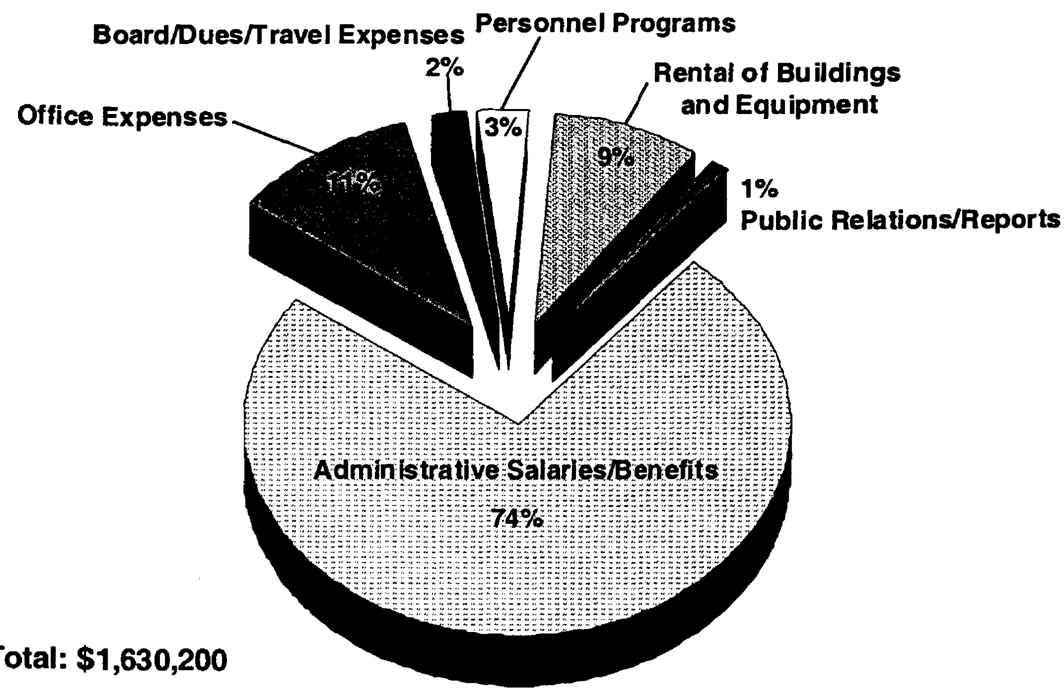
RMA Should Attempt to Limit Growth of Administrative Costs Charged to Expressway

The second largest component of the RMA's operating budget is the amount charged to the expressway system for administrative services provided by the RMA's central office. The portion of the RMA's administrative budget charged to the expressway system accounted for 21 percent of the expressway system operating budget in fiscal year 2000. Because of the impact of this charge on the expressway and the fact that the RMA has some control over its growth, JLARC staff reviewed this item to determine its impact on the expressway system.

RMA Expressway System Administrative Charge. The RMA's administrative budget totaled $1.6 million in fiscal year 2000. As indicated by Figure 18, 74 percent of the cost was allocated to administrative staff salaries and benefits. The other significant categories were rental of buildings and equipment, which made up nine percent of the budget, and office expenses, which accounted for 11 percent. Slightly more than $1.4 million, or 87 percent of the RMA's total administrative costs, was charged to the expressway system. This budget included central administrative staff

Figure 18

RMA Total Administrative Expenses FY 2000



Total: $1,630,200

Source: JLARC staff analysis of RMA budget data.

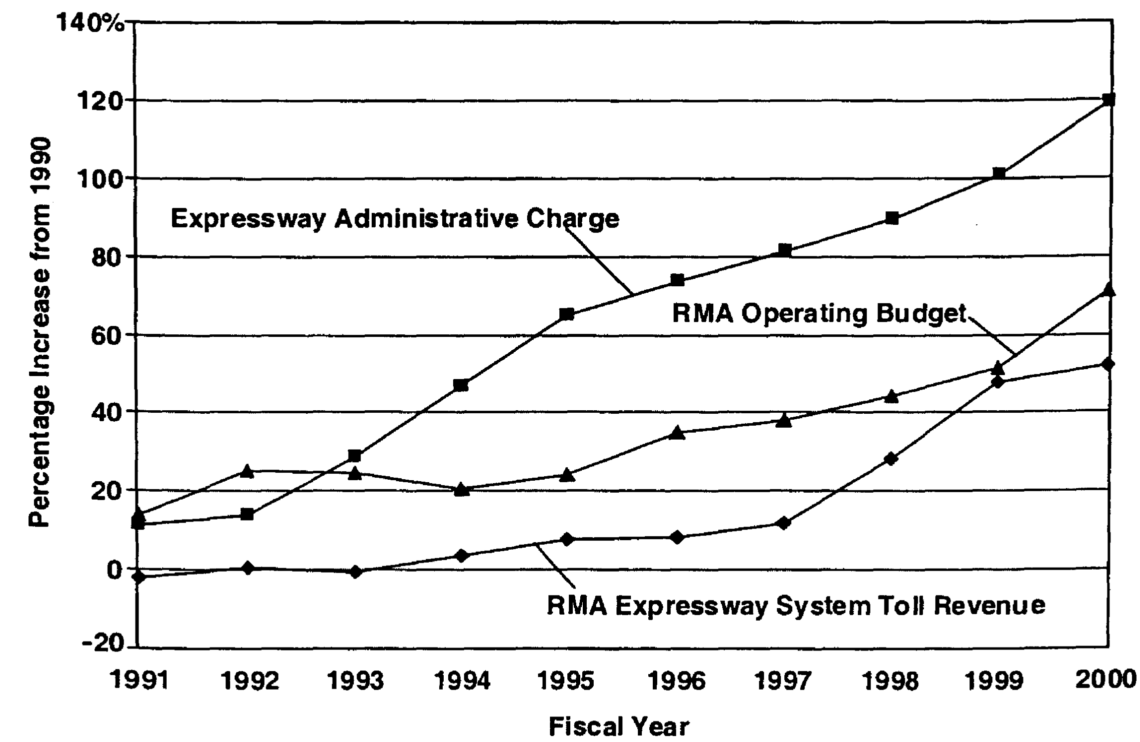
salaries and benefits, legal and consulting fees, rent, directors' costs and public relations. The remainder was charged to the RMA's other enterprises.

Growth in Expressway Administrative Charge Exceeds Toll Revenue Growth. The rate of growth in the RMA's administrative budget since FY 1990 has been greater even than the rate of growth in the expressway system's operating budget. In contrast to the 71 percent increase in the expressway operating costs, the administrative budget increased 120 percent. This rate of growth was also much greater than the growth of expressway system toll revenue for the FY 1990 through FY 2000 period (Figure 19).

Because the administrative salaries and benefits account for almost 75 percent of total administrative costs, growth of personnel costs were largely responsible for the increase in this portion of the budget. Since FY 1990 administrative salary costs have increased 126 percent, which likely was linked to salary increases and position reclassifications. For an organization with relatively few employees this is not entirely surprising. In addition to salary increases, one new full-time position has been added to the central office staff since FY 1990, bringing the total to 17, and one

Figure 19

Growth in RMA Expressway System Revenues, Operating Budget, and Administrative Charge from 1990



Source: JLARC staff analysis of RMA data.

part-time fiscal staff position and one part-time student intern have been added as well. However, in contrast, toll operations salary costs increased by a much lower percentage (63 percent compared to 126 percent for administration) during the same time period that the total number of toll facility employees increased from 93 to 105, and the number of full-time employees increased from 62 to 76.

As with the overall operating budget, administrative costs are an area over which the RMA holds some discretion. The RMA should review projected growth in this area and develop strategies to limit growth to generate surplus revenue that could be applied against outstanding debt. JLARC staff analysis using the RMA's financial model indicated that reducing anticipated growth in administrative personnel costs by only one-half percent would result in a net savings of over $2.8 million through fiscal year 2022. Although administrative costs were included in the analysis of the overall operating budget in the previous section, the high rate of growth in this particular area also merits attention by RMA staff.

Any reduction in the growth of administrative costs would provide funds that then could be available for the surplus fund and applied to the City of Richmond subordinate debt interest and the 1973 bond escrow fund. The RMA has limited ability to affect traffic growth, debt requirements, or maintenance costs. Although the amount of money that can be made available from reducing administrative and operating costs is far from sufficient to repay substantial amounts of outstanding debt, incremental changes could help the RMA repay its debt more quickly or more easily manage the expressway system within the constraints of its current revenue structure.

Recommendation (7). **The Richmond Metropolitan Authority should review administrative costs for areas in which future cost savings can be achieved. Any identified savings should be dedicated to the surplus fund for payment as required to the 1973 revenue bond escrow fund and to the City of Richmond for subordinate debt interest.**

State Police Charges for Patrolling the Powhite Parkway Extension Utilize Funds that Could Be Used for Debt Retirement

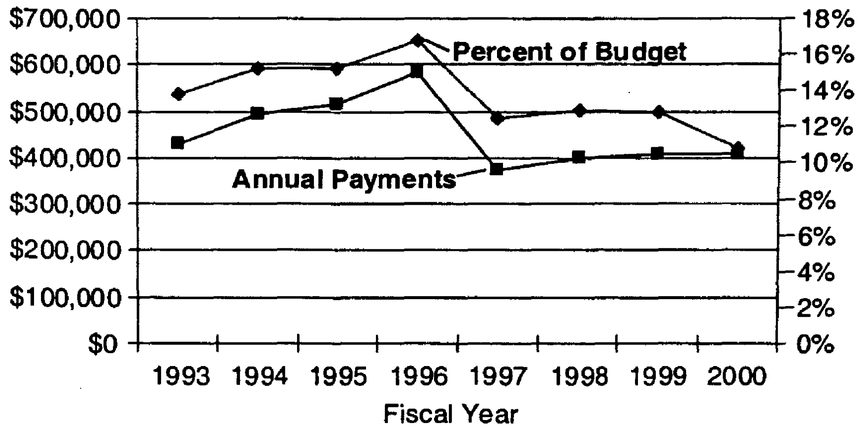
During the early 1990s, the General Assembly reduced the State General Fund appropriation to the Department of State Police and offset this reduction by requiring VDOT toll facilities to pay the State Police for services provided to the State's toll roads. According to State Police staff, this arrangement was the result of State budget shortfalls that occurred at that time. The arrangement was made in an effort to shift revenue into other areas while still being able to finance State Police highway patrol services.

Since FY 1993, the Powhite Parkway Extension has been charged about $3.6 million for law enforcement services provided by the State Police. These charges have averaged approximately $450,000 per year, accounting for 13.7 percent, on average, of the total annual operations and maintenance budget (Figure 20). In contrast, the City of Richmond provides police services to the RMA's toll facilities at no charge.

Toll revenues are intended to finance the construction and operation of toll facilities, and law enforcement services are a necessary operating expense on a toll road. Therefore, there is some justification for the financing of State Police services through toll revenues. However, if retiring the debt and removing the tolls on the

Figure 20

Budgeted Allocations for Payments to State Police by Powhite Parkway Extension, FY 1993 - FY 2000



Source: JLARC staff analysis of Virginia Department of Transportation budget data.

Powhite Parkway Extension is a goal of the Commonwealth, then there may be some merit in financing State Police services through other sources of funds. Given the current situation of annual budget deficits on the extension and the high proportion of operating costs being spent on State Police services, financing these services through other revenue sources may be in the interest of the Commonwealth.

Recommendation (8). **If repayment of debt in advance of the current schedule on the Powhite Parkway Extension is determined to be a priority, the General Assembly may wish to consider alternative sources of revenue to replace toll revenue currently used to fund State Police services on the extension.**

ISSUES AFFECTING BOTH THE RMA AND THE POWHITE PARKWAY EXTENSION

During this review, two issues that affect both the RMA and the Powhite Parkway Extension were identified. First, both facilities in the past had the opportunity to use federal funds for project-specific purposes, although both declined to accept the funding. However, opportunities to obtain federal funding should be identified and considered in order to free other funds for debt retirement. Moreover, use of the new toll collection system, Smart Tag, should be maximized by both the RMA and VDOT in order to increase the potential long-term benefits available through the use of this technology.

Federal Funding May Be Available for Use on the RMA's and VDOT's Toll Roads

In 1995, the Richmond Metropolitan Area Planning Organization (MPO) allocated a portion of its federal Congestion Mitigation and Air Quality (CMAQ) funds to VDOT and the RMA for the implementation of Smart Tag. The total allocation for FY 1995 and FY 1996 was about $1.7 million. However, both VDOT and the RMA subsequently rejected the use of federal funding, and the allocation was returned to the Richmond MPO to be used for other projects. Nonetheless, federal funds are another source of revenue that could be used to reduce the portion of revenues required for maintenance of and upgrades to the facilities, thereby accelerating the retirement of debt.

VDOT and RMA Rejected CMAQ Funds for Smart Tag Implementation in 1996. In April 1996, the RMA informed the Richmond MPO that the RMA would not be utilizing the $1.72 million of CMAQ funds allocated to the RMA and VDOT for the Smart Tag project. The decision to reject the federal funding was made at the recommendation of RMA staff, and was not voted on by the RMA Board of Directors. The board was presented with the RMA staff's decision before the funds were returned and board members interviewed for this study supported the decision. Two months later, VDOT indicated that it too would reject the allocation. VDOT and the RMA cited excessive federal oversight and reporting requirements as the reason for rejecting the funds. In its letter to the Richmond MPO, VDOT staff stated that because the RMA decided not to accept the federal funds, VDOT would have to reject them as well. VDOT's letter to the MPO stated that:

> Once the RMA decided not to accept the funds, VDOT had to consider how it would use the funds and be subject to these controls, while keeping the RMA from having to adhere to them. This would have precluded us from entering into a joint procurement because of the problems over adherence to federal requirements on our part and not theirs.

As this indicates, VDOT did not think it would be possible to use federal funds to finance its portion of a joint procurement without the RMA being party to an agreement with the Federal Highway Administration (FHWA) as well. During the course of this study, JLARC staff asked RMA staff about their concerns regarding the use of federal funds. RMA staff indicated that they considered the ongoing nature of federal oversight to be an insurmountable obstacle.

Current Requirements Governing Use of Federal Funds on Toll Facilities. If federal-aid funds are used for construction of or improvements to a toll facility, the first and foremost requirement is that a toll agreement must be executed prior to authorization of federal funds for any work. According to the FHWA program guidance and staff, the required elements of a toll agreement are few, and the limits imposed by the agreement are, in their opinion, minimal as well. First, an agreement must require that all toll revenues be used first for any of the following: debt service, reasonable return on private investment, and operation and maintenance. Federal guidance also allows for the establishment of reserve funds typically used by a toll authority in its financing structure. This would not pose any hardship as neither State law nor the RMA's existing bond covenants would allow for the use of revenues for any other activities either.

However, unlike pre-1991 federal law, current law states that tolls may be kept on facilities constructed or improved with federal funding as long as the entities agree that excess toll revenues will be used for transportation purposes. It was because of this element of the agreement that federal regulations continue beyond the life of the federal-aid grant. According to the FHWA, oversight would apply in perpetuity to ensure that revenues collected on federally-funded toll facilities were not used for non-transportation purposes. For example, if ownership of the RMA's expressway system roads reverted to the City of Richmond, the city also would be required to use revenues only for transportation purposes on the RMA expressway system or elsewhere in the city.

The guidance governing use of federal-aid highway funding on toll facilities addresses a number of the key aspects of a toll road's operations (Exhibit 2). It appears that some of the concerns about ongoing federal interference in the setting of toll rates and the timing might not be justified. In fact, three Virginia facilities – the Coleman Bridge, Route 168, and interstate 895 – operate or will operate under federal toll agreements already.

If the RMA used federal highway funds on its toll facilities, it would have to abide by the federal regulations followed by VDOT and local governments for all federal-aid projects. These are not minimal requirements. However, many of the more cumbersome requirements, such as undertaking environmental studies, would not be required for a project such as the implementation of Smart Tag because it does not include what FHWA considers capacity expansion.

