REPORT OF THE
DEPARTMENT OF RAIL AND PUBLIC TRANSPORTATION

Performance-Based Funding Distribution for Public Transportation

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

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COMMONWEALTH of VIRGINIA

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December 20, 2012

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Gentlemen:

Attached for your review is the "Performance-Based Funding Distribution for Public Transportation" as requested by the 2011 General Assembly session in Senate Joint Resolution 297. This report is provided by the Virginia Department of Rail and Public Transportation on behalf of the Secretary of Transportation, and responds to the General Assembly's direction to examine Virginia's current transit funding practices with respect to performance, prioritization, stability, and allocation. This report responds to that directive.

Sincerely,

Thelma Drake

Thelma D. Drake
Director

cc: Honorable Sean T. Connaughton, Secretary of Transportation

PREFACE

Senate Joint Resolution 297 of 2011 directed the Virginia Department of Rail and Public Transportation (DRPT) to study key issues relating to the distribution of funding to transit agencies within the Commonwealth of Virginia. Specifically, this legislation called for the examination of Virginia's current transit funding practices with respect to performance, prioritization, stability, and allocation. This report responds to that directive.

This DRPT study involved technical assistance from Cambridge Systematics, Inc. (CS) and TransPro, a consultancy with expertise in building and implementing state aid performance models. Throughout the process, input was provided by a transit funding study advisory committee comprised of Virginia transit and planning professionals.

TABLE OF CONTENTS

EXECUTIVE SUMMARY i
Background i
Study Overview ii
Findings iii
Performance iii
Prioritization iii
Stability iv
Allocation iv
Allocation Models iv
Needs Assessment v
Recommended Action Plan viii
Performance viii
Prioritization viii
Stability viii
Allocation viii
Capital and Operating Needs viii
Three-Year Transition Period ix
Conclusion ix
INTRODUCTION AND BACKGROUND 1
Aim of the Analysis 1
State Transit Funding Programs 2
State Administered Federal Funding Programs 3
CURRENT FUNDING MODEL 5
PROJECT APPROACH 9
TRANSIT NEEDS ASSESSMENT 11
Virginia's Changing Demographics 11
Transit and TDM Investment Strategies 12
Alternative Investment Scenarios 12
Cost Estimates by Investment Scenario 13
Projected 2013-2040 Funding Gap 14
Transit Funding Impacts 16
Potential funding sources to be considered by the General Assembly 17
TRANSPORTATION DEMAND MANAGEMENT 19
TDM Programs 19
TDM Funding 19
Next Steps for TDM 20
NATIONAL CONTEXT 21
Agency Revenues 21
Common Types of Funding Programs 22
Grants 23
Formula Funding 23
Discretionary Programs 24
Alternative Approaches Considered for State Operating Assistance 24
RECOMMENDED APPROACH TO OPERATING ASSISTANCE ALLOCATION 26
Step 1. Establish level of funding available for DRPT to distribute 27

Step 2. Divide available funds into formula-based and performance-based funding pools 27
Step 3. Divide available formula-based and performance-based pools into metric-based funding pools 28
Step 4. Divide funds available for each performance-based metric among peer groups..... 28
Step 5. Allocate the funds in each metric-based pool to individual agencies..... 29
Allocation of Formula Funds 29
Allocation of Performance Funds 30
Step 6. Calculate the total funding allocation for each agency..... 32
Peer Groups..... 32
Performance Metrics..... 35
Data Review and Results Analysis 38
Transition Assistance 38
RECOMMENDED APPROACH TO CAPITAL FUNDS 39
Advantages of the Current System 39
Disadvantages of the Current System 39
Recommended Methodology for Capital Funds 39
RECOMMENDED ACTION PLAN..... 40
Performance 40
Prioritization 40
Stability 40
Allocation..... 40
Capital and Operating Needs 40
Three-Year Transition Period 41
CONCLUSION..... 42
APPENDIX A. SJR 297 43
APPENDIX B. SJR 297 FUNDING STUDY ADVISORY COMMITTEE..... 45
APPENDIX C. FUNDING ALLOCATION EXAMPLE 46
APPENDIX D. SUMMARY OF COMMENTS 49
APPENDIX E. CAMBRIDGE SYSTEMATICS TECHNICAL REPORT 55

LIST OF TABLES AND FIGURES

Figure 1. Hybrid Performance-Based Funding Model v
Figure 2. Projected 2013 - 2040 Revenues Available for Transit Operating Assistance (YOE$).. 4
Table 2. Perspectives on the Current State Public Transportation Funding Structure..... 6
Table 3. Virginia Demographic Projections 11
Table 4. Projected 2013-2040 Transit Capital Needs (Millions YOE $)..... 13
Table 5. Projected 2013-2040 Transit and TDM Operating Needs (Millions YOE $)..... 14
Table 6. Projected 2013-2040 State Transit and TDM Funding Gap (Millions YOE $) 15
Figure 3. National Changes in Public Transportation Funding 2011 22
Figure 4. National Transit Ridership January–March, 2011..... 22
Table 7. Transit Funding by States in the US [47 States Surveyed]..... 23
Table 8. Comparison of Alternatives for Operating Funds..... 25
Figure 5. The Subdivision of Operating Assistance from DRPT 26
Figure 6. Distribution of Performance Based Allocation 27
Figure 7. Equal Division of DRPT Operating Assistance 28
Table 9. Distribution of Performance Funds to Peer Groups..... 29
Table 10. Proposed Peer Groups..... 34
Table 11. Summary of Metrics 36

EXECUTIVE SUMMARY

Background

In February 2011, the General Assembly passed Senate Joint Resolution 297 (SJR 297), which directed the Virginia Department of Rail and Public Transportation (DRPT) to study key issues relating to the distribution of funding to transit agencies within the Commonwealth of Virginia. This report is in response to the legislative directive. A copy of SJR 297 can be found in Appendix A of this document.

Virginia's current funding model has been in place for more than 25 years (1986 Acts of Assembly). During its 1986 session, the General Assembly passed a set of statewide taxes and fees to provide dedicated funding for highway construction, transit, ports, and aviation. From this effort, 14.7 percent of the annual Transportation Trust Fund revenues were dedicated to mass transit.

Since 1986, the importance of transportation to the nation's economy has been amplified, and the demand for multimodal transportation investments has stressed the available limited resources both at the state and local level. SJR 297 called for the examination of current transit funding practices with respect to performance, prioritization, stability, and allocation. Specifically:

> *In conducting its study, the Department of Rail and Public Transportation (DRPT) shall study, but not be limited to, the following issues:*
>
> 1. *Performance – The study should determine if there should be a system in place to reward operator performance based upon specific performance criteria (e.g., farebox recovery, cost per passenger trip, passenger trips per vehicle revenue hour, etc.);*
> 2. *Prioritization – Currently, all capital requests are matched equally. The study should examine different funding categories;*
> 3. *Stability – Match ratios change every year based upon demand and available revenues. The study should examine holding systems harmless at existing levels and creating a reserve to stabilize funding for both capital and operating expenses; and*
> 4. *Allocation – Current funding formulas were established in the Code of Virginia about 25 years ago at a time when transit was not as important as today in the overall transportation network. The study should evaluate the allocation of the 14.7 percent of Transportation Trust Fund revenues among capital and operating expenses and special programs. The study also should address the current Code language that allows transit funding up to 95 percent of eligible capital and operating expenses. The study should determine an appropriate percentage.*
>
> *(2011 Acts of Assembly, SJR 297)*

The new federal transportation bill, Moving Ahead for Progress in the 21st Century Act (MAP-21), became effective October 1, 2012, and calls for the development and use of a performance-

based approach as a tool for guiding transportation investments. Recipients of federal funds will fall under the new federal performance-based provisions.

Study Overview

In response to the legislative mandate, DRPT employed professional planning consultants with expertise in the field of transit operations and funding to assist in the research and analysis required by SJR 297 and to assist in the development of a hybrid funding model. This second report to the General Assembly builds upon the SJR 297 Interim Report that was delivered to the 2012 General Assembly. It includes information presented in a Technical Report prepared by Cambridge Systematics (CS) as well as subsequent work completed by TransPro, a consultancy with expertise in building and implementing state aid performance models.

In conjunction with this study, DRPT engaged in dialogue and solicited input from the transit community and key stakeholders. A SJR 297 Funding Study Advisory Committee was formed to represent transit stakeholders. Members included transit systems, local governments, and metropolitan planning organizations (MPOs), as well as other interested parties. A complete list of the Committee members is included in Appendix B. The advisory committee met five times over the duration of the study period to discuss the current state funding system and gather feedback on proposed formula options. DRPT provided a study briefing to the Commonwealth Transportation Board (CTB) and held a statewide transit meeting in early September 2012 to present the findings and recommendations to the transit community at-large.

The study process also explored best practices, conducted a peer review, included data discussion, and developed of a variety of formula options for consideration by the SJR 297 Funding Study Advisory Committee.

While the SJR 297 effort specifically examines transit related issues, an interrelated component of transportation systems involves Transportation Demand Management (TDM). DRPT partially funds 17 TDM agencies around the state which market local transit systems and provide other transportation services to residents and businesses. Research shows that TDM efforts contribute to a substantial shift of people from driving alone into transit, ridesharing, and other modes. In this way, TDM can provide significant support for transit operations and it also helps with roadway system performance by reducing vehicle trips. For this reason, DRPT and the working group concurrently discussed the Commonwealth's TDM programs and services. TDM funding needs and its potential to generate additional transit revenue will be further examined outside of this document in the Statewide Transit and Transportation Demand Management Plan and other studies.

Currently, 14.7 percent, or $134.2 million in fiscal year 2013, of the Transportation Trust Fund (TTF) is allocated to the Mass Transit Trust Fund (MTTF). Additionally, beginning in fiscal year 2009, $0.02 of the recordation tax, approximately $25 million, is dedicated to transit operations each year. The vast majority of the MTTF funds, at least 73.5 percent, is distributed to transportation providers for operating assistance. Twenty-five percent of the MTTF is used for capital assistance. The Mass Transit Capital Fund (MTCF) funds is derived primarily from bond proceeds supported by a tax on insurance premiums and is expected to be exhausted by 2018. The revenue generated from the MTCF is allocated to specific capital projects approved by the

CTB. This report introduces new funding allocation methods for both operating and capital fund distribution.

DRPT also conducted a needs assessment as part of a separate, but parallel, process of updating the Statewide Transit and TDM Plan. The needs assessment identifies three investment strategies ranging from a low investment strategy that could ultimately result in a reduction in the transit mode share of all transportation trips to a high investment strategy that could increase transit service level per capita and result in an increase in transit ridership of 92 percent by 2040. The examination of generating new revenues via various funding mechanisms has been part of other DRPT study efforts and provides the General Assembly with a basis for discussion and decision making to determine how best to offset the anticipated funding gap for public transportation into the future.

Findings

This study focused on current DRPT operating and capital funding methods and the potential need for additional resources. In particular, testing of the policy implications of various allocation tools provided insight into the SJR 297 legislatively mandated target areas of performance, prioritization, stability, and allocation:

Performance

The current funding allocation model allocates state transit funds based on statewide transit system operating expenses, regardless of system type and performance. Based on the 1986 model, a peak performing transit system with a high system user recovery receives the same funding as a low performing transit system with the same total operating cost. In essence, the more a transit agency spends, the more they receive in future years. Based on the legislative mandate and study effort, DRPT has developed a hybrid performance-based funding model that establishes peer benching of like systems. Utilizing study inputs, it was determined that:

- Use of transit agency performance measures to directly support the CTB's policy goals will be challenging but can be accomplished by rewarding transit providers for improved performance outcomes.
- Utilizing nationally recognized and system-collected inputs, performance data that speak to cost effectiveness and system cost efficiency can demonstrate outcomes and reward providers accordingly. Local transit decisions can still be made to continue or develop transit services that do not perform well.
- The use of data that is received from transit providers in a funding allocation methodology is the most transparent and direct link between transit agency performance and the Commonwealth's financial support.
- MAP-21 calls for the development and use of a performance-based approach as a tool for guiding transportation investments.

Prioritization

Prioritization of state capital funding investments is critical as aging systems struggle to maintain a state of good repair while new systems or services come on line. Threshold levels of state capital funding participation could vary, such as having greater emphasis on state of good repair for bus replacements than bus stop benches or computer software.

- Prioritization of capital investments should be more directly linked to and supportive of

the CTB's policy goals.

Stability

State funding for mass transportation continues to fluctuate over time. The current system utilizes data that is two years old and does not necessarily reflect current or anticipated changes in system operations, service cuts resulting from economic downturn, or increased operational expenses because of normal cost escalation. Fluctuations in federal, state, and local funding levels also contribute to the instability of funding. Over the past 15 years, state participation in funding for transit operations has remained stable at around 20 percent, while the largest fluctuations have occurred in capital funding.

- The SJR 297 Funding Study Advisory Committee's input showed that it is important to transit providers to know with confidence and sufficient lead time how much financial support a transit provider will receive and that consistency of support is helpful for their budget development and planning purposes.
- Tier threshold levels of state funding could be established that will facilitate better long-term capital budgeting for transit systems and provide the Commonwealth with greater confidence in its capital cost forecasting to guide the allocation of funds.

Allocation

Analysis of the current funding model and a review of Virginia's transit systems show that transit operations provide services for an array of purposes, such as the movement of people to work; reducing traffic congestion and the number of single occupant vehicles; providing mobility options; and economic development. In the allocation of limited state transit resources, the following should be considered:

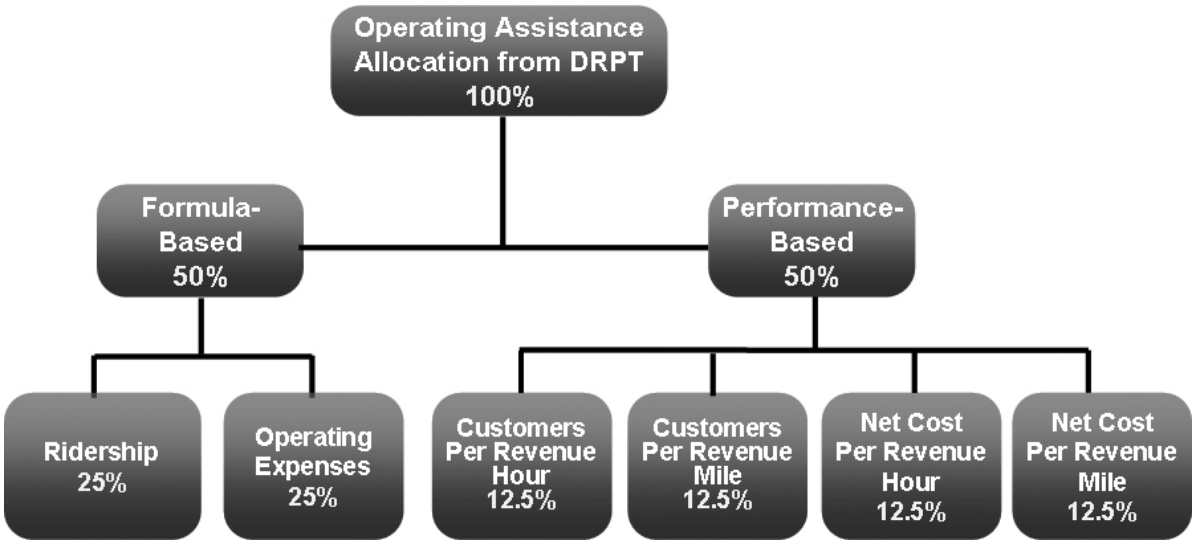
- Numerous improvements could be considered to improve the correlation between allocation of funds and progress towards achieving the CTB policy goals.
- Current and new funding distribution should be guided by a hybrid allocation model that includes 50 percent funding by system size and 50 percent funding by system performance. The model should allow for the peer evaluation of systems instead of the one-size-fits-all allocation system. This proposed hybrid performance-based funding model is illustrated in Figure 1. Transit systems should be evaluated in peer groups of similar systems, and not be compared with all of the transit systems combined. Utilizing a new system of this type will eliminate the winner and loser approach of the current process and establish an allocation model of high, middle, and low peer performers as a tool for guiding the allocation of limited state transit resources.
- Key issues to be addressed before using performance data in an allocation system are consistency of data reporting and data definitions, testing of data, development of an understanding as to how data variation causes shifts in the allocation of funds, and identification of additional funds to support transitional assistance.
- The new allocation model should be implemented over a transition period with a diminishing hold harmless phase-in over several years. The model should be re-evaluated by the CTB, with public input, every three years, followed by a one year notice prior to implementation of any changes.

Allocation Models

Of the funding models explored, a hybrid performance-based funding model provides the

best elements of the current formula program that transit service providers understand and enables some level of stability while concurrently rewarding increased performance. MAP-21 calls for the development and use of a performance-based approach as a tool for guiding transportation investments.

Figure 1. Hybrid Performance-Based Funding Model



Needs Assessment

DRPT conducted a statewide transit needs assessment as part of the Statewide Transit and TDM Plan, which was developed as a separate but parallel study process. The needs assessment provides input to the SJR 297 Study and Report to demonstrate the anticipated funding needs for public transportation between 2013 and 2040. The Statewide Transit and TDM Plan should be finalized by the end of 2012. The needs assessment quantifies the needs according to three investment categories: state of good repair, transit and TDM capacity enhancements, and major transit capital projects. The identified needs include both physical capital improvements and the ongoing cost to operate and maintain the increased services that are recommended to enhance mobility and increase transit and TDM modal share.

- **State of Good Repair (SGR)** needs consist of the backlog of existing equipment and facilities beyond their useful lifecycles; preventive maintenance and rehabilitation of existing equipment and facilities; and state of good repair on new assets added to the inventory (e.g., new service expansion buses).
- **Capacity Enhancement** needs address expanding transit and TDM services through both capital investment and operating and maintenance expenses to meet increasing demand and economic opportunity. Service capacity enhancements include extension of transit and TDM services into regions of the Commonwealth that do not currently have service but have an identified need for it; improvement of existing services in areas that currently receive service but not at a level that meets community needs; and expansion of service to reflect anticipate population growth or evolution of some regions to area types that would benefit from more intensive levels of transit service.

- **Major Transit Capital Project** needs include capital costs of construction, right of way acquisition, and equipment purchase (both rolling stock and supporting systems), plus continued operating and maintenance costs, to address high-capacity needs in heavily developed areas of the Commonwealth.

The transit and TDM needs that have been identified were used to develop capital and operating costs according to three investment scenarios:

- **Low Investment:** This scenario assumes minimal investment in transit and TDM services. Transit capacity expansion consists of improvements identified in each transit operator's 6-year Transit Development Plan (TDP) through 2018. No additional transit expansion is assumed beyond 2018. This scenario addresses State of Good Repair (SGR) needs for existing facilities and vehicles and any new facilities and vehicles associated with new service that is identified in TDPs. It also includes Major Capital Projects currently under development. For TDM, it continues existing programs, and growing existing TDM agency budgets to reflect expected inflation rates.
- **Moderate Investment:** This scenario includes expansion of transit capacity to meet service needs associated with population growth and increasing urbanization through 2040. It addresses SGR for all existing and future vehicles and facilities. It also includes Major Capital Investment Projects, assuming lower cost solutions where applicable. For TDM, it includes extension of services into geographic areas not currently receiving TDM service, at levels consistent with average services of existing programs.
- **High Investment:** This last scenario includes all investments in the Moderate Scenario, plus additional capacity enhancements that are designed to increase transit modal share. Major Capital Investment Projects assume higher cost alternative solutions where applicable. For TDM, the high investment scenario closes geographic gaps as in the Moderate Scenario and funds new or improved strategies consistent with recommended area-type programs.

Transit operating and capital needs are supported through a variety of financial resources, including farebox and other operating revenues, as well as local, state, and federal funding. Overall, farebox collections and local subsidy are the predominant sources of revenue for the operations of public transportation services. The state operating and capital assistance programs contributes a minority portion of funding, which historically has comprised approximately 20 percent of total operating costs; however, the state's participation in capital costs has been slightly higher at 50 to 55 percent of the non-federal share. Without a significant increase in state funding for public transportation, the legislative maximum of 95 percent creates an expectation that the state can participate at a much higher level. Further, unlike the roadway system that is predominantly owned and maintained by the Commonwealth, the delivery and ownership of public transportation service is primarily a decision made at the local level. If the state participated at 95 percent, combined with a reasonable farebox recovery rate, service would be over funded and there would be no local financial responsibility to maintain accountability.

Results of the transit capital and operating needs assessment by investment theme (i.e., state of good repair, transit capacity enhancements, and major capital projects) and investment scenario (i.e., low, medium, and high) are shown in Table 1 below. The needs analysis and estimated total funding gap are based on anticipated revenues. The state funding gap identified in Table 1 illustrates the state funding needed to achieve and maintain the historic state share for capital assistance at 16 percent total cost (80 percent of the non-federal costs), operating assistance at

20 percent total operating costs, and TDM operating assistance at 80 percent of eligible, non-federal costs.

Without an increase in state funding for capital and operating assistance, the state's participation in operating assistance is projected to decline to 10 percent under the low-investment scenario and 5.4 percent under the high-investment scenario by 2040. Likewise, the capital assistance is anticipated to decline to 13 percent under the low investment scenario and 4 percent under the high investment scenario by 2040.

The projected state funding gap for operating assistance to achieve and maintain the historic 20 percent state share ranges from $3.96 billion (YOE$) under the low investment scenario to $8.75 billion (YOE$) under the high investment scenario. The state funding gap for capital assistance to achieve and maintain the historic state share of 16 percent of total eligible costs ranges from $1.21 billion (YOE$) under the low investment scenario to $10.82 billion (YOE$) under the high investment scenario. The state funding gap between for TDM to achieve and maintain an 80 percent historic state share is $177 million (YOE$) under the low investment scenario and $896 million (YOE$) under the high investment scenario.

Table 1. Projected 2013-2040 State Transit and TDM Capital and Operating Assistance Funding Gap (Millions YOE $)

Investment Scenario	Funding Needs/Revenues	Capital Funds	O&M Funds	
			Transit	TDM
Low	Total Funding Needs	$ 15,892	$ 43,668	$ 739
	Total Anticipated Revenues	$ 13,439	$ 31,157	$ 482
	Total Funding Gap	$ 2,453	$ 12,511	$ 257
	State Funding Gap (to reach historic State share)	**$ 1,210**	**$ 3,963**	**$ 177**
Moderate	Total Funding Needs	$ 42,515	$ 61,293	$ 897
	Total Anticipated Revenues	$ 13,439	$ 31,157	$ 482
	Total Funding Gap	$ 29,076	$ 30,136	$ 415
	State Funding Gap (to reach historic State share)	**$ 7,717**	**$ 7,489**	**$ 304**
High	Total Funding Needs	$ 55,028	$ 67,606	$ 1,637
	Total Anticipated Revenues	$ 13,439	$ 31,157	$ 482
	Total Funding Gap	$ 41,589	$ 36,449	$ 1,155
	State Funding Gap (to reach historic State share)	**$ 10,815**	**$ 8,751**	**$ 896**

Recommended Action Plan

In response to the legislative mandate, DRPT has developed a series of recommendations for the General Assembly's consideration regarding state public transportation funding decisions. DRPT recommends a system that establishes benchmarks and funding allocations based on performance and the delivery of efficient and effective public transportation service to its customers. Transit systems under a hybrid performance-based funding approach will be funded with a level of formula assistance and performance-based assistance. Taxpayers will benefit from the increased value provided by the transit providers, and transit users will benefit from improved service. With respect to the four major study areas of the SJR 297 legislation, DRPT recommends the following:

Performance

The Code of Virginia should be revised to call for the implementation of a hybrid allocation system that incorporates both a formula and a peer performance-based component.

Prioritization

An allocation process should be developed that links capital investment decisions to CTB priorities.

Stability

A reserve fund should be created to stabilize match ratios for capital expenses. There should be flexibility to allow capital funds to be flexed into operating assistance. Additionally, a funding source should be identified to provide transitional assistance to transit providers as the new state funding model is implemented.

Allocation

The codified 95 percent cap on eligible capital and operating expenses should be eliminated as it creates an unrealistic expectation. The new funding model shifts allocations to those based on total operating costs, not categorical eligibility. Funds allocated must require a local match from the transit provider recipient. Any new funds should be allocated based on a declaration of maintenance of effort by the transit recipient.

Capital and Operating Needs

In considering potential options to provide additional funds to support public transportation in Virginia, the General Assembly may wish to examine the feasibility of generating additional revenue from the following mechanisms:

- Appropriating available revenues to support transitional assistance for two years through an annual allocation from the General Fund
- Increased allocation from the Transportation Trust Fund (TTF)
- Creation of a statewide index sales tax on gasoline
- General sales and use tax increase
- Direct the CTB to reserve a percentage of Congestion Mitigation and Air Quality (CMAQ) funds to support major transit capital improvements and the ongoing State of Good Repair in eligible areas of the state
- Creating a dedicated revenue source that is sustainable and will provide for the maintenance and expansion of the WMATA Metro service into Virginia. This would shift WMATA service costs to other revenue sources, allowing for the residual funds to be used for mass transit operating and capital assistance throughout the Commonwealth.

Three-Year Transition Period

DRPT is recommending a three-year transition period to provide transit operators an opportunity to improve their performance and data integrity leading up to full implementation of the recommended hybrid operating assistance allocation model. In order to provide each transit agency with a three-year transition period, a new one-time source of funding will be required in the amount of $18 million. The first year of implementation (FY2015) all transit systems would be made 100 percent whole by receiving transition assistance; the second year (FY2016) all transit systems would be made 50 percent whole by receiving transition assistance; and the third year (FY2017) the recommended hybrid operating assistance allocation methodology would be in place.

Conclusion

In response to the legislative directive, DRPT conducted a study and developed recommendations that address the performance, prioritization, stability, and allocation of state funds for mass transit. Deliberate actions of the General Assembly will be necessary to implement the recommended hybrid operating assistance allocation methodology, secure reserve funds to promote stability, require local match from all transit providers, allow for a tiered approach to funding capital investments, and identify transitional assistance funding. Based on research and input from transit stakeholders, key findings of this report include the following:

- ***The study recognizes the need for stability with regard to funding and makes several recommendations to provide stability and reliability.***
  - The recommended approach to capital assistance introduces a tiered approach to state match ratios based on CTB priorities to replace the current approach, which defines state match ratios based on the requests that are received each year.
  - The recommended approach to operating assistance includes a performance-based approach to provide an incentive for efficient service as well as a formula-based component to ensure year-to-year stability in operating assistance to support the important role public transportation plays in providing access to job, supporting economic development, providing mobility options, and reducing congestion.
  - The study recommends establishment of a reserve fund to stabilize match ratios for capital and operating expenses and flexibility to allow capital funds to be flexed into operating assistance to stabilize fluctuations that may occur from time to time.
  - The study recommends a three-year transition period to provide transit operators an opportunity to improve their performance and data integrity leading up to full implementation of the recommended hybrid operating assistance allocation model. A new one-time source of funding will be required in the amount of $18 million to complete a three-year transition to the new allocation model by Fiscal Year 2017.
- ***DRPT is taking a two-pronged approach to addressing the Commonwealth's critical public transportation needs.***
  - First, this report addresses the SJR 297 mandate to evaluate Virginia's current transit funding practices with respect to performance, prioritization, stability, and allocation. The intent is to implement a funding methodology that builds

accountability and confidence in the delivery of public transportation and encourages peak performance and efficiency.

- Second, the Department is completing an update to the State Transit and TDM Plan that includes a comprehensive evaluation of public transportation capital and operating needs, an assessment of the impact of various investment levels, and the anticipated funding shortfall. Quantification of public transportation funding needs is meaningless without establishment of a sound allocation methodology that supports statewide priorities and encourages peak performance.

- ***With implementation of the recommended changes to current funding formulas and methods, local governments and local transit operators will continue to make their own decisions with respect to their operations.***
  - The delivery and ownership of public transportation service is primarily a decision made at the local level. State operating and capital assistance programs contribute a minority portion of funding for public transportation.

- ***The key criterion for evaluating the success of a new funding model is not the degree to which agencies receive different amounts of funding, but whether the source of that differentiation is consistent with the goals and principles of the funding entity.***
  - The recommended hybrid operating assistance allocation model has a relatively low impact on the funding that public transportation providers will receive - the average change in total operating funding is 5 percent of total budget.
  - Public transit agencies that operate efficient service will now be rewarded under the proposed allocation methodology, ultimately resulting in greater benefits to the Commonwealth.
  - The recommended approach is consistent with the policy goals of the CTB.

- ***The current funding model creates winners and losers because it bases funding variations between agencies solely on size.***
  - Currently the only way for a transit provider to receive a greater amount of state operating assistance is to significantly increase their operating costs.
  - The recommended allocation methodology levels the playing field by evaluating the performance of agencies of similar size.

- ***Six standard industry performance metrics were identified for use in the funding allocation model.***
  - The use of six metrics reduces the sensitivity of the funding model to any one measure and recognizes the variability of the transit operators serving Virginia while still providing meaningful, objective criteria for use in allocating funds to each state-funded public transportation agency.
  - The six metrics are standard industry metrics that are readily available and auditable, as acknowledged by the SJR 297 Funding Study Advisory Committee.

INTRODUCTION AND BACKGROUND

The Virginia Department of Rail and Public Transportation (DRPT) was directed by the General Assembly's February 2011 passage of Senate Joint Resolution No. 297 (SJR 297) to study key issues relating to distribution of funding to transit agencies within Virginia. A copy of SJR 297 can be found in Appendix A of this document. Specifically, this legislation called for examination of Virginia's current transit funding practices with respect to the following four key elements:

- Performance
- Prioritization
- Stability
- Allocation

Aim of the Analysis

In Spring 2011, Cambridge Systematics, Inc. (CS) was engaged by DRPT to assist in the study effort and to prepare an initial report on funding distribution practices. The study conducted by CS incorporated the following elements to assess the potential impacts of changing the existing public transit funding distribution mechanisms:

- Review of literature and industry practices for distribution of state funding for public transportation in Virginia;
- Identification of formula options for consideration;
- Facilitation of the SJR 297 Funding Study Advisory Committee convened by DRPT to solicit input on the current and alternative mechanisms;
- Analysis of options considered by DRPT to have the greatest policy potential; and
- Review and analysis of performance measures.

Appendix E of this document contains the Technical Draft Final Report, DRPT Public Transportation Study: Introducing Performance into Public Transportation Allocation Formulas by Cambridge Systematics, Inc.

In conjunction with the study, DRPT formed the SJR 297 Funding Study Advisory Committee to gather input from transit agencies of varying sizes, as well as representatives from local governments, metropolitan planning organizations (MPOs), transportation demand management (TDM) agencies, and other interested parties from across Virginia.

As the study effort progressed, DRPT also engaged TransPro, a consultancy with expertise in building and implementing state aid performance models, to assist in the development of the theories discussed into a performance model for the allocation of funds.

This document is comprised of information presented in the technical final draft report by CS, along with subsequent work completed by TransPro. Information gathered from several sessions of the SJR 297 Funding Study Advisory Committee also contributed significantly to this study and report. Workshops were held between June 2011 and July 2012 and were designed specifically for the purpose of exploring topics pertaining to a performance-based funding allocation methodology, including how such a funding process could be implemented in the Commonwealth of Virginia.

The outcome of this research effort is the foundation for recommended transit funding distribution reform for both existing and future funding.

State Transit Funding Programs

The flow of funds dedicated for public transportation is derived from a series of legal authorities for the most part embodied in Virginia Code and supplemented by appropriations actions and policy direction from the Commonwealth Transportation Board (CTB).

Revenues deposited to the Transportation Trust Fund (TTF) are distributed across four modally oriented trust funds according to percentages set in statute, one of which is the Mass Transit Trust Fund (MTTF). The MTTF receives 14.7 percent of the TTF revenues to support transit operations, capital, and special programs managed by DRPT.

