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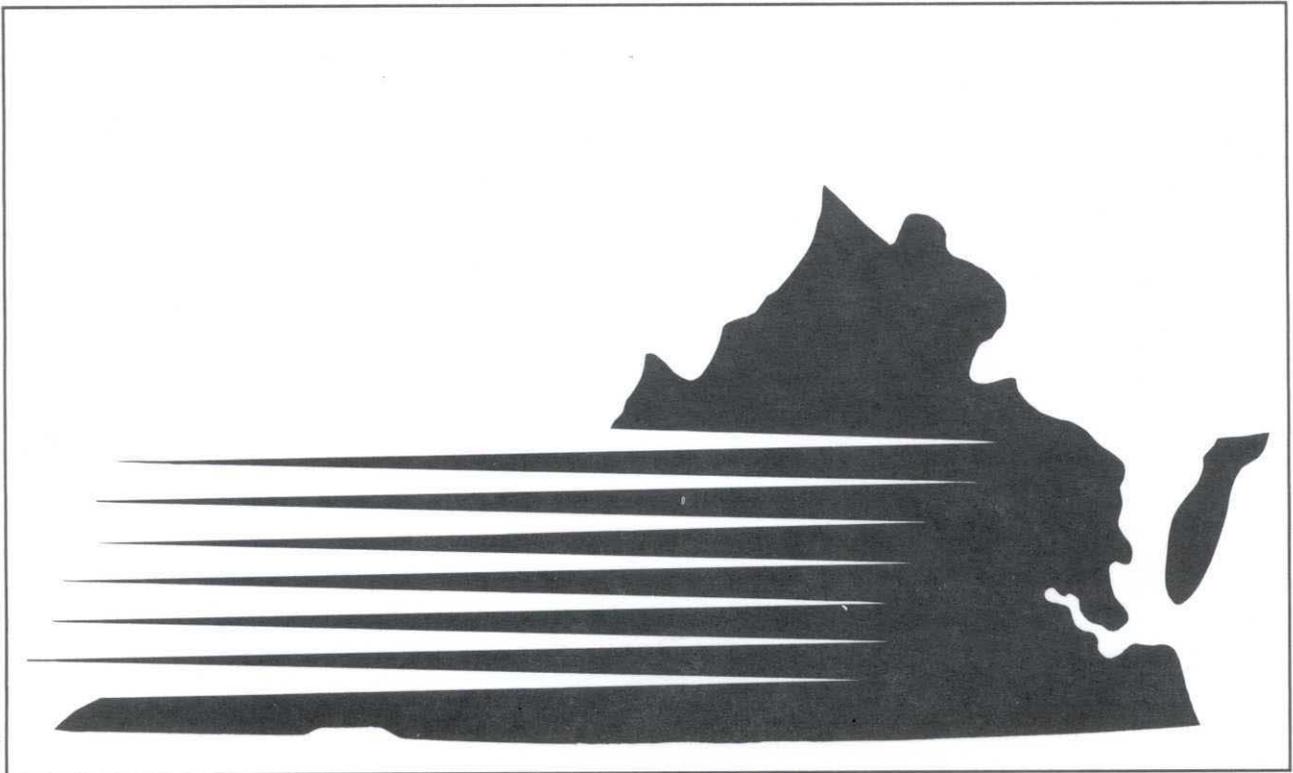
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# EVALUATION



SUMMARY OF STATE TRANSIT STATISTICS

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*RAIL AND PUBLIC TRANSPORTATION DIVISION*

**THE 1987 VIRGINIA REPORT**

**ON**

**PUBLIC TRANSPORTATION**

**PERFORMANCE**

PREPARED BY: VIRGINIA DEPARTMENT OF TRANSPORTATION  
RAIL AND PUBLIC TRANSPORTATION DIVISION

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March, 1989

## FOREWORD

The 1987 Virginia Public Transportation Evaluation consists of two reports. This element of the annual report, which provides statewide totals, is intended to inform public officials, administrators, transit managers, citizens and other interested parties about statewide public transportation operating and financial characteristics. The second report, the technical supplement which provides information on each reporting transit system, is designed to: provide additional analyses of local public transportation services to transit managers and their boards; enable the state to maintain a consistent and lasting record of individual transit system performance information; and provide the framework on which state program managers can monitor public transportation system performance trends and identify areas for technical support.

Through an examination of information in this annual report, readers will obtain a better understanding of the overall status of public transportation in Virginia during fiscal year 1987.

The Virginia Department of Transportation (VDOT) appreciates the time and effort expended by Virginia public transportation systems in providing data for this report. Those interested in more information about public transportation in Virginia should contact the Rail and Public Transportation Division of VDOT at (804)786-5756.

## **PUBLIC TRANSPORTATION SERVICES**

### **IN VIRGINIA**

*The following are findings of the 1987 Statewide Performance Evaluation and all comparisons are to the systems performance in FY86.*

- o 29 public transit systems providing 4 modes of service: motorbus, demand responsive, ferryboat and rapid rail*
- o 98,081,800 Passenger Trips up by 14.7%*
- o 41,834,170 Vehicle Service Miles up by 22.1%*
- o 2,736,920 Vehicle Service Hours up by 18.9%*
- o \$92,712,410 Operating Revenue up by 8.6%*
- o \$86,688,480 Passenger Revenue up by 17.1%*
- o \$14,864,370 Federal Assistance down by 12.9%*
- o \$34,567,380 STATE ASSISTANCE UP BY 38.8%*
- o \$32,460,170 Local Assistance down by 29.9%*
- o \$81,891,920 Total Government Assistance remained the same*
- o Resource Efficiency declined by 12.7%*
- o Service Effectiveness increased by 5.0%*
- o Cost Effectiveness by Area and Mode has declined slightly*

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## **PREFACE**

Virginia's public transportation Performance Evaluation System (PES) is designed to serve the interest of both the individual transit programs operating in the Commonwealth and the Virginia Department of Transportation (VDOT). VDOT first utilizes the Performance Evaluation System to examine the efficiency and effectiveness levels of each public transportation system in Virginia. Then, through on-site visits with transit managers, VDOT conducts data analyses to determine the means of improving their individual performance. One resource, which might be determined at this point, is the need for technical support through the various technical assistance programs offered by VDOT and the U.S. Department of Transportation.

VDOT also uses PES to gather information needed to evaluate the statewide performance of public transportation. The results of this evaluation is annually presented in two documents. The "Summary of Statewide Statistics" which provides statistics relating to operational efficiency, effectiveness and data trends of the total public transportation industry in Virginia. This report closes with conclusions on the current performance level of public transportation in the Commonwealth. The "Transit System Profiles" offers financial and operating statistics for each public transportation system.

This report provides the overview of statewide public transportation performance in Virginia during the fiscal year 1987 (July 1, 1986 - June 30, 1987).

## I. INTRODUCTION

Virginia is served by thirty-two public transportation systems. Twenty-nine of these receive state financial assistance and are required to report to VDOT through the Performance Evaluation System (PES).

The Virginia Department of Transportation is charged with the responsibility for administering financial and technical assistance to public transportation systems in the Commonwealth. PES provides VDOT with data to facilitate these administrative and oversight activities. VDOT's financial responsibilities include the distribution of revenues from the State Highway Maintenance and Construction Fund, the Transportation Trust Fund, and federal grants from the Urban Mass Transportation Administration (UMTA) for populations of less than 50,000. Federal funding for urbanized areas (50,000+ population) is administered directly by UMTA.

Since its beginning in 1970, state financial assistance has grown substantially for public transportation programs in Virginia. In the past eighteen years, public transportation providers have benefited from a growth in state funding from \$100,000 per year in the 1970-1972 biennium to \$75.3 million annually for the 1986-1988 biennium. This increase has been the by-product of the active promotion and provision of public transportation through a cooperative relationship between VDOT, public transportation systems, and the financial support of the Virginia General Assembly.

This report includes statewide totals on public transportation operating characteristics, costs, and revenues. Statistics are only collected from the twenty-nine transportation systems receiving state operating assistance through VDOT. Consequently, the data does not reflect the total effort, activities, and commitment of local jurisdictions to public transportation that may be conducted by public and private organizations.

The purpose of this report is to inform public officials, administrators, public transportation managers, citizens, and other interested parties about the statewide performance of public transportation services. Through an examination of this report, readers will be able to obtain a better understanding of the progress and growth of public transportation in the Commonwealth of Virginia during the past four years.

## II. STATEWIDE DATA SUMMARY

This section presents the statewide statistics and indicators used by the Rail and Public Transportation Division to evaluate the performance of public transportation services in Virginia. The ten exhibits presented in this report give the reader a "snapshot" of public transportation statewide for FY87. The exhibits include data and indicators pertaining to the financial and operating performance of the public transportation systems. Single-year and multi-year trend data is presented in the exhibits. The multi-year exhibits were designed to include data for a four-year period. In future years, a rolling four year database will be presented by dropping the earliest year. These exhibits provide a view of public transportation from two perspectives, where systems were in the reporting year and how they changed over a four year period.