RMA and VDOT Could Reconsider Use of Federal Funds for Future Improvements. The RMA would be eligible for federal funding under a number of

Exhibit 2

Selected Federal Highway Administration Guidance for Use of Federal Funds on Toll Facilities

Issue	Guidance/Requirement
Continuation of Tolls after Debt Repayment	The issue of whether tolls must be removed from a facility when debt is retired or whether tolls are to be continued indefinitely is a matter to be determined by the State.
Toll Rates	Decisions regarding the amount of tolls charged are made by the toll entity subject to requirements under State and local laws and regulations. This decision requires no review or input from the FHWA.
Recipient of Federal Funds	A state may request that the FHWA directly reimburse another public authority for the Federal share of a toll construction project undertaken on a facility under the jurisdiction of the other public authority.

Source: JLARC staff analysis of Federal Highway Administration, *Guidance on Section 313(a) of the NHS Act: Toll Facilities Under Section 129(a) of Title 23.*

different programs. The first source would be the Richmond MPO, which tried to provide these funds to the RMA and VDOT for Smart Tag. The MPO receives federal funds from two programs – CMAQ, discussed previously, and the Surface Transportation Program (STP). Unlike the CMAQ program, for which funds are to be used specifically for air quality improvement, the STP is a flexible program that can be used for almost any type of surface transportation project. Table 9 lists the Richmond MPO's federal-aid allocation for the next six years, during which $80.5 million is available.

Another potential source of federal funds is Virginia's apportionment of federal National Highway System/Interstate Maintenance funding (approximately $288 million in FY 2001). Both the RMA expressway system and the Powhite Parkway Extension are part of the National Highway System (NHS), the federally-designated system of interstates and key major arterial roads. As components of the NHS, projects on these roadways are eligible for federal funding. In addition, because of the breadth of the types of projects eligible under the program, these funds could be used for maintenance type construction, as well as for traffic flow improvements such as electronic toll collection infrastructure.

Abiding by federal regulations imposes additional administrative requirements. However, the RMA has limited opportunities to obtain additional sources of funding so that toll revenues can be used to pay additional outstanding debt. Therefore, the RMA should reconsider seeking federal funding for future improvements to its toll facilities

Table 9

Richmond MPO's Estimated Federal-Aid Apportionments, FY 2001 – FY 2006

	Congestion Mitigation and Air Quality	Surface Transportation Program	Total
FY 2001	$5,300,000	$8,600,000	$13,900,000
FY 2002	$4,300,000	$8,400,000	$12,700,000
FY 2003	$4,300,000	$8,700,000	$13,000,000
FY 2004	$4,400,000	$8,900,000	$13,300,000
FY 2005	$4,500,000	$9,200,000	$13,700,000
FY 2006	$4,500,000	$9,400,000	$13,900,000
Total	**$27,300,000**	**$53,200,000**	**$80,500,000**

Source: JLARC staff analysis of VDOT data.

and the electronic toll collection system. VDOT uses federal-aid funds on an ongoing basis and is accustomed to the accompanying requirements. VDOT should therefore, reconsider pursuing federal funds for any future improvements on the Powhite Parkway Extension to facilitate debt repayment and removal of tolls.

Recommendation (9). **The Richmond Metropolitan Authority and the Virginia Department of Transportation should identify and, when appropriate, apply for available federal funding for use on applicable projects on their respective expressway systems.**

RMA and VDOT Should Continue to Maximize Potential Benefits of Existing Electronic Toll Collection System

In July 1999, VDOT and the RMA opened an electronic toll collection system, Smart Tag, on the Powhite Parkway Extension and all components of the RMA's expressway system. Electronic toll collection provides a means to move traffic through toll facilities more quickly, possibly avoiding roadway expansion or the need for additional staff.

Based on the findings of the current review, there may be opportunities to cost effectively increase the benefits of Smart Tag on both facilities. First, the RMA and VDOT should continue to focus efforts on increasing the rate of Smart Tag usage. Substantial operating and capital cost reductions could be achieved in the long term. Moreover, the increased throughput achieved by the use of photo enforcement could allow both facilities to avoid some additional capital costs and allow for reduction in personnel or other operating costs.

RMA's and VDOT's Investment in Smart Tag Has Been Substantial. Although the benefits of Smart Tag in terms of operating and managing a toll road facility were substantial, the cost of the system was high. For the RMA, the cost of purchasing and installing the Smart Tag system was $6.3 million. This cost includes three years of maintenance and other improvements, such as signage and the cost of transponders, but does not include the cost of operating the system each year. Proceeds from the 1998 toll increase were used to fund the purchase and installation of the system.

The RMA's average annual operating costs for Smart Tag (including processing and transponders) are expected to be more than $800,000 for the next several years. In the case of the RMA, Smart Tag posed additional costs beyond the implementation and operation of the system because of the $0.05 discount provided to users of Smart Tag at its main toll plazas. The loss in revenue to the RMA due to this discount was almost $300,000 in FY 2000.

VDOT's initial costs for installing the Smart Tag equipment and software were slightly less than $7 million. This amount includes full maintenance for the first two years, and limited maintenance for two years thereafter. Annual operating costs for the Powhite Parkway Extension, which had fewer than 50 percent of the RMA's Smart Tag transactions, were about $550,000 in FY 2000 based on a ten-cent per transaction fee charged to the extension by VDOT. VDOT staff stated the per transaction fee is expected to decrease within a year as the number of statewide Smart Tag transactions increases.

VDOT and RMA Should Continue to Increase Smart Tag Usage Rates. As discussed in the previous section, the RMA and VDOT have made a substantial investment in installing and operating Smart Tag on their respective toll roads. Although the VDOT and RMA Smart Tag systems have cost more than the savings recovered to date, there is a potential for both operational and capital savings as the system matures. This is largely because of the ability to process more vehicles through the existing facilities. For example, RMA reported that current dedicated Smart Tag lanes can handle up to 1,000 vehicles per hour as compared to 500 vehicles an hour through exact change lanes and about 250 cars each hour through a full service lane.

In addition, RMA staff reported that expensive toll plaza modifications were avoided at the Downtown Expressway due to the implementation of Smart Tag. The potential for personnel-related operating cost reductions is clearly evident based on an analysis of pre- and post-Smart Tag implementation toll plaza staffing configurations. On the RMA expressway system, the number of full service (staffed) toll booths during morning and afternoon rush hour clearly decreased after the implementation of Smart Tag (Table 10).

As the data in Table 10 depict, VDOT's Powhite Parkway Extension has only one Smart Tag lane in each direction at its main plaza and has been unable to reduce the number of staffed or full service lanes. The difficulty faced by the extension is that the full service booths do not have coin machines, as do the RMA's. Therefore VDOT does not have the flexibility to convert these to exact change lanes. As a result, some

Table 10

RMA and Powhite Parkway Extension Toll Plaza Staffing Configurations Before and After Implementation of Smart Tag
FY 1999 – FY 2000

	Before Smart Tag		After Smart Tag		
Facility/Toll Plaza	Exact Change	Full Service	Exact Change	Full Service	Dedicated Smart Tag
RMA					
Powhite, a.m.	4	5	4	3	2
Powhite, p.m.	3	5	3	3	2
Downtown Expressway, a.m.	5	3	4	2	2
Downtown Expressway, p.m.	5	3	4	2	2
RMA Total:	**17**	**16**	**15**	**10**	**8**
Powhite Parkway Extension					
Main plaza, a.m.	2	3	1	3	1
Main plaza, p.m.	2	3	1	3	1
Powhite Parkway Extension Total:	**4**	**6**	**2**	**6**	**2**

Source: JLARC staff analysis of RMA and VDOT toll facility staffing data.

substantial modifications will likely be necessary at the Powhite Parkway Extension in order to dedicate additional Smart Tag lanes.

The RMA has more flexibility to shift lanes among types of collection and to handle traffic in either direction at its main toll plazas. Thus, it has been able to utilize Smart Tag more efficiently. Nonetheless, after only one year, both the RMA and the Powhite Parkway Extension have made substantial strides in implementing electronic toll collection at their facilities. As of June 2000, peak period Smart Tag usage rates were about 45 percent at the RMA and 50 percent on the Powhite Parkway Extension. Over a 24-hour period, usage rates are about 30 percent on the extension, and 26 percent on the RMA expressway system. Staff at both facilities have stated that Smart Tag use exceeded initial expectations. However, subsequent increases in the use of Smart Tag are not likely to exhibit the rate of growth experienced the first year of operation. RMA staff noted that they anticipate for FY 2001 "...that Smart Tag participation at both of our barrier plazas will continue to slowly increase."

The potential benefits of Smart Tag and the investment both organizations have made in the technology are substantial, yet neither facility has established quantifiable goals for usage rates. For example, as presented in RMA's FY 2001 budget presentation, the goal related to Smart Tag is to "[a]ssist in enhancing utilization of Electronic Toll Collection" and the accompanying objective is to "co-ordinate and review all installation discrepancies and pending items." Goals and objectives that broad are difficult to quantify, and it would be difficult to evaluate the extent to which the objective has been met. Powhite Parkway Extension staff noted that the initial goal for Smart Tag utilization on their facility was surpassed and that no new goal has been established. At the RMA's annual board of directors' retreat in November 2000, RMA staff reported that a substantial amount of time was spent discussing strategies for increasing Smart Tag usage at the RMA's facilities. Reflective of that, in Spring 2001 the RMA plans to undertake a new marketing campaign to increase Smart Tag participation.

To achieve the maximum benefits that Smart Tag technology offers, both the RMA and Powhite Parkway Extension should establish quantifiable goals and objectives for Smart Tag use by the public. Both facilities should periodically review the extent to which the goal has been met and determine what additional steps need to be taken to increase use of the Smart Tag system.

Recommendation (10). **The Richmond Metropolitan Authority and the Virginia Department of Transportation should establish a quantifiable target usage rate for Smart Tag on their respective toll roads. In addition, both facilities should consider establishing programs designed to achieve the established target usage rate.**

Photo Enforcement at RMA and VDOT Toll Plazas Could Enhance Benefits of Smart Tag. The numbers of vehicles processed through the Smart Tag only lanes is limited by the fact that the RMA and VDOT operate the dedicated lanes with tollgates. This requires drivers to slow down, and in some cases stop, to wait for the transaction to process and the tollgate to rise allowing passage. Optimally, gates would not be utilized, allowing Smart Tag equipped vehicles to pass at a moderate rate of speed. This would increase the throughput of these lanes even further, and possibly obviate the need for more costly lane additions. Staff at both the Powhite Parkway Extension and the RMA indicated that they currently can not operate the dedicated Smart Tag lanes with the gates up because of the risk of increased toll violations and subsequent loss of revenue.

Many toll facilities with electronic toll collection systems use photo enforcement to ensure that only vehicles with the required transponders travel through the dedicated lanes. Both the RMA and VDOT currently have authority to use photo enforcement. As well as questioning the costs associated with implementing such a system, staff at both organizations commented that it would not be cost-effective in the long term because the fines would not be returned to the facilities under existing law. Revenue from the fines would be necessary to make such a system cost effective for the toll roads. Currently, the *Code of Virginia* directs those penalties to the Literary Fund.

RMA staff have estimated that the direct cost of such a system could be at least $8,000 per lane. Administrative costs for both VDOT and the RMA to process these violations would be substantial as well. To provide VDOT and the RMA the capability of processing more vehicles through Smart Tag lanes at their existing plazas, consideration could be given to returning fines, administrative fees, and unpaid tolls collected pursuant to the use of photo-enforcement to VDOT and the RMA. This would ensure that VDOT and the RMA could recoup some of the substantial costs of purchasing and administering photo enforcement systems.

VDOT has developed proposed legislation for the 2001 General Assembly session to accomplish this as required by its comprehensive agreement for the Pocahontas Parkway. However, provisions should be included to ensure RMA can receive revenues attributable to toll-related violations on its expressway system.

Photo enforcement has the potential to process traffic more rapidly and efficiently through the existing plazas, thereby making use of the toll facilities a more attractive alternative to drivers using other local road systems. Moreover, it could enhance both the RMA's and VDOT's ability to moderate capital expenditure needs in the short term as well as possibly reduce personnel costs.

Recommendation (11). **The General Assembly may wish to consider amending §46.2-819.1 of the *Code of Virginia* to require that fines, fees, and unpaid tolls for non-payment of tolls be returned to the Virginia Department of Transportation and the Richmond Metropolitan Authority. Any revenue returned should be used to pay the costs of the photo enforcement system at each entity's toll plazas.**

IV: Early Retirement of Toll Road Debt

A key factor in a toll road's ability to operate toll free is the repayment of outstanding debt. As discussed in Chapter II, both the Richmond Metropolitan Authority's (RMA) expressway system and the Virginia Department of Transportation's (VDOT) Powhite Parkway Extension have a substantial amount of debt outstanding. For the RMA, the total debt outstanding at the close of FY 2000 was $202 million, and for the Powhite Parkway Extension the total was $114 million. At the present time, the RMA's senior revenue bond debt is scheduled to be retired on July 15, 2022, and the Powhite Parkway Extension's senior debt retirement is scheduled for July 1, 2011.

Both RMA and VDOT staff stated that they expect the senior bond debt to be retired on the current schedule. However, in addition to the senior debt, both facilities have substantial subordinate debt obligations. Revenue projections for both the RMA expressway system and VDOT's Powhite Parkway Extension indicate that revenues likely will be sufficient only to retire the senior debt at 2022 and 2011, respectively. There will likely be sufficient excess revenue to provide only marginal repayment of the subordinate debt. If early repayment of outstanding debt is to be achieved within the current administrative and operational structures of these toll facilities, other sources of revenue probably will be needed.

There are a number of options that could be used to provide additional funding to either or both facilities. For example, the RMA could apply State or local grants against outstanding debt. Alternatively, RMA funds currently allocated to maintenance activities could be applied to debt repayment if VDOT performed more of the maintenance activities than it currently does on the RMA expressway system. In addition, revenues could be increased at the facilities through increased toll charges. This could provide additional revenues for debt reduction. The RMA would collect approximately an additional $1 million in revenue on an annual basis with a $0.05 toll increase.

ACCELERATED RETIREMENT OF DEBT FROM TOLL ROADS' CURRENT REVENUE STREAM WILL BE DIFFICULT

At the present time, the RMA expects to achieve the current 2022 schedule for revenue bond retirement. Powhite Parkway Extension bond retirement is projected to occur in 2011. Yet, those dates do not reflect repayment of other subordinate debt that must be addressed after the senior revenue bond debt is retired. However, most of the toll revenue collected by the RMA has been and is projected to be used to pay operating expenses, maintenance, and senior debt service requirements with only marginal amounts left to apply to subordinate debt.

The lack of sufficient revenue to retire subordinate debt is even more acute with the Powhite Parkway Extension. The Powhite Parkway Extension consistently has lacked sufficient toll revenue to address both annual senior debt service requirements and operating expenses. As a result, expediting payment of outstanding debt is unlikely, at least as projected by VDOT, through FY 2006.

RMA and Powhite Parkway Extension Plan to Retire Senior Bond Debt According to Current Amortization Schedule

The current dates for retirement of the RMA expressway system and the Powhite Parkway Extension revenue bond debt are 2022 and 2011, respectively. Retiring RMA senior bond debt according to the current amortization schedules of 2022 has never been adopted as a goal of the authority. In fact, at the present time, RMA's mission statement does not reflect management's intent to retire debt by 2022 (Exhibit 3). The current mission statement is relatively unchanged from 1991, which is the year before the final maturity of bond debt was increased by nine years. The objective of senior debt retirement should be included and adopted by the RMA board of directors as a management objective of the expressway system.

Clearly, the goal of retiring debt by 2022 does not guarantee that circumstances will not arise that could affect that date. RMA's progress in meeting the senior debt retirement schedule should be reported annually in some forum other than the authority's comprehensive annual financial report. One option is that the RMA could dedicate a section of its more general annual report to discussing progress toward the debt retirement objective and any issues that affect this objective. The discussion of debt retirement should include historical data as well as projections regarding debt retirement relative to the 2022 goal.

Recommendation (12). **The Richmond Metropolitan Authority should formally adopt as part of its mission statement the retirement of debt accord-**

Exhibit 3

RMA's FY 2001 Mission Statement

Constituent	Objective
Patrons	We will provide safe, convenient, efficient facilities and excellent customer service while maintaining the lowest feasible costs.
Employees	We will promote a safe and pleasant work environment, provide an opportunity to advance according to their abilities and fairly compensate based on performance.
Bondholders	We will operate in a financially sound and prudent manner and meet all debt payments and other legally imposed requirements to insure the protection of their interests.