The prime elements relevant to formula operating assistance include the following:

- Of the funds dedicated to the MTTF, at least 73.5 percent of the MTTF is designated to fund operating assistance.
- The amount of operating assistance provided to each grantee is equivalent to the relative share of expenditures for each of the State's various transit providers, proportional to all transit providers' expenditures.

The Mass Transit Capital Fund (MTCF) is separate from the MTTF, and also managed by DRPT, but is funded through external sources, such as funds appropriated to it by the General Assembly, bond proceeds, grants or endowments. In contrast to the formula distribution for operating assistance as described above from the MTTF, MTCF funds are allocated to specific projects approved by the CTB. For the MTCF, the maximum allowable state match is 80 percent. Consideration is given to both the purpose of the investment and the funding sources that applicants have available for transit capital investment. For instance, per CTB policy, the highest priority is given to applications that advance the replacement of transit rolling stock.

The prime elements relevant to capital assistance are:

- Of the funds dedicated to the MTTF, 25 percent of the MTTF is distributed for capital purposes.
- Up to 20 percent of the MTTF designated for capital purposes may be shifted by the CTB to operating assistance if the operating assistance funding in the current fiscal year is estimated to be less than the prior year's allocated operating assistance.
- The amount of capital assistance provided to each grantee is equivalent to the relative share of capital applications approved by DRPT for the State's various transit providers, proportional to all transit providers' allocations for capital grants.

Of the funds dedicated to the MTTF, $1.5 million is taken "off-the-top" for the support of paratransit in the Commonwealth.

Funding for transportation demand management (TDM) activities comes from the Transportation Efficiency Improvement Fund (TEIF). The program supports the operating costs of local and regional TDM initiatives. While the origin of these funds is the Highway Construction Fund, DRPT administers the funds. DRPT provides up to 80 percent of the eligible expenses.

State Administered Federal Funding Programs

DRPT administers Federal Aid Transit Grant Programs derived from Title 49 of the United States Code. Each year, the Congress provides for an annual apportionment which funds these programs. The Federal Transit Administration (FTA) distributes these funds either by formula or as a discretionary program. The majority of these recipients are specific substate governmental units, public organizations, or transit authorities. For some programs, funding is provided to States, who in turn make a distribution based on the Federal program criteria, to local governments, public organizations, and in some cases, to private nonprofit organizations. Federal funding is a consideration in the flow of overall transit funding in Virginia in several ways:

- Since most FTA programs require at least a 20 percent non-Federal match, applications for state funding include such requests.
- Those Federal programs that are managed at the state level, as opposed to having Federally designated direct recipients, are distributed by DRPT. Those grantees who receive Federal operating assistance based on the current year budgeted operating expenses also participate in the allocation of state operating assistance in the same manner as all other grantees. In effect, the rural and small urban transit systems receive additional operating assistance from state administered federal grant programs in addition to their state operating assistance. Most grantees who receive allocations of Federal capital assistance through DRPT also participate in the allocation of state capital assistance, as a percentage of the non-Federal project cost.
- Transit agencies in large urbanized areas (i.e., urbanized area population greater than 200,000) are eligible to receive Federal Regional Surface Transportation Program (RSTP) funds to support transit capital expenses. Transit agencies in air quality nonattainment and maintenance areas are eligible to receive Congestion Mitigation and Air Quality (CMAQ) funds. By federal code, RSTP funds must be allocated by the MPO. Authority for allocating CMAQ funds rests with the CTB, however, the majority of the funds are sub-allocated to the individual MPOs in the state's air quality nonattainment and maintenance areas. Currently, both CMAQ and RSTP funds are fully matched by the state and require no local match. The CTB allocates state matching funds off of the top of the highway construction program.

State administered Federal transit programs include the following:

- FTA Section 5310 – Transportation for Elderly Persons and Persons with Disabilities
- FTA Section 5311 – Rural Areas
- FTA Section 5316 – Jobs Access and Reverse Commute Program
- FTA Section 5317 – New Freedom Program

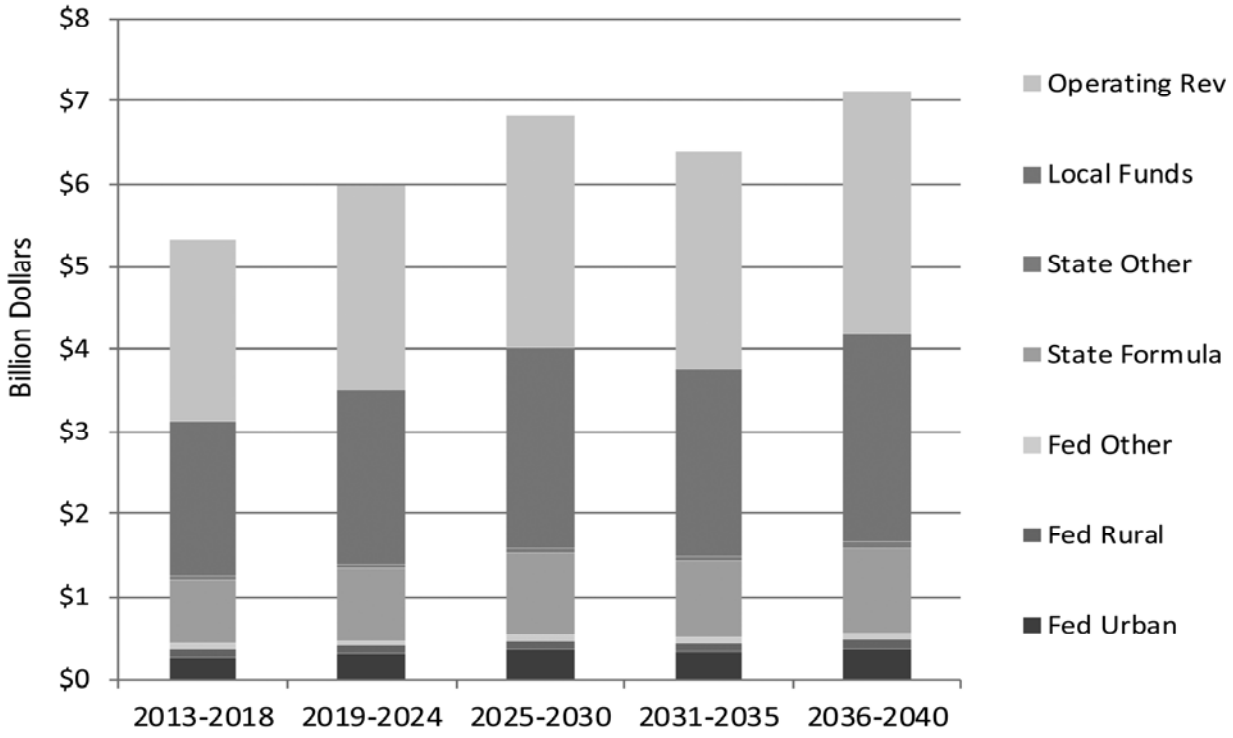
FTA Section 5311 provides operating and capital funding for the rural grantees throughout the Commonwealth. Section 5307 also serves as operating funds for the small urban grantees (i.e., grantees in urbanized areas whose populations are between 50,000 and 200,000). Under MAP-21, transit operators in large urban areas, with a population greater than 200,000, can use 5307 funding to cover operating costs under certain conditions. Both sources of Federal funding for operating assistance are awarded to the Commonwealth and then apportioned to the grantees. The funding is used to cover up to 50 percent of the deficit between budgeted expenses and budgeted revenues. These grantees receive state operating assistance as well.

Large urban areas may use a percentage of their federal 5307 funds for preventative maintenance, which is a large component of any transit system's overall budget. In concept, the Virginia Code limits the amounts provided as operating assistance to certain expenses. As the caps are rarely reached, the limits are not usually an issue.

Based on both fairness and the desire to address the broadest range of transit needs while providing a predictable match to applicants, DRPT has instituted a policy with respect to grants from the MTCF. Many Federal transit grants provide 80 percent of eligible expenditures. Assuming applications for capital formula assistance are made for the 20 percent match to Federal funds, an 80 percent DRPT grant is calculated as 80 percent of that 20 percent, or effectively 16 percent. Thus recipients have a 4 percent effective match requirement. However, if applications are made for the full project without any expectation of Federal funding, the draw upon DRPT funding is potentially much higher.

The overall level of state participation for operating and capital assistance plays a vital role in funding public transportation throughout the Commonwealth. As indicated in Figure 2, the state share supports the local and farebox revenue that are available to operate public transportation services. Federal funding contributes the least amount of operating assistance for public transportation.

Figure 2. Projected 2013 - 2040 Revenues Available for Transit Operating Assistance (YOE$)



CURRENT FUNDING MODEL

DRPT's current funding distribution methods for public transportation have been in place for more than 25 years. This allocation system was last adjusted in 1986, and is rooted in Virginia law with guidance from the CTB. Key funding sources include:

- The MTTF, which offers formula funding to support transit operations, capital and special projects.
- The MTCF is funded by bond revenues that are expected to be exhausted by 2018. These funds are used for specific capital projects approved by the CTB.
- The Transportation Efficiency Improvement Fund (TEIF), which supports operating costs of regional Transportation Demand Management (TDM) programs throughout the Commonwealth.

The current system has the following disadvantages:

- The funding formulas do not link to CTB policy goals.
- **Operating assistance funds are allocated based on one factor, operating budget. This rewards higher operating budgets independent of transit service provided, performance, or the area in which the service is provided.**
- There is no funding methodology in place to reward high performing transit providers.
- Two-year old data is used to derive operating assistance allocations, which inserts a gap of time and is not fluid with ever-changing service demands.
- The current system is does not provide funding stability.
- The two-year time gap does not allow for consideration of new services or providers.
- When new systems are introduced, funding to established transit providers is negatively impacted.
- 95 percent statutory maximum in State matching share has been unachievable.

While it has been established that the overall state funding system is not connected to performance incentives, the SJR 297 Funding Study Advisory Committee noted the following favorable perceptions of funding:

- The ***perception*** that operating formula assistance is distributed fairly and funds are appropriately managed with transparency.
- The ***perception*** that operating formula assistance is easy to administer.
- Familiarity with the funding distribution method, which enables management teams to know what to expect when planning their budgets.

A summary of SJR 297 key issue areas with respect to implications of the current funding methodology is outlined in Table 2.

Table 2. Perspectives on the Current State Public Transportation Funding Structure

Perspectives on the Current Allocation System	Ramifications for Formula Changes	Implications for the Four Target Areas of SJR 297	Perform-ance	Priori-tization	Stability	Alloca-tion
1.The current system does not motivate cost-efficiency or cost-containment.	The current system allocates operating funding based primarily on the operating costs of transit providers. The revisions to the system and design of any allocation methodology should build in motivation to contain costs, and reward cost-efficiency.	Performance-based allocation methodologies that reward cost-efficiency or cost-containment send a message that motivates transit providers to focus on outcomes. Performance-based systems provide a basis for demonstrating the need for increased public transportation service and additional funding.	√			√
2.Stale data is used.	The current system is based on audited data from two years prior. To the extent possible, data used in any allocation formula should be as current as possible so that annual distributions reflect recent transit provider performance.	The allocation methodology should be based on current performance data.	√			√
3.Current mechanisms are not perceived to be market-based.	The concern is a reflection of the fact that the size of the market being served, i.e., the population and its density that are so critical to the transit mode and its business profile, are not reflected in the distribution of public funding. Current distributions are perceived to only indirectly reflect the type/size of service, service area, and service levels provided. These criteria should be considered in developing a potential allocation formula.	DRPT may want to consider being responsive to the type and size of service, service area, and service levels through establishment of tiering and weighting in a performance-based allocation formula. This means that the relative importance (based on the "reach" of the service) is factored into the distribution.				√
4.Current system is complex in terms of eligibilities.	Calculations for capital grants are unnecessarily complex. Prior efforts have simplified the calculations, however several remain that have no ultimate bearing on the final allocation. Treatment of various activities as ineligible is masked by the low-matching ratios that are ultimately provided. Allowing all costs to be eligible would greatly reduce administrative efforts on the part of transit agencies. The existing Code reference to "non-Federal share" is a complicating factor and can be a barrier to the fair treatment of grantees regardless of their choice to seek Federal funding.	Prioritization of grants within the MTTF is not permitted by Code.		√		
5.Current system is not reflective of CTB priorities regarding capital expenses.	There is no linkage between the CTB priorities for capital expenditures (e.g., state of good repair) and the current system for allocating capital assistance.	The prioritization basis for capital assistance grants is limited to MTCF.		√		

Perspectives on the Current Allocation System	Ramifications for Formula Changes	Implications for the Four Target Areas of SJR 297	Perform-ance	Priori-tization	Stability	Alloca-tion
6.Changes in services are not reflected adequately.	The funding level does not take into consideration new services or new providers due to "mismatch" between the "base" period and the year the allocation made. Further, as new systems are added, all established transit providers' funding is diminished to accommodate the new service. To the extent possible, a revised allocation system should attempt to provide for funds to support new services, such as a reserve fund or funding from a new revenue source that would be dedicated to service expansion.	An effective allocation system must be dynamic, capable of responding to changes in service that will occur over time due to market needs and demographic shifts, as well as acknowledge system size and levels of service provided.			√	√
7.Expectations for "matching" are not fulfilled.	The statutory cap on state shares calls for a calculation of the maximum state participation ratio for operating assistance at 95 percent of any grantee's total eligible operating costs and 95 percent of non-Federal share for capital program. In practice, the amounts made available have not triggered this limit and therefore it has not been a constraint.	A realistic set of expectations are the foundation for setting program priorities. Without realistic expectations, the difficult choices inherent in priority setting cannot be made.		√		
8.Current distributions are viewed by many stakeholders as fair.	Given that stakeholders see current distributions as fair in the sense that the allocation concept treats each provider in the same manner, it would be important that any revisions to the current system or introduction of a new concept be applied equitably.	Allocation of funding is inherently the result of a balance between 1) making a distribution in a manner that helps to achieve the intended purpose and 2) recognizing that some recipients are likely to receive more than others. Such allocation methods are ultimately evaluated in the eyes of the public on the basis of fairness. Mechanisms that focus on transparency and compensate for redistribution of resources can help to make sense of the allocation approach and compensate for the variations among recipients, increasing the sense of overall fairness. DRPT could consider using tiering to minimize the extent of these changes, while still incentivizing performance.				√
10.Current distributions are trustworthy because they can be validated and the data is simple to generate.	It is important not only to transit providers that distributions are well-reasoned, trustworthy, and based on validated data, but also to the taxpayers. Best practices for use of performance measures recommend using readily available, auditable data. Any data to be used in an allocation formula should be data that can be collected and validated in a timely fashion to support annual allocations.	The validation of data has implications for allocation, as distribution outcomes would be directly affected by data selected and used for an allocation formula.				√

Perspectives on the Current Allocation System	Ramifications for Formula Changes	Implications for the Four Target Areas of SJR 297	Perform-ance	Priori-tization	Stability	Alloca-tion
11.Current system is relatively easy to administer.	A system that is easy to administer reduces DRPT staff time, enables auditing, and builds confidence that the system is competently managed. Any changes to the allocation system should take into consideration the level of effort required to perform administrative actions and should minimize the complexity of administering the revised system to the extent possible.	This issue addresses the administrative aspects of allocation. Such administrative considerations have consequences at both the state and transit provider level. The costs associated with collecting data of sufficient quality to assure fair allocation should not outweigh the benefits of putting the allocation system into place.				√
12.Year-to-year funding is fairly stable and comparable.	Recipients of formula assistance over the past years are comfortable with the current allocation system since they believe they know what to expect. Although it is not completely predictable, it is likely to be somewhat comparable to prior years' funding, thus enabling relatively stable continuation of public transportation services. When converting to a new allocation system, DRPT should consider a means to transition to a new allocation system, and aim to build in a way to stabilize the swings in funding from year to year to the best extent possible.	Even with the existing approach, concerns for stability were evident. Improving the stability and predictability of allocations while adopting performance-based allocation mechanisms can be facilitated with methodologies – such as implementing a reserve fund, using a phased implementation strategy or hybrid of legacy and performances systems, and/or making transitional assistance available to providers. These would allow transit providers to plan for shifts in funding based on new allocation formula outcomes or changes in revenue yields at the state level.			√	
13.The current system for distribution does not link to CTB policy goals.	There are great advantages in establishing clear linkages between policy goals and the program features (including allocation mechanisms) that a state adopts. Transit provider performance data, such as revenue per mile or passenger and operating cost per mile or passenger, could be used in support of that linkage in an allocation calculation.	Use of performance data as a basis for allocation would enable distributions to reflect policy goals, thereby addressing the SJR 297 target areas of performance and allocation.	√			√

Source: Cambridge Systematics, Inc.

PROJECT APPROACH

To address the legislative requirement of the SJR 297, DRPT adopted an approach based on traditional research and work sessions with those who will be impacted most by a change to the funding distribution process.

DRPT convened a SJR 297 Funding Study Advisory Committee that consisted of professionals representing TDM and transit agencies, local government, and MPOs from across Virginia for the purpose of developing stakeholder interaction on possible performance measures. A list of the committee members can be found in Appendix B. The committee met five times between June 2011 and July 2012. Stakeholder input was gathered on the advantages and disadvantages of the current system, potential changes to the system, and specific performance measures considered for distribution formulas. The Funding Study Advisory Committee was given the opportunity to review and comment on the draft hybrid operating assistance allocation model formulas and overall functionality. In addition, DRPT provided a study briefing to the CTB and held a meeting in September 2012 to introduce the SJR 297 findings and recommendations to the entire transit community.

DRPT and its study team developed a technical memorandum that documents and affirms a common understanding of the existing distribution process for public transportation funds managed by DRPT. This description created a baseline with respect to the current flow of funding for transit at the state level. This flow is derived from a series of legal authorities that are embodied in Virginia law and supplemented by appropriations actions and policy direction from the CTB. This aspect of the analysis also enabled the study team to distinguish between which changes to the funding mechanisms would require legislative changes and which would be administrative changes.

DRPT and its study team reviewed and distilled, for purposes of discussion with the SJR 297 Funding Study Advisory Committee, nationwide trends in funding distribution practices and the resulting experiences of other transit providers. This research led to the identification of a wide range of possible distribution factors and program structures, including both traditional and performance-based approaches. The Funding Study Advisory Committee was asked to provide suggestions on performance metrics and had an extended period of time to provide input. The Committee acknowledged that the following performance measures are industry standards for performance metrics:

- Net cost per revenue hour
- Net cost per revenue mile
- Ridership per revenue hour
- Ridership per revenue mile

DRPT and its study team collaborated with the SJR 297 Funding Study Advisory Committee to develop options for the distribution of State operating and capital assistance. The group also identified data needs for use in possible allocation of funds. Data collection for the initial testing of these concepts demonstrated that not all data considered for use in distribution formulas is uniformly available for all transit providers at this time.

DRPT and its study team then tested various performance-based distribution formulas, analyzed recommendations, and presented results to the SJR 297 Funding Study Advisory Committee. Several iterations of formulas were developed and tested, which helped the study team and stakeholders understand the implications of various approaches.

Based on the outcomes of the initial scenario testing, as well as input received from the SJR 297 Funding Study Advisory Committee, DRPT determined that additional research and testing would be necessary prior to developing a comprehensive set of recommendations. That research led to the consideration of a hybrid approach to funding transit providers that includes both a formula and a performance-based component. This analysis is documented in the technical CS report found in Appendix E of this document.

TRANSIT NEEDS ASSESSMENT

Flat or declining revenues for transportation, combined with growing demand for public transportation and TDM solutions have challenged leadership around the country to maximize revenue invested in public transportation. The Commonwealth of Virginia is no exception. Virginia's population is expected to grow by 37 percent between 2010 and 2040, putting significant pressure on transit operators and on the Commonwealth as a funding partner to increase transit service and fleet size in a time when federal, state and local revenues are, at best, stagnant.

Virginia's Changing Demographics

Demographic projections suggest a more urbanized Virginia by 2040. Virginia Employment Commission (VEC) population projections were used to divide the state into area types along a spectrum of classifications from rural to urban areas. These area types provide a greater level of precision in identifying transit needs throughout the state based on population, population density, and proximity to major metropolitan areas. The following projections shown in Table 3 highlight the change in the rural, suburban and urban area populations in Virginia in 2010 and 2040 based on the 2010 Census and the VEC population projections. Between 2010 and 2040, the total population in the Commonwealth is projected to increase 37 percent from 8 million to 11 million people. However, as noted in this table, the percentage of the State's population living in rural areas is anticipated to decline, while the percentage of the state's population residing in urban areas is growing at a rate higher than the statewide population growth rate.

Table 3. Virginia Demographic Projections

Area	2010 Population	% of Total	2040 Population	% of Total	*% Change*
Rural	1,653,912	21%	1,565,861	14%	*-5%*
Suburban	2,246,660	28%	3,107,959	28%	*38%*
Urban	4,100,452	51%	6,280,567	57%	*53%*
Total	**8,001,024**	**100%**	**10,954,387**	**100%**	***37%***

Transit and TDM service needs differ for each area type. Transit service needs in rural areas may include human services for limited mobility populations, demand response service, and deviated fixed route service. Suburban transit service needs may include regional commuter and express service to urban areas as well as local fixed route service, and demand response service for limited mobility populations. Urban area transit services may include frequent, high capacity services across multiple modes, including bus and rail. As Virginia becomes more urbanized, there is a need for greater levels of transit service to accommodate the growth and the demand for more transportation choice.

Transit and TDM Investment Strategies

To meet the demand for public transportation and TDM service because of a growing population and economy, DRPT has identified the following three main priorities that align with CTB policies:

- **State of Good Repair (SGR):** Provide for a State of Good Repair for transit rolling stock and fixed assets; the intent of the SGR element is to ensure that asset investments made by the Commonwealth and its local transportation partners are preserved over time to allow continuing service reliability and public safety. The estimate for SGR is based on DRPT's asset inventory and includes both current backlog and future SGR needs to reflect expanding services and ongoing replacement needs as identified in various transit investment scenarios.
- **Transit and TDM Capacity Enhancements:** Expand transit and TDM services though both capital investment and operating and maintenance expenses to meet increasing demand and economic opportunity. Service capacity enhancements include extension of transit and TDM services into regions of the Commonwealth that do not currently have service but that meet certain minimum thresholds for receipt of services, improvement of existing services in areas that currently receive service but not at a level meeting those same thresholds, and expansion of service to reflect anticipated population growth and/or evolution of some regions to area types that would benefit from more intensive levels of transit service.
- **Major Capital Projects:** Major Capital Projects including capital costs of construction, right of way acquisition, and equipment purchase (both rolling stock and supporting systems), plus ongoing operating and maintenance costs to address high-capacity needs in heavily developed areas of the Commonwealth. For this analysis, completed transit vision plan recommendations from the Richmond and Hampton Roads regions plus the developing Super NoVa Study corridor recommendations have been taken into consideration. Because actual technologies have not been determined for many capital projects, a range of major capital investments has been developed, reflecting a likely low to high range of technology and costs for any given corridor.

Alternative Investment Scenarios

The Statewide Transit and TDM Plan (the planning document used to determine needs for SJR 297) identifies the following three potential investment strategies:

- **Low Investment:** This scenario assumes minimal investment in transit and TDM services. Transit capacity expansion consists of improvements identified in each transit operator's six-year Transit Development Plan (TDP) through 2018. No additional transit expansion is assumed beyond 2018. This scenario addresses SGR needs for existing facilities and vehicles and any new facilities and vehicles associated with new service that is identified in TDPs. It also includes Major Capital Projects currently under development. For TDM, it continues existing programs, growing existing TDM agency budgets to reflect expected inflation rates.
- **Moderate Investment:** This scenario includes expansion of transit capacity to meet service needs associated with population growth and increasing urbanization through 2040. It addresses SGR for all existing and future vehicles and facilities. It also includes Major Capital Investment Projects, assuming lower cost solutions where applicable. For

TDM, it includes extension of appropriate services into geographic areas not currently receiving TDM service, at levels consistent with average services of existing programs.

- **High Investment:** This last scenario includes all investments in the Moderate Scenario, plus additional capacity enhancements that are designed to increase transit modal share. Major capital investment projects assume higher cost alternative solutions where applicable. For TDM, the high investment scenario closes geographic gaps as in the Moderate Scenario and funds new or improved strategies consistent with recommended area-type programs.

Cost Estimates by Investment Scenario

Each investment strategy results in increased capital and operating cost. Levels of investment in each of these strategies have been identified in the three investment scenarios described above. The Statewide Transit and TDM Plan has developed capital and operating costs for each of these scenarios. Capital costs include both capital costs needed to expand capacity and complete major capital investments, and to replace existing infrastructure and rolling stock that has reached the end of expected service life.

Operating and maintenance costs include those expenses that must be incurred to provide new and ongoing services for both capacity enhancements and major capital investments. TDM costs primarily reflect operating and maintenance costs associated with varying the investment strategies, plus relatively smaller capital investment for specific strategies such as mobility stores.

Tables 4 and 5 summarize transit capital and operating costs and TDM needs by investment strategy for each of the investment scenarios.

Table 4. Projected 2013-2040 Transit Capital Needs (Millions YOE $)

Investment Scenario	State of Good Repair	Transit Capacity Enhancements	Major Transit Capital Projects	Total
Low Investment	$10,617	$1,057	$4,218	$15,892
Moderate Investment	$11,398	$1,997	$29,120	$42,515
High Investment	$11,599	$2,135	$41,294	$55,028

NOTE: In the needs assessment, TDM investments are considered an operating expense.

Table 5. Projected 2013-2040 Transit and TDM Operating Needs (Millions YOE $)

Investment Scenario	Major Transit Capital Projects	Transit Capacity Enhancements	*TDM Capacity Enhancements	Total
Low Investment	$5,310	$38,358	$739	$44,406
Moderate Investment	$6,558	$54,735	$897	$62,190
High Investment	$6,640	$60,965	$1,638	$69,243

NOTE: In the needs assessment, TDM investments are considered an operating expense.

Projected 2013-2040 Funding Gap

Between 2013 and 2040, anticipated State revenues that are projected to be available for transit capital and operating assistance are based on current funding programs as follows (in Year of Expenditure dollars):

- State Capital Assistance – $2.05 billion (YOE$)
- State Operating Assistance – $4.91 billion (YOE$)

The CTB typically provides a 16 percent match (80 percent non-federal) for total capital project costs and strives to provide a 20 percent match for operating assistance. These percentages were used to define the state funding needs; the anticipated funding gap for each investment scenario is shown in Table 6.

Table 6. Projected 2013-2040 State Transit and TDM Funding Gap (Millions YOE $)

Investment Scenario	Funding Needs/Revenues	Capital Funds	O&M Funds	
			Transit	TDM
Low	Total Funding Needs	$ 15,892	$ 43,668	$ 739
	Total Anticipated Revenues	$ 13,439	$ 31,157	$ 482
	Total Funding Gap	$ 2,453	$ 12,511	$ 257
	State Funding Gap (to reach historic State share)	**$ 1,210**	**$ 3,963**	**$ 177**
Moderate	Total Funding Needs	$ 42,515	$ 61,293	$ 897
	Total Anticipated Revenues	$ 13,439	$ 31,157	$ 482
	Total Funding Gap	$ 29,076	$ 30,136	$ 415
	State Funding Gap (to reach historic State share)	**$ 7,717**	**$ 7,489**	**$ 304**
High	Total Funding Needs	$ 55,028	$ 67,606	$ 1,637
	Total Anticipated Revenues	$ 13,439	$ 31,157	$ 482
	Total Funding Gap	$ 41,589	$ 36,449	$ 1,155
	State Funding Gap (to reach historic State share)	**$ 10,815**	**$ 8,751**	**$ 896**

Transit operating and capital needs are supported through a variety of financial resources, including farebox and other operating revenues, as well as local, state, and federal funding. Overall, farebox collections and local subsidy are the predominant sources of revenue for the operations of public transportation services. The state operating and capital assistance programs contributes a minority portion of funding, which historically has comprised approximately 20 percent of total operating costs; however, the state's participation in capital costs has been slightly higher at 50 to 55 percent of the non-federal share. Without a significant increase in state funding for public transportation, the legislative maximum of 95 percent creates an expectation that the state can participate at a much higher level. Further, unlike the roadway system that is predominantly owned and maintained by the Commonwealth, the delivery and ownership of public transportation service is primarily a decision made at the local level. If the state participated at 95 percent, combined with a reasonable farebox recovery rate, service would be over funded and there would be no local financial responsibility to maintain accountability.

Results of the transit capital and operating needs assessment by investment theme (i.e., state of good repair, transit capacity enhancements, and major capital projects) and investment scenario (i.e., low, medium, and high) are shown in Table 6. The needs analysis and estimated total funding gap are based on anticipated revenues. The state funding gap identified in Table 6 illustrates the state funding needed to achieve and maintain the historic state share for capital assistance at 16 percent total cost (80% of the non-federal costs), operating assistance at 20 percent total operating costs, and TDM operating assistance at 80 percent of eligible, non-federal, costs.

Without an increase in state funding for capital and operating assistance, the state's participation in operating assistance is projected to decline to 10 percent under the low-investment scenario and 5.4 percent under the high-investment scenario by 2040. Likewise, the capital assistance is anticipated to decline to 13 percent under the low investment scenario and 4 percent under the high investment scenario by 2040.

The projected state funding gap between 2013 - 2040 for operating assistance to achieve and maintain the historic 20 percent state share ranges from $3.96 billion (YOE$) under the low investment scenario to a high of $8.75 billion (YOE$) under the high investment scenario. The state funding gap between 2013 - 2040 for capital assistance to achieve and maintain the historic state share of 16 percent of total eligible costs ranges from $1.21 billion (YOE$) under the low investment scenario to $10.82 billion (YOE$) under the high investment scenario. The state funding gap between 2013 - 2040 for TDM to achieve and maintain an 80 percent historic state share is $177 million (YOE$) under the low investment scenario and $896 million (YOE$) under the high investment scenario. The funding gap for capital and operating assistance increases exponentially between 2013 - 2040 to achieve and maintain the statutory maximum of 95%. The funding required to achieve and maintain a state share of 95% for operating is $16.59 billion (YOE$) under the low investment scenario and $25.69 billion (YOE$) under the high investment scenario.

Transit Funding Impacts

The level of funding provided for transit and TDM programs has a direct and measurable impact on the mobility of Commonwealth residents. The Low Investment Strategy is anticipated to result in a reduction in transit's mode share of all transportation trips. It is conservatively estimated that the Low Investment Strategy would increase statewide transit ridership 13 percent from 194 million annual riders in 2012 to 220 million annual riders in 2040. However, as noted earlier, the statewide population is anticipated to grow by 37 percent. The amount of transit service provided per capita decreases under this strategy.

The Moderate Investment Strategy is anticipated to increase statewide transit ridership by 70 percent from 194 million annual riders in 2012 to 331 million annual riders in 2040. Under this scenario, ridership would be expected to increase at almost twice the rate of population growth. This strategy would maintain transit mode share by place type (e.g., rural, suburban, urban). Thus, as an area changes from rural to suburban, or suburban to urban characteristics, this strategy would fund a level of transit service that maintains the statewide average of service provided per capita.

The High Investment Strategy would result in a further increase of statewide transit ridership – a 92 percent increase from 194 million annual riders in 2012 to 372 million annual riders in 2040. Ridership could be expected to grow at approximately 2.5 times the rate of population; and thus, the statewide transit mode share would increase. This strategy would result in increased transit service levels per capita for those systems that presently exhibit ridership performance characteristics above the state average.

