Northern Virginia
Transportation Commission

4350 N. Fairfax Drive • Suite 720 • Arlington, Virginia 22203
(703) 524-3322 / Fax 524-1756 / TDD 800-828-1120 VA Relay Service

# TENTH ANNUAL REPORT

# TRANSPORTATION SERVICE COORDINATION PLAN

## OCTOBER, 1994

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# ABSTRACT

This tenth in the series of reports on the Transportation Service Coordination Plan (TSCP) of the Northern Virginia Transportation Commission reviews the institutional and legislative settings within which transportation policies and programs are planned and implemented in Northern Virginia. Scores of agencies and organizations are working to gather data, define problems and opportunities, and craft solutions to the region's mobility needs. The TSCP also assembles performance data for the region's public transit systems and reviews ongoing studies and plans. The report concludes with a set of issues and recommendations for action to guide NVTC and its jurisdictions as the region shapes long-range plans for its transportation network. Finally, appendices provide data on transportation agencies and organizations, public transit ridership and routes, taxi services, park-and-ride lots, transit fare and transfer policies, and ongoing studies in the region.

Money is scarce, congestion is getting worse, and existing transportation facilities are in need of immediate repair. In the future, the picture only looks more bleak. Between 1990 and 2020, the population of the region is expected to increase by 41 percent, while vehicle trips in the region are predicted to increase by 64 percent, and vehicle miles traveled daily by 74 percent. Planned investments in road and transit networks will not keep up with the traffic. In 1990, for example, during the evening rush hour, 26 percent of vehicle miles travelled in the region were at free-flow speeds, and 45 percent were travelled in stop-and-go conditions. By 2020, these figures will be 12 and 68 percent, respectively.

Daily public transit ridership in Northern Virginia is about 222,000, on several regional and local systems varying in size from 321 peak-hour Metrobuses in Virginia to two buses that make up the Tysons Shuttle. Both public agencies and private firms operate these services. While most encourage transfers between systems, no uniform regional transit pass yet exists that would reduce the cost and increase the convenience of travel by public transit.

Among the studies and new initiatives underway in the region are efforts to implement bus and rail service in the Dulles corridor and provide high-speed rail service to Richmond. The region is also looking at both bus and rail alternatives in the I-66 corridor, and is moving forward with extensions and additions to the HOV network. The new regional paratransit system, **Metro**Access, began operations in May, 1994.

Recommended actions for future years include enhancements to the transit system, increased attention to bicycle and pedestrian access to facilities, and an effort to implement demand management techniques in the region. In upcoming years, the area will be faced with locating new sources of transportation funding and issues of regional vs. local control over land use and transportation decisions. NVTC recommends that these issues be put forward now, so that Northern Virginia and the entire region can begin to strive for much-needed consensus.

## TABLE OF CONTENTS


| | PAGE |
|---|---|
| ABSTRACT | |
| TABLE OF CONTENTS | |
| LIST OF FIGURES | |
| **SECTION I: INTRODUCTION** | |
| BACKGROUND | 1 |
| History of the Planning Process | 1 |
| Role of the Northern Virginia Transportation Commission | 2 |
| Discussion of the Traffic Congestion Problem | 4 |
| OVERVIEW OF THE REPORT | 6 |
| **SECTION II: THE INSTITUTIONAL AND LEGISLATIVE CONTEXT** | |
| THE INSTITUTIONAL CONTEXT | 7 |
| Partial Listing of Key Players | 7 |
| LEGISLATIVE CONTEXT | 11 |
| Federal Legislation | 11 |
| State Legislation | 13 |
| **SECTION III: EXISTING SERVICES AND FACILITIES** | |
| RAIL SERVICES | 15 |
| Metrorail | 15 |
| Virginia Railway Express | 18 |
| Intercity Rail | 19 |
| BUS SERVICES | 20 |
| Metrobus | 20 |
| Local Bus Systems | 21 |
| Commuter Bus Systems | 22 |
| Vanpools | 24 |
| Intercity Bus Service | 24 |
| TAXICABS | 24 |

## TABLE OF CONTENTS Continued

**SECTION III Continued**


| | |
|---|---|
| COMMUTER SUPPORT SERVICES | 24 |
| Transit Stores | 24 |
| Ridesharing Services | 25 |
| Alternative Transportation Program | 25 |
| PARATRANSIT | 27 |
| MetroAccess | 27 |
| Jurisdictional Services | 29 |
| TRANSIT-SUPPORTIVE HIGHWAY FACILITIES | 31 |
| HOV Lanes | 31 |
| Park & Ride Lots | 31 |
| AIRPORTS | 33 |
| Capital Improvement Program | 33 |
| MWCOG Passenger Survey | 33 |
| Ground Access | 34 |
| Ground Transportation Services | 34 |


**SECTION IV: STUDIES AND PLANS**


| | |
|---|---|
| DULLES CORRIDOR | 36 |
| Dulles Toll Road | 36 |
| Dulles Greenway | 36 |
| Express Bus Service in the Dulles Corridor | 37 |
| Western Regional Park & Ride Study | 38 |
| Dulles Corridor Rail Study | 38 |
| Dulles Airport Study Commission | 39 |
| NVTC's Transportation Plan for the Smithsonian's National Air and Space Museum Annex | 39 |
| I-66 CORRIDOR | 40 |
| Current Projects | 40 |
| I-66/Haymarket Transportation Study | 41 |
| I-66 Rail Feasibility Study | 41 |
| Bristol Rail Passenger Study | 42 |
| HOV-2 Inside Beltway | 42 |
| WESTERN BYPASS | 43 |

## TABLE OF CONTENTS Continued

**SECTION IV Continued**


BELTWAY 44
I-495 Capital Beltway Improvement Study 44
Capital Beltway Safety Team 44

I-95 CORRIDOR 45
Extension of Reversible HOV Lanes 45
Richmond Rail Study 45
EPG People Mover 45

WOODROW WILSON BRIDGE 46

METRORAIL FISCAL IMPACT STUDY 46

METROBUS STRATEGIC BUS PLAN 47

TRANSIT RIDERSHIP FORECASTING 48

LOUDOUN COUNTY COUNTY-WIDE TRANSPORTATION PLAN 48

INTERSTATE STUDY COMMISSION 49

GOVERNOR'S COMMISSION ON GOVERNMENT REFORM 49


**SECTION V: COMPREHENSIVE FUTURE PLANS**


VIRGINIA CONNECTIONS 50

MWCOG REGIONAL VISION PLAN 53
Suggestions for Inclusion in the Regional Vision Plan 53
Transit System Enhancements 53
Upgrade Existing Transit Facilities and Infrastructure 53
Integration of Services 55
Simplification and Integration of Fare Systems 56
Innovative Responses to Customer Needs 59
Better Informing Customers 61
Ease of Access to Transit 63
Bicycle and Pedestrian Travel 64
Demand Management 64
Suggestions for Discussion During Planning Process 66
Funding Issues 66
Regional vs. Local Decision Making 67
Changing Travel Patterns 67

## TABLE OF CONTENTS Continued

**SECTION IV Continued**

CONCLUSION 68

**APPENDICES**

A. Transportation Agencies and Organizations
B. Public Transit Ridership and Routes
C. Fare and Transfer Policies
D. Taxi Service by Jurisdiction
E. Park-and-Ride Lots in Northern Virginia
F. Ongoing Studies and Plans
G. Scopes of Work of Selected Studies
H. Holiday Schedules of Local Transit Systems

## LIST OF FIGURES


| Figure | | Page |
|---|---|---|
| 1 | NVTC OFFICERS AND COMMISSIONERS | 3 |
| 2 | METRO CORE COUNT STATIONS AND LOCATIONS | 5 |
| 3 | 1990 CENSUS POPULATION OF THE METROPOLITAN WASHINGTON AIR-QUALITY NON-ATTAINMENT AREA | 8 |
| 4 | TRANSPORTATION AGENCIES/ORGANIZATIONS | 9 |
| 5 | PUBLIC TRANSIT SYSTEMS OPERATING IN NORTHERN VIRGINIA, FY 1994 | 16 |
| 6 | ESTIMATED ANNUAL TRANSIT PASSENGER TRIPS, MILES, AND TRANSFER VOLUMES IN NORTHERN VIRGINIA, FY 1994 | 17 |
| 7 | SURVEY OF COMMUTER BUS SERVICES AS OF 1994 | 23 |
| 8 | ARLINGTON COUNTY COMMUTER ASSISTANCE PROGRAM'S BALLSTON AND CRYSTAL CITY STORES | 26 |
| 9 | ADA PARATRANSIT DEMAND ESTIMATES | 28 |
| 10 | HIGH OCCUPANCY VEHICLE (HOV) HOURS AND USE | 32 |
| 11 | SUMMARY OF RECOMMENDATIONS IN PLAN | 54 |

# SECTION I

# INTRODUCTION

# BACKGROUND

## History of the Planning Process

In early 1984 the Northern Virginia Transportation Commission initiated a formal process to create a Bus Service Coordination Plan by adopting a set of goals:

- Improve transit information sharing within the region;
- Provide better coordination of bus planning and services; and
- Improve bus service benefits relative to costs.

This is the tenth in the series of reports on NVTC's Bus Service Coordination Process. Since the focus of the planning process has expanded beyond buses to include passenger rail and other High Occupancy Vehicle (HOV) strategies as well as related highway improvements, the report has been renamed to reflect the broader emphasis on surface transportation services.

NVTC's Transportation Service Coordination Plan is not a typical government plan, in which routes are drawn on a map or specific equipment needs identified. Rather, the commission's plan is part of a process through which the commission seeks to accomplish improvements by changes in the way local and state governments and the private sector think about, analyze and solve transportation problems. Thus, the NVTC plan can never be "complete;" the process must be continually enhanced and revised to accomplish steady progress toward its objectives. The annual reports that describe the process and the progress are, therefore, more on the order of dynamic proposals rather than static blueprints. The reports set forth strategies for coping with congestion and coaxing more productivity from scarce transportation resources, primarily through improved coordination and communication.

The genesis of the commission's planning process was Virginia Senate Resolution #20, passed in 1983, that directed NVTC and the former Virginia Department of Highways and Transportation (now the Virginia Department of Transportation--VDOT) to conduct a thorough study of bus transportation in Northern Virginia. The resulting 1983 study (Report on the Feasibility and Desirability of Locally Sponsored Bus Service in Northern Virginia) concluded that while NVTC should not promote decentralization of bus service within the regional network operated by the Washington Metropolitan Area Transit Authority, it should take an active role by developing a bus service management plan. That plan should examine feasible options for planning, routing, scheduling, establishing fare structures for, operating, marketing, and coordinating a diverse set of public transportation services in Northern Virginia.

It is toward those goals (expanded to include other transportation modes) that NVTC's series of reports on its Transportation Service Coordination Plan is focused.

## Role of the Northern Virginia Transportation Commission

NVTC was created by the Virginia General Assembly in 1964, and consists of 19 commissioners representing six Northern Virginia jurisdictions and the Virginia Department of Rail and Public Transportation. **Figure 1** shows the current membership.

NVTC provides a transportation policy forum, and is charged with allocating as much as $100 million in state and federal aid each year among its member jurisdictions. The commission also appoints Virginia's two principal and two alternate members of the Board of Directors of the Washington Metropolitan Area Transit Authority (WMATA or Metro). WMATA operates Metrobus and Metrorail service in the District of Columbia, Maryland and Northern Virginia.

NVTC has sponsored numerous demonstrations to improve coordination among transportation services, such as private taxis serving Metrorail stations in lieu of more expensive bus service. As evidenced by this Plan, the commission has assumed an active role in coordinating transportation services in Northern Virginia, and is working with local governments to maintain stable and reliable funding for these services. NVTC also seeks to improve transit connections and assure that useful information is provided to passengers, while upgrading the performance of transit operators. The integration and coordination of transit services is an area of intense current interest on the part of the commission, as is leveraging public transit assistance through cooperation with the private sector.

Since 1984, NVTC has been working to implement commuter rail service in two congested corridors. With its partner agency, the Potomac and Rappahannock Transportation Commission (PRTC), NVTC in mid-1992 initiated service between Manassas and Union Station in the District of Columbia, and also between Fredericksburg and Union Station.

More information about NVTC, its statutory mandate, history and accomplishments, as well as a detailed listing of its 1994 work program, is available in the commission's 1994 Handbook. This document, as well as the earlier reports on the Transportation Service Coordination Plan, are available on request to the commission. The categories of goals enumerated in the 1994 work program are listed below:

1) Transit coordination
2) WMATA governance
3) Promote reduced congestion through systems approaches to transit and ridesharing
4) Cost sharing, grants management, and oversight
5) Finance
6) Support of Transportation Coordinating Council
7) Public Information, advocacy, and customer service
8) Operation of public transit services
9) Planning and technical assistance
10) Air quality, energy conservation, and land use

## Figure 1

# NVTC OFFICERS AND COMMISSIONERS
## --1994--

Patricia S. Ticer, Chairman
Mary Margaret Whipple, Vice-Chairman
Robert E. Harris, Secretary-Treasurer

Arlington County

Ellen M. Bozman[4]
Albert C. Eisenberg
Mary Margaret Whipple[1]

Fairfax County

Joseph Alexander[1/3]
Ernest J. Berger
Sharon Bulova[3]
Katherine K. Hanley[2]
Elaine McConnell[3]

Loudoun County

Charles D. Grant

City of Alexandria

Kerry J. Donley
Patricia S. Ticer[2]

City of Fairfax

Scott Silverthorne

City of Falls Church

David F. Snyder

Virginia Department of Rail and Public Transportation

Leo J. Bevon

General Assembly

Senator Joseph V. Gartlan, Jr.
Senator Edward M. Holland
Delegate L. Karen Darner
Delegate Marian Van Landingham
Delegate Robert E. Harris

---

1 Principal member of Metro Board
2 Alternate member of Metro Board
3 Principal member of VRE Board
4 Alternate member of VRE Board

## Discussion of the Traffic Congestion Problem

Anyone who commutes regularly in the Washington metropolitan region knows that traffic congestion is an increasingly costly and aggravating problem for the area and its approximately four million residents. To track this problem, the Metropolitan Washington Council of Governments conducts a triennial Core Cordon Count, in which they enumerate how many cars and people cross an imaginary cordon line around the metropolitan core during the peak morning period (see **Figure 2**). Results of the 1993 count confirm that, region-wide, including Maryland, the District of Columbia and Virginia, the number of automobiles entering the core is higher than three years ago, average auto occupancies have dropped, and the percentage of travellers crossing the line using transit has decreased slightly.

In Northern Virginia, the picture is slightly brighter. In this sub-region, the number of travellers using transit to cross the cordon line increased by 16 percent, and the percentage of riders on transit increased by five percent. Furthermore, while the number of cars entering the *region* increased by six percent, in Northern Virginia, it *decreased* by six percent.[1] Clearly, Northern Virginia's recent efforts to boost transit ridership have produced results.

A look at the more distant future, however, is sobering. Employment, housing, auto ownership and vehicle trips trends indicate that congestion will only worsen. Between 1990 and 2020, the population of the region is expected to increase by 41 percent, and by 57 percent in Northern Virginia. At the same time, vehicle trips in the region are predicted to increase by 64 percent, from 12.6 million to 20.6 million per day, and vehicle miles traveled daily are expected to increase by 74 percent, from 102 to 177 million vehicle miles.

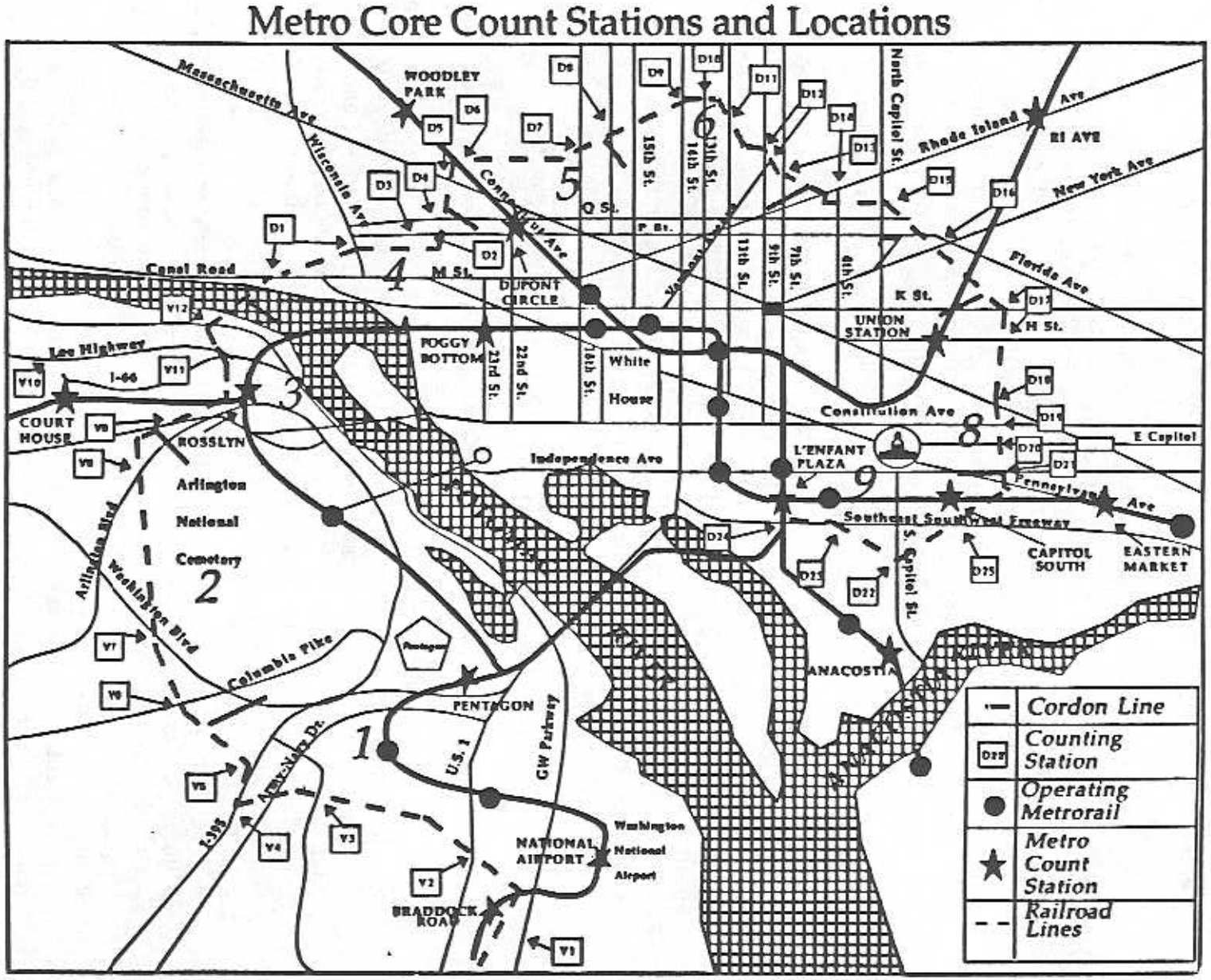
While considerable investments in both road networks and transit systems are planned during the intervening years, they will not keep up with the traffic. In 1990, for example, during the evening rush hour, only 26 percent of vehicle miles travelled in the region were at free-flow speeds, and 45 percent were travelled in stop-and-go conditions. By 2020, this problem will be much worse; 12 percent of travel will be in free-flow conditions, and a full 68 percent will be stop-and-go traffic.[2] In addition, because suburb-to-suburb travel is increasing, the traditional radial network of transit systems will become less and less adequate a response.

---

[1]Metropolitan Washington Council of Governments Transportation Planning Board, 1993 Metro Core Cordon Count of Vehicular and Passenger Volumes. Washington, DC: May, 1994.

[2]Metropolitan Washington Council of Governments Transportation Planning Board, Conformity Determination of the Constrained Long-Range Plan and the FY 1995-2000 Transportation Improvement Program for the Washington Metropolitan Region with the Requirements of the 1990 Clean Air Act Amendments (Draft). Washington, DC: July, 1994.

## Figure 2


Metro Core Count Stations and Locations
WOODLEY PARK
Massachusetts Ave
Wisconsin Ave
Connecticut Ave
Canal Road
Key Bridge
Lee Highway
I-66
COURT HOUSE
ROSSLYN
Arlington National Cemetery
Arlington Blvd
Washington Blvd
Columbia Pike
Pentagon
PENTAGON
Army-Navy Dr.
I-395
U.S. 1
GW Parkway
NATIONAL AIRPORT
Washington National Airport
BRADDOCK ROAD
DUPONT CIRCLE
FOGGY BOTTOM
22nd St.
White House
15th St.
14th St.
13th St.
11th St.
9th St.
7th St.
6th St.
4th St.
North Capitol St.
Rhode Island Ave
RI AVE
New York Ave
Florida Ave
K St.
UNION STATION
H St.
Constitution Ave
Independence Ave
L'ENFANT PLAZA
E Capitol
Pennsylvania Ave
Southeast Southwest Freeway
S. Capitol St.
CAPITOL SOUTH
EASTERN MARKET
ANACOSTIA
O St.
P St.
M St.
1
2
3
4
5
6
7
8
9
Cordon Line
Counting Station
Operating Metrorail
Metro Count Station
Railroad Lines

Besides the wasted time and energy and accidents associated with congested commuting, this increased auto travel affects the region in other ways. Freight will have a harder time passing through the region, and companies may avoid the area due to difficulties with work-related travel and shipping, thereby costing jobs. While technological advances will continue to make cars "cleaner," considerable pollutant emissions will still result. Neighborhoods will be disrupted by the inevitable commuters who attempt to avoid traffic by travelling local streets. And as society continues to develop land with the automobile driver in mind, those who cannot drive will be more and more isolated from the rest of the community. At the same time the resources devoted to expanding transportation facilities and services in a futile effort to keep up with demand will not be available for other pressing social and economic concerns.

It is clear that in the coming decades, the region as a whole will need to take efficient, effective, and innovative action if it wishes to avoid the forecasted scenario. Further investment in all modes of the transportation system will be needed, both to provide attractive alternatives to the automobile and to better handle the remaining traffic that continues to use the roadways. And ways to limit demand are required to encourage people to link together trips, walk or bike instead of drive a few blocks, and perhaps not travel at all (e.g. using telecommunications as an alternative). People should be encouraged to examine their options and make choices that are good for the entire community as well as themselves.

## OVERVIEW OF THE 1994 REPORT

This report will attempt to answer the questions Who? What? Where? and How? with regards to transportation planning and implementation in Northern Virginia. Thus, Section II addresses the myriad institutions, ranging from federal agencies to citizen groups, involved with transportation planning. It also describes the legislative context in which this planning must take place, thus delineating the boundaries and conditions imposed on that process.

Section III describes the type of transportation system we have today, addressing in particular the performance characteristics of the many transit systems operating in the area. Section IV examines each corridor in the region, and discusses the status of issues, plans, and studies having to do with each. Finally, Section V presents the broader questions: "Where do we want to go as a region and how can we get there as part of a set of recommendations and conclusions?" Several appendices containing agency contacts, public transit ridership data, lists of ongoing studies, and related information complete the report.

# SECTION II

# THE INSTITUTIONAL AND LEGISLATIVE CONTEXT

# THE INSTITUTIONAL CONTEXT

Scores of agencies and organizations meet regularly, adopt policies, define programs, and work diligently to improve the mobility of people and goods in Northern Virginia. Some of these groups are mandated by government regulations, some represent certain areas or jurisdictions, and some arise in response to a particular problem. As recent federal regulations (to be discussed in further detail in the next section) have emphasized cooperative planning efforts and public participation, achieving consensus among the many agencies and individuals involved has become more and more critical to the successful implementation of any project designed to relieve traffic congestion.

In order to participate effectively in the ongoing regional "conversation" regarding the transportation system, one must first be aware of the wide array of agencies and organizations already actively engaged in transportation planning, financing, construction, regulating, and advocating change. In many cases, coalitions of these organizations form to provide greater leverage to achieve shared objectives. When pursuing new programs, it is essential to notify and involve these groups to avoid misunderstandings and duplication of effort.

**Appendix A** gives names, addresses, and telephone numbers for the most important agencies and organizations currently involved in transportation (and related air quality) endeavors in Northern Virginia and the Metropolitan area. For each, a brief synopsis of their current activities is given. The appendix is organized by regional, local, and private sector. **Figure 3** shows the major local governments and population that comprise the Washington Metropolitan Area. **Figure 4** lists the names of the agencies and organizations included in the appendix.

As the lengthy list suggests, areas of responsibility often overlap considerably, despite each of the entities trying to define its individual role in relation to the others. Throughout this report, many of the agencies listed in Figure 4 will be referred to by their acronyms. Please refer to this figure to help recall the full names, and refer to Appendix A for more information.

## Partial Listing of Key Players

Among the major participants in Northern Virginia's efforts to improve transportation coordination are, in addition to NVTC and PRTC, the following organizations:

**Federal, State, and Local Agencies:** In addition to local jurisdictions listed in Figure 3, both the federal and state departments of transportation and related agencies play key roles in planning for this region. This is especially true in this area because of the federal government's central role in both employment and land ownership. In addition, the federal government directly owns certain facilities, such as the Woodrow Wilson Bridge. However, the federal government is also represented by agencies other than DOT and its

## Figure 3

| 1990 CENSUS POPULATION OF THE METROPOLITAN WASHINGTON AIR-QUALITY NON-ATTAINMENT AREA | |
|---|---|
| **JURISDICTIONS** | **1990 POPULATION** |
| **NVTC:** | |
| • City of Alexandria | 111,183 |
| • Arlington County | 170,936 |
| • City of Fairfax | 19,622 |
| • Fairfax County | 818,584 |
| • City of Falls Church | 9,578 |
| • Loudoun County | 86,129 |
| **Subtotal:** | 1,216,032 |
| **PRTC:** | |
| • City of Fredericksburg | 19,027 |
| • City of Manassas | 27,957 |
| • City of Manassas Park | 6,734 |
| • Prince William County | 215,686 |
| • Stafford County | 61,236 |
| **Subtotal:** | 330,640 |
| **DISTRICT OF COLUMBIA:** | 606,900 |
| **SUBURBAN MARYLAND:** | |
| • Montgomery County | 757,027 |
| • Prince George's County | 729,268 |
| **Subtotal:** | 1,486,295 |
| • Calvert County | 101,154 |
| • Charles County | 150,208 |
| • Frederick County | 51,372 |
| **Subtotal:** | 302,734 |
| **TOTAL:** | 3,942,601 |

**Source: MWCOG (1990 Census Public Law 94-171 tape)**

# Figure 4

## TRANSPORTATION AGENCIES/ORGANIZATIONS

**FEDERAL/NATIONAL**

- Congress
- Executive
- U.S. Department of Transportation (USDOT)
  - Office of The Secretary
  - Federal Transit Administration (FTA)
  - Federal Highway Administration (FHWA)
  - Federal Railroad Administration (FRA)
- Environmental Protection Agency (EPA)
- Army Corps of Engineers
- National Park Service
- General Services Administration (GSA)
- Transportation Research Board National Research Council (TRB)
- American Association of State Highway and Transportation Officials (AASHTO)
- American Public Transit Association (APTA)

**STATE**

- Governor
- Secretary of Transportation
- Virginia Department of Transportation (VDOT)
- Commonwealth Transportation Board (CTB)
- Virginia Department of Rail & Public Transportation (VDR&PT)
- State Corporation Commission (SCC)
- Division of Risk Management (DRM)
- Virginia General Assembly
- Virginia Association of Counties (VACO)
- Virginia Municipal League (VML)
- Virginia Association of Public Transit Officials (VAPTO)
- George Mason University (GMU)

**REGIONAL**

- Northern Virginia Transportation Commission (NVTC)
- Potomac and Rappahannock Transportation Commission (PRTC)
- Virginia Railway Express (VRE)
- Northern Virginia Planning District Commission (NVPDC)
- Transportation Coordinating Council (TCC)
- Washington Metropolitan Area Transit Authority (WMATA)
- Metropolitan Washington Council of Governments/Transportation Planning Board (COG/TPB)
- Metropolitan Washington Air Quality Committee (MWAQC)
- Metropolitan Development Policy Committee
- Baltimore/Washington Regional Association
- Greater Washington Board of Trade
- Federal City Council (FCC)
- Maryland National Parks and Planning Commission
- Washington Suburban Transit Commission (WSTC)
- Maryland DOT
- Maryland Rail Commuter Service (MARC)
- National Capital Parks and Planning Commission

**LOCAL**

- Offices of Transportation, Finance, Planning and Public Works
- Citizens Transportation Advisory Boards
- Transit Operators
  - DASH (Alexandria)
  - CUE (City of Fairfax)
  - CONNECTOR (Fairfax County)
  - CRYSTAL CITY TROLLEY (Arlington)
  - RIBS (Reston)
  - TYSONS SHUTTLE (Fairfax County)
- Transportation Management Associations
  - Ballston/Rosslyn Area Transportation Association (BATA)
  - Dulles Area Transportation Association (DATA)
  - Reston Area Transportation Association (LINK)
  - Transportation and Environmental Management, and Planning Organization Alexandria, Inc. (TEMPO)
  - Tysons Transportation Association (TYTRAN)

**PRIVATE**

- Toll Road Corporation of Virginia
- Washington Private Operators Council
- Washington Area Bicyclists Association
- American Automobile Association (AAA)
- Sensible Washington Area Transportation Coalition
- Northern Virginia Transportation Alliance
- League of Women Voters

modal administrations. Due to the Clean Air Act Amendments of 1990, for example, the Environmental Protection Agency may exert great influence over transportation plans and funding.

**Transportation Coordinating Council (TCC)**: Includes separate policy, technical and citizens groups, with a work plan that features regional consensus-building to establish transportation priorities. TCC is staffed by the Northern Virginia District Office of VDOT. The policy group, consisting primarily of Northern Virginia elected officials from NVTC, PRTC and TPB and chaired by Northern Virginia's member of the Commonwealth Transportation Board, meets at least quarterly. The technical and citizens committees meet monthly. Presently, TCC adopted procedures to bring closer ties to the Transportation Planning Board and to provide better representation for town governments in the regional allocation process for transportation funds. TCC's Technical Committee initiates the annual process of allocating flexible federal ISTEA funds available to Northern Virginia, and provides recommendations to the TCC policy group, which--when adopted--are forwarded to the Transportation Planning Board. TPB's actions are in turn forwarded to the Commonwealth Transportation Board.

**Transportation Planning Board (TPB)**: Designated as the metropolitan planning organization (MPO) for Northern Virginia, suburban Maryland and the District of Columbia, TPB adopts annual lists of projects to receive federal funding and produces long range transportation plans. Members of the board consist primarily of elected officials from the two states and the District of Columbia.

**Commonwealth Transportation Board (CTB)**: The policy-making body which allocates state funds (and federal funds channeled through the state) for transportation projects. Virginia's Secretary of Transportation chairs CTB; the board's 16 members are appointed by the Governor. The group adopts a six-year program, which is updated each year.

**Metropolitan Washington Air Quality Committee (MWAQC)**: This group, which consists of elected officials from localities, states, and the District of Columbia, has been given the authority by the governors of Maryland and Virginia and the Mayor of the District to develop specific recommendations for a regional ozone control strategy in the Washington non-attainment area. Once final, these recommendations are folded into Virginia's State Implementation Plan, to be submitted to the Environmental Protection Agency. The committee works closely with MWCOG and state and local staffs, as well as with the Air Quality Public Advisory Committee (AQPAC), which was created by MWAQC in order to enhance citizen input into the process.

**Metropolitan Development Policy Committee**: One of five policy committees which advise the MWCOG Board of Directors, the Metropolitan Development Policy Committee makes recommendations regarding regional forecasts (which are closely linked to the region's transportation planning process) and works to facilitate and oversee interjurisdictional agreements. In a revision to the bylaws

of this Committee, passed March 9, 1994, membership was expanded from approximately 45 locally elected officials to about 60 representatives. This broader membership allows not only state and local governments, but also members of private industry, civic and environmental associations, the Greater Washington Board of Trade, and other organizations to be represented.

**Transportation Management Associations:** Transportation Management Associations (TMA's) form a relatively new institutional mechanism that can be used to coordinate the needs of activity centers with ridesharing and transit services. These associations have been critical to the opening of several transit stores in Arlington, and often work closely with both local government agencies and private businesses to ensure that the transportation needs of employees in their areas are met. Some TMA's, such as the Dulles Area Transportation Association, have also further enhanced regional communication through sponsoring conferences on topics of interest to the area and have encouraged new transit services, ridesharing, and highway improvements.

TMA's usually have full- or part-time executive directors or managers who serve at the pleasure of a Board of Directors. This Board generally consists primarily of private business people, with some representation of local governments. Member dues usually fund the employee outreach programs, surveys, ridematching, and marketing efforts of the TMA's. Occasionally government grants are utilized.

## LEGISLATIVE CONTEXT

### Federal Legislation

Since 1990, three pieces of federal legislation have begun to reshape the context in which transportation decisions are made. The law most directly related to transportation is the **Intermodal Surface Transportation Efficiency Act of 1991, also known as ISTEA**. ISTEA, which establishes federal transportation funding programs, emphasizes increasing funding flexibility among modes, so that states and metropolitan areas may make decisions as to which modes of transportation best meet their particular needs. The law also outlines a number of criteria which must be considered when states and metropolitan areas plan their transportation systems, and requires that these entities establish certain management systems in order to track the condition of infrastructure such as pavement, bridges, and transit systems, and to monitor conditions such as congestion.

A year earlier, the **Clean Air Act Amendments of 1990 (CAAA)** were passed. These amendments establish federal air quality standards and deadlines by which areas of the country which do not meet those standards must attain them. The Environmental Protection Agency has measured air pollution levels across the country,

and counties found to be in non-attainment of the federal standards are rated on a scale from extreme to marginal for a number of different pollutants. The Metropolitan Washington non-attainment area (the counties of which are listed in Figure 5) is rated Moderate for Carbon Monoxide, and Serious for Ozone.

Together, ISTEA and the CAAA require improved long-term planning on the part of Metropolitan Planning Organizations such as the TPB. In October of 1993, the U.S. Department of Transportation issued regulations that attempt to clarify the nature and extent of these requirements. The most central of these is that each region must prepare a long-range transportation plan, including the following elements:

- the development of a financial plan that demonstrates how the plan can be implemented with revenues "reasonably expected to be available."