Source: Richmond Metropolitan Authority FY 2001 budget document.

ing to the current amortization schedule of 2022. The authority should report its progress in meeting this goal each year in its annual report.

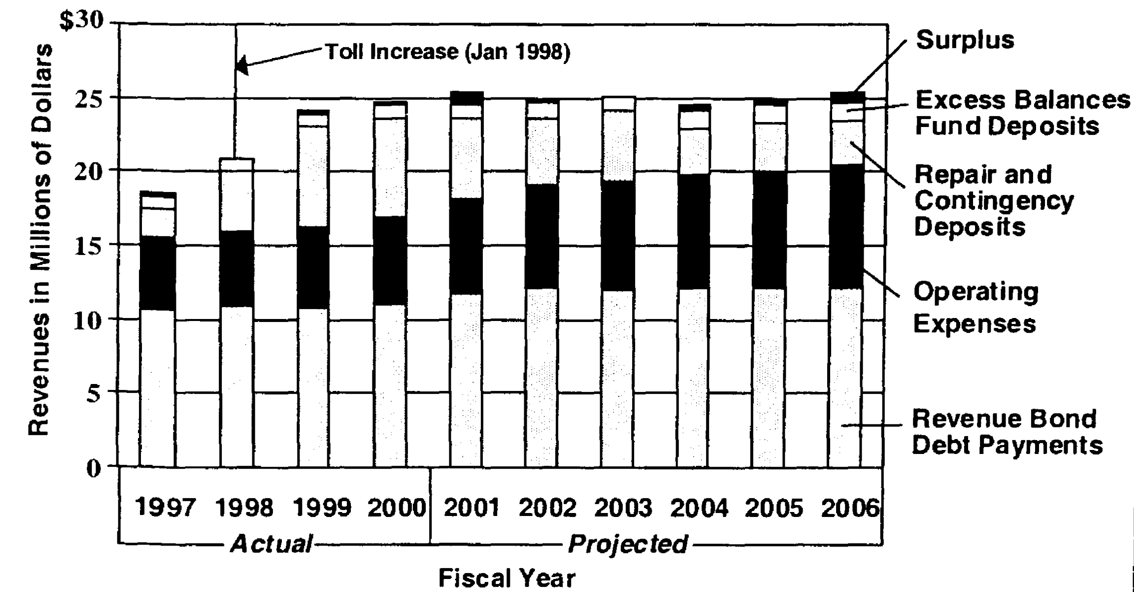
Majority of RMA's Toll Revenue Will Be Used for Debt Service and Operations

For the period from FY 1997 through FY 2000, revenues from the operation of the RMA's expressway system averaged about $22 million annually. For the period from FY 2001 through FY 2006, annual revenues are projected to average about $25.0 million. Reflective of the cost of operating and maintaining a limited access expressway, the vast majority of revenue for those years is allocated for debt service, maintenance, and operating expenses (Figure 21). The remainder of the revenues is allocated to the excess balances fund, with a small surplus remaining.

Figure 21 also illustrates the efforts the RMA has made to prepare for the anticipated 2003 opening of State Route 288 in Chesterfield County. Specifically, with the increased revenues from the 1998 toll increase, the RMA has been able to allocate increasing amounts of funding to the repair and contingency fund to complete extensive system rehabilitation projects and to purchase and install the Smart Tag system. Substantial allocations to the repair and contingency fund will continue through FY 2003 as the RMA is planning to complete more than $33 million of maintenance and construction projects from FY 2001 through FY 2007. The RMA plans to make as

Figure 21

Allocation of RMA's Expressway Revenues
FY 1997 - FY 2006



Source: JLARC staff analysis of RMA financial data.

many repairs as possible before 288 opens in case traffic, and subsequently revenue, declines more than anticipated.

The data in Figure 21 also highlight the fact that only $2.5 million is projected to be allocated to the surplus fund from FY 2001 through FY 2006. The surplus fund is a source of RMA expressway toll revenue that is available for early debt repayment. The surplus fund can receive revenue only after all of the other expressway accounts have been funded as required. As a result, prepayment of debt is very sensitive to changes in traffic volume, maintenance requirements, or operating expenses. And, as discussed in Chapter II, 50 percent of the surplus fund is allocated to the 1973 escrow fund and 50 percent is allocated to the interest on the subordinate debt owed to the City of Richmond.

RMA's Excess Balances Fund Represents a Potential Source of Revenue for Early Debt Retirement

The RMA's excess balances fund was created in 1992 as a source of reserve revenue for the expressway system. Staff view the funds as a source of revenues to bridge temporary revenue fluctuations, fund unexpected maintenance projects, or respond to unanticipated financial circumstances. For example, the revenue in the fund could be used to enable the RMA expressway system to maintain its required rate covenants, thus obviating the need for a toll increase.

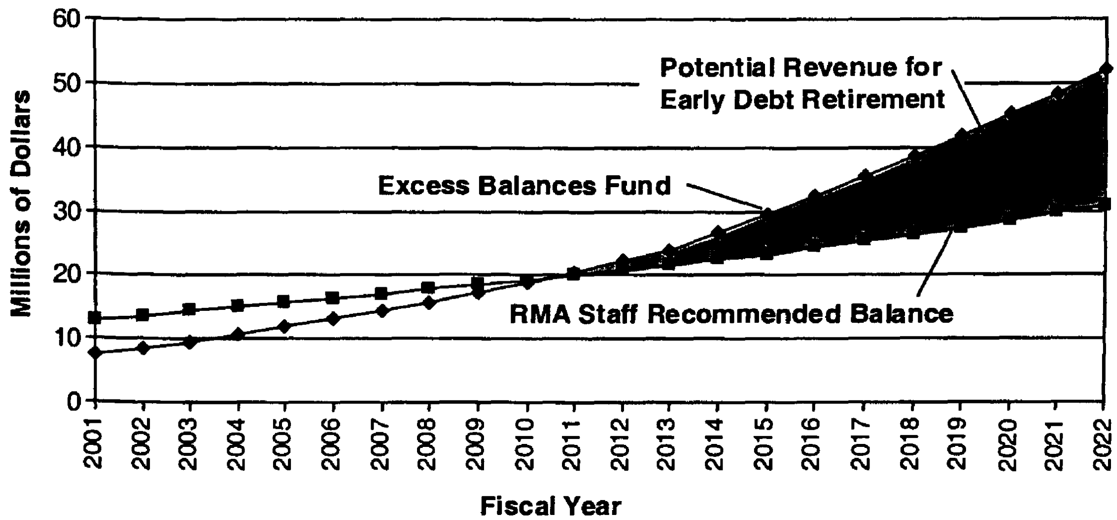
As discussed in Chapter III, the RMA board of directors has not yet adopted guidelines regarding the use of the fund. Staff have noted that they will recommend to the board that the minimum balance in the fund equal 200 percent of annual operating expenses. If that specific guideline were adopted, based on the RMA's most recent unofficial revenue and expense forecast, the revenue in the excess balances fund would begin to exceed 200 percent of annual operating expenses in FY 2011. In addition, the amount of revenue above the RMA's recommended minimum fund balance increases at a steady rate thereafter (Figure 22).

The impact of the projected growth in the excess balances fund is significant for debt retirement. Any money in the excess balances fund beyond 200 percent of operating expenses can be used to retire outstanding bond debt early. In addition, money in the debt service reserve fund can be used to retire the balance of bond debt. Using available revenue from the excess balances fund coupled with the debt service reserve fund, senior bond debt could be retired prior to the final July 15, 2022 scheduled payment.

There are any number of factors that could affect the balance in the excess balances fund. First, the RMA's projections cover more than 20 years through 2022. RMA staff have noted that they can reasonably rely on three to five years of revenue

Figure 22

Projected Excess Balances Fund Revenue Compared to RMA Recommended Minimum Fund Balance FY 2001- FY 2022



Source: JLARC staff analysis of RMA data.

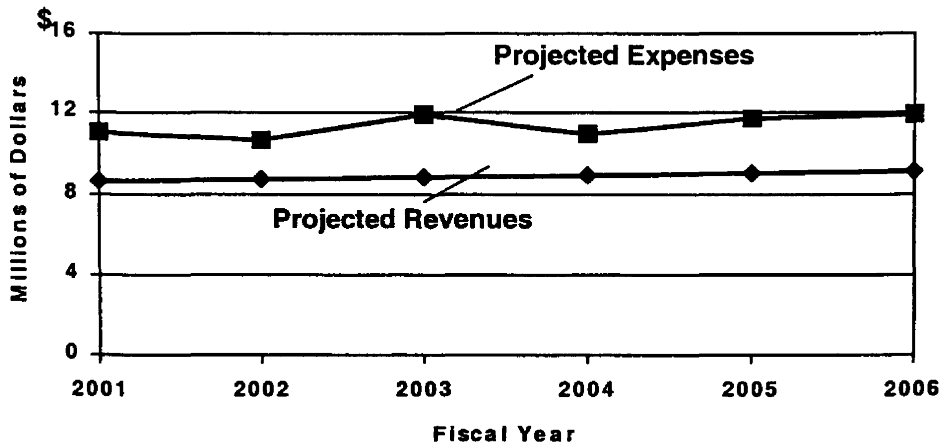
and expenditure projections. Beyond that, they noted that it is difficult to anticipate what will happen to expressway revenue and expenditures. Second, the projections provide funding for basic expressway system maintenance expenses of only $2 million or less. The likelihood that an aging expressway system with large bridges will only require basic maintenance through 2022 is highly unlikely.

Powhite Parkway Extension Toll Revenue Will Not Be Sufficient to Retire Debt Early

VDOT has projected revenues and expenses for the Powhite Parkway Extension through FY 2006. Revenue shortfalls are projected to continue through this time period, implying that the facility will need to be advanced revenue from the Toll Facilities Revolving Account in order to meet its debt service and operating expenses. Figure 23 shows the projected revenues and expenses for FY 2001 through FY 2006. VDOT will update the traffic and revenue projections in December 2000. Nonetheless, it is clear that the Powhite Parkway Extension will not have sufficient revenue available through FY 2006 to use for additional debt retirement.

Figure 23

Projected Annual Revenues and Expenses on Powhite Parkway Extension, FY 2001 - FY 2006



Source: VDOT, Powhite Parkway Extension Toll Road: Revenue and Traffic Analysis.

OPTIONS EXIST FOR PROVIDING ADDITIONAL REVENUE TO RETIRE OUTSTANDING DEBT

Several funding options exist that would enable the RMA to expedite the retirement of its outstanding debt. The three options examined in this report include: (1) the provision of maintenance responsibilities by VDOT, (2) a toll increase, and (3) the provision of State or local grants. For each option, estimates were generated for dates at which all outstanding senior debt could be retired given the amount of additional funding provided. These estimates are based on projected revenues developed by the RMA, and are contingent upon revenue and maintenance expenditure assumptions that become much less reliable beyond three to five years in the future. Nonetheless, the projections provide a basis for illustrating the impact of additional revenue on the retirement of RMA's senior debt. In addition to the issue of whether the toll facilities should be assisted in becoming debt free, consideration should also be given to the precedent that could be established for other toll facilities across the State.

Early Retirement of RMA Debt Is Contingent Upon a Number of Factors

In addition to the uncertainty of revenue and expense projections, the retirement of debt and subsequent removal of tolls is to some degree limited by the bond covenants that dictate the flow of funds for revenue received by the RMA. According to the 1992 bond covenant, 50 percent of annual surpluses generated from the RMA expressway system are applied to the escrow fund for the refunded series 1973 bonds, while the remaining 50 percent of annual surpluses are applied to repayment of debt owed to the City of Richmond. This covenant is in effect through July 2013, when all 1973 bonds will be legally retired. Any additional revenue the RMA receives prior to 2013 cannot be used to retire bonds issued after 1973. As a result, RMA reserves held in the operating, repair and contingency, parity reserve, and excess balances funds will be largely unaffected by net revenue increases prior to the legal retirement of the 1973 bonds.

Projections for the amount of money needed to retire all debt by a certain date are also highly contingent upon revenue assumptions. The amount of traffic on the expressway system in future years will determine the amount of revenue collected by the RMA. New road construction will likely affect the traffic volume on the expressway system. The completion of I-895 in 2002 and State Route 288 in 2003 will likely reduce the amount of revenue collected by the RMA, as some motorists will choose these alternate routes. Reflecting that, RMA's financial consultant projects a five percent decrease in revenue in FY 2004 based on the opening of these new roads.

Finally, the amount of revenue that will be required to maintain the facility through FY 2022 is largely unknown. Engineering consultants for the RMA determine the maintenance needs of the expressway as well as estimate the revenue required in the repair and contingency expenditures to complete the required repairs. These estimates determine the amount of money deposited annually by the RMA into the repair and contingency fund. According to RMA staff, deposits needed to maintain the facility and fund needed improvements are relatively certain through FY 2007. Beginning in FY 2008, projected deposits are based on the minimum needed to provide basic maintenance to the facility. The estimates for later years assume no major repair or reconstruction, and are projected to be either \$1.75 million or \$2 million each year for FY 2008 through FY 2022.

However, the average actual and projected repair and contingency deposits from FY 1998 through FY 2007 is approximately \$4.43 million. JLARC staff used this average to project repair and contingency deposits for FY 2008 through FY 2022. It is anticipated that this higher estimate is more realistic based on past expenditures and the age of the facility. The estimate of \$4.43 million annual repair and contingency deposits is used as a baseline in all options for determining the effects of the alternative proposals for early debt retirement.

RMA's Outstanding Debt Could Be Retired Early If the State Provided Expanded Maintenance Services on the RMA Expressway System

In addition to the maintenance activities funded by the RMA, VDOT currently provides ordinary maintenance on the RMA expressway system at no cost to the RMA. Ordinary maintenance encompasses recurring activities such as grass cutting, landscaping, snow removal, minor repair of items such as lighting and signs, and temporary repair of potholes. The activities currently undertaken by VDOT are governed by an agreement between the two entities, signed in 1972. In FY 2000, VDOT spent approximately $460,000 for ordinary maintenance on the Downtown Expressway and Powhite Parkway.

Yet the RMA's enabling legislation allows VDOT to provide more maintenance services for the expressway system. Specifically, §33-255.44:24 of the *Code of Virginia* empowers VDOT:

> To allocate to and for the construction, operation, or maintenance, of any highways constructed by the Authority and pay to the Authority such funds as may be or may become available to the State Highway Commission for such purpose.

If VDOT were to fund RMA's maintenance activities, the RMA would not have to make deposits into the repair and contingency fund for repairs that the independent consulting engineers have identified as necessary. For illustrative purposes, the effect of no repair and contingency deposits on the total ending fund balance (and therefore, potential debt retirement date) is shown in Figure 24. If VDOT funded all maintenance, debt could potentially be retired as early as July 2015 (Scenario A). For comparative purposes, if VDOT did not provide maintenance and if maintenance needs beyond FY 2007 were actually between $1.75 million and $2 million per year as included in the RMA's current projections, debt could be retired in FY 2017 (Scenario B). However, if JLARC staff's estimate of $4.43 million for future maintenance needs (based on recent years' trends) were correct and VDOT did not provide maintenance, debt could not be retired until July 2019 at the earliest (Scenario C).