For TDM programs, the Moderate Investment Strategy would expand services to all areas of the state, primarily providing Virginians in rural and small urban areas of the state to better access job opportunities, but would challenge existing TDM agencies to respond to increasing transportation demand and congestion because funding would not increase with expected population growth. The high investment strategy would allow DRPT and its partner TDM agencies to work more effectively with employers to offer strong alternatives to single-occupant commuting and to work with transit partners to optimize new transit investments through more effective rider information, marketing, and ridesharing support programs.

Virginia's transit and TDM community requires sustained and dedicated funding to continue the operation and maintenance of its service levels and infrastructure. Maintenance funding alone will not be sufficient to fund transit and commuter services as the demand for such services continues to outpace local, state and federal resources. As noted in the three investment strategies, transit and TDM service and infrastructure needs are significant. Meeting those needs between now and year 2040 will require funding beyond what is currently available.

Potential funding sources to be considered by the General Assembly

Over the past twenty-five years, the Commonwealth of Virginia has made substantial investment in the movement of people by supporting the capital and ongoing operating and maintenance cost of delivering public transportation service. With the partnership of the local and federal government, the Commonwealth's investment in public transportation has provided a foundation that offers mobility freedom and choice for citizens of the Commonwealth and the millions of tourists that visit each year.

Even with its long standing commitment to support public transportation, the Commonwealth is expected to see a decline in its share of operating assistance from a historic 20 percent share to a low of 10.1 percent share by 2040 under the Low Investment Scenario. Under the Moderate and High Investment Scenarios the Commonwealth will see an even greater decline in its share of operating assistance to a low of 6.1 percent to 5.5 percent respectively. This decline in the state share is likely to result in the need for an increased local subsidy, a decrease in public transportation service, and/or an increase in transit fares. The expected decline in state operating assistance will take place during a time when the trend toward increased urban population will continue to put significant demand on our transportation infrastructure in areas where existing land-use will prevent further road widening and expansion. In addition, an increase in public transportation investment will be necessary throughout the Commonwealth as the desire to "age in place" increases. The aging population will require additional public transportation as the older generation is no longer able to drive.

In considering potential options to provide additional funds to support public transportation in Virginia, the General Assembly may wish to examine the feasibility of generating additional revenue from the following mechanisms:

- Increased allocation from the Transportation Trust Fund (TTF)
- Creation of a statewide index sales tax on gasoline
- General sales and use tax increase
- Direct the CTB to reserve a percentage of Congestion Mitigation and Air Quality (CMAQ) funds to support major transit capital improvements and the ongoing State of Good Repair of public transportation in eligible areas of the state
- Creating a dedicated revenue source that is sustainable and will provide for the maintenance and expansion of the WMATA Metro service into Virginia. This would create a shifting of revenue sources for the WMATA service that could provide use of the residual funds for mass transit operating and capital assistance throughout the Commonwealth
- Appropriating available revenues to support transitional assistance for two years through an annual allocation from the General Fund
- Annual allocations from the General Fund

TRANSPORTATION DEMAND MANAGEMENT

Although SJR 297 directed DRPT to study issues relating to transit, TDM programs and services are an interrelated part of the transportation system. As such, DRPT and the working group for this project also examined TDM programs and services in the Commonwealth. Funding and performance measures relating to TDM were investigated. In addition to discussions on TDM conducted at the meetings of the working group, a separate meeting of stakeholders from the various TDM programs, DRPT and VDOT was held in Richmond on June 21, 2012. The sole purpose of the meeting was to discuss TDM matters.

TDM Programs

There are 17 TDM programs serving Virginia. Nine of the programs in the northern part of the Commonwealth have joined a network with TDM programs in Maryland and the District of Columbia to better market their services. The TDM programs are operated by local governments, transit agencies, planning district commissions, regional commissions, and Transportation Management Associations.

TDM programs play an important role in the Commonwealth's transportation system by increasing transit ridership, assisting the public with the formation of vanpools and carpools, and working with employers to develop telework and alternative work schedule programs and assisting employees with travel options. These programs also are an important part of reducing air pollution. TDM programs are particularly vital to meeting air quality standards for areas in non-attainment or near non-attainment of federal air quality standards, of which Virginia has several, including Northern Virginia, Hampton Roads, Richmond, and Fredericksburg.

TDM Funding

Funding for TDM programs comes mostly from three funds: the Transportation Efficiency Improvement Fund (TEIF) administered by DRPT; federal Congestion Mitigation and Air Quality (CMAQ) funds; and federal Regional Surface Transportation Program funds. The federal funds are provided through the state's large MPOs (i.e., Northern Virginia, Fredericksburg, Richmond, Tri-Cities, and Hampton Roads). Having different funding sources is valuable in that it provides some funding options, but it can also be confusing to the TDM agencies when it comes to oversight of the funds and eligibility of expenses.

Created in 1993, TEIF started with an annual budget of $1 million, and over time, has increased to its current level of $4 million annually. Agencies seeking funding from TEIF apply annually to DRPT. In recent years funding requests have exceeded the TEIF's annual budget. The grant matching funds required for receipt of TEIF monies are provided by the local jurisdictions and agencies.

MPOs determine federal funding for TDM Programs and projects in their areas. Matching funds for CMAQ and RSTP projects are provided by the state, which essentially results in a 100 percent funding source for these projects. VDOT and DRPT work together to administer this funding through FHWA and FTA.

Next Steps for TDM

While DRPT and VDOT work closely together to support TDM programs, there are opportunities for improvement. These include identifying additional funding sources, coordinating efforts to maximize efficiency, and programming funds for more than one year at a time to improve program stability and maximize the use of federal funds.

It is often difficult to quantitatively measure the effectiveness of a TDM program. Unlike vehicle counts and bus passenger counts, the influence of a TDM program's marketing and outreach to employers and residents is not easily measured. However, DRPT has implemented various surveys and standardized data collection methods for TDM programs to measure shifts from driving alone to other modes and related reduction in vehicle trips and miles traveled.

DRPT is currently establishing a formal set of performance measures that capture the full effectiveness of each TDM program. These measures will become part of the input process for DRPT's funding allocation decisions and can be used to inform MPO allocation decisions. These measures will also identify the contribution that the DRPT-funded TDM agencies are making all across the Commonwealth to:

1. Market transit and boost farebox revenues
2. Take single occupant vehicles off the road, thus enhancing roadway system performance
3. Reduce fuel usage
4. Reduce emissions and help reach Clean Air Act Attainment in designated areas

NATIONAL CONTEXT

A snapshot of the public transportation economic landscape shows the time is right for the introduction of innovative funding techniques. The nation's economic downturn has created a double-edged sword for transit providers. That is, transit service demands are at an all time high when funding from federal and state sources is, at best, stagnant. Statistics by the American Public Transportation Association (APTA) indicate that transit ridership increased by nearly five percent from the first quarter of 2011 to the first quarter of 2012, despite the fact that many transit agencies cut service and increased fares during the same time period. This increase marks the most significant transit growth since 1996. The overall increase in bus ridership, according to APTA research, is attributed to two key factors: rising fuel prices and improvements in employment opportunities.

Agency Revenues

Operating funding for transit agencies is generally derived from four main sources. They are:

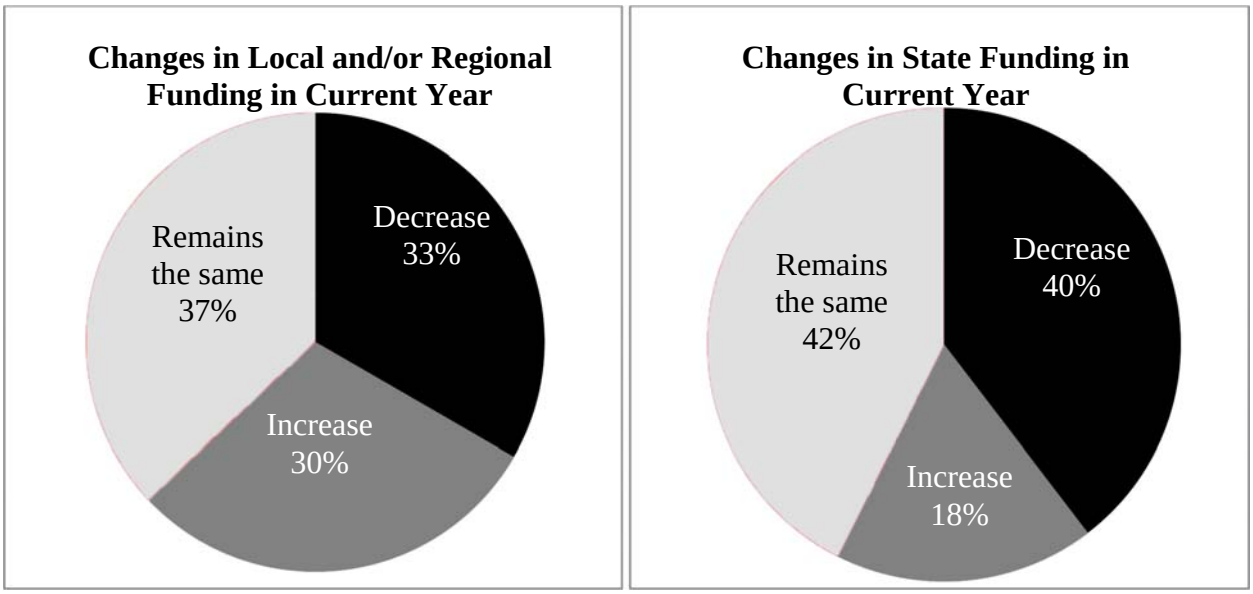
- Local revenue
- State revenue
- Transit fares
- Federal Revenue - Currently, transit agencies can use a portion of federal formula funding for operating assistance with certain parameters.

According to APTA's 2011 survey of transit providers, flat or declining state and local funding plagues many transit agencies nationally. Many agencies are projecting budget shortfalls for future years. APTA's 2011 report on the "Impacts of the Recession on Public Transportation Agencies" offers the following:

- 71 percent of public transportation agencies saw flat or decreased local funding, and 83 percent saw flat or decreased state funding.
- 85 percent of agencies report flat or decreased capital funding.
- Nearly eight in 10 transit agencies (79 percent) have cut service or raised fares or are considering one of those actions. Half of the transit agencies (51 percent) have already cut service or raised fares.
- Larger transit agencies were more likely to have cut service or raised fares than other agencies. Seven in 10 large agencies (71 percent) cut service in the past year compared to 41 percent of other agencies. Half of large agencies (50 percent) raised fares in the last year; only 30 percent of other agencies did so.
- Larger agencies were also more likely to take steps to reduce their workforces, with 75 percent of large agencies reducing their number of positions and 46 percent laying off employees.

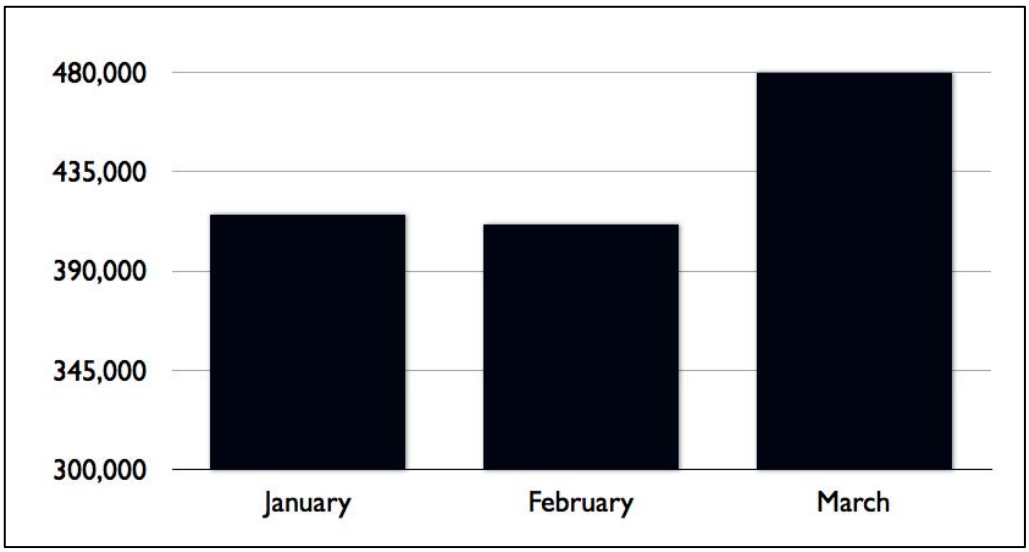
Figure 3 summarizes the national changes in public transportation funding as reported in the APTA report. Figure 4 summarizes national transit ridership for the first quarter of 2011.

Figure 3. National Changes in Public Transportation Funding 2011



Source: Impacts of the Recession on Public Transportation Agencies, 2011 Update, Survey Results; APTA

Figure 4. National Transit Ridership January–March, 2011



Source: Transit Ridership Report, First Quarter, 2011; APTA

Common Types of Funding Programs

Funding to transit organizations by states varies widely, but the most common funding methods include grants, formula, and discretionary funding programs. Types of state transit funding in the U.S. are shown in Table 7.

Table 7. Transit Funding by States in the US [47 States Surveyed]

Distribution Mechanism	% Total Funding	Number of States
DISCRETIONARY States with 50% or More	19.2%	25
DISCRETIONARY	N/A	13
FORMULA States with 75% of More Discretionary	59.3% N/A	30 18
LOCAL PASS-THROUGH	2.5%	4
OTHER	19%	18
TOTAL	100%	

Source: Cambridge Systematics, Inc.

Grants

Grants typically require that recipients implement a specific program and purpose, and there are three basic types of grants:

- **Formula** – Based on a decision rule with specific eligible uses and conditions for use of the funds.
- **Project** – Applicants are rewarded based on the agreement to conduct specific projects.
- **Block –** More generalized purposes with fewer requirements, but usually distributed by formula.

Formula Funding

In 2012, Congress enacted and the President signed into law the Moving Ahead for Progress in the 21st Century Act (MAP-21) that became effective October 1, 2012. MAP-21 calls for the development and use of a performance-based approach as a tool for guiding transportation investments. MAP-21 recipients of DRPT-administered federal funds for planning purposes will fall under the new federal performance-based provisions.

Monitoring performance has been a long-standing enterprise in the transit community. However, performance metrics are not commonly used as the basis to allocate funds. Rather, the metrics are taken into account in subjective, discretionary decisions or program monitoring situations that lead to specific project decisions. The trend toward performance-based funding distribution is just taking off across other areas. Kansas and New York are well on their way to implementing performance-based allocation methods for transit agencies.

Work by the Transit Cooperative Research Program (TCRP) on allocations based on performance-related measures expresses general support for the potential benefits. There is a widespread belief that performance measures encourage efficiency, create incentives, and can help encourage prudent financial decisions regarding transit service. Furthermore,

performance-based measurement systems can foster communication with more objectivity and less political bias, contribute to problem solving and sustainable operations, and help to convey the implications and tradeoffs when funding is constrained. In either a performance-based or formula-based funding approach, the local transit system should have the ability to operate below peer efficiency, but not at the expense of state resources.

Discretionary Programs

Discretionary programs have the advantage of potentially:

- Providing funding for new service while providing agencies with the discretion to determine whether such new service is warranted;
- Providing matching funding to leverage Federal programs;
- Funding innovative or special services, such as paratransit that may not be able to "compete" with standard service providers' performance levels (for measures such as cost, ridership, etc.); and
- Addressing specific policy goals that are not captured in the formula program.

Alternative Approaches Considered for State Operating Assistance

A variety of scenarios for funding distribution have been considered and evaluated by DRPT and the SJR 297 Funding Study Advisory Committee. Here, in brief, is a comparison of the benefits and challenges posed by four approaches to funding distribution for operating assistance.

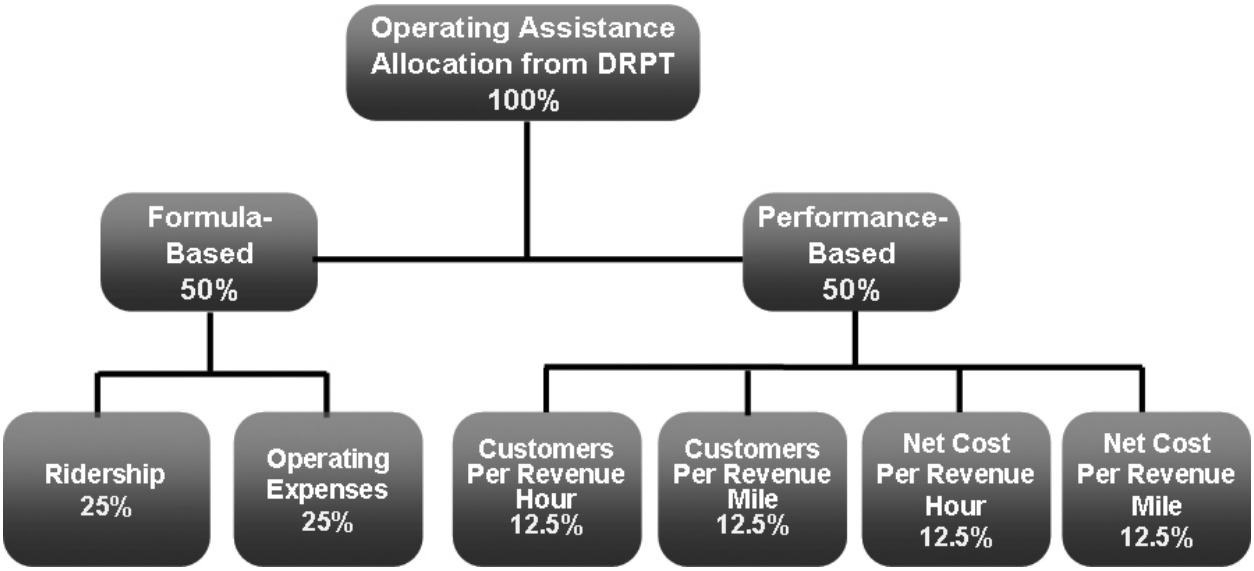
Table 8. Comparison of Alternatives for Operating Funds

Continue With Current Funding System **Benefits** • Transit providers are familiar • A structure is already in place **Challenges** • Funding does not invest in success • Funding does not align with strategy • Allocation is based on two-year-old data, making funding inflexible to current shifts in service demands • Operating assistance is tied to increased expenses; those agencies that spend more, get more	**100% Performance-Based Funding** **Benefits** • Management teams would be held accountable • Expenditures from the Commonwealth would be tied to results • A competitive atmosphere would exist to drive higher performance • Transit providers would take ownership in results **Challenges** • The commitment of "public" service could be threatened • Service could be jeopardized in quest for results • Requires a dramatic change of mindset that is difficult to achieve overnight • Year to year variability in performance would lead to instability in an agency's ability to continue to provide service
100% Formula-Based Funding With New Inputs **Benefits** • Introduces new measurements • There is a structure in place **Challenges** • The Commonwealth is in the position of having to audit results • Funding does not align with strategy • Unstable aid distribution • Allocation is based on two-year-old data, making funding inflexible to current shifts in service demands	**Hybrid** **Benefits** • 50% of aid would still be formula-based • 50% of aid would be performance-based • Management teams would be held accountable • Investments from the Commonwealth would be tied to results • A competitive atmosphere would exist to drive higher performance • A transitional change of mindset could take place 3 **Challenges** • A new structure would need to be developed • There should be a transitional period for service providers to prepare for the change in methodology • Additional data collection and auditing will be required

RECOMMENDED APPROACH TO OPERATING ASSISTANCE ALLOCATION

The recommended model for distributing operating funds is a hybrid of formula-based and performance-based funding. Fifty percent of the funds available for allocation by DRPT are assigned to a formula-based funding pool and 50 percent are assigned to a performance-based pool. The funds in the formula-based pool are further subdivided into funding pools tied to two metrics: Ridership and Operating Expenses. The funds in the performance-based pool are subdivided into funding pools tied to four metrics: Customers per Revenue Hour, Customers per Revenue Mile, Net Cost per Revenue Hour, and Net Cost per Revenue Mile. This subdivision of funds is illustrated in Figure 5.

Figure 5. The Subdivision of Operating Assistance from DRPT



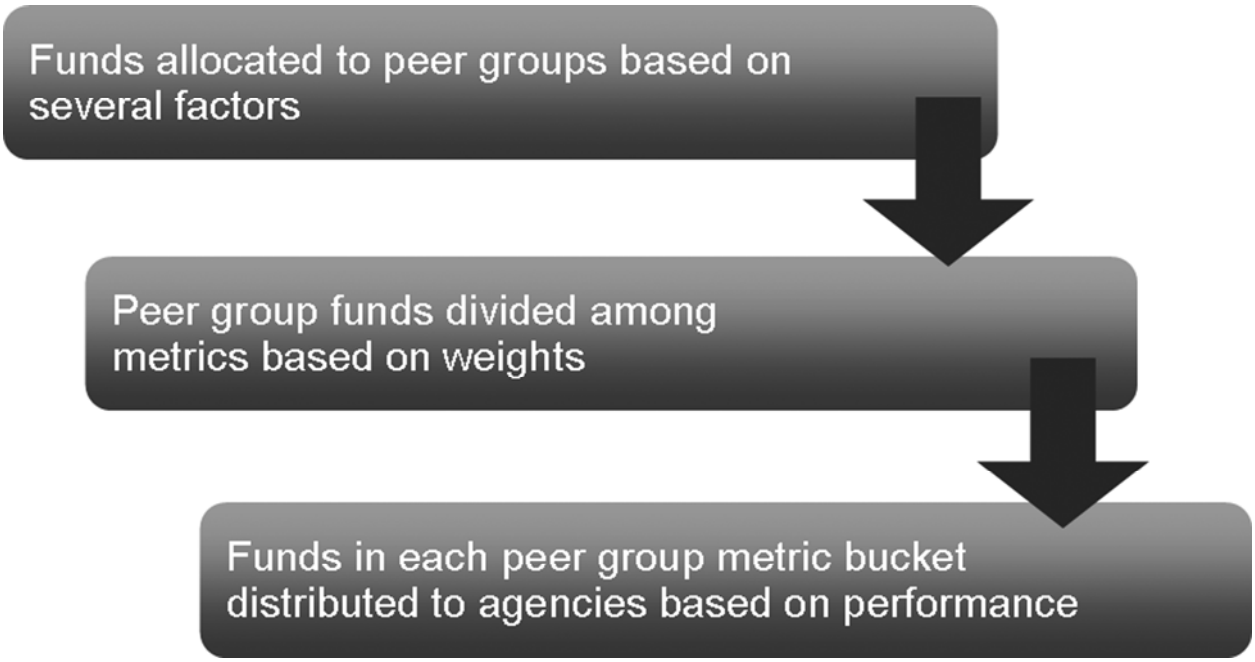
Operating funds are allocated to individual agencies from each of the six metric-based funding pools shown in the bottom level of the above diagram. The two formula-based metrics are reflective of an agency's size; they do not reflect an agency's success. Thus, funds allocated based on these metrics are formulaic in nature. The four performance-based metrics gauge how effectively an agency delivers service. Thus, funds allocated based on these metrics reward an agency's success relative to peer agencies.

The funds in each of the two formula-based metric funding pools are proportionally distributed to individual agencies based on the magnitude of their values relative to all DRPT-funded agencies. In allocating the formula funds based on Ridership, for example, an agency accounting for 13 percent of the total aggregate ridership of all DRPT-funded agencies would receive 13 percent of the funds available in the Ridership funding pool. In allocating the formula funds based on total Operating Expenses, an agency accounting for 2 percent of the total aggregate operating expenses of all DRPT-funded agencies would receive 2 percent of the funds available in the Operating Expenses funding pool.

The funds in each of the four performance-based funding pools are distributed based on agency performance relative to peer agencies. DRPT-funded agencies are clustered into peer groups of

similar agencies. The available funds in each performance-metric pool are divided among the peer groups based on group size relative to the other peer groups. Funds in each peer group are then allocated to individual agencies based on their performance relative to the other agencies in their peer group. This process for distributing performance funds is illustrated in Figure 6.

Figure 6. Distribution of Performance Based Allocation



Distribution of operating assistance under the recommended methodology entails a six-step process.

Step 1. Establish level of funding available for DRPT to distribute

This is determined via the Commonwealth budgeting process. For purposes of this study, FY13 levels were used.

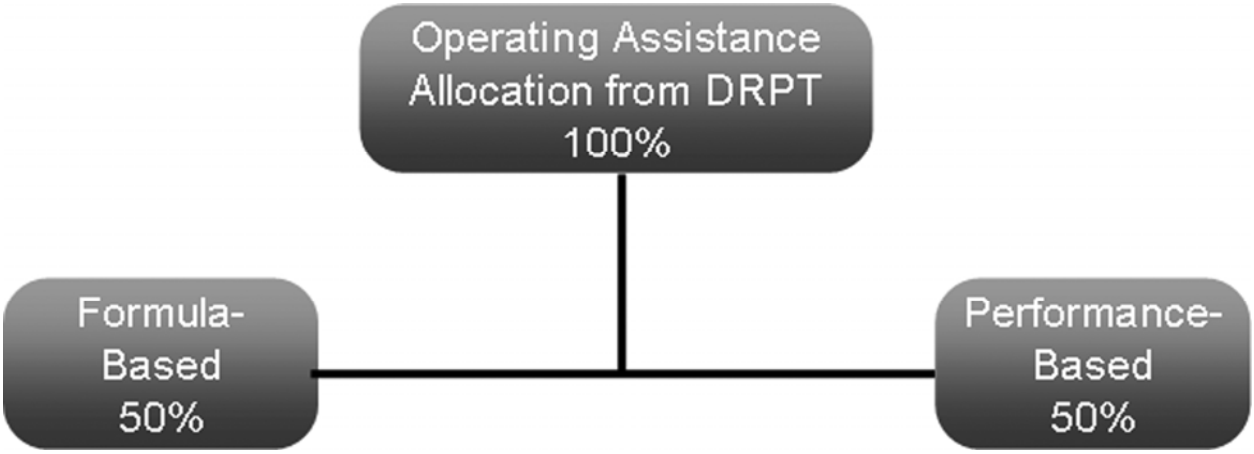
Step 2. Divide available funds into formula-based and performance-based funding pools

The total funds available to DRPT for distribution are divided equally into formula-based and performance-based funding pools. This is done via the following process:

- Assign 50 percent of the total available funds to the formula-based pool.
- Assign 50 percent of the total available funds to the performance-based pool.

This process is illustrated in Figure 7.

Figure 7. Equal Division of DRPT Operating Assistance



Step 3. Divide available formula-based and performance-based pools into metric-based funding pools

Divide formula funds and performance funds among the six metrics via the following process:

- Formula-based funding pool
    - Divide the formula-based funding pool equally between the two formula metrics: Ridership and Operating Expenses.
- Performance-based funding pool
- Divide the performance-based funding pool equally among the four performance metrics: Customers per Revenue Hour, Customers per Revenue Mile, Net Cost per Revenue Hour, and Net Cost per Revenue Mile.

Step 4. Divide funds available for each performance-based metric among peer groups

Available funds in the performance funding pool are distributed to each peer group in an amount proportional to the aggregate total operating cost of the agencies in each peer group relative to the other peer groups. This is done via the following process:

- Obtain the total operating cost of all agencies.
- Calculate the aggregate operating cost of each peer group.
- Calculate the percentage of the total combined operating cost of all DRPT-funded agencies represented by each peer group.
- Multiply each peer group's percentage of the total combined operating cost by the total available funds for each performance-based metric.

This process is illustrated in Table 9.

Table 9. Distribution of Performance Funds to Peer Groups

Peer Group	Group Size as a % of Total of All Agencies	Funds Allocated to Group based on Customers per Revenue Mile	Funds Allocated to Group based on Customers per Revenue Hour	Funds Allocated to Group based on Net Cost per Revenue Hour	Funds Allocated to Group based on Net Cost per Revenue Mile
A	40.2%	40.2% of Available	40.2% of Available	40.2% of Available	40.2% of Available
B	49.4%	49.4% of Available	49.4% of Available	49.4% of Available	49.4% of Available
C	6.4%	6.4% of Available	6.4% of Available	6.4% of Available	6.4% of Available
D	3.8%	3.8% of Available	3.8% of Available	3.8% of Available	3.8% of Available
E	0.2%	0.2% of Available	0.2% of Available	0.2% of Available	0.2% of Available
TOTAL	100%	100% of Available	100% of Available	100% of Available	100% of Available

Step 5. Allocate the funds in each metric-based pool to individual agencies

The purpose of Steps 1 through 4 is to divide the total available funding stream into pools defined by specific metrics. It is from each of these pools that funds will be distributed to individual agencies based on their respective values for the metric within each pool. Step 5 determines this allocation of funds to individual agencies.

Allocation of Formula Funds

Formula funds are allocated proportionally to agencies based on the magnitude of their values in each of the two formula metrics relative to all DRPT-funded agencies. This is done via the following process:

- Formula Metric 1: Ridership
  - Calculate the total aggregate ridership of all DRPT-funded agencies.
  - Calculate the percentage of the total aggregate ridership represented by each agency.
  - Multiply each agency's percentage of total aggregate ridership by the total amount of funds available in the Ridership pool. This calculation yields the amount of Ridership-based funding allocated to each agency.
- Formula Metric 2: Operating Expenses
  - Calculate the total aggregate operating expenses of all DRPT-funded agencies.
  - Calculate the percentage of the total aggregate operating expenses represented by each agency.
  - Multiply each agency's percentage of total aggregate operating expenses by the total amount of funds available in the Operating Expenses pool. This calculation yields the amount of Operating Expense-based funding allocated to each agency.

Allocation of Performance Funds

Performance funds are allocated to agencies within each peer group based on their results in each of the four performance metrics relative to other agencies in their peer group. This is done via the following process:

- Performance Metric 1: Customers per Revenue Hour
  - Calculate each agency's Customers per Revenue Hour performance value.
  - Calculate each agency's performance weight.
    - The performance weight is a standardized score that represents each agency's performance relative to its peer group's average Customers per Revenue Hour performance.
  - Calculate each agency's size weight. Total operating cost is used to determine the size weight.
    - The size weight is a standardized score that represents each agency's size relative to its peer group's average size.
    - The purpose of the size weight is to compensate for the variation in agency size within each peer group.
  - Calculate the common base funding amount for each agency within each peer group.
    - The base funding amount represents a theoretical common initial funding amount for each agency. This initial funding amount will be adjusted up or down based on each agency's performance and size weights.
  - Multiply each agency's peer group base funding amount by its performance weight and its size weight. This calculation yields the amount of Customers per Revenue Hour-based funding allocated to each agency.
    - Multiplying by the performance weight results in agencies receiving a level of funding commensurate to their performance relative to the peer group average.
    - Multiplying by the size weight compensates for variations in agency size within each peer group.
- Performance Metric 2: Customers per Revenue Mile
  - Calculate each agency's Customers per Revenue Mile performance value
  - Calculate each agency's performance weight.
    - The performance weight is a standardized score that represents each agency's performance relative to its peer group's average Customers per Revenue Mile performance.
  - Calculate each agency's size weight. Total operating cots is used to determine size weight.
    - The size weight is a standardized score that represents each agency's size relative to its peer group's average size.
    - The purpose of the size weight is to compensate for the variation in agency size within each peer group.
  - Calculate the common base funding amount for each agency within each peer group.
    - The base funding amount represents a theoretical common initial funding amount for each agency. This initial funding amount will be

adjusted up or down based on each agency's performance and size weights.