- consideration of the "likely effect of transportation policy decisions on land use and development and the consistency of transportation plans and programs with the provisions of all applicable short-and long-term land use and development plans."

- a demonstration of conformity with the purpose of plans for meeting national air quality standards, including a demonstration that the transportation plan contributes to annual emissions reductions.

- the development of a congestion management system "that provides for effective management of new and existing transportation facilities through the use of travel demand reduction and operational management strategies."

- the inclusion of "a proactive public involvement process...that supports early and continuing involvement of the public in developing plans," with a formal comment period of at least 30 days for plan amendments.

- consideration of a list of 15 planning factors defined in ISTEA dealing with efficient management of existing facilities; preservation of future rights-of-way; overall social, economic, energy and environmental effects of transportation decisions; efficient movement of freight; and access to ports, airports, national parks, and military installations.[3]

In the process of carrying out these requirements, a number of planning documents are to be produced. First, each state must submit a State Implementation Plan (SIP) to the EPA annually; this plan will document the steps the state will take to attain its air quality goals, and stay within what is essentially a "budget" of allowable emissions. In the Washington region, MWAQC creates a regional plan, which is then incorporated into the states' plans.

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[3]National Capital Region Transportation Planning Board, A Citizen Guide to Transportation Planning in the National Capital Region. Washington, DC: July, 1994.

Metropolitan areas are responsible for two primary documents, a "constrained" Long Range Plan (CLRP) and a Transportation Improvement Program (TIP). The CLRP outlines all planned projects of regional significance over a longer period of time (in the case of the metropolitan Washington region, 26 years); the document is "constrained" by the amount of funds that can reasonably be predicted to be available for transportation improvements over that time period. The TIP is a more specific programming of funds in the region over a period of six years. TIP's must be updated annually, CLRP's at least every three years. These two documents are then incorporated into the state-level equivalents of these plans through a consultative process. While not required by the federal planning regulations, the Washington region is also embarking upon a vision planning process, in order to look farther into the future and identify new initiatives and new strategies for funding them. This plan is discussed in greater detail in Section VI.

The third piece of federal legislation to significantly change the transportation field in recent years is the **Americans with Disabilities Act of 1991**. This act, along with rules promulgated during 1991 by the U.S. Justice Department, Architectural and Transportation Barriers Compliance Board, U.S. DOT, and others, requires that, in general, accessibility to public spaces and services be guaranteed. In the field of public transit, such rules require changes ranging from lift-equipped busses to directional signs in Braille, to complete paratransit services, which must be provided by all public transit systems except commuter railroads.

**State Legislation**

At the state level, the institutional context in which transportation policy and funding decisions are made is centered on the Commonwealth Transportation Board (CTB). The CTB consists of 16 members from around the commonwealth, each appointed by the Governor. The Virginia Secretary of Transportation chairs the board, with the commissioner of the Virginia Department of Transportation serving as vice-chairman. Among its responsibilities, CTB approves the Statewide Transportation Improvement Program (STIP) and long range state transportation plan. Each spring CTB conducts a series of public hearings around the commonwealth before adopting its updated six-year transportation program in June.

The Virginia Department of Rail and Public Transportation, under the direction of the Secretary of Transportation, manages several state-funded programs to assist public transit and ridesharing, including formula assistance (operating) and capital grant programs that now yield almost $60 million annually for NVTC's jurisdictions (excluding another $86 million of bonds for Metro capital projects authorized by the General Assembly in 1993 and 1994). VDRPT also manages several studies that will help shape the future course of transportation in Northern Virginia, including rail feasibility studies in the Dulles, I-66, and Richmond-Washington, D.C. corridors.

The designee of the Secretary of Transportation (currently the director of VDRPT) serves on NVTC and PRTC, and Northern Virginia's CTB member chairs the TCC. VDOT provides a voting member of TPB and coordinates Northern Virginia's submittal

of transportation projects for TPB's TIP. In this way, state policy can be considered and integrated into regional decision making.

NVTC (and PRTC) also profit from the several members of the General Assembly that serve as commissioners. This allows the region's transportation legislative agenda to be effectively communicated to Richmond.

Important issues for the next year that involve these state institutions are:

1) Strategic Intermodal Policy Plan: The Secretary of Transportation (and, specifically, his deputy) are leading an effort to define a focus for statewide policy on several key strategic elements, the most important of which appears to be intermodalism.

2) Plans and systems mandated by ISTEA and the Clean Air Act Amendments: These include a statewide transportation plan (incorporating Northern Virginia's regional plan), and congestion management system, among others.

3) Continuation of the General Assembly's joint legislative committee analysis of state transportation funding sources: During 1993 the SJR 240 joint legislative committee conducted an extensive series of public hearings around the commonwealth to identify funding needs and potential revenue sources. NVTC supported the Virginia Association of Public Transportation Officials (VAPTO) position calling for significant new revenues for public transit. The 1994 General Assembly did not consider the funding proposals presented during 1993 to the SJR 240 committee, given the Allen administration's opposition to new transportation revenues. Instead, the General Assembly continued its study. Major revenue increases are considered unlikely for the 1995 session as well, but may be seriously considered in 1996.

4) Special corridor studies: As mentioned, VDRPT is leading major studies of rail alternatives that are expected to culminate in the inclusion of rail projects in the I-66 and Dulles Corridors in the region's (and hence the state's) constrained long range transportation plans.

# SECTION III

# EXISTING SERVICES

# AND FACILITIES

# RAIL SERVICES

## Metrorail

Since its opening in 1976, the Metrorail system has served as the backbone of the region's transportation system. This is true more than ever today; in fiscal year 1994, the Metrorail system carried approximately 150 million passengers systemwide, with 116,000 of the boardings occurring at Northern Virginia's stations on an average weekday. Systemwide, these passengers traveled over 1 billion miles, with an average trip length of 7.11 miles. The percentage of cost recovered by Metrorail is generally much higher than average transit systems, and FY 1994 was no exception; the system maintained a 67% recovery ratio. Performance data regarding Metrorail and other Northern Virginia systems are listed in **Figures 5 and 6**, and information regarding ridership, routes and fare and transfer policies is given in **Appendices B and C**.

### Planned System Expansions and Enhancements

The Metrorail system is still being constructed, and the currently planned 103-mile system is now scheduled to be completed in 2001. Bids were received in August, 1994 for construction of the Franconia/Springfield station, which is due to open in the summer of 1997. This station complex will also serve the Virginia Railway Express (with its station to open in 1995), and may offer access to the planned Engineering Proving Ground People Mover (See Section V) as well.

A new Virginia station within the 103-mile system is also planned; RF&P, which owns the Potomac Yard site in Alexandria, plans to build a station there to serve expected development at the site. The Potomac Green station is tentatively programmed to open in 2000, but progress will depend on formal approval by the WMATA Board.

The WMATA Board is also beginning the process of looking further into the future, beyond the construction of the 103-mile system. To this end, Metro staff recently met with representatives of jurisdictions and agencies throughout the region to discuss the direction of Metrorail's efforts in the upcoming decades. While these meetings were not intended to lead to formal conclusions, the discussions provided valuable feedback for WMATA representatives, and served as a starting point for what must be a cooperative, regional process of reaching consensus on these issues. Among the major points made were the following:

- "Enhancements" do not necessarily have to involve extension of the system; they can include more frequent service, headways, better timing of transfers, improved access to facilities, and other improvements.
- The regional effects of local projects must be considered.
- Transit planning must take on more of a market orientation, rather than

# Figure 5

## PUBLIC TRANSIT SYSTEMS OPERATING IN NORTHERN VIRGINIA FY 1994

| TRANSIT SYSTEM | # PEAK VEHICLES | AVERAGE WEEKDAY BOARDINGS | OPERATING COST | FAREBOX RECOVERY RATIO |
|---|---|---|---|---|
| Metrobus | 321 | 72,600[1] | $72,520,110[2] | 23.5% |
| Metrorail | 214[2] | 116,231[3] | $94,250,759[2] | 66.8% |
| Fairfax Connector | 58 | 10,605 | $ 6,685,559 | 23.9% |
| PRTC Commuteride | 43 | 2,864 | $ 3,151,058 | 69.1% |
| Virginia Railway Express | 42[4] | 7,157 | $14,083,901 | 53.7% |
| Alexandria DASH | 25 | 7,604 | $ 3,139,405 | 46.1% |
| City of Fairfax CUE | 8 | 3,305 | $ 1,573,517 | 28.0% |
| Reston RIBS | 4 | 633 | $ 540,133 | 10.0% |
| Tysons Shuttle | 2 | 298 | $ 54,195 | 78.4% |
| Arlington Trolley | 2 | 420 | $ 165,000 | 23.0% |

[1]Virginia Metrobus routes only.

[2]Estimate for Virginia's operations.

[3]Virginia Metrorail stations only.

[4]VRE has 59 railcars and 12 locomotives.

## Figure 6

| ESTIMATED ANNUAL TRANSIT PASSENGER TRIPS, MILES, AND TRANSFER VOLUMES IN NORTHERN VIRGINIA -- 1994 -- | | | |
|---|---|---|---|
| TRANSIT SYSTEM | TOTAL ANNUAL PASSENGER TRIPS FOR FY 94 (INCLUDING TRANSFERS) | PASSENGER MILES TRAVELED | PASSENGERS TRANSFERRING |
| Metrobus | 144,386,419[1] | 450,913,141[1] | 136,185[1,2] |
| Metrorail | 195,832,643[1] | 1,064,952,092[1] | 159,800[1,2] |
| Fairfax Connector | 2,954,398 | 3,518,245 | 202,949 |
| PRTC Commuteride | 703,743 | 951,027 | N/A |
| Virginia Railway Express | 1,798,406 | 54,415,703 | N/A |
| Alexandria DASH | 2,195,738 | N/A | 348,921 |
| City of Fairfax CUE | 858,000 | 3,003,000 | N/A |
| Reston Ribs | 160,083 | 1,511,346 | 2,641 |
| Tysons Shuttle | 74,650 | 768,895 | N/A |
| Arlington Trolley | 104,972 | 25,737 | 3,104[3] |

[1] All Metrobus and Metrorail figures represent entire regional system; the number for Virginia could not be broken out.

[2] Transfers from other buses (not Metrorail) systemwide. Metrorail and Metrobus transfer data is a daily average, rather than a yearly total.

[3] Service offered since 3/21/94 (transfer for VRE).

the traditional planning orientation. Future work should be done using demand-based needs analyses.

- More emphasis needs to be put on transit planning to serve the suburb-to-suburb market, especially travel within Northern Virginia.

- Current institutional arrangements (e.g. subsidy allocation formulas) do not always work to advance the region's interests, or local jurisdictions' interests, in providing more transit services.

- The region must realistically consider the funding required to operate and maintain the current transit system as it contemplates possible system expansions.

- A basic policy question exists as to how far Metrorail lines should be extended. At some point, it may be inappropriate for the same system to be serving both dense downtown locations and low density, outlying areas.

Finally, a number of corridors and connections were suggested for possible testing and demand analysis, including Columbia Pike between the Pentagon and Bailey's Crossroads and connections between the West Falls Church/Tysons Corner area to the Red Line in Bethesda, and the Yellow/Blue Lines at the King Street station and the Green Line at Branch Avenue.

## Virginia Railway Express

The Virginia Railway Express, which provides peak-hour commuter rail service from Manassas and Fredericksburg to points in Northern Virginia and Washington, D.C., has experienced a steadily growing ridership since service began in the summer of 1992. In Fiscal Year 1994, the service carried 1.8 million passengers, a 29 percent increase over its first year of service. Unfortunately, the railway's capacity for further growth has been limited by its current inability to add more trains, which would both increase the hours of service and provide more seating capacity. This constraint is due to the fact that VRE leases access to the tracks it uses from private freight companies, and has been unable to negotiate affordable terms for increased access. It is expected that these negotiations will be concluded shortly, allowing the Express to better meet customer demand.

This increased capacity will be especially important as new stations come on line, and several new stations are currently scheduled for opening. At present, the VRE portion of the Franconia/Springfield station is programmed to open in the summer of 1995, and the Lorton station even earlier, in the fall of 1994. In addition, in conjunction with Fairfax County, VDOT is studying possible sites for a Western Fairfax station, and Prince William County is currently designing a Cherry Hill station that they hope to open by 1998. Parking expansion is also underway at existing stations, most notably

Woodbridge (500 new spaces) and Burke Centre (150-200 new spaces).

VRE staff have just recently finished analyzing the results of a May, 1994 passenger survey (conducted each year). With a 77% return rate, the survey is a valuable source of data regarding customer demographics, concerns, and needs. Overall, the survey demonstrated a high level of customer satisfaction with the service (less than 7% call for improvement to overall service quality, with 15% rating service excellent) but also pinpointed areas that could be improved, such as the train schedules and station announcements. The survey also revealed that 70% of riders drive alone to the VRE stations, demonstrating a need for feeder bus service such as that planned by PRTC (see below).

In order to attempt to judge the cost-effectiveness of VRE service, an investment analysis was conducted by NVTC staff in April, 1994. The analysis was based on the fact that VRE currently carries approximately one lane's worth of low-occupancy vehicle traffic during the rush hours. Thus, the cost of building and operating the system can be compared to what it would cost to build that extra lane and operate cars on it. Costs were broken up into four types:

1) Initial capital investments
2) Maintenance and administration
3) Costs of providing transportation (operating trains or automobiles)
4) Costs of mitigating air pollution generated

This analysis found that over twenty years, at the present level of service, VRE would cost society $398 million (discounted present value), while building the Interstate lanes from Manassas and Fredericksburg into the District of Columbia would cost $682 million. This actually *understates* the savings, as the Interstate costs do not include work on the bridges over the Potomac or the highways in the District.

## Intercity Rail

Amtrak, which serves Alexandria, Woodbridge, and Fredericksburg along the Richmond corridor, offers intercity rail links to various points along the Eastern Seaboard and inland. Amtrak also serves as VRE's contract operator, providing crews, mid-day storage and maintenance. Recently, through an arrangement with VRE, Amtrak has also provided a valuable service to commuters with its scheduled intercity trains. This arrangement allows VRE ticket holders to board certain Amtrak trains, which then stop at specified, shared stations. Amtrak is reimbursed per passenger by VRE. This arrangement has benefitted both lines, as Amtrak is provided with increased revenues and VRE is enabled to retain ridership through, in effect, adding capacity. The extra trains have taken some of the burden off the most heavily used VRE trains, and have enabled some passengers to ride VRE who otherwise would not, due to its constrained hours of service. VRE and Amtrak are currently discussing expanding this arrangement in order to allow for some mid-day service to and from the urban core. Currently approximately 75 VRE trips per day are served by Amtrak.

## Bus Services

### Metrobus

Over the years, as the Metrorail system has expanded, Northern Virginia's Metrobus routes have been restructured. Today, besides offering a number of primarily interjurisdictional cross-county routes, Metrobus serves as an essential and effective feeder service to the rail lines. Metrobus offers approximately 48 routes in the Northern Virginia area, served by a fleet of 382 buses. During FY 93, the most recent year for which figures are available, Metrobus served 21 million passengers in Northern Virginia alone, providing over 13 million bus-miles of service.

Despite its effective service, Metrobus is not without its problems. Between fiscal years 1991 and 1994, regional Metrobus miles provided decreased 9 percent, and passengers served decreased six percent, yet total costs rose by two percent. Fare increases allowed the system's cost recovery ratio to stay the same, but it may appear that the region is getting less for more.[4] Many of the region's jurisdictions, therefore, have decided to expand their own services, and have either added new service without requesting it from Metrobus, or have actually replaced Metrobus routes with their own. Metrobus is responding to this problem by conducting a Strategic Bus Plan, which is a high priority of the General Manager. This plan is described in further detail in Section IV.

### Local Bus Systems

As stated above, a number of local jurisdictions also offer bus service. In FY 1994, these services carried approximately 6.3 million passengers altogether. As stated above, jurisdictions have found that locally operated service is often more flexible and less expensive than that provided by WMATA; thus, following a competitive bidding process, Fairfax County has recently awarded several routes formally operated by Metrobus in the Reston/Herndon area to a contract operator.

The locally provided systems and some of the highlights of this past year are as follows:

- **Arlington Trolley** (Arlington County) - Operates along a loop in Crystal City serving Metrorail and VRE stations.

- **CUE** (City of Fairfax) - Serves points in the city, George Mason University, and the Vienna Metrorail station.

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[4]WMATA Dept. of Public Service, A Review of "The Strategic Plan: Charting a Course into the Next Century", Report to the Strategic Planning Committee. Washington, DC: January 27, 1994.

- **DASH** (City of Alexandria) - Celebrated its tenth anniversary this March. Added mid-day service on the AT 8 line, and began a token program for tourists (Travelers Information Programs & Services, or TIPS) in April, 1993. Provides connections to several Metrorail stations and VRE, including express service to the Pentagon.

- **Fairfax Connector** (Fairfax County) - Serves the eastern part of the county with connections to Metrorail, Metrobus, DASH and the Pentagon. Reston/Herndon service began in September.

- **RIBS** (Fairfax County) - Provides four routes that meet in Reston Center for timed transfers, as well as the Reston Express, which connects Reston with the West Falls Church Metrorail station.

- **Tysons Shuttle** (Fairfax County) - Provides service from Tysons Corner to West Falls Church Metrorail Station.

Various ridership data and performance measures for these systems are listed in Figures 5 and 6. Contact names and telephone numbers, monthly ridership information, and system maps are attached in Appendix B.

- **PRTC Feeder Bus System**

In addition to the above listed systems, the Potomac and Rappahannock Transportation Commission will begin a local feeder bus system in the Prince William area in early 1995. The system will be unique in that the buses will be able to deviate from the scheduled route by up to three-quarters of a mile in order to pick up or drop off passengers. Markets will be identified through passenger requests.

The exact location of the buses will be tracked through a Global Positioning System, which will utilize a satellite to read signals from sensors on each bus. Because this system is a demonstration of one of the most promising new technologies in the transportation field, PRTC has been able to leverage federal, state, and private funds in order to buy the buses and the computer system as well as cover initial operating expenses.

The first phase of service, feeder routes to VRE stations, is scheduled to begin in January, 1995. Operations should be expanded to include park-and-ride lots and local routes in the spring.

## Commuter Bus Systems

While many of Northern Virginia's commuters use local bus systems, residents who live further from the core often avail themselves of the region's many publicly and privately provided commuter bus systems. Together, the services provide

approximately 6,500 passenger trips in and out of the urban core daily, often operating out of park and ride lots. A list of the area's commuter bus service providers, along with some of the area's vanpool operators, is provided in **Figure 7**.

Of particular interest in this list is the bus service provided by Loudoun County, Loudoun Rideshare. The service was taken over by the county in April, 1994, when the two private operators in the area ceased service. The county has contracted with a private firm to provide two buses during the peak period, one serving Rosslyn and downtown DC, the other serving the Pentagon. This is the first time that the county has subsidized transit service.

## Vanpools

A large number of commuters also enter the core in vanpools. Besides the commercially operated pools listed here, many commuters have formed their own. In 1993, the MWCOG Core Cordon Count recorded 423 commuters crossing the Northern Virginia cordon line in vanpools on a typical workday. While this is a significant number, it represents a 26 percent drop from the 1990 counts.

In the hopes of increasing the number of commuters taking advantage of vanpools, the Arlington County government has recently added vanpools to its transit incentive program, in which employees using transit are eligible to be reimbursed for 60 percent of their commuting costs through Metrochek, an employer-provided transit subsidy that is distributed in the form of Metrorail passes. County staff are now developing a way for vanpool drivers to redeem their Metrocheks over-the-counter at any of Arlington's transit stores.[5]

Another important regional incentive program for vanpools is the **VanStart program**, which is designed to provide an impetus for new vanpool formation by temporarily funding empty seats during the critical start-up phase. The program is open to all owner/operators of new vanpools who register for assistance with a local Rideshare Program. Assistance is granted at the discretion of the local organization based on the applicant's demonstrated aggressiveness in recruiting passengers. Vanpool owner/operators must provide documentation to the Ridesharing Program Manager demonstrating the practices he or she has pursued in an effort to start a new vanpool. Eligible vanpools may receive cash assistance equivalent to the average per passenger cost for between one and four passengers for up to four months. The program is funded by VDRPT, but these costs may eventually be taken over by the local jurisdictions.

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[5]Hamilton, Christopher. Arlington County's Model Employee Transit Subsidy Program Adds Vanpool Riders," Chesapeake ACTivities. February, 1994.

## Figure 7

### SUMMARY OF COMMUTER BUS SERVICES AS OF 1994

| COMMUTER SERVICE | PHONE | SERVICE AREA | VEHICLES | AVERAGE DAILY RIDERS | FARES ** |
|---|---|---|---|---|---|
| Aries<br>P.O. Box 192<br>Fredericksburg, Va 22404 | (703) 898-6158 | Fredericksburg Spotsylvania/Stafford TO: Fort Belvoir | 2 Buses | 120 | $4.00 one-way/$6.00 return trip<br>$38.00 Every two weeks |
| Brooks Transit Services<br>Route 2, Box 3340<br>Front Royal, Va 22630 | (703) 635-7644<br>(703) 636-6148<br>(703) 635-3797 | Front Royal TO: CIA, Pentagon, Crystal City, Navy Annex | 5 Buses | 240 | $32.50 |
| Groome Transportion<br>5500 Lewis Road<br>Sandstone, Va 23150 | (804) 222-7226 | Richmond Airport TO: Fredericksburg, National Airport | 8 Vans | 170 | $20.00 Fredericksburg one-way<br>$27.00 Nat'l Airport one-way |
| Lee Coaches<br>Route 4, Box 259-S<br>Fredericksburg, Va 22405 | (703) 371-6785<br>(800) 443-4533 | Fredericksburg TO: Crystal City, Pentagon, Fort Belvoir | 4 Buses | 400 | $10.00 round trip $8.50 one-way<br>$60.00 Crystal City, Pentagon - 2 weeks<br>$43.00 Fort Belvoir-2 weeks |
| National Coach Works<br>10411 Hall Industry Drive<br>Fredericksburg, Va 22401 | (703) 898-6959 | Fredericksburg TO: Crystal City, Pentagon, Wash. D.C., | 13 Buses | 1000 | $70.00 Crys. City, Pentagon-every 2 wks<br>$78.00 Wash. D.C-every two weeks<br>$50.00 10 one-way tickets<br>$10.00 round-trip |
| Prince William COMMUTERiDE<br>ATE Management & Serv. Co.<br>2540 Horner Rd.<br>Woodbridge, Va 22192 | (703) 494-9166 | Prince William TO: Vienna Metro, Pentagon, Downtown Washington | 46 Buses | 2730 | $32.50 Ten trip.<br>$ 5.00 Single Fare |
| Quick's Commuter Service<br>41 RV Parkway<br>Falmouth, Va 22405 | (703) 373-6027 | Fredericksburg TO: Crystal City, Pentagon, D.C., Rosslyn, Bailey's X-roads, Navy Annex | 16 Buses | 1000 | $60.00 Every two weeks to Northern Virginia<br>$64.00 to Wash. D.C. every two weeks |
| Greyhound/Trailways<br>Route 1<br>Fredericksburg, VA 22407 | (703) 373-2103 | Triangle/Woodbridge TO: Washington, DC | N/A | 20 | $34 for 10 ride tickets which must be used within 30 days |
| Quick-Livic Bus Company<br>41 RV Parkway<br>Falmouth, VA 22405 | (703) 373-6027 | Fredericksburg/Spotsylvania/Stafford Counties TO: Pentagon, Crystal City, Rosslyn Bailey's Crossrds, Vienna, and Washington, DC | 14 Buses | 960 | $60.00 to No. VA and $64 to Washington Every two weeks |
| Van Pool Services, Inc. (VPSI)<br>1100 Connecticut Ave., N. W., Suite 900<br>Washington, DC 20036 | (202) 862-5438 | Prince William County, Manassas, Stafford County, Spotsylvania TO: DC, No. VA and Quantico | N/A | N/A | N/A |
| Transportation Total, Inc.<br>Manassas, VA<br>Lou Pratsch/Sharon McGraw | (703) 960-7433 | Northern Prince William County, Manassas, Manassas Park areas, DC, Arlington and Fairfax Counties | 30 Vanpools | N/A | N/A |
| Loudoun Commuter Bus Service<br>750 Miller Drive, S.E. Suite 800<br>Leesburg, Va 22075 | (703) 771-5665<br>(703) 478-8416, ext. 5665 | Purcellville, Hamilton, Leesburg, Ashburn, Sterling TO: Rosslyn, Pentagon, Downtown Washington | 3 Buses | 85 | $40.00 Per 10 one-way tickets.<br>$ 5.00 One Way |

N/A = Information not available.
* Some figures are approximate. ** Weekly fares unless otherwise indicated.

### Intercity Bus Service

While Greyhound is listed in Figure 7 as providing commuter bus service, this firm and other intercity bus operators also provide an important link between Northern Virginia and other metropolitan regions, often providing connections with markets that are not served by rail. Greyhound service currently stops in Arlington, Fairfax, Springfield, Triangle, and Woodbridge, and serves approximately 108,000 passengers at these stations annually.

Up until now, these firms have located bus stops independently of other transit in the area, but Greyhound has recently contacted NVTC and WMATA about the possibility of siting its stops at or adjacent to Metrorail stations. While this proposal is still at the earliest stages, such an intermodal connection, if implemented, would reduce cost and inconvenience to many bus travellers, and would allow transit connections to be made with less use of the automobile.

## Taxicabs

**Appendix D** gives taxi company names, addresses, and telephone numbers by jurisdiction. Licensed cabs by jurisdiction include:

Alexandria: 670
Arlington: 605
Fairfax County (including Falls Church and City of Fairfax): 417
Loudoun County: 18

In addition, the Washington Flyer provides 315 taxis for service to and from Dulles Airport, and is currently reviewing bids to provide a door-to-door Flyer service.

Taxi companies also serve VRE riders through the "Special Delivery Program" (see Section V).

## Commuter Support Services

### Transit Stores

The Arlington County Commuter Assistance Program's two transit stores, located in Ballston and Crystal City, have proven to be an increasingly successful support service for transit riders. The stores provide fare media and schedule information for Metro, VRE, MARC (Maryland Commuter Rail), CommuteRide, the Arlington Trolley, DASH, Prince Georges County's The BUS, CUE, the Fairfax Connector, the Maryland MTA bus system, RIBS, and the Tysons Shuttle. They accept Metrocheks as payment,

providing a convenient outlet for commuters to exchange these for fare media for the system of their choice. Recently, WMATA authorized the stores to accept bike-on-rail permit applications and administer the exams, allowing bicyclists to apply for permits without having to visit WMATA's downtown offices during business hours.

Between FY 1993 and FY 1994, the combined stores increased the number of customers served by two percent, from 82,302 to 83,574 customers, and increased their sales volume by 46 percent, from $1.3 to $1.9 million worth of fare media. Charts showing sales since the stores' openings are shown in **Figure 8**.

Based on the success of the Ballston and Crystal City locations, the county plans to open a third store in Rosslyn in October, 1994. The private sector, working through associations such as BATA, has been instrumental to the success of these stores, both in the start-up and through the donation of office space and equipment. The City of Alexandria has received a $160,000 state grant to establish a store in Alexandria as well. They hope to open the store by the summer of 1995, and are currently conducting market research to identify a good location.

## Ridesharing Services

Many jurisdictions in the region actively assist commuters to identify appropriate transit routes or to find other commuters with whom to carpool. The most extensive of these services is the RideFinders Network, coordinated by MWCOG (1-800-743-RIDE.) This service processes over 1,300 applications each month for potential car and van-poolers. The system maintains a computerized database of people interested in ridesharing, so that potential matches can be easily located. This database, which contains between 8,500 and 10,000 names, can be accessed by local jurisdictions as well. Ridesharing information numbers are listed in Appendix A.

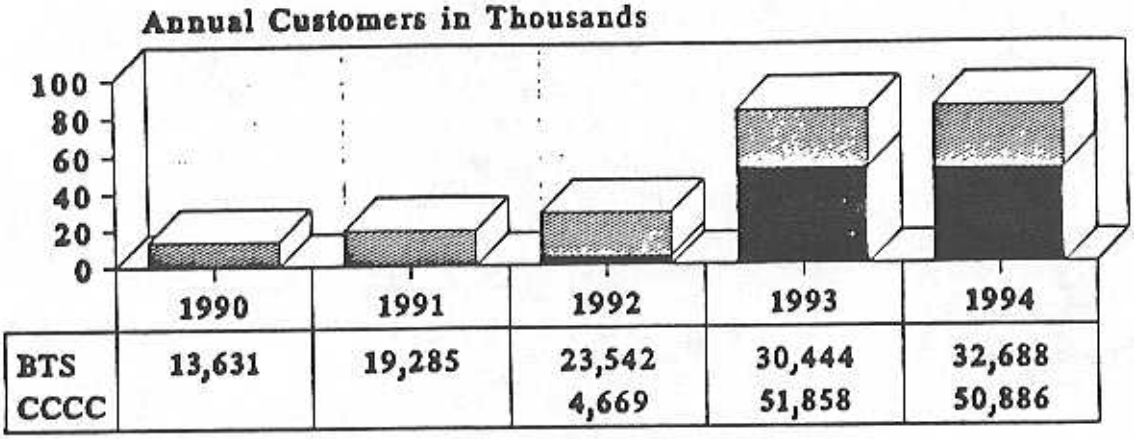
## Alternative Transportation Program

The City of Alexandria has recently begun an outreach program in order to persuade employers to offer better benefits to their employees. The program has included such activities as distributing literature, with the assistance of city staff, and developing a free transit benefit program. Over the first 9 months of the program, approximately 50 employers have participated.

Figure 8

# Arlington County Commuter Assistance Program's Ballston & Crystal City Stores

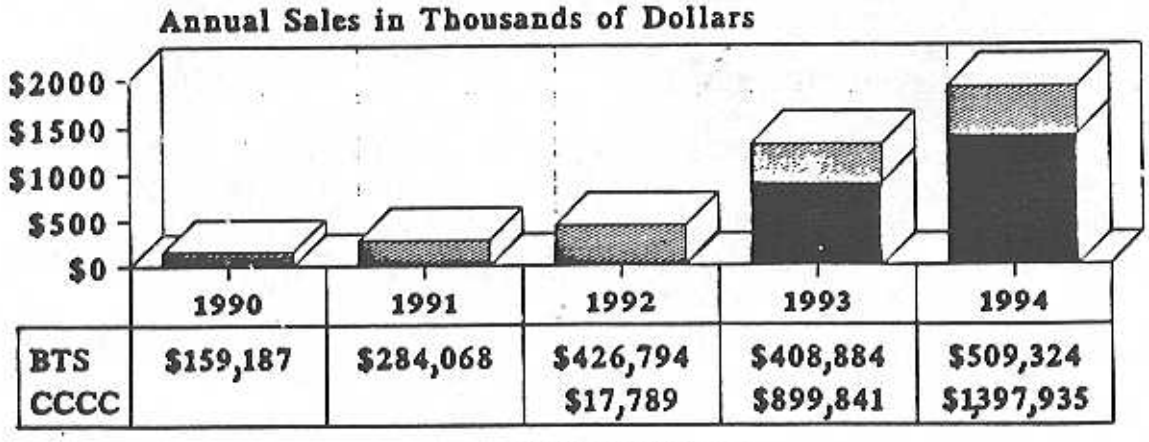
## ANNUAL CUSTOMERS SERVED




| | 1990 | 1991 | 1992 | 1993 | 1994 |
|---|---|---|---|---|---|
| BTS | 13,631 | 19,285 | 23,542 | 30,444 | 32,688 |
| CCCC | | | 4,669 | 51,858 | 50,886 |

Fiscal Years

## ANNUAL FARE MEDIA SALES




| | 1990 | 1991 | 1992 | 1993 | 1994 |
|---|---|---|---|---|---|
| BTS | $159,187 | $284,068 | $426,794 | $408,884 | $509,324 |
| CCCC | | | $17,789 | $899,841 | $1,397,935 |

Fiscal Years

Location:
CCCC BTS

Note: BTS opened 6/89 and CCCC 5/92
Source: Arlington Co. Dept. of Public Works, Traffic Engineering Division

**MetroAccess**

The Americans With Disabilities Act requires that all fixed-route transit systems (with the exception of commuter rail systems) provide paratransit for the disabled within their service areas. The Washington region has responded by developing **Metro**Access, a service which is coordinated by WMATA, but operated by a number of local jurisdictions (through their individual services, described below) and private operators under contract to **Metro**Access. Service was initiated on May 16, 1994, and by June 24, 1994, 2,187 trips had been provided. Over 2,100 people have now been certified to use **Metro**Access, and the service is providing an average of 200 trips per day.

Eligible Users: People are considered eligible for paratransit service if they are:

1. A person who is unable, as the result of a physical or mental impairment, to get on, ride, or get off any vehicle on the transit system; or

2. A person who needs the assistance of a wheelchair lift or other boarding assistance device and is able, with such assistance, to get on, ride, and get off any accessible vehicle, BUT such a vehicle is not available on the route when the person wants to travel; or

3. A person who has a specific impairment-related condition which prevents travel to or from a bus stop or rail station.[6]

The client's need for paratransit service must be certified by a healthcare professional, and a complete application returned to WMATA in order for a person to be approved to use the service.

Service Area: The paratransit service area is that area within 3/4 of a mile (on both sides of the route) from any fixed route bus service or rail station in the WMATA region. Since some routes do not operate on Saturdays and/or Sundays, the paratransit service area will be reduced slightly on Saturday and again on Sundays.

[6]WMATA ADA Paratransit Guide. Washington, DC: September, 1993.