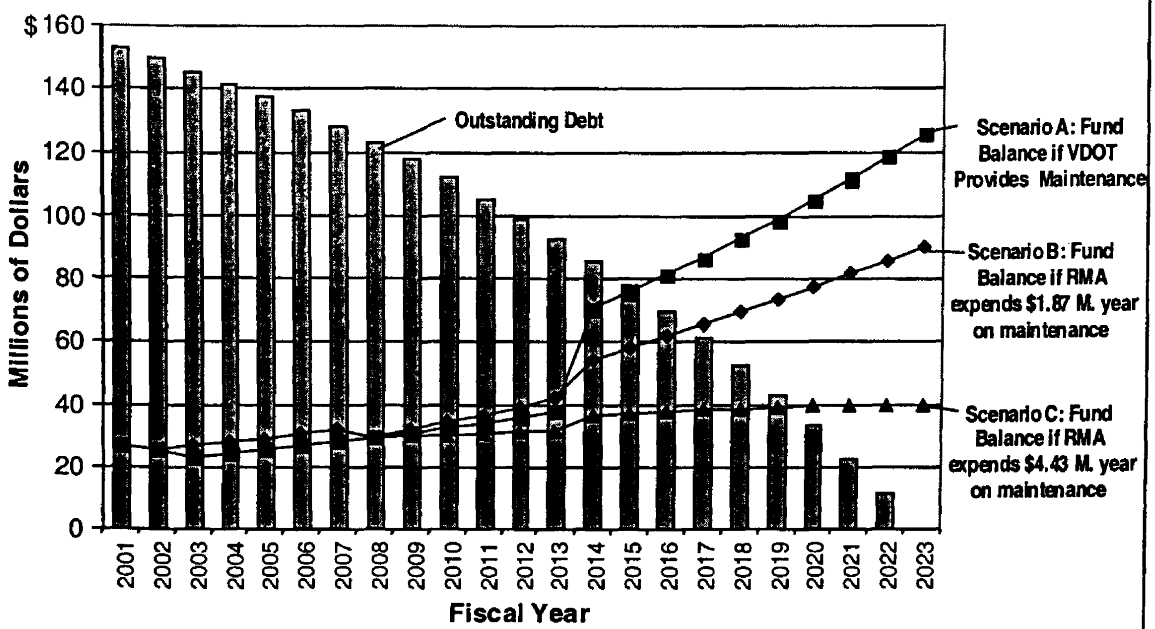
This option would also have an impact on the outstanding subordinate debt as well. As discussed, the revenue normally allocated to the repair and contingency fund would eventually be deposited into the surplus fund. Then, 50 percent would be allocated to the interest on the subordinate debt. As a result, the projected total outstanding subordinate debt could be reduced from as much as $76 million to about $32 million in 2022.

However, the impact of this proposal on VDOT's maintenance budget should be considered. According to VDOT's FY 2001 budget, statewide maintenance allocations, which are distributed at the district level, are about $820 million, plus an additional $225 million that is allocated to the localities for maintenance work on the roads they control. According to VDOT staff, maintenance funds are not allocated based on a formula. Instead, prior year allocations are used as the base, with subsequent adjustments to reflect any extraordinary needs.

According to VDOT maintenance division staff, if VDOT were required to maintain the RMA expressway system, the Richmond District's allocation would need to be adjusted to take into account the additional costs and responsibilities that would accompany these high-volume roadways. However, if the Richmond District's allocations were not adjusted, the entire district would be required to subsidize the added expense of maintaining the RMA's expressway system.

Figure 24

Early Debt Retirement under Different Maintenance Expenditure Scenarios



Scenario A based on VDOT assuming all maintenance costs. Scenarios B and C assume RMA continues to provide maintenance. Scenario B assumes $1.87 million annual maintenance expenditures based RMA estimate of no major reconstruction of the facility. Scenario C assumes $4.43 million annual expenditures based on historic trends.

Source: JLARC staff analysis of September 2000 RMA unofficial revenue and expense projections.

Toll Increase Could Provide Additional Revenue to Prepay Debt

The RMA historically has operated under the policy of keeping tolls as low as possible while meeting operating, repair and contingency, and debt service requirements. However, the most direct tool within the RMA's control to increase revenue for debt prepayment is the toll rate. Increasing the toll rate on the RMA expressway system would increase revenue for the facilities, enabling them to retire debt at an earlier date than currently projected. As a result, JLARC staff developed estimates of additional revenue that could be realized from a toll increase and the impact on early debt retirement on the RMA expressway system.

Revenue Estimates Are Limited by Dated Toll Sensitivity Curves. The toll sensitivity curves used for this analysis were developed in 1997, prior to the latest RMA toll increase in 1998. Therefore, these sensitivity curves may be less than ideal for projecting revenues from a higher baseline toll rate. In addition, other factors, such as the construction of new roads or changing commuter patterns, may have changed since this toll sensitivity analysis was last conducted in 1997. As a result, a new toll rate study would need to be conducted to more accurately predict future revenues from a toll increase.

In developing revenue estimates on the RMA expressway system resulting from a toll increase, JLARC staff applied the rate of return shown in the 1997 toll sensitivity analysis for toll increases beyond $0.50 on the Powhite Parkway and Downtown Expressway mainline plazas and beyond $0.25 on the Boulevard Bridge. The rate of return estimates were then applied to the projected revenues on the roadways for FY 2002. All subsequent estimates for percentage changes in toll revenues generated from the roadways were left unchanged. Thus, these estimates represent the expected results from a one-time increase in tolls effective July 2001.

Early Debt Retirement Dependent on the Amount of the Toll Increase. The amount of the toll increase will obviously have an effect on the amount of toll revenues generated by the RMA, and thus on the ability to retire debt at an earlier date. However, because more traffic volume will be lost with a greater increase in tolls compared to a more modest one, a $0.10 increase will not produce twice as much additional revenue as a $0.05 increase. Similarly, a $0.25 increase will not produce five times as much additional revenue as a $0.05 increase. In fact, it is possible for revenues to actually decrease if the toll rate is set too high.

Based on the toll sensitivity curves developed by the RMA's traffic and revenue consultants, as adapted by JLARC staff to account for the current toll rate structure and current projected revenues, revenue estimates were produced for $0.05, $0.10, and $0.25 increases on July 1, 2001. A $0.05 increase would generate slightly more than $1 million additional revenue in FY 2002; a $0.10 increase would generate slightly less than $2 million; and a $0.25 increase would generate approximately $3.6 million. Because traffic volume is projected to increase over time (with the exception of FY 2004), the expected additional revenue generated by a toll increase is greater over time. Table 11 shows the predicted increase in revenues for FY 2002 and the predicted average annual increase in revenues for FY 2002 through FY 2022.

Table 11

Estimated Additional Revenue Resulting from Alternative Toll Increases

Toll Increase	FY 2002 Revenue Increase	FY 2002 – FY 2022 Average Annual Increase
$0.05	$1,051,792	$1,170,501
$0.10	$1,968,376	$2,187,617
$0.25	$3,560,823	$3,957,840

Source: JLARC staff analysis of RMA revenue projections and toll sensitivity analysis.

Based on the additional revenue estimates, the effects of the alternative toll increases on early debt retirement were estimated (Figure 25). If the estimates are completely accurate, senior debt could be retired by July 2015 if a $0.25 increase were implemented in July 2001. A $0.10 increase would enable the RMA to retire its senior debt by July 2016. A $0.05 increase would enable the RMA to retire its senior debt by July 2017.

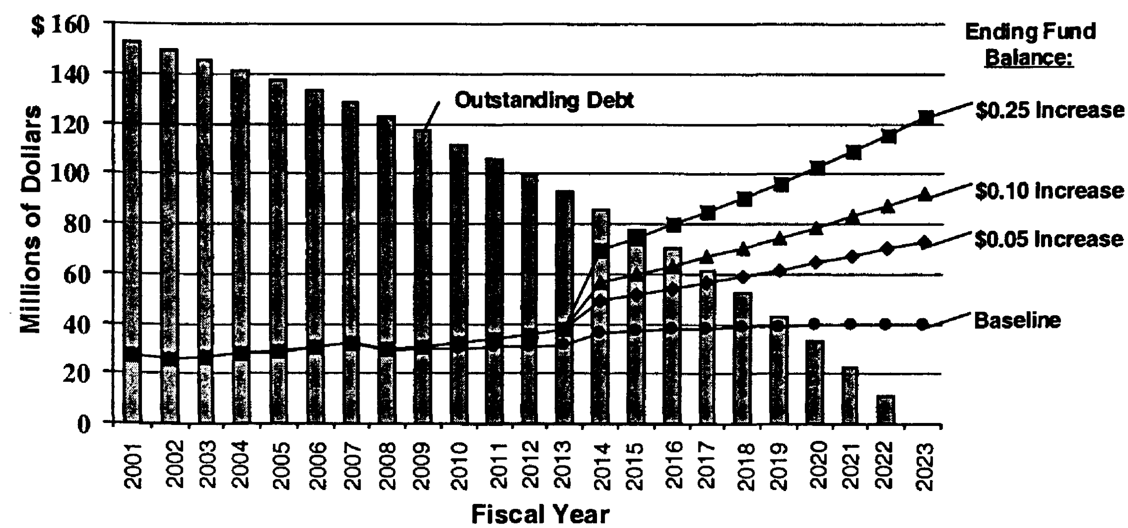
This option clearly shows the impact of RMA's required flow of funds. Although the scenario described above reflected a toll increase in July 2001, RMA's ending fund balances are not affected until FY 2014 after the 1973 bonds are legally defeased. At that point, the 50 percent of the surplus revenue applied to the 1973 bond escrow fund would be directed to the RMA's excess balances fund.

However, because of the flow of fund requirement, this option would also have an effect on the RMA's outstanding subordinate debt. Due to the increased revenue deposited into the surplus fund, the projected balance for the outstanding subordinate debt ranges from $73 million to $45 million by 2022. This is in contrast to the current projections of up to $76 million by 2022.

A Toll Increase Could Enable VDOT to Retire Debt on the Powhite Parkway Extension at an Earlier Date. The Commonwealth Transportation Board has not increased tolls on the Powhite Parkway Extension since the facility opened in 1988. Instead, the Board has decided to subsidize the extension through interest-free loans

Figure 25

Early Debt Retirement Possibilities Under Alternative Toll Increases



Source: JLARC staff analysis of September 2000 RMA unofficial revenue and expense projections.

from the Toll Facilities Revolving Account (TFRA) and other VDOT funds. However, the 1986 Memorandum of Understanding between the Treasury Board and the Commonwealth Transportation Board states the following:

> The Transportation Board shall adopt a schedule of tolls for the Toll Road which will be intended at all times to produce, without any State aid, net operating revenues sufficient to pay the interest on all Bonds and principal of the Bonds on or before they become due and payable....

The Powhite Parkway Extension has not produced net revenues sufficient to pay operating expenses and the principal of and interest on the bonds as they become due. While loans from the TFRA may not be considered State aid, a toll increase would enable the Powhite Parkway Extension to cover all debt service and operating expenses, reducing the need to rely on the TFRA. This would reduce the outstanding subordinate debt owed by the Powhite Parkway Extension, thereby enabling the facility to be debt free sooner than currently projected.

State or Local Grants Could Be Used to Retire Outstanding Debt on an Accelerated Basis

State or local grants could be used in conjunction with the RMA's ending fund balance to retire debt at an earlier date than currently projected. One advantage of this method for prepaying debt is that the money could be kept out of the RMA's revenue stream, and would therefore not be subject to the RMA's bond covenant. Specifically, the revenue would not have to be applied to the 1973 escrow fund and City of Richmond subordinate debt through 2013. Finally, the use of State or local grants provides an excellent opportunity to retire some of the subordinate debt issued by the RMA to the City of Richmond.

The Amount of State or Local Money Required to Remove Tolls Depends on the Debt Retirement Date Desired. If the State or the participating RMA localities wanted to retire debt earlier than currently projected, additional revenue will be necessary. Since the outstanding debt will decrease over time through RMA's annual debt service payments, the additional amount of money from State or local grants needed to retire the debt will decrease over time. In July 2001, outstanding senior debt will be approximately $149 million. The total ending fund balances held by the RMA will be approximately $26 million at that time. Thus, a grant from the State or localities would have to equal approximately $123 million in order to retire senior debt at that time, assuming no penalties or additional fees would be imposed.

While it is unrealistic to expect a one-time grant of $123 million, smaller grants deposited annually into an irrevocable escrow fund could help retire senior debt earlier than currently projected. An escrow type fund is used for illustrative purposes to ensure the grants will not enter the RMA's revenue stream and be subject to the flow of funds requirements. Assuming revenue in the escrow fund would earn compound annual interest of five percent, JLARC staff projected the annual amount needed to retire the debt by a given date. The amount needed to retire debt will decrease as the retirement date is extended. Table 12 shows the outstanding senior debt, RMA ending fund balance, and the annual grant needed to retire outstanding senior debt by July of each year from FY 2001 through FY 2019. These estimates assume level payments beginning on July 1, 2001, and assume repair and contingency expenditures of $4.43 million per year beginning in FY 2008.

Table 12

Estimated Annual State or Local Grant Required to Retire Senior RMA Debt by Given Date

Year	Outstanding Senior Debt on July 15	Ending Fund Balances on June 30	Additional Funds Needed	Annual Grant Required
2001	$149,525,000	$25,890,603	$123,634,397	$123,634,397
2002	$145,610,000	$26,844,574	$118,765,426	$57,934,354
2003	$141,725,000	$28,016,215	$113,708,785	$36,069,400
2004	$137,500,000	$28,616,577	$108,883,423	$25,262,243
2005	$132,985,000	$30,703,766	$102,281,234	$18,510,326
2006	$128,080,000	$32,017,702	$96,062,298	$14,122,836
2007	$122,905,000	$29,283,612	$93,621,388	$11,498,562
2008	$117,465,000	$29,753,219	$87,711,781	$9,185,337
2009	$111,735,000	$30,196,575	$81,538,425	$7,394,726
2010	$105,690,000	$30,653,934	$75,036,066	$5,965,711
2011	$99,330,000	$31,134,247	$68,195,753	$4,800,223
2012	$92,625,000	$31,615,525	$61,009,475	$3,832,945
2013	$85,475,000	$36,502,342	$48,972,658	$2,764,789
2014	$77,895,000	$37,093,863	$40,801,137	$2,081,836
2015	$69,895,000	$37,657,948	$32,237,052	$1,493,939
2016	$61,455,000	$38,184,015	$23,270,985	$983,662
2017	$52,545,000	$38,652,441	$13,892,559	$537,630
2018	$43,140,000	$39,047,810	$4,092,190	$145,462
2019	$33,215,000	$39,355,131	-$6,140,131	$0

Note: Repair and contingency expenditures were set at $4.43 million each year after FY 2007.

Source: JLARC staff analysis of RMA September 2000 revenue and expense projections.

As shown in Table 12, remaining senior debt could be retired in July 2013 (the original retirement date of the 1973 bonds) if the State or localities deposited $2.8 million into some type of escrow fund each year from FY 2001 through FY 2013. If no State or local grants are provided, debt could possibly be retired in July 2019, as the RMA is projected to have sufficient reserves to retire remaining senior debt by that time.

Grants Provide Opportunity to Retire RMA Subordinate Debt and Expedite Debt-Free Expressway System. As reported earlier in this section, the RMA's current debt retirement plan is to complete repayment of senior revenue bond debt by at least July 15, 2022. While meeting that obligation will be a substantial accomplishment, additional outstanding debt will remain. Specifically, as of June 2000, $47.6 million in subordinate debt owed to the City of Richmond was outstanding. If no payments are made on this debt, it will increase to approximately $76 million by 2022. Only after July 15, 2022 will the RMA be able to address subordinate debt with all available expressway revenue.

This outstanding debt is the result of the operating deficits the RMA expressway system experienced through FY 1990. When these deficits occurred, the City of Richmond had to provide a subsidy to enable the RMA to meet its operating and debt service expenses. To account for the subsidy, the RMA issued the City of Richmond 50-year subordinate notes each time a subsidy was required (Table 13). The interest on the subordinate notes is simple interest, not compound, and is assessed annually.

Because the debt is subordinate to RMA's senior bond debt, there is no formal payment or amortization schedule established. In addition, as discussed earlier, the bond indentures only allow 50 percent of any surplus funds to be applied against the outstanding subordinate debt interest. Since FY 1993, only $923,000 has been paid from the expressway system's surplus fund to apply to the outstanding subordinate debt interest. However, because interest of about $1.3 million is assessed annually, the total payments made by the RMA since FY 1993 have not matched even one year of total subordinate debt interest.

There are some clear benefits to using revenue from outside of the RMA expressway system's revenue stream to address subordinate debt instead of bond debt. First, the funding could possibly be used to retire specific subordinate notes that have substantially higher interest rates than the rates on the RMA's revenue bonds. For example, the subordinate note issued in July 1982 for $375,000 has an annual interest rate of 11.72 percent. If the principal and interest on this note could be retired, annual interest payments of almost $44,000 could be avoided. If the subordinate note issued in July 1982 were repaid in full by June 2001, the total value of the outstanding subordinate debt would decrease from $76 million to $73.9 million by 2022.