- Multiply each agency's peer group base funding amount by its performance weight and its size weight. This calculation yields the amount of Customers per Hour-based funding allocated to each agency.
    - Multiplying by the performance weight results in agencies receiving a level of funding commensurate to their performance relative to the peer group average
    - Multiplying by the size weight compensates for variations in agency size within each peer group

- Performance Metric 3: Net Cost per Revenue Hour
    - Calculate each agency's Net Cost per Revenue Hour performance value.
    - Calculate each agency's performance weight.
        - The performance weight is a standardized score that represents each agency's performance relative to its peer group's average Net Cost per Revenue Hour performance.
    - Calculate each agency's size weight. Total operating cost is used to determine size weight.
        - The size weight is a standardized score that represents each agency's size relative to its peer group's average size.
        - The purpose of the size weight is to compensate for the variation in agency size within each peer group.
    - Calculate the common base funding amount for each agency within each peer group.
        - The base funding amount represents a theoretical common initial funding amount for each agency. This initial funding amount will be adjusted up or down based on each agency's performance and size weights.
    - Multiply each agency's peer group base funding amount by its performance weight and its size weight. This calculation yields the amount of Customers per Revenue Hour-based funding allocated to each agency.
        - Multiplying by the performance weight results in agencies receiving a level of funding commensurate to their performance relative to the peer group average.
        - Multiplying by the size weight compensates for variations in agency size within each peer group.

- Performance Metric 4: Net Cost per Revenue Mile
    - Calculate each agency's Net Cost per Revenue Mile performance value.
    - Calculate each agency's performance weight.
        - The performance weight is a standardized score that represents each agency's performance relative to its peer group's average Net Cost per Revenue Mile performance.
    - Calculate each agency's size weight. Total operating cost is used to determine size weight.
        - The size weight is a standardized score that represents each agency's size relative to its peer group's average size.

        - The purpose of the size weight is to compensate for the variation in agency size within each peer group.
    - Calculate the common base funding amount for each agency within each peer group.
        - The base funding amount represents a theoretical common initial funding amount for each agency. This initial funding amount will be adjusted up or down based on each agency's performance and size weights.
    - Multiply each agency's peer group base funding amount by its performance weight and its size weight. This calculation yields the amount of Customers per Revenue Hour-based funding allocated to each agency.
        - Multiplying by the performance weight results in agencies receiving a level of funding commensurate to their performance relative to the peer group average.
        - Multiplying by the size weight compensates for variations in agency size within each peer group.

Step 6. Calculate the total funding allocation for each agency

Calculate the total amount of funding to be allocated to each agency by adding together the calculated funding amounts for each of the six metric-based funding buckets.

Peer Groups

DRPT currently allocates funds to 62 public transportation agencies whose communities vary greatly in size and scope. While the current funding formula lumps every transit agency together and allocates funds based solely on operating cost, creating winners and losers, the population in these communities ranges from under 5,000 to over 1.5 million, and population densities range from 20 people per square mile to 9,000 people per square mile. This diversity impacts the service characteristics of each agency. For example, agencies in smaller communities serve fewer than 10,000 riders per year, while agencies in the larger communities serve more than 10 million. Thus, the current system will never allow a small system to receive an increase in state operating assistance without increase in their operating costs.

To provide meaningful comparisons between agencies in the context of a performance-based funding allocation model, peer groups of similar agencies were developed. These peer groups provide a mechanism for agencies to compete among similar agencies for performance-based funds, rather than competing against agencies with vastly different community and productivity profiles.

The following factors were considered in the development of peer groups:

- Service area population
- Service area population density
- Annual ridership
- Annual total operating costs
- Number of vehicles in peak service
- Steel-wheeled versus rubber-wheeled (rail versus bus)

The following methodology was used in the creation of the recommended peer groups:

- For the first five factors listed above:
  - A value was obtained for each agency
  - The percentile was calculated for each agency based on the values for the given factor
- The average of the percentiles for the first five factors was calculated for each agency.
  - The list of agencies was sorted in descending order of the average percentile.
  - Rail agencies were assigned to the same peer group.
  - Non-rail agencies were assigned to peer groups in order of their average percentiles.

The data used to create peer groups was based on FY11 performance data and can be found on the project website at www.drpt.virginia.gov/activities/SJ297_TransitStudyCommittee.aspx. A set of proposed peer groups utilizing the above methodology is outlined on the following pages. It is recommended that the peer groups be evaluated every three to five years with a review process that solicits public input and a one-year notice prior to implementation.

An example of the proposed funding allocation model can be found in Appendix C.

Table 10. Proposed Peer Groups

Peer Group A	Peer Group B
• WMATA Rail • VRE • Hampton Roads Transit – Rail	• WMATA Bus • GRTC • Fairfax County • Hampton Roads Transit – Bus • City of Alexandria • PRTC • Arlington County • Loudoun County Office of Transportation Service
Peer Group C	**Peer Group D**
• Greater Roanoke Transit Company • Charlottesville Area Transit Service • Blacksburg Transit • Greater Lynchburg Transit Company • Williamsburg Area Transit Authority • City of Harrisonburg Department of Public Transportation • City of Fairfax • City of Petersburg • City of Winchester • City of Radford	• VRT • JAUNT • FRED • District Three Public Transit • Bay Aging • ASSC/Four County Transit • Danville Transit System • RADAR • Mountain Empire Older Citizens, Inc. • Farmville Area Bus • City of Bristol Virginia • Greene County Transit, Inc. • City of Suffolk • Pulaski Area Transit
Peer Group E	
• Blackstone Area Bus • Lake Area • STAR Transit • Town of Bluefield-Graham Transit • Town of AltaVista • Town of Chincoteague	

Performance Metrics

Six performance metrics were developed for use in the funding allocation model. The purpose of these six metrics is to provide meaningful, objective criteria by which to allocate funds to each state-funded public transportation agency while recognizing that no one measure can adequately characterize the performance of the wide variety of transit agencies currently operating in Virginia. It is important to note that these are standard industry metrics, which are readily available and auditable, as acknowledged by the SJR 297 Funding Study Advisory Committee. The six measurements in the funding allocation model are described Table 11.

Customers per Revenue Hour and Customers per Revenue Mile are similar measures, as are Net Cost per Revenue Hour and Net Cost per Revenue Mile. The nature of costs associated with revenue miles versus revenue hours, however, is different. Hours-based costs include elements such as driver wages and benefits. Miles-based costs include elements such as fuel and tires. Because of the varying nature of hours-based and miles-based costs, and because the correlation between hours and miles varies between agencies, both Customers per Revenue Hour and Customers per Revenue Mile are included in this funding allocation model. For the same reasons, Net Cost per Revenue Hour and Net Cost per Revenue Mile are included in the model.

Table 11. Summary of Metrics

Metric	Definition	Purpose	Use in Model	Calculation
Ridership	Total annual customer trips	To assess the level of benefit each agency provides to its community in terms of volume of use	Each agency will receive a level of funding proportional to their ridership relative to all other DRPT-Funded agencies	
Operating Expenses	Total annual operating expenses	To assess the cost each agency incurs in operating current levels of service.	Each agency will receive a level of funding proportional to their operating expenses relative to all other DRPT-Funded agencies	
Customers per Revenue Hour	The average number of customer boardings generated by each other of revenue service	To assess productivity and the efficiency with each agency deploys its resources. Higher Customers per Revenue Hour values indicate greater efficiency in the scheduling of service, which yields higher productivity.	Each agency will receive a level of funding proportional to their Customer per Revenue Hour performance relative to the other agencies in their peer group.	(Annual Ridership)/(Total Annual Revenue Hours)
Customers per Revenue Mile	The average number of customers boardings generated by each mile of revenue service.	To assess productivity and the efficiency with which each agency deploys its resources. Higher Customer per Revenue Mile values indicate efficiency in the scheduling of service, which yields higher productivity.	Each agency will receive a level of funding proportional to their Customers per Revenue Mile performance relative to the other agencies in their peer group.	(Annual Ridership)/(Total Annual Revenue Miles)
Net Cost per Revenue Hour	The average dollar amount of tax subsidy required for each hour of revenue service	To assess the cost effectiveness with which each agency deploys its resources. Lower Net Cost over Revenue Hour values indicate greater cost effectiveness in the operation of service. To reduce reliance on public funds. Net Cost per Revenue Hour can be improved	Each agency will receive a level of funding proportional to their Net Cost per Revenue Hour performance relative to the other agencies in their peer group.	(Operating Cost – Agency-Generated Revenue)/Revenue Hours

Metric	Definition	Purpose	Use in Model	Calculation
		by decreasing internal agency costs and by increasing the amount of agency-generated revenue, such as service contract revenue and advertising revenue.		
Net Cost per Revenue Mile	The average dollar amount of tax subsidy required for each mile of revenue service.	To assess the cost effectiveness with which each agency deploys its resources. Lower Net Cost per Revenue Mile values indicate greater cost effectiveness in the operation of service. To reduce reliance on public funds. Net Cost per Revenue Mile can be improved by decreasing internal agency costs and by increasing the amount of agency-generated revenue, such as service contract revenue and advertising revenue.	Each agency will receive a level of funding proportional to their Net Cost per Revenue Mile performance relative to the other agencies in their peer group.	(Operating Cost – Agency-Generated Revenue)/Revenue Miles

Data Review and Results Analysis

More than 200 unique data points were used as inputs to the peer grouping process. More than 300 unique data points were used as inputs into the funding allocation model. The validity of the funding allocation results is dependent upon the accuracy of the data inputs used in the model.

Any new allocation model will result in agencies receiving different amounts of funding than they currently receive. The key criterion for evaluating the success of a new funding model is not the degree to which agencies receive different amounts of funding, but whether the source of that differentiation is consistent with the goals and principles of the funding entity. Under the recommended hybrid operating assistance allocation model, an average change of 5 percent in total operating funding as compared to total operating budget was calculated.

The current funding model bases funding variations between agencies solely on size. It does not provide any chance for a transit provider to receive a greater amount of state operating assistance without significantly increasing their operating costs. The recommended operating assistance allocation model allocates 50 percent of available funding on performance and 50 percent on formula. The recommended allocation methodology evaluates the performance of agencies of similar size, hence creating a level playing field for every provider. The recommended approach is consistent with the policy goals of the CTB and has a relatively low impact on the funding that public transportation providers will receive.

Transition Assistance

A three-year transition period is recommended to move from the current cost-based formula allocation methodology to the new hybrid funding allocation methodology. This transition period will allow transit agencies to become familiar with the performance metrics and continue to improve data integrity. In order to provide each transit agency with a three-year transition period, a new one-time source of funding will be required in the amount of $18 million. The first year (FY2015) all transit systems will be made 100 percent whole by receiving transition assistance, the second year (FY2016) all transit systems will be made 50 percent whole by receiving transition assistance, and the third year (FY2017) the new operating assistance allocation methodology will be fully implemented.

RECOMMENDED APPROACH TO CAPITAL FUNDS

Two funding streams are currently in place for capital funding assistance: the MTTF and the MTCF. MTTF dedicates approximately $30 million per year to capital projects, which represents 25 percent of the MTTF's revenue stream. All capital items under this program are funded at the same level of support regardless of project type. For example, a landscaping project and a vehicle replacement would both receive the same funding rate, which is currently approximately 50 percent of the non-federal share. MTTF capital funding is also used to provide operating support in special cases as determined by the CTB.

The MTCF currently dedicates $60 million per year to capital projects. The bulk of the funds available in the MTCF are Capital Project Revenue (CPR) Bonds, which will be exhausted by 2018. A significant distinction between MTTF and MTCF funds is that DRPT has the flexibility to allocate MTCF funding levels based on project type according to CTB priorities. For example, DRPT could use MTCF funds to support 5 percent of the non-federal cost of landscaping projects and 20 percent of the non-federal cost of vehicle procurements (unlike MTTF funding, which is required to provide the same support percentage to both projects).

Advantages of the Current System

- MTTF funds represent a dedicated, continual funding stream (currently $30 million per year) that can be relied upon from year to year.
- MTTF funds can be used to provide supplemental operating assistance at the CTB's discretion.
- Application-driven process ensures project buy-in on the part of individual agencies.
- DRPT has the flexibility to vary MTCF funding levels by project type based on department priorities.

Disadvantages of the Current System

- DRPT does not have the flexibility to vary MTTF funding levels by project type based on CTB priorities.
- MTCF funds will be exhausted by 2018.

In the absence of updates to the current system, DRPT will lose the flexibility to prioritize capital funding levels by project type in 2018 when MTCF funds are exhausted.

Recommended Methodology for Capital Funds

DRPT recommends that the following capital assistance allocation process be adopted:

- Allow DRPT to prioritize distribution of MTTF funds by varying funding levels by project type, based on CTB priorities.
- Continue to allow capital funds to supplement operating assistance and codify such allowance.
- Continue the application-driven process of both MTTF and MTCF funds.
- Require a local match.

RECOMMENDED ACTION PLAN

In response to the legislative mandate, DRPT has developed a series of recommendations for the General Assembly's consideration in its deliberations regarding state public transportation funding decisions. The Commonwealth of Virginia recommends a system that provides guidance for funding public transit systems by establishing benchmarks and funding allocations based on performance and the delivery of efficient and effective public transportation service to its customers. Transit systems under a hybrid performance-based funding approach will be funded based both on their performance, as well as with a level of formula assistance. Taxpayers will benefit from the increased value provided by the transit providers, and transit users will benefit from improved service. With respect to the four major study areas of the SJR 297 legislation, DRPT recommends the following:

Performance

The Code of Virginia should be revised to call for the implementation of a hybrid allocation system that incorporates both a formula and a peer performance-based component.

Prioritization

An allocation process should be developed that links capital investment decisions to CTB priorities.

Stability

A reserve fund should be created to stabilize match ratios for capital and operating expenses and there should be flexibility to allow capital funds to be flexed into operating assistance to stabilize fluctuations that may occur from time to time. Additionally, a funding source should be identified to provide transitional assistance to transit providers as they move toward the new state funding model.

Allocation

The codified 95 percent cap on eligible capital and operating expenses should be eliminated. Funds allocated must require a local match from the transit provider recipient. Any new funds should be allocated based on a declaration of maintenance of effort by the transit recipient.

Capital and Operating Needs

In considering potential options to provide additional funds to support public transportation in Virginia, the General Assembly may wish to examine the feasibility of generating additional revenue from the following mechanisms:

- Increased allocation from the Transportation Trust Fund (TTF)
- Creation of a statewide index sales tax on gasoline
- General sales and use tax increase
- Direct the CTB to reserve a percentage of Congestion Mitigation and Air Quality (CMAQ) funds to support major transit capital improvements and the ongoing State of Good Repair of public transportation in eligible areas of the state
- Creating a dedicated revenue source that is sustainable and will provide for the maintenance and expansion of the WMATA Metro service into Virginia. This would create a shifting of revenue sources for the WMATA service that could provide use of the

residual funds for mass transit operating and capital assistance throughout the Commonwealth

- Appropriating available revenues to support transitional assistance for two years through an annual allocation from the General Fund
- Annual allocations from the General Fund

Three-Year Transition Period

DRPT is recommending a three-year transition period to provide transit operators an opportunity to become familiar with the new hybrid operating assistance allocation methodology. This will allow providers to improve their performance and data integrity leading up to full implementation of the recommended hybrid operating assistance allocation model. In order to provide each transit agency with a three-year transition period, a new one-time source of funding will be required in the amount of $18 million. The first year of implementation (FY2015) all transit systems would be made 100 percent whole by receiving transition assistance, the second year (FY2016) all transit systems would be made 50 percent whole by receiving transition assistance, and the third year (FY2017) the recommended hybrid operating assistance allocation methodology would be in place.

CONCLUSION

The Commonwealth of Virginia has an opportunity to create a framework to reward public transit service providers to both improve quality of service and improve financial results to taxpayers. The General Assembly's action on SJR 297 provides a framework to prioritize performance in public sector management, brings stability to transit systems while they are seeing increased demand, and creates a healthy competitive marketplace for allocating tax dollars.

The resulting transparency to oversight boards, customers and taxpayers from a performance-based management approach where the Commonwealth will truly provide an incentive for stronger performance will benefit all. High performing transit systems will be recognized and rewarded, and underperforming transit systems will have a level of protection through the formula program and have the opportunity to study their peer agencies to improve their performance.

The recommended hybrid approach for state operating assistance – continuing the best components of the current formula program that transit service providers understand and are comfortable with – while stripping away the underlying "increased aid for increased expenses" disincentive – achieves the balanced management approach that many states are beginning to embrace.

Similarly, the formation of peer groups on the performance side of the equation essentially mirrors a long-standing practice in federal public transportation policy of segregating service providers for different formulaic programs. Further, the new transportation legislation recently passed by Congress and signed by the President requires public transportation providers to construct performance measurement systems. The effort of the Commonwealth to pick up on the long-standing concept of national peer groups, allocating dollars accordingly, and now directly connecting performance to aid appears wholly consistent with the recent actions nationally.

Finally, the fact that DRPT is recommending a multi-year transition period, with transitional funding for service providers, demonstrates the Department's commitment to stability and continuity of transit service.

Taxpayers are demanding higher levels of performance from public agencies. SJR 297 creates an opportunity for transit systems across the Commonwealth to demonstrate to taxpayers, elected officials and customers that they embrace the concept of providing high quality public transportation service and transparently connecting the policies of the CTB to funding.

APPENDIX A. SJR 297

Requesting the Department of Rail and Public Transportation to study transit-related issues in the Commonwealth. Report.

Agreed to by the Senate, February 2, 2011
Agreed to by the House of Delegates, February 22, 2011

WHEREAS, the mission of the Department of Rail and Public Transportation (DRPT) is to improve the mobility of goods and people while expanding transportation choices in the Commonwealth; and

WHEREAS, in the last six years alone, DRPT has started six new transit systems in 16 communities; and

WHEREAS, DRPT has also been instrumental in implementing some of the largest transit projects in decades including the Dulles Corridor Metrorail Project and the Norfolk Light Rail Project (the Tide), as well as numerous bus service expansions; and

WHEREAS, the economic downturn and increasing demand for services has caused a reduction in operating and capital grants; and

WHEREAS, historically the transit operating expenses match has been 20 percent; it has now been reduced to 15 percent and the new transit systems and the large projects beginning in 2011 (Norfolk Tide) and 2013 (Dulles Rail phase1) will push down that ratio even more; and

WHEREAS, the capital program changes year to year based upon the revenues available and the capital needs of the transit system; now, therefore, be it

RESOLVED by the Senate, the House of Delegates concurring, That the Department of Rail and Public Transportation be directed to study transit-related issues in the Commonwealth.

In conducting its study, the Department of Rail and Public Transportation (DRPT) shall study, but not be limited to, the following issues:

1. Performance. The study should determine if there should be a system in place to reward operator performance based upon specific performance criteria (e.g., farebox recovery, cost per passenger trip, passenger trips per vehicle revenue hour, etc.);

2. Prioritization - currently all capital requests are matched equally. The study should examine different funding categories;

3. Stability - match ratios change every year based upon demand and available revenues. The study should examine holding systems harmless at existing levels and creating a reserve to stabilize funding for both capital and operating expenses; and

4. Allocation - current funding formulas were established in the Code of Virginia about 25 years ago at a time when transit was not as important as today in the overall transportation network. The study should evaluate the allocation of the 14.7 percent of Transportation Trust Fund revenues among capital and operating expenses and special programs. The study should also address the current Code language that allows transit funding up to 95 percent of eligible capital and operating expenses. The study should determine an appropriate percentage.

This study is to be conducted by DRPT in cooperation with transit stakeholders, transit systems, local governments, and metropolitan planning organizations as well as other interested parties. The study shall be conducted by DRPT using existing agency staff and resources and be completed for the 2012 Regular Session of the General Assembly. All agencies of the Commonwealth shall provide assistance to DRPT for this study, upon request.

The Department of Rail and Public Transportation shall complete its meetings by November 30, 2011, and shall submit to the Governor and the General Assembly an executive summary and a report of its findings and recommendations for publication as a House or Senate document. The executive summary and report shall be submitted as provided in the procedures of the Division of Legislative Automated Systems for the processing of legislative documents and reports no later than the first day of the 2012 Regular Session of the General Assembly and shall be posted on the General Assembly's website.

APPENDIX B. SJR 297 FUNDING STUDY ADVISORY COMMITTEE

Curtis Andrews	RADAR
Noelle Dominguez	Fairfax County
Larry Hagin	Greater Richmond Transit Company
Al Harf	Potomac-Rappahannock Transit Commission
Howard Jennings	Arlington County
Arnie Levine*	City of Fredericksburg
Henry Li	Hampton Roads Transit
Dan Lysy	Richmond Regional Planning District Commission
Mark McGregor	Virginia Regional Transit
Diana Morris	Blacksburg Transit
Mark Rickards*	Williamsburg Area Transit Authority
Donna Shaunesey	JAUNT / Community Transportation Association of Virginia
Rick Taube	Northern Virginia Transportation Commission
Bill Watterson*	Charlottesville Area Transit

*These individuals left their positions prior to the completion of the SJR 297 Funding Study. Kevan Danker, Williamsburg Area Transit, attended on behalf of WATA.

Note that individual members of the SJR 297 Funding Study Advisory Committee do not necessarily endorse all of the recommendations included in this study report.

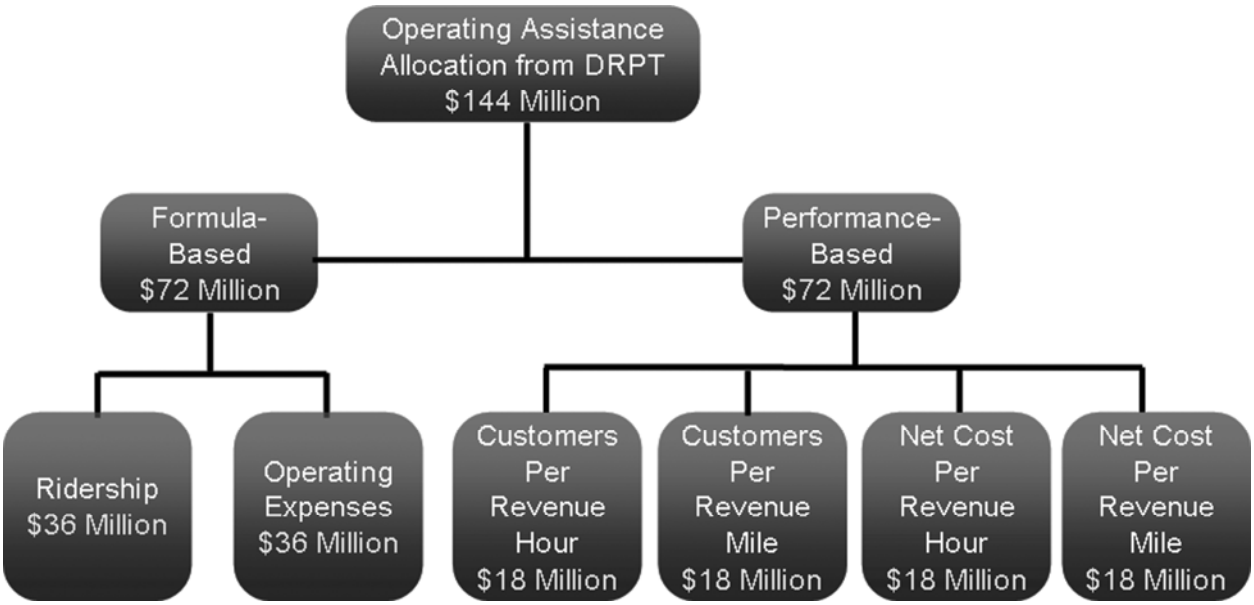
APPENDIX C. FUNDING ALLOCATION EXAMPLE

The following is a step-by-step example for illustrative purposes only on use of this operating assistance allocation methodology.

Step 1: Establish level of funding available for DRPT to distribute.

Step 2: Divide available funds into formula-based and performance-based funding pools.

Step 3: Divide available formula-based and performance-based pools into metric-based funding pools.



Step 4: Divide funds available for each performance-based metric among peer groups.

Peer Group	Customers per Revenue Hour	Customer per Revenue Mile	Net Cost per Revenue Hour	Net Cost per Revenue Mile
A	$7,111,813	$7,111,813	$7,111,813	$7,111,813
B	$8,740,788	$8,740,788	$8,740,788	$8,740,788
C	$1,140,847	$1,140,847	$1,140,847	$1,140,847
D	$676,531	$676,531	$676,531	$676,531
E	$32,513	$32,513	$32,513	$32,513
TOTAL	$17,702,492	$17,702,492	$17,702,492	$17,702,492

Step 5: Allocate the funds in each metric-based pool to individual agencies (select metrics shown)

	Formula					
Recipient	Ridership	% of DRPT Aggregate	Ridership Funding	Operating Expenses	% of DRPT Aggregate	Operating Expenses Funding
Agency 1	20,724,862	10.65%	$3,835,354	$130,882,385	18.15%	$6,536,748
Agency 2	12,818,930	6.59%	$2,372,278	$44,949,965	6.23%	$2,244,967
Agency 3	9,810,228	5.04%	$1,815,486	$57,971,415	8.04%	$2,895,306
Agency 4	16,070,800	8.26%	$2,974,071	$73,941,899	10.25%	$3,692,930
Agency 5	3,706,900	1.90%	$686,001	$14,038,751	1.95%	$701,147
Agency 6	3,326,699	1.71%	$615,641	$24,023,171	3.33%	$1,199,806
Agency 7	2,261,128	1.16%	$418,446	$9,618,607	1.33%	$480,389
Agency 8	1,183,065	0.61%	$218,939	$7,895,897	1.09%	$394,350
Agency 9	2,333,735	1.20%	$431,882	$8,088,908	1.12%	$403,990
Agency 10	2,312,126	1.19%	$427,883	$6,175,458	0.86%	$308,425
Agency 11	3,368,278	1.73%	$623,335	$4,920,639	0.68%	$245,755
Agency 12	2,262,795	1.16%	$418,754	$8,915,662	1.24%	$445,281
Agency 13	2,827,874	1.45%	$523,328	$6,129,290	0.85%	$306,119
Agency 14	2,086,135	1.07%	$386,061	$3,001,456	0.42%	$149,904
Agency 15	900,121	0.46%	$166,577	$2,723,998	0.38%	$136,046
Agency 16	585,641	0.30%	$108,379	$3,310,956	0.46%	$165,361
Agency 17	232,548	0.12%	$43,035	$1,576,998	0.22%	$78,761
Agency 18	128,876	0.07%	$23,850	$790,118	0.11%	$39,461

		Performance					
Recipient	Peer Group	Customers per Revenue Hour	Size Weight	Performance Weight	Size x Performance	Customers per Hour Base Funding	Customers per Hour Performance Funding
Agency 1	B	19.41	2.88	0.90	2.60	$1,242,503	$3,229,360
Agency 2	B	20.38	0.99	0.95	0.94	$1,242,503	$1,164,198
Agency 3	B	20.57	1.28	0.96	1.22	$1,242,503	$1,515,307
Agency 4	B	16.36	1.63	0.76	1.24	$1,242,503	$1,537,744
Agency 5	B	25.22	0.31	1.17	0.36	$1,242,503	$450,035
Agency 6	B	20.37	0.53	0.95	0.50	$1,242,503	$621,971
Agency 7	B	24.44	0.21	1.14	0.24	$1,242,503	$298,711
Agency 8	B	25.46	0.17	1.18	0.21	$1,242,503	$255,494
Agency 9	C	16.14	1.77	0.68	1.21	$109,419	$132,154
Agency 10	C	26.03	1.35	1.10	1.49	$109,419	$162,711
Agency 11	C	36.84	1.08	1.56	1.68	$109,419	$183,520
Agency 12	C	23.79	1.95	1.00	1.96	$109,419	$214,673
Agency 13	C	29.61	1.34	1.25	1.68	$109,419	$183,748
Agency 14	C	33.55	0.66	1.42	0.93	$109,419	$101,934
Agency 15	C	26.34	0.60	1.11	0.66	$109,419	$72,644
Agency 16	C	12.62	0.73	0.53	0.39	$109,419	$42,282
Agency 17	C	25.53	0.35	1.08	0.37	$109,419	$40,750
Agency 18	C	6.42	0.17	0.27	0.05	$109,419	$5,136

Step 6: Calculate the total funding allocation for each agency.

	Formula			Performance				
Recipient	Ridership Funding	Operating Expenses Funding	Peer Group	Customers per Hour Performance Funding	Customers per Mile Performance Funding	Net Cost per Hour Performance Funding	Net Cost per Mile Performance Funding	Total Allocation
Agency 1	$3,835,354	$6,536,748	B	$3,229,360	$3,612,362	$2,079,041	$1,690,065	$20,982,931
Agency 2	$2,372,278	$2,244,967	B	$1,164,198	$902,060	$1,521,011	$1,785,003	$9,989,518
Agency 3	$1,815,486	$2,895,306	B	$1,515,307	$1,419,136	$860,014	$835,021	$9,340,271
Agency 4	$2,974,071	$3,692,930	B	$1,537,744	$1,527,822	$3,309,579	$3,029,000	$16,071,147
Agency 5	$686,001	$701,147	B	$450,035	$685,224	$297,975	$177,955	$2,998,337
Agency 6	$615,641	$1,199,806	B	$621,971	$459,749	$433,958	$533,842	$3,864,966
Agency 7	$418,446	$480,389	B	$298,711	$361,329	$164,849	$123,922	$1,847,645
Agency 8	$218,939	$394,350	B	$255,494	$105,138	$406,393	$898,012	$2,278,326
Agency 9	$431,882	$403,990	C	$132,154	$102,453	$202,141	$262,451	$1,535,071
Agency 10	$477,883	$308,425	C	$162,711	$174,796	$102,804	$96,323	$1,272,943
Agency 11	$623,335	$245,755	C	$183,520	$220,834	$341,973	$286,053	$1,901,471
Agency 12	$418,754	$445,281	C	$214,673	$199,952	$133,365	$144,123	$1,556,148
Agency 13	$523,328	$306,119	C	$183,748	$150,764	$101,151	$124,088	$1,389,199
Agency 14	$386,051	$149,904	C	$101,934	$122,085	$128,345	$107,862	$996,191
Agency 15	$166,577	$136,046	C	$72,644	$65,895	$44,884	$49,805	$535,852
Agency 16	$108,379	$165,361	C	$42,282	$60,795	$52,910	$37,039	$466,765
Agency 17	$43,035	$78,761	C	$40,750	$36,491	$9,245	$10,392	$218,674
Agency 18	$23,850	$39,461	C	$5,136	$5,487	$22,733	$21,416	$118,083

APPENDIX D. SUMMARY OF COMMENTS

The Senate Joint Resolution 297 (SJR 297) Report was presented to the Virginia Commonwealth Transportation Board on October 18, 2012 followed by a thirty-day public comment period. The Virginia Department of Rail and Public Transportation (DRPT) received formally submitted comments from eight agencies related to the SJR 297 Report. In addition to the formally submitted comments, DRPT received informal comments from individual stakeholders, including Metropolitan Planning Organizations, Transit and TDM agencies, and localities. Below is a summary of and general response to the comments that were formally received by DRPT.

Comment: Phased implementation over three years starting in FY15 is a good idea and will allow locals to phase in service adjustments and/or local funding adjustments as needed to resolve a potential funding gap.

Response: Concur

Comment: It is unclear how the state will ensure that transit agencies are held harmless during the phased implementation in FY15 and FY16. It is not clear what source of revenues the state will draw from in order to fill the transit service funding gap.

Response: The SJR 297 Report recommends an allocation of new funds to allow for a two year transition period. This allocation of new funds will enable the Commonwealth to hold harmless the transit agencies as they transition into the new hybrid operation assistance allocation model.

Comment: Competition among peer groups provides a disincentive for information sharing and regional cooperation. The proposed peer groups may undermine existing inter-organizational coordination efforts.

Response: The peer groups have been established to provide a level of benchmarking of systems with similar characteristics. Regional, professional, and inter-organizational coordination will continue to benefit all systems that are allocated funding via the SJR 297 hybrid operating assistance allocation model. It is also important to note that the proposed hybrid model is based on six measures, in part, to balance potential impacts due to changes in any one measure.

Comment: The need for change from the existing allocation system has not been documented.