Revised 8-16-94

## Figure 9

Jan. 1994
SYSTEM NAME: Washington Metropolitan Area Transit Authority CITY: Washington, D.C. Table 4

# ADA PARATRANSIT DEMAND ESTIMATE

| DEMAND | Actual 1991 | Actual 1992 | Actual 1993 | Est. 1994 | Proj. 1995 | Proj. 1996 | Proj. 1997 |
|---|---|---|---|---|---|---|---|
| **ADA ELIGIBILITY** | | | | | | | |
| 1. Number of Persons Certified for ADA Paratransit | | 0 | 100 | 2,000 | 11,000 | 21,000 | 30,000 |
| **NUMBER OF TRIPS/YEAR (thousands of one-way passenger trips/hours)** | | | | | | | |
| 2. ADA Paratransit Trips Provided/Year | | 115.8 | 373.4 | 421.8 | 585.5 | 778.3 | 991.0 |
| 3. Total Paratransit Trips Provided/Year (Total ADA and non-ADA) | 712.7 | 836.0 | 815.0 | 813.8 | 998.8 | 1,193.4 | 1,396.9 |
| 4. Total Paratransit Revenue Hours/Year (Total ADA and non-ADA) [Sec. 15 definition] | | 272.9 | 269.1 | 271.5 | 383.2 | 508.7 | 641.6 |

5. For 1993, estimate the number of trips on line 2 that were provided by contracted taxi service: 78.8

6. For 1993, estimate the number of trips on line 2 that our system purchased (contracted out) rather than provide in-house: 348.7
(include contracted taxi service from line 4 and other service owned or operated by the contractors)

7. Using 1990 Census or planning figures, estimate the total number of all persons (disabled and non-disabled combined) in the ADA paratransit service area 3,223,098

Service Hours: Days and hours of operation will be phased in over a three-year period as follows:

| Service Days | Operating Hours | Effective Period |
|---|---|---|
| Weekdays<br>Weekends | 7:00 a.m. to 6:00 p.m.<br>CLOSED | Spring 1994 - Spring 1995 |
| Weekdays<br>Weekends | 5:00 a.m. to 12:00 a.m.<br>8:00 a.m. to 6:00 p.m. | Spring 1995 - Spring 1996 |
| Weekends | 5:00 a.m. to 12:00 a.m. | Spring 1996 - Spring 1997 |

After the Spring of 1997, **MetroAccess** will operate 365 days a year, including all federal, state, and local holidays, and during special events when the fixed route systems are operating.

Fares: The **MetroAccess** fare system has been developed in accordance with the federal ADA regulations. Fares are double the regular non-discounted fares for comparable trips on the fixed-route system.

Demand Estimates: Adjustments to the demand estimates continue to be updated based on the most recent data provided by WMATA. The current draft estimates are provided in **Figure 9**.

Cost Sharing: Local jurisdictions share the costs of the new service according to a formula based on a combination of the estimated transportation disabled population in the 1980 census, the total estimated demand for paratransit services, actual usage of the system, the origins of boarding of each one-way trip, and each jurisdiction's proportional share of the total Metrobus and Metrorail operating assistance. In future fiscal years, 1.6 percent of the budget will be allocated to Alexandria, 2.4 percent to Arlington, .4 percent to Fairfax City, 12.6 percent to Fairfax County, and .4 percent to Falls Church.

## Jurisdictional Services

In addition to **MetroAccess**, a number of local jurisdictions operate their own paratransit systems, many of which work closely with the regional operation. These systems are described below:

### Alexandria DOT

The City of Alexandria's began operating DOT paratransit service within the city limits in 1984. In 1993, the service was modified to comply with the Americans with Disabilities Act. This included expanding the service area to all Northern Virginia jurisdictions and extending the service hours. The system requires a one-day advance reservation for paratransit services. Fares start at

$1.50 per person per one-way trip for travel within the City of Alexandria. Trips outside the City are based on the number of miles traveled and are double what the fare would be for the same trip on the fixed-route transit system. Anyone living within the city limits of Alexandria who has a disability which prevents the use of regular transit service is eligible to use DOT. Participation is by application to the City of Alexandria.

Arlington Access

Arlington County began an independent paratransit service with the intention of discontinuing service as MetroAccess was phased in. To implement this service, the county contracted with the Arlington chapter of the American Red Cross, which coordinated and contracted service beginning in September, 1993. MetroAccess also began taking calls for Arlington Access as of May, 1994. However, due to the capacity constraints of the regional system, and cost differences, Arlington County is reconsidering suspending service. Reservations are needed to travel on Arlington Access, and fares are double that of comparable Metrorail/Metrobus trips. Participation is not based on place of residence, but need for the service.

City Wheels

The City of Fairfax City Wheels program offers alternative transportation within the City of Fairfax to the Vienna Metrorail station, to George Mason University, and to Fair Oaks Hospital. Participation is by application to the City of Fairfax. Coupons for transportation are obtained by placing a mail order prior to each month. Orders may take up to two weeks to process. Rides are arranged by the participant by contacting the transportation company directly. The average fare is just over $6.

Fare Wheels

The City of Falls Church Fare Wheels program services the cities of Falls Church and Fairfax, and Arlington County. Fare Wheels allows participants to use redeemable coupons to pay for transportation services. Individuals may choose from among a pool of participating transportation providers, selecting the one that best meet their needs. Participants must be residents of the City of Falls Church, at least 62 years of age or permanently and totally disabled, with an annual income not to exceed $30,000. Participation is by application to the City of Falls Church.

Fast Trans

Fairfax County owns and operates the Fast Trans fleet, which offers curb-to-curb service within Fairfax County to county residents. Fares are paid on a cash basis and average between $1 to $3 per trip. Trips are scheduled by the participant through Fast Trans. Participation is by application to Fairfax County. The program is structured to meet the transportation needs of the low income by restricting eligibility to those with an annual income at or below $16,500.

Ride On

Loudoun County's Ride On paratransit program services Leesburg and the Sterling area five days per week for approximately eight hours per day. Special runs have been made to support specific activities in the County. Expansion of the service area and service hours is anticipated by July of 1995. The Ride On fare structure offers fare books of 10 or more trips, or payment on a cash-per-ride basis. Only county residents are eligible to participate.

## Transit-Supportive Highway Facilities

### HOV Lanes

In addition to its extensive highway network, Northern Virginia enjoys one of the country's most successful High Occupancy Vehicle, or HOV, systems. Currently, HOV lanes exist in three corridors, the Shirley Highway and a portion of I-95 to the south, the I-66 corridor both inside and outside the Beltway, and Route One through Old Town, Alexandria. While the lanes may look underutilized to some people, they carry far more persons per hour than do the parallel regular-occupancy lanes. **Figure 10** details the existing segments of HOV lanes and the most recent traffic counts available for each.

Currently, the region has adopted plans to extend the major HOV corridors and construct HOV lanes on other corridors; and is studying other major locations such as the Capital Beltway. Further details of these plans are presented in Section V.

### Park & Ride Lots

To support its network of HOV lanes, bus routes, and rail lines, Northern Virginia has provided a growing number of park and ride lots. A list of the lots, together providing over 23,000 spaces (including rail stations), is provided in **Appendix E**. The most recent addition to this list is a 365-space park and ride lot in Centreville, near the intersection of Lee Highway and Stone Road. This lot, which opened on August 1 of this year, is served by the 12C and 12E Metrobus lines. As of September 1, 1994, these lines will offer free service in order to mitigate congestion during the construction on I-66.

In addition to lots supporting buses, carpools, and vanpools, both WMATA and the jurisdictions that support the Virginia Railway Express provide lots for their riders. The Metrorail lots are particularly well utilized, and with the exception of the Huntington South parking lot, all of the nearly 10,000 spaces provided at rail stations in Northern Virginia are usually full by 10:00 a.m. each workday. Fairfax County has worked with a private developer to make available approximately 450 extra spaces at the Vienna station, where the problem is particularly severe; this lot has just recently opened. A list of these stations and their connections to feeder bus systems is also included in Appendix E.

## Figure 10

| HIGH OCCUPANCY VEHICLE (HOV) HOURS AND USE | | | | | |
|---|---|---|---|---|---|
| HOV FACILITY | PERSONS | DIRECTION | RESTRICTED HOURS | VEHICLES A.M. PERIOD | PEOPLE A.M. PERIOD[1] |
| I-395/I-95 (D.C. to Newington): (reversible lanes) | HOV-3 | Northbound<br>Southbound | 6:00 A.M. - 9:00 A.M.<br>3:30 P.M. - 6:00 P.M. | 6,640 | 38,928 |
| I-95 (Newington to Route 1): (far left diamond lane) | HOV-3 | Northbound<br>Southbound | 6:00 A.M. - 9:00 A.M.<br>3:30 P.M. - 6:00 P.M. | 3,840 | 14,795[2] |
| I-66 (I-495 to D.C.): (HOV only) | HOV-3 | Eastbound<br>Westbound | 6:30 A.M. - 9:00 A.M.<br>4:00 P.M. - 6:30 P.M. | 4,513 | 12,898[3] |
| I-66 (I-495 to Route 50): (far left diamond lane) | HOV-2 | Eastbound<br>Westbound | 5:30 A.M. - 9:30 A.M.<br>3:00 P.M. - 7:00 P.M. | 4,088[4] | N/A |
| ALEXANDRIA: | | | | | |
| Washington Street | HOV-2<br>HOV-2 | Northbound<br>Southbound | 7:00 A.M. - 9:00 A.M.<br>4:00 P.M. - 6:00 P.M. | N/A<br>N/A | N/A<br>N/A |
| Patrick Street/Rte. 1<br>Henry Street/Rte. 1 | HOV-2<br>HOV-2 | Northbound<br>Southbound | 6:00 A.M. - 9:00 A.M.<br>3:00 P.M. - 7:00 P.M. | N/A | N/A |

Source: Transportation Planning Division, Virginia Department of Transportation
Alexandria Transportation and Environmental Services Department

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[1] Counts include vans and buses.

[2] Represents 1990 volume. These are the latest data due to construction along I-95.

[3] Represents vehicle counts taken April, 1993, between Sycamore Street and Fairfax Drive.

[4] Average of counts taken at Vienna Metrorail station between 3/15/94 and 6/16/94.

# Airports

Residents of the Northern Virginia area are fortunate in having two major Virginia airports easily accessible to them -- Dulles International and Washington National Airports. In 1992, 35.6 million passengers traveled to or from the region by air, a number that has held relatively steady since 1987. Both airports are vital to the economic development of the region, and indeed, Dulles is seen as the key to fueling much anticipated growth in the Dulles/Route 28 area. In order to preserve these advantages, however, maintaining both the quality of the airports themselves and the ease of access to those transportation centers must remain priorities of the region. Listed below are some of the elements of this effort:

## Capital Improvement Program

Currently, both National and Dulles airports are undergoing major capital improvements. An entirely new terminal is to be constructed at National, just to the north of the original terminal. In terms of transportation connections, this new building will be a great improvement, as it is designed to connect directly to the Metrorail platform. Metro passengers will thus be able to access the terminal and gates without being exposed to airport traffic or the weather.

At Dulles, the existing 600 foot terminal will be expanded to 1,240 feet at three levels, creating an extended curbside area for dropping off or picking up passengers and adding 600,000 square feet of space to the interior. The terminal additions, which measure 320 feet to the east and 320 feet to the west, will mirror the distinctive facade of the existing building, as the architect, Eero Saarinen, originally intended. This new space will accommodate offices, new ticket counters, additional baggage facilities, two new ground transportation centers and other passenger amenities. The project, which began in October, 1993, is scheduled to be completed in July, 1996, and will be accompanied by improvements to the street system outside the terminal as well.[7]

## MWCOG Passenger Survey

In order to track changes in customer needs and preferences, MWCOG performs a survey of airport passengers at the region's three airports every five years. After the 1992 survey, MWCOG reported the following conclusions:

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[7]"Work on Dulles Terminal Expansion Begins with a 'Blast'." Washington Airports News, vol. 6, no. 1. Metropolitan Washington Airports Authority. Spring, 1994.

- Approximately 52 percent of locally originating passengers flew out of National Airport, with the rest split between Dulles (25 percent) and BWI (23 percent).

- 62 percent of those surveyed at Dulles Airport and 77 percent of those surveyed at National Airport cited accessibility as the most important reason for choosing the airport they used.

- At Dulles Airport, 76 percent of all passengers arrived by private or rented automobile, and 14 percent by taxi. However, at National Airport, 36 percent arrived by taxi, making this the most common mode of access at that facility, while only 44 percent used a private or rented car.

- Passengers using Metrorail to get to National Airport decreased significantly in 1992, to 9 percent from 15 percent in 1987. This is still one of the highest proportions of any airport in the Nation, and is most likely decreased somewhat due to the hindrance of ongoing construction at the airport. It is also due to fewer non-resident business travelers using Metrorail. Newly constructed terminals will provide much more convenient access to Metrorail in the future.

**Ground Access**

The Council of Governments has also completed a ground access study, which forecasts access demands and capacities in future years. This study found that while the airports currently are well-served in terms of highway access, capacity improvements will be needed in order to keep up with demand. The study noted that airport access traditionally has not been coordinated with other long-range transportation planning, and recommended that this situation be corrected. Other recommendations included:

- Timely construction of airport-serving facilities in the Highway Element of the Long Range Plan.
- Construction of a highway facility in the Western Bypass Study Corridor.
- Full pedestrian integration of Metrorail and the terminal improvements at National Airport.
- Implementation of high-quality transit service in the Dulles Corridor.
- Greater integration of the Washington Flyer service into the region's overall transit system.

**Ground Transportation Services**

The Metropolitan Washington Airports Authority (MWAA) currently operates the Washington Flyer system at a subsidy cost of about $400,000. In Fiscal Year 1994, the Flyer carried approximately 1,300 passengers daily, and since then daily ridership has increased by approximately 140 passengers.

Scheduled express bus service operates at one-half hour frequency from a terminal at 15th and K Streets in Northwest Washington D.C. to and from National Airport ($8 one-way; $14 round-trip) and to Dulles Airport ($16 one-way and $26 round-

trip). This service also stops at major Washington D.C. hotels. Express buses connecting National and Dulles Airports cost $16 one-way ($26 round trip). Finally, from 10:00 A.M. to 6:00 P.M., seven-passenger vans operate every 20-minutes between Dulles Airport and the West Falls Church Metrorail station at a one-way fare of $8. Before 10:00 A.M. and after 6:00 P.M., vans operate every 30-minutes.

These scheduled services are operated under contract to MWAA by Pro Drive, which is primarily a safety training company. The firm provides all dispatchers and drivers. MWAA also contracts for most other functions associated with the ground transportation system, including ticket sales (Convention Store), operation of the Washington D.C. terminal (Convention Store), a 24-hour, 7-day per week telephone information system (Ads-1001), nightly washing and bi-monthly detailing, and tires and fuel. The Authority also operates airline diversion charters (for bad weather, mechanical problems) between National, Dulles and BWI airports, and a shuttle bus service that connects the various terminals, garages, and the Metrorail station at National Airport. This shuttle service alone enables many passengers who would otherwise drive to use Metro and other transit to reach the airport. Finally, Washington Flyer contracts with a fleet of taxis to serve Dulles airport.

# SECTION IV

# STUDIES AND PLANS

In addition to knowing what services and facilities currently exist in the Northern Virginia region, it is helpful to be aware of the many plans for the region and the studies currently taking place. Studies are initiated in a number of different arenas, often overlap one another, and vary widely in their scopes and levels of detail. Particularly in light of the federal planning regulations, which encourage the region to examine corridors from a multi-modal perspective rather than project by project, the studies and plans following are listed by corridor or location. A more comprehensive list of the studies currently being undertaken or planned for the region is included in **Appendix F**.

## DULLES CORRIDOR

### Dulles Toll Road

A failed attempt in 1992 to begin HOV restrictions after opening a new lane on this highway briefly to SOV traffic provided the region with an important policy lesson in public acceptance. This lesson should be considered during discussions of HOV-3 vs. HOV-2 on I-66 and elsewhere, since it may be hard to raise restrictions again once they have been lowered. In the meantime, traffic on the unrestricted Toll Road far exceeds predictions, and VDOT is studying using the shoulders of the road for HOV lanes in the future.

At this point, toll revenues far exceed debt service requirements, and CTB has earmarked up to 85% of the excess tolls for future rail in the corridor. The excess tolls are also available to leverage federal grants for buses and rail-related bus services. It is these tolls that are funding the ongoing rail study (see below), in anticipation of future federal appropriations. From time to time the CTB uses excess revenues for other transportation projects in the corridor, including improvements to the Toll Road.

A new automated toll collection system will allow "drive-through" collection using transponders that automatically deduct tolls from drivers' accounts. This technology broadens the possible use of tolls for new and existing facilities by almost eliminating the delays and administrative burdens of traditional toll collection. Legislation passed by the General Assembly in 1994 allows Metro and other buses to travel the highway without paying tolls.

### Dulles Greenway

The Dulles Greenway, currently under construction, will be one of few privately constructed and operated toll roads in the U.S. The level of tolls will be controlled by the Virginia Corporation Commission, an independent state regulatory body in Richmond. The tolls will then be applied to debt service on the highway and to provide

a rate of return to private investors.

Currently, two 10-hour shifts are employing 512 construction workers, using 24 pieces of equipment. Construction of the road is approximately 50 percent complete, and is running five months ahead of schedule. The official opening of the Greenway is scheduled for April, 1996, but it is currently expected that the roadway will open earlier.

The complete Greenway will extend approximately 14 miles from the Dulles Airport northwest to Leesburg and will offer four operational lanes and seven interchanges. Two additional lanes and two additional interchanges are planned.[8] Rail right-of-way will also be preserved throughout the road corridor, in case of future rail extensions to Leesburg. Such an extension was included in a sub-regional transportation plan produced by VDOT and local governments in 1988.

## Express Bus Service in the Dulles Corridor

Two separate projects for express bus service in the Dules Corridor are currently being developed. In anticipation of likely rail service beginning in the next decade in the corridor, and in order to serve current needs, Fairfax County is planning an extensive system of express buses in the corridor. The county has received federal grants for park-and-ride lots, which may eventually also serve as rail station sites.

In addition to the existing commuter bus service Loudoun County is providing to link the eastern portion of the county with inner Arlington and Washington, D.C, the county is exploring temporary new service from a potential park-and-ride lot near Dulles Airport. These buses or the parking lot may be partially funded through federal monies that may be available in the FY 1995 federal transportation appropriations bill. A task force of state and local officials is working with NVTC staff to produce a "business plan" for such a project.

The impetus for this project came from the Washington Airports Task Force which completed a report on rail service that also included recommendations for immediate bus service in the corridor. Rep. Frank Wolf has been working with the Washington Airports Task Force state and local agencies, the counties, and the Metropolitan Washington Airports Authority to implement service. Possible sites for the park and ride lot include excess spaces at a post office west of Dulles Airport (the preferred location), an interchange with the Dulles Greenway also west of Dulles, and other locations along Route 28 on MWAA property.

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[8]"Toll Road Extension Ahead of Schedule," Northern Virginia Transportation Alliance. McLean, VA: August, 1994.

## Western Regional Park & Ride Study

VDOT's 1992 Dulles Corridor Plan concluded that park and ride lots were needed in both western Fairfax and eastern Loudoun counties. Consequently, VDOT is now conducting a study to determine the most feasible locations for such lots. The study is divided into three phases. Phase I, Site Identification and Evaluation, consisted of a preliminary evaluation of six possible sites on which to locate facilities. Assessment was made of environmental issues, compatibility with future rail, accessibility, bus routing/carpool usage, financial requirements, and interjurisdictional issues.

Following a series of meetings with local jurisdictions and a public information meeting, the Technical Committee recommended that three sites be carried into Phase II of the study. Phase II, the Detailed Analyses, consisted of a detailed evaluation of the three sites. Based on the results of this analysis, VDOT is recommending that two sites be the focus of Phase III, in which an implementation plan is developed and funding pursued. These sites are located north of the Dulles Toll and Access Roads just east of the Fairfax/Loudoun County line (Kay/CIT Site) and at the northwest corner of the airport, north of Route 606 and the planned extension of the Toll Road (Site 5A East.)[9] The three jurisdictions involved, Fairfax and Loudoun counties and the town of Herndon, have all officially endorsed the sites, enabling VDOT to go to the CTB for funding for the preliminary engineering. VDOT hopes to open the lots in late 1997.

## Dulles Corridor Rail Study

The Virginia Department of Rail and Public Transportation is the lead agency on a study of rail alternatives in the Dulles corridor. The rail line is anticipated to begin at the West Falls Church Metrorail station and follow the right of way of the Dulles Access Road to and possibly beyond Dulles International Airport.

A consultant has been hired to develop alternatives, forecast ridership and cost levels for each, conduct a preliminary environmental assessment of the alternatives, and lead an extensive public participation program. The end result of this process is expected to be the selection by VDRPT of a Locally Preferred Alternative (LPA), which would then be subject to more rigorous analysis in order to meet FTA funding requirements.

At this point, the consultant is developing alternatives and analysis methodologies, and is preparing to begin public review of the alternatives in the fall of 1994. The primary issues to be decided include the type of rail system to be built, how the rail line would access the Tysons Corner area and the airport, and whether the rail line would leave the median of the Dulles Access Road. A summary of the Scope of Work for this

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[9]Virginia Department of Transportation, Transportation Planning Public Information Sharing Meeting, Western Regional Park & Ride Study (Phase II) Report. (handout) Fairfax County, VA: July, 1993.

study is attached in **Appendix G**.

Another central issue is how the project would be funded. Currently, the rail line is not included in the proposed Constrained Long Range Plan, because adequate funds had not been identified or earmarked for the project. Several local and state officials have provided resolutions stating their firm support of rail in the corridor and their intention to provide sufficient information to include the project in the next update of the CLRP.

## Dulles Airport Study Commission

In recognition of the economic importance of the Dulles corridor, the last General Assembly created the Dulles Airport Regional Economic Study Commission. The bill establishing the Commission, HJR No. 176, was sponsored by Delegate Vince Callahan and Senator Joe Gartlan, and passed both chambers unanimously. Six delegates, four members of the Senate, and eight persons appointed by Governor Allen will make up the Commission.

The Commission's charge is to develop and publish for public comment a broad, feasible, strategic, long-term economic development plan for the Dulles Airport region that: 1) maximizes the potential of Washington Dulles and the surrounding area it serves; 2) presents a balanced and integrated economic, transportation, international trade, finance, advanced technology, investment and economic development unit for Virginia; and 3) provides adequate access to Washington Dulles from throughout the Commonwealth.

## NVTC's Transportation Plan for the Smithsonian's National Air and Space Museum Annex

In 1990 NVTC led a regional task force to produce a plan to serve the new museum annex when it opens later in the decade. Delays in congressional appropriations have upset the initial 1995 timetable for completion of the facility, to be located on 185 acres about five miles south of the main terminal at Dulles Airport. Peak daily attendance for the first phase could reach 17,700, with public transit forecast to serve from five to 10 percent of these persons.

NVTC's plan calls for new shuttle bus service linking the museum extension with the Vienna Metrorail station at a total annual subsidy cost ($1990) of $800,000 to $1 million, as well as a system of van shuttles linking the Dulles terminal with the museum annex for another $217,000 annual subsidy cost.

# I-66 Corridor

Since the Disney Corporation announced late last year that it planned to open a historic theme park in Haymarket, Prince William County, the I-66 corridor has been subject to intense scrutiny and discussion. Disney's September, 1994 decision to abandon the site leaves the status of some of these plans unresolved. Because so much is happening in the corridor simultaneously, it is helpful to break projects down into what is currently under construction or planned for construction, and what is being examined.

## Current Projects

Widening of I-66: Outside the Beltway, 11 miles of I-66 are currently being widened from four to eight lanes, extending from Route 50 to Route 234. The innermost lane in each direction will be a diamond lane, and will be reserved for HOV-2 vehicles during the appropriate peak period hours. This construction should be finished in late 1996. By 1999, the highway should be widened to eight lanes all the way to Gainesville, and to six lanes from Gainesville to a proposed (also to be constructed) Disney's America interchange, to be located one mile west of Route 15, near Haymarket. Once again, the innermost lanes will be reserved for HOV vehicles during peak periods. The Virginia Department of Transportation is currently preparing an Environmental Impact Statement (EIS) for the project west of Route 234; the draft EIS should be completed in April, 1995, and the EIS in November of the same year.

It should be recognized that, aside from the proposed interchange to the former Disney's America site, most of these improvements had already been identified in the Northern Virginia Sub-Regional Plan as priorities for the region. It is only because the General Assembly passed specific bond bills providing funds for the improvements west of Route 234 that these projects are able to be advanced so quickly. The General Assembly may now revisit these appropriations, in light of Disney's decision to leave.

Among the transportation issues associated with this controversial project is whether traffic forecasts used in the Transportation Planning Board's regional models will properly integrate systemwide effects that spill over into neighboring jurisdictions.

Congestion Management Program: Over the next few years, in order to cope with the inevitable construction-related delays on I-66, VDOT and VDRPT have initiated an innovative I-66 Congestion Management Program, designed to divert peak hour single-occupancy vehicle trips from the construction corridor. In order to do this, they are focusing on time, convenience, and cost incentives through the following initiatives:

- As of September 1, 1994, 12 Series routes on the Metrobus system have not charged fares.
- On November 1, 1994, WMATA and PRTC will begin to operate free, peak period, timed-transfer buses between the Vienna Metrorail Station and Tysons Corner, and express buses connecting VDOT-provided park and ride lots with the Vienna station.
- An employer outreach program focussing on raising awareness of carpool and vanpool options is being conducted.
- VDOT will provide an increased number of park and ride spaces in the corridor.

The costs of these services will be borne by VDOT and VDRPT using primarily federal funds, rather than the individual transit systems.

## I-66/Haymarket Transportation Study

VDRPT is currently initiating two studies examining the feasibility of transit options on I-66 west of Vienna. The first of these, the I-66/Haymarket Transportation Study, will address near-term transit options to the Haymarket area and the formerly proposed Disney's America site. Specifically, the study will examine options for providing transit bus service designed to accommodate commuter, business, and recreational travel in the corridor. The three connections specified to be analyzed are the Vienna Metrorail station, the Broad Run/Airport VRE station (at Manassas), and Dulles International Airport. Service was to have been planned to initiate with the opening of the Disney's America project, scheduled for 1998, and to accommodate projected demand until the year 2010, or until more permanent transit service could be introduced to this section of the corridor. A consultant was scheduled to be hired as of September 1, 1994, and the study was expected to be conducted within a very short time. A Scope of Work for the study is attached in Appendix G.

## I-66 Rail Feasibility Study

The long-term counterpart to the Haymarket study is the I-66 Rail Feasibility Study. Also led by VDRPT, this will examine more permanent transit additions to the corridor. For this study, the consultant will complete the following tasks:

- Development of a Work Program and Public Participation Program
- Development of Long Range Public Transportation Demand Forecasts
- Development of Long Range Service Proposals
- Testing and Refinement of Alternatives
- Conceptual Engineering of Alternatives
- Screening of Environmental Impacts
- Financial Analysis of Alternatives

The study will look in particular at the possibility of extending Metrorail from

Vienna to Centreville, and extending VRE or similar rail service past Manassas. A Scope of Work is attached in Appendix G. A consultant should be selected in the fall of 1994, and the study results are expected to be available in the spring of 1996.

Among the issues affecting new rail service in the corridor is whether sufficient right-of-way will be preserved as HOV lanes are added. Currently VDOT's plans for I-66 west of Route 28 do not preserve sufficient right-of-way in the median and two significant incursions have already occurred to the east.

VDRPT currently is preparing plans to build new tracks by-passing Manassas, which might be combined with extensions of VRE toward Haymarket.

**Bristol Rail Passenger Study**

At the direction of the General Assembly, the Virginia Department of Rail and Public Transportation has initiated a study of possible rail passenger service connecting Bristol, VA to both Richmond and Washington, D.C. The Washington D.C. service presumably would pass through Manassas and continue along the I-66 corridor. These corridors were highlighted in a recent Amtrak study as potential candidates for service. The study will assess the conditions and capacities of the existing transportation network, make specific service recommendations, project potential ridership and revenues for the proposed services, and address improvements needed in the rail corridor (the Scope of Work is included in Appendix G). The report is due to the General Assembly in January, 1995. This is relevant to the Northern Virginia region because of the partial funding by VDRPT of analysis tools including rail ridership and capacity simulation models, that are integrated with those being used by VRE. Expanded intercity rail service could lead to more state funding for VRE as well if the services are integrated.

**HOV-2 Inside Beltway**

While no construction is planned, I-66 inside the Beltway has also been the subject of debate this year. At issue is whether this section of the Interstate, which is currently restricted to HOV-3 vehicles during peak periods, should be opened to HOV-2 vehicles as well. This issue came to the forefront when a local representative asked Congress to impose a one-year demonstration of HOV-2 from the Beltway to the District of Columbia line. The action was included in the FY 1995 transportation appropriations act. It provides for a one-year demonstration, beginning no sooner than January, 1995, following a vote by a majority of the Northern Virginia delegation to TPB, with one vote per jurisdiction, plus a vote for WMATA. The action raises two points of discussion, one having to do with the technical merits of the conversion, the other with the process by which such a change might be realized.

The question of process has to do with a decision reached in 1977 as a result of a lawsuit brought to fight the construction of I-66. One of the stipulations of the

decision, which was written by then U.S. Secretary of Transportation William T. Coleman, Jr., was that I-66 was to be HOV-4 during peak periods. Furthermore, any changes to this policy (or any other policies specified in the agreement) must be agreed upon by the Commonwealth of Virginia, the Secretary of Transportation, the TPB, and WMATA. The agreement acknowledges, however, that an act of Congress may alter it. Congress has acted once before in January, 1984, to change the HOV policy from four to three and reduce the duration of the restricted periods by half an hour.

In the current climate of attempting to achieve regional consensus, however, many people feel that it is inappropriate for Congress to take such an action on what is primarily a local or sub-regional issue. Consequently, bodies such as NVTC and the TPB passed resolutions stating that they objected to the process of an earlier version of the change, without commenting on whether they thought the change should or should not take place.

The other question is whether or not a conversion to HOV-2 is reasonable from a technical perspective. An NVTC staff analysis found that if the highway were to go to HOV-2 and the current violations were not curbed, traffic would quickly be slowed to stop-and-go conditions, eliminating the incentive to carpool. If, however, the HOV restriction were to change and at the same time enforcement was improved to eliminate violations, traffic would be heavier, but at acceptable levels of service. This would suggest that any change in policy be accompanied by increased funding for enforcement. VDOT is currently looking at possible sources of data needed in order to evaluate the results of the experiment.

## Western Bypass

After years of discussion, the Virginia Department of Transportation is once again moving forward with a study of possible alignments for a Western Bypass. The first step of this is a First Tier Environmental Impact Statement (EIS), for which VDOT hired a consultant in the spring of 1994. The consultant will also re-evaluate the three corridors previously identified in the First Tier Draft EIS, as well as a corridor recently identified by Loudoun County that passes east of Goose Creek and west of Dulles Airport. The study will also evaluate a No-Build scenario, in which it is assumed that the Bypass is not constructed. This process, which will last approximately two years, will include a full public participation component.

One primary question the study must address is the possible location of a Potomac River crossing into Maryland. Montgomery County officials have made it clear that they do not wish such a Bypass to cross into their jurisdiction, bringing with it increased traffic. Thus, while Loudoun County would like to see the route moved further east than it has traditionally been planned, in order to better access the airport and preserve historic areas, Montgomery County officials would like it pushed further to the west, in order to avoid their jurisdiction entirely.

## I-495 Capital Beltway Improvement Study

The Virginia Department of Transportation is conducting a study to determine the feasibility of constructing a fifth lane with full shoulders from I-95 to the Dulles Toll/Access Roads. The study efforts will include assessing the feasibility of various HOV, transit, and rail alternatives, as well as assessing the environmental effects and the financial feasibility of alternatives, and providing for public participation. It is anticipated that this fifth lane would become part of a long-planned "HOV grid" in Northern Virginia. While the preliminary engineering will only be done for the section between I-95 and the Dulles Toll/Access Roads, traffic analyses will be conducted for the Beltway from the American Legion to the Woodrow Wilson Bridge. It is expected that the entire study will take about two years.

During the early discussions of this proposed project, both members of the community and elected officials raised numerous concerns about the safety of a fifth lane on the Beltway. In particular, there is concern that, due to the cost of right-of-way in the corridor, lanes might by narrowed or shoulders virtually eliminated. Also, NVTC has expressed concern that, without barrier-separated HOV lanes, lack of enforcement would destroy HOV incentives. VDOT has on many occasions committed itself to designing a safe facility, and although the project is included in the Long Range Plan, it must go before the TPB once again before the construction monies may be spent.

## Capital Beltway Safety Team

In January of 1994, the Capital Beltway Safety Team began work to evaluate and implement recommended safety improvements for the Capital Beltway. The team, chaired by Tom Farley, District Administrator of Northern Virginia VDOT, generated its first report in September, 1994. This report examines the types of crashes that most often occur on the Beltway and the driver behavior that contributes to them. Seven work teams have spun off from the core group; these groups focus on enforcement issues, incident management, construction and maintenance work zone safety, traffic management systems, operation and design enhancements, education and public information, and regional initiatives. NVTC staff serve on this last work team.

## Extension of Reversible HOV Lanes

As mentioned earlier, VDOT is currently in the process of extending the reversible HOV lanes on I-95 from Springfield to Quantico Creek, a 19-mile project extending through Fairfax and Prince William Counties. As with the Springfield to Newington segment, the project will be opening in stages, and VDOT expects to have the lanes open to Quantico Creek by late 1996.

Two other projects are planned that will support the HOV system in the I-95 corridor. The first of these is the proposed reconstruction of the I-95, I-395, and I-495 interchange, often referred to as the "Mixing Bowl". The design proposed by VDOT is extremely complex, in part because it allows for separate HOV connections among these three highways. Such a separation will be vital to preserving time advantages for HOV riders if an HOV lane is eventually added to the Beltway. In addition, it is expected that by the year 2010, VDOT will restripe the reversible lanes on I-395 in order to provide three lanes. This segment of highway was originally designed with extra shoulder width to allow for such a contingency.

## Richmond Rail Study

The Virginia Department of Rail and Public Transportation is currently conducting a study of the feasibility of high speed rail service in the Washington, D.C.-Richmond corridor. A summary of the Scope of Work for this study is included in Appendix G. Currently, the Department has concluded analyses of existing track conditions and ridership forecasts, and is in the process of testing various improvement alternatives, using a capacity model that was acquired jointly with the Virginia Railway Express. A preliminary environmental assessment and preliminary engineering for a rail segment from Richmond to Newport News have also been completed. The final report is to be delivered to the General Assembly in January, 1995.