In addition, addressing subordinate debt directly would be more straightforward as there would be limited need to have the RMA involved, thereby avoiding the need to ensure compliance with the numerous bond covenants. The requirements imposed on the RMA regarding the use of funds are prohibitively strict, and providing the

Table 13

RMA Outstanding Subordinate Debt Held by City of Richmond
FY 1976 – FY 2000

Date Note Issued	Interest Rate	Principal	Annual Interest	Total Interest	Total Outstanding June 30, 2000
July 1975	6.25%	$1,720,300	$107,519	$1,149,947	$3,060,667
July 1976	5.82%	$1,933,759	$112,545	$2,697,683	$4,631,442
January 1977	5.04%	$4,780,000	$240,912	$5,651,201	$10,431,201
July 1977	5.04%	$817,534	$41,204	$946,444	$1,763,978
July 1978	5.04%	$1,849,996	$93,240	$2,048,466	$3,898,462
July 1979	5.04%	$2,844,358	$143,356	$3,006,148	$5,850,506
July 1980	6.67%	$1,965,000	$131,066	$2,616,283	$4,581,283
February 1982	6.67%	$1,103,600	$73,610	$1,353,015	$2,456,615
July 1982	11.72%	$375,000	$43,950	$789,414	$1,164,414
July 1983	7.43%	$276,230	$20,524	$348,287	$624,516
January 1984	8.18%	$276,229	$22,596	$372,176	$648,405
July 1987	6.08%	$2,362,277	$143,626	$1,863,602	$4,225,879
July 1988	7.12%	$1,164,535	$82,915	$993,161	$2,157,696
July 1989	7.37%	$1,190,940	$87,772	$962,369	$2,153,309
July 1991	6.78%	$112,264	$7,612	$68,441	$180,705
Total:		**$22,772,022**	**$1,352,445**	**$24,866,637**	**$47,638,659**

Source: Richmond Metropolitan Authority.

RMA with any outside revenue would risk having the funds treated as toll revenue, thereby entering the expressway system's flow of funds.

Precedent for Other Toll Facilities Also Should Be Considered

Defeasing debt and removing tolls from the RMA expressway system has numerous legal, financial and organizational implications for the RMA. In addition to the impact on the RMA and its enterprises, there is another issue to consider before using outside sources to retire debt on either the expressway system or VDOT's Powhite Parkway Extension. In both instances, revenue bonds were issued to finance the construction of the facilities, with the agreement that toll revenues would be used to retire the obligations. In return, the public received a roadway sooner than it could have been built using existing transportation revenues.

There are substantial policy implications associated with the potential use of State or other revenues for the repayment of revenue-backed bonds. Such an action could set a precedent for the use of State funds on other toll facilities across the Commonwealth. If prepayment of the bonded debt on either the RMA expressway system or VDOT's Powhite Parkway Extension were accomplished through the use of State funds, other localities with toll facilities could make similar requests. At a time when a number of new toll roads are being constructed, including interstate 895 and Route 168, such a precedent could result in legitimate requests for the diversion of State general funds or transportation funds to facilities constructed with revenue bonds.

In the case of the Powhite Parkway Extension, there is an additional concern relating to the constitutionality of retiring so-called "9(c)" debt with sources other than facility revenues. Section 9 of Article X of the *Constitution of Virginia* contains three separate provisions for the issuance of general obligation debt backed by the full faith and credit of the Commonwealth. Section 9(c) debt, which was used to finance the Powhite Parkway Extension, allows the General Assembly to authorize the creation of general obligation debt for revenue producing capital projects. If the Commonwealth were to direct State tax revenues to retire debt on a project financed with 9(c) bonds, it could be viewed as circumventing the constitutional guidelines for the issuance of 9(b) debt. According to staff at the Department of Treasury, this possibly could result in the debt being ruled unconstitutional.

CONCLUSION

Retirement of senior bond debt on the RMA expressway system and VDOT's Powhite Parkway Extension is anticipated to be accomplished by 2022 and 2011 respectively. Management of both facilities should continue to focus on achieving those bond retirement dates. However, despite the expected retirement of senior bond debt, both facilities will not be able to make substantial progress in reducing the outstanding subordinate debt each facility is responsible for, impacting their ability to become debt free.

To expedite the retirement of all outstanding debt, a number of options were presented for illustrative purposes. Each option has benefits and drawbacks. Some options will retire the debt sooner than other options, but these options will require additional revenue. Options that increase RMA revenue or decrease RMA expenses will have very little effect on retirement of senior debt prior to 2013, while options that provide funds outside of the RMA revenue stream could enable the RMA to remove tolls prior to 2013. It should be noted that while a toll increase or the provision of maintenance by VDOT would not affect senior debt retirement prior to 2013, they would have a significant impact on the retirement of subordinate debt owed to the City of Richmond.

Finally, the relative merits of each option need to be addressed. Each option takes revenue from a different source, and each option can raise questions about the equity or appropriateness of that action. Beyond the basic questions of when tolls can be removed or if they should be removed with the assistance of outside sources, consideration of who should pay for the roads when deciding on a course of action should be included. Table 14 illustrates the effects of each option, the estimated early retirement date of senior debt, and the source of additional funding.

Table 14

Summary of Illustrative Early Debt Retirement Options for the RMA Expressway System

Option	Additional Annual Revenue/Savings	Estimated Early Retirement Date	Source of Additional Funds
VDOT Provide All Maintenance	$4.4 million	July 2015	All Commonwealth motorists
Toll Increase: $0.05 $0.10 $0.25	 $1.2 million $2.2 million $4.0 million	 July 2017 July 2016 July 2015	Users of RMA expressway system
State or Local Grants	Varies	Varies	All State residents or all local residents

Source: JLARC staff analysis.

V: Removal of Tolls from the RMA Expressway System and VDOT's Powhite Parkway Extension

Even if funds became available for the early repayment of both the senior and subordinated debt of the Richmond Metropolitan Authority (RMA) expressway system and the Virginia Department of Transportation's (VDOT) Powhite Parkway Extension, there would be a number of additional issues that would have to be addressed prior to the removal of tolls. First, retirement of debt on the RMA expressway system does not ensure the removal of tolls. The ownership of the expressway will transfer to the City of Richmond upon retirement of senior debt. The city has stated that it will be necessary to continue to levy tolls, as allowed, on the RMA expressway in order to provide the necessary maintenance on the facility.

This chapter presents a number of options for ensuring the removal of tolls. These options range from having the City of Richmond maintain ownership but not allow it to retain tolls on the facility to having the State assume ownership of the facility. While each of these options may ensure the removal of tolls, there are a number of advantages and disadvantages to each. Moreover, there are a number of other issues that should be considered while evaluating the eventual disposition of the expressway system. These issues include the impact on the RMA's other enterprises, legal encumbrances included in the bond documents, and the role of the expressway system in the Richmond metropolitan region's transportation network.

REMOVAL OF TOLLS NOT SOLELY LINKED TO RETIREMENT OF OUTSTANDING DEBT

Payment of outstanding debt is a critical first step toward the toll free operation of the RMA expressway system and VDOT's Powhite Parkway Extension. However, it is only a first step and does not guarantee removal of tolls. As reported earlier, both the RMA and VDOT facilities will have a sizeable amount of subordinate debt remaining after the senior debt is defeased. In addition, the costs of maintaining the facilities are likely to increase, not decrease, over time.

In particular, components of the RMA expressway system will be 50 years old by FY 2023, longer than the expected life of the pavement. The City of Richmond, to which the expressway system reverts after the RMA senior debt is repaid, has stated it will not be able to maintain the facilities without tolls. Further, VDOT is allowed by law to continue collecting tolls on the Powhite Parkway Extension to finance the operations and maintenance of that facility. By 2011, when senior bond debt is retired on the extension, its annual maintenance costs are likely to be substantial as well.

Code of Virginia Provides that Ownership of the RMA Expressway System Will Revert to the City of Richmond

The *Code of Virginia* states that if the RMA has received financial support from the City of Richmond, ownership of the facilities will be transferred to the city when all bonds have been repaid or financially defeased. Specifically, §33-255.44:27 (a) states:

> In the event the City of Richmond shall have rendered financial assistance or contributed in any manner to the cost of construction of a limited access highway or highways by the Authority...then when all such bonds, including any refunding bonds, and the interest thereon have been paid or a sufficient amount of cash or United States Government securities have been deposited or dedicated to the payment of all such bonds...all property, real and personal, acquired in connection with such limited access highway or highways within the City of Richmond, shall be transferred by the Authority to said City as compensation to said City for the financial assistance rendered by said City to the Authority...

As detailed in Chapter II, Richmond provided considerable financial support to the RMA through FY 1990. Thus, ownership of the RMA expressway system would transfer to the city when the senior debt is retired, currently scheduled for 2022.

City of Richmond Authorized by *Code of Virginia* to Retain Tolls on Expressway

Although ownership of the RMA expressway system would revert to the City of Richmond after senior debt is retired, the city is not required to remove tolls when the expressway system reverts. The city is empowered to collect tolls on the facilities to reimburse Richmond for its contributions, for the operation, maintenance and improvement of the expressways, or for any other projects that connect with the State or federal highway systems. Specifically, §33-255.44:27 (a) of the *Code of Virginia* states:

> ...the City of Richmond shall have the power to fix and revise from time to time and charge and collect tolls for transit over such limited access highway...provided, however, the proceeds from such tolls and compensation shall be used first to reimburse the City of Richmond and the Counties of Henrico and Chesterfield for any funds or expenditures made by each of them...for which reimbursement has not been theretofore made, and then for the operation, maintenance, improvement, expansion or extension of such limited access highway and to increase its utility and benefits, and for the construction, reconstruction, maintenance and operation of other projects or highways connected with such limited access highway or with the state or federal highway systems...

Given the magnitude of resources required to maintain a heavily utilized expressway, the authority granted to the City of Richmond to levy tolls likely was in part to fund the required maintenance. In addition, it may also recognize that the expressway is linked with a number of major State highway systems and that prompt and proactive maintenance should be a priority. It may also recognize the financial contributions provided by the city to the development and operation of the expressway as well as acknowledge the fact the road is located entirely within city limits. Finally, it may also acknowledge that roads linked with the expressway system are also impacted by the operation of the facilities.

As noted in Chapters II and IV, when the RMA expressway system senior debt is retired, subordinate debt owed to the City of Richmond could total as much as $76 million. The City of Richmond has stated that it will not remove the tolls until this debt is repaid, and further indicated that without an alternative funding source it also will be unable to maintain the expressway system without toll revenue.

City Will Likely Require Toll Revenue to Maintain the Expressway System

The costs associated with maintaining an urban expressway system are substantial. Although the City of Richmond does receive an annual allocation from VDOT to help maintain its urban street system, this amount is too small to cover current expenditures, much less the added costs of maintaining the RMA expressway system. According to VDOT reports, in both FY 1998 and FY 1999 Richmond's annual expenditures for street maintenance vastly exceeded its street maintenance allocation from VDOT (Table 15). Over the two years, Richmond spent $28 million, or 95 percent, more on maintenance of city streets than it received for such purposes from VDOT.

The city's urban street payments would increase if the RMA expressway system became part of the city's street system. However, the increase under the current reimbursement formula would not be sufficient to cover the substantial cost of maintaining the expressway system. Maintenance payments to cities are based on two per-

Table 15

Annual Street Maintenance Allocation and Expenditures for the City of Richmond, FY 1998 and FY 1999

Fiscal Year	Annual State Maintenance Allocation	Maintenance Expenditures	Difference
1998	$14,621,578	$32,465,902	($17,844,324)
1999	$14,974,547	$25,222,981	($10,248,434)
Total:	**$29,596,125**	**$57,688,883**	**($28,092,758)**

Source: *Accounting of Expenditures and Certification of Street Payment Funds Annual Report*, VDOT Form U-3, 1998 and 1999.

lane mile rates – one for local and collector roads, the other for minor and principal arterial roads.

Although the per lane-mile rate is higher for arterial roads than for local streets, that rate was established primarily for major city streets, not for limited access highways. A limited access expressway system is likely to be more costly to maintain than the extension of a primary road through a city. For example, the extension of Route 1 (Brook Road) through the City of Richmond, likely is less expensive to maintain than the RMA expressway system with 32 bridges, including the large Powhite Parkway bridge over the James River.

The RMA has never determined the number of lane miles on the expressway system. To estimate the additional payments the city would receive for the RMA expressway system, JLARC staff developed a projection based on the assumption that the system averages seven lanes in width. Based on this estimate, Richmond's annual street payments from VDOT would increase by approximately $500,000 if the RMA expressway system were transferred to the city. In contrast, the RMA spent an average of over $4 million per year to maintain the expressways from FY 1990 through FY 2000. Both City of Richmond staff and RMA board members representing the City of Richmond indicated that the city would not be able to absorb additional costs of this magnitude. Toll revenue would provide the funding necessary to provide this level of maintenance and capital improvements.

One additional factor that could increase the costs of maintaining the expressway system and make removing the tolls less likely is the age of the roadways. When senior debt is retired in 2022, the Powhite Parkway will be about 50 years old, and the Downtown Expressway will be over 45 years old. This exceeds the maximum projected lifespan of the freeway's concrete base. It would be unlikely that it would be possible to continue operating the expressway system without substantial reconstruction or restoration of both roadways. Based on VDOT's planning estimates for roadways of this size, the costs for such an undertaking would be in excess of $20 million, excluding the associated bridges.

Status of Tolls on the Powhite Parkway Extension Also Will Need to Be Determined

Like the RMA, VDOT will retain obligations of considerable subordinate debt after the senior debt on the Powhite Parkway Extension is retired in 2011. The facility has borrowed funds from the Toll Facilities Revolving Account, the Transportation Trust Fund, and Chesterfield County. Based on existing obligations and VDOT's projected annual shortfalls at the facility, as much as $80 million in subordinate debt could be outstanding in 2011.

The *Code of Virginia* does not require that tolls be removed from the Powhite Parkway Extension when the senior debt is retired. The language controlling toll use on the Powhite Parkway Extension is similar to the law governing the City of Richmond's ability to retain tolls on the RMA expressway system. Section 33.1-287 of the *Code of Virginia* states:

> When the particular revenue bonds issued for any project or projects and the interest therein has been paid, or a sufficient amount has been provided for their repayment and continues to be held for that purpose, the Board shall cease to charge tolls...however, the Board may thereafter charge tolls for the use of any such project when tolls are required for maintaining, repairing, operating, improving, and reconstructing such project...

Thus, VDOT can keep tolls on the Powhite Parkway Extension both to collect revenues to repay the subordinate debt, and to pay for long-term upkeep and maintenance of the facility. VDOT staff stated that tolls would be retained at least until enough revenues were generated to fully repay the subordinate debt, which could be by 2018. According to the VDOT Commissioner, after the subordinate debt is paid, plans for use of tolls on the Powhite Parkway Extension would be a policy decision for the Governor and the General Assembly.

To date, maintenance needs on the Powhite Parkway Extension have been relatively insignificant when compared to the maintenance work that the RMA expressway system has required. This is in large part because it is a newer facility. However, by the time the senior and subordinate debt for the Powhite Parkway Extension is repaid, VDOT staff reported that they expect maintenance needs to be more extensive and costly. Although VDOT has a much larger maintenance budget than does the City of Richmond, VDOT may not choose or be able to absorb the costs in that budget. If the General Assembly wishes to ensure that tolls are removed as soon as the debt is repaid, it could amend the *Code of Virginia* to require the removal of tolls at that time.

Recommendation (13). **The General Assembly may wish to consider amending §33.1-287 of the *Code of Virginia* to require the removal of tolls on the Powhite Parkway Extension after the retirement of all outstanding senior and subordinate debt.**

OPTIONS ARE AVAILABLE FOR ENSURING REMOVAL OF TOLLS ON THE RMA EXPRESSWAY SYSTEM

The removal of tolls on the RMA expressway will not be assured by the retirement of the senior bond debt on the facility. As currently structured, tolls will be required to repay the subordinate debt owed by the RMA to the City of Richmond. Even after the subordinate debt is fully repaid, the maintenance and operating costs of the facility will likely require tolls, as allowed by the *Code of Virginia*, even though ownership will have transferred to the City of Richmond.