Response: The existing operating assistance allocation methodology does not link to the Commonwealth Transportation policy goals. The operating assistance funds are allocated based on one factor, operating expenses. This rewards higher operating expenses independent of transit service provided, performance, or the area in which the service is provided. There is no funding methodology in place to reward high performing transit providers. Two-year old data is used to derive operating assistance allocations, which inserts a gap of time and is not fluid with ever-changing service demands. The current system does not provide funding stability. The two-year time gap does not allow for consideration of new services or providers. When new systems are introduced, funding to established transit

providers is negatively impacted. The 95 percent statutory maximum in State matching share has been unachievable.

Comment: The proposed model provides a disincentive for transit expansion. It takes time to build up ridership on a new service route. Under the proposed performance allocation model, a transit provider who expands service to achieve stated transportation goals will likely have a lower performance score while they build ridership. As a result, state funding may be reduced and could act as a disincentive for future transit service expansion.

Response: Transit agencies that are currently operating service are required by DRPT to develop and annually maintain a Transit Development Plan. Through that transit planning process, transit agencies are expected to identify where transit expansion or increased transit service is warranted based on existing or projected demand. Areas that currently do not have service, but wish to begin service, are required to conduct a feasibility study that will identify the demand, level and type of transit service that is required. Through each planning process, the transit agency or local entity wishing to begin transit service will have an understanding of the specific capital and operating cost required to provide the service. Additionally, ridership projections will be developed as part of the planning process. The decision to implement new or expand transit service will take place at the local level based on sound planning and information that is generated for the local decision making process. Under the current funding formula, transit systems must start and operate service for at least one full year prior to eligibility of state transit formula operating funds for the following year – an up to two year lag. Under the proposed SJ297 hybrid model, the first year a new service is implemented, the new service's budgeted cost will be used when submitting an application to DRPT for operating assistance.

Comment: The methodology does not allow transit agencies enough time to adjust to major changes in ridership due to major shifts in the employment base or other factors.

Response: Major shifts in the employment base or other such factors typically take place over a period of time. Through the annual TDP update process, transit agencies monitor these shifts in population and employment and adjust transit service accordingly.

Comment: The proposed model provides a disincentive to investing in human services. Paratransit generally costs more to run than other types of transit service. If paratransit is combined with regular services the average performance of the system goes down, thus lowering the competitiveness of the transit agency. Transit agencies that provide volunteer paratransit service may be inclined to cut service in order to increase the system's overall rate of performance.

Response: Paratransit service is inherent to transit agencies receiving federal funds. The critical nature of providing efficient paratransit service goes without question. Local governing boards and transit agencies in Virginia and across the country are becoming more creative in the delivery of paratransit service, which has resulted in improved paratransit service delivery and cost savings to the transit agencies.

Comment: Segregate data for paratransit services from fixed route transit data with subsidies grouped and allocated separately. This can be accomplished for the larger transit systems by referring to NTD data, which requires separation of fixed route and paratransit data.

Response: Paratransit service is an important part of transit service delivery and it should be carefully evaluated and adjustments made to ensure that efficient, cost effective, paratransit service is delivered to the customer. Transit systems in Virginia and across the United States have found cost effective methods to deliver paratransit service. The use of NTD data is not practical for the Commonwealth, as transit agencies report data to NTD at various times throughout the year depending on their fiscal year. SJR 297 data will need to be submitted consistent with the state fiscal year (July 1 – June 30). This requirement will enable the Commonwealth to ensure consistent and accurate data reporting.

Comment: Data should be collected and annualized on a three-year rolling basis to reduce the effects of temporary economic downturns as well as initiation of new transit services.

Response: One goal of the SJR 297 allocation model is to ensure transparency in the allocation of funds. Introducing a three-year rolling basis will add complexity to the model, as well as the data collection and validation process.

Comment: The report should address transit and TDM funding needs.

Response: The report addresses the transit and TDM funding needs extensively. This is also addressed in the Transit and TDM Plan Update currently underway.

Comment: The performance model must use accurate local data

Response: The Commonwealth completely concurs with this comment. The data used in the SJR 297 model was data that was submitted by local transit agencies. The local transit agencies were encouraged to review their data that was used in SJR 297 for illustrative purposes and provide updated data if there was a discrepancy. Through the review process we found that transit agencies were providing a mix of NTD reported data and incomplete data to DRPT. Standard data collection and reporting practices will be necessary as the SJR 297 recommendations move into implementation

Comment: State agency priorities would supplant the performance measures and priorities of other entities that fund transit operations.

Response: Performance measures were a central topic throughout the SJR 297 Study process. The Funding Study Advisory Committee concurred with DRPT on the use of Ridership and Cost per Revenue Hour and Revenue Mile so that rural and urban systems would have equal measures. State funding is only one source of funding for most transit operators, and is typically a minority share of total operating assistance. Local governments will continue to make decisions regarding transit operations and can support routes as they deem appropriate for their communities.

Comment: The recommended performance measures are inherently more difficult to collect, track and validate, adding to the complexity and expense of program management and administration.

Response: The data that are required as input to the recommended performance measures are currently being collected and reported to DRPT by each transit agency on an annual basis. As such, additional program management and administration will be minimal. Increased confidence in annual ridership will be beneficial to all transit agencies in the Commonwealth, as DRPT and others will have valid data to report on the transit service that is being provided throughout the Commonwealth.

Comment: By pushing for more competition among transit systems and favoring those with high density service territories DRPT risks violating federal requirements that protect populations most in need.

Response: SJR 297 recommendations do not push for more competition among transit systems. The peer groups have been established using population density as one of the criteria so that systems operating in similar land use characteristics are brought together.

Comment: The proposed model shifts authority for funding formula decisions from the General Assembly to DRPT. DRPT would gain complete discretion to determine and alter, at will, the allocation procedures in the future, versus the General Assembly's straight forward and time-tested current statutory approach.

Response: SJR 297 recommends that the Commonwealth Transportation Board (CTB) evaluate the hybrid operating assistance allocation model every three years and include public involvement as well as a one-year notice prior to implementation.

Comment: Under the proposed model, 50 percent of state operating assistance funding would be allocated based on performance, which is arbitrary and too high. The percentage of funds allocated based on performance should be phased in at 5 or 10 percent increments over time in order to evaluate the success of the new methodology without adversely impacting transit agencies across the state.

Response: Several aspects of the SJR297 proposal reflect DRPT's desire to minimize the impact of the new funding model on individual transit operators. First, a two-year transition period is recommended to hold operators harmless as the new model is implemented. Also, a total of six performance metrics are used to determine funding levels – two are formula-based and four are performance-based. This makes the model less sensitive to significant changes in any one measure. The concept of peer groups was also introduced to ensure that transit operators are not negatively impacted by being compared to dissimilar transit agencies. Finally, the weight assigned to the formula and performance-based components was set to maximize the formula-based component and avoid potential negative impacts, while giving enough weight to the performance-based component to provide an incentive for efficiency and high performance. The weights for the individual performance metrics, as well as the performance-based and formula-based components will be re-evaluated every three years by the CTB. Any changes would be subject to public review and a one-year notice prior to implementation.

Comment: The concept that "under-performing" agencies can be motivated to be more efficient if their funding is cut is flawed.

Response: The intent of SJR297 is not to penalize transit operators, but rather to provide an incentive for efficiency and high performance. Through the TDP process and technical assistance, DRPT intends to partner with public transportation providers to promote positive results that benefit the Commonwealth's citizens.

APPENDIX E. CAMBRIDGE SYSTEMATICS TECHNICAL REPORT

Senate Joint Resolution 297
Public Transportation Funding Study

Introducing Performance into Public Transportation Allocation Formulas

Final Report

prepared for

Virginia Department of Rail and Public Transportation (DRPT)

prepared by

Cambridge Systematics, Inc.

Executive Summary

Study Purpose

The emphasis of this study was to provide background and understanding on trends related to transit program design and formula distribution mechanisms in use for transit agencies across the United States, and to test a variety of alternative formula mechanisms for the Virginia public transportation program. The Virginia Department of Rail and Public Transportation (DRPT) engaged Cambridge Systematics, Inc. (CS) to support DRPT's study efforts to address the questions raised in Senate Joint Resolution No. 297 and to assist the General Assembly as it considers how changes to the distribution methods for its transit capital and operating programs could help improve the effectiveness of public transportation funding. Specifically, it serves to assist DRPT in considering various approaches to allocating transit funding and in forming their recommendations for program reform.

Analysis and Approach

Senate Joint Resolution No. 297 (SJR 297), passed during the 2011 General Assembly, directed the Virginia Department of Rail and Public Transportation (DRPT) to study the following interrelated issues: performance, prioritization, stability and allocation. The resolution can be found in Appendix A of this report.

To assess the potential impacts of changing the existing formula distribution mechanisms for state funding of public transit in Virginia, DRPT hired CS to assist in carrying out the following activities:

- Reviewing the available literature and studying industry and Virginia practice for distributing state funding for public transportation;
- Facilitating meetings of the SJR 297 Transit Study Advisory Committee convened by DRPT to solicit input on the current and alternative mechanisms;
- Identifying formula options for consideration; and
- Testing those options considered by DRPT to have the greatest policy potential.

Review of the Current Virginia Funding Practice

CS reviewed and documented the current Virginia funding practice. Appendix B provides the documentation of the current practices in the Technical Memo: *Flow of Funds for Public Transportation in Virginia*. In addition to an objective review, CS discussed the existing practices with the DRPT staff and the SJR 297

Transit Study Advisory Committee to gather perspectives on and observations about the existing system. Review of the existing DRPT allocation system provided a number of insights as to the areas where the system works well, and areas that should be changed or improved upon in the future. The review considered the approach to allocation for both operating and capital funds. At DRPT's direction, CS focused its formula option analysis on the distribution of operating funding.

General Findings

Flat or declining revenues for transportation, combined with growing demand for public transportation services, have challenged leadership around the country with getting the most out of their revenues. Performance management provides a framework for decision-making that promotes accountability from those who are providing funding support as well as those who are recipients. Putting in place a positive linkage between setting priorities and goals and making allocation decisions can be an important first step.

DRPT has been working toward an effective performance management framework for several years. One of the most important tools that the Commonwealth has in transit policy, the allocation of its transit formula programs, is not currently reflective of those improvements. The General Assembly recognized this with its charge in SJR 297 to study possible reforms to the allocation mechanism in an effort to improve performance, prioritization, stability, and allocation formulas. Based on an understanding of national trends in the public transportation industry, the codified funding processes in Virginia, and consideration of alternatives, CS concludes that the current funding distribution mechanisms do not reinforce or incentivize improved system performance and that these mechanisms can be improved in support of Commonwealth transportation goals.

Public transportation programs can be devised with distribution formulas that would direct state funding towards system attributes explicitly consistent with state priorities. Performance approaches focus on the ultimate outcomes, not the means that are used, and thus can encourage innovation on the part of operators. A "pure" performance framework would focus on outcomes regardless of the type of operations and contexts involved in order to focus rewards exclusively on results. Shifting to a pure performance funding model for the distribution of a major source of funding may prove to be difficult due to the reliance of stakeholders on the funding provided. A leap does not have to be taken to a completely "pure" performance metrics-based system of allocation. In fact, the transit industry across the nation has little experience with purely performance-based distributions. There are a wide variety of reasons for this, including immediate data problems and uncertainty as to the unintended consequences of change. Rather than implementing a "pure" performance-based allocation system, a hybrid approach could be used, which would limit any dramatic funding variations from current distributions while incentivizing performance in

public transportation systems throughout the Commonwealth and aligning the program with DRPT policy goals.

Incentives can be developed using formula or discretionary constructs as policy levers. Strategies can also be developed to ease the transition for formula programs. It appears that the reception to such changes would improve if they coincided with additional overall funding. In such a situation, the allocation changes would not be construed as a "zero-sum" situation. However, applying reforms only to additional revenues would fail to address the lack of incentive for good performance with existing funding streams and system operations.

Identifying a limited set of specific system performance goals, selecting appropriate metrics, and providing an emphasis on quality data development and collection, would be critical elements to successfully applying a performance approach. Best practices for use of performance measures recommend using readily available and auditable data. Any data to be used in an allocation formula should be data that can be collected and validated in a timely fashion to support annual allocations. It is important not only to transit providers but also to the taxpayers of the Commonwealth at large that distributions are well reasoned, trustworthy, and based on validated data. These measures could be a combination of measures historically used by DRPT in its "legacy" distribution formula as well as new performance measures.

One concern is that performance-based formulas could result in significant changes from historic state funding levels for individual transit providers. Several features of formulas and program structures studied are consistent with performance incentives and could be combined with transitional and compensating strategies to address the uncertainty of pure performance-based approaches. Examples include:

- Incorporating into formulas a system of tiers that acknowledge the different dynamics of various size systems and different transit modes;
- Incorporating into formulas transitional limits that act as ceilings and floors as compared to historic levels;
- Providing for a reserve fund in order to moderate large changes in funding levels;
- Introducing transitional hybrids of pure performance formulas and legacy formulas to assure greater stability;
- Considering supplementary discretionary programs that are targeted to specific purposes and activities to achieve specific policy goals that are difficult to isolate under a broad, outcome-based capital or operating program; and
- Pairing formula-based programs with discretionary ones that can use subjective criteria to compensate for unintended consequences or situations that are outside available metrics and/or reward innovation.

While instituting goal-oriented factors, most notably in support of efficiency and cost-effectiveness, the problems of variability in funding can be addressed. Transitional techniques have been highlighted in the report and others that smooth out the peaks and valleys could apply in some manner to the current distribution but would be critical to acceptance of new approaches. Given that there will be a need for public transportation providers to plan ahead for changes in funding, and to minimize implications of any funding shifts, DRPT may want to consider providing transitional assistance to providers that experience a decrease in funding.

Table ES.1 below summarizes perspectives on the current operating funding allocation system and lessons that can be learned from those observations to address the charge of SJR 297. The table also provides possible ramifications of applied tools and policies, and the implication of each observation to the four areas of consideration the study is charged to address by SJR 297: performance, prioritization, stability, and allocation.

Table ES.1 Perspectives on the Current State Public Transportation Funding Structure

Perspectives on the Current Allocation System	Ramifications for Formula Changes	Implications for the Four Target Areas of SJR 297	Performance	Prioritization	Stability	Allocation
1. The current system does not motivate cost-efficiency or cost-containment.	The current system allocates operating funding based primarily on the operating costs of transit providers. This arrangement does not encourage cost-efficiency or cost-containment; the revisions to the system and design of any allocation methodology should build in motivation to contain costs, and reward cost-efficiency.	Performance-based allocation methodologies that reward cost-efficiency or cost-containment send a message that motivates transit providers to focus on outcomes.	√			√
2. Stale data is used.	The current system is based on audited data from two years prior. To the extent possible, data used in any allocation formula should be as current as possible so that annual distributions reflect recent transit provider performance.	The allocation methodology should be based on current performance data.	√			√
3. Current mechanisms are not perceived to be market-based.	The concern is a reflection of the fact that the size of the market being served, i.e., the population and its density that are so critical to the transit mode and its business profile, are not reflected in the distribution of public funding. Current distributions are perceived to only indirectly reflect the type/size of service, service area, and service levels provided. These criteria should be considered in developing a potential allocation formula.	DRPT may want to consider being responsive to the type and size of service, service area, and service levels through establishment of tiering and weighting in a performance-based allocation formula. This means that the relative importance (based on the "reach" of the service) is factored into the distribution.				√
4. Current system is complex in terms of eligibilities.	Calculations for capital grants are unnecessarily complex. Prior efforts have simplified the calculations, however a number remain that have no ultimate bearing on the final allocation. Treatment of various activities as ineligible is masked by the low-matching ratios that are ultimately provided. Allowing all costs to be eligible would greatly reduce administrative efforts on the part of transit agencies. The existing Code reference to "non-Federal share" is a complicating factor and can be a barrier to the fair treatment of grantees regardless of their choice to seek Federal funding.	The prioritization basis for grants is neither clear nor consistent		√		
5. Current system is not reflective of CTB priorities regarding	There is no linkage between the CTB priorities for capital expenditures (e.g., state of good repair) and	The prioritization basis for capital assistance grants is not linked to CTB priorities.		√		

Perspectives on the Current Allocation System	Ramifications for Formula Changes	Implications for the Four Target Areas of SJR 297	Performance	Prioritization	Stability	Allocation
capital expenses.	the current system for allocating capital assistance.					
6. Changes in services are not reflected adequately.	The funding level does not take into consideration new services or new providers due to "mismatch" between the "base" period and the year the allocation made. Further, as new systems are added, all established transit providers' funding is diminished to accommodate the new service. To the extent possible a revised allocation system should attempt to provide for funds to support new services, such as a reserve fund or funding from a new revenue source that would be dedicated to service expansion.	An effective allocation system must be dynamic, capable of responding to changes in service that will occur over time based on market needs and demographic shifts as well as acknowledge system size and levels of service provided.			√	√
7. Expectations for "matching" are not fulfilled.	The statutory cap on state shares calls for a calculation of the maximum state participation ratio for operating assistance at 95 percent of any grantee's total eligible operating costs and 95 percent of non-Federal share for capital program. In practice, the amounts made available have not triggered this limit and therefore it has not been a constraint.	A realistic set of expectations are the foundation for setting program priorities. Without realistic expectations, the difficult choices inherent in priority setting cannot be made.		√		
8. Investment in capital projects does not necessarily reflect DRPT policy goals.	The study of the overall funding process shows that DRPT planning processes could be reinforced by a performance-based formula; even if these processes were outside the allocation process itself.	DRPT may want to consider focusing grants for capital assistance to projects that link more closely to DRPT operational policy goals.		√		
9. Current distributions are viewed by many stakeholders as fair.	Given that stakeholders see current distributions as fair in the sense that the allocation concept treats each provider in the same manner, it would be important that any revisions to the current system or introduction of a new concept be applied equitably.	Allocation of funding is inherently the result of a balance between 1) making a distribution in a manner that helps to achieve the intended purpose and 2) recognizing that some recipients are likely to receive more than others. Such allocation methods are ultimately evaluated in the eyes of the public on the basis of fairness. Mechanisms that focus on transparency and compensate for redistribution of resources can help to make sense of the allocation approach and compensate for the variations among recipients, increasing the sense of overall fairness. DRPT could consider using tiering, as well as funding floors and ceilings to minimize the extent of these				√

Perspectives on the Current Allocation System	Ramifications for Formula Changes	Implications for the Four Target Areas of SJR 297	Performance	Prioritization	Stability	Allocation
		changes, while still incentivizing performance.				
10. Current distributions are trustworthy because they can be validated and the data is simple to generate.	It is important not only to transit providers that distributions are well-reasoned, trustworthy, and based on validated data, but also to the taxpayers of the Commonwealth at large. Best practices for use of performance measures recommend using readily available, auditable data. Any data to be used in an allocation formula should be data that can be collected and validated in a timely fashion to support annual allocations.	The validation of data has implications for allocation, as distribution outcomes would be directly affected by data selected and used for an allocation formula.				√
11. Current system is relatively easy to administer.	A system that is easy to administer reduces DRPT staff time, enables auditing, and builds confidence that the system is competently managed. Any changes to the allocation system should take into consideration the level of effort required to perform administrative actions and should minimize the complexity of administering the revised system to the extent possible.	This issue addresses the administrative aspects of allocation. Such administrative considerations have consequences at both the state level and at the transit provider level. The costs associated with collecting data of sufficient quality to assure fair allocation should not outweigh the benefits of putting the allocation system into place.				√
12. Year-to-year funding is fairly stable and comparable.	Recipients of formula assistance over the past years are comfortable with the current allocation system since they believe they know what to expect. Although it is not completely predictable, it is likely to be somewhat comparable to prior years' funding, thus enabling relatively stable continuation of public transportation services. When converting to a new allocation system, DRPT should consider means to transition to a new allocation system, and aim to build-in a way to stabilize the swings in funding from year to year to the extent possible.	Even with the existing approach, concerns for stability were evident. Improving the stability and predictability of allocations while adopting performance-based allocation mechanisms can be facilitated with methodologies – such as implementing a reserve fund, using a phased implementation strategy or hybrid of legacy and performances systems, and/or making transitional assistance available to providers. These would allow transit providers to plan for shifts in funding based on new allocation formula outcomes or changes in revenue yields at the state level.			√	
13. The current system for distribution does not link to DRPT policy goals.	There are great advantages in establishing clear linkages between policy goals and the program features (including allocation mechanisms) that a state adopts. Transit provider performance data, such as revenue per mile or passenger and operating cost per mile or passenger, could be used in support of that linkage in an allocation calculation.	Use of performance data as a basis for allocation would enable distributions to reflect policy goals, thereby addressing the SJR 297 target areas of performance and allocation.	√			√

This study improved the understanding of the many potential factors of DRPT operating funding allocation formulas. In particular, testing the policy implications of various allocation tools provided insight into the SJR 297 mandate's four target areas as follows:

- **Performance –** Use of transit agency performance measures to directly support DRPT policy goals will be challenging but can be accomplished by providing incentives to reward transit providers for improved performance outcomes. This can be accomplished through use of performance factors in an allocation formula. Performance data that speaks to cost effectiveness and system cost efficiency can demonstrate system outcomes and reward providers accordingly. Although there are other approaches in which performance management can be used to support agency investment and policy decisions, such as tracking and reporting, discretionary rewards for positive outcomes, or other program features that are discussed in this report, the use of data in an allocation formula is the most transparent and direct link between transit agency performance and DRPT financial support.
- **Prioritization –** Prioritization of DRPT investments could be more directly linked to and supportive of DRPT policy goals. DRPT may consider distinct funding categories for capital projects to provide an objective decision making process about investments and to allocate limited fiscal resources to the projects considered most necessary in Virginia. To best serve the Commonwealth, these project categories or funding areas may be prioritized based on DRPT goals, and could possibly have separate criteria and funding buckets to address needs such as capital projects, asset management, and planning. An operating funding system that incorporates performance outcomes into the allocation methodology could support and coordinate with the prioritization of capital projects.
- **Stability –** This study revealed that an understanding of future fiscal resources that will be available from the State is critical to local transit planning. The SJR Stakeholder Advisory Committee input included comments that 1) It is important to transit providers to know with confidence how much financial support a transit provider will receive with sufficient lead time to request accurate gap support from local jurisdictions; 2) Consistency of support is helpful for planning purposes, and helps agencies make critical service and capital investment decisions. DRPT may be able to address these issues by establishing a reserve fund or a similar mechanism which would help to sustain an improved consistency of funding levels.
- **Allocation –** This study has highlighted the fact that although there were many positive attributes to the current DRPT system for allocation of funds, numerous improvements could be considered to improve the linkage between allocation of funds and progress towards achieving DRPT policy goals. The review revealed that the operating funds allocation system would benefit most from significant rethinking. As demonstrated by the varied nature of national practices in regards to allocation and use of performance data, determining which allocation approach is "preferred" or "best" is

ultimately tied to policy goals and the unique nature and relationship of each funding agency with their transit providers. Key issues to be considered before using performance data in an allocation system are to verify consistency of data reporting and data definitions, testing of data, development of an understanding as to how data variation causes shifts in the allocation of funds, and identification of transitional assistance. As demonstrated in this study, significant testing should occur to gain an understanding of each factor individually and in combination with other factors. Mechanisms should be applied as needed to ensure comparable provider's outcomes are being compared. Lastly, the allocation system's transparency is essential to recipient providers, and to the Commonwealth.

DRPT may choose to consider the concepts and tools provided herein, and take into consideration the findings of these analyses as DRPT determines its next steps in the evolution of the effective allocation of State funds to support the transit systems of Virginia.

draft final report

DRPT Public Transportation Study

Introducing Performance into Public Transportation Allocation Formulas

June 18, 2012

Virginia Department of Rail and Public Transportation (DRPT)

Table of Contents

Executive Summary **ES-1**

1.0 Project Approach **1-1**
1.1 Overview of Project Approach 1-1

2.0 Current State Funding Distribution Process **2-1**

3.0 Resource Allocation Concepts and Approaches **3-1**
3.1 Peer Comparisons 3-1
3.2 Use of Traditional Formula Factors for Funding Distribution 3-2
3.3 Relationship of Formulas to Goals 3-3
3.4 Incentive Grant Models 3-5
3.5 Data Considerations 3-7
3.6 Performance-Based Resource Allocation in Transit 3-8
3.7 Pairing Formula and Discretionary Programs 3-12

4.0 Summary of Analysis **4-1**

5.0 Conclusions **5-1**

Appendix A. Senate Joint Resolution 297 ..... **A-1**

Appendix B. Flow of Funds for Public Transportation in Virginia **B-1**

List of Tables

Table ES.1 Perspectives on the Current State Public Transportation Funding Structure ES-5

Table 3.1 Distribution Method by States for Transit Funding 3-2

Table 3.2 Potential Factors in Capital and Operating Formulas 3-10

List of Figures

Figure 3.1 Potential Decision Mode 3-6

Figure B.1 Distribution of Revenues into the Commonwealth Transportation Trust Fund B-3

Figure B.2 Distributions from the Transportation Trust Fund to the Modal Trust Funds B-4

Figure B.3 Transit Sources and Basic Distribution B-4

1.0 Project Approach

1.1 OVERVIEW OF PROJECT APPROACH

Cambridge Systematics, Inc. (CS) conducted this study to assist DRPT in addressing the following legislative direction in Senate Joint Resolution No. 297, passed during the 2011 General Assembly to study the following interrelated issues: performance, prioritization, stability, and allocation. The resolution can be found in Appendix A of this report.

The four areas of interest acted as a guide as CS began its analysis and, to the extent that they are interrelated, were an important point of departure to explore the implications of existing funding process.

The project approach included the following activities:

- DRPT convened a SJR 297 Transit Study Advisory Committee for the purpose of informing the study and providing input on possible performance measures. The group met three times for day-long meetings between June 2011 and September, 2011. The group included transit providers of all sizes representing the geographic diversity of the Commonwealth, a representative from a Transportation Demand Management agency, and an MPO representative. (Further information on the meetings, committee, and study can be found on the DRPT web site at http://www.drpt.virginia.gov/activities/SJ297_TransitStudyCommittee.aspx.
- CS conducted research and distilled technical information for the use of DRPT and the Transit Study Advisory Committee to establish a clear baseline of current practices at DRPT, to identify what changes to the program would require legislative action, and to enhance the understandings of nationwide trends and experiences of other transit providers. These activities included:
  - A review of Virginia Code and statutes concerning current transit funding in the Commonwealth of Virginia.
  - A literature and nationwide practices review to support understanding of transit funding practices in the United States. CS presented in the form of briefings and working papers a wide range of possible distribution factors and program structures, including traditional and performance-based approaches.
- Data needs were identified for use in possible distribution formulas. This data collection demonstrated that not all data considered for use in distribution formulas currently is uniformly available for all transit

providers. These results directed and informed possible distribution formulas.

- CS consulted with DRPT and the SJR 297 Transit Study Advisory Committee in developing and testing formula options for the distribution of state operating assistance. Stakeholders provided input particularly on their perspective as to the pros and cons of: 1) the current system; 2) potential changes to the system; and 3) specific performance measures considered for distribution formulas.
- CS conducted three "rounds" of analysis to test distribution formula options for operating funds. The iterative process of analysis provided DRPT and CS the opportunity to consider, test, and review results of many different approaches to allocating funds. This process enabled an analysis approach of starting broad, and then narrowing the consideration of formula options, factors, and tools that inform the evaluation of options for allocation of operating funds.

2.0 Current State Funding Distribution Process

This section briefly explains the existing formula distribution process of public transit funds managed by DRPT. A technical memorandum that provides details of the flow of funding documented for the study can be found in Appendix B.

Overview of State Funding Distribution Process

The flow of funds dedicated for public transportation is derived from a series of legal authorities for the most part embodied in the Code of Virginia and supplemented by appropriations actions and policy direction from the Commonwealth Transportation Board (CTB).

- Revenues deposited to The Transportation Trust Fund are distributed across four modally oriented trust funds according to percentages set in statute, one of which is the Mass Transit Trust Fund (MTTF). The MTTF receives 14.7 percent of the Transportation Trust Fund (TTF) revenues to support transit operations (73.5%), capital (25%), and special (1.5%) programs by formula and allocated by the CTB and managed by DRPT.
- Of the funds dedicated to the MTTF, $1.5 million is taken "off-the-top" from the MTTF for Paratransit. Per the 2011 Appropriation Act, these funds are used for purposes of "paratransit" capital projects and enhanced transportation services for the elderly and disabled.
- The Mass Transit Capital Fund (MTCF) is separate from the MTTF, also managed by DRPT, and is funded through external sources such as funds appropriated to it by the General Assembly, bond proceeds, grants, or endowments. In contrast to the formula distribution for capital transit investments described above from the MTTF, MTCF funds are allocated to specific projects approved by the CTB. They are funded through bond proceeds, grants, appropriations, and other sources. For the MTCF, the maximum allowable match is 80 percent. Consideration is given to both the purpose of the investment and the funding sources that applicants have available for transit capital investment. For instance, currently the highest priority is given to applications that advance the replacement of transit rolling stock funded by Capital Project Revenue (CPR) bonds, based on the current policy of DRPT and the CTB.
- Funding for transportation demand management (TDM) activities comes from the Transportation Efficiency Improvement Fund (TEIF). The program supports the operating costs of existing or new local and regional TDM initiatives. While the origin of these funds is the Highway Construction

Fund, DRPT administers the funds. DRPT provides up to 80 percent of the eligible expenses.

In summary, the prime elements relevant to formula operating assistance are:

- Of the funds dedicated to the MTTF, at least 73.5 percent of the MTTF is designated to fund operating assistance.
- The amount of operating assistance provided to each grantee is equivalent to the relative share of expenditures for each of the State's various transit providers, proportional to all transit providers' expenditures.
- In concept, the Virginia code limits the amounts provided as operating assistance to certain expenses. As caps are rarely met, the limits are not usually applied. Further, the state share of a recipient's total operational or capital costs is "capped" at 95 percent of the local or non-Federal share of eligible expenses. Furthermore, treatment of Federal funding that has been received by a transit provider could be a factor in the determination of operating assistance. Such amounts are deducted from the gross operating expenses in calculating the 95 percent ceiling of transit operating expenses that DRPT is allowed to fund.

In summary, the prime elements relevant to formula capital assistance are:

- Of the funds dedicated to the MTTF, 25 percent of the MTTF is distributed for capital purposes (subject to the condition described below). Up to 20 percent of the MTTF designated for capital purposes may be shifted by the CTB to operating assistance if the operating assistance funding in the current fiscal year is estimated to be less than the prior year's available operating assistance.
- The amount of capital assistance provided to each grantee is equivalent to the relative share of capital applications made by each of the State's various transit providers, proportional to all transit providers' requests for capital grants.
- Based on both fairness and the desire to address the broadest range of transit needs while providing a predictable match to applicants, DRPT has instituted a policy with respect to grants from the MTCF. Many Federal transit grants provide 80 percent of eligible expenditures. Assuming applications for capital formula assistance are made for the 20 percent match to Federal funds, an 80 percent DRPT grant is calculated as 80 percent of that 20 percent, or effectively 16 percent. Thus recipients have a four percent effective match requirement. However, if applications are made for the full project without any expectation of Federal funding, the draw upon DRPT funding is potentially much higher. DRPT's policy is to provide from the MTCF no more than a 50 percent match, higher or lower based on available resources, for those grants where applicants are not using Federal funds.