Below is a brief description of the eleven exhibits.

### **EXHIBIT II.1 & II.2 - VIRGINIA PUBLIC TRANSPORTATION SYSTEM LOCATIONS**

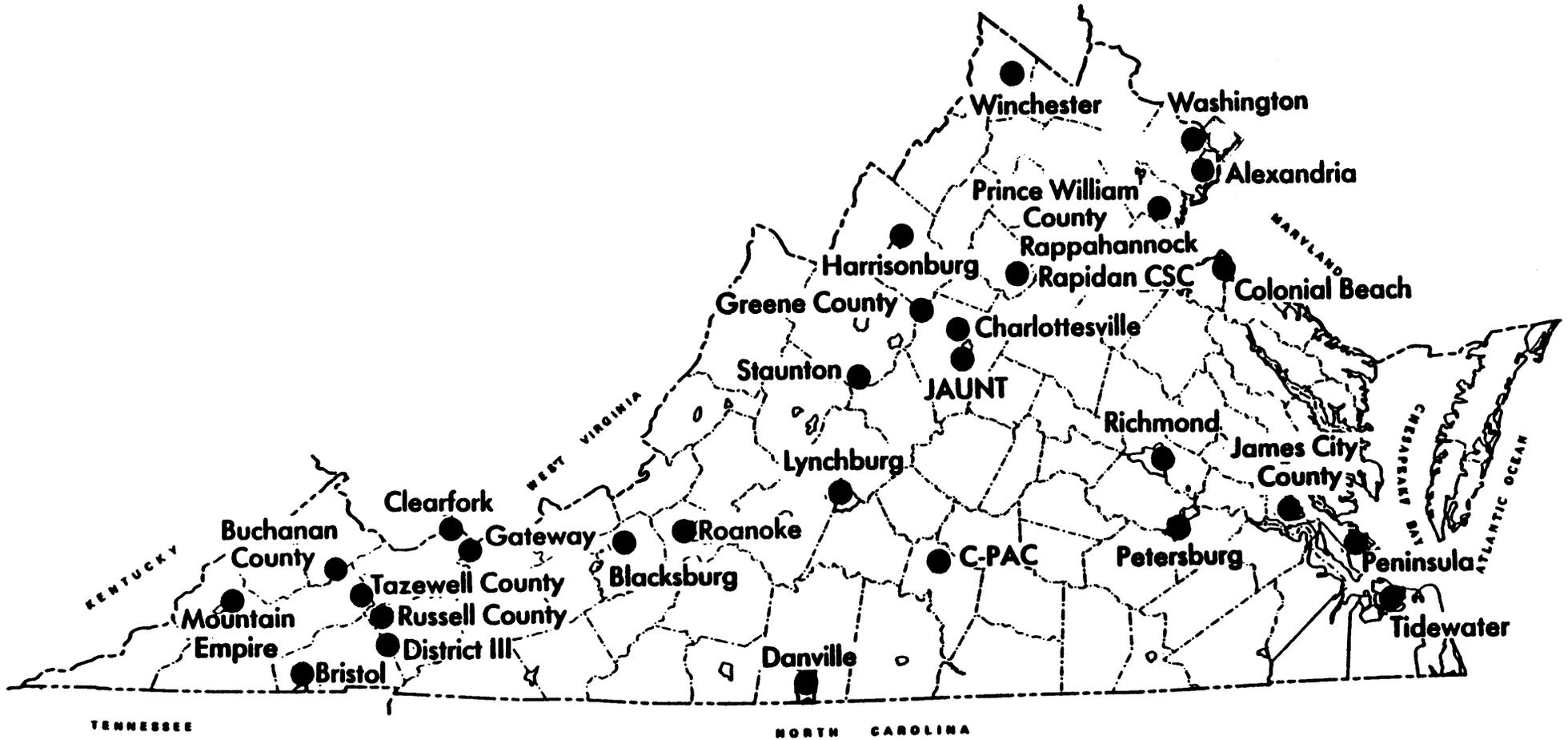
Exhibit II.1 is a state map showing the various locations of public transportation systems in Virginia. Using a state map again, exhibit II.2 illustrates the areas in Virginia served by these public transportation systems.

### **EXHIBIT II.3 - SUMMARY OF VIRGINIA PUBLIC TRANSPORTATION SYSTEMS**

This exhibit identifies the twenty-nine public transportation systems reviewed in this report and serves as a key to other exhibits in this section. The systems are listed alphabetically by name and information relating to the modes of service being operated, the size of the area served, and the level of

# EXHIBIT II .1

## VIRGINIA PUBLIC TRANSPORTATION SYSTEMS LOCATIONS



# EXHIBIT II .2

## AREAS SERVED BY PUBLIC TRANSPORTATION

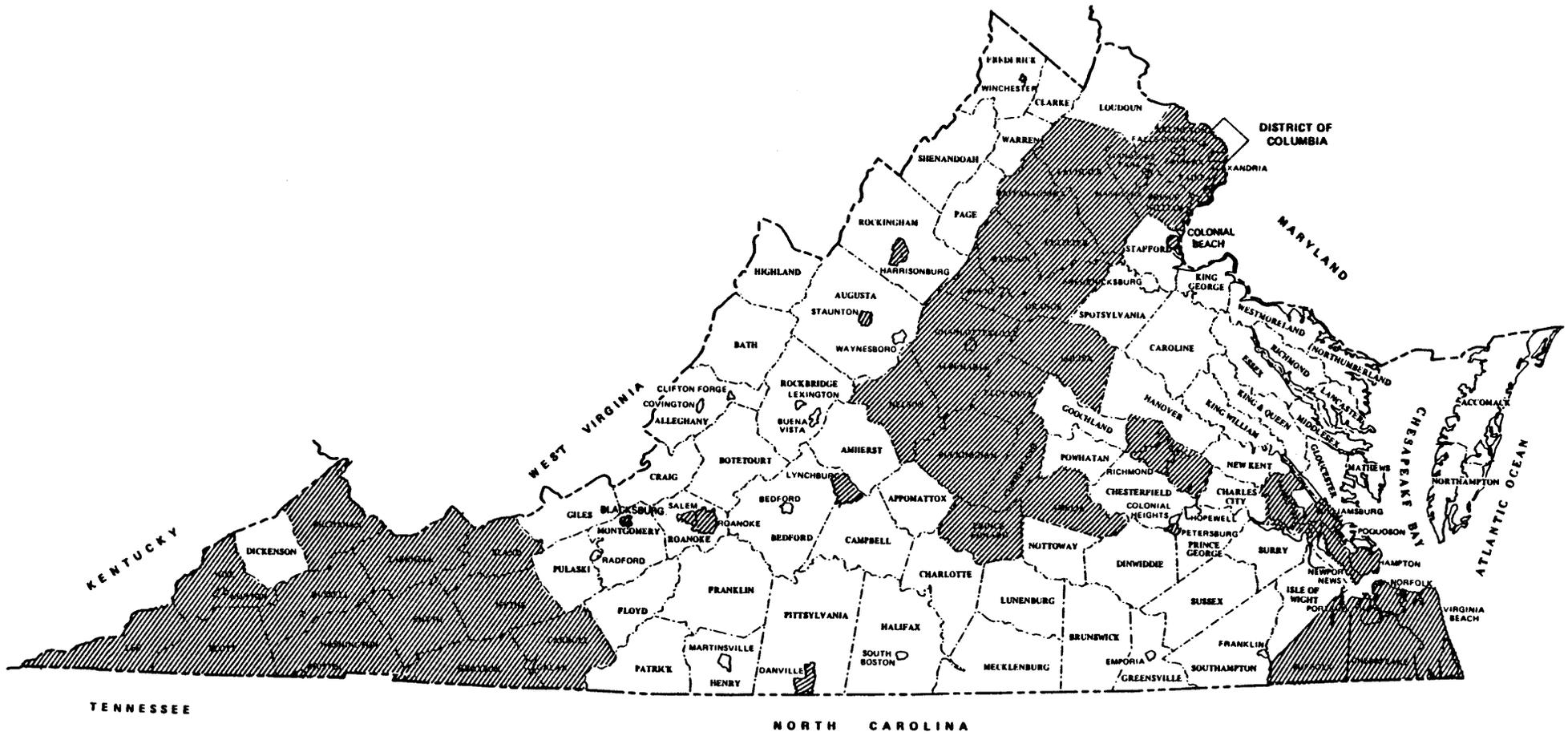


EXHIBIT II.3

SUMMARY OF VIRGINIA PUBLIC TRANSPORTATION SYSTEMS

Transit Systems	Mode Operated *	Area Served and Reporting Level		
		Large	Mid-Size	Small/Rural
Alexandria	MB	C		
Blacksburg	MB			C
Bristol	MB			C
Buchanan Co.	MB			D
Central Virginia Transit	MB			C
Charlottesville	MB			C
Clearfork	MB			D
Colonial Beach	MB			D
Danville	MB			D
District III Govt. Coop.	MB			D
Gateway	MB			D
Greene Co.	MB			D
Harrisonburg	MB			C
James City Co.	MB			D
	DR			D
JAUNT, Inc.	MB			C
	DR			C
Lynchburg	MB			C
Mountain Empire	MB			D
Peninsula	MB		C	
	DR		D	
Petersburg	MB			C
	DR			D
Prince William Co.	MB			C
Rappahannock-Rapidan	MB			D
Richmond	MB		B	
	DR		D	
Roanoke	MB			C
	DR			D
Russell Co.	MB			D
Staunton	MB			C
Tazewell Co.	MB			D
Tidewater	MB		B	
	DR		D	
	FB		C	
Washington	MB	A		
	RR	A		
Winchester	MB			C