There are a number of policy options available that would accomplish the objective of removing the tolls on the RMA expressway system. The options are:

1. Eliminate the city's authority to impose tolls and provide sufficient resources to recognize the road's extraordinary maintenance costs.

2. Transfer ownership of expressway system to the State after all outstanding debt is retired.

3. Transfer ownership of the facility to the State prior to debt retirement.

The options presented are intended to reflect a number of different perspectives. The first option is intended to reflect the ownership rights of the City of Richmond, while the third option reflects the role of the expressway system in the Richmond region transportation network as well as the steep costs of maintaining a road of this type.

Option I: Eliminate City's Authority to Retain Tolls and Provide Sufficient Resources to Recognize Expressway's Extraordinary Maintenance Costs

One mechanism available for ensuring the removal of tolls on the RMA expressway system is to eliminate the City of Richmond's authority to levy tolls once all subordinate debt owed to the city by the expressway system is repaid. While such an approach would still leave ownership of the road system with the City of Richmond, it would also place the city in the difficult position of having to maintain a major limited access expressway within the existing urban allocation payments from the State.

As discussed in the previous section of this chapter, RMA has devoted substantial resources to a maintenance and capital improvement program for the expressway system in recent years. This should ensure that the expressway system's infrastructure remains in relatively good condition for the foreseeable future. However, by the time the senior bond debt and subordinate debt is repaid, the expressway system will be more than 50 years old. The Boulevard Bridge will be more than 100 years old at that point.

Therefore, if the City of Richmond were not authorized to continue to levy tolls on the current RMA expressway system, some mechanism for providing the city with the necessary resources to maintain the road system in a condition warranted for a heavily traveled, urban expressway system would be necessary. The resources could be additional State urban street maintenance funds, or having the State assume all maintenance responsibilities for the expressway system.

One clear benefit of this option is that the tolls would be removed at some point in the future pending repayment of outstanding debt. In addition, parts of the system, such as the Boulevard Bridge, could be separated from the expressway system if a decision were made that this was desirable. For example, the City of Richmond could decide that retaining ownership of the Boulevard Bridge is desirable, due to the location of the facility between two large city neighborhoods.

However, there are potential disadvantages as well. For example, even if the city were provided with additional revenue to maintain the system, it may not be sufficient to address the expensive capital improvement projects that the road might require. For example, the expense of conducting a major rehabilitation of the James River Bridge would likely exceed any additional annual financial support provided to the city to maintain the entire expressway system. As a result, even with additional financial support, the city may not be able to maintain the expressway system to the level required of a high speed, limited access highway.

Option II: Transfer Ownership of Expressway System to State After All Outstanding Debt Is Retired

Ensuring the removal of tolls on the RMA expressway system could also be accomplished by transferring ownership of the road from the RMA to the State after all outstanding debt is retired, instead of to the City of Richmond as will occur under existing law. This would enable the road to become part of the State's highway network and require VDOT to maintain the facility. Tolls would not be necessary at that point as all outstanding bond and subordinate debt would be retired and VDOT would provide maintenance out of its maintenance allocation.

Again, one benefit of this option is that the tolls would be removed once debt is retired. At this time, the issue of ensuring that the rights of bondholders were protected would be moot and the bond covenant restrictions on the use of funds would no longer be applicable. Third, the issue of availability of resources to provide maintenance would largely be avoided. Not transferring ownership until all debt is repaid would provide sufficient time to plan and budget for the additional cost to the State. In addition, if the expressway system were transferred to the State only after all debt was repaid, the State's debt capacity would not be impacted. Finally, State ownership also would provide some flexibility in determining the designation of the current RMA expressway as part of either the interstate or primary system of roads.

However, there are some potential disadvantages to this option that should be considered as well. First, transferring ownership to the State could set a precedent for other local or private toll road systems to request that the State assume ownership of its facility. Transferring the expressway system to the State also would impose a burden on the State's transportation funds.

The RMA expressway system was constructed with the understanding that the road would be maintained with toll revenues. If ownership were transferred to the State, the revenue for maintenance would have to be provided for at the State level, potentially impacting other localities' or road systems' maintenance needs. Finally, if it were determined that ownership would transfer to the State upon debt retirement, additional State representation on the RMA board should be considered to ensure the State's interest in the facility is recognized.

Option III: Transfer Ownership of Facility to State Prior to Debt Retirement

Another option involving State-ownership of the facility is available for ensuring the removal of tolls. In contrast to the previous option that involved transfer to the State after the retirement of debt, ownership could be transferred to the State at any time prior to debt retirement. Although this could facilitate the removal of tolls, there are a number of issues that would need to be addressed.

First, transfer of ownership prior to senior debt retirement would mean all bond covenants, contracts, and other legal requirement imposed on the RMA would be assumed by the State. Given the number of RMA revenue bond debt instruments outstanding, this could be a cumbersome legal process. Second, the impact on the Commonwealth's debt capacity would need to be considered. Finally, the impact on VDOT of operating and maintaining the facility would need to be addressed.

Transferring Ownership of the RMA Expressway Facility. The RMA was established by the General Assembly in 1966 as a local political subdivision. As such, the rights and powers granted to the RMA through its enabling legislation have been conferred by the General Assembly. Reflecting this, Article XIII of the RMA resolution authorizing the initial issue of revenue bonds for construction of the expressway system addresses the transfer of the RMA expressway system's obligations. Specifically:

> Nothing in the resolution shall be construed as preventing the Authority from entering into contracts with other public corporate entities, or preventing the General Assembly by appropriate legislation, from transferring to another public corporate entity, the powers, duties and obligations delegated to and assumed by the Authority under the Enabling Act and this Resolution ...

While it is clear that the General Assembly could take action to effectively transfer the responsibilities of the RMA to another entity, the responsibility for the numerous contracts, bond issues, and covenants would be transferred as well. For example, the RMA's bond resolution notes that:

> ...such legislation shall provide that the provisions and covenants of this Resolution, and the provisions of the Constitution of the Commonwealth of Virginia and the Enabling Act, and the liens, pledges, charges, covenants and agreements therein made or provided for, including the appointment and qualification of depositories, trustees, engineers, auditors and the fixing of tolls and other charges for the use of the Project, the collection, deposit and application of the moneys, income, receipts and profits pertaining to the Project, the

> maintenance of all of the special Funds and Accounts created as herein provided, and the continued operation and maintenance of the Project, and all other covenants, terms and conditions therein contained for the benefit, security and payment of the Bonds and the interest thereon authorized and issued pursuant to the Enabling Act and this Resolution shall inure to and be binding upon such successor public corporate entity, and shall be enforceable against them, to the same extent and in the same manner as such obligations are binding upon and enforceable against the Authority.

While the responsibility for the expressway system can be transferred, the many covenants and requirements that the RMA has had to adhere to would be transferred as well unless the outstanding senior debt were completely retired. This would include the rate covenants, the requirements for maintenance, and the flow of funds. In addition, the contracts that the RMA has entered into would likely have to continue in effect as well. These requirements are in place to protect the bondholders and care would need to be taken to ensure compliance. If transferring ownership of the RMA were pursued prior to debt retirement, these issues would need to be systematically reviewed.

Potential Impact on State's Debt Capacity Would Need to Be Considered. If the RMA expressway system were transferred to the State prior to the repayment of senior debt, the State's debt capacity would also be impacted. At the present time, the RMA's senior and subordinate debt total slightly more than $200 million. The RMA expressway system debt does not currently represent a debt or a moral obligation of the Commonwealth. However, if ownership of the RMA expressway system were transferred to the State without prepayment of debt, the debt could impact the State's debt capacity. While it is not clear exactly what the impact might be, Department of Treasury staff reported that transferring ownership of the RMA to the State may have an impact on the State's debt capacity. As of December 1999, the State's debt capacity was about $670 million.

Impact on VDOT. If ownership of the expressway system were transferred to the State, it would become part of the primary road system maintained and operated by VDOT. If ownership were transferred prior to the removal of tolls, VDOT would have to provide the personnel to operate the toll facilities. According to staff at VDOT's Richmond District and the Powhite Parkway Extension, the number of additional employees required, even excluding toll collectors, would be substantial. Because VDOT's Powhite Parkway Extension staff already will be taking on the added responsibility of operating Route 895 when it opens in 2002, staff do not believe they can manage a third facility as well without increases in the number of administrative employees. Based on preliminary estimates developed by VDOT staff, VDOT could require almost as many employees as the RMA currently dedicates to the expressway system.

If VDOT operated the expressway system in the same manner and according to the same policies as it operates its existing toll roads, maintenance of the expressway system would continue to be financed with toll revenues. Currently, a VDOT toll road finances its own maintenance if toll revenues are sufficient. If not, as is the case with the Powhite Parkway Extension, VDOT funds the maintenance work through loans, which are expected to be repaid when revenues do become available. Thus, transfer of the RMA expressway system to the State would not automatically result in VDOT funding maintenance activities on these facilities.

Advantages and Disadvantages. There potentially could be a number of advantages to transferring ownership of the RMA expressway system to the State prior to the repayment of debt. First, because the Powhite Parkway Extension connects directly to the Powhite Parkway and subsequently to the Downtown Expressway, these roads could become a single connected system. Having one combined system possibly could allow for future consolidation of toll plazas and improved throughput on the roadways. Second, if the State owned the expressway system, it is more likely that federal funds could be used to pay for improvements to the facilities. The RMA has expressed its opposition to the use of federal funds on these roads. Although VDOT has not used federal funding on the Powhite Parkway Extension, VDOT does not have the same opposition to federal involvement, as indicated by its wide usage of federal-aid highway funding each year.

In addition, there is a potential to reduce growth in operating and administrative costs if the State were to operate the expressway system. Although VDOT staff have indicated that they would need a similar number of employees as the RMA currently has, the Powhite Parkway Extension has been able to restrain growth in its operating costs more effectively than has the RMA. However, it is not likely that the difference would be considerable.

There also are disadvantages to transferring ownership prior to the retirement of debt. First, the costs of the transfer itself could be substantial. VDOT staff noted that there would likely need to be standardization of toll machines and Smart Tag information management systems between the RMA expressway and the Powhite Parkway Extension. In addition, police services would require additional funding. If VDOT were to operate the RMA expressway system, it is likely that the facility would have to pay State Police to patrol these roadways. Currently, the City of Richmond provides patrols for the expressway system at no charge to the RMA. The cost of State Police services on the Powhite Parkway Extension exceeds $400,000 annually, and likely would erase savings from consolidating other areas of operations.

Plan for Toll Free Operation of the RMA and Powhite Parkway Extension

The mandate for this study directs JLARC to consider methods, resources, and a schedule to allow toll-free operation of the RMA and Powhite Extension facilities. This report has identified several alternative approaches to ensure that the RMA and Powhite Parkway Extension facilities operate as toll free highways at some point in the future. Currently, both facilities appear to have specific plans for the retirement of senior debt, which will be the first step toward toll-free operation. Both facilities also have subordinate debt, however, and that debt will likely be an obstacle to removal of the tolls. Moreover, since ownership of the RMA expressway system will transfer to the City of Richmond, which will need additional revenue to operate and maintain the facility, removal of the tolls under the current situation may be difficult.

If the General Assembly wishes to ensure that the facilities will operate toll free, it can address the current obstacles to toll-free operation by taking the following steps:

1. Amend the *Code of Virginia* to transfer ownership of the Downtown Expressway and the Powhite Parkway to the Virginia Department of Transportation upon retirement of all senior debt;

2. Amend the *Code of Virginia* to prohibit the RMA and VDOT from issuing any additional debt which extends the date for retirement of senior debt for the facilities (which could require an increase in tolls at some point in the future);

3. Direct the Commonwealth Transportation Board to identify sources of funding to retire the subordinate debt to the City of Richmond and the Toll Facilities Revolving Account concurrent with retirement of all senior debt, and submit to the General Assembly prior to the 2002 Session a plan for retirement of all subordinate debt;

4. Create, by Appropriation Act language, a task force with members from RMA, VDOT, Department of Treasury, and the Office of the Attorney General to examine and resolve the legal matters necessary to transfer ownership of the Downtown Expressway and the Powhite Parkway to VDOT and to retire subordinate debt on the facilities without adversely affecting the retirement of senior debt; and

5. Once it is determined that ownership of the toll roads will transfer to VDOT, amend the *Code of Virginia* to increase State-appointed representatives on the RMA Board of Directors to ensure that the State's interests in the expressway system are protected.

If the General Assembly wishes to ensure toll-free operation of the facilities prior to the current planned date for retirement of the RMA's senior debt, it should designate, by an appropriation from the Transportation Trust Fund or general funds, an amount needed to remove the tolls by the desired date. As discussed in Chapter IV, Table 16 illustrates the schedule of annual payments necessary to retire RMA senior debt by the corresponding date if the RMA fund balances increase at the rate forecasted in the most recent revenue and expenditure projection.

Table 16

Estimated Annual State or Local Grant Required to Retire Senior RMA Debt by Given Date

Fiscal Year	Annual Grant Required to Retire Debt on July 15	Fiscal Year	Annual Grant Required Retire Debt on July 15
2001	$123,634,397	2010	$5,965,711
2002	$57,934,354	2011	$4,800,223
2003	$36,069,400	2012	$3,832,945
2004	$25,262,243	2013	$2,764,789
2005	$18,510,326	2014	$2,081,836
2006	$14,122,836	2015	$1,493,939
2007	$11,498,562	2016	$983,662
2008	$9,185,337	2017	$537,630
2009	$7,394,726	2018	$145,462

Source: JLARC staff analysis of RMA September 2000 revenue and expense projections

ISSUES TO CONSIDER REGARDING FUTURE OF THE RMA EXPRESSWAY SYSTEM

In considering the options that are available to ensure the tolls are removed from the RMA expressway system, a number of other issues should be addressed as well. While operation of the RMA expressway system could be transferred by the General Assembly to another entity, the interest of the holders of RMA's outstanding revenue bond debt needs to be protected. Moreover, there are currently seven series of revenue bonds outstanding and the involvement of a number of investment and legal professionals would be warranted to ensure bondholder interests are accounted for and that all of the nuances of each bond series were properly accounted for.

In addition, the RMA expressway system is a major portion of the State's transportation network in the Richmond metropolitan region. As such, the eventual disposition of the expressway should ensure that the ability of the expressway to operate at its current capacity and effectiveness is maintained. Finally, the potential negative effect on the RMA's other facilities and on its ability to function as a regional project planner and administrator should be addressed.