Perspectives on Current State Transit Funding Structure

Although not a universally endorsed position, there have been sufficient criticisms over time of the funding flow and mechanisms for Virginia State aid for public transit to stimulate an interest in changing them in the Virginia Code. In addition to the direction contained in SJ 297, several other initiatives have been taken to look at aspects of the issue. For example, in 1997, DRPT commissioned a "Transportation Performance Evaluation System Study" which investigated a performance-based approach. Later, the Assembly requested "…a study of the distribution of state and Federal aid to mass transit programs…."[1] The insufficiency and uncertainty of Federal support for mass transit through parts of the 1980s and 1990s was noted as part of the motivation for that study of state funding levels and funding responsibility across Virginia. These challenges parallel today's investment strains and unpredictable Federal and state funding. A number of agency initiatives were designed and implemented to address these concerns under existing DRPT authorities, as illustrated by the 2009 statement of "The Incorporation of Certain Management Principles into Public Transportation Programs" House Document No. 14. This statement highlighted adoption of several new processes for efficient and effective expenditure of transit funding consistent with "the desire to achieve the highest return on investment of Commonwealth resources."[2] One can conclude that these issues continue to challenge lawmakers as well as administrators and that state decision-makers continue to seek an understanding of the options they might use to reform transit funding allocation.

To consider the appropriate criteria by which alternative options might be evaluated, an assessment of the current mechanisms, including the perceptions of stakeholders, can provide useful insights. The SJR 297 Transit Study Advisory Committee convened by DRPT (described athttp://www.drpt.virginia.gov/activities/SJ297_TransitStudyCommittee.aspx) served as a valuable source of this information. The pros and cons of the current state transit funding system are summarized below.

The current system of funding also has a number of problems from both policy and administrative points of view:

1. Current funding formulas have no direct link to policy goals; they do not reward or provide incentives to achieve results sought by the Commonwealth.

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[1] Reference 1999 study: transmittal letter for the Report to the Virginia General Assembly pursuant to House Joint Resolution Number 720 (HJR 720) of the 1999 Virginia Acts of Assembly, November 30, 1999.

[2] Ibid.

Policy goals for public transit have been articulated in many ways over time in the Commonwealth but the basic principles are consistent across the nation. In general, these include improving transit service as a means to increase ridership that in turn serves other priority goals, improving efficiency of operations to maximize investment of the public's scarce resources, and maintaining existing assets to assure that investments are protected through their entire life cycle. It can be argued that distributing funding for capital needs by proportional share does not preclude but also does not necessarily reinforce state investment priorities, at least not in any systematic manner. It also can be argued that basing upcoming funding on past operating expenditures or individual provider capital plans reinforces prior actions whether they be positive or negative from the policy perspective of the entire Commonwealth.

SJR 297 Issue Area: Performance and Allocation

Use of performance data as a basis for allocation would enable distributions to reflect policy goals, thereby addressing the SJR 297 target areas of performance and allocation.

2. The current funding requirements do not motivate cost-efficiency or cost-containment.

   Due to the proportional calculations for operating assistance, a perverse incentive can exist by rewarding those providers who do not engage in cost-control and efficiency efforts because the inefficiencies are subsidized by the Commonwealth. Some have argued that the combination of fiscal discipline imposed by local funding constraints and the fact that the Commonwealth is paying only a portion of the operating or capital costs motivates grantees to be cost-conscious. The conventional wisdom in public administration is that the public is demanding greater accountability for grants; management behavior in the grant-in-aid relationship is thought to be strongly influenced by cost-sharing expectations, even if they are only for a portion of the expenditures. Recipients respond through grantsmanship to requirements that can be shown to bring additional funding. Although not as a substitute for matching grants, the growing trend is to motivate in the direction of policy outcomes by increasing the use of incentive grants that directly reward for performance outcomes.

   SJR 297 Issue Areas: Performance and Allocation

   Performance-based allocation methodologies that reward cost-efficiency or cost-containment send a message that motivates transit providers to focus on outcomes.

3. "Stale data" is used to make the distributions.

   The current basis for distribution is two-year old data. The lag time of two years is needed to have fully audited results and is not considered egregious turnaround time for governmental reporting systems. The lag does raise the question, in the case of operating assistance, as to whether providers are

being "reimbursed" in a sense for prior operating expenditures or having future operations subsidized at an historic rate. This is a matter of perception but much can change in two years as the transit industry is dynamic and operates in a quickly changing economic environment – services change either in anticipation of customer demand or in response to them. Furthermore, it compounds existing challenges and uncertainties in preparing and executing budgets for the local governmental sponsors.

SJR 297 Issue Areas: Performance and Allocation

Any future allocation methodology would be well-served to be based on more current performance data commonly used throughout the transit industry.

4. Current mechanisms are not perceived to be market-based.

   The concern is a reflection of the fact that the size of the market being served, i.e., the population and its density that are critical to the transit mode and its business profile, are not reflected in the distribution of public funding. Current distributions are perceived to only indirectly reflect the type/size of service, service area, and service levels provided. These criteria should be considered in developing a potential allocation formula. The statewide structure of transit that continues to evolve in Virginia is clearly responsive to a variety of customer dimensions. It is a mix of providers, some of whom are organized on a political jurisdiction basis while others serve portions or multiple jurisdictions. Some are governmental entities themselves whereas others operate independently or under the authority of governmental units. Because of this mix and overlap across jurisdictions, allocations are further complicated. The public funding formulas do nothing to rationalize or concentrate funding based on per capita benefits or costs.

   SJR 297 Issue Area: Allocation

   DRPT may want to consider being responsive to the type and size of service, service area, and service levels through establishment of tiering and weighting in a performance-based allocation formula. This means that the relative importance (based on the "reach" of the service) is factored into the distribution.

5. The current system is complex, particularly in terms of eligibilities.

   Those who have a vested interest in the programs and have invested the time to become knowledgeable in its details argue that the calculations are unnecessarily complex. Prior efforts have simplified the calculations, however a number remain that have no ultimate bearing on the final allocation. Treatment of various activities as ineligible is masked by the low-matching ratios that are ultimately provided. The Code reference to "non-Federal share" is a complicating factor and can be a barrier to the fair treatment of grantees regardless of their choice to seek Federal funding.

SJR 297 Issue Area: Prioritization

The prioritization basis for grants is neither clear nor consistent.

6. The current system of funding is static and inflexible with respect to changes in service.

   The funding level does not take into consideration new services or new providers due to "mismatch" between the "base" period and the year the allocation made. DRPT has been as flexible as possible to reflect new services or major changes that come about between the "base" period that establishes the share for a provider and the period in which the distribution is made. Further, as new systems are added, all established transit providers' funding is diminished to accommodate the new service.

   SJR 297 Issue Areas: Allocation and Stability

   An effective allocation system must be dynamic, capable of responding to changes in service that will occur over time based on market needs and demographic shifts.

7. The current funding mechanisms establish "matching" expectations that cannot routinely be fulfilled.

   For the most part, the statutory cap on state shares is not triggered. It calls for a calculation of the maximum state participation ratio for operating assistance at 95 percent of any grantee's total eligible operating costs and 95 percent of non-Federal share for capital program. In practice, the amounts made available have not triggered this limit and therefore it has not been a constraint. According to the DRPT Guide, "… Historically, the Operating Assistance Program has matched between 35 percent and 50 percent of eligible operating expenses."

   SJR 297 Issue Area: Prioritization

   A realistic set of expectations are the foundation for setting program priorities. Without realistic expectations, the difficult choices inherent in priority setting cannot be made.

8. Investment in capital projects does not necessarily reflect DRPT policy goals.

   The study of the overall funding process shows that DRPT planning processes could be reinforced by a performance-based formula; even if these processes were outside the allocation process itself.

   SJR 297 Issue Area: Prioritization

   DRPT may want to consider focusing grants for capital assistance to projects that link more closely to DRPT and CTB operational policy goals.

Several positive aspects have been attributed to the current system of funding from both policy and administrative points of view:

1. Capital and operating formula assistance distributions are viewed by many stakeholders as fair.

   The perception of fairness is probably more a case that the system is straightforward i.e., the current allocation concept treats each provider in the same manner with their calculated "needs" (represented by prior operating costs or future capital plans) as a share of statewide needs applied against the available funding proportionally.

   SJR 297 Issue Area: Allocation

   Allocation of funding is inherently the result of a balance between 1) making a distribution in a manner that helps to achieve the intended purpose and 2) recognizing that some recipients are likely to receive more than others. Such allocation methods are ultimately evaluated in the eyes of the public on the basis of fairness. Mechanisms that focus on transparency and compensate for redistribution of resources can help to make sense of the allocation approach and compensate for the variations among recipients, increasing the sense of overall fairness. DRPT could consider using tiering, as well as funding floors and ceilings to minimize the extent of these changes, while still incentivizing performance.

2. Capital and operating formula assistance distributions are trustworthy because they can be validated.

   Since most of the data used to calculate each provider's grant is related to expenditures, it can be audited for accuracy and requires limited additional information beyond what grantees already provide to DRPT. This transparency, along with procedures to withhold final payments until the data is verified, offers confidence in the government's management of the distribution.

   SJR 297 Issue Area: Allocation

   The validation of data has implications for allocation, as distribution outcomes would be directly affected by data selected and used for an allocation formula.

3. Capital and operating formula assistance distributions are relatively easy to administer.

   This perception can be attributed to the good experience that providers have had with the agency that has inspired confidence in the administration of the program.

   SJR 297 Issue Area: Allocation

4. Recipients of both capital and operating formula assistance believe that they know what to expect and, although it is not completely predictable, it is likely to be comparable to prior years' funding, thus enabling relatively stable continuation of public transportation services.

   The current distribution methods have been in place for 25 years and therefore grantees are comfortable with them. One of the charges contained in HJR 720 was to study Federal transit funding formulas and evaluate their

use as a model. In the subsequent report, the authors noted that, "It appears that in designing these formulas, more attention has been paid to how much funding they produce for certain recipients than the public policies that the formulas serve."[3] Many of the same dynamics appear to be at work at the state level when changes to the allocation formulas are considered. This demonstrates how difficult and threatening change in the distribution of funding throughout governments at all levels can be when compared to the status quo without any accompanying increase in overall funding. The stakes can be quite high and tangible at the local level whereas the benefits of such changes may be speculative and may appear more abstract because they are at the statewide or program level. There is a consensus among providers that overall funding and investment is inadequate, exacerbated by the introduction of new transit providers which further dilute the available funding. In such an environment, changes to distribution policies result in winners and losers and thus constrain debate; consensus for change may be easier to consider when it is accompanied by increases in funding for the program over all. Furthermore, since stakeholders have operated under the system for some time, they believe that they understand the current system and can maximize their position under it. There would be a "learning curve" under any new system that would entail some risk.

SJR 297 Issue Area: Stability

Improving the stability and predictability of allocations while adopting performance-based allocation mechanisms can be facilitated with methodologies – such as implementing a reserve fund, using a phased implementation strategy or hybrid of legacy and performances systems, and/or making transitional assistance available to providers. These would allow transit providers to plan for shifts in funding based on new allocation formula outcomes or changes in revenue yields at the state level.

[3] Transportation Performance Evaluation System Study, 1997.

3.0 Resource Allocation Concepts and Approaches

3.1 PEER COMPARISONS

The funding mechanisms that states use to support local transit through grants show as great a variation as the transit providers and systems themselves. Although this makes benchmarking of such practices difficult, awareness of mechanisms used in the United States can provide some insights into the alternatives available.

The American Association of Highway and Transportation Officials (AASHTO), in association with American Public Transportation Association (APTA) and the U.S. DOT conduct biannual surveys on the subject, gathering information on funding mechanisms used by those states that provide public transportation funding. The latest of these was released in 2010, based on 2008 data.[4]

Based on a review of these survey results over the last several years, a number of relevant conclusions can be drawn about current practice with respect to program structure by purpose as well as distribution methods:

1. Although almost 20 percent of state funding distributions (in a total of 18 states) are explicitly directed by their legislatures, formula distributions are more common than discretionary programs. A significant number of states use formula mechanisms to distribute. Formula distributions in these 30 states represent almost 60 percent of the state transit funds nationwide.
2. A significant number of states use mechanisms that are non-formula and can be considered as using discretionary choices in distributing state transit funding – 25 out of 47. As shown in the table below, such discretionary distributions represent slightly over 19 percent of the state transit funds nationwide; for 13 of these states, this constituted 50 percent or more of the funds made available in state grants for transit.
3. States tend to distinguish between capital and operating assistance, and administer these types of grants through separate programs with exclusive eligibilities, i.e., they do not blend purposes across these major program types.

[4] Survey of State Funding for Public Transportation, 2010. Sponsored by U.S. DOT Bureau of Transportation Statistics, The American Association of State Highway and Transportation Officials, and the American Public Transportation Association.

4. States frequently adopt different programs and distribution methods for smaller, individual programs that are tailored for specific markets or to address specific problems other than those used for capital or operating assistance.

Table 3.1 Distribution Method by States for Transit Funding

Distribution Mechanism (for Some Portion of their Funds)	Percent of Total Funding	Number of States (Out of 47)
Discretionary	19.2	25
States with 50 Percent or More Discretionary	N/A	13
Formula	59.3	30
States with 75 Percent or More Formula	N/A	18
Local Pass-Through	2.5	4
Some Other Method (Usually Legislated)	19.0	18

3.2 USE OF TRADITIONAL FORMULA FACTORS FOR FUNDING DISTRIBUTION

A review of state practice reveals that a relatively limited set of factors are incorporated into the formulas used to distribute transit program funds. Population is the most commonly used factor due to the following:

- It arguably represents a straightforward consensus on equity or fairness in those places where it has been adopted in terms of the demand for transit. A portion of that consensus hinges on stable demographics and the perception that population attributes are consistent with funding the "right-sized" operations and considering relative need.
- Reliability of population data is relatively noncontroversial; however, there are data variations and the specific factor chosen may advantage some grantees. There is a significant lag in U.S. Census data and for some state and local population counts as well. This may be compensated for if population is stratified to reflect populations which are suspected to be undercounted and thus underrepresented in the total data sets.
- Population and population density have been used to establish "tiers" or peer groupings by size. Formulas can be individually tailored to such tiers to treat urban areas and rural areas, for example, on different bases.

Several factors are in use with the intent to reflect the service and use characteristics of transit systems. Of these, ridership and variations on miles of service dominate. There is no single "right" factor. There is wide variation in data definitions and data sources, particularly among the different modes of transit, for the metrics chosen. If used to distribute funding, the variation itself is

not an issue unless it is perceived as a source of bias in favor of or working against some recipients. Current practices were studied, including Federal formula features and case studies of formulas in the states of Indiana, North Carolina, Ohio, and Pennsylvania, which were representative of those in use across the country.

3.3 RELATIONSHIP OF FORMULAS TO GOALS

Decision-making bodies, such as legislatures and executive branch agencies, use such information in ways that can affect where, when, and how transit service will be provided and thus directly impact performance. For example, for a recent TCRP study that resulted in *A Guidebook on Developing a Transit-Performance Measurement System,* more than three-quarters of the transit agencies interviewed reported that "they set up performance management systems not only because it was considered to be a good business practice but because they saw it as a means to assess how successful an agency has been in accomplishing its goals and a means to influence future agency decision-making."[5]

Defining agency goals and objectives is the first step in any performance management framework. Some transit agencies rely on broad, policy-oriented goals to drive measurement and monitoring. Others set goals that more directly address transit service. For example, DRPT's grant approval process uses the processes in its Capital Programming Procedures Manual to establish capital grant funding categories and priorities and evaluate grant applications.

Although beyond the scope of this study, there is overwhelming evidence that a significant proportion of the nation's public transportation assets are in need of capital reinvestment to maintain a state of good repair. Key indicators that support this assessment are an increasingly large gap between capital funding needs and capital budgets as well as the deteriorating condition of transit rolling stock and infrastructure. Every major transit provider is facing this funding shortfall to some degree. To address this issue, a number of agencies have invested in asset management systems to more effectively manage their physical assets. Ideally these systems use quality inventory and condition data and well-defined objectives to provide a systematic process for improving resource allocation decision-making.[6]

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[5] Transit Cooperative Research Program Report 88: *A Guidebook for Developing a Transit Performance-Measurement System, page 6 of "A Summary of TCRP Report 88."*

[6] June 2010, Cambridge Systematics, Inc. report *Transit Asset Management Practices – A National and International Review.*

Asset Management Principles

Across the United States, there is growing consensus on the following core principles of asset management:

- **Policy-Driven –** Resource allocation decisions are based on a well-defined and explicitly stated set of policy goals and objectives. These objectives reflect desired system condition, level of service, and safety provided to customers; they are typically tied to economic, community, and environmental goals as well.
- **Performance-Based –** Policy objectives are translated into system performance measures that are used for both day-to-day and strategic management.
- **Analysis of Options and Tradeoffs –** Decisions on how to allocate resources within and across different investment areas (e.g., maintaining existing assets and adding new ones) are based on an analysis of how different allocations will impact achievement of relevant policy objectives. This is one of the greatest potential links between transit asset management and allocation mechanisms. The limitations posed by funding constraints mean that fiscal discipline can begin with allocation decisions.
- **Decisions Based on Quality Information –** The merits of different options with respect to an agency's policy goals are evaluated using credible and current data. Where appropriate, decision support tools are used to provide easy access to needed information, to assist with performance tracking and predictions, and to perform specialized analysis (e.g., optimization, and scenario analysis).
- **Monitoring to Provide Clear Accountability and Feedback –** Performance results are monitored and reported for both impacts and effectiveness. Feedback on actual performance may influence agency goals and objectives, as well as resource allocation and utilization decisions.

These principles are familiar to transportation policy-makers and practitioners, who would agree that investment decisions should be based on weighing costs against likely outcomes, that a variety of options should be considered and evaluated, and that quality information is needed for decision-making. Most agencies recognize that application of asset management principles is critical in times of constrained resources, when all investment and budget decisions are subject to increased public scrutiny. Applying sound management principles and practices can improve an agency's performance, cost-effectiveness, communication, accountability, and credibility. Specific benefits include:

- Ability to define and deliver policy goals and objectives;
- Lower long-term costs;
- Improved service to customers;

- Improved cost-effectiveness and use of available resources;
- Improved communication within an agency and with external stakeholders; and
- Improved credibility and accountability for decision-making.

3.4 INCENTIVE GRANT MODELS

The transportation programs that are the subject of this study are examples of intergovernmental transfers, usually called "grants-in-aid" or simply grants. It should be noted that assistance between governmental units can come in many forms in addition to monetary grants such as loans, loan guarantees, insurance, and technical assistance. Essentially, grants are given to lower levels of government by more senior levels (e.g., Federal to states, states to local counties or cities) to encourage them or enable them to implement specific purposes and programs. In exchange for such funding, the grantor can place significant restrictions on the recipient in order to focus the funding for the explicit purposes they are designed to accomplish.

There are three basic types of grants:

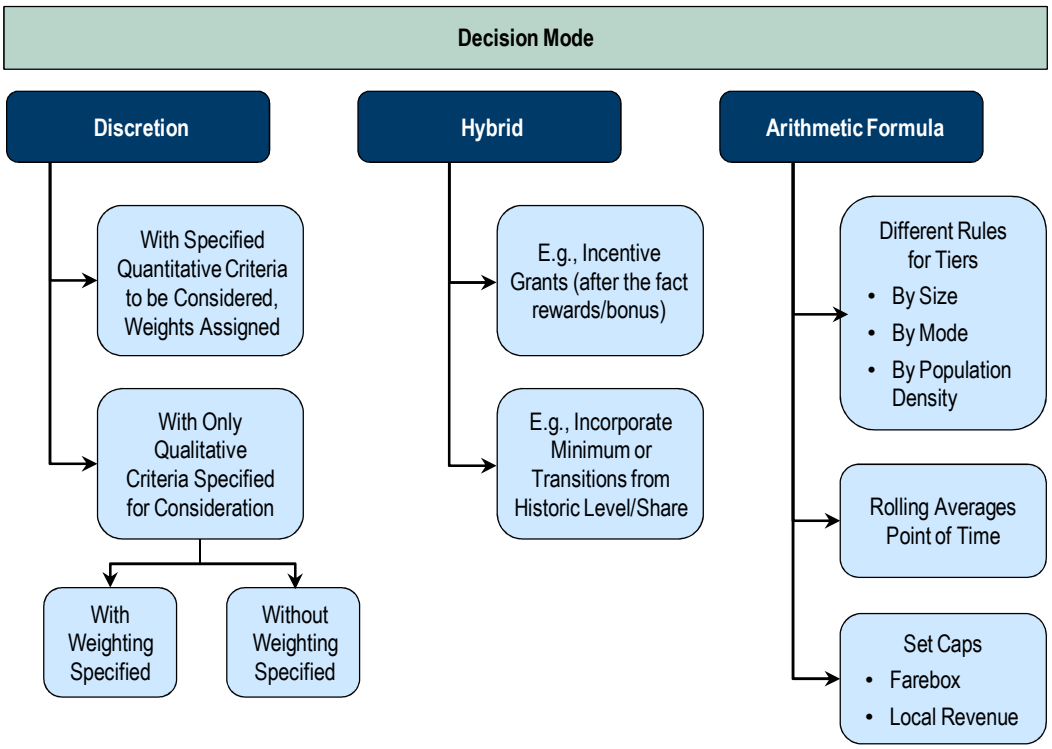
1. **Formula Grants –** Based on a decision rule with specific eligible uses and conditions for use of the funds;
5. **Project Grants –** Applicants are rewarded based on the pledge to conduct specific projects; and
6. **Block Grants –** More generalized purposes with fewer requirements but usually also distributed by formula.

All of these could entail matching requirements where the grant recipient must contribute some of the resources, ostensibly to show commitment and be motivated to contain costs. Hybrid forms have been designed, limited only by the creativity and the political acceptability of the governing body that incorporate a mix of the above forms. For example, an incentive grant might be awarded at the discretion of an agency based on legislative criteria but only if it receives an application for a certain purpose and it could be subject to a formularized limit or cap. Sometimes, particularly during transition periods between program rules, special "hold harmless" or "reserve clause" provisions can be applied which "trump" the new formula in favor of avoiding an abrupt change in the distribution.

Formulas and other program features can be a key component for maximizing the effect of such grants. The states of Indiana, North Carolina, Ohio, and Pennsylvania have adopted approaches for distributing transit funds to their subordinate jurisdictions that illustrate a variety of nontraditional formula structures and features.

Figure 3.1 provides possible program structures that can be adopted, within which specific formulas can be derived to reinforce their intended purposes. One can consider grant-in-aid structures on a continuum: whether a discretionary decision model or a strict formula basis is used, hybrid options can be tailored in between these models. Furthermore, in many functional areas of government, the reality is that a system of grants-in-aid has been adopted so that different programs target different but complementary purposes and attempt to balance out individual program or formula biases and dynamic relationships.

Figure 3.1 Potential Decision Mode



Also, the degree to which criteria are specified under discretionary program models and thus the amount of true discretion, judgment, and interpretation is left in the hands of the executive branch decision-makers is a reflection on a number of realities:

1. The oversight intentions of the legislature;
2. The perceived technical aspects and variability within the function that require flexibility for the decision-makers/selection agencies; and
3. The confidence that the legislature has that the executive branch has a common view of the goals that drove the program at its inception.

3.5 DATA CONSIDERATIONS

The development of funding distribution formulas must consider the availability and reliability of data sources, and the additional burden and costs associated if the chosen measures are not part of existing data collection efforts of transit providers.

Availability. To employ distribution formulas, consistently measured and reported data must be available for all providers receiving distributions. For example, transit agencies receiving Federal funds are required to submit data reports to the National Transit Database (NTD), and the data is used by FTA in determining funding allocation for its formula programs. However, small and rural transit providers sometimes do not report this information to NTD (or are not required to), and potentially lack the resources to develop a data collection program at the level required for larger transit systems.

Reliability, Consistency, and Currency of Data. Data must be consistent across providers and over time. If methods of collection and reporting are not consistent, distributions formulas will show skewed distribution results based on variation in data collection methods. For distribution formulas to most accurately reflect transit providers' performance, formulas should be based on the most current, audited, data. NTD data, however, is available on a two-year lag, thus may not reflect the current conditions at any particular agency.

- Several formula factors are in use across the nation, with the intent to reflect the service and use characteristics of transit systems. Of these, ridership and variations on miles of service dominate. There is likely wide variation in data definitions and data sources, particularly among the different modes of transit, for the particular metrics chosen. This does not become an issue until funds are actually distributed based on these factors.
- Population is a common factor used for distribution purposes, however, how population is counted or defined for a given service or service area must be consistent amongst providers and over time to appropriately serve in a distribution formula.

Burden of Collection. If there is a consequence, such as making reporting of information subject to audit a condition of funding, grantees will have a strong incentive to collect the data. Agencies are motivated to provide technical assistance and other resources to assist with this collection and improve the data quality through various means such as collection techniques and benchmarking guides. When developing a formula, the administrative burden of data collection should be considered compared to the benefit of using performance data in the formula. When developing potential formula options, the state should consider alternative formulations that address the data availability by transit provider.

National Trends. Even if not for formula purposes, the national trend is to monitor performance and to use performance data in Federal applications.

The Role of Data in a Formula. When developing a formula, the sensitivity of the results to the individual factors chosen should be considered as the tradeoff between high precision and cost of collection are real. If small variations result in wide variations in results, the formulas themselves will be vulnerable and lose credibility.

3.6 PERFORMANCE-BASED RESOURCE ALLOCATION IN TRANSIT

While monitoring performance has been a longstanding enterprise in the transit community, performance metrics are not commonly used as the basis to allocate funds. More often, the metrics are taken into account in subjective, discretionary decisions or program monitoring situations that lead to specific project budget decisions. A wide range of traditional internal performance measures, performance-related external factors, and service area characteristics have been considered in various combinations for integration into transit program reforms.

The literature identifies four perspectives that roughly correspond to those types of factors that are in use by public transit agencies to allocate either capital or operating assistance:

1. **Service Descriptors.** Simple descriptors of outcome, e.g., actual or planned transit services such as ridership, market share, service coverage, or value to local sponsors/users (reflected in revenues).
2. **Internal Performance.** "Traditional" internal economic dimensions of performance have a long history of use to inform day-to-day management of transit operations with the intent of maximizing efficiency, effectiveness, and productivity. Classic measures are structured in terms of a unit of output (or outcome) to a unit of input, such as passengers per hour of service or cost per passenger.
3. **Demographics.** Data that is rooted in demographics are often considered strongly related to needs; population and population density can be considered surrogates for potential impacts and correlate with changes over time.
4. **Goal-Oriented.** Performance-based resource allocation in a performance management framework. These metric factors are anchored in a set of goals and objectives that reflect the intent to influence the environment of the enterprise. Interest in the use of performance measures in resource allocation by transportation agencies has grown in parallel with overall public interest in accountability and effective use of public funds. Performance-based resource allocation, whether in the public or private sector, takes place within an overall performance management framework that can be oriented to external or outcome-oriented goals. They often contain measures of benefit attributable to transit toward broad community goals, including energy

conservation, economic development, safety, social equity, and environmental benefits such as air quality.

In a sense, these four perspectives represent a progression from simple to more complex descriptions, to internal and external goals. This increasing sophistication can be useful in considering a "menu" of factors. However, it also is useful to recognize that it is the combination of formulas or group of formulas that help to build a consensus and successful adoption. Experience also has shown that there often is a perceived balance across program goals and individual measures that are critical to acceptance.

Table 3.2 Potential Factors in Capital and Operating Formulas

Factor Orientation	Factors Used in Capital Fund Allocation	Factors Used in Operating Assistance Allocations
Internal Performance Orientation	Passengers/vehicle (revenue) mile (utilization/effectiveness)	Passenger trips per mile (utilization/effectiveness)
(Transit Operating Agency point of view)	Cost per vehicle (cost-efficiency)	Passenger trips per (revenue) hour (utilization/effectiveness)
	Ridership per expense (cost-efficiency)	Passenger trips per capita (utilization/effectiveness)
	Average age and condition of assets	Cost per passenger trip (cost-efficiency)
	Average age of equipment versus service life	Operating cost per (revenue) hour (cost-efficiency)
	Mileage between lost service maintenance road call (quality)	Operating cost per (revenue) mile (cost-efficiency)
	Miles per vehicle (utilization/efficiency)	Revenue per passenger trip (cost-effectiveness)
		Average call wait time
		Operating budget balance
Service Descriptors Orientation	Ridership: annual total passengers	Local non-farebox income
(General Public/Potential Customer point of view)	Service levels (vehicle miles)	Farebox recovery
	Annual vehicle hours	Passengers per hour
	Historic state funding	Passenger trips
	Historic Federal funding	Annual vehicle miles
	Criticality to system	Vehicle hours
		Total operating expense
Demographics/Need-Oriented	Population	Population
(Budget point of view)	Percent elderly in community population	Population density
	Non-Federal share of cost	Land area
	Percent time completion of capital projects	Revenue trends
Performance Goal-Oriented	Emission reduction	Equal minimum shares
(Community at large point of view)	Socioeconomic equity	Travel time savings
	Geographic equity	Safety impact
	Land use impact	Overall ridership increase
	Regulatory requirements	Operating Cost/Benefit per passenger
	Unique features (e.g., resort community)	Vehicle miles per capita (coverage)

Advantages and Disadvantages of Using Performance Measures as Formula Factors

In various forums, including policy studies, legislative hearings, and research conducted under the Transit Cooperative Research Program (TCRP), transit agencies have expressed an interest in increasing the use of performance-related measures to allocate transit program funds. There is general support for the potential benefits of performance measures and other factors (e.g., encourages efficiency, creates incentive, and provides objective observations). There is a widespread belief that performance measures and/or other factors contribute to efficiently allocating limited funding on a competitive basis and can help to ensure prudent financial decisions regarding transit service. Furthermore, performance-based measurement systems can foster communication with more objectivity and less political bias, contribute to problem solving and sustainable operations, and help to convey the implications and tradeoffs when funding is constrained.

Focusing on capital and operating funds, *TCRP Synthesis 56: Performance-Based Measures in Transit Fund Allocation* concluded in 2004 that state DOT use of public transportation performance measures in funding distribution remained relatively stable over the previous decade. It also concluded that state DOTs were reluctant to incorporate more public transportation internal (cost and efficiency) performance measures in their funding decisions because of the "inequity stemming from the zero-sum nature of performance-based allocations under constrained resources."[7] More recent interviews with state DOTs found that the shortage that they see in funding has stimulated an interest in changing the methods by which transit funds are distributed.[8]

Among the most experienced in developing and using performance measures for management and reporting purposes, numerous observations have been made that bring some realistic concerns to the debate over using such metrics in strict arithmetic formulas.

Several key conceptual issues and lessons learned include:

- **Concentrate on a few factors –** Using a limited number of performance-based factors is preferred not only because it results in simpler administration but because consensus is easier to achieve when it relates to a limited number of goals.

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[7] Transit Cooperative Research Program Synthesis #56: Performance-Based Measures in Transit Fund Allocation, A Synthesis of Transit Practice, page 40.

[8] National Cooperative Highway Research Program, Research Results Digest 361, State DOT Public Transportation Performance Measures: State of the Practice and Future Needs, September 2011, page 20.

- **Rewarding the affluent –** Recognition that performance-based factors can provide incentives to improve performance exists, but could reward well-funded agencies (and those with strong institutional capacities) at the expense of poorly funded ones whose needs may be more pressing.
- **The impact of fleet size and age –** Using asset age/condition directs more dollars to areas with larger fleet needs, which are typically also the transit properties that provide the highest service levels. Asset age is not an exact indicator of actual need; further, it does not provide incentives to maintain the fleets locally or reward properties that use preventive maintenance programs to extend the life of their assets.
- **Overanalyzing –** Overreliance on a standard set of strict quantitative measures and factors can introduce their own bias due to the uniqueness of each transit agency and service area. Focusing solely on a few quantitative measures and factors might diminish transit's ability to fulfill societal needs that may have inherently low-cost effectiveness (e.g., demand-responsive systems). Similarly, in surveys of operators, the belief was expressed that "farebox revenues were identified as not acknowledging the lifeline service needs or the affordability of transit." Although it is a worthy goal to develop goal-measure linkages, the connection can be strained between typical measures and system goals.
- **"If it isn't broken…." –** Traditional formula and non-formula factors can sufficiently reflect the values and choices of decision-making authorities.
- **Collection and administrative costs –** Even the most transparent factor can rely on estimations that are open to wide interpretation and data may be inconsistent due to the cost of collection. Improvements to the data may not be cost-effective in themselves. Development of measurement systems may create an additional layer of overhead and bureaucracy, as data reporting must be maintained and supervised.