\* Note: MB - Motorbus  
RR - Raid Rail

DR - Demand Responsive  
FB - Ferry Boat

data reporting is provided. More specifically, it presents:

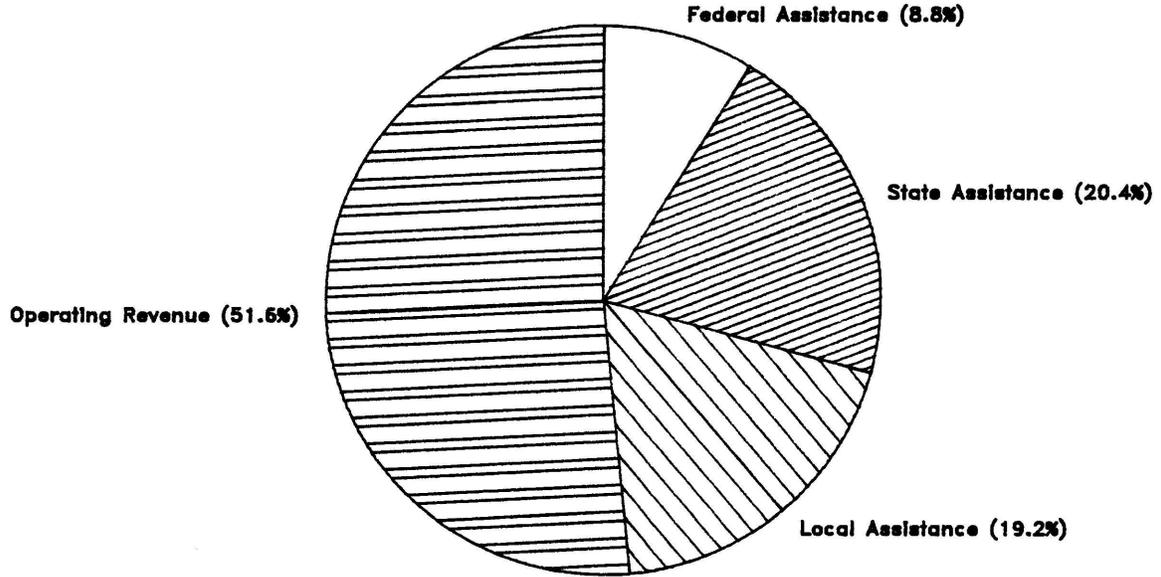
- o Modes Operated - Public transportation systems operate one or more modes of service. The modes are:
  - o motorbus (MB)
  - o demand responsive (DR)
  - o rapid rail (RR)
  - o ferry boat (FB)
  
- o Area Served - Public transportation systems are also identified by the population size of the area being served. They are grouped in the following categories:
  - o large-urban - includes two systems in Northern Virginia.
  - o mid-size urban - includes the Peninsula, Richmond and Tidewater areas.
  - o small urban/rural - all other areas in the state.
  
- o Reporting Level - Public transportation systems report data based on one of four levels of detail. Some of the twenty-nine systems will be counted more than once below because they are multi-modal.
  - o Level A (MB) - 1 system reports 62 data items.
  - o Level A (RR) - 1 system reports 70 data items.
  - o Level B (MB) - 3 systems report 57 data items.
  - o Level C (MB & FB) - 16 systems report 45 data items.
  - o Level D (MB & DR) - 17 systems report 33 data items

**EXHIBIT II.4 - SOURCES OF OPERATING REVENUES FOR PUBLIC TRANSPORTATION IN VIRGINIA; AND THE DISTRIBUTION OF STATE ASSISTANCE BY SERVICE AREA**

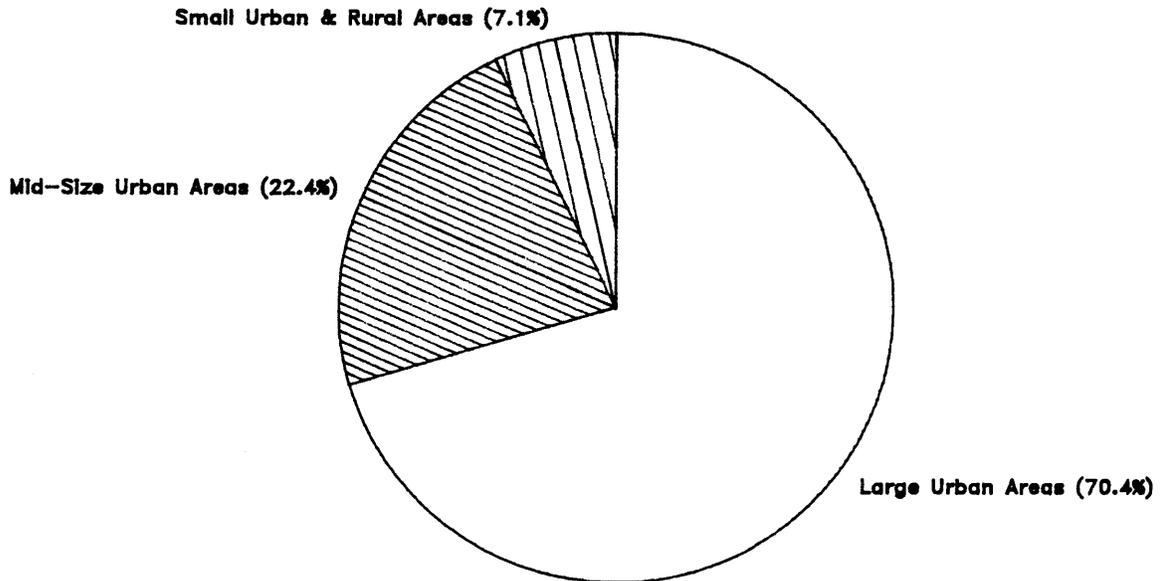
This exhibit presents the total revenue reported by public transportation systems in FY87. The top pie chart illustrates four key sources of revenue for operating costs of public transportation in Virginia. A description of the sources and a comparison to FY86 are described below.

- o Total Operating Revenue - The amount shown above the pie chart is the total amount of revenue generated by the four sources described below. In FY87, Virginia's public transportation systems experienced an increased level of revenue of approximately \$13,371,431, an 8.6% increase over FY86.
- o Operating Revenue - One of the four sources of revenue is generated through passenger fares, charter service, advertising, and resources other than local, state or federal funds. Revenue in this category increased from 47.8% of total operating revenue in FY86 to 51.6% in FY87. This represents an 7.9% increase over the previous year.
- o Local Assistance - This portion of the pie chart illustrates the commitment by the local county, town, city or other jurisdiction for the operation of public transportation. In FY86, local government assistance was 27.4% of total operating revenues. Public transportation systems have experienced a decline of local commitment by 29.9%. In FY87, the local assistance was 19.2% of total operating revenues.
- o State Assistance - This portion of the chart shows the distribution in state assistance through the Virginia State Highway Maintenance and Construction Fund and the Transportation Trust fund. These funds are provided to support public transportation expenses relating to fuel, tires & maintenance costs, administrative costs and costs relating to

**EXHIBIT II.4**  
**SOURCES OF OPER. REV.**  
**\$169,038,916**



**DISTRIBUTION OF STATE ASSISTANCE**  
**\$34,567,381**



experimental programs. In FY87, this source of revenue increased to 20.4% of total operating revenue. This is a 38.8% increase over FY86.

- o Federal Assistance - This section of the pie chart shows the revenue received through federal funding sources to provide support for operating and administrative expenses. Virginia experienced a decline from 10.1% of total operating revenue in FY86 to 8.8% in FY87, representing a decline of 12.9%.

The second pie chart presents the distribution of state assistance by size of service area. This is followed by a comparison of data from the previous fiscal year. Listed below are the various area sizes accompanied by the number of public transportation systems in each classification.