## EPG People Mover

One of the larger planned developments in Northern Virginia is the Engineering Proving Grounds, just off I-95 in Springfield. This site, an 820-acre military reservation, has been slated by the Department of the Army for a mixed-use development comprised of office, hotel, retail, and residential uses. Over the next 15 to 20 years, the Army envisions the development of office space for 30,000 workers and housing for nearly 4,000 households. A key part of the Army's proposal is an automated guideway transit system, or "people mover," which would link the EPG with the Franconia/Springfield Transportation Center, where riders could transfer to buses, Metrorail, or VRE. Fairfax County has recently adopted the Franconia-Springfield Area Plan, which encompasses the EPG and suggests an alignment for the People Mover,

but actual improvements in the area will be done in tandem with private development.[10]

## Woodrow Wilson Bridge

The Federal Highway Administration, which owns the Woodrow Wilson Bridge, is currently conducting a Major Investment Study (MIS) of this facility in accordance with the recent federal planning regulations. The MIS will address both the deteriorated structural condition of the bridge and its constrained capacity. A Woodrow Wilson Bridge Improvement Study Coordination Committee, made up of elected officials and senior government executives from a number of jurisdictions, is leading the study. This committee, based on an intensive public scoping process, has identified a number of options, ranging from widening the 14th Street Bridge to creating an additional river crossing within a mile or two of the existing bridge, to initiating ferry service. The committee then transmitted these plans to the Transportation Planning Board, which has suggested that further analysis be conducted on both ferry service and the creation of an additional river crossing more than two miles south of the existing bridge.

## Metrorail Fiscal Impact Study

NVTC has recently hired a consultant to measure the return on state investment in Metrorail in Northern Virginia. Such a study was conducted in 1985, and found that these investments brought a 13 percent annual internal rate of return. This study, which was based on well-documented and conservative assumptions, proved to be very effective in demonstrating to the Governor and General Assembly members that aid to public transit systems such as Metrorail makes sound economic sense. In accordance with Secretary of Transportation Martinez's indications that more rigorous economic analysis should be employed to justify needs for state financial assistance, the current study will update the work conducted in 1985.

A copy of the Scope of Work for this study is included in Appendix G. The final report should be available in November, 1994.

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[10]Office of Comprehensive Planning, County of Fairfax, Franconia-Springfield Area Plan. Fairfax County, VA: February, 1994.

## Metrobus Strategic Bus Plan

As was discussed earlier, the high cost of Metrobus to the jurisdictions has resulted in some localities contracting out services that are new or were formerly operated by Metrobus. These high costs are not merely a management problem, or a question of "trimming the fat." Because WMATA receives federal funds, it is subject to federal mandates, such as labor wage rates, that do not constrain the local bus systems. The system also has a much older bus fleet than many of the newer local operations, and a labor force with greater seniority, which drives up salaries and the costs of fringe benefits.

In response to this problem, WMATA has put forth a Strategic Planning Process, which has been identified by WMATA's General Manager as a top priority for the organization. The planning process has been put on a fast track, and should be completed by the end of Fiscal Year 1995. It is hoped that this accelerated schedule will allow information from the plan to be used in the FY 1996 budget process and in upcoming labor negotiations. Listed below is a breakdown of tasks from a draft Scope of Work for the plan:

1) Identify future of Metrobus
   Review current status of Metrobus
   Review current status of local bus operations
   Forecast future of Metrobus if status quo is maintained
   Outline desired future for Metrobus

2) Establish Metrobus goals and objectives
   Evaluate Metrobus costs and revenues
   Evaluate Metrobus service and support activities, both in terms of quantity and quality
   Establish key strategic goals and objectives, including an overall funding envelope for Metrobus service over the next five years

3) Develop Proposals to Achieve Metrobus goals and objectives, focusing on the following areas:
   - Costs
   - Revenues
   - Service and customer facilities
   - Buses and garage facilities
   - Customer and community involvement
   - Policies and procedures

4) Implement Strategic Plan

At all stages of the planning process, WMATA is working closely with jurisdictional staff. NVTC has recently completed a study of interjurisdictional bus issues in Northern Virginia that should provide very useful input for the WMATA study. WMATA and

jurisdictional staff are now considering how best to act on the information and recommendations included in that study, and how it should affect Metrobus' plans.

## Transit Ridership Forecasting

Both WMATA and VRE have recently initiated efforts to improve their ability to forecast ridership changes. WMATA recently awarded a contract to a consultant to develop models for projecting short-term changes in ridership and revenue in response to factors such as fare and service level changes; trends in employment, business and tourism travel; and special events attendance.

In order to better respond to possibilities such as station openings, capacity increases, parking policies, changing demographics, and even extensions of service (being studied as part of the I-66 Rail Feasibility Study), VRE, NVTC, PRTC, and jurisdictional staff are beginning a strategic planning process. As an adjunct to this planning process, which will help to identify how the jurisdictions involved want the Express to develop, NVTC has hired a consultant to design a patronage forecasting model, which will be delivered to and used by NVTC staff. In addition, a capacity simulation model will help identify the physical improvements to rail facilities required to accommodate alternative growth strategies.

## Loudoun County County-Wide Transportation Plan

In June of 1992, the Loudoun County Board of Supervisors adopted a goal of developing a comprehensive transportation plan consistent with the needs of Loudoun County citizens. Accordingly, the Board of Supervisors has directed the Planning Commission's Transportation Plan Committee to draft the County-Wide Transportation Plan (CTP).

In September, 1993, the Committee finalized the issues, topics, and questions to be addressed during the discussion and development of the CTP. These include the following:

- Regional Transportation Objectives
- Land Use and Transportation
- Natural and Cultural Environmental Considerations
- Transit and Parking Policies
- Pedestrian and Bikeway Issues
- County/State Transportation Responsibilities

The Committee has been holding open meetings monthly to discuss these issues. The Plan is scheduled for completion in July, 1995.

## Interstate Study Commission

The Interstate Study Commission was formed by Congress to report on funding possibilities and institutional reforms by which interstate transportation in the D.C. area can be improved. The 16 members include state secretaries of transportation, members of Congress, and private citizens appointed by the Governors of Maryland and Virginia and the Mayor of the District of Columbia. Among the concepts the Commission has considered are ways to cooperatively plan and finance eastern and/or western bypasses, complete improvements to the Wilson Bridge, and combine the operations of the Virginia Railway Express and Maryland MARC commuter rail systems. The Commission is expected to deliver its report to Congress by December, 1994. A white paper that will be the basis of the report has been drafted, and staff will be reviewing the paper with focus groups of people in the transportation field during the early fall.

## Governor's Commission on Government Reform

Governor Allen has formed a commission on Government Reform, also referred to as the Blue Ribbon Strike Force, to review every agency of state government, focussing on ways to make the government more responsive, reduce waste and duplication, and determine creative ways to increase involvement to the private sector in providing state services. The Commission began examining these issues in January, 1994, and in October released draft recommendations. Shortly thereafter, it held a series of public hearings around the state. One of the more wide-reaching draft suggestions, from the point of view of transportation in Northern Virginia, was that the Northern Virginia region withdraw from the Transportation Planning Board.

The Commission's final recommendations are expected to be transmitted to the Governor for his consideration in mid-November.

# SECTION V

# COMPREHENSIVE FUTURE PLANS

The combination of new federal planning regulations and a new Virginia governor has resulted in increased emphasis on "vision planning" for the state and the region. These are not plans constrained by budgetary limitations or outlining specific projects according to a tight time line. Rather, they look at a longer term, and a broader scope. They may articulate goals that the region currently does not have the means to reach, thus stating what it wants to do and how it might get it done, rather than only what planners know the area can construct and afford as of today.

## VIRGINIA CONNECTIONS

One of Virginia Secretary of Transportation Robert Martinez's first steps in office has been to initiate a strategic planning process. He has suggested seven principles that should be addressed by any plan, and recently held forums around the state to hear comments regarding these principles. The draft principles are listed below:

- Economic Development — Providing a high quality transportation system is critical in the effort to lure and retain major employers. Improving the transportation infrastructure is a critical step to a secure economic future and to attract major new industries. Investment in special projects can create centers of economic growth and development such as the "Smart Highway", which may use technology to inform drivers of road conditions, for instance, or allow tolls to be collected without drivers' having to stop.

- Market Orientation — Transportation investment decisions must be based on sound economic principles and respond to market needs. Decisions will be measured in terms of the resulting economic development, the reduction in congestion costs, the improvement in mobility and access and the long-term viability of a project from a market perspective.

- Privatization — The provision of both transportation assets and the delivery of transportation services will be enhanced through innovative financing techniques, such as public-private partnerships and privatization initiatives. The adequacy of the private sector must be addressed before the public sector role is expanded. Opportunities to privatize governmental activities will be sought.

- Deregulation — To enhance productivity, regulatory and administrative barriers to an efficient utilization of the transportation system will be removed. Except where specifically justifiable, state regulatory requirements should not exceed federal.

| | |
|---|---|
| ♦ Freight | Freight movement in the Commonwealth will be explicitly considered and facilitated in the planning and development of the transportation system. |
| ♦ Intermodalism | Improved connectivity among different modes will be fostered to improve the efficiency and effectiveness of the transportation system. A full range of modal alternatives for passengers and freight will be encouraged to provide choice and competition in the marketplace and strategic investments to improve connectivity among modes will be identified and implemented where feasible. Key intermodal centers, like Dulles Airport and the port of Hampton Roads, deserve special focus. |
| ♦ Technological Leadership and Safety | To improve productivity and quality of service and reduce costs, state-of-the-art technology and research will be utilized. Virginia will be a leader in research and in the implementation of technology to improve safety and mobility, increase the capacity of the infrastructure, and as a tool to foster economic development. |

These principles point out vital considerations for the state's transportation system, but in the view of NVTC, they are incomplete. The following comments, summarized from a commission response to Secretary Martinez's principles, address some of those gaps. They also highlight many of the issues which will be discussed by the region in more detail in regards to a *regional* vision plan.

While the importance of a good transportation system in linking markets and spurring economic development is stressed, some of the negative effects of a poorly designed and unconnected system are not mentioned. These include the serious effects of traffic congestion that result in so-called "externalities," including air and noise pollution, heavy traffic on residential streets, loss of green space and wetlands to parking lots, and wasted time and energy, for which our present system does not charge directly those who create the burdens that others must bear.

Also, the social benefits need to be stressed of providing mobility to those persons who may lack economic resources or who may require accommodation due to disabilities. While certainly transportation investments should not be made in order to redistribute income, and would be an inefficient tool for doing so, the Commonwealth does have a responsibility for ensuring that the benefits of its expenditures on transportation--as well as the more negative effects of these expenditures -- are fairly distributed. **The point is not that these non-market forces should override market-based principles, but that a recognition of the problem is needed with a balanced approach to resolving competing interests.**

The draft principles state that "Virginia must develop a multi-modal transportation system that effectively integrates and connects all transportation modes." This is

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- Deregulation — To enhance productivity, regulatory and administrative barriers to an efficient utilization of the transportation system will be removed. Except where specifically justifiable, state regulatory requirements should not exceed federal.

indeed an admirable goal. In addition, providing cost effective *choices* of modes to customers should be a goal. A system with some alternative capacity, especially at bottlenecks, is capable of responding to dynamic forces and handling emergencies or accidents without clogging the entire system. Accordingly, **public transit alternatives to traditional highways should always be considered in designing an efficient, interconnected transportation system.**

**Moreover, freight modes, such as railroads, that seek to benefit from ISTEA-funded investments should be compelled to cooperate with related passenger modes (e.g. commuter rail) as a pre-condition of benefitting from these taxpayer-provided resources.** Since freight modes are already market-oriented and competitive, the Commonwealth must be wary of tipping this competitive balance through unwise intervention to provide facilities or services that benefit one mode at the expense of others.

NVTC is aware of at least two approaches to address landside access to intermodal facilities. First, more state aid is needed to fund transfer centers at which Metrobus and local bus systems could feed passengers to and from Metrorail and VRE, using "timed transfers" and a reduced-price regional transit pass. Second, the state could help persuade private landlords, such as shopping center owners, to be more accommodating to regional bus transfer centers.

Since the private sector has had difficulty in coping with market externalities such as air pollution, a legitimate role for limited government intervention can be argued. On the other hand, the private sector is well equipped to raise capital for ventures with a demonstrated economic pay off. This suggests that **taxpayer funds for transportation improvement designed to lure new employers should, at the very least, be augmented with private sector investments. Also, the future stream of benefits to the Commonwealth from its transportation investments should be an explicit criterion guiding its choices among projects and modes.** The VRE and Metrorail investment analyses described earlier are examples of this type of critical comparison.

In addition, to the greatest extent possible, **the application of prices (tolls) to existing and planned facilities will produce better, market-oriented decisions and help relieve peak-period congestion.** Tolls can help finance new facilities and help reduce bias between modes (e.g. public transit assesses fares but auto drivers don't pay directly, especially when parking is also subsidized by employers).

While privatization is certainly appropriate where improvements in quality can be obtained for reduced cost to the taxpayers, the Commonwealth should also be working diligently to improve the management of government-provided services and facilities. More emphasis on customer service and on employee motivation within government can yield benefits. **Privatization should be regarded as a means to an end (better managed and more cost effective services), not as a goal in itself.**

The principle of "Technological Leadership and Safety" marries two concepts that should be separate. Safety is important in its own right, and need not be pursued

primarily through new technology. More financial resources devoted to highway traffic safety via more officers for enforcement, for example, could well be an immediately effective and low-tech method to improve highway safety.

Finally, to use the transportation system to its best effect to spur beneficial development, a better job must be done in integrating land use and transportation decisions. Currently land use is largely the prerogative of local governments, while major transportation investments have been controlled by the Commonwealth, with more recent involvement of regional agencies (e.g. Metropolitan Planning Organizations). **The new federal planning process offers a good place to start to better integrate land use and transportation decisions, and indeed the new regulations require that this be done.**

## MWCOG REGIONAL VISION PLAN

Concurrent with the state planning process, the Transportation Planning Board is embarking on a vision planning process, which will complement the Constrained Long Range Plan drafted this year. The Vision Plan is intended to take the region beyond what is merely affordable, and outline what would be most beneficial for the area. The TPB has also explicitly stated, however, that it does *not* want the Plan to become a "wish list" of projects, but rather a cohesive statement of priorities and goals, and strategies by which to attain those goals. Below, NVTC lists some of the issues and strategies it would like to see included, examined, or discussed in such a plan:

### Suggestions For Inclusion in the Regional Vision Plan

#### Transit System Enhancements

Clearly, if this region is to mitigate its congestion problems in the coming years, it must continue to build upon and enhance the existing transit system. Many of the studies mentioned above, in particular the Dulles and I-66 corridor rail and bus studies, move the region further towards that goal. However, a point made during WMATA's discussion of the future of the Metrorail system is worth repeating: enhancement does not necessarily mean additions thereto or extensions thereof. There is much the area can do with the existing system, most of which involves letting people know what services exist and making those services both easier and more convenient to use. Some of the possibilities are listed below.

#### Upgrade Existing Transit Facilities and Infrastructure

One of the important tasks of the region in upcoming decades will be to properly upgrade and maintain the buildings and vehicles that are used to

## Figure 11

## SUMMARY OF RECOMMENDATIONS IN PLAN

### SUGGESTED POLICY GUIDELINES

- Freight modes, such as railroads, that seek to benefit from ISTEA-funded investments should be compelled to cooperate with related passenger modes (e.g. commuter rail) as a pre-condition of benefitting from these taxpayer-provided resources.
- Taxpayer funds for transportation improvement designed to lure new employers should, at the very least, be augmented with private sector investments. Also, the future stream of benefits to the Commonwealth from its transportation investments should be an explicit criterion guiding its choices among projects and modes.
- Plans should recognize changing patterns of travel and the growing number of suburb-to-suburb trips.
- Privatization should be regarded as a means to an end (better managed and more cost effective services), not as a goal in itself.

### ACTION ITEMS

- Enhance the regional transit network:
  - Upgrade existing transit facilities and infrastructure
    - Site WMATA garage in Western Fairfax
    - Replace bus fleet in near future
  - Better integrate services
    - Pursue timed transfers
    - Develop intermodal centers
  - Simplify and integrate fare systems
    - Pursue Go-Card demonstration project *with* jurisdictions
  - Continue to develop innovative responses to customer needs
  - Improve transit information system
    - Simplify timetables
    - Improve information and signage at bus stops
    - Improve ARTS
    - Pursue development of public access channels and intelligent communications systems
- Continue to cooperate with the private sector to guarantee safe and convenient access to transit stops.
- Focus on integrating bicycle and pedestrian travel into planning process.
- Begin to equalize the incentives to travel among different modes by implementing automobile demand management techniques.
  - Working with the Metrochek program, pursue parking "cash-out" options
  - Incorporate tolls and other pricing mechanisms into highway facilities
  - Improve the region's congestion monitoring and reporting techniques
- Identify and seek new sources of funding for desired transportation projects.
- Seek consensus regarding regional vs. local decision making over land use and transportation issues.
- Seek a method by which HOV restrictions I-66 can be properly enforced if it is changed to HOV-2 during peak periods.

provide transit in Northern Virginia. The Interjurisdictional Bus Study conducted for NVTC over the past year has specifically pointed out two facets of this task that should be made regional priorities:

Garage Facilities: The location of bus storage and maintenance facilities impacts the operating costs of bus services. Costs can be reduced by locating garage facilities closer to the routes that the buses located in that garage serve. Currently, while the Metrobus garage at Four Mile Run in Arlington has adequate capacity, it is not well located with respect to Metrobus routes serving western portions of Fairfax County. **If Metrobus service is to remain as the Interjurisdictional bus operator in Northern Virginia, it should locate a bus garage in the western sections of the service area.** The Bus Study also recommends that DASH either find another site for its garage or expand into the vacant land adjacent to its current site, as the DASH garage is currently at capacity.

Fleet Replacement: In order to keep down costs and maintain quality of service, **WMATA must undergo an extensive program to replace the bus fleet that serves Northern Virginia with a modern and well-equipped fleet.** The following recommendations are presented to guide the fleet replacement:

- The goal of WMATA should be to provide a fleet in Northern Virginia that has an overall average age of six years with no bus exceeding the 12 year replacement guideline suggested by the FTA.

- WMATA should embark on an aggressive fleet replacement program that achieves this goal in five years.

- In replacing the fleet, WMATA should consider the size of the bus that is appropriate for the service being provided. Therefore, a mixed fleet with 40 foot (45 to 50 passengers), 35 foot (35 to 40 passengers) and even smaller 30 foot (28 to 33 passengers) buses should be obtained. The nature of current WMATA bus services has changed to a feeder network with local services within the community, and the bus fleet should be consistent with the new service pattern (e.g. smaller buses may be less disruptive in residential neighborhoods).[11]

**Integration of Services**

As noted above, Northern Virginia has a large number of individual

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[11]Abrams-Cherwony & Associates, for the Northern Virginia Transportation Commission, Study of Coordinating and Integrating Northern Virginia's Interjurisdictional Bus Routes. (Draft Final Report.) Washington, DC: August, 1994.

services, which mesh and interact with varying degrees of success. For the most part, the transit consumer does not so much care about who carries him or her from one place to the other as about the cost of the ride, the time it takes, and the inconvenience it causes the rider. An examination of Appendix C will demonstrate the complex nature of transfer and fare policies in the region. Clearly, anything which transit operators can do to make those transfers as fast and convenient as possible will boost ridership and lead to a more loyal customer base.

One technique often used to integrate services is **timed transfers**, such as are used by RIBS in Reston. In a service of this nature where direct service is not available or financially infeasible, buses are timed to meet in a central location at the same time, allowing people to switch between a number of lines with a minimum of waiting. Another example is timing the arrival of buses at a rail station shortly before the arrival of a train. In response to VRE rider requests, for instance, DASH is considering introducing a shuttle bus service between the King Street VRE station and the Eisenhower Valley. Service would be timed to meet the arriving Express trains. Many system operators attempt to time such transfers already, and the recently released Interjurisdictional Bus Study recommends further opportunities to establish such connections. **System operators should consider such opportunities carefully, and establish timed transfers when possible, while actively publicizing the new benefits for customers.**

Another way in which services can be successfully integrated is through the encouragement of **intermodal centers**. The more closely that systems are physically linked, the simpler transfers between them should be. The planned Franconia/Springfield Metrorail station is an excellent example of such a center; the station will link Metrorail, VRE, various bus systems, and a planned "people mover" system. The adjacent Metrorail, VRE, Amtrak and bus stations and bays at King Street in Alexandria also constitute such a center. Greyhound's recent proposal to WMATA to establish stations at several Metrorail stations offers an opportunity for establishing another important intermodal link. **To the extent possible, opportunities such as these should be pursued. NVTC can play a role in identifying and helping jurisdictions to successfully respond to these types of opportunities, and to sort out issues such as cost and responsibilities in the case of shared facilities. When facilities are upgraded (e.g. historic rail stations in Alexandria using federal grants), opportunities for improved intermodal connections should always be considered.**

### Simplification and Integration of Fare Systems

One of the region's most obvious barriers to transit ridership is the complicated and confusing fare structures with which passengers must

contend. The fare structure of the Metrobus system alone is intimidating for some customers to use, and many potential riders find themselves having to transfer between systems that use separate fare media and have different rates. NVTC's Interjurisdictional Bus Study highlighted this as a serious issue, and although it will be difficult to solve, progress is being made.

**The Bus Study recommends that fare structure improvements be accomplished in three stages and over three time horizons. The first stage would be for each system to simplify and consistently apply the fare structure for its own routes and services.** This recommendation primarily applies to the Metrobus operation. **Stage two would involve the development of a regionally acceptable fare structure and transfer coordination policy**. This should be accomplished in a intermediate range (three to five years) period. **Stage three should be the longer range effort, and would involve implementation of a truly "seamless" fare structure that utilizes the latest available technology to collect fares.** Activities and recommendations which may lead to the accomplishment of these three types of improvements are listed below:

First Stage:

Short-term recommendations for the Metrobus system include:

- Modifications to the basic fare structure, especially the elimination of the distinction between peak and off-peak fares, and the application of the zonal charge regardless of whether the trip were taken during the peak period or not.

- More consistent application of the fifty-cent fare on those feeder bus routes to which it currently applies.

- Application of the bus and Metrorail round trip transfer fee used by Arlington County to all routes in Northern Virginia that serve Metrorail stations. This fee allows a person transferring from bus to rail in the morning to pay an additional nickel and receive a transfer that gets them onto the return bus trip home that evening.

- A listing printed on each type of fare media (passes, tokens, etc.) of the systems and the types of trips for which that fare medium may be used.

- Elimination of the extensive amount of unnecessary information on public timetables, for instance, District and Maryland fares on Virginia timetables.

- Addition to the timetable of information on pass programs and the fare structures of the connecting Northern Virginia bus systems.

Second Stage:

A variety of inter-system efforts that may lead to greater fare integration in the future are currently taking place. For instance, during the World Cup events in Washington, D.C., WMATA and a number of local operators, including CUE, the Fairfax Connector, and DASH, entered into cooperative arrangements in which all systems operated shuttle service from fringe parking lots to various Metrorail stations. A vital component of the project was a $20.00 three-day pass good for unlimited travel on Metrobus, Metrorail, and the local jurisdiction bus systems. Revenues were distributed in the same manner as WMATA uses for allocating programs such as the Flash Pass, which is also accepted on other systems. Projects such as these establish important precedents for integrated fares and services.

In another example, in March of 1994, the Virginia Railway Express, working cooperatively with Metrobus, Fairfax County, the City of Alexandria and Arlington County, established a transfer program for its ticketholders. VRE passengers transferring to and from these systems at the Crystal City and Alexandria stations can now show their VRE pass or ticket upon boarding instead of paying a fare. VRE then reimburses each jurisdiction based on counted ridership.

Such a system is expected to boost ridership for both portions of the trip, as it makes the transfer both cheaper and more convenient for the passenger. In a testament to the success of the program, during the first three full months of the project's operation, the number of passengers transferring per month grew from about 1,000 to 4,000, and responses to VRE's passenger survey indicate that the ability to transfer has been a positive influence on customers' decisions to use the rail service.

Third Stage:

WMATA is in the process of exploring a Smartcard system which could be used by other jurisdictions. A contract has been awarded to Cubic Western Data for a demonstration of this system (called the Go-Card by Cubic). WMATA officials expect that the demonstration will be underway by January, 1995 for Metro employees and by February for members of the public who wish to try the system.

The Go-Card is a proximity card, requiring the customer to merely flash the card near the reader. The customer will be able to purchase the card at one location during the demonstration period (not at the stations), but will be able to add additional fare at the stations. The card will resemble a credit card, but contain the purchaser's serial number. It can be purchased as either a debit card in a large dollar amount (the amount has not yet been established but will probably range from $30 to $200).

During the demonstration project, 17 stations, at least 21 buses, and parking lots at five stations will be equipped with the machines required to read the Go-Card. The demonstration will last approximately 18 months. The card will be used upon both entry to and exit from the subway and buses. In order to remind and encourage bus riders to use the card upon exit, the maximum amount of a potential ride will be deducted upon entering the bus and a credit will be provided for any unused portion upon exiting the bus. If lost or stolen, the serial number should be reported; a new card will be issued with the value remaining on the lost or stolen card, and the lost or stolen card will be denied further use.

If the project is successful and WMATA decides to adopt the Go-Card system, it will be a supplemental system to the magnetic strip debit card currently in use which will continue as necessary to accommodate tourists and others desiring single or a few rides.

If the Go-Card system to be demonstrated by WMATA were adopted by local jurisdictions for use on their local buses, costs could be easily allocated. Each card has sufficient memory to record all entries to and exits from each system. Because each card is identified by a serial number, the stored information could be forwarded to the main computer for processing by WMATA officials who would be able to allocate usage among the various jurisdictions using agreed upon procedures.

**Local jurisdictions should become more involved in the WMATA demonstration. If grant funds can be obtained to offset costs, some jurisdictions might want to consider negotiations with WMATA to expand the demonstration to include some buses on a non-WMATA system.** (The cost of one bus reader could run as high as $5,000, with additional programming costs.) As a minimum, each jurisdiction should review rider data to ascertain the number of riders on their local systems who transfer to WMATA buses or to the Metrorail (see Figure 6). Where the numbers are significant, the local jurisdictions should be closely monitoring the demonstration project for future application to their own systems. Progress reports for the demonstration will be available to the local jurisdictions from WMATA.

### Innovative Responses to Customer Needs

The region can no longer afford to ignore its customer base or be slow to respond to changing needs, and instead--as many systems have begun to do--must approach the service with a market-based orientation. In this way, the region may be able to better serve and retain existing riders, as well as to entice potential riders out of their automobiles.

The feeder bus service about to be implemented in Prince William County

(described in Section IV) is an excellent example of an innovative response to customers' needs. A few of the region's other recent projects aimed at reaching new markets are listed below:

Guaranteed Ride Home Program: Often, transit designed to serve the regular commuter is only offered during peak periods, when demand is the highest. This is the case with VRE, as well as with many of the region's bus lines. Thus, potential riders who foresee a possible need to return home in the middle of the day for emergencies (parents, for example) often forego transit for the security of having a car, and thus a ride home, available to them in case of an emergency.

Because the Virginia Railway Express offers no mid-day service, and because the cost of a taxi to reach a location such as Fredericksburg (55 miles from the District of Columbia) would be prohibitively expensive for many riders, VRE has introduced the innovative *Special Delivery* program, which offers VRE riders a guaranteed ride home for only 10% of the usual taxi fare. In case of an emergency, the rider contacts a special number, and staff dispatch a cab to pick up the person and take him or her home. Cab fares have been pre-arranged with a number of cab companies, and passengers may then submit their receipt for reimbursement of ninety percent of this fare, which includes a tip.

Thus far, the program has been a great success. Over the first six months of the program, 106 customers were served--an average of .8 customers per day--at an average cost to VRE of $43.41 per passenger. The May, 1994 customer survey indicates that 12% of new riders were influenced by the Guaranteed Ride Home Program, and 15% of all who ride more now than six months ago do so because of the program. The VRE Operations Board voted in late August, 1994 to continue the *Special Delivery* service.

Fairfax County has instituted a similar demonstration program for residents of the county who live in areas served by transit only during the peak periods. Participants must register ahead of time and then may be reimbursed for cab fare home in case of an emergency. The Virginia Department of Rail and Public Transportation is also considering a state-wide program that would consist of individually purchased memberships, in many ways similar in operation to a service such as AAA. **It is to be hoped that jurisdictions and operators will continue to examine markets that could benefit from such a service, as well as other innovative ways to meet customer needs.**

New Bus and Rail Passes: WMATA has also responded to customer demands through the different passes it offers. For instance, the Metrorail Fast Pass and the Metrorail Short-Trip Pass are now both sold for predetermined two-week periods. Staff has proposed that these passes be changed to allow the passenger to activate the start date for the two-week

period when the pass is used for the first time. This feature was successfully employed on the three day World Cup passes available in July, 1994. This will make these products more attractive for customers, ease the distribution burden, reduce waste, and allow for the passes to be sold through the new pass vending machines which are to be installed in selected stations.

Another proposal would allow the Authority, in cooperation with local jurisdictions, to offer reduced fares for a specific period of time on certain routes to attract additional riders. The reduced fare could range from free to an amount less than the regular fare established in the WMATA Tariff. Both the suggestions demonstrate a willingness to take risks and attempt to reach new markets.

New Bus Routes: In addition, the Interjurisdictional Bus Study suggests three new bus routes, all connecting the outlying portions of Fairfax County with either the Vienna Metrorail station or the Fair Oaks Mall. The consultant estimates that about 225,000 passenger trips would be made on these new routes. In addition, he recommends routes in Loudoun County, and a blueprint for the development of a transit system in that jurisdiction. These routes highlight the fact that, despite the region's extensive existing system, operators must be alert to changing markets and unmet transit needs.

**Better Informing Customers**

Many persons who might otherwise use transit do not do so because they do not know the service exists, or they are unsure how to take advantage of it. This lack of information provides yet another barrier to ridership. The Ballston and Crystal City Transit Stores, which provide a centralized source of information for the many different transit systems in the region, are one effective response to this problem, and the recently revised bus maps produced by WMATA, which show all of Metro's routes, as well as the local systems' routes, are also a positive step. But more needs to be done to make information easily available.

**The Interjurisdictional Bus Study makes several recommendations for public information improvements; including:**

- Simplify the WMATA public timetables. This would most likely be best approached by reducing the number of sub-routes that correspond to each main route, and presenting fare information appropriate to each route on the corresponding timetable.

- Keep the excellent Metrobus system map current.

- Coordinate bus stop signs of the different operators that serve the same stop location, rather than having one sign for each operator. This would

serve to make the inter-system connections more clear. Perhaps a device such as NVTC's "connections" logo could be used.

- Provide public information on Metrorail schedules at stations. This would allow passengers to time their trips to coincide with a departing bus at the destination station. Some have argued that with frequent peak service on Metrorail (e.g. every six minutes at some stations) such schedules are unnecessary, but less frequent service during off-peak hours and on weekends is common.

- Maintain the quality and responsiveness of the telephone information system (ARTS).

ARTS: While NVTC's consultant found the information provided by ARTS, a regional database of schedule and route information that is maintained and operated by WMATA, to be useful and relatively accurate, local jurisdictions have complained that it is sometimes difficult to receive good information from the database, particularly regarding the locally operated systems. An NVTC staff investigation of the issue found that service was inconsistent. Some operators provided local jurisdiction bus information without being specifically asked for it, other would provide it only if specifically queried, some operators stated that they did not have local information, and still others said that they could only give out local system information if provided with the bus route number.

It appears that much of this inconsistency is a result of the way information is retrieved from the database. For instance, requesting a bus route by departure time may get a different set of transit options than requesting a bus route by arrival time. Likewise, a change in arrival time by a mere ten minutes may result in an entirely different set of transit options. NVTC staff have identified a number of ways in which this service, already good, could be improved, especially for customers seeking information about local bus systems that connect to WMATA.

**First, WMATA should provide additional instruction to their operators in order to emphasize ways to ask the database for different types of information. Further, the database programming should be revisited, since this often limits the ease with which operators can retrieve the most useful information.** For instance, ARTS will only provide an operator with the three shortest routes in terms of time, when a route five minutes longer, but without a transfer, might be preferable. In addition, **regional jurisdictions should approach WMATA about extending the service area served by ARTS.** Currently, operations such as VRE and PRTC CommuteRide are not incorporated into the database, because they operate outside WMATA's service area. While this is an understandable policy, it is one that sells the region short by making it impossible to fully utilize a valuable resource for transit

services that feed customers into the regional system. For example, over one quarter of VRE customers transfer to WMATA to reach their final destination each workday morning.

Public Access Information Channels: Another resource for providing information to a large portion of the public is the public access channels on cable television. This year, both DASH and the City of Fairfax submitted proposals to the state to develop cable channels that would disseminate information on schedules, fares, and changes in service. Such a service would make information available 24 hours a day, relieve staff now dedicated to answering telephone requests, and make information easily available to portions of the disabled community, particularly hearing-impaired riders. In 1994, neither proposal was funded, but **it is hoped that jurisdictions will continue to move ahead with these types of marketing plans of their own accord, and that the state will support such marketing efforts in the future.**

"Intelligent" Communications Systems: BATA, in alliance with the Ballston Partnership, is seeking funding for a joint venture Intelligent Highway Vehicle System (IVHS) project for the Ballston area. The project, named BATRIC (Ballston Advanced Traveler and Retail Information Centers), will provide state of the art communication to commuters and visitors who are seeking information on the region-wide transportation network, as well as information relative to the available retail businesses in the Ballston area, focusing on Ballston Commons Mall. Kiosks located throughout the area would provide up-to-date traffic information, as well as rideshare matching and transit schedules, routes and fares. Ridematching information would also be available through touch-tone telephones, portable pagers, and possibly employees' electronic bulletin boards

**Ease of Access to Transit**

Another factor vital to maintaining and promoting transit ridership is the ease with which passengers can access the bus or rail station. This factor incorporates a number of issues discussed elsewhere in this Plan; park-and-ride lots, bicycle and pedestrian access, and intermodal facilities are all pieces of a complicated picture. One other factor that should be explicitly mentioned is the cooperation between the public and private sector that is often required in order to provide and preserve good access.