3.7 PAIRING FORMULA AND DISCRETIONARY PROGRAMS

While monitoring performance has been a longstanding concern in the transit community, performance metrics are not commonly used to strictly allocate funds. More often, the metrics are taken into account in subjective, discretionary decisions or program monitoring situations that lead to specific project budget decisions.

Performance approaches focus on the ultimate outcomes of specific measures, but do not necessarily capture all policy goals or funding requirements appropriate for the diversity of operations and contexts involved. Several features of formulas and program structures are consistent with performance incentives and can be combined with transitional and compensating strategies to

address the uncertainty of pure performance-based approaches. These include narrowly constructing supplementary programs that are targeted to specific purposes and activities to achieve policy goals that would not necessarily be reflected in a broad, outcome-based capital or operating program, and pairing formula-based programs with discretionary ones that can use subjective criteria to compensate for unintended consequences or situations that are outside available metrics and/or reward innovation.

For example, discretionary programs have the advantage of potentially:

- Providing funding for new service while providing agencies with the discretion to determine whether such new service is warranted;
- Providing matching funding to leverage specialized Federal programs;
- Funding innovative or special services, such as paratransit, that may not be able to "compete" with standard service providers performance levels (for measures such as cost, ridership, etc.); and
- Addressing specific policy goals that are not captured in the formula program.

4.0 Summary of Analysis

Overview

The analysis of formula options was conducted in three "rounds." An overview of the elements considered for analysis follows:

- Round 1 considered a broad range of factors: traditional and performance allocation factors were explored for data availability, the consistency of data definitions, and variability of results. This preliminary testing illuminated data challenges and revealed the complexity of bringing together multiple factors into any one formula scheme. The illustrative tests allowed DRPT and the SJR 297 Transit Study Advisory Committee to concentrate on a smaller select group of factors.
- Round 2 considered a more narrow set of factors, and introduced the concepts of tiering and weighting. The concepts of distribution caps and floors and a reserve fund were also investigated.
- Round 3 considered the development of a hybrid approach of traditional (legacy) formula factors and new performance-based factors. Variations on tiering with different weighting treatments, including various means, were tested to differentiate between bus and rail service. CS introduced formula enhancements to address DRPT policy issues, such as local funding contributions. Several approaches to phasing-in implementation of the new system were incorporated in Round 3.

Formula Considerations, Testing, and Analysis

Round 1

The purpose of testing at this stage was to identify data needs and availability, to test the practical aspects of manipulating the factors, and to isolate if possible the relationships among the factors and across the recipients. Bias of some degree is introduced with every variable. If used to distribute funding, the variation itself is not an issue unless it is a source of bias in favor of or working against some recipients. Often, combinations of programs can be designed to compensate for the bias inherent in any one program formula.

CS had provided DRPT and the SJR 297 Transit Study Advisory Committee with an overview of potential performance factors to consider and examples of use nationwide. There is no shortage of possible metrics, each with their definitional and data source issues, particularly among the different modes of transit. For analysis or adoption purposes, there is no "perfect" or "right" factor. The initial factors to test were selected based on DRPT and the SJR 297 Transit Study Advisory Committee input.

The factors selected for testing were heavily influenced by concerns as to data availability. Factors without complete and consistent data sets for all transit providers could not be included for the purposes of testing. It was recognized that over time, DRPT may want to incorporate measures into the program that currently do not have data available; it would be necessary to define any such data set, provide guidance to the transit providers, and initiate data collection for future use. It was also recognized that both the mix of transit services supported by the Commonwealth and the overlap between government jurisdictions and areas these transit agencies served would make the effective application of traditional population and usage distribution factors extremely complex and unlikely to advance the linkages contained in the SJR 297 goals.

The initial factors explored and tested individually and in various combinations in Round 1 included:

- Various forms of population statistics, including service area, jurisdiction population, population density;
- Usage factors such as passenger miles and passenger miles per capita;
- Financial factors such as cost per passenger-mile; and
- A community-based factor (fiscal stress index).

Round 2

CS refined the testing of formula options based on collaboration with the SJR 297 Transit Study Advisory Committee and DRPT in Round 1. Options explored included the following features.

- Tiered structures, in which transit agencies were classified by area type consistent with the definitions used by the Federal Transit Administration (rural, small urban, and large urban). Separate funding levels for each tier were developed for purposes of the testing, based on the share of funding allocation that the agencies within these tiers in total received on average, over the past five years.
- An expanded set of performance measures were selected for further study, including:
  - Ridership per revenue hour (to measure cost-efficiency);
  - Ridership per revenue mile (to measure cost-effectiveness and service utilization);
  - Operating cost per revenue hour (to measure cost-efficiency); and
  - Operating cost per revenue mile (to measure cost-efficiency).
- Distributions among the providers in each tier were made with various permutations of weights for performance measures that reflected efficiency (the operating cost metrics) and cost-effectiveness (the ridership metrics) and recognized the variation between densities of the system services.

- Numerous scenarios were tested based on combinations of the four performance measures listed above. Funds were distributed for each measure based on the weighting attributed (e.g., 25 percent, 50 percent), and summed to provide a total distribution to each provider.

Performance measure data were obtained from the 2008 NTD report, the DRPT Performance Report from 2008, and local data. For three rural transit providers with relatively new services, data from comparable operators was used as a surrogate.

During Round 2 a supplementary test outside the formulas gave consideration to calculating the operating expenses as net of Federal funding under Section 5307 – Small Urban Areas and 5311 Rural Areas programs, regardless of whether the cap was reached.

Tiering

Concerns about the variation among transit providers due to the scale, density, and the size of populations they serve, as well as the mode of transit used, have reinforced the argument that distinctly different types of systems should be treated differently even when formula approaches are adopted. One technique that has been used is establishing peer groups or "tiers" and applying formula factors that fit those based on tiers for achieving the applicable policy goal. An obvious point of distinction amongst transit services is the rural, or urban, or small urban character of these systems. The implications of differences among their customers and services such as limited access, long versus short travel distances, underserved areas from a coverage point of view, and poverty rates and aging populations would argue for formulas that are fair and comparable. Customizing tiers based on such considerations can be technically difficult. The degree to which a few simple factors can sufficiently capture such differences to be considered equitable is a function of local acceptance.

Round 3

Round 3 analysis used the same metrics and relationships amongst the factors in Round 2. The analysis addressed the following:

- Adding a locally derived income threshold;
- Combining legacy and performance factors;
- Differentiating between bus- and rail-based public transportation providers through changes to the tier structures; and
- Adding a transitional assistance element to smooth the transition from the legacy allocation system to the new allocation system.

Analytical Conclusions

The iterative process of analysis provided DRPT and CS the opportunity to consider, test, and review results of many different approaches to allocating funds. This process enabled an analysis approach of starting broad, and then narrowing the consideration of formula options, factors, and tools that DRPT may want to employ in its allocation of operating funds.

Although there is not a "right" answer, lessons learned from the analysis include:

- The metrics ultimately chosen for analysis were appropriate for use in an allocation formula, based on the data availability, consistency, and ability to be audited. These measures were preferred as they correlate to DRPT policy goals; specifically, financial goals.
- A tiering system that differentiates providers by geography and size is appropriate. A tier distinction between bus and rail service also is well reasoned.
- Balancing the allocation system between the legacy and performance-based approaches would reduce the level of financial disruption to providers, and would allow performance measurement to be introduced without a possible dramatic effect on the provision of public transportation services.
- It is inherent in such changes that there will be those for whom the share of distribution will increase, while others will see a decrease. A form of transition assistance would be beneficial in easing the adoption and implementation of the system. For example, in the first year of implementation, public transportation providers that experience a reduction in funding could receive a transitional assistance allotment of 100 percent of the difference between the amount they would have received in the legacy system and the amount they would received in a fully implemented new system in the first year and 50 percent in the second year.

It should be noted that analyses such as these are not static or definitive. With a performance based allocation system the relevance of the factors to achieving policy goals is greatly influenced by changing conditions and context; such change might be driven by the progress in meeting the goals, changing consensus over the appropriate goals, or external influences completely beyond the transportation sector. With that recognition plus greater experience with performance-based allocation factors and formulas, it is reasonable to expect that subsequent analyses would be needed and the specific elements be revisited to keep pace with evolving programs. Several DOT case studies demonstrate a willingness to monitor the results and have undertaken several cycles to reconsider adjusting the specific factors used. For example, in recent years, both North Carolina DOT and Ohio DOT reviewed of their fund allocation processes and the role of performance measures and adjusted the details of their procedures accordingly.

5.0 Conclusions

Flat or declining revenues for transportation, combined with growing demand for public transportation services, have challenged leadership around the country with getting the most out of their revenues. Performance management provides a framework for decision-making that promotes accountability from those who are providing funding support as well as those who are recipients. Putting in place a positive linkage between setting priorities and goals and making allocation decisions can be an important first step.

DRPT has been working toward an effective performance management framework for several years. One of the most important tools that the Commonwealth has in transit policy, the allocation of its formula programs, is not currently reflective of those improvements. The General Assembly recognized this with its charge in SJR 297 to study possible reforms to the allocation mechanism in an effort to improve performance, prioritization, stability, and allocation formulas. Based on an understanding of national trends in the public transportation industry, the codified funding processes in Virginia, and consideration of alternatives, **CS concludes that the current funding distribution mechanisms do not reinforce or incentivize improved system performance and that these mechanisms can be improved in support of Commonwealth transportation goals**.

Public transportation programs can be devised with distribution formulas that would direct state funding towards system attributes explicitly consistent with state priorities. Performance approaches focus on the ultimate outcomes, not the means that are used and thus can encourage innovation on the part of operators. A "pure" performance framework would focus on outcomes regardless of the type of operations and contexts involved in order to focus rewards exclusively on results. Change of any kind that involves a major source of funding would be difficult because of the reliance of stakeholders on the funding provided. A leap does not have to be taken to a completely "pure" performance metrics-based system of allocation. In fact, the transit industry across the nation has little experience with purely performance-based distributions. There are a wide variety of reasons for this, including immediate data problems and uncertainty as to the unintended consequences of change. **Rather than implementing a "pure" performance-based allocation system, a hybrid approach could be used, which would limit any dramatic funding variations from current distributions while incentivizing performance in public transportation systems throughout the Commonwealth and aligning the program with DRPT policy goals**.

Incentives can be developed using formula or discretionary constructs as policy levers. Strategies can also be developed to ease the transition for formula programs. It appears that the reception to such changes would improve if they coincided with additional overall funding, however, identification of new

funding should not be a pre-requisite to implementing a performance-based allocation system for existing funding streams. If these reforms were to be applied to additional incentive funding, for example, gains by exemplary grantees would not be at the expense of others. However, applying reforms only to additional revenues would fail to address the lack of incentive for good performance with existing funding streams.

Identifying a limited set of specific system performance goals, selecting the appropriate metrics, and providing an emphasis on quality data development and collection, would be critical elements to successfully applying a performance approach. Best practices for use of performance measures recommend using readily available and auditable data. Any data to be used in an allocation formula should be data that can be collected and validated in a timely fashion to support annual allocations. It is important not only to transit providers but also to the taxpayers of the Commonwealth at large that distributions are well reasoned, trustworthy, and based on validated data. These measures could be a combination of measures historically used by DRPT in its legacy formula as well as new performance measures.

It is likely that such formulas would result in significant changes from historic levels for individual transit providers. Several features of formulas and program structures studied are consistent with performance incentives and could be combined with transitional and compensating strategies to address the uncertainty of pure performance-based approaches. Examples include:

- Incorporating into formulas a system of tiers that acknowledge the different dynamics of various size systems and different transit modes;
- Incorporating into formulas transitional limits that act as ceilings and floors as compared to historic levels;
- Providing for a reserve fund in order to moderate large changes in funding levels;
- Introducing transitional hybrids of pure performance formulas and legacy formulas to assure greater stability;
- Considering supplementary programs that are targeted to specific purposes and activities to achieve specific policy goals that are difficult to isolate under a broad, outcome-based capital or operating program; and
- Pairing formula-based programs with discretionary ones that can use subjective criteria to compensate for unintended consequences or situations that are outside available metrics and/or reward innovation.

While instituting goal-oriented factors, most notably in support of efficiency and cost-effectiveness, the problems of variability in funding can be addressed. Transitional techniques have been highlighted in the report and others that smooth out the peaks and valleys could apply in some manner to the current distribution but would be critical to acceptance of new approaches. Given that

there will be a need for public transportation providers to plan ahead for changes in funding, and to minimize implications of any funding shifts, DRPT may want to consider providing transitional assistance to providers that experience a decrease in funding.

This study improved the understanding of the many potential factors of DRPT operating funding allocation formulas. In particular, testing the policy implications of various allocation tools provided insight into the SJR 297 mandate's four target areas as follows:

- **Performance –** Use of transit agency performance measures to directly support DRPT policy goals will be challenging but can be accomplished by providing incentives to reward transit providers for improved performance outcomes. This can be accomplished through use of performance factors in an allocation formula. Performance data that speaks to cost effectiveness and system cost efficiency can demonstrate system outcomes and reward providers accordingly. Although there are other approaches in which performance management can be used to support agency investment and policy decisions, such as tracking and reporting, discretionary rewards for positive outcomes, or other program features that are discussed in this report, the use of data in an allocation formula is the most transparent and direct link between transit agency performance and DRPT financial support.
- **Prioritization –** Prioritization of DRPT investments could be more directly linked to and supportive of DRPT policy goals. Separate from the CS study emphasis, DRPT may consider distinct funding categories for capital projects to provide an objective decision making process about investments and to allocate limited fiscal resources to the projects considered most necessary in Virginia. To best serve the Commonwealth, these project categories or funding areas may be prioritized based on DRPT goals, and could possibly have separate criteria and funding buckets to address needs such as capital projects, asset management, and planning. An operating funding system that incorporates performance outcomes into the allocation methodology could support and coordinate with the prioritization of capital projects.
- **Stability –** This study revealed that an understanding of future fiscal resources that will be available from the State is critical to local transit planning. The SJR Transit Study Advisory Committee input included comments that 1) It is important to transit providers to know with confidence how much financial support a transit provider will receive with sufficient lead time to request accurate gap support from the local jurisdictions; 2) Consistency of support is helpful for planning purposes, and helps agencies make critical service and capital investment decisions. DRPT may be able to address these issues by adjusting the timing of allocation notices to Virginia transit providers, and potentially establishing a reserve fund or a similar mechanism which would help to sustain an improved consistency of funding levels.

- **Allocation –** This study has highlighted the fact that although there were many positive attributes to the current DRPT system for allocation of funds, numerous improvements could be considered to improve the linkage between allocation of funds and progress towards achieving DRPT policy goals. The review revealed that the operating funds allocation system would benefit most from significant rethinking. As demonstrated by the varied nature of national practices in regards to allocation and use of performance data, determining which allocation approach is "preferred" or "best" is ultimately tied to policy goals and the unique nature and relationship of each funding agency with their transit providers. Key issues to be considered before using performance data in an allocation system are to verify consistency of data reporting and data definitions, testing of data, and development of an understanding as to how data variation causes shifts in the allocation of funds. As demonstrated in this study, significant testing should occur to gain an understanding of each factor individually and in combination with other factors. Mechanisms should be applied as needed to ensure comparable provider's outcomes are being compared. Lastly, the allocation system's transparency is essential to recipient providers, and to the Commonwealth.

The concepts and tools provided herein should be taken into consideration as DRPT determines its next steps in the evolution of the effective allocation of State funds to support the transit systems of Virginia and as DRPT advocates for additional funding to support public transportation.

A. Senate Joint Resolution 297

Requesting the Department of Rail and Public Transportation to study transit-related issues in the Commonwealth. Report.

Agreed to by the Senate, February 2, 2011

Agreed to by the House of Delegates, February 22, 2011

WHEREAS, the mission of the Department of Rail and Public Transportation (DRPT) is to improve the mobility of goods and people while expanding transportation choices in the Commonwealth; and

WHEREAS, in the last six years alone, DRPT has started six new transit systems in 16 communities; and

WHEREAS, DRPT also has been instrumental in implementing some of the largest transit projects in decades, including the Dulles Corridor Metrorail Project and the Norfolk Light Rail Project (the Tide), as well as numerous bus service expansions; and

WHEREAS, the economic downturn and increasing demand for services has caused a reduction in operating and capital grants; and

WHEREAS, historically the transit operating expenses match has been 20 percent; it has now been reduced to 15 percent and the new transit systems and the large projects beginning in 2011 (Norfolk Tide) and 2013 (Dulles Rail Phase1) will push down that ratio even more; and

WHEREAS, the capital program changes year to year based upon the revenues available and the capital needs of the transit system; now, therefore, be it

RESOLVED by the Senate, the House of Delegates concurring, that the Department of Rail and Public Transportation be directed to study transit-related issues in the Commonwealth.

In conducting its study, the Department of Rail and Public Transportation (DRPT) shall study, but not be limited to, the following issues:

1. **Performance –** The study should determine if there should be a system in place to reward operator performance based upon specific performance criteria (e.g., farebox recovery, cost per passenger trip, passenger trips per vehicle revenue hour, etc.);
2. **Prioritization –** Currently, all capital requests are matched equally. The study should examine different funding categories;
3. **Stability –** Match ratios change every year based upon demand and available revenues. The study should examine holding systems harmless at existing

levels and creating a reserve to stabilize funding for both capital and operating expenses; and

4. **Allocation –** Current funding formulas were established in the Code of Virginia about 25 years ago at a time when transit was not as important as today in the overall transportation network. The study should evaluate the allocation of the 14.7 percent of Transportation Trust Fund revenues among capital and operating expenses and special programs. The study also should address the current Code language that allows transit funding up to 95 percent of eligible capital and operating expenses. The study should determine an appropriate percentage.

This study is to be conducted by DRPT in cooperation with transit stakeholders, transit systems, local governments, and metropolitan planning organizations as well as other interested parties. The study shall be conducted by DRPT using existing agency staff and resources and be completed for the 2012 Regular Session of the General Assembly. All agencies of the Commonwealth shall provide assistance to DRPT for this study, upon request.

The Department of Rail and Public Transportation shall complete its meetings by November 30, 2011, and shall submit to the Governor and the General Assembly an executive summary and a report of its findings and recommendations for publication as a House or Senate document. The executive summary and report shall be submitted as provided in the procedures of the Division of Legislative Automated Systems for the processing of legislative documents and reports no later than the first day of the 2012 Regular Session of the General Assembly and shall be posted on the General Assembly's web site.

B. Flow of Funds for Public Transportation in Virginia

Technical Memorandum

TO: Steve Pittard, Chief Financial Officer
Virginia Department of Rail and Public Transportation

FROM: Susan Binder
Cambridge Systematics, Inc.

DATE: June 13, 2011

RE: Flow of Funds for Public Transportation in Virginia

Background

As the first step of Phase I of the Public Transportation Study, we have researched the current process by which funds are allocated for the various public transportation programs administered by your agency. Based on interviews with you and your staff as well as a variety of resource materials available to us, we have documented our findings in this technical memorandum. Essentially, it serves as a baseline for the development of a Phase II work plan and a foundation for your efforts to communicate the process to public transportation stakeholders.

This technical memorandum focuses on the public transportation component of DRPT's portfolio. It is organized as follows:

> **Legal Authorities –** Presented as background to the subsequent financial actions in terms of State Program Authorizations, Appropriation Actions, State Transit Programs, Federal Transit Programs, and Planning Grants. (Appendix C contains the applicable excerpt of the Virginia Code; Appendix D contains the applicable excerpt from the Virginia Appropriations Act.)
>
> **Funding Implementation –** Discusses the manner in which Transit Funds are distributed by the State of Virginia from the Mass Transit Trust Fund, the Mass Transit Capital Fund, the Highway Construction Fund, and Federal funds.

Institutional Relationships

The Virginia Department of Rail and Public Transportation (DRPT) is the state agency responsible for rail, public transportation, and commuter services in Virginia, with a mission to improve the mobility of people and goods while expanding transportation choices in the Commonwealth.

Although originally a component of the Virginia Department of Transportation (VDOT), DRPT was established as a separate agency, reporting to the Virginia Secretary of Transportation, in FY 1992. Along with the VDOT, DRPT is responsible for developing the Six-Year Improvement Program (SYIP), which includes funding for both agencies, and is approved annually by the Commonwealth Transportation Board (CTB).

DRPT's three main areas of responsibility include:

> **Rail –** DRPT's Rail Division conducts funding and advocacy activities for passenger and freight rail in Virginia to support rail improvements, industrial access, and preservation projects.
>
> **Public Transportation –** DRPT provides support to 60 public transit operators, 54 human service operators and 18 commuter assistance agencies in Virginia.
>
> **Commuter Services –** DRPT participates in multimodal planning and Transportation Demand Management (TDM) activities, including administration of Virginia's Telework!VA program. DRPT provides technical and financial support for commuter assistance.

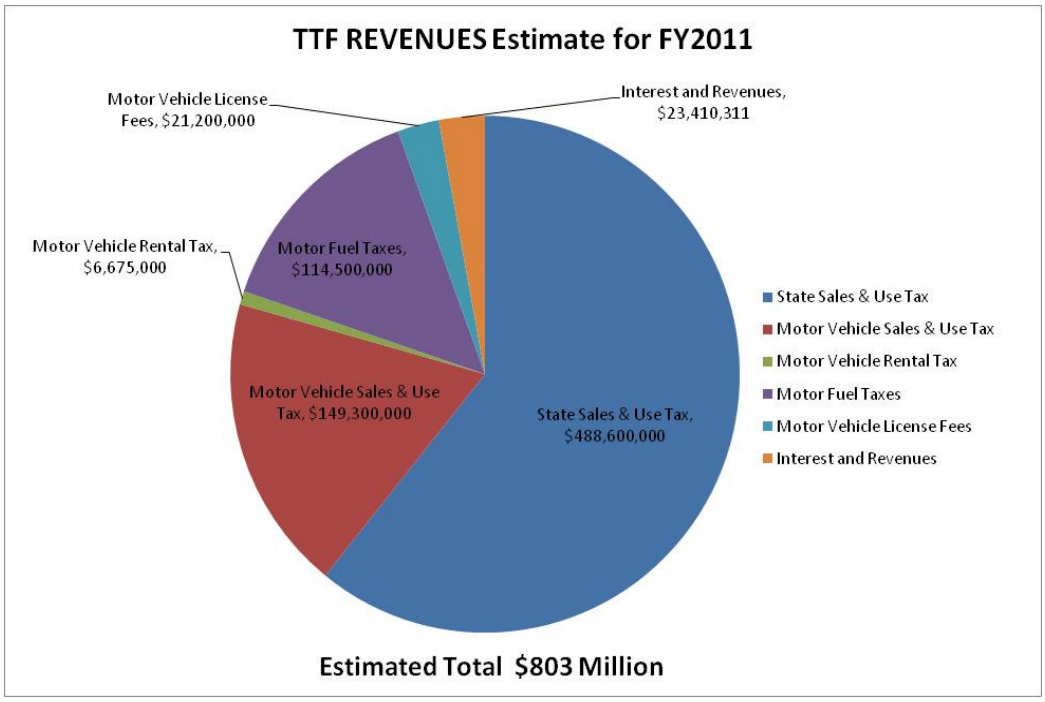
Legal Authorities

The flow of funds dedicated for public transportation is derived from a series of legal authorities for the most part embodied in codified Virginia law and supplemented by appropriations actions and policy direction from the CTB. It also is influenced and supplemented by comparable Federal laws, administrative actions, and program requirements associated with Federal discretionary and formula grants.

Distributions Authorized at the Primary Transportation Trust Fund Level

Virginia's Transportation Trust Fund was established to fund improvements to highways, ports, airports and public transportation. Its revenue sources include a wide variety of transportation-related user fees. The relative size of these major revenues is shown in Figure B.1 below.

Figure B.1 Distribution of Revenues into the Commonwealth Transportation Trust Fund



The Transportation Trust Fund is in turn distributed across four modally oriented trust funds according to percentages set in statute as shown in Figure B.2 below, one of which is the Mass Transit Trust Fund (MTTF).

- §58.1-638 of the Virginia Code, through Subsections A1 and A4, provides for funding that is allocated and administered by the DRPT.
- Subsection A4 establishes the Mass Transit Trust Fund (MTTF).
- Subsection A1 directs 14.7 percent of revenues to be paid from the "parent" Transportation Trust Fund (TTF) into the MTTF.

Figure B.2 Distributions from the Transportation Trust Fund to the Modal Trust Funds

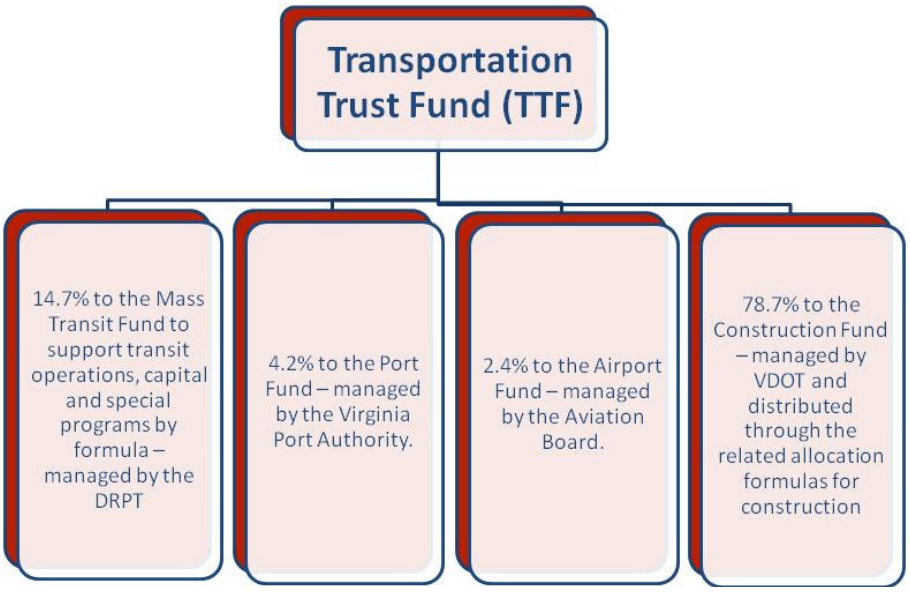
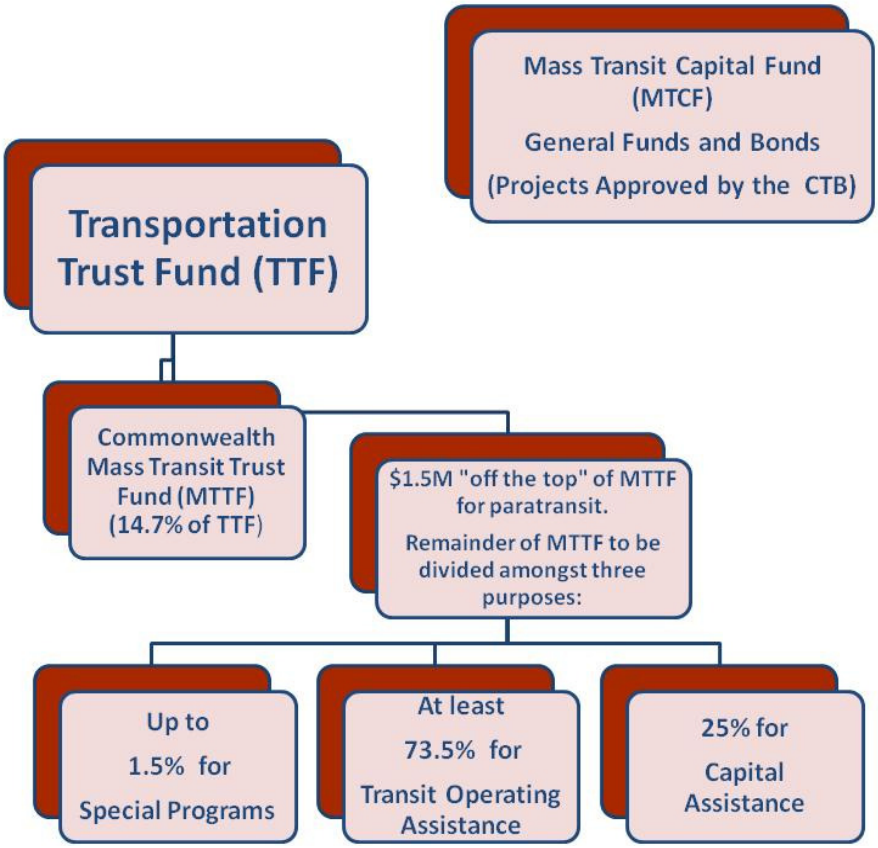


Figure B.3 Transit Sources and Basic Distribution



Distributions Authorized at the Secondary or Program Level

(1) *State Program Authorizations.* Figure B.3 **represents the two major components that are administered by DRPT – the MTTF and the Mass Transit Capital Fund (MTCF).**

- SubSection A4 of the Virginia Code establishes the major distributions of the MTTF revenue among recipients. The available MTTF revenue is divided, with specified percentages, essentially into programs that address the following three program purposes:

  - **Special Programs –** Subsection A4c allows for a maximum of 1.5 percent of the MTTF to be used for special programs such as ridesharing, experimental transit and technical assistance.

  - **Operating Assistance –** Subsection A4e designates at least 73.5 percent of the MTTF to fund operating assistance.

  - **Capital Assistance –** Subsection A4f directs 25 percent of the MTTF be distributed for capital purposes (subject to the condition described below).

- SubSection A4g provides for a separate Mass Transit Capital Fund (MTCF), which is funded through external sources such as funds appropriated to it by the General Assembly, bond proceeds, grants or endowments.

- Section 447A1c of the Appropriations act has now been codified in State Code. It addressed the possibility that operating assistance funding in current fiscal year may be estimated to be less than the prior year's operating assistance available, giving the CTB the option to shift up to 20 percent of the MTTF designated to capital purposes for operating assistance instead. This was provided for in the 2011 Appropriation Act: "c. Notwithstanding the provisions of paragraph A.1.a and A.1.b of this item, prior to the annual adoption of the Six-Year Improvement Program, the Commonwealth Transportation Board may allocate up to 20 percent of the Commonwealth Mass Transit Fund dedicated for capital purposes to transit operating assistance if operating funds for the next fiscal year are estimated to be less than the current fiscal year's allocation, in an effort to maintain transit operations at approximately the same level as the previous fiscal share."

(2) *Appropriation Actions.* Appropriations Acts (most recent: 2010-2012) are enacted by the Virginia legislature to make funds available for expenditure by the executive branch agencies, such as DRPT, essentially establishing their biennial budgets. These laws can contain explicit direction as to the amount, purpose, and duration of any expenditure. Although the authorizing language of the Code is considered permanent and continuing, provisions of an appropriations act supersede the code language for a particular period. For example, such provisions can affect the distribution of public transit funds by appropriating specific funding levels for specific projects, supplementing the trust funds with revenues from other sources, or changing the distribution among the program categories.

- Section 447A2 of the 2011 Appropriation Act established that "Included in this Item [MTTF distribution] is $2,500,000 the first year and ~~$2,500,000~~*$1,500,000* the second year

from the Commonwealth Mass Transit Trust Fund. These allocations are designated for "paratransit" capital projects and enhanced transportation services for the elderly and disabled." Therefore, $1.5 million is shown in Figure B.3 as an "off-the-top" takedown from the MTTF for purposes of paratransit activities.