- o Large Urban Area - 2 systems comprised this classification. The large urban systems have experienced an increase in state assistance by 14.3%. In FY86, the large urban areas received 61.6% of total state assistance, whereas, in FY87 the appropriation increased to 70.4%.
- o Mid-Size Urban Area - 3 systems were classified in this category. In FY86, these systems received 30.5% of total state assistance and in FY87 they received 22.4%, a decrease of 26.6%.
- o Small Urban/Rural Area - The remaining 24 systems are classified as small urban or rural. The systems in this classification experienced a decrease in state assistance of 11.3%. In FY86, they received 8.0% of the total state assistance while in FY87 their share was 7.1%.

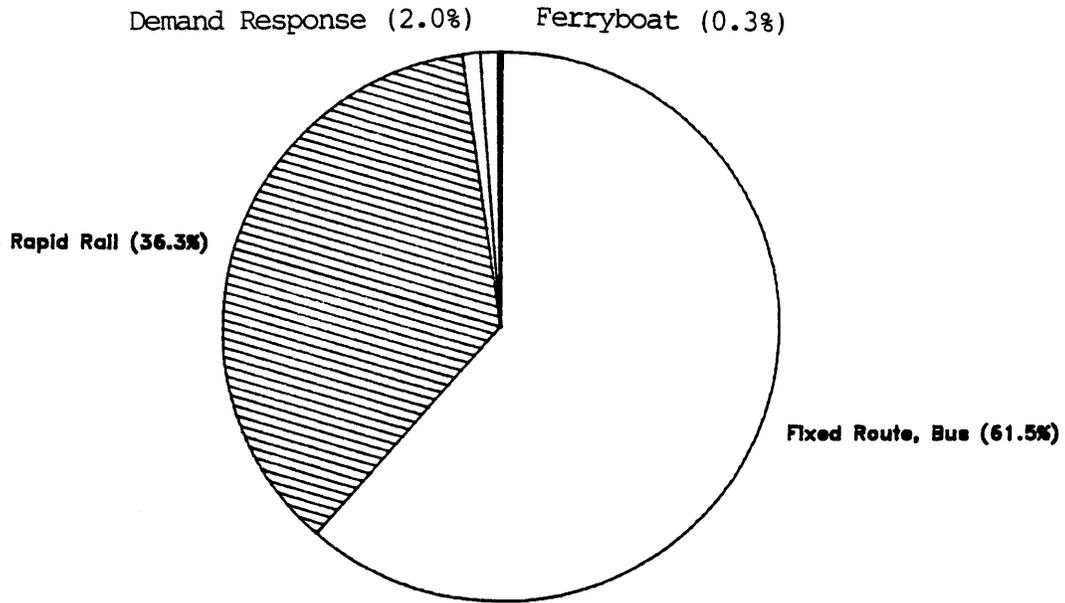
**EXHIBIT II.5 PUBLIC OPERATING EXPENDITURES IN VIRGINIA BY MODE AND AREA**

This exhibit identifies the total dollars expended in Virginia for public transportation services as reported by the twenty-nine systems. The FY87 amount of \$174,259,770 is 8% higher than the FY86 amount of \$161,198,163. Total operating expenditures are not equal to the total revenues reflected in Exhibit II.4. The difference may be attributed in cash flow reporting and accounting procedures of the public transportation systems. Total operating expenditures for public transportation in Virginia are shown in two pie charts.

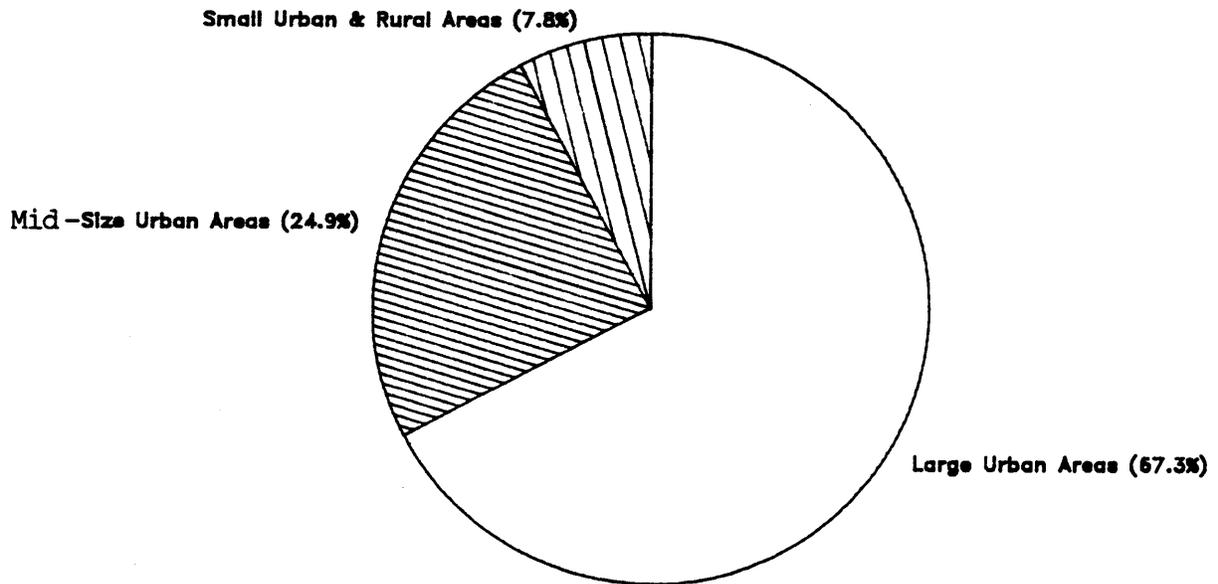
The top pie chart represents the total operating costs distributed among the four modes of public transportation service provided in Virginia. Listed below is each mode, the number of systems which operate the mode, and a comparison of data for FY86 and FY87.

- o Fixed Route, Bus (Motorbus) - 29 systems operate some form of fixed-route, motorbus service. In FY86, 66.7% of the total operating expenditures for public transportation in Virginia were incurred through this mode of service. In FY87, operating expenditures for motorbus service fell to 61.5% or a decrease of 7.8%.
- o Demand Responsive - 7 systems operate a demand responsive service in addition to their motorbus service. In FY86 and FY87, this mode of service represented 2.0% of the total operating costs in Virginia. The cost of this mode has remained constant.
- o Ferry Boat - Only 1 system operates a ferry boat to provide public transportation (TRT). In FY86 and FY87, this mode of service represented only 0.3% of the total operating expenditures for public transportation in Virginia. As with the demand responsive service, ferry boat service has not seen an increase in its share of costs for FY87.

**EXHIBIT 11.5**  
**OPERATING EXPENDITURES BY MODE**  
\$174,259,770



**OPERATING EXPENDITURES BY AREA SIZE**  
\$174,259,770



- o Rapid Rail - As is the case with the ferry boat mode, only 1 system operates a rapid rail service (WMATA). In FY86, this mode of service represented 31.0% of the total costs of public transportation services in Virginia. In FY87, Virginia experienced a 17.1% increase in the cost of rapid rail bringing its portion of total expenditures to 36.3%. This increase is primarily due to the additional service to Vienna.

The second pie chart illustrates the total operating expenditures in each sized area. Below is a list of the sizes, number of systems in each category and a comparison of reported data for FY86 and 87.

- o Large Urban - 2 systems are included in this classification. In FY86, expenses in these two systems was 67.9% of the Commonwealth's total costs for public transportation. In FY87, this cost fell by 0.9% to 67.3% of the total costs.
- o Mid-Size Urban - 3 systems are classified in this area size category. In FY86, this grouping utilized 25.6% of the total operating expenditures in Virginia. In FY87, the portion of total expenses in this area size was 24.9%, a drop of 2.7%.
- o Small Urban/Rural - 24 systems operate in the small urban/rural areas. In FY86, operating expenses for these systems represented 6.5% of the state's total operating expenditures. In FY87, their portion increased to 7.8% of the state's total. This 20.0% increase is created by a \$3.2 million increase in costs. This increase is due to the climbing demand for service in small urban/rural areas.