This issue arose recently in regards to the heavily used bus stop located at the Seven Corners Shopping Center. Due to a major renovation and expansion project currently underway at the Center, the property managers contacted WMATA and informed them that they would be required to find another location for the stop.

The stop, which has been a critical transfer point for almost 40 years,

services over 2,000 people daily. WMATA would need public hearings to abandon the stops, and no other feasible alternative was both safe and accessible. WMATA quickly explained these difficulties to the property management company, and the two parties have worked together to identify a location at the Shopping Center that satisfies the concerns of each group. **It is only through cooperative efforts such as these that vital transit access to private properties will be maintained, and these lines of communication should be established before a crisis arises. NVTC and local governments have a role to play in accomplishing this.**

## Bicycle and Pedestrian Travel

In order to reduce congestion and the demand for roadways, another focus of the region must be encouraging bicycle and pedestrian travel. Bicyclists and pedestrians reduce energy consumption and air pollution generated by travel.

The Washington region is provided with a number of bike trails and, as has been recognized by the Constrained Long Range Plan and a number of more comprehensive jurisdictional plans, more are needed. But in order to create a cohesive, workable bicycle and pedestrian-oriented environment, planning must go beyond just trails. Trails and bikeways must be safely and effectively connected to community facilities, retail and residential areas, and offices. Bicyclists need safe places to park, and those commuting to work often require shower and locker facilities at or near the office. Shopping centers should provide safe pedestrian connections between the stores; too often one must drive between adjacent parking lots in order to visit two neighboring shops.

In addition, the region should consider ways to better enable travelers to carry a bicycle on transit, allowing this form of transportation to replace the automobile at both ends of the trip. WMATA has recently taken steps towards this goal; commuter stores will now be authorized to administer the examination required to obtain a bike-on-rail permit, and the Authority has implemented a demonstration project that will allow bikes on Metrorail between 10:30 a.m. and 2:00 p.m., on weekdays, in addition to evenings after rush-hour and all day on weekends, the times that bicycles were formerly permitted. If the policy does not prove disruptive to other passengers, it will be adopted permanently. **Jurisdictions should continue to focus on integrating these modes of travel into their planning.**

## Demand Management

Congestion Pricing: **In order to deal effectively with its current and forecasted congestion problems, the region will most likely have to do more than merely increase capacity. It will also have to move towards equalizing the incentives to travel among modes, by implementing automobile**

**demand-management techniques.** Congestion pricing, such as a toll system that charges more for use of a highway during a peak hour, is one such technique, and one that is used by other transportation modes, ranging from Metrorail to commercial airlines. As will be demonstrated on the Dulles Greenway, advances in technology should allow pricing such as this to be implemented without causing the long delays so often associated with toll booths in the past.

Metrochek and Cash-out Parking: Parking is another arena in which pricing can be used to equalize the incentives to use various modes of transportation. An employee provided with free parking, for example, has much less incentive to use transit than one who must pay each day for the privilege. On the other hand, an employee who prefers to walk to work, in effect, "loses" a benefit (the cost to the company providing parking) that he or she would otherwise enjoy. One important tool in equalizing these incentives is Metrochek, which is often offered to employees who give up their parking privileges. An even more economically efficient policy is "cash-out parking", in which an employee may choose to receive parking privileges or the cash equivalent. In this way, employees can make the best use of the benefit, or profit from the fact that they use a cost-free method of commuting (if they walk, for example). **It should be emphasized that these policies do not prohibit people from choosing to drive or park where they please; rather, they more efficiently allocate the cost of providing the infrastructure needed to support that activity.**

Congestion Monitoring and Reporting: Another important technique already used in the region to manage demand is the monitoring and reporting of congestion. Many highways, such as I-66 and I-95, are fitted with electronic variable display signs that warn motorists of congestion, construction, and other delays ahead, and which can suggest alternative routes. Airborne traffic reports are another vital part of this system.

In an innovative demonstration project, the Federal Highway Administration is working with the Maryland and Virginia highway departments, as well as a number of private corporations, to test a congestion monitoring system based on cellular phone usage. The system would monitor the sites around the region from which cellular phone signals were being sent. This information would allow the monitor to identify clusters of phones, and thus congestion, as well as the speed at which the phone signals are travelling. A six-month test of the system, to take place on the Shirley Highway, a portion of the Beltway in Maryland, and a segment of I-270, is to take place in 1994.[12]

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[12]Gomlak, Norman. "Phones Could Track Traffic," Arlington Journal. December 6, 1993.

## Suggestions for Discussion During Planning Process

There are a number of issues which are complex and contentious, but on which the region will need to reach some consensus if the transportation system is to be able to respond effectively to the demands placed upon it in upcoming decades. These issues are presented here not in order to advocate a particular position, but to alert those involved with transportation issues in Northern Virginia that they must be grappled with, and that the sooner the region does so, the more responsibly it may be able to approach the discussion.

### Funding Issues

Quickly obvious in any serious discussion of the region's transportation network is the fact that the region as a whole must soon identify new sources of revenues if it wishes to add any significant new highway or transit facilities. The study that the Transportation Planning Board commissioned Price Waterhouse to do for it, in order to forecast costs and revenues for a Constrained Long Range Plan, identified huge funding shortfalls for the region. This led to the TPB extending the time by which facilities would be built from 2010 to 2020--and still having to cut projects from the list. For instance, the lack of identified financing in the Price Waterhouse study for rail extensions in the Dulles and I-66 corridors was an important consideration for omitting the projects from the Constrained Long Range Plan in 1994. The TPB has now hired the consultant to extend the analysis to examine the period of time between 2010 and 2020 in more detail, and revise and update the original figures used.

Another topic of discussion for the region in upcoming years should be the formulas by which various costs and funds are allocated, and the incentives these formulas create. For instance, due to the formulas WMATA and Northern Virginia use to allocate Metrobus costs, the recent contracting of the Reston/Herndon Metrobus service in Fairfax County resulted in Arlington County having to pay a much larger share of the region's fixed costs. In other words, a portion of one jurisdiction's savings came at the expense of the other Virginia jurisdictions, as is the case each time Metrobus service is contracted to the private sector. Another issue is the formulas used by the commonwealth and NVTC to allocate transit subsidies. Because these are based entirely on system costs and subsidies, they create no incentive to operate more efficiently; if a system saves money one year, it receives less assistance. **The region should consider ways in which these formulas can be revised in order to reward efficient service provision. Most realistically, this could be accomplished by identifying a new funding source with which to establish an incentive program, while "holding other jurisdictions harmless" from reductions in existing aid.**

## Regional vs. Local Decision Making

Over and over again, the issue arises of who will make decisions regarding transportation projects and land uses in the area. Often, such projects are located in and funded by one jurisdiction, but have profound effects on neighboring localities and states. In the DC area, where so many jurisdictions abut one another, this problem is particularly pronounced.

This issue was highlighted in 1994 by the discussion of the planned Disney's America project in Prince William County. It was a decision of the General Assembly to make available funds to pay for many of the highway capacity increases that will be built in the I-66 corridor. However, many of those improvements had *already* been identified in a 1988 sub-regional transportation plan by the Northern Virginia area as necessary, just to handle the anticipated increase in commuters. If the additional lanes were needed for the Disney traffic, where would the regular commuters have gone? Also, were the traffic impacts for the Disney complex realistic if Prince William County chose to allow sharply increased development contiguous to Disney? And, if the regional transportation planning and air quality models are not sensitive to the impacts of a development as large as Disney's, are these models really useful for considering important policy questions? More germane to this discussion: Whose responsibility is it to answer these questions? The commonwealth, which is doing the improvements? Prince William County, because it is allowing the intense land use? Jurisdictions east or west of the project, because they are the source of many of the commuters? Clearly, there are no simple answers.

Many critics of the project pointed out that traffic analyses were being conducted only for the immediate area around the development, and no attention was paid to where the autos would go once they leave that area (i.e. systemwide effects). In this case, it is a local land use decision's effects upon the rest of the region that is being debated, and yet some argue that such a debate should not occur; it has traditionally been a local jurisdiction's prerogative to zone for the development levels it likes.

These issues arise in other ways as well. If Maryland builds an extension to Metrorail that feeds many more people into the system, should Virginia share costs using existing formulas or should Maryland be entirely responsible? **As the area continues to grow, to face increasing demands for land and traffic capacity, and to feel the squeeze of inadequate resources, finding workable solutions that allow the systemic effects of local and regional transportation decisions to be considered will become increasingly important.**

## Changing Travel Patterns

Incorporated in both the current planning process and any future plans must be a recognition that travel patterns in the region have drastically altered over the

past years. The Draft Constrained Long Range Plan states that,

> "...in 1990, more than half of all work trips in the region were to jobs in the near and far suburbs; commuting to the downtown core accounted for less than a quarter of all trips to and from work. Moreover, most of the trips destined to suburban jobs began from suburban residences. In all, more than half of all commuting trips in 1990 were estimated to both start and end in the suburbs.[13]

The 1993 Core Cordon Count data supports this statement, and demonstrates that it is also true for the Northern Virginia region specifically. For instance, it is informative to compare the results of the Core Cordon Count to the count that MWCOG conducts using the Beltway as the cordon line. At this cordon line, transit usage is lower, and the occupancy rate of automobiles drops. A comparison of the two cordon lines also shows that in Virginia, 12 percent more people cross the Beltway than cross the Core Cordon line. This indicates that more people travel from the outer suburbs to the inner suburbs than travel from both the outer and inner suburbs into the urban core. **The transit sector must develop innovative solutions to respond to the changes in its traditional market, and the new needs arising in other markets.**

## CONCLUSION

Transit is a service with many types of customers, or beneficiaries. While the systems themselves generally operate at a loss, governments take on that loss because of the many benefits transit provides the community in other ways. Access to stores and hospitals is provided to those who cannot drive or do not own a car. The expensive infrastructure of highways and bridges is used more efficiently, delaying or eliminating the need to build more roads. Air pollution that would otherwise be generated by automobiles is eliminated. Energy savings, economic development, and reduced urban sprawl are all frequent benefits a transit system delivers. Thus, transit systems do not seek riders because they need the money; they seek them because, by carrying people on transit, the system is effectively benefitting to the entire community.

In this respect, the community as a whole stands to gain if any transit system within its boundaries becomes more effective or more efficient. This is an important point to remember in Northern Virginia, where often those who need to cooperate instead find themselves competing. A good bus system in Alexandria helps to maintain

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[13] Draft Constrained Long Range Plan. National Capital Region Transportation Planning Board. Washington, DC: July, 1994.

the quality of Reston's air, and Metrorail carries the VRE commuter from Fredericksburg to meetings or to lunch. Competition for resources is stiff, and the small amount of money available for transit does not begin to meet the region's present needs. The region as a whole must agree on its priorities and goals, and then use new funding, innovative services, and integrated, cooperative programs to achieve them.

# APPENDIX A

# TRANSPORTATION AGENCIES

# AND ORGANIZATIONS

# TABLE OF CONTENTS


| | Page |
|---|---|
| **NATIONAL/FEDERAL AGENCIES/ORGANIZATIONS** | 4 |
| Congress | 4 |
| Senators of Virginia | 4 |
| Senate Committees | 4 |
| Representatives of Virginia | 4 |
| House Committees | 5 |
| U.S. Department of Transportation | 5 |
| Federal Transit Administration | 6 |
| Federal Highway Administration | 6 |
| Federal Railroad Administration | 7 |
| Environmental Protection Agency | 7 |
| U.S. Army Corps of Engineers | 8 |
| National Park Service | 8 |
| General Services Administration | 8 |
| Transportation Research Board/National Research Council | 9 |
| American Association of State Highway & Transportation Officials | 9 |
| American Public Transit Association | 9 |
| **STATE AGENCIES/ORGANIZATIONS** | 10 |
| Office of the Governor | 10 |
| Office of the Secretary of Transportation | 10 |
| Virginia Department of Transportation | 10 |
| Commonwealth Transportation Board | 11 |
| Virginia Department of Rail & Public Transportation | 11 |
| State Corporation Commission | 12 |
| Division of Risk Management | 12 |
| Virginia General Assembly | 12 |
| Virginia Association of Counties | 14 |
| Virginia Municipal League | 14 |
| Virginia Association of Public Transit Officials | 14 |
| George Mason University | 15 |

## TABLE OF CONTENTS cont'd


**REGIONAL AGENCIES/ORGANIZATIONS** 16

Northern Virginia Transportation Commission 16
Potomac & Rappahannock Transportation Commission 16
Virginia Railway Express 17
Northern Virginia Planning District Commission 17
Transportation Coordinating Council 17
Washington Metropolitan Area Transit Authority 18
Metropolitan Washington Council of Governments 18
National Capital Region Transportation Planning Board 18
Metropolitan Washington Air Quality Committee 19
Metropolitan Development Policy Committee 19
Greater Washington Board of Trade 19
Federal City Council 20
Maryland-National Park and Planning Commission 20
Washington Suburban Transit Commission 20
Maryland Department of Transportation 21
MARC 21
National Capital Planning Commission 21
District of Columbia Department of Public Works 22
Virginia Department of Transportation 22
Metropolitan Washington Airports Authority 22
Washington Metropolitan Area Transit Commission 23

**LOCAL AGENCIES/ORGANIZATIONS** 24

Offices of Transportation (And Related Agencies) 24
City of Alexandria 24
Department of Transportation & Environmental Services 24
Office of Transit Services & Programs 24
Arlington Department of Public Works 24
City of Fairfax 25
City of Falls Church 25
Fairfax County Office of Transportation 25
Loudoun County 26
Ridesharing Offices 27
Alexandria 27
Arlington County 27
Fairfax County 27
Loudoun County 27
Prince William County 28
Metropolitan Washington Council of Governments Ride Finders Network 28

## TABLE OF CONTENTS cont'd


Local Citizens Transportation Advisory Boards 29
Arlington Transportation Commission 29
Alexandria Transportation Planning Board 29
Alexandria Traffic and Parking Board 29
Fairfax County Transportation Advisory Commission 29
Falls Church Planning Department 30
Local Transit Operators 31
Arlington Trolley in Crystal City 31
DASH (Alexandria Transit Company) 31
COMMUTERIDE 31
CUE Bus (City of Fairfax) 32
Fairfax Connector 32
Restor RIBS 32
Tysons Shuttle 32

**TRANSPORTATION MANAGEMENT ASSOCIATIONS** 33

Ballston/Rosslyn Area Transportation Association 33
Crystal City Commuter Service Center 33
Dulles Area Transportation Association 33
Reston Transportation Management Association 34
Transportation & Environmental Management and Planning Organization Alexandria, Inc. 34
Tysons Transportation Association 34
Loudoun County Transportation Association 34

**PRIVATE COMPANIES/ORGANIZATIONS** 35

Toll Road Corporation of Virginia 35
Washington Private Operators Council 35
Washington Area Bicyclist Association 35
American Automobile Association 36
Sensible Washington Area Transportation Coalition/ Moving People 36
Northern Virginia Transportation Alliance 36
Virginia VanPool Association, Inc. 36
National Railroad Passenger Corporation (Amtrak) 37

# NATIONAL/FEDERAL AGENCIES/ORGANIZATIONS

## Congress

### Senators of Virginia:

John Warner (R)
Charles Robb (D)

**U.S. Senate**
Washington, D.C. 20510
Telephone: 202/224-3121 (U.S. Capitol Switchboard)

### Senate Committees:

Senate Appropriations Committee
Telephone: 202/224-3471

Transportation Subcommittee
Telephone: 202/224-7245

Senate Banking, Housing and Urban Affairs Committee
Telephone: 202/224-7391

Housing and Urban Affairs Subcommittee
Telephone: 202/224-9204

Senate Commerce, Science and Transportation Committee
Telephone: 202/224-5115

Surface Transportation Subcommittee
Telephone: 202/224-9350

Senate Environmental Public Works Committee
Telephone: 202/224-6176

Water Resources, Transportation and Infrastructure Subcommittee
Telephone: 202/224-6176

### Representatives of Virginia:

1. Herbert Bateman (R)
2. Owen Pickett (D)
3. Robert C. Scott (D)
4. Norman Sisisky (D)

| | | |
|---|---|---|
| 5. | L.F. Payne | (D) |
| 6. | Robert W. Goodlatte | (R) |
| 7. | Thomas Bliley | (R) |
| 8. | James Moran | (D) |
| 9. | Rick Boucher | (D) |
| 10. | Frank Wolf | (R) |
| 11. | Leslie Byrne | (D) |

**U.S. House of Representatives**
Washington, D.C. 20515
Telephone: 202/224-3121 (U.S. Capitol Switchboard)

**House Committees:**

House Appropriations Committee
Telephone: 202/225-2771

Transportation Subcommittee
Telephone: 202/225-2358

House Energy and Commerce Committee
Telephone: 202/225-2927

House Public Works and Transportation Committee
Telephone: 202/225-4472

Surface Transportation Subcommittee
Telephone: 202/225-4472

**Legislation:**

**Senate and House Bill Status**
Telephone: 202/225-1772

*** The number to the left of name indicates Congressional District.**

**U.S. Department of Transportation**

The Honorable Federico Pena, Office of the Secretary
400 7th Street, S.W., Suite 10200
Washington, D.C. 20590

Telephone: 202/366-1111
Fax: 202/426-4508

**Function:** Set policy and coordinate activities of the modal administrations.

## Federal Transit Administration

Gordon Linton, Administrator
Federal Transit Administration, (FTA)
400 7th Street, S.W.
Washington, D.C. 20590

Telephone: 202/366-4040
Fax: 202/366-3472

Sheldon Kinbar, Regional Administrator
FTA Region III
1760 Market Street, #500
Philadelphia, PA 19103

Telephone: 215/656-6900
Fax: 215/656-7260

**Function:** Administer grants to support public transit capital investments operations and research.

## Federal Highway Administration

The Honorable Rodney Slater, Administrator
Federal Highway Administration, (FHWA)
400 7th Street, S.W.
Washington, D.C. 20590

Telephone: 202/366-0650
Fax: 202/366-3244

**Functions:** Administer grants to support flexible investments in surface transportation.

## Federal Railroad Administration

Jolene Molitoris, Administrator
Federal Railroad Administration, (FRA)
400 7th Street, S.W.
Washington, D.C. 20590

Telephone: 202/366-0710
Fax: 202/366-7009

**Function:** Provide grants, primarily for safety purposes, and regulate safety of railroads. Administer major grant programs to develop new technology, such as magnetic levitation.

## Environmental Protection Agency

Carol M. Browner, Administrator
Environmental Protection Agency, (EPA)
401 M. Street, S.W., Room 1200
West Tower
Washington, D.C. 20460

Telephone: 202/260-8279
Fax: 202/260-4700
Main #: 202/260-2090

Peter H. Kostmayer
Regional Administrator, Region III
841 Chestnut Street
Philadelphia, PA 19107

Telephone: 215/597-9800

**Function:** Responsible for mandates of the Clean Air Act and establishing regulations to provide state and local compliance.

## U.S. Army Corps of Engineers

Lt. General Arthur E. Williams
Chief of Engineers
U.S. Army Corps of Engineers
20 Massachusetts Avenue, N.W.
Washington, D.C. 20314-1000

Telephone: 202/272-0001
Fax: 202/272-0683
Main #: 202/272-0660

**Function:** Must award permits to approve surface transportation construction affecting wetlands (e.g. at WMATA's Franconia/Springfield Station).

## National Park Service

Roger Kennedy, Director
National Park Service
1849 C Street, N.W.
Washington, D.C. 20420

Telephone: 202/208-4621
Fax: 202/208-7520

**Function:** Controls access to certain federal lands, including the George Washington Parkway. Permits are required when encroaching on Park Service land, such as at VRE's L'Enfant station.

## General Services Administration

Roger W. Johnson, Administrator
General Services Administration
18th & F. Street, N.W
Washington, D.C. 20405

Telephone: 202/501-0800
Fax: 202/219-1243
Main #: 202/708-5082

**Function:** Helps determine parking and transportation arrangements for federal agencies. Would be involved in a coordinated regional strategy to boost public transit and ridesharing use among federal employees.

**Transportation Research Board/National Research Council**

Robert E. Skinner, Jr., Executive Director
Transportation Research Board/National Research Council
2101 Constitution Avenue
Washington, D.C. 20418

Telephone: 202/334-2933
Fax: 202/334-2003

**Function:** Sponsors cooperative research programs for surface transportation, and often is directed by Congress to manage special transportation studies.

**American Association of State Highway and Transportation Officials**

Frank Francois, Executive Director
American Association of State Highway and Transportation Officials
444 N. Capitol Street, N. W.
Suite 249
Washington, D.C. 20001

Telephone: 202/624-5800
Fax: 202/624-5806

**Functions:** Trade association for state departments of transportation. Very active in lobbying Congress. Also collects some data from its members.

**American Public Transit Association**

Jack Gilstrap, Executive Vice President
American Public Transit Association
1201 New York Avenue, N.W.
Washington, D.C. 20005

Telephone: 202/898-4000
Fax: 202/898-4070

**Function:** National trade association for public transit operators and suppliers. Several active committees evaluate proposed regulations and advocate legislative positions, including legislative and policy committees as well as modal committees such as commuter rail. Peer review groups are sometimes organized to offer advice to individual operators, such as the group that advised WMATA on its efforts to "winterize".

# STATE AGENCIES/ORGANIZATIONS

## Office of the Governor

The Honorable George Allen
Governor
Commonwealth of Virginia
P.O. Box 1475
Richmond, Virginia 23212

Telephone: 804/786-2211

**Function:** Proposes financing measures for transportation; appoints Secretary of Transportation and members of various Boards and Commissions.

## Office of the Secretary of Transportation

The Honorable Robert G. Martinez
Secretary
Commonwealth of Virginia
9th Street Office Building
Richmond, Virginia 23219

Telephone: 804/786-6670
Fax: 804/786-6683

**Function:** Oversees the Virginia Departments of Transportation and Rail and Public Transportation, serving as chairman of the Commonwealth Transportation Board.

## Virginia Department of Transportation

David Gehr
Commissioner,
Virginia Department of Transportation, (VDOT)
1401 East Broad Street
Richmond, Virginia 23219

Telephone: 804/786-2700

Claude D. Garver
Assistant Commissioner for Planning and Programming
Virginia Department of Transportation, (VDOT)
1401 East Broad Street
Richmond, Virginia 23219

Telephone: 804/786-2700

**Function:** State agency responsible for planning, constructing and maintaining surface transportation improvements.

## Commonwealth Transportation Board

The Honorable Robert G. Martinez, Chairman
Commonwealth Transportation Board
9th Street Office Building
Richmond, Virginia 23219

Telephone: 804/786-6670
Fax: 804/786-6683

**Function:** Policy Board for VDOT. Chaired by Secretary of Transportation. Adopts six-year program for highway and transit projects.

## Virginia Department of Rail and Public Transportation

Mr. Leo J. Bevon, Director
Virginia Department of Rail and Public Transportation
1401 East Broad Street
Richmond, Virginia 23219

Telephone: 804/786-1051

**Function:** Technical and financial assistance to Virginia's public transit, ridesharing, and railroad operators.

## State Corporation Commission

The Hon. Preston C. Shannon, Commissioner
The Hon. Theo B. Morrison, Jr., Commissioner
The Hon. Hullihen William Moore, Commissioner
1300 East Main Street, 11th floor
Richmond, Virginia 23219

Telephone: 804/371-9683

**Function:** Provides authority to operate and regulates fares for certain privately owned transportation services (e.g. intercity bus service) within the Commonwealth. Must approve tolls to be charged by the Virginia Toll Road Corporation for its Dulles Toll Road Extension to Leesburg. Does not regulate government-owned bus systems nor private carriers operating within the Washington Metropolitan Area Transit Zone.

## Division of Risk Management

Mr. Don W. LeMond, Director
James Madison Building - 4th Floor
109 Governor Street
Richmond, Virginia 23219

Telephone: 804/225-4619
Fax: 804/371-8400

**Function:** Risk manager for the Virginia Railway Express. On behalf of NVTC/PRTC, manages VRE's insurance program which provides $200 million of protection and incorporates $20 million of cash reserves.

## Virginia General Assembly

**Function:** Sessions are held for two or three months each year beginning in January, but committee hearings occur all year. Created NVTC in 1964. Designates NVTC's members from the General Assembly and the number of members from each jurisdiction. Specifies the method of sharing NVTC's administrative costs and allocating the majority of NVTC's state aid.

In a special session in 1986, created a new Transportation Trust Fund with public transit to receive 8.4 percent allocated according to a statutory formula. Public transit funding was doubled.

Senator Hunter Andrews
Majority Leader, Chairman of Finance Committee
Virginia Senate 1st District
16 S. King Street P.O. Box B
Hampton, Virginia 23669

Telephone: 804/722-2581

Susan Clark Schaar, Clerk
Senate
P.O. Box 396
Richmond, Virginia 23219-0396

Telephone: 804/786-2366

Delegate Thomas W. Moss, Jr.
Speaker of the House of Delegates
Delegate for the 79th District
P.O. Box 6190
Portsmouth, Virginia 23705

Telephone: 804/399-3600

Delegate Richard Cranwell
Majority Leader of the House of Delegates, Chairman of Finance Committee
Delegate for the 14th District
P.O. Box 459
Vinton, Virginia 24179

Telephone: 703/344-7111

Bruce F. Jamerson, Clerk
House of Delegates
P.O. Box 406
Richmond, Virginia 23203-0406

Telephone: 804/786-8826

## Virginia Association of Counties (VACO)

James D. Campbell, Executive Director
1001 E. Broad Street
Suite LL20
Richmond, Virginia 23219

Telephone: 804/788-6652
Fax: 804/788-0083

**D.C. Office:**

Telephone: 202/393-6226

**Function:** Advocacy group for Virginia's County governments. Each year adopts legislative agenda, including transportation components.

## Virginia Municipal League

R. Michael Amyx, Executive Director
P.O. Box 12164 (13 East Franklin Street)
Richmond, Virginia 23241

Telephone: 804/649-8471
Fax: 804/343-3758

**Function:** Advocacy group for Virginia's cities and towns. Pursues an annual legislative agenda. Provides management services for the Virginia Association of Public Transit Officials.

## Virginia Association of Public Transit Officials (VAPTO)

Honorable Joseph Alexander, President
6107 Craft Road
Alexandria, Virginia 22310

Telephone: 703/971-6262
Fax: 703/971-3032

Staff Contact: Janet Aereson
13 East Franklin Street
P.O. Box 12164
Richmond, Virginia 23241

Telephone: 804/649-8471
Fax: 804/343-3758

**Function:** Trade group for Virginia's public transit operators and associated suppliers. Primarily focused on state legislation, VAPTO employs a lobbyist and uses VML for secretarial services. Provides annual awards honoring outstanding public officials, transit systems and innovative programs. Sponsors a rodeo for transit drivers and mechanics.

## George Mason University

George W. Johnson
President
George Mason University
Fairfax, Virginia 22030-4444

Dr. Roger Stough
Northern Virginia Chair in Local Government
Public Policy Institute
George Mason University
Fairfax, Virginia 22030-4444

Telephone: 703/993-2280

Ellie Doyle
Director, Transportation and Land Use Policy
GMU-Alumni House
4400 University Drive
Fairfax, Virginia 22030

Telephone: 703/993-3351

**Function:** State-supported university located in Fairfax County/City of Fairfax. Has active transportation education and research programs. Emphasis is on Intelligent Vehicle Highway Systems and traveler information systems. Recipient of several federal transportation research grants and active supporters of private-sector involvement.

## Northern Virginia Transportation Commission (NVTC)

Patricia S. Ticer, Chairman
Richard K. Taube, NVTC Executive Director
4350 N. Fairfax Drive, Suite 720
Arlington, Virginia 22203

Telephone: 703/524-3322
Fax: 703/524-1756

**Function:** Created by the General Assembly in 1964, currently has 19 members from six jurisdictions. Members are elected officials from local jurisdictions and the General Assembly, with a designee of the Commissioner of VDOT. Concentrates on finance, and allocates $70 million annually of state/federal funds to assist public transit. Co-sponsor of the Virginia Railway Express. All NVTC Commissioners are also members of the Transportation Coordinating Council. Four NVTC members are appointed by the Commission to the WMATA Board of Directors. Levies a two percent motor fuels tax generating $12 million annually; the funds are used primarily for Metro operating costs and debt service.

## Potomac and Rappahannock Transportation Commission (PRTC)

Terrance Spellane, Chairman
Leo P. Auger, PRTC Executive Director
1519 Davis Ford Road, Suite One
Woodbridge, Virginia 22192-2737

Telephone: 703/490-4811
Fax: 703/490-5254

**Function:** Created in 1986 under authority of Section 15.1-1342 of the Code of Virginia: (Transportation District Act). Current members include Prince William and Stafford Counties, and the cities of Fredericksburg, Manassas and Manassas Park. Operates the Commuteride commuter bus system, a ridesharing program, and is a co-sponsor of VRE commuter rail service. Commissioners are appointed from each jurisdiction and the General Assembly including as many of six principals and six alternates from Prince William County. Total commissioners are 15, with 14 alternates. The two percent motor fuels tax levied within PRTC yields almost $5 million annually.

**Virginia Railway Express**

Hilda Barg, Chairman of Operations Board
Stephen T. Roberts, Director of Operations
6800 Versar Center at Hechinger Drive, Suite 247
Springfield, Virginia 22151

Telephone: 703/642-3808
Fax: 703/642-3820

**Function:** Joint operating board created by NVTC and PRTC to manage operations.

**Northern Virginia Planning District Commission (NVPDC)**

Thomas Davis Rust, Chairman
G. Mark Gibb, Executive Director
7535 Little River Turnpike, Suite 100
Annandale, Virginia 22003

Telephone: 703/642-0700

**Function:** State planning review agency. Conducting land use study of the Virginia Railway Express (VRE).

**Transportation Coordinating Council**

Byron Waldman, Chairman
Terrance Spellane, Vice-Chairman
c/o Carolyn Zeller
Northern Virginia District Office
VDOT
3975 Fair Ridge Drive
Fairfax, Virginia 22033

Telephone: 703/934-7300

**Function:** The TCC was created by Governor Wilder in 1990 based on earlier plans by NVTC Chairman John Milliken. Member jurisdictions adopted resolutions to participate. The Council consists of three parts: 1) A policy group with 35 elected officials (plus alternates) from NVTC, PRTC and selected towns. This group is chaired by the Northern Virginia member of the Commonwealth Transportation Board. 2) A TCC Technical Committee with staff representatives of local and regional jurisdictions, chaired by the Northern Virginia District Administrator of VDOT. 3) A TCC Citizens Committee chaired by an appointee (Margaret Vanderhye) of the Secretary of Transportation.

**Washington Metropolitan Area Transit Authority**

Jack Evans, Chairman
Larry Reuter, General Manager
600 Fifth Street, N.W.
Washington, D.C. 20001

Telephone: 202/637-1234

| | |
|---|---|
| Metro Bus/Rail Information: | 202/637-7000 |
| Metro On-Call Lift-Equipped Buses: | 202/962-1825 |
| Elderly Disabled Assistance I/D Cards: | 202/962-1245 |

**Function:** Operates the Metrorail and Metrobus systems within a service territory established by an interstate compact; this area includes the cities of Alexandria, Fairfax and Falls Church; and Arlington and Fairfax Counties.

**Metropolitan Washington Council of Governments**

777 North Capitol St., Suite 300
Washington, D.C. 20002-4201
Telephone: 202/962-3200

Patricia S. Ticer, Chairman
Ruth A. Crone, Executive Director

**Function:** In 1966, MWCOG was officially recognized by the federal government as the agency responsible for comprehensive regional planning and agreed with the TPB to use the latter as its Transportation Policy Committee.

**National Capital Region Transportation Planning Board**

Stephen J. Del Giudice, Chairman
Ron Kirby, Director, Office of Transportation
777 North Capital Street, Suite 300
Washington, D.C. 20002-4201

Telephone: 202/962-3200

**Function:** Serves as Metropolitan Planning Organization and provides extensive database and modeling capability for population, employment and transportation studies. TPB now includes representatives of 18 cities and counties, plus three state transportation agencies, MWAA, WMATA, and five federal agencies. A weighted voting procedure is employed. MWCOG staff operate the Ride Finders network, which provides a centralized carpool and vanpool matching database. A citizens advisory committee is chaired by Ms. Anne Haynes.

**Metropolitan Washington Air Quality Committee**

Ellen M. Bozman, Chairman
777 North Capital Street, Suite 300
Washington, D.C. 20002-4201

Staff Contact: Travis Monkle
Assistant Director of the Department
of Environmental Programs
777 North Capital Street, Suite 300
Washington, DC 20002-4201

Telephone: 202/962-3200

**Function:** Consists of elected officials from localities, states, and the District of Columbia. Develops recommendations for a regional air quality attainment strategy for the Washington area; these recommendations become part of the State Implementation Plan, which is submitted to the Environmental Protection Agency.

**Metropolitan Development Committee**

William J. Becker, Chairman
777 North Capital Street, Suite 300
Washington, D.C. 20002-4201

Telephone: 202/962-3200

**Function:** Policy committee which advises the MWCOG Board of Directors. Makes recommendations regarding regional forecasts and works to facilitate and oversee interjurisdictional agreements.

**Greater Washington Board of Trade**

John Tydings, President
1129 20th Street, N.W.
Suite 200
Washington, D.C. 20036-3494

Telephone: 202/857-5900

**Function:** Advocates improvements for the regional economy.

**Federal City Council**

Ann McLaughlin, President
1155 15th Street, N. W.
Suite 301
Washington, DC 20005

Telephone: 202/223-4560
Fax: 202/659-8621
**Function:** Undertakes studies of regional issues.

**Maryland-National Park and Planning Commission**

Roy I. Dabney, Acting Chairman
Leroy J. Hedgepeth, Executive Director
6611 Kenilworth Avenue
Riverdale, Maryland 20737

Telephone: 301/454-1747
Fax: 301/454-1750

**Function:** Joint agency for Montgomery and Prince George's County that plans and analyzes transportation improvements.