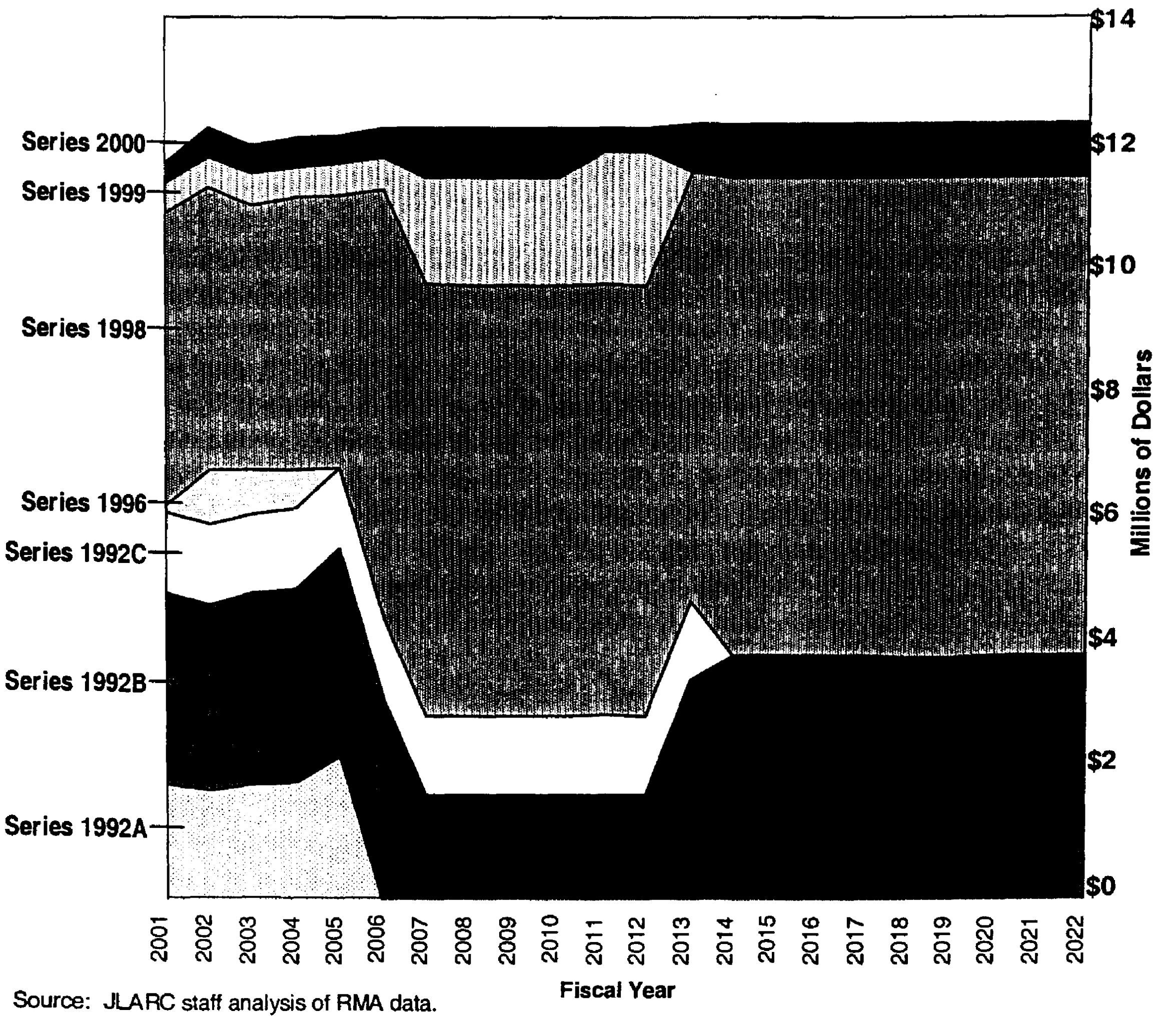
Owners of RMA's Revenue Bonds Interest Should Be Considered

As consideration is given to steps that could be taken to ensure removal of tolls, the interests of holders of RMA's revenue bonds should be addressed as well. Specifically, RMA, through its bond indentures, has contracted with the purchasers of its series of bonds to protect their interests in the expressway system. Although the bonds provide the purchasers with no ownership rights in the expressway system, it is expected that their financial investment in the system will be reasonably protected.

At the present time, the RMA currently has seven series of revenue bonds outstanding (Figure 26). Two of the series will be retired by FY 2006. However, the remainder extend beyond FY 2010 with three extending to FY 2023. In addition, some of the bond series cannot be called for early redemption, thus the restrictions in the

Figure 26

Annual Amounts Paid on Outstanding Bond Debt, by Series



Source: JLARC staff analysis of RMA data.

indentures cannot be removed. Specifically the bonds' optional redemption requirements include:

- **1992A Series:** May not be called for redemption prior to July 15, 2002. From July 15, 2002 through July 15, 2004 may be called at a price of up to 102 percent of par value.

- **1992B Series:** May not be called for optional redemption prior to July 15, 2002. From July 15, 2002 through July 15, 2004 may be called at a price of up to 102 percent of par value.

- **1992C Series:** May not be called for optional redemption.

- **1996 Series:** Are not subject to optional or mandatory redemption prior to maturity.

- **1998 Series:** Are not subject to optional redemption at the option of the RMA prior to maturity.

- **1999 Series:** Are subject to optional redemption; however, a breakage fee would be assessed.

- **2000 Series:** Bonds maturing on or before July 15, 2010 can not be called for optional redemption. Bonds maturing on or after July 15, 2011 can be called for optional redemption. However, prior to July 15, 2013, the redemption price will be up to 101 percent of par value.

According to the RMA, all of the bonds could be defeased prior to maturity. This would be accomplished by providing funds in an irrevocable escrow account sufficient to pay the principal, interest, and any penalties at maturity.

However, other requirements may be imposed depending on the issue date of the bonds. For example, RMA's financial advisor reported that a cash refunding for some bonds might be required, as federal tax law prohibits use of revenue from new bonds to refund tax-free bonds that have already been refunded once. Clearly, involvement of a number of individuals – investment bankers, bond counsels, the trustee for RMA bondholders, and attorneys – would be needed to ensure that bondholders interests were comprehensively addressed.

Impact on RMA's Non-Expressway Facilities Should Be Considered

Each of the RMA's five enterprises is independently financed. Nonetheless, the administrative staff that supports all of the RMA's activities are financed largely by the expressway system. Although administrative staff time spent on the operation of the Diamond, for example, is charged against that facility's budget, no particular administrative position is dedicated solely to that one operation. Instead, in any given year a particular employee might charge a small percentage of his or her time to the Diamond, another portion to the parking decks, and the remainder to the expressway system. For example, in FY 2001 the RMA's Director of Operations has budgeted five percent of his time to the Diamond, four percent to the various parking facilities, and the remaining 91 percent to the expressway system.

Consequently, if tolls were removed from the RMA expressway system, the RMA would have to reduce its staff substantially, or increase the administrative charges against the other facilities quite dramatically. In FY 2001, more than 82 percent, or \$1.4 million, of administrative costs are budgeted against the expressway system. Only \$310,000 is to be charged against the RMA's other enterprises. Given that the total FY 2000 combined operating revenues of the Diamond and the three parking facilities operated by the RMA were only \$2 million, it would be impossible for these facilities to finance the totality of the RMA's current \$1.7 million administrative budget.

Thus, reduction in staffing and other administrative costs would have to occur if the expressway system were transferred to another entity and tolls were removed. Although the RMA could retain a small staff, expertise in some areas, particularly engineering and finance, would likely be quite limited.

In addition, one other role the RMA plays is as a vehicle for regional cooperation. Although the RMA has not taken on any additional enterprises since the early 1990s, within its current staffing configuration it has the potential to do so. According to a review of the minutes of the RMA's board of director meetings, the RMA has been approached to plan, develop, or manage a number of different activities over the past few years, including the following:

- In 1994, Chesterfield County asked the RMA to undertake a preliminary analysis of the feasibility of constructing a swimming facility near the Diamond.

- In 1995, Henrico County asked the RMA to prepare a proposal for the construction and operation of a parking deck at the Henrico County Government Center.

- In March 1999, the University of Richmond approached the RMA about operating City Stadium.

- In 1999, the City of Richmond requested that the RMA consider operating Main Street Station.

Although the localities involved have not chosen to pursue the projects through the RMA, the number of proposals indicate that the RMA has at times been viewed as an effective tool for regional projects or as having expertise in facility construction, financing, or operation. If the RMA's central administration were reduced to only a small number of employees, the Richmond region would lose an established organization that can develop, administer and operate regionally financed projects.

Appendixes

Page

Appendix A

Study Mandate

House Joint Resolution No. 64
2000 Session

Requesting the Joint Legislative Audit and Review Commission to study the operation of toll facilities by the Richmond Metropolitan Authority and the retirement of debt to allow the toll free operation of the Downtown Expressway, the Powhite Parkway, and the Powhite Extension.

WHEREAS, creation of the Richmond Metropolitan Authority (RMA) was authorized by the General Assembly in 1966; and

WHEREAS, a central purpose of creating RMA was the stimulation of economic activity and improvement of the quality of life in the Richmond metropolitan area through the construction and operation of highways, bridges, and other transportation facilities; and

WHEREAS, it was anticipated that highway construction and operating costs would be supported, largely, through payment of tolls by highway users; and

WHEREAS, RMA proceeded to construct the Powhite Parkway and the Downtown Expressway, two toll facilities linking downtown Richmond with suburban communities; and

WHEREAS, RMA later acquired the Boulevard Bridge in the City of Richmond and operates it as a toll facility as well; and

WHEREAS, the Virginia Department of Transportation (VDOT) owns and operates a toll facility known as the Powhite Extension, which extends from its connection with RMA's Powhite Parkway to parts of Chesterfield along the Route 60 corridor, ultimately intersecting with Route 288 in the Brandermill Area; and

WHEREAS, the existence of these toll facilities and the likelihood of their continuation as toll facilities is a daily expense and inconvenience for those who live west or south of Downtown Richmond but work in the city's center, and continues to have an impact on the economic development of those portions of the Greater Richmond Region that are dependent upon such toll facilities for a major portion of their transportation needs; and

WHEREAS, it is highly desirable that a specific, detailed plan be carefully and promptly developed and resolutely and faithfully implemented whereby debt associated with such toll facilities can be retired or defeased and such toll facilities be made toll-free; now, therefore, be it

RESOLVED by the House of Delegates, the Senate concurring, That the Joint Legislative Audit and Review Commission be requested to study the operation of toll facilities by the Richmond Metropolitan Authority and the retirement of debt to allow the toll free operation of the Downtown Expressway, the Powhite Parkway, and the Powhite Extension. In conducting its study, the Commission shall, in addition to such other actions or activities as may appear necessary or desirable, consider (i) the amount of debt issued in connection with the construction and maintenance of the toll facilities, (ii) the use of its toll-generated revenues, (iii) existing relationships between RMA and VDOT, including the retirement of the debt associated with the Powhite Extension, (iv) policies and procedures adopted and used to ensure prudent fiscal management, integrity of funds, and responsible stewardship of the public trust, and (v) methods, resources, and a schedule appropriate for such retirement of debt as to allow the toll-free operation of the toll facilities. Based upon its findings, the Commission shall recommend to the Governor and General Assembly such draft legislation as it shall deem necessary or desirable.

The Auditor of Public Accounts, the Virginia Department of Transportation, RMA, and all other agencies of the Commonwealth shall, upon request, provide assistance to the Commission in conducting this study.

The Commission shall complete its work in time to submit its findings and recommendations to the Governor and the 2001 Session of the General Assembly as provided in the procedures of the Division of Legislative Automated Systems for the processing of legislative documents.

Appendix B

Agency Response

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

This appendix contains response from the Richmond Metropolitan Authority.

901 EAST BYRD STREET, SUITE 1110, RICHMOND, VIRGINIA 23219, TELEPHONE (804) 649-8494, FAX 649-0902

Richmond Metropolitan Authority

December 12, 2000

Mr. Philip Leone
Director, Joint Legislative Audit and Review Commission
General Assembly Building, Suite 1110
Capitol Square
Richmond, VA 23219

Dear Mr. Leone:

The Richmond Metropolitan Authority has reviewed the Joint Legislative Audit and Review Commission (JLARC) report commissioned by the Virginia General Assembly to study the operation of toll facilities by the Richmond Metropolitan Authority and the retirement of debt to allow the toll-free operation of the Downtown Expressway, the Powhite Parkway; and Powhite Extension.

The RMA staff worked closely with the JLARC staff to explain the RMA's complex operations, financial and debt management systems. We appreciate the professionalism and cooperation exhibited by JLARC staff members over the past year.

The RMA welcomed the review by JLARC and believes the results confirm the RMA's commitment to accountability to its bondholders, its patrons and the general public. Also, this objective, professional evaluation is an important reflection of the RMA's continuing regional efforts on the behalf of its member localities – the City of Richmond and Counties of Chesterfield and Henrico.

The report accurately describes the RMA operations. Other than the information included in the attachments, we generally concur with the JLARC recommendations. In fact, several recommendations by JLARC have already been acted upon by the RMA staff.

Most importantly, the report confirms some of the RMA's most significant policies and highlights key accomplishments, including:

- The RMA has been successful in minimizing the number of toll increases. If the toll increases had matched the rate of inflation since 1973, tolls currently would be about $0.80 at the mainline plazas – 60 percent higher than the actual $0.50 toll rate.
- Since 1988, the RMA has spent approximately $60 million in capital improvements for the expressway.
- A recent A- credit rating by Fitch IBCA rating agency reflects the ability of the RMA to meet financial commitments on a timely basis and indicates that the RMA has a low credit risk and a strong ability to pay its financial obligations. This rating may enable the RMA to capture savings in future bond issues that would not otherwise be possible.
- The establishment of the RMA's excess balances fund was a significant accomplishment for the RMA and could provide substantial benefits in the future for the administration of the expressway system, including early retirement of debt.
- The RMA has an aggressive repayment plan to retire all senior debt by 2022.
- Since 1992, the RMA's Report of Independent Auditors has resulted in unqualified opinions.
- The RMA Finance Division has a clear and ongoing process for accounting for expressway revenue and expenses to ensure compliance with the requirements of the *Code of Virginia* and the controlling bond resolutions.
- There is no co-mingling of funds between the expressway system, The Diamond and parking decks.
- Since fiscal year 1990, only one new full-time position, one part-time fiscal staff position and one part-time student intern have been added to the RMA's central office staff.
- The RMA and Virginia Department of Transportation have established a collaborative and productive relationship over the years.
- The RMA is a catalyst for regional cooperation.

An issue of concern to some has been the RMA's debt. While the debt has increased since the creation of the expressway system, it is important to note some of the reasons. Over the past 12 years, the RMA has spent over $60 million on maintenance and capital improvements, an average of $5.1 million per year. The RMA implemented substantial upgrades to the expressway system and met other obligations, while keeping its commitment to its patrons to maintain the lowest possible tolls.

These improvements include:

- widening of the Powhite Parkway Bridge from 6 lanes to 10 lanes
- installation of a new on-ramp at Forest Hill Avenue, widening of the off-ramp at Forest Hill from 2 to 4 lanes, addition of ramps at 7th and 12th Streets, and widening of the exit and entrance ramps to 10th Street from a single to a double lane
- installation of new toll equipment
- renovation of the entire Boulevard Bridge to include a new building
- addition of a latex overlay of the Powhite Parkway Bridge
- installation of Smart Tag (electronic toll collection) equipment
- rehabilitation of the pavement on the Downtown Expressway

The RMA is a unique, complex and well-run entity. The organization was created to meet a local need, which is directed by locally-appointed board members, and its services primarily benefit the local community. Because of these factors, the RMA's decision making occurs at the local level and takes into consideration the needs of the entire Richmond metropolitan community. More than 35 years ago, the state's elected officials realized that decisions are best made at the local level. That is the primary reason the RMA was established in 1966.

Thank you for the opportunity to respond to your report concerning the Richmond Metropolitan Authority.

Sincerely,

James L. Jenkins
Chairman
Richmond Metropolitan Authority Board of Directors

Attachments:

- RMA's responses to the JLARC recommendations that relate to the RMA
- RMA's responses to the options, according to JLARC, that exist for providing additional revenue to retire outstanding debt, ensuring removal of the tolls and considering the future of the RMA expressway system

Following are the RMA's responses to the JLARC recommendations that relate to the RMA.

JLARC Recommendation (1): The Richmond Metropolitan Authority should complete the process of developing written policies and procedures governing the authority's internal financial processes. The draft procedures should be provided to the authority's Board of Directors for review, comment and subsequent approval.

RMA Response: Article V, Section 5.1 of the 1970 Bond Resolution provides specific guidance for the creation of special funds and accounts and payments therefrom. This process clearly identifies the flow of funds into the expressway system and prohibits co-mingling of funds. From the disbursement perspective, a chart of accounts has been established for each fund, a separate checking account, and separate balance sheets are created monthly to ensure expenses are appropriately charged. Examples of written policies are the Purchasing Policy, Travel Policy, Investment Policy, and the Non-Revenue Policy. Other policies that do not require board approval include the accounts payable policy and procedures, payroll processing, accounting policies and a written description of the accounting system.

The draft procedures referred to above that will require board approval will be presented as soon as possible to the RMA Board of Directors Finance Committee. The chairperson of the Finance Committee will then make a recommendation to the Board. The RMA has and will continue to prepare written polices and procedures for our internal financial processes where appropriate. Therefore, we concur with this recommendation.

JLARC Recommendation (2): The Richmond Metropolitan Authority's internal auditor's annual audit plan should be presented to the Board of Directors' audit committee for review, comment, and subsequent approval.