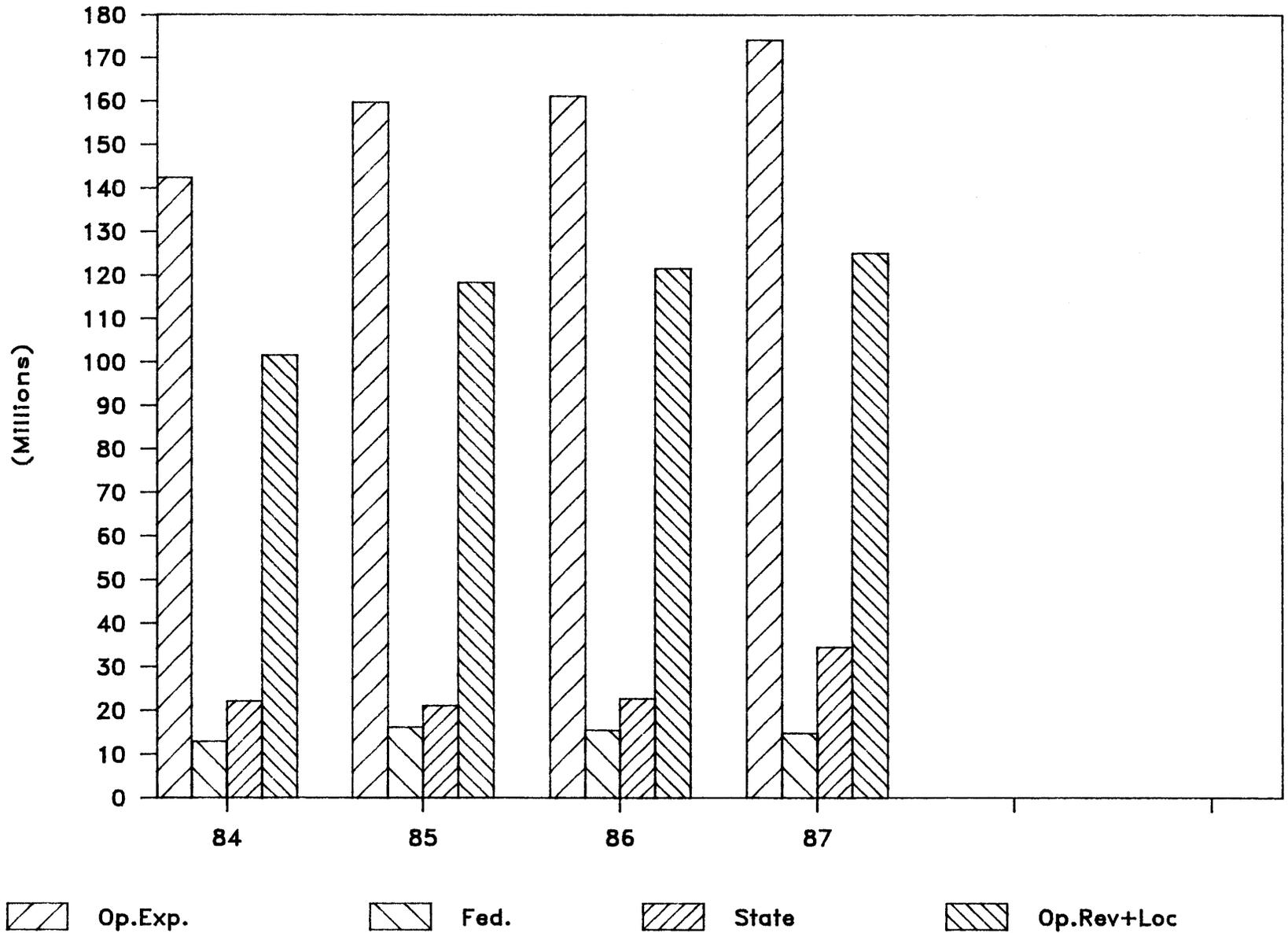
**EXHIBIT II.6 - OPERATING EXPENDITURES AND REVENUES FOR PUBLIC TRANSPORTATION IN VIRGINIA**

This exhibit presents time series or trend data for both operating expenditures and revenues of public transportation in Virginia for FY84 through FY87. Presented is the total operating expenditures in combination with three major sources of operating revenue listed and defined below:

- o Total Operating Expenditures - All resources expended to provide transportation service including labor, materials, services, and other costs. In the past four years total operating expenditures have slowly and consistently increased to a current \$174,259,770. This represents an 21.5% increase over the FY84 amount of \$143,378,800.
- o Federal Assistance - All revenue received directly or indirectly from the federal government used for operating assistance such as UMTA Section 5, 9, 18 funds. During the past four years, federal operating assistance has remained in the \$15 million range. In FY84, the federal assistance was \$16,158,900. In FY87, these funds were \$14,864,370, a decrease of 8.0%.
- o State Assistance - All revenue received from the Commonwealth of Virginia which is used for operating assistance such as VDOT's administrative and FTM (fuel, tires, & maintenance) funds. State support has increased substantially from \$22,304,410 in FY84 to \$34,567,380 in FY87, a 55.0% increase.
- o Local Assistance and Operating Revenue - All revenue received from local government, non-government sources and all operating revenues including passenger fares, advertising, and other transportation or non-transportation revenues. In FY87, localities provided \$125,172,580. This represents a 19.1% decline over the FY84 amount of \$105,081,480. Regarding operating revenue (primarily passenger fares), in FY84, public

# OPERATING EXPENDITURES AND REVENUES FOR PUBLIC TRANSPORTATION IN VIRGINIA

EXHIBIT 11.6



transportation systems generated \$61,437,160. In FY87, this figure increased by 41.1% to \$86,688,480. Over the past four years, local operating assistance and revenue has steadily grown to an annual amount of \$125,172,570 representing 70.8% of the total operating expenses.

#### **EXHIBIT II.7 - RESOURCE EFFICIENCY OF VIRGINIA PUBLIC TRANSPORTATION SYSTEMS**

This exhibit, and the next three, provide information on the performance of Virginia's public transportation systems in terms of four selected indicators. Financial data has been adjusted by the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) to account for changes in the purchasing value of the dollar over time.

Resource efficiency is defined as a comparison of the amount of resources expended in relation to the transit services produced. In this exhibit, the performance indicator measuring resource efficiency is vehicle service hours per thousand dollars of operating expenditures. An increase in public transportation resource efficiency would result in an increase in the value of this indicator, with higher values demonstrating greater resource efficiency.

In FY87, the public transportation industry experienced a decline in vehicle service hours, falling from 2,809,110 hours in FY86 to a current 2,736,930 hours. When coupled with the 8.0% increase in total operating expenditures, Virginia 's resource efficiency level for FY87 fell to a value of 13.3. This value is 1.7 points less than the 15.0 value for FY86.

# RESOURCE EFFICIENCY

Veh.Serv.Hours per \$1000 Operating Exp.

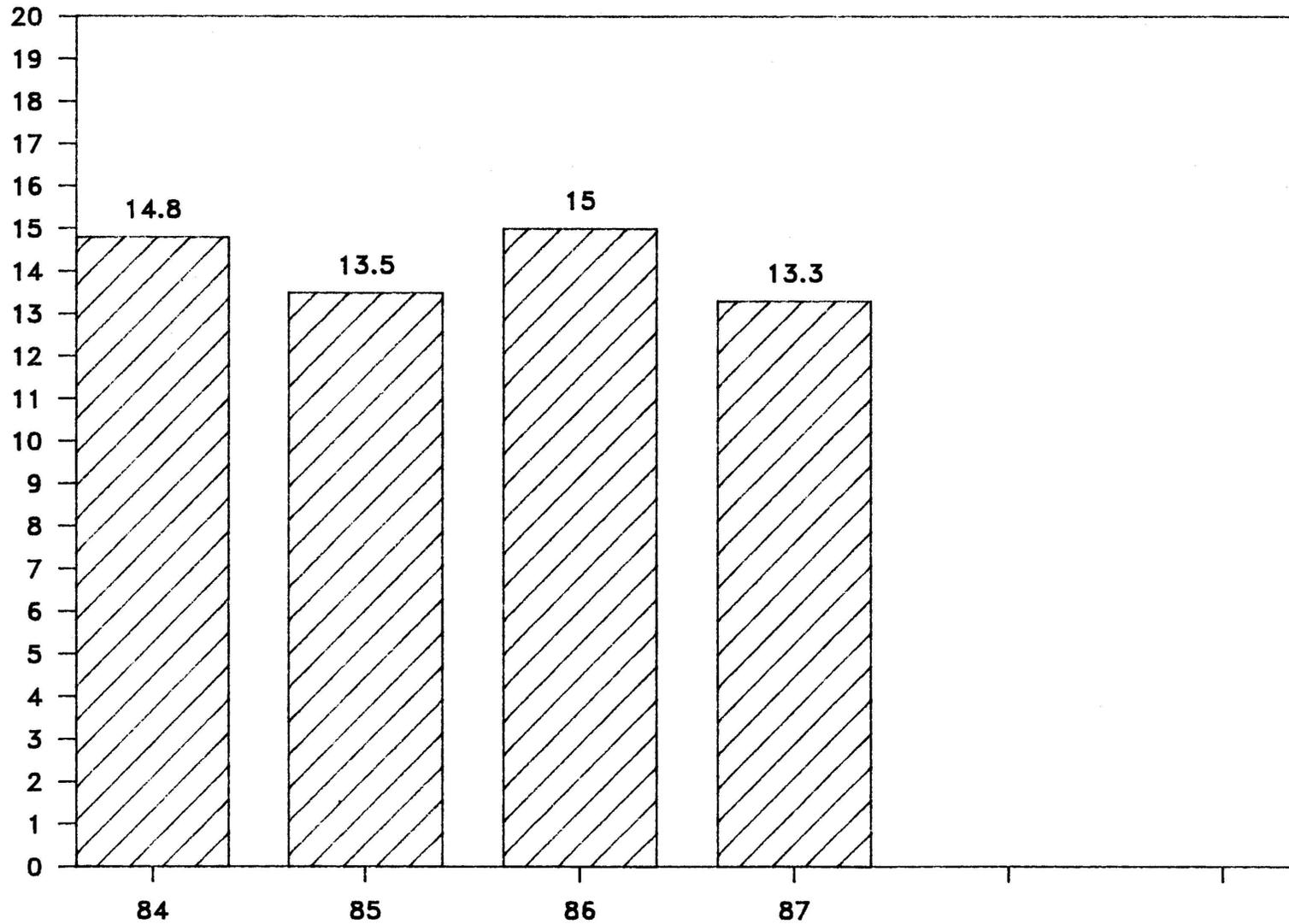


EXHIBIT 11.7

**EXHIBIT II.8 - SERVICE EFFECTIVENESS OF VIRGINIA PUBLIC TRANSPORTATION SYSTEMS**

Service effectiveness is an indicator of the amount of transportation service provided in relation to the service usage. The measure of service effectiveness included in this exhibit is transit use measured by annual passenger trips, in relation to available service measured by annual vehicle service hours. The higher the number of trips per hour of service the more effective the service.