**Washington Suburban Transit Commission**

Carlton Sickles, Chairman
8720 Georgia Avenue, Suite 904
Sliver Spring, Maryland 20910-3602

Telephone: 301/565-9665
Fax: 301/565-0241

**Function:** Provides a forum for Maryland's members of the WMATA Board of Directors.

## Maryland Department of Transportation

O. James Lighthizer, Secretary of Transportation
P.O. Box 8755
BWI Airport, Maryland 21240-0755

Telephone: 410/859-7397

Alex Eckmann, Manager of Washington Area Transit Programs
8720 Georgia Avenue, Suite 904
Silver Spring, Maryland 20910-3602

Telephone: 301/565-9665

John A. Agro, Jr., Administrator
Mass Transportation Administration
300 West Lexington Street
Baltimore, MD 21201-3415

Telephone: 410/333-3885
Fax: 410/333-3279

**Function:** Provides Maryland jurisdictions' WMATA funding.

## MARC

David Nogar, Director
P.O. Box 8718
BWI Airport, Maryland 21240-8718

Telephone: 410/859-7400
Fax: 410/859-5713

**Function:** Operator of MARC commuter rail service. Part of Maryland Mass Transit Administration.

## National Capital Planning Commission

Reginald W. Griffith, Executive Director
801 Pennsylvania Avenue, N.W., Suite 301
Washington, D.C. 20576-2604

Telephone: 202/724-0176
Fax: 202/724-0195

**Function:** Must approve federal construction projects in the District of Columbia, and consider transportation implications.

**District of Columbia Department of Public Works**

Betty Hager Francis, Director
2000 14th Street, N.W.
Washington, D.C. 20009

Telephone: 202/939-8000

**Function:** Advises WMATA Board members and cooperates in transportation projects such as VRE's L'Enfant station.

**Virginia Department of Transportation**

Northern Virginia District Office
3975 Fair Ridge Drive
Fairfax, Virginia 22033

Tom Farley, Northern Virginia District Engineer
Telephone: 703/934-7300

Joan Morris, Acting Director of Public Affairs
Telephone: 703/934-7322

Dulles Toll Road Operations Center
Telephone: 703/734-9754

**Function:** The Northern Virginia office manages construction and maintenance of highways in the district and controls ramp meters and other facilities.

**Metropolitan Washington Airports Authority**

James A. Wilding, General Manager MA-1
44 Canal Center Plaza
Alexandria, Virginia 22314

Telephone: 703/739-8610

Washington Flyer: 703/685-1400
703/661-2700

**Function:** Regional agency operating Washington National and Washington Dulles International Airports. Also offers Washington Flyer bus, van and taxi system serving both airports.

## Washington Metropolitan Area Transit Commission

Honorable Howard C. Davenport, Chairman
W.H. McGilvery III, Executive Director
WMATC
1828 L. Street, N.W., Suite 703
Washington, D.C. 20036-5104

Telephone: 202/331-1671
Fax: 202/653-2179

**Function:** Created in 1960 as part of the Washington Metropolitan Area Transit Regulation Compact signed by Virginia, Maryland and the District of Columbia. Composed of one member from each of the three jurisdictions, each from the respective regulatory commissions of those jurisdictions. Geographic jurisdiction includes the Washington Metropolitan Transit District. The Commission regulates for-hire transportation between points in the District (or for routes outside zone if operated under Interstate Commerce Commission authority with a majority of passengers in the District), including taxicabs operating between jurisdictions. The Commission does not regulate water, air or rail transit; federal, state, local or WMATA transportation; school transit; or transit solely within Virginia. Examples of regulatory activities include setting maximum interstate taxi rates for D.C. cabs. As of July, 1992, a total of 28 Virginia-based Companies held WMATC certificates, including commuter bus operators, charter buses, and limousine services.

## OFFICES OF TRANSPORTATION (AND RELATED AGENCIES)

### City of Alexandria

City Hall
301 King Street
Alexandria, Virginia 22314

#### Department of Transportation & Environmental Services

Thomas F. O'Kane, Jr., Director (Room 4100)
Telephone: 703/838-4966

Mary J. Anderson, Deputy Director/Administration (Room 4100)
Telephone: 703/838-4966

**Function:** Planning, construction and maintenance of streets, bridges and HOV-facilities, coordination of traffic and transit programs.

#### Office of Transit Services and Programs

Valerie Sikora, Acting Division Chief (Room 5100)
Telephone: 703/838-3800

**Function:** Division of Transit and Environmental Services overseeing operation, information, and marketing of ridesharing, DASH and other transit services.

### Arlington Department of Public Works

Sam Kem, Director
Ken Hook, Deputy Director
James R. Hamre, Transit Programs Coordinator
No. 1 Courthouse Plaza
2100 Clarendon Blvd., Suite 717
Arlington, Virginia 22201-5445

Telephone: 703/358-3371

**Function:** Planning, construction and maintenance of streets, bridge, transit and HOV-facilities. Coordination and marketing of ridesharing commuter stores, and other commuter services.

**City of Fairfax**

10455 Armstrong Street
Fairfax, Virginia 22030-3630

Peggy Wagner, Director of Community Development and Planning
Telephone: 703/385-7932

Richard R. Fruehauf, Director of Transit and Utilities
Telephone: 703/385-7920

Paul Briggs, Transit Superintendent
Telephone: 703/385-7827
Telephone: 703/385-7859 (Information for CUE Bus)

**Function:** City government responsible for planning, construction and maintenance of street, bridge, transit and HOV-facilities, and operation of the CUE Bus System.

**City of Falls Church**

Halsey Green, Assistant Director of Financial Services
300 Park Avenue
Falls Church, Virginia 22046

Telephone: 703/241-5092

**Function:** City government responsible for planning, construction and maintenance of streets, and finance.

**Fairfax County Office of Transportation**

12055 Government Center Parkway
Suite 1034
Fairfax, Virginia 22035-5511

Shiva K. Pant, Director
Telephone: 703/324-1100

Andy Szakos, Chief, Transit Operations Section
Telephone: 703/324-1100

**Function:** County agency responsible for planning and coordinating roads, bridges, HOV-facilities and public transit.

**Loudoun County**

Sanjeev Malhotra, Chief of Transportation Planning
Julie Pastor, Director, Department of Planning
750 Miller Drive, S.E.
Leesburg, Virginia 22075

Telephone: 703/777-0246
Fax: 703/777-0441
**Function:** County agencies responsible for planning and coordinating roads, bridges, HOV-facilities and public transit.

## RIDESHARING OFFICES

### Alexandria

Mary Bowler, Ridesharing Coordinator
Alexandria Rideshare
P.O. Box 178
City Hall, Room 5100
Alexandria, Virginia 22313

Telephone: 703/838-3800

### Arlington County

Chris Hamilton
Transit Engineer
Suite 706
2100 Clarendon Blvd.
Arlington, Virginia 22201

Telephone: 703/358-3575 (Business)
703/528-3541 (Rideshare)

### Fairfax County

Dorothy Cousineau
Fairfax County Ridesources
12055 Government Center Parkway
Suite 1034, Tenth Floor
Fairfax, Virginia 22035-5511

Telephone: 703/324-1109 (Business)
703/324-1111 (Rideshare)

**Loudoun County**

Lynne Roberts
Ridesharing Coordinator
Loudoun County
750 Miller Drive, S.E., Suite 300
Leesburg, Virginia 22075

Telephone: Metro: 703/478-8416 (ext. 5665)
Local: 703/771-5665

**Prince William County**

Lauretta Ruest
Project Director
Potomac & Rappahannock Transportation Commission
1519 Davis Ford Road, Suite 1
Woodbridge, Virginia 22192

Telephone: Metro: 703/643-0239
Local: 703/490-4422

**Function:** Administer local ridesharing services and marketing in cooperation with MWCOG's regional network, known as the Ride Finders Network.

**Metropolitan Washington Council of Governments Ride Finders Network**

Jon Williams, Chief, Short Range Transportation Programs
MWCOG
777 N. Capitol St., N.W., Suite 300
Washington, D.C. 20002-4201

Telephone: 202/962-3200

## LOCAL CITIZENS TRANSPORTATION ADVISORY BOARDS

### Arlington Transportation Commission

C/O Kathleen N. Ausley, Chairman
James R. Hamre
Arlington Department of Pubic Works
2100 Clarendon Blvd.
Arlington, Virginia 22201

Telephone: 703/358-3681

### Alexandria Planning Commission

W.B. Hurd, Chairman
C/O Sheldon Lynn
Alexandria Department of Planning & Community Development
301 King Street, Room 2100
Alexandria, Virginia 22314

Telephone: 703/838-4666

### Alexandria Traffic and Parking Board

C. Peter Schumayer, Chairman
C/O George Jivatode
Alexandria Department of Transportation & Environmental Services
301 King Street, Room 5150
Alexandria, Virginia 22314

Telephone: 703/838-4411

### Fairfax County Transportation Advisory Commission

C/O Don Emerson, Chairman
Fairfax County Office of Transportation
12055 Government Center Parkway
Suite 1034, Tenth floor
Fairfax, Virginia 22035-5511
If mailing to this address, ATTN: Dan Southworth

Telephone: 703/324-1100

**Function:** Members are appointed by the County Board of Supervisors, with one member from each magisterial district. TAC responds to Board requests for advice.

**Falls Church Planning Department**

Citizens Advisory Committee on Transportation
Elizabeth Macaulay, Chairman
C/O Planning Department
300 Park Avenue
Falls Church, Virginia 22046

Telephone: 703/241-5040

## LOCAL TRANSIT OPERATORS

### Arlington Trolley in Crystal City

Chris Hamilton
Transit Engineer
#1 Courthouse Plaza, #706
2100 Clarendon Blvd.
Arlington, Virginia 22201

Telephone: 703/358-3575

**Function:** Serves Crystal City with connections to Metrorail.

### DASH (Alexandria Transit Company)

William B. Hurd, Chairman
Sandy Modell, General Manager
116 S. Quaker Lane
Alexandria, Virginia 22304

Telephone: 703/370-3274

**Function:** Over 60 full and part-time employees operate seven routes and carry about 2.0 million passengers annually. Non-profit corporation with seven shares of capital stock all owned by the City of Alexandria. The Board of Directors is elected annually by the City Council. The Company owns all assets but has no employees. Operations are contracted to the ATE Management and Service Company, which employs the General Manager. All other transit employees work for Transit Management of Alexandria, Inc., a wholly owned subsidiary of ATE.

### COMMUTERIDE

Potomac & Rappahannock Transportation Commission
1519 Davis Ford Road, Suite One
Woodbridge, Virginia 22192-2737
Attn: Norman Hall

Telephone: 703/490-4422
Fax: 703/490-5254

**Function:** Provides cost effective commuter bus service to core locations with connections to Metrorail. Per seat mile cost is approximately $0.03, and fare box recovery is over 70 percent.

**CUE Bus (City of Fairfax)**

Paul Briggs, Transit Superintendent
10455 Armstrong Street
Fairfax, Virginia 22030

Telephone: 703/385-7827

**Function:** Provides local transit service with connections to Metrorail.

**Fairfax Connector**

Andy Szakos, Office of Transportation
12055 Government Center Parkway
Suite 1034
Fairfax, Virginia 22035-5511

Telephone: 703/324-1172
Fairfax Connector Information: 703/339-7200

**Function:** County-owned public bus system.

**Reston RIBS**

Andy Szakos, Office of Transportation
12055 Government Center Parkway
Suite 1034
Fairfax, Virginia 22035-5511

Telephone: 703/324-1172
Reston RIBS Information: 703/548-4545

**Function:** County-funded public bus system.

**Tysons Shuttle**

Andy Szakos, Office of Transportation
12055 Government Center Parkway
Suite 1034
Fairfax, Virginia 22035-5511

Telephone: 703/324-1172
Tysons Shuttle Information: 703/548-4545

**Function:** County-funded public bus system.

# TRANSPORTATION MANAGEMENT ASSOCIATIONS

## Ballston/Rosslyn Area Transportation Association (BATA)

Ms. Robin Bard, Transit Store Manager
4238 Wilson Blvd., Suite 1244
Arlington, Virginia 22203

Telephone: 703/528-3541

**Function:** Contract operator of the Ballston Transit Store, now located at Ballston Commons Shopping Mall, which is funded by Arlington County. Works closely with the Ballston Partnership.

## Crystal City Commuter Service Center

Bob Stravinski, Manager
Crystal City Commuter Service Center
1615 B Crystal Square Arcade
Arlington, Virginia 22202

Telephone: 703/413-4287

**Function:** Sponsored by Arlington County.

## Dulles Area Transportation Association (DATA)

Sidney Steele, President
13873 Park Center Road
Herndon, Virginia 22071

Telephone: 703/689-9589
Fax: 703/689-2569

**Function:** Dedicated to improving mobility in the Dulles Airport/Route 28 employment center (Fairfax, Loudoun, Prince William County). Members include employers, property owners, local governments and other groups. Activities include assessing transportation needs, identifying issues, formulating strategies, and providing a forum. Publishes quarterly newsletter "TransActions."

**Reston Transportation Management Association (LINK)**

Karl J. Ingebritson, Director
LINK
1760 Reston Parkway
Suite 513
Reston, Virginia 22090-3303

Telephone: 703/318-9663 or 435-LINK
Fax: 703/318-0817

**Function:** Improving mobility in the Reston Area.

**Transportation and Environmental Management and Planning Organization Alexandria, Inc. (TEMPO)**

Ms. Cynthia Fondriest, Executive Director
1800 Diagonal Road, Suite 600
Alexandria, Virginia 22314

Telephone: 703/519-8970

**Function:** A private, non-profit TMA founded in July, 1989. The TMA serves as a resource center for transit and ridesharing information.

**Tysons Transportation Association (TYTRAN)**

William J. Menda, Chairman and President
Tysons Transportation Association
P.O. Box 3264
Tysons Corner, Virginia 22103

Telephone: 703/821-3000

**Function:** Actively works to improve mobility.

**Loudoun County Transportation Association**

Dave Daugherty, President
LCTA
P.O. Box 2833
Leesburg, Virginia 22075

Telephone: 703/777-5246

**Function:** Improve mobility.

**Toll Road Corporation of Virginia**

Michael Crane, CEO
Gen. Charles Williams, Chief Operating Officer
109 Carpenter Drive #200
Sterling, VA 20164

Telephone: 703/707-8870
Fax: 703/707-8876

**Function:** This private organization has been working for several years to obtain all the approvals necessary (e.g. VDOT, State Corporation Commission) to design, finance, construct and operate an extension of the Dulles Toll Road to Leesburg.

**Washington Private Operators Council**

Kenneth W. Butler, Executive Director
WPOC
4350 N. Fairfax Drive, Suite 530
Arlington, Virginia 22203

Telephone: 703/527-9820
Fax: 703/351-7528

**Function:** Created in January 1992, this non-profit association consists of a group of for-profit transportation companies seeking to educate the public and elected officials about the benefits of contracted public transit services. Start-up costs are partially covered by FTA through George Mason University. Has begun to publish a monthly newsletter. Current members include American Contract Management, Inc., Diamond Transportation, ATE Management & Services, Inc., American Coach Lines, Inc., Barwood Taxi, and Transportation General, Inc.

**Washington Area Bicyclist Association (WABA)**

Ellen Jones, Director
1819 H. Street, N.W., Suite 640
Washington, D.C. 20006

Telephone: 202/872-9830
Fax: 202/862-9762

**Function:** Promote bicycling.

**American Automobile Association**

Ron Kosh, General Manager
12600 Fair Lakes Circle
Fairfax, Virginia 22033-4904
Telephone: 703/222-4200
Fax: 703/222-4049

**Function:** Advocacy group for automobile owners.

**Sensible Washington Area Transportation Coalition/Moving People**

C/O Anne Haynes
310 N. Royal Street
Alexandria, Virginia 22314

Telephone: 703/836-0925

**Function:** Citizens groups working for improved public transportation.

**Northern Virginia Transportation Alliance**

Gary Garczynski, President
P.O. Box 6149
McLean, Virginia 22106-6149

Telephone: 703/883-1355
Fax: 703/883-1850

**Function:** This non-partisan interest group lobbies for completion of transportation facilities in Northern Virginia and coordinated land use policies. For example, the group strongly supports completion of a western bypass.

**Virginia VanPool Association, Inc.**

Dick Boyd
P.O. Box 1016
Woodbridge, Virginia 22193

Telephone: 202/310-2700

**Function:** Advocacy group for vanpools.

**National Railroad Passenger Corporation (Amtrak)**

Ed Walker, District Superintendent-Commuter Rail Service
Amtrak
900 Second Street, Suite 111
Washington, D,C, 20002

Telephone: 202/906-2619
Fax: 202/906-3569

**Function:** Contract operator for VRE commuter rail service.

# APPENDIX B

# PUBLIC TRANSIT

# RIDERSHIP AND ROUTES

# TRANSIT SYSTEM PHONE NUMBERS

## Alexandria

| | |
|---|---|
| DASH | (703) 370-DASH<br>(800) 828-1120 (TDD) |
| DOT: Specialized Transportation for Persons with Disabilities | (703) 838-3800<br>(703) 836-5222 (Reservations)<br>(800) 828-1120 (TDD) |
| Senior Taxi | (703) 838-4414 |
| Office of Transit Services & Programs | (703) 838-3800<br>(703) 838-5056 |

## Arlington

| | |
|---|---|
| Arlington Trolley in Crystal City | (703) 358-3575 |
| Arlington Access | (703) 358-3681 |

## City of Fairfax

| | |
|---|---|
| CUE Bus | (703) 385-7859 (Voice/TDD) |
| City Wheels (Paratransit) | (703) 385-7920 |

## City of Falls Church

| | |
|---|---|
| Farewheels (Paratransit) | (703) 241-5042 |

## Fairfax County

| | |
|---|---|
| Fairfax Connector | (703) 339-7920 |
| Tysons Shuttle | (703) 548-4545 |
| Reston Internal Bus System (RIBS) | (703) 548-4545 |

## WMATA

| | |
|---|---|
| General Information | (202) 637-7000 |
| MetroAccess | (301) 588-8181 |
| Bicycle Services | (202) 962-1116 |

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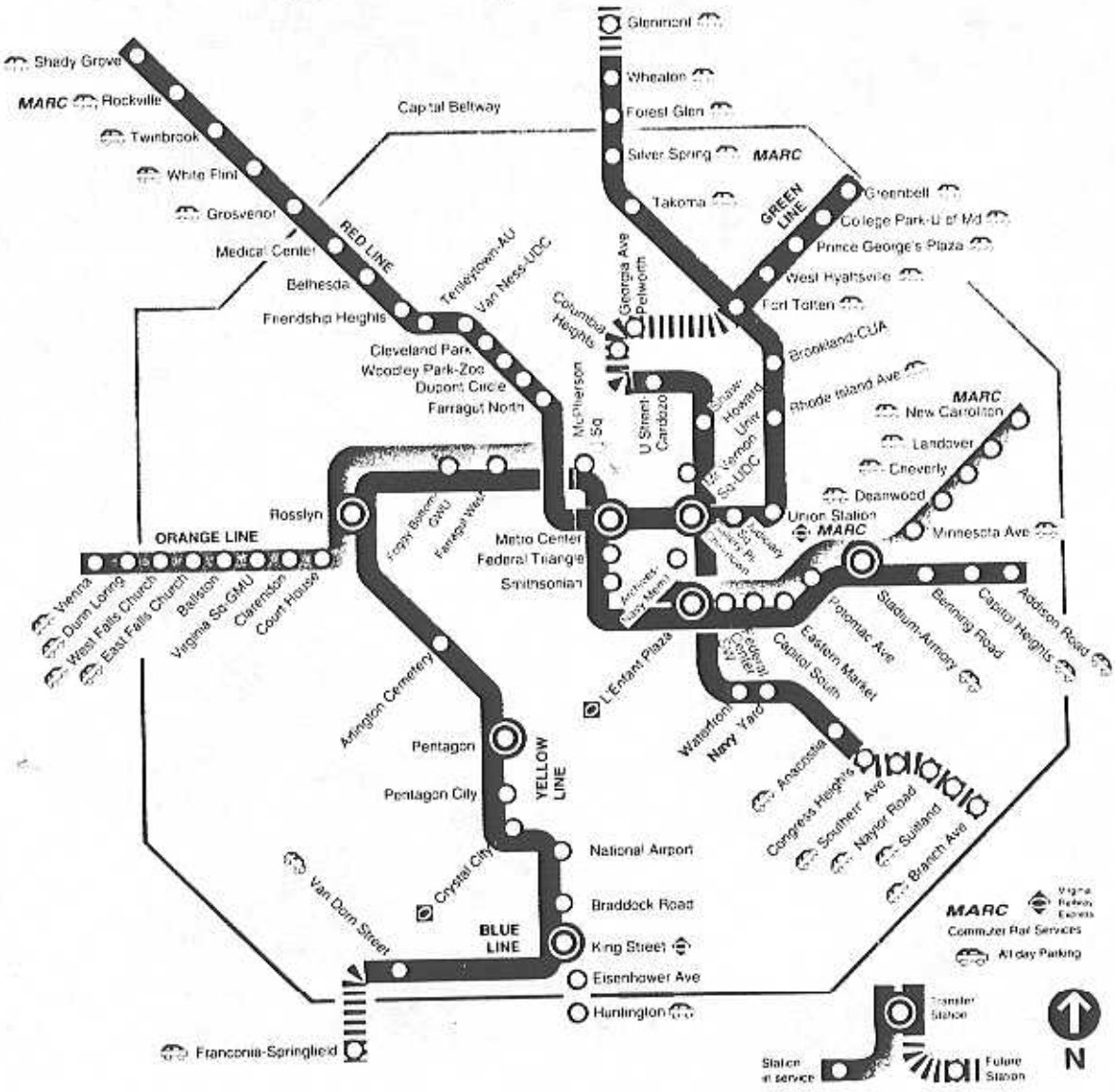
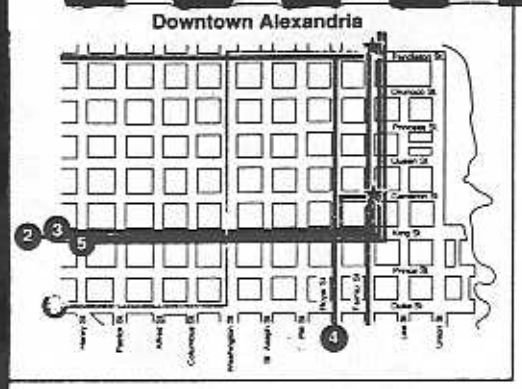
| | |
|---|---|
| General Information | (202) 637-7000 |
| MetroAccess | (301) 588-8181 |
| Bicycle Services | (202) 962-1116 |

# TRANSIT SYSTEM MAPS

# System Map


Glenmont
Wheaton
Forest Glen
Silver Spring
MARC
Takoma
GREEN LINE
Greenbelt
College Park-U of Md
Prince George's Plaza
West Hyattsville
Fort Totten
Brookland-CUA
Rhode Island Ave
MARC
New Carrollton
Landover
Cheverly
Deanwood
Minnesota Ave
Addison Road
Capitol Heights
Benning Road
Stadium-Armory
Eastern Market
Potomac Ave
Capitol South
L'Enfant Plaza
Federal Center SW
Waterfront
Navy Yard
Anacostia
Congress Heights
Southern Ave
Naylor Road
Suitland
Branch Ave
Shady Grove
MARC
Rockville
Twinbrook
White Flint
Grosvenor
Medical Center
Bethesda
Friendship Heights
Tenleytown-AU
Van Ness-UDC
Cleveland Park
Woodley Park-Zoo
Dupont Circle
Farragut North
RED LINE
Capital Beltway
Columbia Heights
Georgia Ave Petworth
U Street Cardozo
Shaw Howard Univ
Mt Pleasant
Dr Vernon Sq-UDC
Judiciary Sq
Archives Navy Memorial
Metro Center
Federal Triangle
Smithsonian
Farragut West
Farragut North
GWU
Foggy Bottom
Rosslyn
ORANGE LINE
Vienna
Dunn Loring
West Falls Church
East Falls Church
Ballston
Virginia Sq-GMU
Clarendon
Court House
Arlington Cemetery
Pentagon
Pentagon City
YELLOW LINE
Crystal City
National Airport
Braddock Road
King Street
Eisenhower Ave
Huntington
BLUE LINE
Van Dorn Street
Franconia-Springfield
MARC
Commuter Rail Services
All day Parking
Transfer Station
Station in service
Future Station
N

# DASH TRANSIT MAP



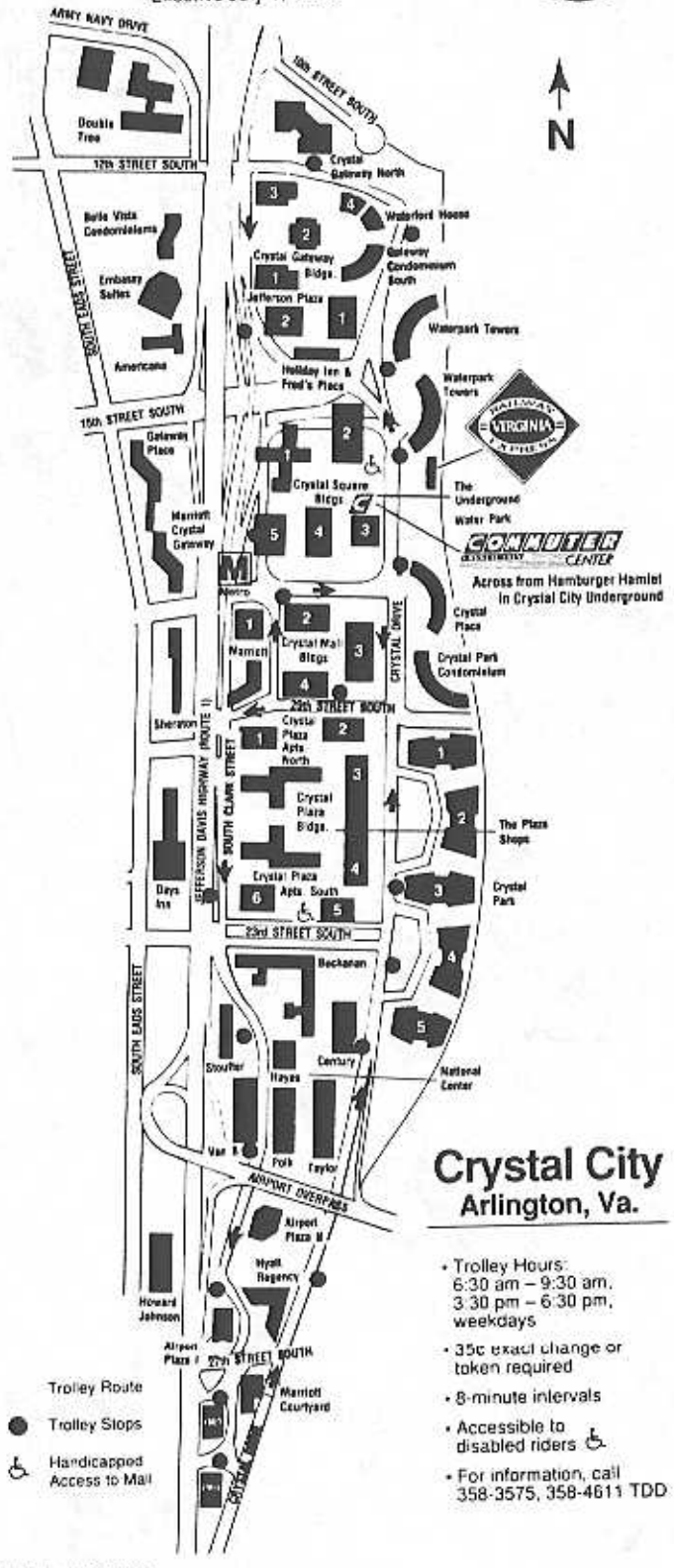

## ROUTE LEGEND

- A.T. 2
- A.T. 6
- A.T. 5 — Midday Extension
- A.T. 7
- A.T. 3 — Rush Hour Extension; Midday Extension
- A.T. 4 — Rush Hour Extension; Midday Extension
- A.T. 8
- Terminal Point
- One Way Travel Only
- Metrorail Stations — Yellow Line, Blue Line
- Post Office
- Government Building
- Library
- Park
- Residential Complex
- Shopping Center
- College
- School
- Hospital
- DASH PASS Sales Site

B-4

# The New Arlington Trolley

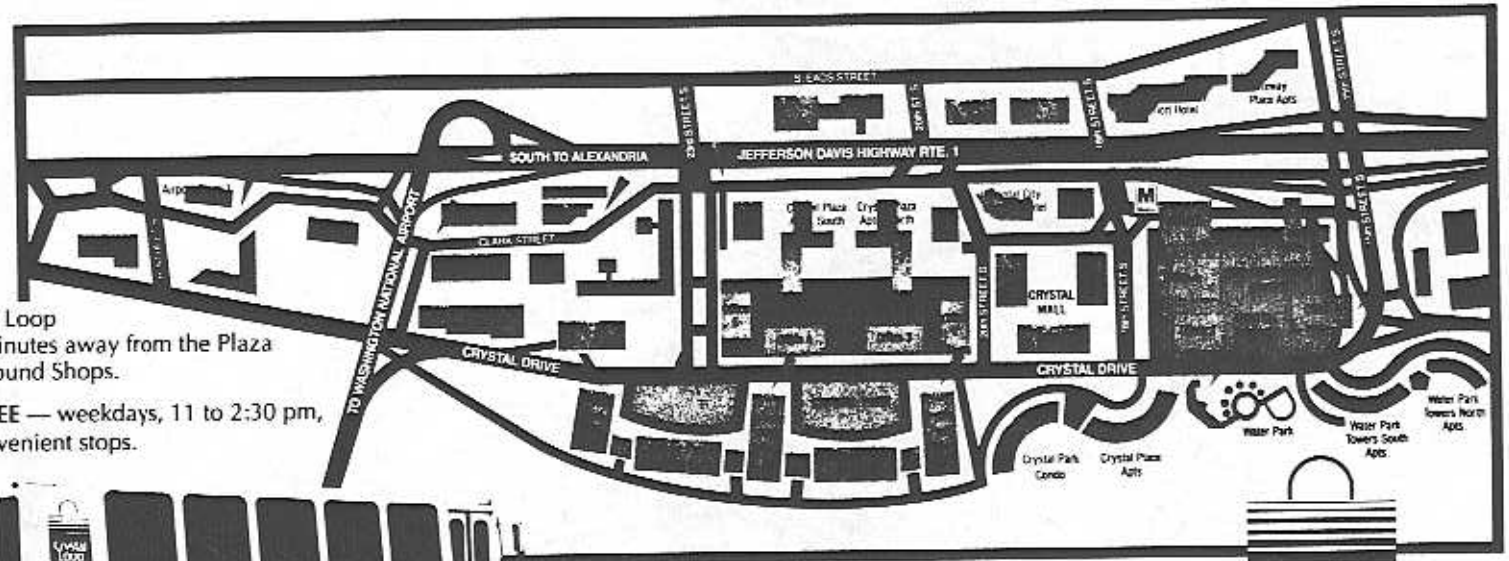
Effective July 1, 1993




## Crystal City
### Arlington, Va.

- Trolley Hours: 6:30 am – 9:30 am, 3:30 pm – 6:30 pm, weekdays
- 35¢ exact change or token required
- 8-minute intervals
- Accessible to disabled riders
- For information, call 358-3575, 358-4611 TDD

Printed on recycled paper



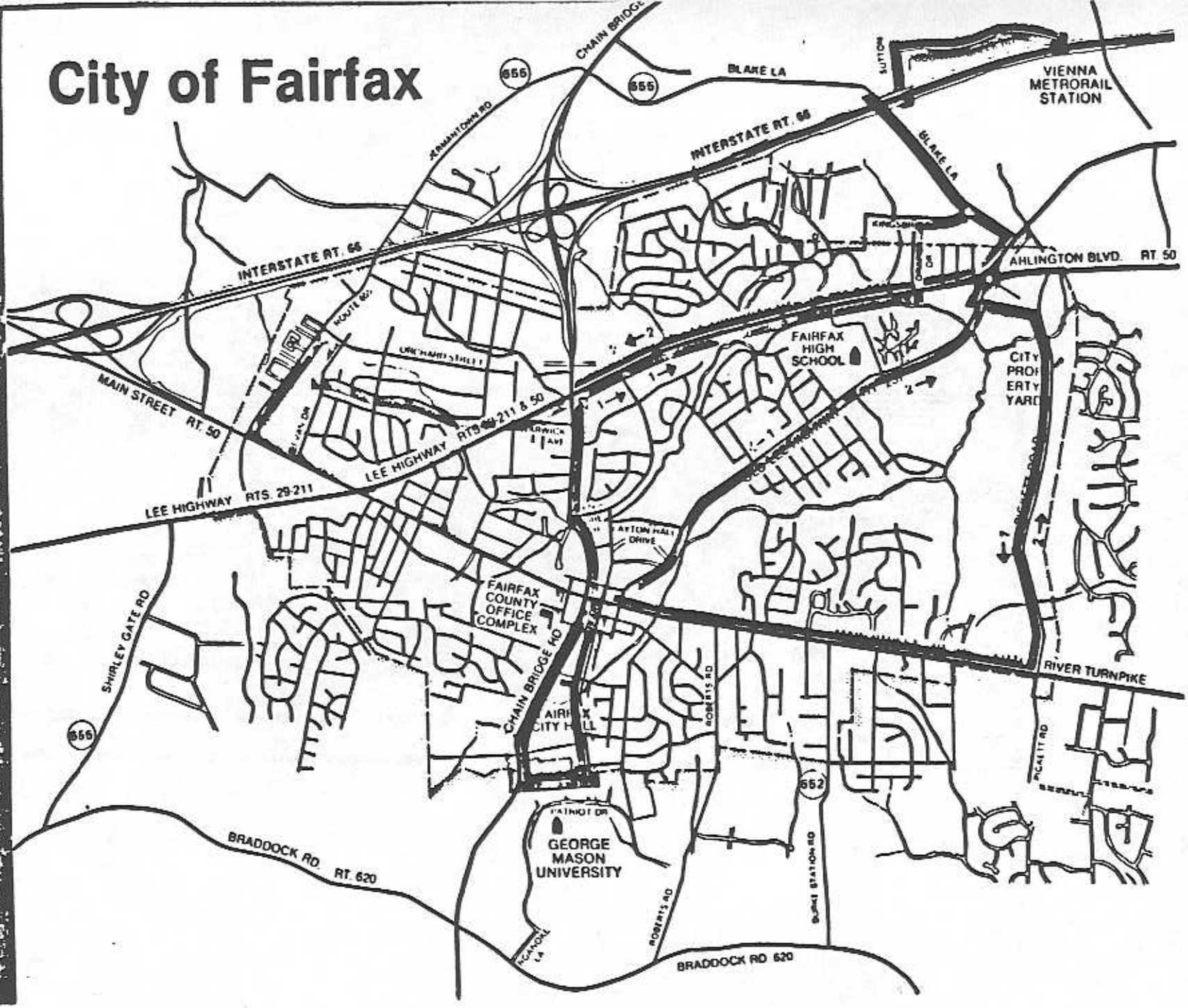

The Crystal Loop
is only 5 minutes away from the Plaza
& Underground Shops.