(3) State Transit Programs

From the various state funding sources available to it, DRPT administers eight State Aid Grant Programs. These individual programs are structured based on the types of assistance provided and the purpose served. The DRPT Grant Program Application Guidance goes into great detail as to the financial characteristics and administrative requirements for each. The source of funding for each of the eight programs is listed below:

- Operating Assistance – MTTF and Recordation Tax
- Capital Assistance – MTTF and MTCF
- Special Projects Fund – MTTF
    - Demonstration Project Assistance
    - Technical Assistance
    - Public Transportation Interns
- Transportation Demand Management (TDM) Operating Assistance – Transportation Efficiency Improvement Fund (TEIF) whose original funding source is VDOT's portion of the TTF.
- Transportation Management Project Assistance – TEIF
- Senior Transportation Program – Paratransit Funds

In addition, FHWA funding also can be applied toward transit projects with VDOT as the direct recipient. Transit-related expenditures are eligible under several program categories and, at the option of either the state DOT or the urban Metropolitan Planning Organizations, may be transferred to FTA for those purposes. Upon transfer, these programs are administered by the Federal Transit Administration and DRPT. Such Federal programs have specific conditions but their funds are relatively flexible across transportation modes. The two programs that can be used in this manner are the Surface Transportation Program (STP) and the Congestion Mitigation and Air Quality Program (CMAQ). FHWA funding also may be used by authorizing the Federal award and leaving the funding at FHWA. In these cases, VDOT remains the direct recipient and DRPT requests reimbursement of expenses incurred from FHWA through VDOT.

(4) Federal Transit Programs

DRPT administers seven Federal Aid Transit Grant Programs derived from Title 49 of the United States Code. Each year, the Congress (after making an appropriation) provides for an annual apportionment which funds these programs. The Federal Transit Administration (FTA) distributes these funds, many of which are either by formula or as specific earmarks. The majority of these recipients are specific substate governmental units, public organizations, or transit authorities. For some programs, funding is provided to States, who in turn make a distribution based on the Federal program criteria, to local governments, public organizations, and in some cases, to private nonprofit organizations.

Federal funding is a consideration in the flow of overall transit funding in Virginia in several ways:

- Federal funding that has been received by a transit provider could be a factor in the determination of operating assistance. Such amounts are deducted from the gross operating expenses in calculating the 95 percent ceiling of transit operating expenses that DRPT is allowed to fund. However, in practice, since the cap has not ever been reached, the Federal funding is not a consideration in the calculation.

- Since most Federal Transit programs require at least a 20 percent non-Federal match, applications for state funding include such requests.

- Those Federal programs that are managed at the state level, as opposed to having Federally designated direct recipients, are distributed by DRPT. Those grantees who receive Federal operating assistance based on the current year budgeted operating expenses also participate in the allocation of state operating assistance in the same manner as all other grantees. Most grantees who receive allocations of Federal capital assistance through DRPT also participate in the allocation of state capital assistance, as a percentage of the non-Federal project cost.

In addition to the planning grants below, such programs include:

- FTA Section 5310 – Transportation for Elderly Persons and Persons with Disabilities;

- FTA Section 5311 – Rural Areas;

- FTA Section 5316 – Jobs Access and Reverse Commute Program; and

- FTA Section 5317 – New Freedom Program.

FTA Section 5311 provides operating and capital funding for the rural grantees throughout the Commonwealth. Section 5307 also serves as operating funds for the small urban grantees, that is those grantees whose populations are between 50,000 and 200,000. Both sources of Federal funding for operating are awarded to the Commonwealth and then apportioned to the grantees who use the funding to cover up to 50 percent of the deficit between budgeted expenses and budgeted revenues. These grantees receive state operating assistance as well.

(5) Planning Grants

Several state and Federal sources can be drawn upon to provide support for transit planning. Federal funds are provided, as described by the U.S. Federal Transit Administration "to support cooperative, continuous, and comprehensive planning for making transportation investment decisions in metropolitan areas and statewide." Two major transit planning programs have been authorized in Federal statute: Section 5303, for which DRPT requires an application, covers Metropolitan Planning; Section 5304 is used by DRPT to fund Statewide Planning. These Federal planning funds are first apportioned (distributed by national formulas) to state DOTs. In turn, DRPT allocates Section 5303 planning funding to the 14 metropolitan planning organizations (MPO) in the State. In addition, planning activities can be supported under Virginia's Technical Assistance Program.

Funding Implementation

Distribution of Transit Funds from the MTTF

Overview. In general, the majority of funding provided for public transit by the State of Virginia reflects statutory direction that a percentage of the Commonwealth Mass Transit Trust Fund (MTTF) is dedicated either to operating assistance, capital assistance, or special programs for public transit providers. Once the available funding is determined, three major characteristics of the MTTF drive the distribution of that funding:

(1) In the case of operating assistance, in concept, the Virginia code limits the amounts provided as operating assistance to certain expenses. As caps are never reached, the limits have never been applied.

(2) The State share of a recipient's total operational or capital costs is "capped" at 95 percent.

(3) The amount provided to each grantee is determined by a series of calculations that result in a relative share of expenditures and capital needs for each of the State's various transit providers, proportional to all transit providers' expenditures and capital needs.

Commonwealth Mass Transit Trust Fund Grants. The following policy directives under current Virginia law are executed through a sequence of calculations, enabling funds to be allocated to transit providers across the State. Prior to calculating the amounts for operating and capital assistance, $1.5 million for paratransit purposes is deducted from the balance of the MTTF.

(1) Up to 1.5 percent of the MTTF is dedicated to Special Programs.

a. Special Programs Defined: Title 58.1-638 of the Code of Virginia, Subsection A4c(1) provides "Funds for special programs, which shall include ridesharing, experimental transit, and technical assistance, shall not exceed 1.5 percent of the fund."

b. Share and Recipients:

i. Subsection A4c(2) goes on to provide that these funds can be used for up to 80 percent of the local share for "development, implementation, and continuation of ridesharing programs." However, as TEIF funds support ridesharing programs, Special Program funds are used for technical assistance, interns, and cutting edge demonstration projects with a focus on Intelligent Transportation Systems (ITS).

ii. Although the provision of new service may be supported through the Special Program as a form of technical assistance, historically, new service has been funded through operating assistance.

iii. Subsection A4c(3) goes on to provide that "any local governing body, transportation district commission, or public corporation…." or DRPT itself can receive up to 95 percent of capital and/or operating costs of experimental transit and ridesharing projects approved by the Commonwealth Transportation Board. Historically, DRPT has provided 100 percent for its own operation, with a one-year limit placed on such operating assistance.

(2) Basis for determining allocations for operating assistance. Operating assistance is allocated to transit providers in support of future operations. The allocations equal the relative share of total expenses from two years prior (i.e., FY 2010 expenses funded in FY 2012) for a particular transit provider of the total operating expenses statewide. DRPT reviews activity at year-end to verify that transit providers incurred sufficient eligible expenses to meet their grant requirements. Approximately 5 to 10 percent of grant funds are withheld as a final payment which is provided following this verification.

a. Universe of applicants/grant recipients for operating assistance:

i. As stated in the Virginia code: "At least 73.5 percent of the [MTTF] shall be distributed to each transit property…." Thus the initial determination, as reflected in the DRPT Application Guidance, has been made that eligible grant recipients include "providers of public transportation service," including local governments, Transportation District Commissions, and Public Service Commissions.

ii. The terminology of "public" transportation service excludes services not available to the general public.

iii. New services could qualify for operating assistance with their expected costs based on transit operational plans and budgets for such services.

b. Expenditure Information to Determine Operating Assistance: The relationship upon which operating assistance allocations are derived is based on the latest

available audited reports of prior expenditures submitted by transit providers. Eligibility is verified during the final eligibility process.

i. Eligible costs: The operating assistance allocation is derived by comparing the total operating costs for an individual provider with the total of operating costs across the State during that period.

- Virginia code Subsection A4b limits eligibility for operating assistance to administrative costs and local costs for fuels, lubricants, tires and maintenance parts and supplies "…. in excess of fares and other operating revenues plus Federal assistance received by the locality." In establishing the operating assistance distribution under Subsection A4e, it limits the eligible costs upon which the formula depends to "…the purposes specified in subdivision 4b."

- The DRPT Guide provides illustrative eligible and ineligible expenses and clarifies that:

    a. only expenses for purchases consumed during the period are eligible

    b. salaries, wages and fringe benefits of vehicle operators, mechanics, vehicle and on-vehicle maintenance workers, cleaners, etc. and insurance costs allocated to these employees are not eligible expenses

    c. expenses that already are funded through any other DRPT grant are ineligible

    d. expenses associated with services contracted for or by exclusive customers also are not eligible

ii. Timeliness: This can entail a lag of about two years between the year for which operating assistance is funded and the basis year. Providers report their costs based on their own fiscal years therefore consistent treatment may be an issue.

c. Statutory Cap on State share of annual eligible operating costs: A maximum state participation ratio for operating assistance is set in Virginia Code at 95 percent of any grantee's total operating costs.

i. Calculations are made to assure that allocations do not exceed this limit. The DRPT Guide refers to this as the Maximum Eligibility Test.

ii. In practice, the amounts made available have not triggered this limit and therefore it has not been a constraint. According to the DRPT Guide, "…

Historically, the Operating Assistance Program has matched between 35 percent and 50 percent of eligible operating expenses."

(3) Basis for determining allocations for capital assistance from the Mass Transit Trust Fund (MTTF). MTTF capital assistance is allocated to transit providers in support of approved grant applications submitted to the DRPT.

a. If funds are sufficient, all eligible projects are funded to the maximum level of 95 percent of the non-Federal share.

b. If funds are insufficient to fund the complete list of eligible projects; then the amount distributed to each transit provider is in the same proportion as its eligible capital requests bear to the total statewide eligible capital requests.

c. Universe of applicants/grant recipients for capital assistance:

i. As stated in the Virginia code: "25 percent of the [MTTF] shall be distributed for capital purposes on the basis of *(up to)* 95 percent of the non-Federal share for Federal projects and *(up to)* 95 percent of the total costs for non-Federal projects," depending upon available funds.

ii. Eligible grant recipients, as reflected in the DRPT Application Guidance, include existing and new "providers of public transportation service," including local and DRPT, Transportation District Commissions, and Public Service Commissions. The terminology of "public" transportation service excludes services not available to the general public.

d. Local match: The DRPT Guide notes that "the non-Federal share of each grant application is multiplied by the match percentage to determine the state funds to be allocated by DRPT. The remaining non-Federal share must be met through local funding."

e. Basic eligibility: The DRPT Guide notes that operating expenditures such as depreciation costs and preventive maintenance expenses are not covered by this program. The DRPT Guide also provides illustrative eligible expenses and clarifies that eligible capital expenses include, but are not limited to items such as:

i. the purchase or lease of new vehicles and equipment,

ii. the rehabilitation of vehicles and equipment,

iii. the improvement or construction of transit maintenance and operations facilities,

iv. the purchase and installation of bus stop signs and shelters,

v. the cost of debt service for major capital projects,

vi. real estate/right-of-way acquisition, and

vii. safety and security equipment.

f. Verification of eligible projects: The DRPT Guide notes that "Replacement/Rehabilitation of Existing Equipment – will be evaluated against consistency with the DRPT Asset Management System and consistency with the capital budgeting information submitted every year by applicants to develop the Six-Year Improvement Program."

g. New Service:

i. The DRPT Guide notes that as of FY 2012, existing systems must have a completed and adopted Transit Development Plan in order to request Capital Assistance for new service. Although this is not a current DRPT practice, it is a goal to do so.

ii. The DRPT guide also notes that local transit providers must prepare a plan before requesting any Capital Assistance from DRPT for new service (this does not include expanding existing routes). As noted in Virginia Code and the Guide, planning funds may be applied for through DRPT's Technical Assistance Program. All requests for new service are evaluated by DRPT staff using the Transit Service Design Guidelines.

h. Statutory Cap on state share of annual capital costs: A maximum state participation ratio for capital assistance is set in Virginia Code at 95 percent of any grantee's non-Federal capital costs funded by the MTTF.

i. In practice, the amounts made available have not triggered this limit for the MTTF capital funds, and therefore it has not been a constraint.

ii. According to the DRPT Guide, "The capital match ratio can vary significantly based upon the amount of capital needs for the upcoming fiscal year (available fund in any given year) and any supplemental funding appropriated by the General Assembly and allocated by the Commonwealth Transportation Board."

Commonwealth Mass Transit Capital Fund Grants

In contrast to the formula distribution for capital transit investments described above from the MTTF, Mass Transit Capital Fund (MTCF) funds are allocated to specific projects approved by the CTB. They are funded through bond proceeds, grants, appropriations, and other sources. For the MTCF, the maximum allowable match is 80 percent.

Consideration is given to both the purpose of the investment and the funding sources that applicants have available for transit capital investment.

- In terms of the former, the highest priority is given to applications that advance the replacement of transit rolling stock.
- The latter is reflected in the consideration of using state funds as a portion of the match to Federal grant programs.
    - Many Federal transit grants provide 80 percent of eligible expenditures.
    - Assuming that applications are made for the 20 percent match to Federal funds, an 80 percent DRPT grant is calculated as 80 percent of that 20 percent, or effectively 16 percent. Thus recipients have a 4 percent effective match requirement.
    - If applications are made for the full project without any expectation of Federal funding, the draw upon DRPT funding is potentially much higher.
    - Based on both fairness and the desire to address a broader range of transit needs while providing a predictable match to applicants, DRPT has instituted a policy of tiered grants from the MTCF, providing no more than a 50 percent match for those grants where applicants are not using Federal funds.

Transportation Efficiency Improvement Fund (TEIF).

Funding for transportation demand management (TDM) activities comes from the Transportation Efficiency Improvement Fund (TEIF). The program supports the operating costs of existing or new local and regional TDM initiatives. As described in the DRPT Application Guide, the "primary goal of these programs is to help decrease highway congestion and improve air quality by facilitating commuter mobility in high-occupancy transportation modes." The origin of these funds is the Highway Construction Fund and the amount of money allocated to the program varies depending upon the needs. The total amount of money available has been $4 million in recent years. DRPT provides 80 percent of the eligible expenses which include:

- Promoting local TDM Programs
- Providing on-site training and assistance to local TDM Programs where needed
- Assisting in development of new TDM Programs where needed
- Fostering regional cooperation in the provision of ride-matching services and public transportation promotional and educational campaigns
- Developing and implementing public/private partnerships
- Promoting TDM as an essential component of a multimodal transportation system
- Evaluating the effectiveness and efficiency of all TDM services
- Administrative costs for: providing carpool and vanpool ride-matching services; promoting all high-occupancy commuter transportation modes; assisting private/public sector employers, developers, and transportation management associations to promote TDM services; and promoting the planning, development and use of facilities and programs that facilitate the use of high-occupancy modes

Appendix A

State Grant Programs Administered by DRPT

State Aid Grant Programs	Statutory Match Ratio (of eligible expenses)	Source of Funds
Paratransit Assistance		Mass Transit Trust Fund ($1.5M)
Operating Assistance	Up to 95%	Mass Transit Trust Fund
Capital Assistance	Up to 95%	Mass Transit Trust Fund Mass Transit Capital Fund
Demonstration Project Assistance	Up to 95%	Mass Transit Trust Fund
Technical Assistance	Up to 50% Federal Funds may be provided to support 80% of project costs	Mass Transit Trust Fund
Public Transportation Intern Program	Up to 95%	Mass Transit Trust Fund
TDM Operating Assistance	Up to 80%	Transportation Efficiency Improvement Fund (transferred from VDOT)
Transportation Management Project Assistance	Up to 80%	Transportation Efficiency Improvement Fund (transferred from VDOT)
Senior Transportation Program	Up to 95%	Mass Transit Trust Fund Paratransit Assistance

Appendix B

Federal Transit Administration Grant Programs Administered by DRPT

Federal Aid Grant Programs	Statutory Match Ratio
FTA Section 5303 – Metropolitan Planning	Up to 80% of eligible expenses
FTA Section 5304 – Statewide Planning	Up to 80% of eligible expenses
FTA Section 5307 – Small Urban Areas Program	Up to 50% of net operating expenses Up to 80% of eligible capital expenses
FTA Section 5310 – Transportation for Elderly Persons and Persons with Disabilities	Up to 80% of eligible capital expenses
FTA Section 5311 – Rural Areas	Up to 50% of net operating expenses Up to 80% of eligible capital expenses
FTA Section 5316 – Jobs Access and Reverse Commute Program (JARC)	Up to 50% of eligible operating expenses Up to 80% of eligible capital expenses
FTA Section 5317 – New Freedom Program	Up to 50% of eligible operating expenses Up to 80% of eligible capital expenses

Appendix C

Code of Virginia: Allocation of Funds Administered by DRPT

§ 58.1-638. Disposition of state sales and use tax revenue

A. The Comptroller shall designate a specific revenue code number for all the state sales and use tax revenue collected under the preceding sections of this chapter.

1. The sales and use tax revenue generated by the one-half percent sales and use tax increase enacted by the 1986 Special Session of the General Assembly shall be paid, in the manner hereinafter provided in this section, to the Transportation Trust Fund as defined in § 33.1-23.03:1. Of the funds paid to the Transportation Trust Fund, an aggregate of 4.2 percent shall be set aside as the Commonwealth Port Fund as provided in this section; an aggregate of 2.4 percent shall be set aside as the Commonwealth Airport Fund as provided in this section; and an aggregate of 14.5 percent in fiscal year 1998-1999 and 14.7 percent in fiscal year 1999-2000 and thereafter shall be set aside as the Commonwealth Mass Transit Fund as provided in this section. The Fund's share of such net revenue shall be computed as an estimate of the net revenue to be received into the state treasury each month, and such estimated payment shall be adjusted for the actual net revenue received in the preceding month. All payments shall be made to the Fund on the last day of each month.

2. There is hereby created in the Department of the Treasury a special nonreverting fund which shall be a part of the Transportation Trust Fund and which shall be known as the Commonwealth Port Fund.

a. The Commonwealth Port Fund shall be established on the books of the Comptroller and the funds remaining in such Fund at the end of a biennium shall not revert to the general fund but shall remain in the Fund. Interest earned on such funds shall remain in the Fund and be credited to it. Funds may be paid to any authority, locality or commission for the purposes hereinafter specified.

b. The amounts allocated pursuant to this section shall be allocated by the Commonwealth Transportation Board to the Board of Commissioners of the Virginia Port Authority to be used to support port capital needs and the preservation of existing capital needs of all ocean, river, or tributary ports within the Commonwealth.

c. Commonwealth Port Fund revenue shall be allocated by the Board of Commissioners to the Virginia Port Authority in order to foster and stimulate the flow of maritime commerce through the ports of Virginia, including but not limited to the ports of Richmond, Hopewell, and Alexandria.

3. There is hereby created in the Department of the Treasury a special nonreverting fund which shall be part of the Transportation Trust Fund and which shall be known as the Commonwealth Airport Fund. The Commonwealth Airport Fund shall be established on the books of the Comptroller and any funds remaining in such Fund at the end of a biennium shall not revert to

the general fund but shall remain in the Fund. Interest earned on the funds shall be credited to the Fund. The funds so allocated shall be allocated by the Commonwealth Transportation Board to the Virginia Aviation Board. The funds shall be allocated by the Virginia Aviation Board to any Virginia airport which is owned by the Commonwealth, a governmental subdivision thereof, or a private entity to which the public has access for the purposes enumerated in § 5.1-2.16, or is owned or leased by the Metropolitan Washington Airports Authority (MWAA), as follows:

Any new funds in excess of $12.1 million which are available for allocation by the Virginia Aviation Board from the Commonwealth Transportation Fund, shall be allocated as follows: 60 percent to MWAA, up to a maximum annual amount of $2 million, and 40 percent to air carrier airports as provided in subdivision A 3 a. Except for adjustments due to changes in enplaned passengers, no air carrier airport sponsor, excluding MWAA, shall receive less funds identified under subdivision A 3 a than it received in fiscal year 1994-1995.

Of the remaining amount:

a. Forty percent of the funds shall be allocated to air carrier airports, except airports owned or leased by MWAA, based upon the percentage of enplanements for each airport to total enplanements at all air carrier airports, except airports owned or leased by MWAA. No air carrier airport sponsor, however, shall receive less than $50,000 nor more than $2 million per year from this provision.

b. Forty percent of the funds shall be allocated by the Aviation Board for air carrier and reliever airports on a discretionary basis, except airports owned or leased by MWAA.

c. Twenty percent of the funds shall be allocated by the Aviation Board for general aviation airports on a discretionary basis.

4. There is hereby created in the Department of the Treasury a special nonreverting fund which shall be a part of the Transportation Trust Fund and which shall be known as the Commonwealth Mass Transit Fund.

a. The Commonwealth Mass Transit Fund shall be established on the books of the Comptroller and any funds remaining in such Fund at the end of the biennium shall not revert to the general fund but shall remain in the Fund. Interest earned on such funds shall be credited to the Fund. Funds may be paid to any local governing body, transportation district commission, or public service corporation for the purposes hereinafter specified.

b. The amounts allocated pursuant to this section shall be used to support the public transportation administrative costs and the costs borne by the locality for the purchase of fuels, lubricants, tires and maintenance parts and supplies for public transportation at a state share of 80 percent in 2002 and 95 percent in 2003 and succeeding years. These amounts may be used to support up to 95 percent of the local or nonFederal share of capital project costs for public transportation and ridesharing equipment, facilities, and associated costs. Capital costs may include debt service payments on local or agency transit bonds. The term "borne by the locality" means the local share eligible for state assistance consisting of costs in excess of the sum of fares and other operating revenues plus Federal assistance received by the locality.

c. Commonwealth Mass Transit Fund revenue shall be allocated by the Commonwealth Transportation Board as follows:

(1) Funds for special programs, which shall include ridesharing, experimental transit, and technical assistance, shall not exceed 1.5 percent of the Fund.

(2) The Board may allocate these funds to any locality or planning district commission to finance up to 80 percent of the local share of all costs associated with the development, implementation, and continuation of ridesharing programs.

(3) Funds allocated for experimental transit projects may be paid to any local governing body, transportation district commission, or public corporation or may be used directly by the Department of Rail and Public Transportation for the following purposes:

(a) To finance up to 95 percent of the capital costs related to the development, implementation and promotion of experimental public transportation and ridesharing projects approved by the Board.

(b) To finance up to 95 percent of the operating costs of experimental mass transportation and ridesharing projects approved by the Board for a period of time not to exceed 12 months.

(c) To finance up to 95 percent of the cost of the development and implementation of any other project designated by the Board where the purpose of such project is to enhance the provision and use of public transportation services.

d. Funds allocated for public transportation promotion and operation studies may be paid to any local governing body, planning district commission, transportation district commission, or public transit corporation, or may be used directly by the Department of Rail and Public Transportation for the following purposes and aid of public transportation services:

(1) At the approval of the Board to finance a program administered by the Department of Rail and Public Transportation designed to promote the use of public transportation and ridesharing throughout Virginia.

(2) To finance up to 50 percent of the local share of public transportation operations planning and technical study projects approved by the Board.

e. At least 73.5 percent of the Fund shall be distributed to each transit property in the same proportion as its operating expenses bear to the total statewide operating expenses and shall be spent for the purposes specified in subdivision 4 b.

f. The remaining 25 percent shall be distributed for capital purposes on the basis of 95 percent of the non-Federal share for Federal projects and 95 percent of the total costs for non-Federal projects. In the event that total capital funds available under this subdivision are insufficient to fund the complete list of eligible projects, the funds shall be distributed to each transit property in the same proportion that such capital expenditure bears to the statewide total of capital projects. Prior to the annual adoption of the Six-Year Improvement Program, the Commonwealth Transportation Board may allocate up to 20 percent of the funds in the Commonwealth Mass Transit Fund designated for capital purposes to transit operating

assistance if operating funds for the next fiscal year are estimated to be less than the current fiscal year's allocation, to attempt to maintain transit operations at approximately the same level as the previous fiscal year.

g. There is hereby created in the Department of the Treasury a special nonreverting fund known as the Commonwealth Transit Capital Fund. The Commonwealth Transit Capital Fund shall be part of the Commonwealth Mass Transit Fund. The Commonwealth Transit Capital Fund subaccount shall be established on the books of the Comptroller and consist of such moneys as are appropriated to it by the General Assembly and of all donations, gifts, bequests, grants, endowments, and other moneys given, bequeathed, granted, or otherwise made available to the Commonwealth Transit Capital Fund. Any funds remaining in the Commonwealth Transit Capital Fund at the end of the biennium shall not revert to the general fund, but shall remain in the Commonwealth Transit Capital Fund. Interest earned on funds within the Commonwealth Transit Capital Fund shall remain in and be credited to the Commonwealth Transit Capital Fund. Proceeds of the Commonwealth Transit Capital Fund may be paid to any political subdivision, another public entity created by an act of the General Assembly, or a private entity as defined in § 56-557 and for purposes as enumerated in subdivision 4c of § 33.1-269 or expended by the Department of Rail and Public Transportation for the purposes specified in this subdivision. Revenues of the Commonwealth Transit Capital Fund shall be used to support capital expenditures involving the establishment, improvement, or expansion of public transportation services through specific projects approved by the Commonwealth Transportation Board. Projects financed by the Commonwealth Transit Capital Fund shall receive local, regional or private funding for at least 20 percent of the nonFederal share of the total project cost.

5. Funds for Metro shall be paid by the Northern Virginia Transportation Commission (NVTC) to the Washington Metropolitan Area Transit Authority (WMATA) and be a credit to the Counties of Arlington and Fairfax and the Cities of Alexandria, Falls Church and Fairfax in the following manner:

a. Local obligations for debt service for WMATA rail transit bonds apportioned to each locality using WMATA's capital formula shall be paid first by NVTC. NVTC shall use 95 percent state aid for these payments.

b. The remaining funds shall be apportioned to reflect WMATA's allocation formulas by using the related WMATA-allocated subsidies and relative shares of local transit subsidies. Capital costs shall include 20 percent of annual local bus capital expenses. Hold harmless protections and obligations for NVTC's jurisdictions agreed to by NVTC on November 5, 1998, shall remain in effect.

Appropriations from the Commonwealth Mass Transit Fund are intended to provide a stable and reliable source of revenue as defined by Public Law 96-184.

Appendix D

Excerpts from 2011 Session Budget Bill Chapter 890

Department of Rail and Public Transportation (505)

446.	Ground Transportation Planning and Research (60200)	3,250,125 ~~3,314,850~~ *3,017,798*
	Rail and Public Transportation Planning, Regulation, and Safety (60203)	3,250,125 ~~3,314,850~~ *3,017,798*
Fund Sources:	Commonwealth Transportation	3,250,125 ~~3,314,850~~ *3,017,798*

Authority: Titles 33.1 and 58.1, Code of Virginia.

A. The Commonwealth Transportation Board may allocate up to three percent of the funds appropriated in Item 447 and Item 448 to support costs of project development, project administration and project compliance incurred by the Department of Rail and Public Transportation in implementing rail, public transportation, and congestion management grants and programs set out in §§ 58.1-638, 33.1-221.1:1.1 and 33.1-221.1:1.2, Code of Virginia.

B. Out of the amounts identified in this Item, $291,227 the first year ~~and $297,052 the second year~~ from the Commonwealth Transportation Fund shall be paid to the Washington Metropolitan Area Transit Commission.

Department of Rail and Public Transportation (505)

447.	Financial Assistance for Public Transportation (60900)	292,273,380	317,229,869
	Public Transportation Programs (60901)	275,504,668	300,362,662
	Congestion Management Programs (60902)	9,344,000	9,344,000
	Human Service Transportation Programs (60903)	7,424,712	7,523,207
Fund Sources:	Special	774,662	790,156
	Commonwealth Transportation	291,498,718	316,439,713

Authority: Titles 33.1 and 58.1, Code of Virginia.

A.1. Except as provided in Item 446 A, the Commonwealth Transportation Board shall allocate all monies in the Commonwealth Mass Transit Fund, as provided in § 58.1-638, Code of Virginia. The total appropriation for the Commonwealth Mass Transit Fund is $151,542,592 the first year and $156,110,283 the second year from the Transportation Trust Fund. From these funds, the following estimated allocations shall be made:

a. $113,094,635 the first year and $116,374,670 the second year to statewide Formula Assistance as provided in § 58.1-638, Code of Virginia. The allocation of Formula Assistance to each recipient shall be limited to the recipient's maximum eligibility as defined in § 58.1-638, Code of Virginia. When the initial allocation to a recipient is greater than the recipient's eligibility to receive Formula Assistance, the Commonwealth Transportation Board may transfer the surplus funds to the statewide Capital Assistance program for distribution under that program. The Commonwealth Transportation Board may hold harmless from a reduction in state formula assistance any transit system that maintains service levels from the previous year.

b. $30,624,979 the first year and $31,740,638 the second year from the Commonwealth Mass Transit Fund to statewide Capital Assistance.

c. Notwithstanding the provisions of paragraph A.1.a and A.1.b of this item, prior to the annual adoption of the Six-Year Improvement Program, the Commonwealth Transportation Board may allocate up to 20 percent of the Commonwealth Mass Transit Fund dedicated for capital purposes to transit operating assistance if operating funds for the next fiscal year are estimated to be less than the current fiscal year's allocation, in an effort to maintain transit operations at approximately the same level as the previous fiscal share.

2. Included in this Item is $2,500,000 the first year and ~~$2,500,000~~*$1,500,000* the second year from the Commonwealth Mass Transit Trust Fund. These allocations are designated for "paratransit" capital projects and enhanced transportation services for the elderly and disabled.

3. From the amounts appropriated in this Item from the Commonwealth Mass Transit Fund, $1,837,498 the first year and $1,904,438 the second year is the estimated allocation to statewide Special Programs as provided in § 58.1-638, Code of Virginia.

4. Not included in this appropriation is an amount estimated at $24,845,625 the first year and $24,998,405 the second year allocated to transit agencies from Federal sources for the Surface Transportation Program (STP) and the Minimum Guarantee program.

B. The Commonwealth Transportation Board shall operate a program entitled the Transportation Efficiency Improvement Fund (TEIF). The purpose of the TEIF program is to reduce traffic congestion by supporting transportation demand management programs and projects designed to reduce the movement of passengers and freight on Virginia's highway system. Using transportation revenues generally available to the Board, funds shall be apportioned as determined by the Board to designated transportation projects in addition to funds allocated pursuant to § 33.1-23.1, Code of Virginia. Total TEIF program funding shall not exceed $4,000,000 the first year and $4,000,000 the second year.

C. Funds from a stable and reliable source, as required in Public Law 96-184, as amended, are to be provided to Metro ~~Rail~~ from payments authorized and allocated in this program and pursuant to § 58.1-1720, Code of Virginia. *Notwithstanding any other provision of law, funds allocated to Metro under this program may be disbursed by the Department of Rail and Public Transportation directly to Metro or to any other transportation entity that has an agreement to provide funding to Metro as deemed appropriate by the Department. In appointing the Virginia members of the board of directors of the Washington Metropolitan Area Transit Authority (WMATA), the Northern Virginia Transportation Commission shall include the Secretary of Transportation or his designee as a principal member on the WMATA board of directors.*

D. Funds appropriated to the Department of Rail and Public Transportation and allocated to the Northern Virginia Transportation Commission to be allocated to its member jurisdictions are held in trust by the commission for those jurisdictions until released by specific authorization from the governing bodies of the jurisdictions for the purpose for which funds were appropriated.

E. All Commonwealth Mass Transit Funds appropriated for Financial Assistance for Public Transportation shall be used only for public transportation purposes as defined by the Federal Transit Administration or outlined in § 58.1-638.4, subparagraphs b. through g., or in § 58.1-638.5, Code of Virginia.