In FY87, Virginia experienced an increase in its service effectiveness level. The value for FY87 was 35.8 which was 1.9 points higher than the FY86 value of 33.9. This increase in effectiveness is a result of a 3% increase in passenger trips. In FY86, passenger trips were reported at 95,072,280 and in FY87, 98,081,790 passenger trips were reported. The second factor in the increased service effectiveness level was that in FY86, Virginia public transportation systems provided 2,809,110 vehicle service hours, whereas in FY87, 2,736,930 hours were produced. Transportation systems generated more passenger trips even though they operated fewer hours of service.

**EXHIBIT II.9 - COST EFFECTIVENESS OF VIRGINIA PUBLIC TRANSPORTATION SYSTEMS**

This exhibit and Exhibit II.10 each include a measure of public transportation cost effectiveness. Cost effectiveness indicators measure service output or usage in relation to expenditure. The comparison of operating revenue to operating expenditures is the most common measure of cost effectiveness used by public transportation systems. Frequently, this indicator for cost effectiveness includes only the public transportation system revenues in the numerator, i.e., revenues generated through passenger fares, as well as other system revenues such as those from charter service and advertising.

# SERVICE EFFECTIVENESS

Passenger Trips per Veh.Service Hour

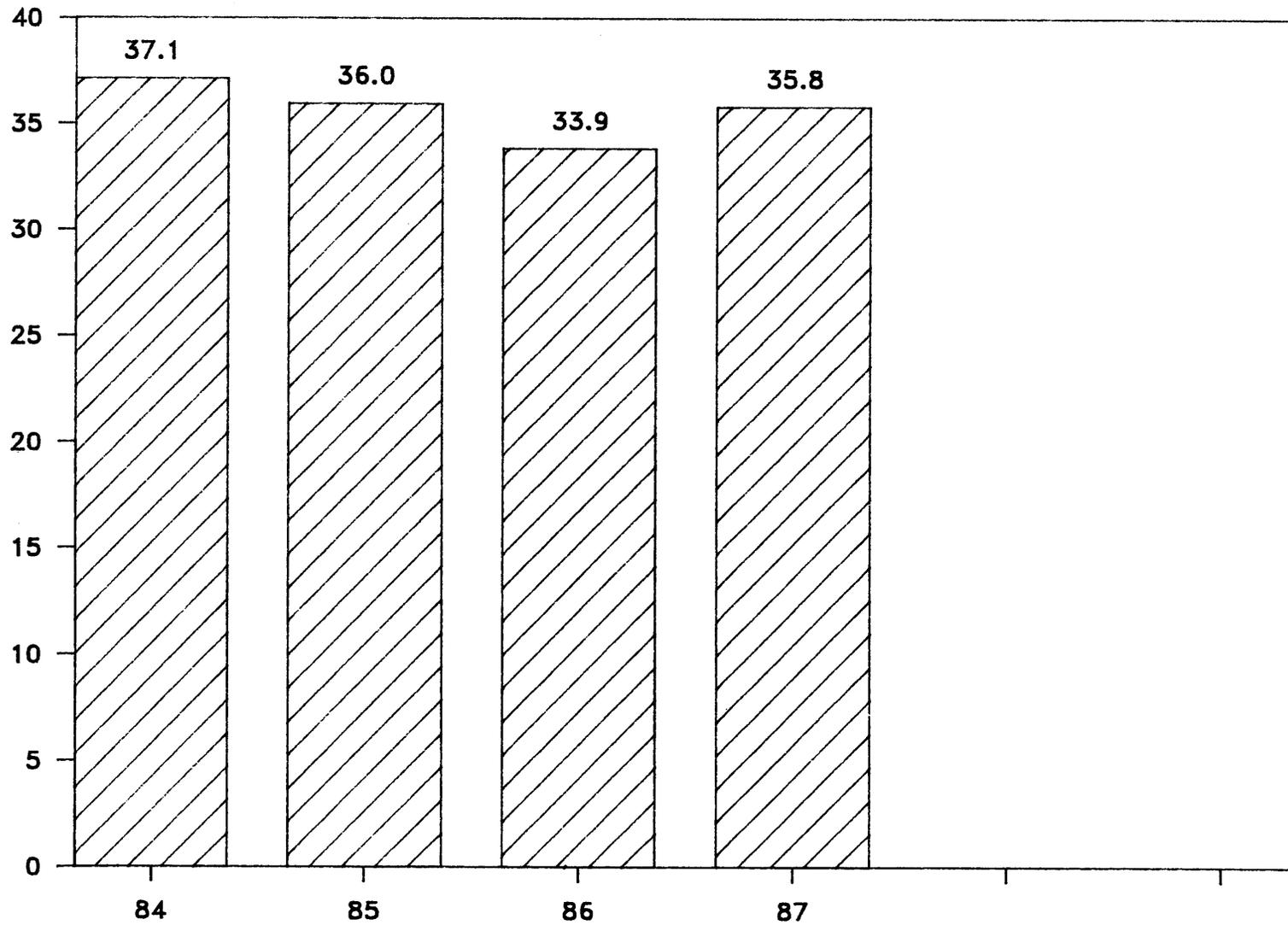


EXHIBIT 11.8

# COST EFFECTIVENESS

## Percent Local Revenue of Operating Exp.

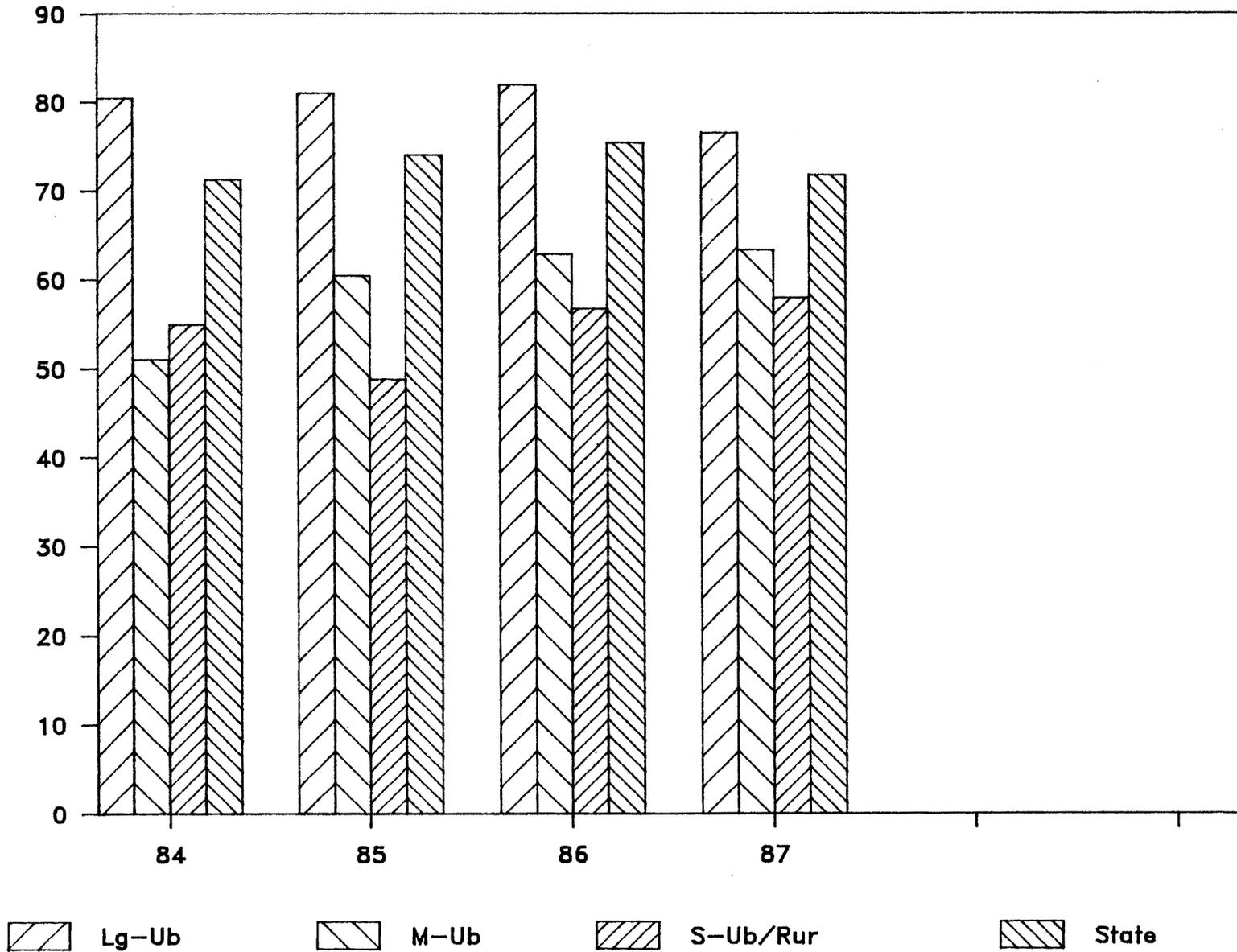


EXHIBIT 11.9

This indicator of cost effectiveness, however, includes both the total annual public transportation system operating revenues and local operating assistance in the numerator, and the total annual operating expenditures in the denominator. The system revenues are combined with local operating assistance since together they reflect the local contribution to public transportation operations. Local communities that decide to generate revenues through fares versus those which generate revenues through the local tax base may not be readily distinguishable. In this report this is appropriate, since it is not the intent of VDOT to address issues of local concern such as fare policy or local public financing decisions.