RMA Response: Currently, the Internal Auditor's work plan for each audit is reviewed by the Audit Committee, which is composed of members of the Board of Directors. The chairperson of the Audit Committee can certainly present, at his discretion, the details of the annual audit plan. The Internal Auditor will recommend to the chairperson of the Audit Committee that the details of the annual audit plan be presented to the entire board.

JLARC Recommendation (3): The Richmond Metropolitan Authority should develop, for approval by the authority's Board of Directors, policies and procedures governing the expressway system's excess balances fund. The policies and procedures should, at a minimum, address: (1) the minimum balance to be maintained in the fund, (2) that use of the fund is only for the benefit of the expressway system, (3) the specific purposes for which the fund can be used and when, and (4) that approval of the Board of Directors is necessary before any of the funds can be used.

RMA Response: Although we have no written policy for the Excess Balances Fund, we have operated under the recommendations as outlined with the exception of establishing a minimum balance for the fund. On the three occasions that we have used the Excess Balances Fund, the Board has approved such use on each occasion.

The RMA concurs with this recommendation and will submit a written policy for the use of the excess balances fund to the Board of Directors Finance Committee as soon as possible. The chairperson of the Finance Committee will then make a recommendation to the Board.

JLARC Recommendation (4): The Richmond Metropolitan Authority should conduct a review of the allocation of the administrative costs across all of the authority's enterprises and provide a report to the Board of Directors. The authority's Board of Directors should also consider requiring the board's internal auditor to periodically evaluate the allocation of administrative costs to the various enterprises.

RMA Response: Prior to the beginning of the RMA's budgeting process, the percentages of allocation used for the current year for all Administrative Staff is distributed to the General Manager and the Division Directors. Projects which may occur during the next fiscal year are considered, and evaluation of percentage of time is then reviewed. Any agreements which cannot be finalized are resolved by the General Manager. While this method may not be scientific in nature, from 1995 through 2000, it has proven quite successful as evidenced by the relatively small percentage of change in administrative charges to the expressway.

The RMA concurs, and the staff will offer a more comprehensive review of administrative allocations on an annual basis. Staff will recommend to the Board of Directors Audit Committee that the Internal Auditor periodically evaluate the administrative allocations.

JLARC Recommendation (6): The Richmond Metropolitan Authority should review its expressway system operating costs to identify areas – particularly personnel and administrative expenses – in which future cost savings could be achieved. Any identified savings should be dedicated to the surplus fund for payment as required to the 1973 revenue bond escrow fund and to the City of Richmond for subordinate debt interest.

RMA Response: The RMA is consistently attempting to identify areas that would reduce operating expenses. This has been and remains one of the major objectives of the budgeting process of the RMA. However, the report also points out that Smart Tag participation should be increased as well as video enforcement. By the nature of these two items, it would be difficult to decrease administrative costs, especially if RMA receives no fines or fees from violators of the system. Although RMA and VDOT have different management philosophies that may have contributed to RMA's higher personnel costs, several steps have been taken to reduce those costs and still maintain a high level of service to our patrons. By reducing our part-time pool of employees and shifting to a larger number of full-time toll collection attendants, we have increased personnel costs. However, the increase in personnel costs has been offset by reduced recruitment expenses, lower turnover, and reduced staffing time for training. Personnel costs are normally high in any organization. In order to provide quality customer service to our patrons, retain quality employees, and compete for new employees in an ever-increasing tight labor market, programs to address the aforementioned changes were implemented, resulting in additional costs. A major reason the operating budget increased was the payment to VDOT for Smart Tag Processing of $570,000 in fiscal year 2000. Since we were installing electronic toll collection equipment, there was no toll equipment maintenance costs in fiscal year 2000. This will start again in fiscal year 2001 as evidenced by the budgeted amount of $377,000. This is also in addition to the Smart Tag processing fee paid to VDOT of $589,950. Any cash surplus at June 30 of each year is required by the bond indenture to be split evenly between the City of Richmond and to pay off the 1973 bonds at the earliest moment.

The RMA concurs and will continue to seek cost-effective methods to reduce operating costs with the ultimate objective of decreasing senior and subordinate debt.

JLARC Recommendation (7): The Richmond Metropolitan Authority should review administrative costs for areas in which future cost savings can be achieved. Any identified savings should be dedicated to the surplus fund for payment as required to the 1973 revenue bond escrow fund and to the City of Richmond for subordinate debt interest.

RMA Response: Administrative costs are reviewed each year prior to the beginning of each budget cycle. RMA attempts to maintain a well-trained, highly qualified and professional staff. Merit and cost of living increases have been maintained at a minimum level. Only one new full-time position, one part-time fiscal staff position and one student intern have been added to the central office staff since fiscal year 1990.

The RMA will continue to seek areas in which future cost savings can be achieved on an annual basis during each budget cycle (for example, the use of technology to reduce staff time).

JLARC Recommendation (9): The Richmond Metropolitan Authority and the Virginia Department of Transportation should identify and, when appropriate, apply for available federal funding for use on applicable projects on their respective expressway systems.

RMA Response: In 1996, after careful consideration of the offer from the Richmond Metropolitan Area Planning Organization of its federal Congestion Mitigation and Air Quality (CMAQ) funds, the RMA felt that too many restrictions for compliance and control from the federal government would have made the acceptance of these funds too burdensome. The concept of accepting federal funds was presented by RMA Staff, discussed at a Board of Directors meeting, and a recommendation was made to the Board of Directors not to accept federal funds, and the Board concurred. An attempt by RMA was made to place a "sunset" provision on the control from the federal government based on the life expectancy of the electronic toll equipment, and this was rejected by the federal government. The federal government wanted control for the life of the expressway even after equipment purchased with federal funds had been replaced. This control would have continued whether RMA or the City of Richmond owned the RMA expressway system. Also, another administrative burden would have been placed on the fiscal staff to ensure RMA's compliance with the more than 20 federal statutes, several executive orders, and over 12 regulations, which could affect the RMA if federal funds had been accepted. (A similar sentiment was expressed in a April 27, 2000 *Richmond Times-Dispatch* editorial. The editorial discussed Chesterfield County's decision to accept a $605,000 federal grant to make safety improvements to a road. The editorial concluded, "No matter how the issue is resolved, county and state officials – and ordinary citizens as well – ought to wonder if the paltry sum from the feds was worth all the grief it caused.") Since the RMA's expressway system is self-sufficient, i.e., revenue is adequate for operations and maintenance, debt service, and repair and contingency fund, the rejection of the CMAQ funds resulted in those monies being used elsewhere in the Richmond area.

However, the RMA is not against looking at other methods in which to accept federal funds. An alternative might be for VDOT to accept grants and distribute the funds to the RMA. This method could possibly alleviate an administrative burden on the RMA.

JLARC Recommendation (10): The Richmond Metropolitan Authority and the Virginia Department of Transportation should establish a quantifiable target usage for Smart Tag on their respective toll roads. In addition, both facilities should consider establishing programs designed to achieve the established target usage rate.

RMA Response: Although probably not specifically stated in RMA's budget documents, the RMA had received from the traffic and revenue consultant firm of Wilbur Smith Associates, a Market Demand and Lane Configuration Update for Electronic Toll collection dated September 24, 1998. Among other things, this document recommended the configuration of our lanes with Smart Tag after month one, month six, and at the end of the first year. Wilbur Smith Associates also provided estimated Smart Tag participation rates for the same periods and after the first complete year of operation, we met all of those projections except during rush hours in the off-peak directions. At the RMA's annual retreat in November 2000, several hours were spent discussing strategies for increasing Smart Tag usage on our facilities. In spring 2001, the RMA will undertake a new marketing campaign to attempt to increase Smart Tag participation. However, we wish to point out that this has the potential to increase RMA administrative costs and time.

The RMA concurs and will discuss quantifiable Smart Tag objectives with the traffic and revenue consultant.

JLARC Recommendation (11): The General Assembly may wish to consider amending Section 46.2-819.1 of the Code of Virginia to require that fines, fees, and unpaid tolls for non-payment of tolls be returned to the Virginia Department of Transportation and the Richmond Metropolitan Authority. Any revenue returned should be used to pay the costs of the photo enforcement system at each entity's toll plazas.

RMA Response: The RMA has explored and continues to investigate methods to improve throughput and Smart Tag participation on our expressway system. Among others, one method is to have a hybrid lane or an express lane with no gates. Neither of these concepts would be economically feasible without video enforcement, and if video enforcement were installed, the RMA would need to receive the fines, fees, etc. Administrative and operational costs would significantly increase due to the processing related to video enforcement, and this would have to be absorbed by the RMA expressway system.

The RMA concurs with this recommendation.

JLARC Recommendation (12): The Richmond Metropolitan Authority should formally adopt as part of its mission statement the retirement of debt according to the current amortization schedule of 2022. The authority should report its progress in meeting this goal each year in its annual report and through its world wide web site.

RMA Response: Although the RMA's current mission statement does not expressly identify the retirement of senior debt, this objective has and will continue to be at the forefront of the RMA's fiscal planning. On October 29, 1999 at the Board of Directors Annual Retreat, the RMA's financial advisor and a member of his staff presented several scenarios that reviewed future debt reduction alternatives. Among those strategies was advance refunding of existing debt, early debt retirement, and the use of the Excess Balances fund to accelerate the retirement of senior debt. The document entitled "Richmond Metropolitan Authority: A Financial Perspective," dated April 4, 2000 and prepared by our financial advisor presented three different scenarios for annual maintenance expenditures and declines in expressway revenues based on the uncertain impact of Route 288 opening in 2003. Several conclusions can be drawn from these cases. For example, Case 1 clearly demonstrated that early retirement of debt is not feasible if capital spending continues at historical levels, given the current revenue forecast. Other scenarios are presented which reflect using all of RMA's cash reserves, including decreasing repair and contingency expenses and using funds in the excess balances fund. If the maintenance expenses were reduced, the funds previously allocated for that fund could be used to retire a portion of the senior debt and subordinate debt early. We also feel the current scheduled retirement date (2022) of all expressway principal debt is a goal which RMA will achieve. The Series 1998 Bonds, Series 1999 Bonds and Series 2000 Bonds enabled the RMA to achieve reduced financing costs totaling $6.7 million over the life of the bonds. If additional funds, grants, etc. are made available to RMA, then the retirement of the expressway principal debt may be accelerated.

The RMA will commit to reporting its progress on all debt retirement in its annual report. This information is currently included in the audited financial statements.

Following are the RMA's responses to the options, as outlined by JLARC, that exist for <u>providing additional revenue to retire outstanding debt</u>.

Option I: RMA's Outstanding Debt Could Be Retired Early If the State Provided Expanded Maintenance Services on the RMA Expressway System

RMA Response: As stated in the JLARC study, a VDOT employee reported that if VDOT were required to maintain the RMA expressway system, the Richmond District's allocation would need to be adjusted to take into account the additional costs and responsibilities that would accompany these high-volume roadways. However, if the Richmond District's allocations were not adjusted, the entire district would be required to subsidize the added expense of maintaining the RMA's expressway system. Most importantly, great care would have to be taken to ensure that VDOT's maintenance guidelines complied with the recommendations of the RMA's engineering consultant, as required by the bond indenture. Currently, the RMA spends over $2 million per year on normal maintenance and has averaged $5.1 million per year on capital improvements.

Option II: Toll Increase Could Provide Additional Revenue to Prepay Debt

RMA Response: The RMA concurs with the JLARC report's statement that the amount of a possible toll increase would obviously have an effect on the amount of toll revenues generated by the RMA and thus on the ability to retire debt at an earlier date. However, because more traffic volume will be lost with a greater increase in tolls compared to a more modest one, a 10-cent increase will not produce twice as much additional revenue as a five-cent increase. Similarly, a 25-cent increase will not produce five times as much additional revenue as a five-cent increase. In fact, it is possible for revenues to actually decrease if the toll rate is set too high. The RMA has always attempted to minimize toll increases. The last toll increase occurred in 1998 – the first one in 10 years. Increasing tolls at this point in time would be contrary to past RMA objectives and practices.

Option III: State or Local Grants Could Be Used to Retire Outstanding Debt on an Accelerated Basis

RMA Response: As the JLARC report states, if the State or the participating RMA localities want to retire debt earlier than currently projected, additional revenue will be necessary. In July 2001, outstanding senior debt will be approximately $149 million. The total ending fund balances held by the RMA will be approximately $26 million at that time. Thus, a grant from the State or localities would have to equal approximately $123 million in order to retire senior debt at that time, assuming no penalties or additional fees would be imposed. Consideration would also have to be given to retiring the subordinate debt to the City of Richmond. As of June 30, 2000, subordinate debt of $22.7 million of principal and $24.9 million of interest was owed to the City. In 1998, the RMA contacted VDOT and several local governments to discuss grants. No grant funds from the governments were available at that time.

Following are the RMA's responses to the options, as outlined by JLARC, that are available for <u>ensuring removal of tolls on the RMA expressway system</u>.

Option I: Eliminate City's Authority to Retain Tolls and Provide Sufficient Resources to Recognize Expressway's Extraordinary Maintenance Costs

RMA Response: The RMA emphasizes what the JLARC report concludes. Even with additional financial support, the City of Richmond may not be able to maintain the expressway system to the level required of a high-speed, limited-access highway.

Option II: Transfer Ownership of Expressway System to State After All Outstanding Debt Is Retired

RMA Response: The JLARC report outlines three important points that should be considered with this option. (1) Transferring ownership of the expressway system to the State could set a precedent and result in other local or private toll road systems requesting that the State assume ownership of their facilities. (2) If ownership of the expressway system were transferred to the State, the State would have to fund the system's maintenance costs. This could potentially impact other localities' or road system's maintenance needs. (3) All outstanding senior ($154.6 million) and subordinate ($22.8 million in principal and $24.8 in accrued interest) debt would have to be retired before ownership could be transferred.

Option III: Transfer Ownership of Facility to State Prior to Debt Retirement

RMA Response: Three aspects of this option were outlined by JLARC. (1) Transfer of ownership prior to senior debt retirement and subordinate debt retirement (including payment of the subordinate debt owed the City of Richmond) would mean all bond covenants, contracts, and other legal requirements imposed on the RMA would be assumed in the exact same form by the State. Given the number of RMA revenue bond debt instruments, this could be a cumbersome legal process. (2) The impact on the Commonwealth's debt capacity would need to be considered. (3) The impact on VDOT of operating and maintaining the expressway system would need to be addressed. The transfer of the system would not automatically result in VDOT funding maintenance activities at current levels of costs. There is a potential to reduce growth in operating and administrative costs if the State were to operate the expressway system, however, it is not likely that the cost difference would be considerable. In fact, the cost of State Police services on the Powhite Parkway Extension currently exceeds $400,000 annually and likely would erase savings from consolidating other areas of operations. Also, as stated above, transfer of ownership of the expressway system to the state could set a precedent for other private toll roads to request similar treatment.

Following are the RMA's responses to the issues, as outlined by JLARC, to consider regarding the future of the RMA expressway system.

Issue I: Owners of RMA's Revenue Bonds Interest Should Be Considered

RMA Response: The RMA agrees with the JLARC observation that the involvement of a number of individuals – including investment bankers, bond counsels, the trustee for RMA bondholders and attorneys – would be needed to ensure that bondholders' interests were comprehensively addressed.

Issue II: Impact on RMA's Non-Expressway Facilities Should Be Considered

RMA Response: The JLARC study emphasizes the RMA's role as a catalyst for regional cooperation. The number of projects about which the RMA has been approached indicates that the City of Richmond and Counties of Chesterfield and Henrico have viewed the authority as an effective tool for regional projects or as having the expertise in facility construction, financing or operation. In its September 21, 2000 issue, Fredericksburg, Virginia's newspaper, *The Free Lance-Star*, commended the RMA on its ability to undertake projects of common interest to the three localities: "It's time the Fredericksburg region looked to the RMA as a model of how to get big things done quickly. Lord knows, we've been resting long enough." If the RMA's central administration were reduced to only a small number of employees, the Richmond area would lose an established organization that can develop, administer and operate regionally financed projects. The potential negative effect on the RMA's other facilities and on its ability to function as a regional project planner and administrator should be addressed.

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