Catch it **FREE** — weekdays, 11 to 2:30 pm,
from 9 convenient stops.

Look for the Crystal Loop boarding signs at the 9 convenient street locations indicated on the map above.

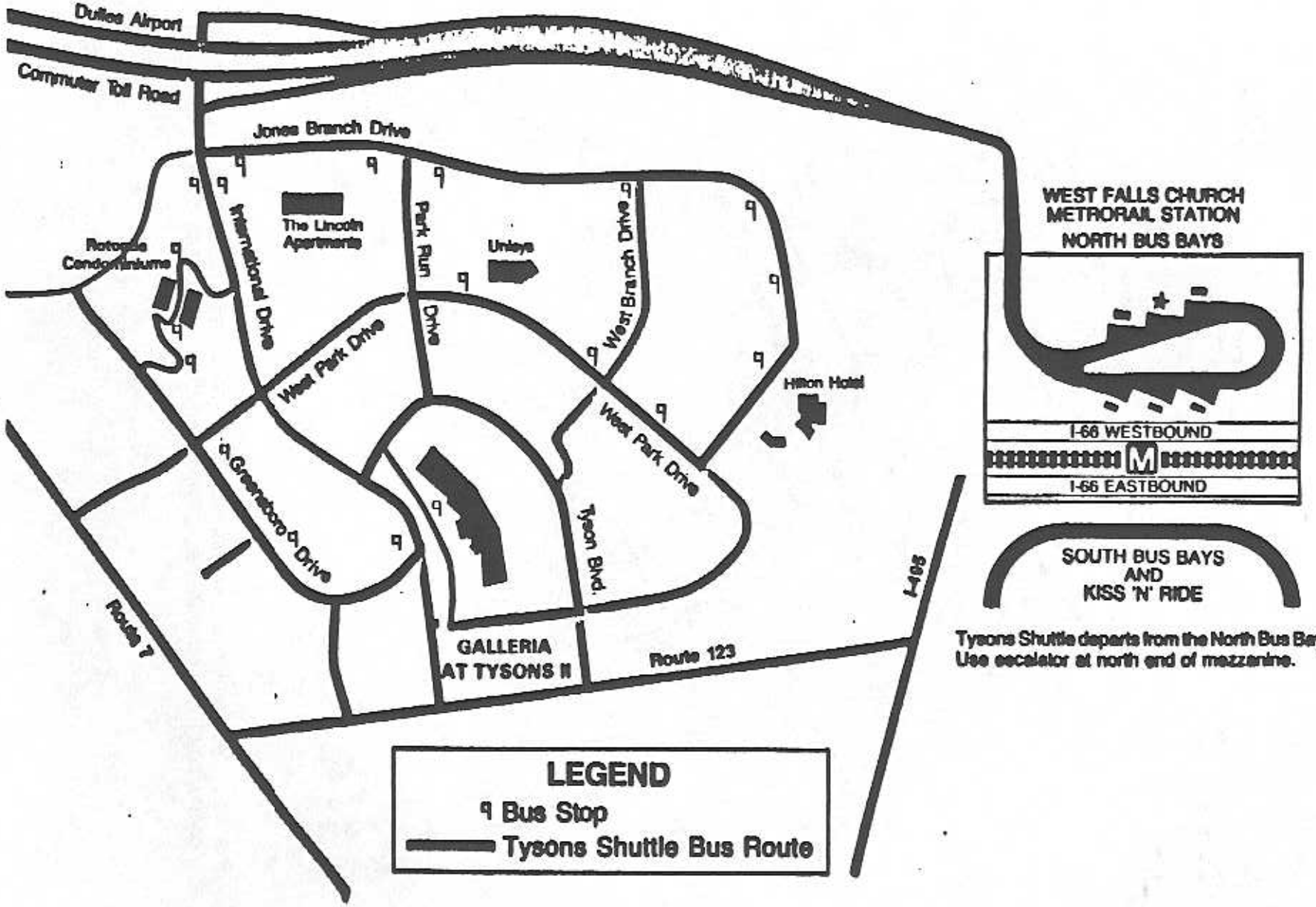
Crystal Loop

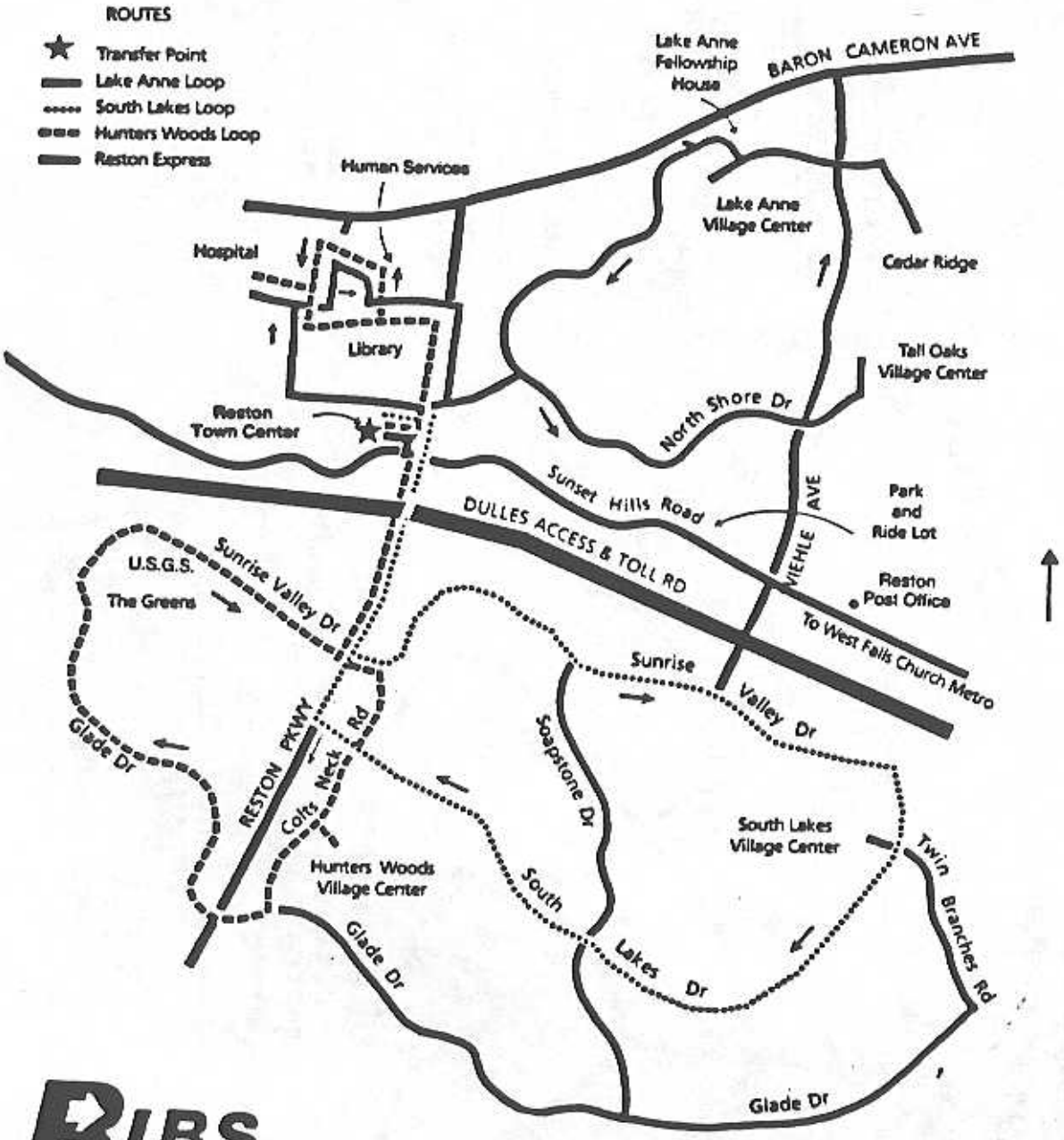
# City of Fairfax




B-7

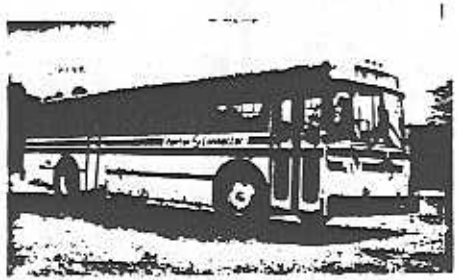
# CUE Bus Routes


Dulles Airport
Commuter Toll Road
Jones Branch Drive
International Drive
The Lincoln Apartments
Park Run Drive
Unisys
West Branch Drive
Rotonda Condominiums
West Park Drive
Hilton Hotel
Greensboro Drive
Tyson Blvd.
Route 7
GALLERIA AT TYSONS II
Route 123
I-495
WEST FALLS CHURCH METRORAIL STATION
NORTH BUS BAYS
I-66 WESTBOUND
I-66 EASTBOUND
SOUTH BUS BAYS AND KISS 'N' RIDE
Tysons Shuttle departs from the North Bus Bays.
Use escelator at north end of mezzanine.
LEGEND
Bus Stop
Tysons Shuttle Bus Route



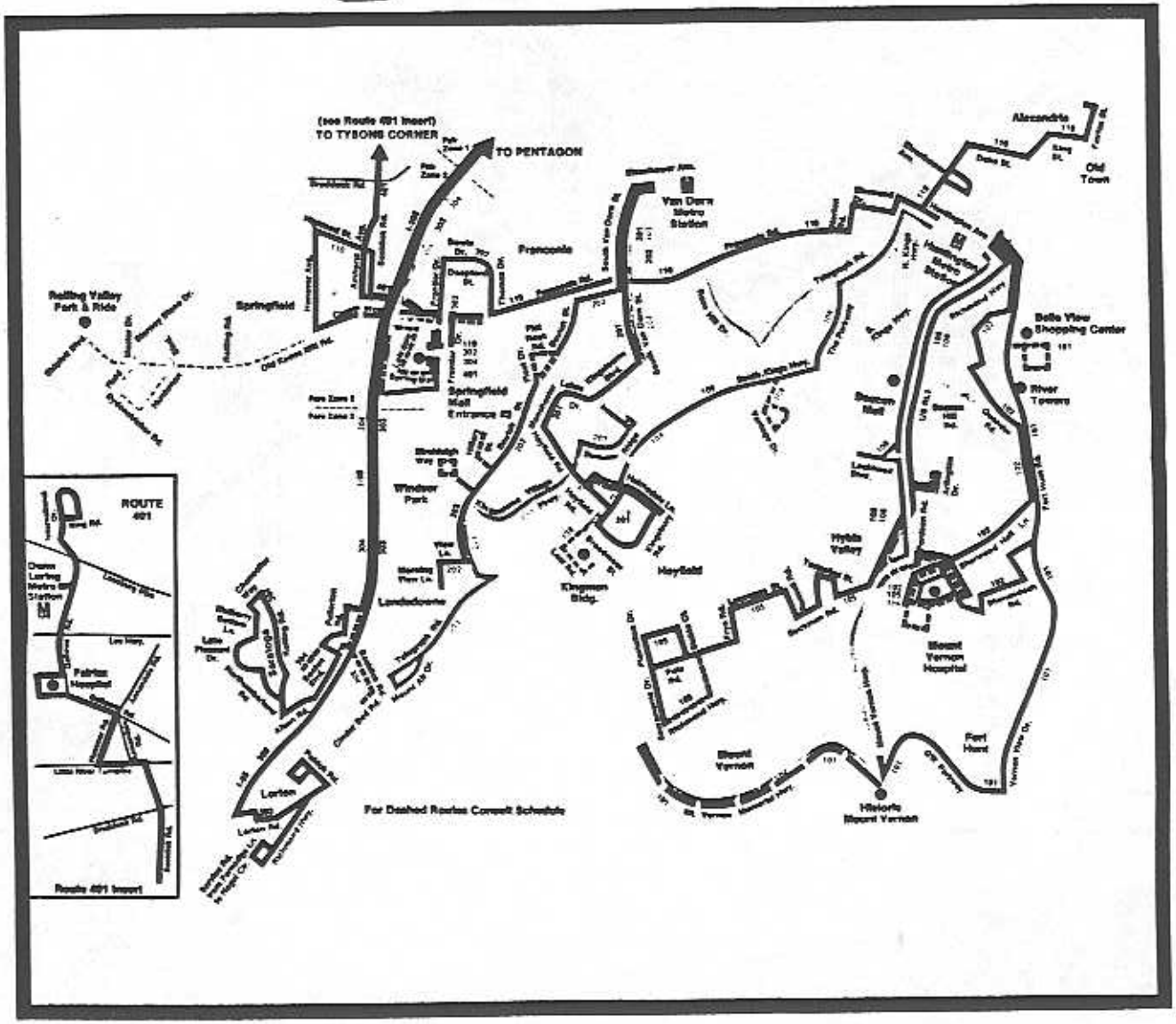

*RIBS is supported through funding provided by Fairfax County. The service is operated under contract by Transportation Management Services, Inc. 703/548-4545.*

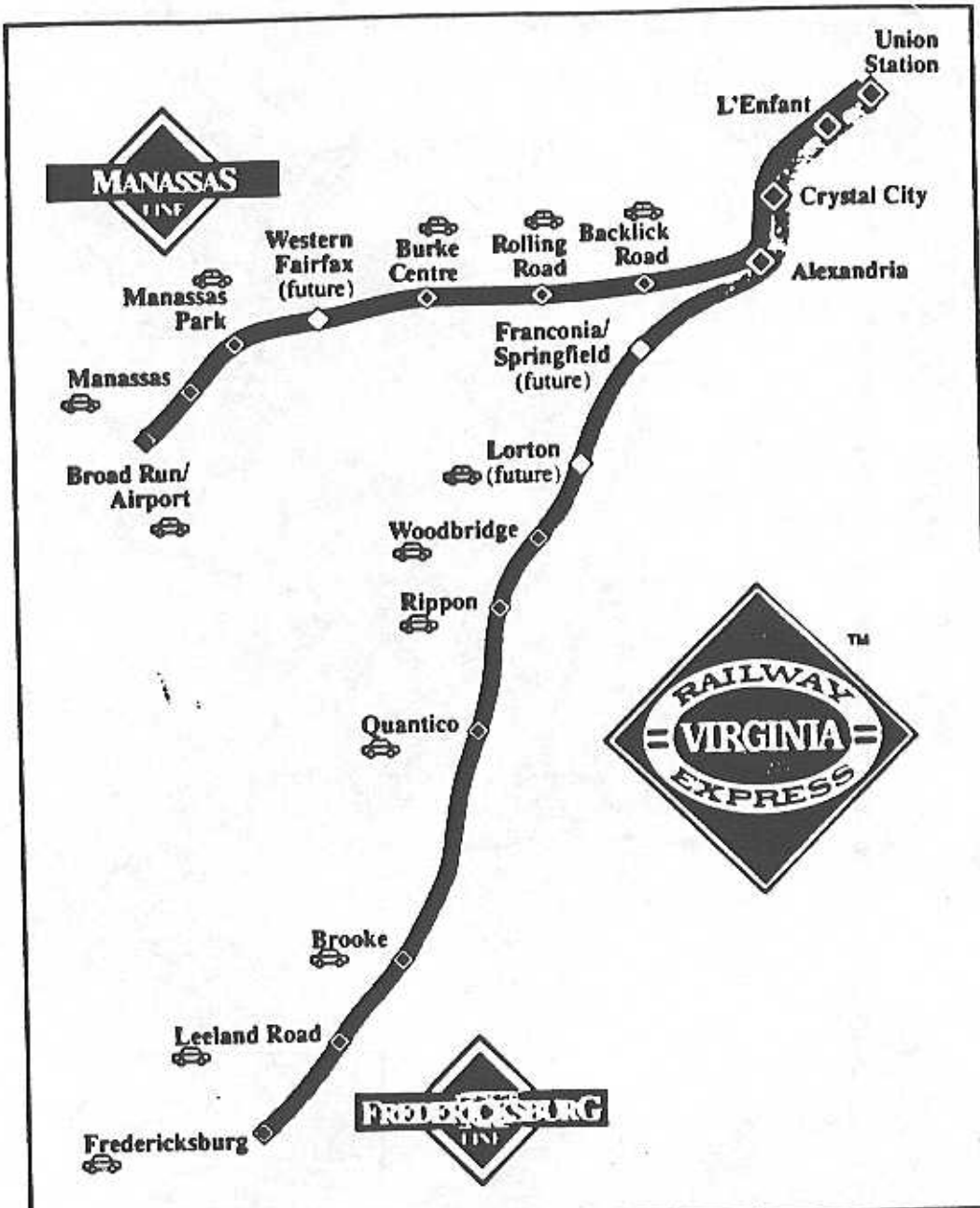
# Fairfax Connector SYSTEM MAP



| ROUTE NUMBER | AREA OF SERVICE |
|---|---|
| 101 | Mt. Vernon to Huntington via Fort Hunt Road |
| 102 | Hollin Hall to Huntington via Sherwood Hall Lane and Quander Road |
| 103/ 104 | Bucknell Manor to Huntington Loop |
| 105 | Woodlawn to Huntington via Richmond Highway |
| 106 | Mount Vernon Hospital to Huntington via Mt. Vernon Square and Richmond Highway |
| 107 | Mt. Vernon to Huntington via Richmond Highway |
| 108 | Hayfield to Huntington via Virginia Hills |
| 109 | Springfield to Huntington via Van Dorn and Rose Hill Drive |
| 110 | Springfield to Alexandria via Huntington and Franconia Road |
| 201 | Hayfield to Van Dorn via Manchester Lakes and Kingstowne |
| 202 | Landsdowne to Van Dorn via Beulah Street |
| 203 | Mount Air to Van Dorn via Kingstowne |
| 302 | Franconia to Pentagon |
| 303 | Lorton to Pentagon |
| 304 | Saratoga to Pentagon |
| 401 | Springfield Mall to Tysons Corner via Fairfax Hospital and Dunn Loring |








metro MARC Amtrak

The Express connects with Metro at Union Station, L'Enfant, Crystal City, and Alexandria; with Amtrak at Union Station, Alexandria, Manassas, Quantico, and Fredericksburg; and with MARC at Union Station.

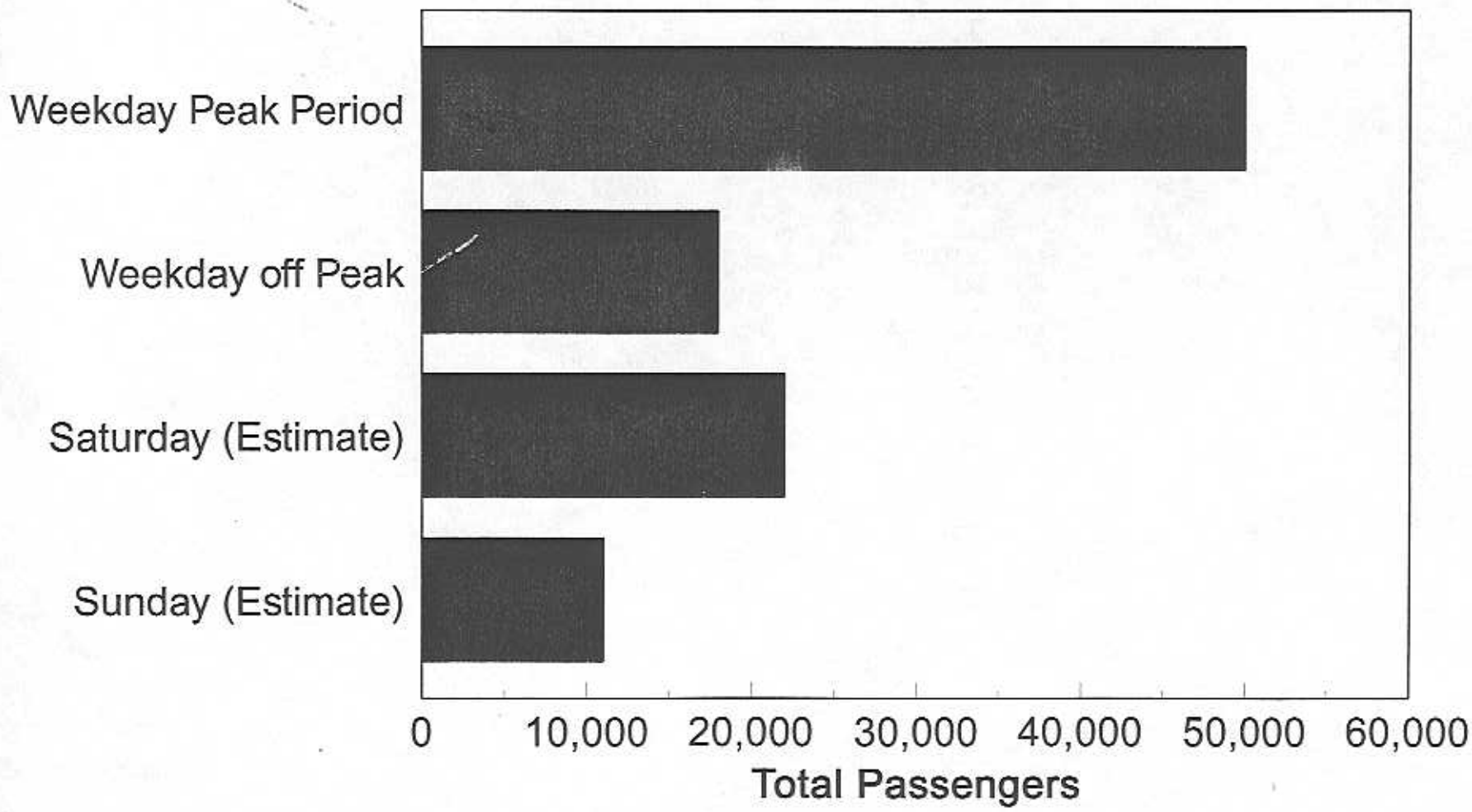
The Express is accessible to persons with disabilities.

*The Express*

You've got a train to catch.