A primary focus in Virginia's Performance Evaluation System is the cost effectiveness indicator. It illustrates the relationship of local support versus total operating expenditures. Transit systems in Virginia have seen a slight decrease in cost effectiveness as it relates to local revenue. In FY84, public transportation operated at a total cost of \$143,378,800 with local support totaling \$105,081,480 (73.3% of total cost). In FY87, public transportation in Virginia cost \$174,259,770 and received local support of \$125,172,580 (71.8% of total cost).

**EXHIBIT II.10 - COST EFFECTIVENESS OF VIRGINIA PUBLIC TRANSPORTATION SYSTEMS**

This exhibit presents a second measure of public transportation cost effectiveness - total annual passenger trips versus total annual operating expenditures. The higher the value, the greater the overall level of cost effectiveness.

This exhibit illustrates the cost effectiveness level of public transportation by mode of service. The bars represent the value of the cost effectiveness indicator for each mode of service. The four modes are then

# COST EFFECTIVENESS

## Passenger Trips per \$1000 Operating Exp

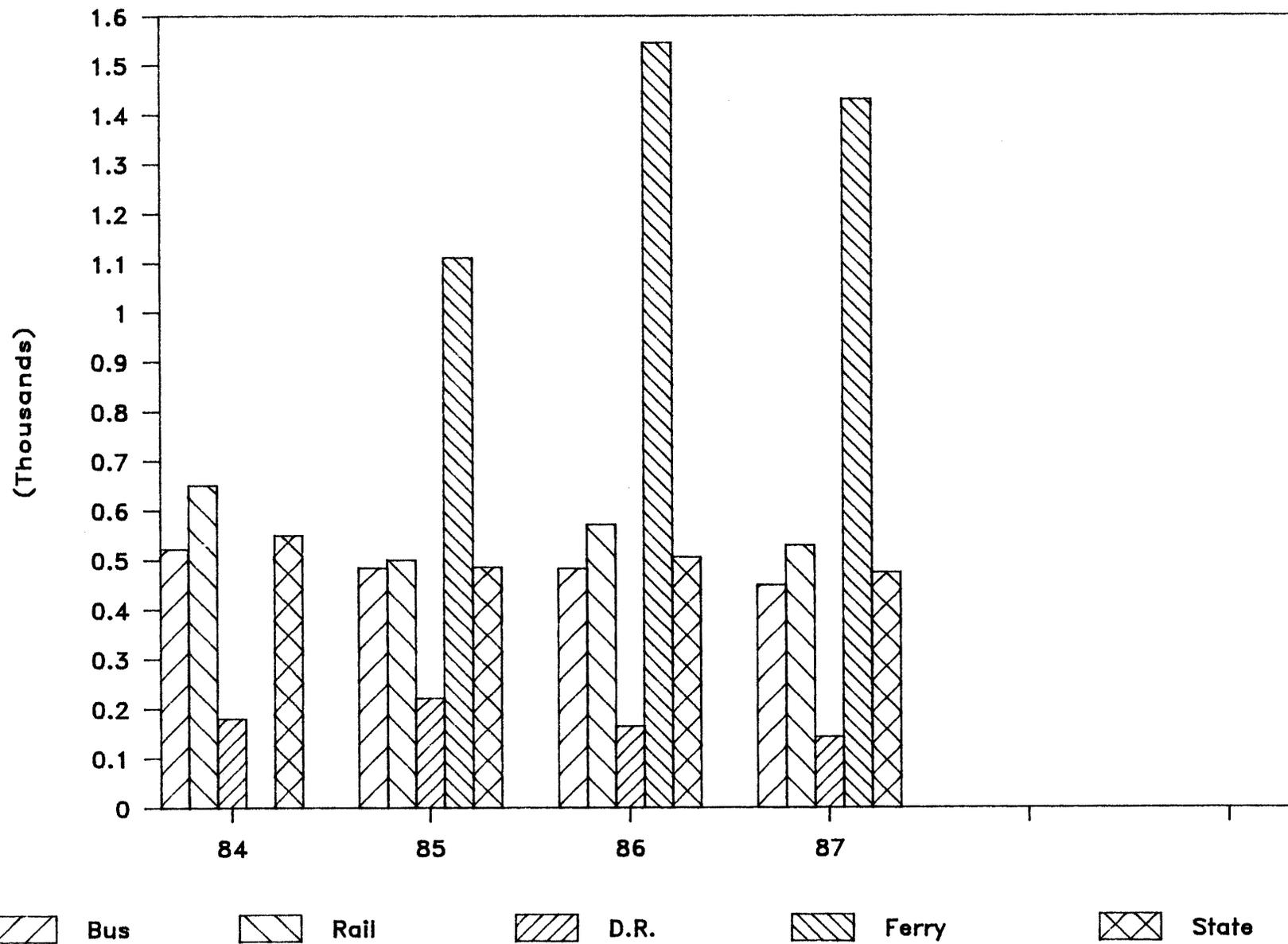


EXHIBIT II.10

followed by the value of the cost effectiveness indicator for the state as a whole. In FY87, the cost effectiveness level of public transportation dropped by 26.9 points or 4.6% less than FY86. This drop occurred across all four modes of service, with ferry boat experiencing the greatest reduction.

The decrease in cost effectiveness is a result of an increase in operating expenses at a higher rate than the increase in usage. Passenger trips statewide have increased from 95,072,280 in FY86 to 98,081,800 in FY87 for a 3.2% increase in usage. Whereas, the total operating expenditures have increased by 8.1% over the costs in FY86.

**EXHIBIT II.11 - VIRGINIA PUBLIC TRANSPORTATION SYSTEMS FINANCIAL AND OPERATING STATISTICS**

The final exhibit of this section presents financial and operating statistics categorized by area size. The large urban area data has motorbus and rapid rail statistics shown separately. Of the four modes of public transportation, only rapid rail is presented alone.

The data in this exhibit is also grouped in the following four categories:

- o Service Inputs - Resources expended to produce public transportation services.
- o Service Outputs - Levels or amounts of public transportation produced in terms of vehicle service miles and hours.
- o Service Consumption - Use of public transportation services as measured by the number of annual passenger trips and the revenues received from all system sources and from passenger revenues alone (i.e., fares).

EXHIBIT II.11  
1987 STATEWIDE FINANCIAL AND OPERATING STATISTICS

	LARGE URBAN		MID-SIZE URBAN		SMALL URBAN/RURAL		STATEWIDE	
	Sub-Total	% of Total	Sub-Total	% of Total	Sub-Total	% of Total	Total	% of Total
<b>SERVICE INPUTS</b>								
Operating Expenses (\$000)	117,140.31	67%	43,403.83	25%	13,715.63	8%	174,259.77	100%
Sub-Total by Rail	63,175.98	36%						
Sub-Total by Bus	53,964.33	31%						
<b>SERVICE OUTPUTS</b>								
Veh. Serv. Hrs. (000)	1,003.07	37%	1,232.00	45%	501.85	18%	2,736.92	100%
Sub-Total by Rail	388.50	14%						
Sub-Total by Bus	614.57	23%						
Veh. Serv. Mi. (000)	20,042.19	48%	14,439.50	34%	7,352.48	18%	41,834.17	100%
Sub-Total by Rail	9,182.75	22%						
Sub-Total by Bus	10,860.04	26%						
<b>SERVICE CONSUMPTION</b>								
	61,087.00	62%	28,881.81	30%	8,112.99	8%	98,081.80	100%
Sub-Total by Rail	39,663.16	40%						
Sub-Total by Bus	21,423.84	22%						
Operating Revenue (000)	66,225.53	71%	20,896.08	23%	5,590.80	6%	92,712.41	100%
Sub-Total by Rail	42,505.34	46%						
Sub-Total by Bus	23,720.19	25%						
Passenger Revenue (000)	61,634.08	71%	19,649.97	23%	5,404.43	6%	86,688.48	100%
Sub-Total by Rail	39,907.79	46%						
Sub-Total by Bus	21,726.29	25%						
<b>PUBLIC OPERATING ASSISTANCE</b>								
Federal Govt. (\$000) < 9%>	3,863.78	26%	7,622.85	51%	3,377.74	23%	14,864.37	100%
Sub-Total by Rail	1,543.35	10%						
Sub-Total by Bus	2,320.43	16%						
State Govt. (\$000) < 26%>	24,339.44	71%	7,756.73	22%	2,471.21	7%	34,567.38	100%
Sub-Total by Rail	9,722.17	28%						
Sub-Total by Bus	14,617.27	42%						
Local Govt. (\$000) < 65%>	23,502.35	73%	6,596.76	20%	2,361.06	7%	32,460.17	100%
Sub-Total by Rail	9,387.80	29%						
Sub-Total by Bus	14,114.55	43%						
Total Govt. Operating Assistance (\$000) <100%>	51,705.57	63%	21,976.34	27%	8,210.01	10%	81,891.92	100%
Sub-Total by Rail	20,653.32	25%						
Sub-Total by Bus	31,052.25	38%						

- o Operating Assistance - Four primary sources: federal, state, local, and other funds.

Statewide data are presented in the second column of the exhibit. The totals include all the data reported by the public transportation systems in the state and for all modes operated. The final column shows the percentage of the statewide total of each indicator. Some of the statistics shown in Exhibit II.11 have been presented in earlier graphs.

### III. CONCLUSION

The mission of the Rail & Public Transportation Division of the Virginia Department of Transportation is "to promote public transportation systems and programs that offer citizens mobility and transportation choices." To help accomplish this mission, the Division collects necessary data and then conducts an annual performance evaluation of each public transportation system receiving federal and/or state operating subsidy. With this data, the Division is able to assess the statewide performance of public transportation services and identify areas of technical assistance from VDOT which can aid transportation programs to increase transportation alternatives and mobility to the citizens of the Virginia.

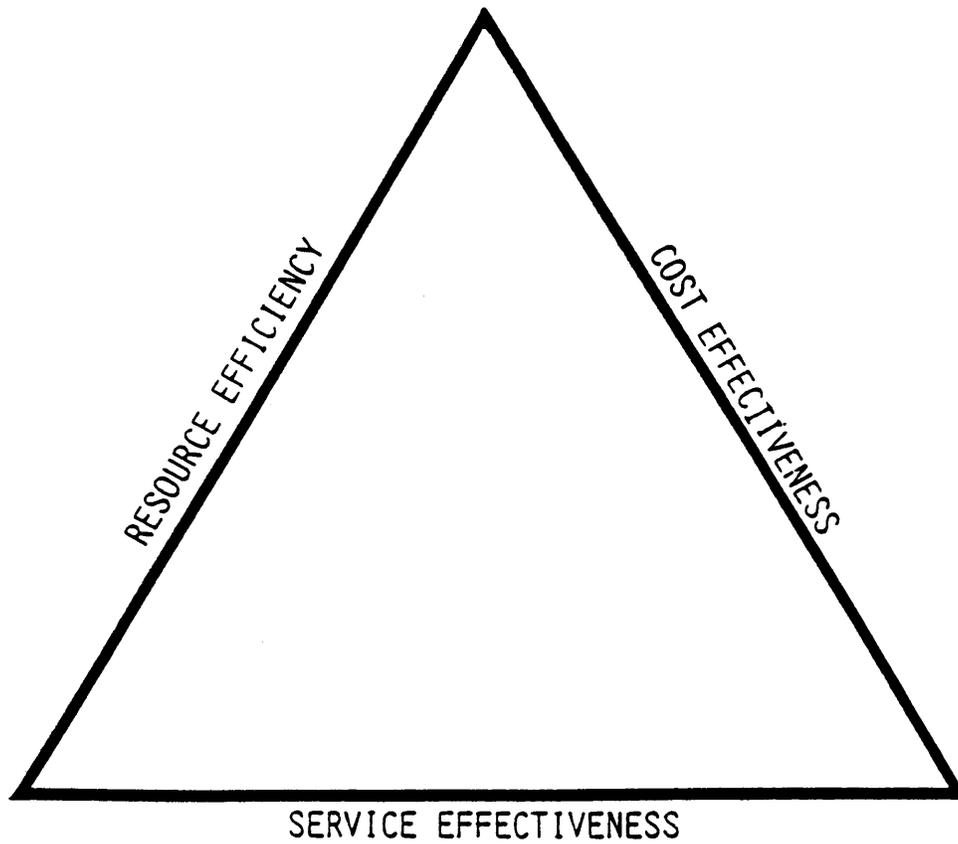
The Division focuses on three indicators in its evaluation of public transportation performance. The indicators are resource efficiency, service effectiveness and cost effectiveness. Exhibit III.1 illustrates the inter-relationship of the three indicators and identifies the various measures used. By thoroughly examining the measures and indicators, the Division can determine if Virginia's public transportation programs are meeting the transportation needs of the citizens of Virginia (effectiveness) and how well the services are being provided with the available resources (efficiency).

When examining the resource efficiency level of public transportation statewide, the Division evaluates the amount of service being provided for the amount of resources being expended. In FY87, public transportation's level of resource efficiency fell. The data shows that the number of vehicle service hours declined while the cost of service grew. The greatest contributing factor to this decline is the impact of the performance of the mid-size/small urban and rural areas. Exhibit II.11 shows the mid-size urban systems

EXHIBIT III.1

TRANSIT PERFORMANCE INDICATOR STRUCTURE<sup>1</sup>

RESOURCE  
INPUTS  
Labor  
Capital  
Materials  
Services & Other



SERVICE  
OUTPUTS

Vehicle Hours  
Vehicle Miles  
Vehicle Accidents  
Roadcalls

PUBLIC  
CONSUMPTION

Passenger Trips  
Passenger Revenue  
Passenger Injuries

<sup>1</sup>Fielding, G. J., Mundle, S. R., and Misner, J., "Development of Performance Based Funding Allocation Guidelines for Transit Operators in Los Angeles County."

experienced a 5.3% increase in operating expenses while their service level increased by only 0.8%. The rural systems reported an increase in operating costs of 30.9% with level of service increasing by only 17.6%. Both size systems are showing an increase cost of service without a similar increase in service level. The large urban systems are maintaining both costs and service levels.

Virginia's service effectiveness level increased slightly over FY86. Service effectiveness is measured by comparing passenger trips to vehicle service hours. The amount of usage versus the availability of service. In FY87, Virginia experienced an increase in passenger trips by 3.2% whereas the amount of vehicle service hours decreased by 2.6%. Public transportation systems improved their effectiveness by serving more people while having less service available. The mid-size areas experienced a decline in service effectiveness with vehicle service hours increasing by 0.8% and passenger trips declining by 10.9%. However, this drop was offset by an increase in effectiveness by the large urban and rural areas.

The third indicator is cost effectiveness and Virginia experienced a very slight decline in FY87. Cost effectiveness is measured by the percentage of local revenue (which includes both local government assistance and operating revenue) to total operating expenses. The factor having the greatest impact on the decrease in cost effectiveness is the decline in local government support. Exhibit II.11 shows statewide operating costs increasing by 8.1%. Even though operating revenue increased by 17.4%, the local government assistance decreased by 33.7% thereby lowering the cost effectiveness score. However, this is not to be interpreted as a decline in local support or appreciation for public transportation. A closer examination of the data shows that state government assistance has increased by 50.8% thereby decreasing the need of local support. The increase in state assistance has primarily been experienced by

the large urban transit systems. The mid-size/small urban and rural systems have seen their local government support increase at a higher rate than their state assistance.

In FY87, it seems public transportation in the Commonwealth of Virginia has been experiencing a period of adjustment. Despite the national trend of a declining ridership, Virginia continues to realize a growing demand for public transportation services. With this increase in demand, the transit systems appear to be refining their operations as demonstrated by their increase in service effectiveness. However, these adjustments have not been implemented without the associated costs increasing. Virginia's public transportation systems have experienced increases in state financial assistance which has lowered their resource efficiency score.

Overall, public transportation in Virginia remains a growing industry. The various public transportation systems are working diligently to provide the service needed by the citizens of Virginia and doing this in an efficient and effective manner.