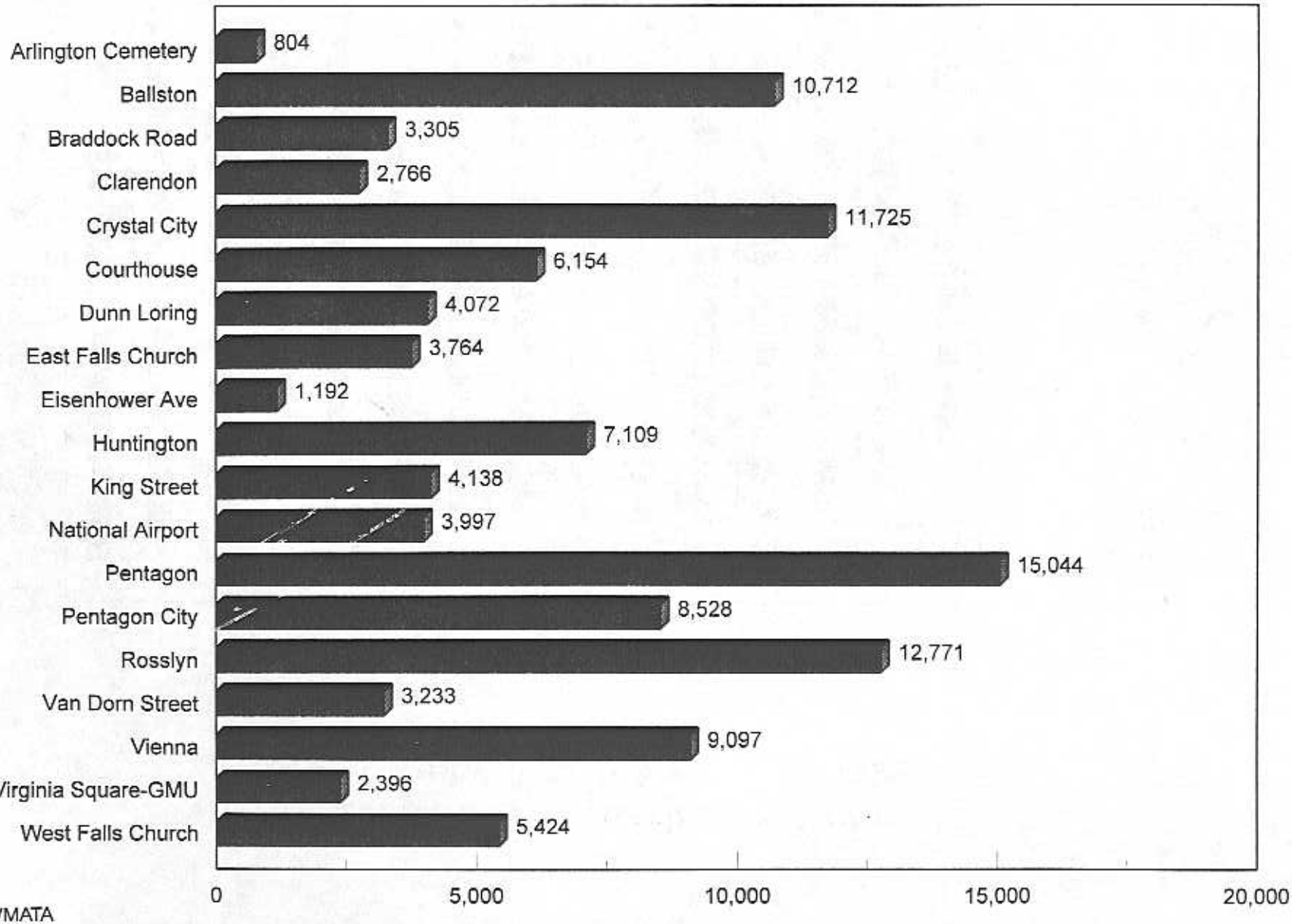
# TRANSIT SYSTEM RIDERSHIP

# Virginia Metrobus Ridership
## Average Daily Ridership for 1992



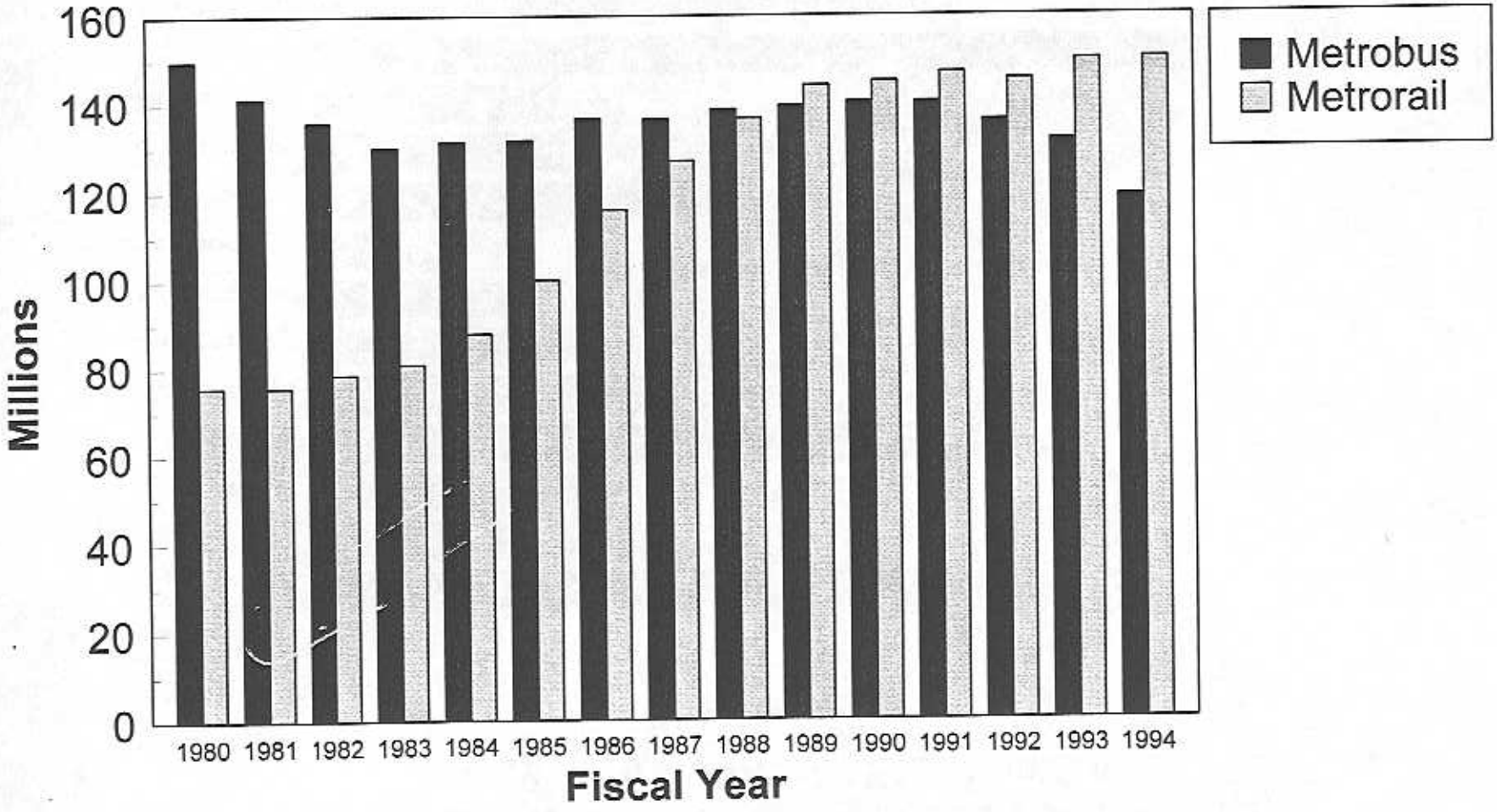

Source: WMATA

# Daily Metrorail Passenger Boardings
# May, 1994 Virginia Stations Only



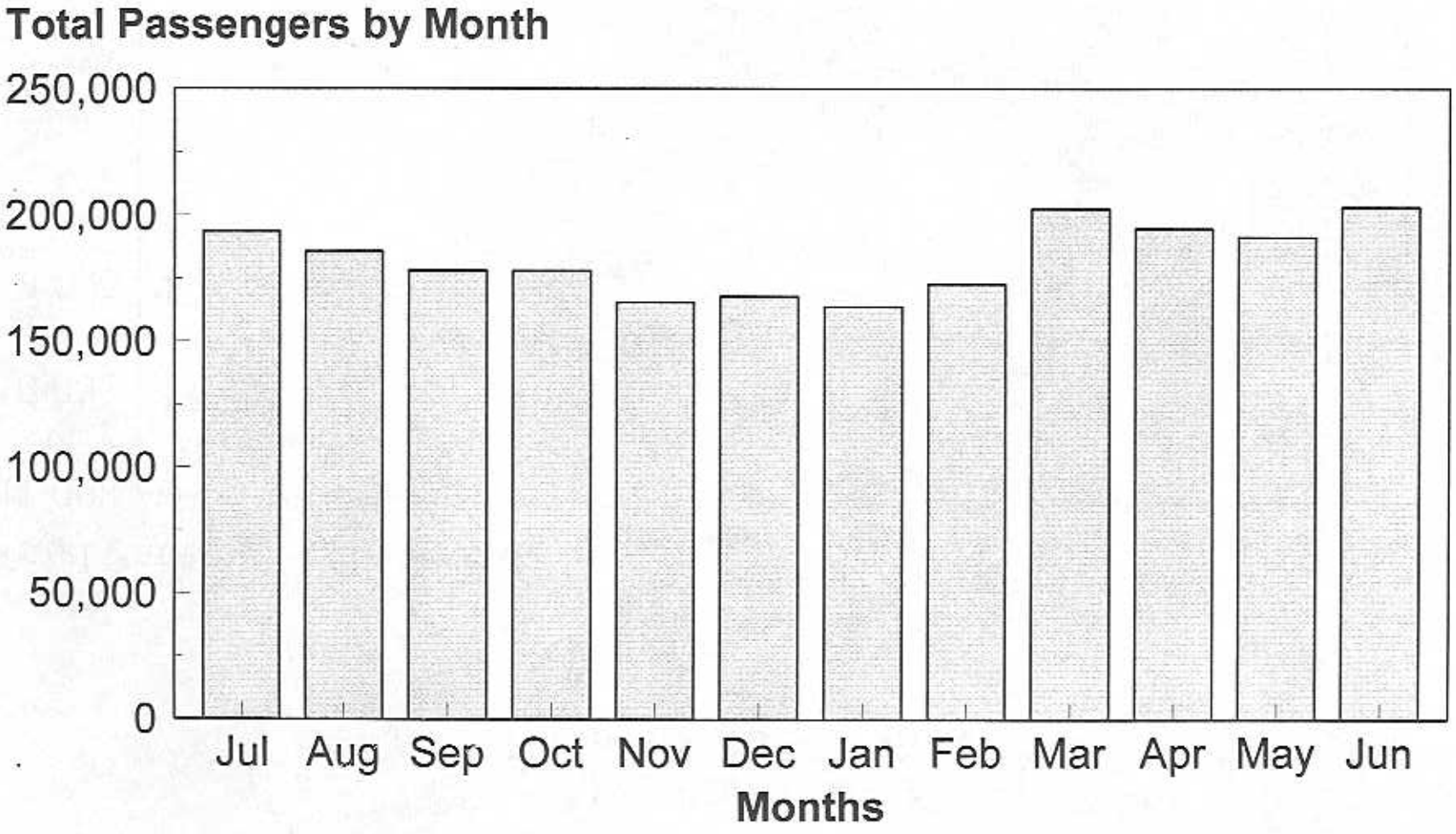

Source: WMATA

# Systemwide Metrorail & Metrobus Ridership by Fiscal Year, 1980-1994



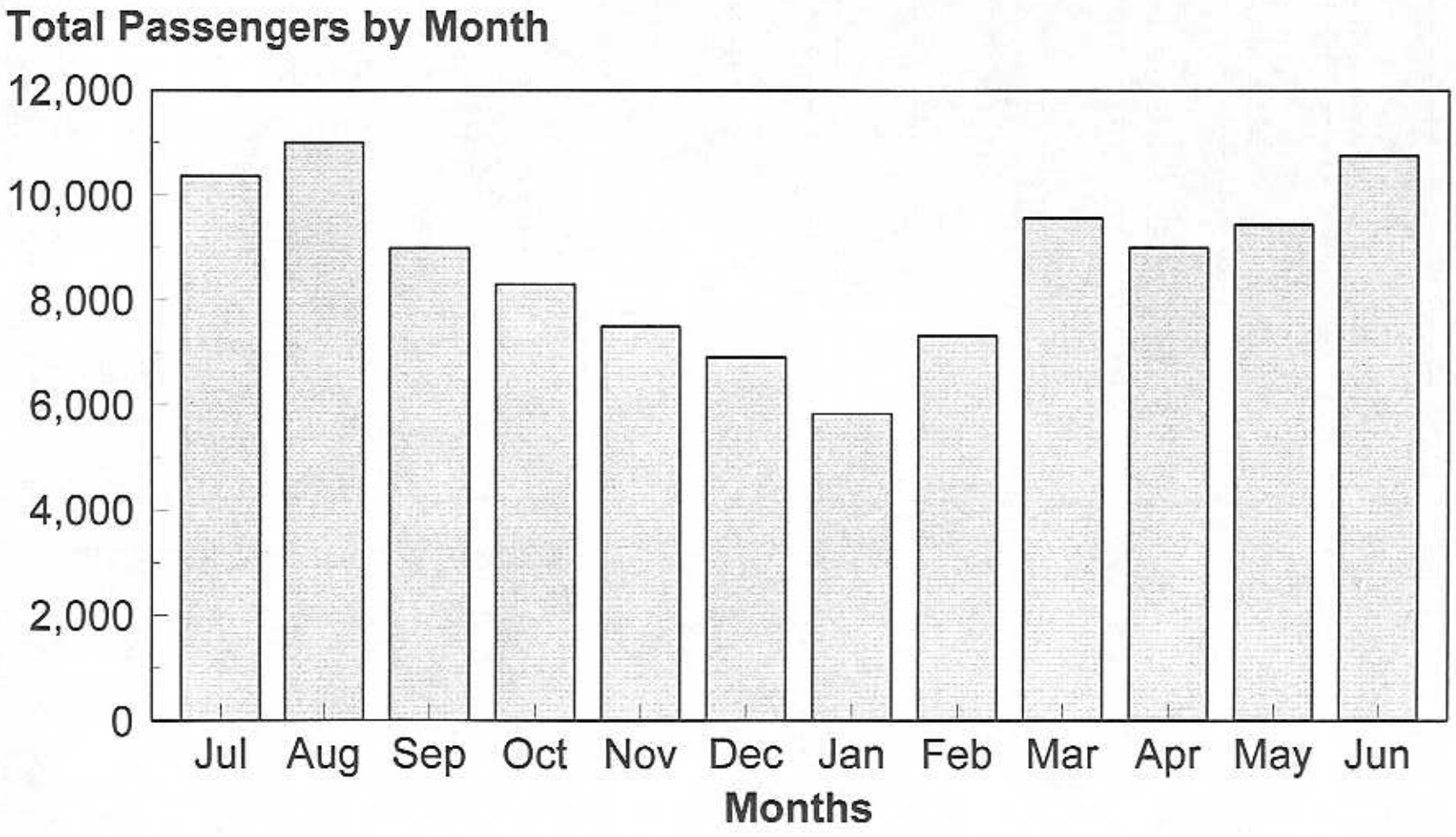

Source: WMATA

# DASH
# Ridership for FY 1994



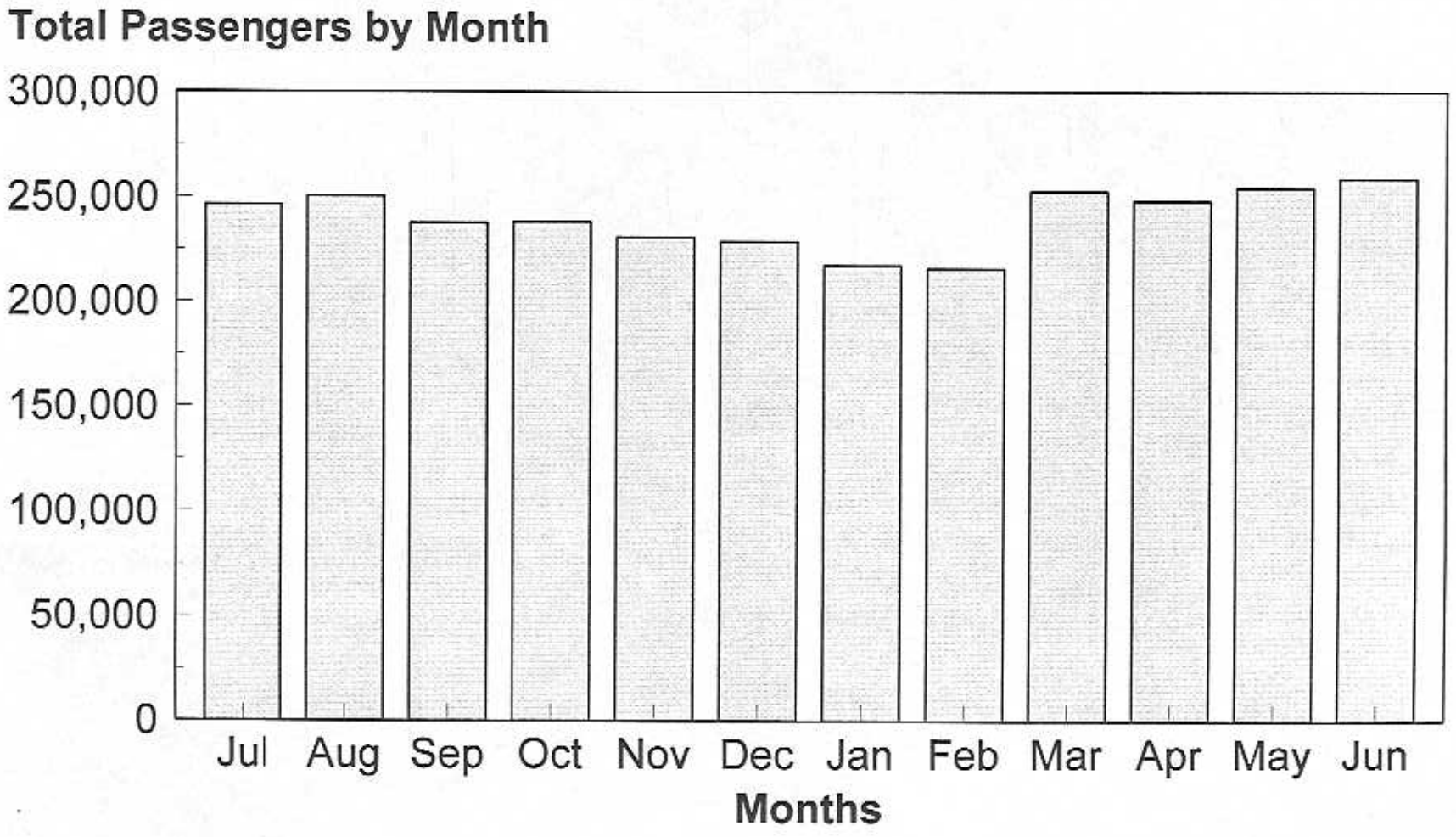

Source: DASH

# Arlington Trolley
# Ridership for FY 1994



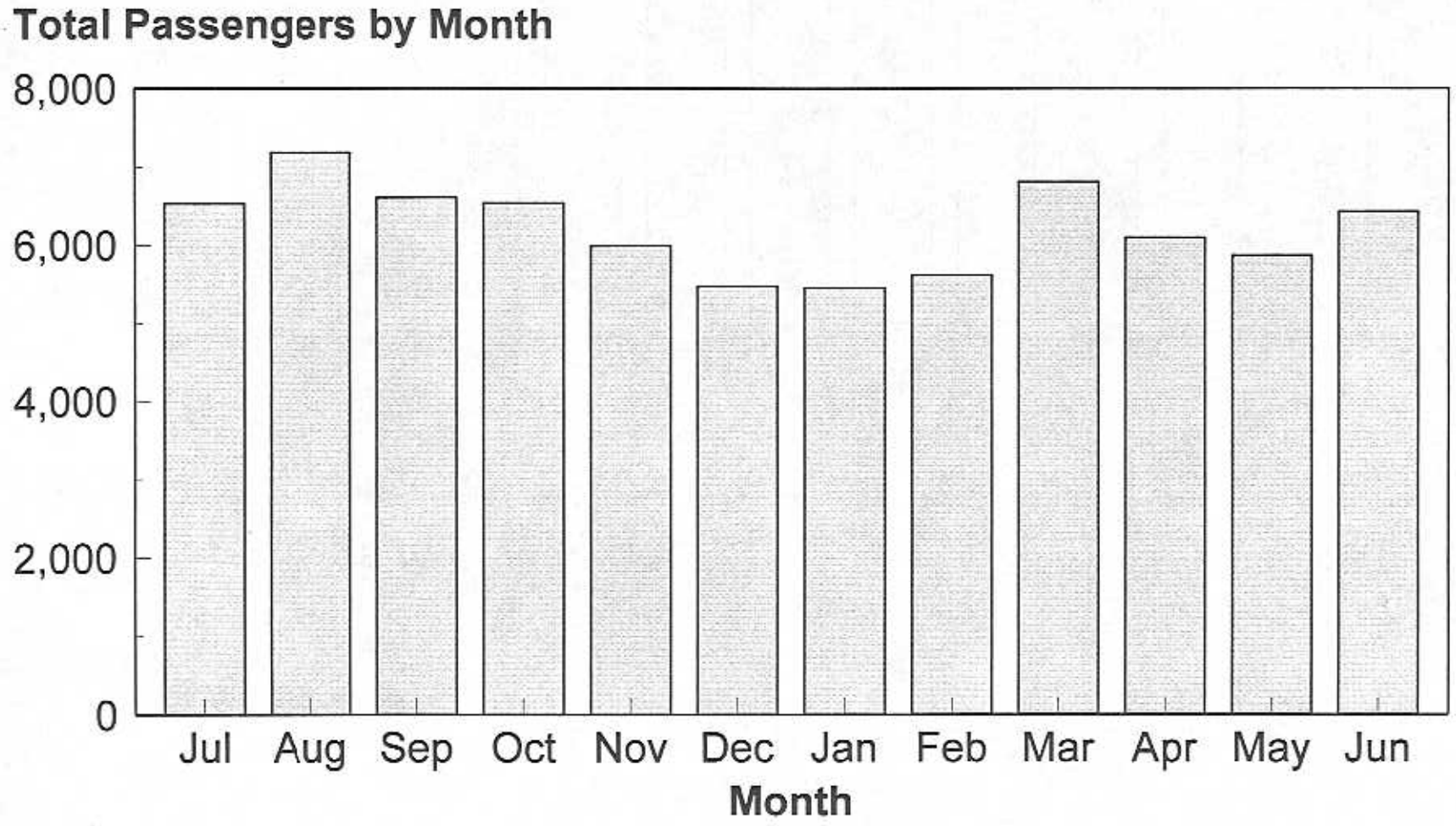

Source: Arlington County Dept of Public Works

# Fairfax Connector
# Ridership for FY 1994



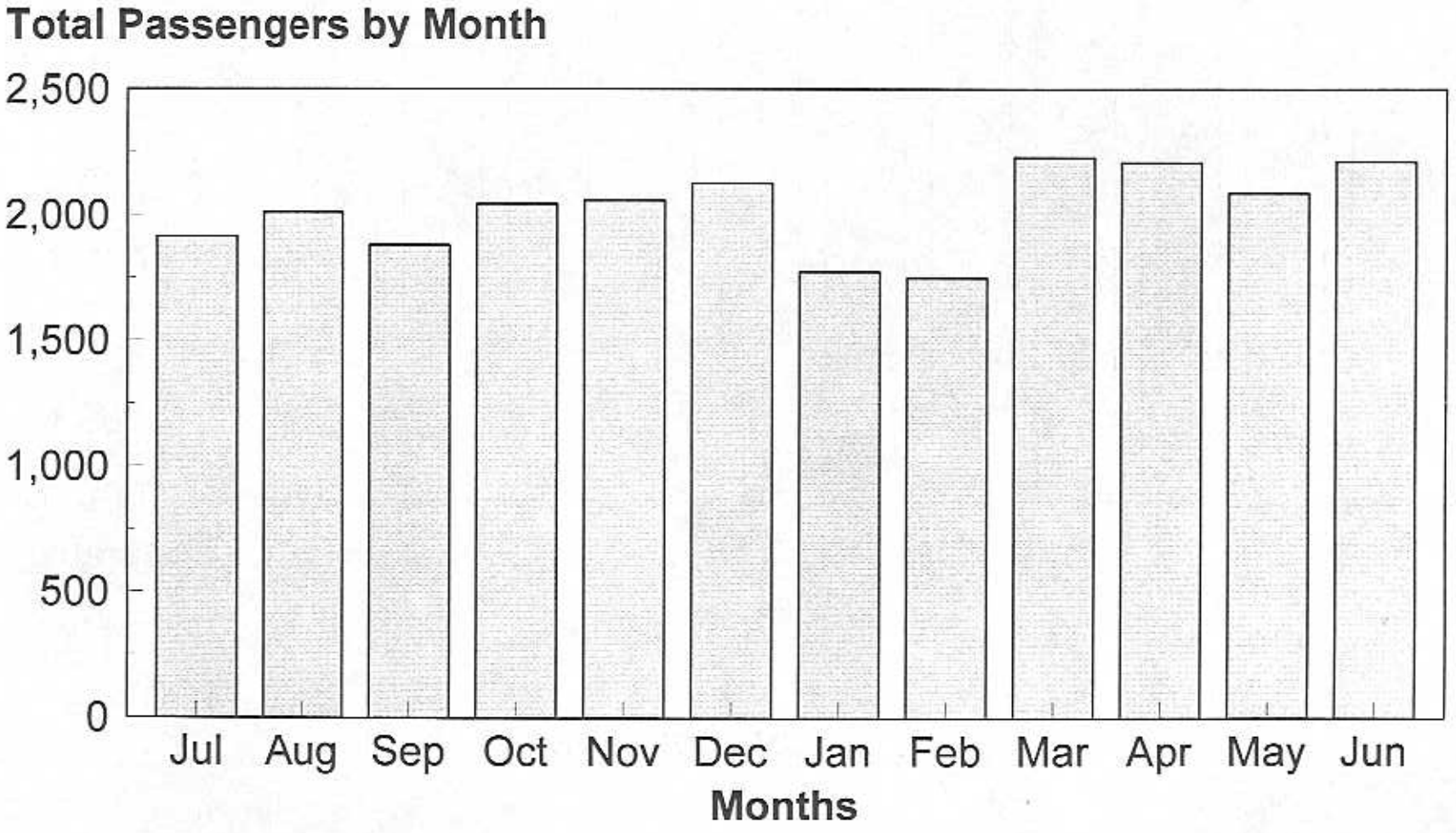

Source: Fairfax County Office of Transportation

# Tysons Shuttle
# Ridership for FY 1994



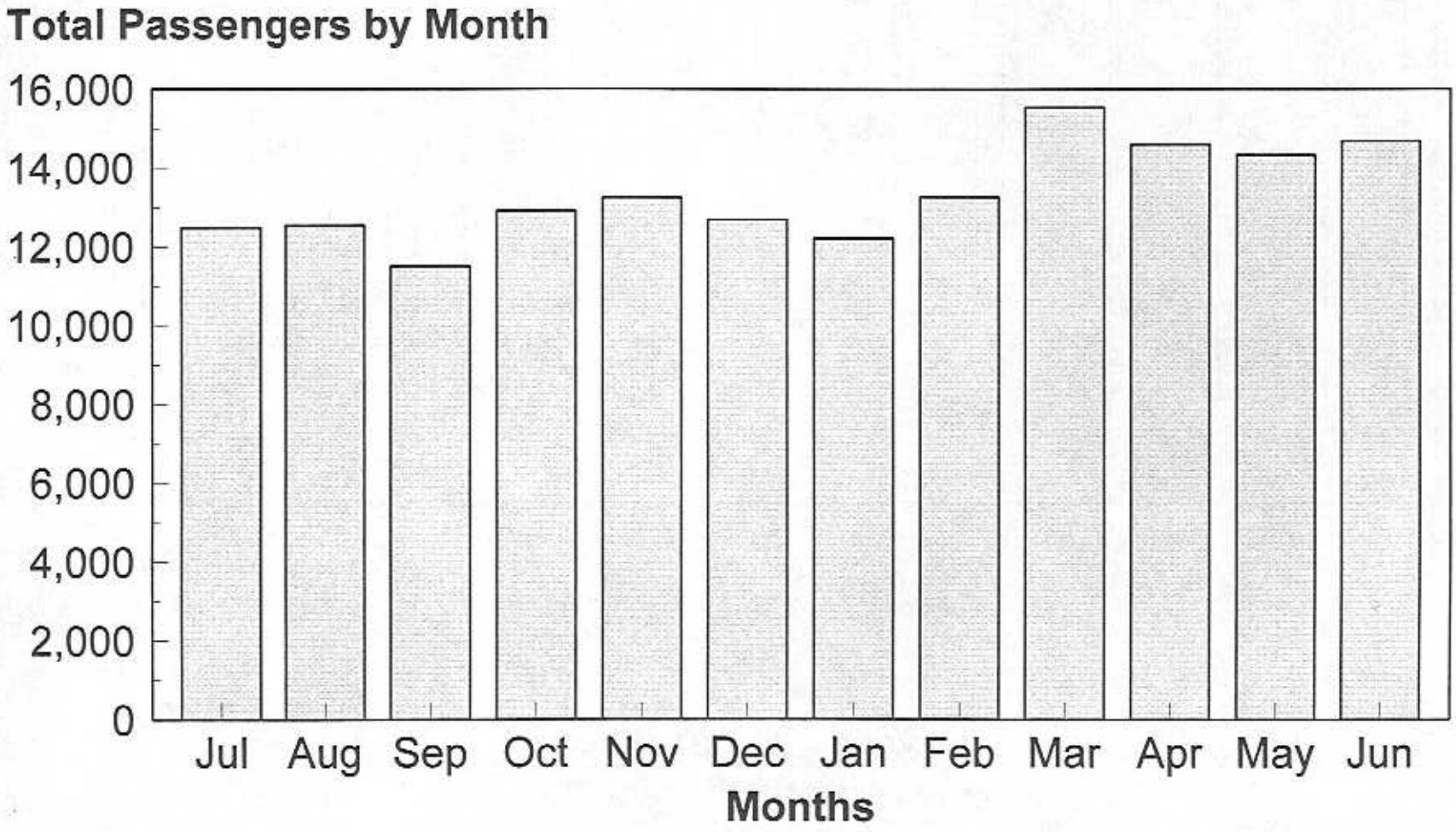

Source: Fairfax County Office of Transportation

# Reston Express Service
# Ridership for FY 1994



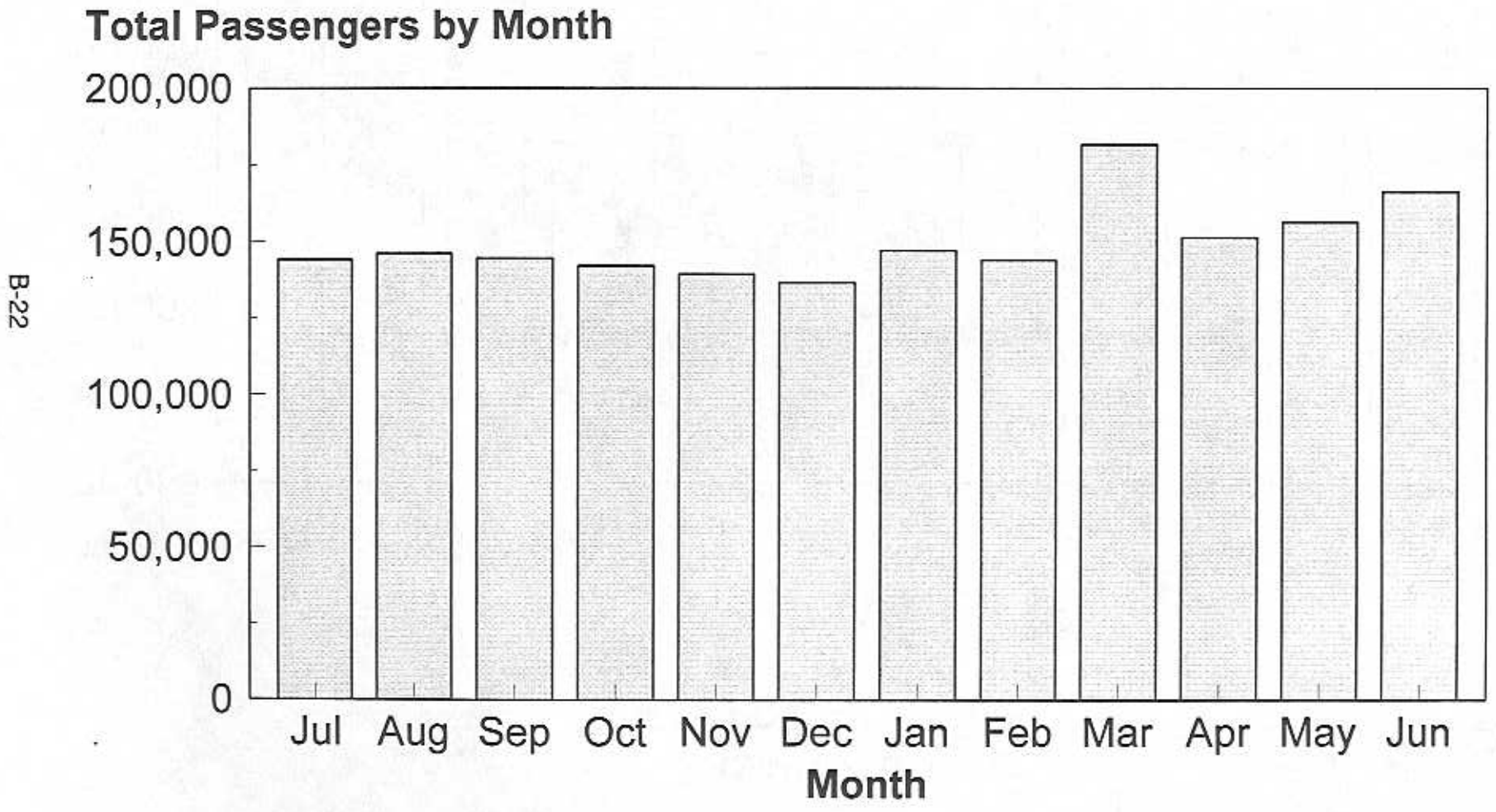

Source: Fairfax County Office of Transportation

# RIBS
# Ridership for FY 1994



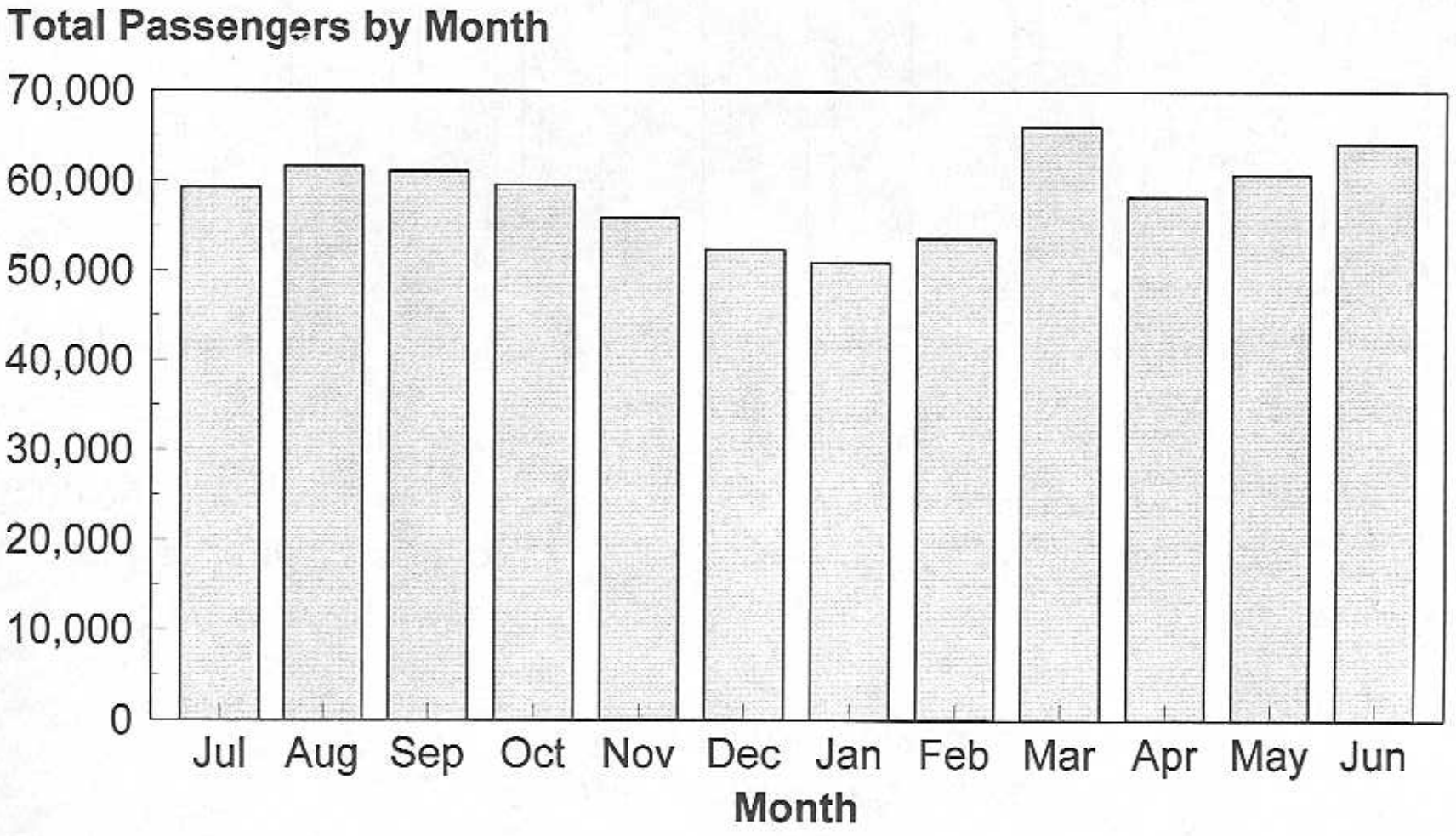

Source: Fairfax County Office of Transportation

# Virginia Railway Express
# Ridership for FY 1994




Source: Virginia Railway Express

# Commuteride
# Ridership for FY 1994






Source: PRTC

# APPENDIX C

# FARE AND TRANSFER POLICIES

# COMPARISONS OF PUBLIC TRANSIT FARES

| TRANSIT SYSTEM | REGULAR FARES | | MULTIPLE TRIPS |
|---|---|---|---|
| | PEAK PERIODS | OFF-PEAK PERIODS | |
| **Metrorail:** | | | |
| • First 3 composite miles | $1.00 | | • High value - 5% bonus on $10.00 - $19.95 purchases; 10% bonus on $20.00 or more. |
| • Each additional composite mile over 3 up to 6 | 0.190 | | • Rail Fast Pass - $50.00 - 2 weeks unlimited travel. |
| • Each composite mile over 6 | 0.165 | | • One Day Pass - unlimited travel - $5.00 after 9:30 AM on weekdays; all day weekends, holidays. |
| • Maximum peak period fare | 3.15 | | • Bus/Rail Super Pass - $65.00 - unlimited travel for two weeks. |
| • First 7 composite miles | | $1.00 | • Metrorail Short-Trip Pass - $35.00 - unlimited rail trips costing $1.50 or less for two weeks. |
| • Composite miles over 7 up to 10 | | 1.50 | • Metrorail 28-Day Pass - $100.00 - unlimited rail trips for 28 consecutive days. Period begins on day pass is first used by patron. |
| • Composite miles exceeding 10 | | 2.00 | |

## COMPARISONS OF PUBLIC TRANSIT FARES - CONTINUED

### COMPARISONS OF PUBLIC TRANSIT FARES

| TRANSIT | PEAK FARES | | OFF-PEAK FARES | |
|---|---|---|---|---|
| **Metrobus Virginia** - Partial Listing | CASH | WITH RAIL TRANSFER | CASH | WITH RAIL TRANSFER |
| • Within one zone in Virginia | $1.00 | $ .75 | $1.00 | $ .75 |
| • Between Virginia Zones G & 1 - Arlington | 1.00 | .75 | 1.00 | .75 |
| • Virginia Zones G & 1 - Alexandria | 1.35 | 1.10 | 1.00 | .75 |
| • Virginia Zones G & 2 | 1.70 | 1.45 | 1.00 | .75 |
| • Virginia Zones G & 3 | 2.05 | 1.80 | 1.00 | .75 |
| • Washington DC to Virginia Zone G | 1.35 | .35 | 1.35 | .35 |
| • Virginia Zone G to Washington DC | 1.35 | 1.10 | 1.35 | 1.10 |

**MULTIPLE TRIPS** - Metrobus Flash Passes - valid for 2 weeks:

1. Virginia Base Flash Pass - $20 with $5.50 rail value. Full base fare within Virginia.
2. Virginia 2 - Zone Pass - $27.00 with $5.50 rail value, two-zone trip within Virginia and base fare in Maryland or Washington DC during peak periods, and full fare for Metrobus trips anywhere during off-peak.
3. Virginia 3 - Zone Flash Passes $34.00 with $6.00 rail value. Full Metrobus fare within Virginia, Maryland, Washington DC, during peak hours. Full Metrobus fare anywhere during off-peak.
4. Arlington County Flash Pass - $23.00 with $15.75 Metrorail value. Valid for full Metrobus fare in Arlington County only. Metrorail fare value can be used anywhere.

   In Arlington County only pay $1.05 for Metrobus round trip to and from a Metrorail station.
5. Maryland/DC Pass - $27.00 - good for one zone in Virginia during peak period and for full fare anywhere during the off-peak periods.
6. Bus/Rail Super Pass - $65.00 - unlimited trips on Metrobus/Metrorail for two weeks.

## COMPARISONS OF PUBLIC TRANSIT FARES

| TRANSIT SYSTEM | REGULAR FARES | MULTIPLE TRIPS |
|---|---|---|
| **Alexandria DASH** - DASH honors Metrobus Va. Flash passes, Metrobus tokens, commuter tickets, and Metrobus and Fairfax Connector transfers for base fare, D.C. - Maryland Flash passes, and monthly VRE passes. | Base $.75 with $.25 surcharge to Pentagon Metrorail Station at all times. | $25.00 Monthly pass<br>$35.00 Pentagon Metrorail station pass |
| **Arlington Trolley** | $.35 fare. | $11.20 40-token roll. |
| **City of Fairfax CUE** | $.35 at all times. Persons with valid George Mason University I.D. ride free. Senior Citizens Pass and school children through High School pay 25-cents. Children under three ride free with an adult. | NO DISCOUNT |
| **Fairfax Connector** | $.50 base fare on all feeder routes. $1.00 base + zone on all express routes. | |
| **Loudoun Rideshare** | $4.00 one-way fare. | $40.00 ticket for 10 one-way rides. |
| **PRTC Commuteride** | $5.00 one way cash fare to Pentagon.<br>$1.25 to Vienna Metro shuttle station. | $32.50 - 10-ride token pack |
| **Reston RIBS** | Base fare $.25 with Reston/Metrobus transfer worth full fare. Reston Express- West Falls Church Metrorail Shuttle is $.75. | NO DISCOUNT |
| **Tysons Shuttle** | Fare $.75 ($1.20 round trip) at all times. No transfers given or accepted. | $6.00 11-trip card. |
| **Virginia Railway Express** | 9 zone fare structure - distance based.<br>Full fare single ride ticket | Ten-trip ticket - 15% discounted<br>Monthly, unlimited travel - 30% discounted<br>Additional discount Fares Zones 4-9.<br>See chart for complete fare structure. |

## DISCOUNT FARES ON NORTHERN VIRGINIA'S PUBLIC TRANSIT SYSTEMS
-- 1994 --

| TRANSIT SYSTEMS | DISCOUNTS AVAILABLE |
|---|---|
| Metrorail[1] | • 5 percent bonus on fare card purchase of $10.00-19.99.<br>• 10 percent bonus on farecard purchase of $20 and over. |
| Metrobus[2] | • Flashpasses, which allow for unlimited use of the bus system for a period of time, are available. |
| VRE | • 30 percent discount on monthly passes.<br>• 30 percent discount on group (20+) sales.<br>• 15 percent discount on Ten-Trip Tickets. |
| Arlington Trolley | • 20 percent discount on a 40-token purchase. |
| Tysons Shuttle[3] | • 20 percent discount on purchase of 2 one-way tickets.<br>• 27 percent discount on 11-trip card. |
| Reston Ribs | NO DISCOUNTS |
| City of Fairfax CUE[4] | NO DISCOUNTS |
| Alexandria DASH[5] | • Approximately 20 percent discount on monthly passes. |
| Fairfax Connector[6] | NO DISCOUNTS |
| Prince William County Commuteride | • 35 percent discount on 10-token purchase. |

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[1] System provides half fares for elderly/disabled riders all day.

[2] System provides 50-cent fares for elderly/disabled riders all day (on all routes except those that have surcharges--11Y, 5N and 5P).

[3] System provides half fares for elderly/disabled riders.

[4] System provides 25-cents fare for elderly/disabled riders and children up to age 18. GMU students ride free.

[5] System provides free transfers to any other DASH bus (including return trip) within four hours of first boarding.

[6] System provides 35-cents discount with Metrorail-to-bus transfers and valid Metro elderly and disabled identification card.

# NORTHERN VIRGINIA TRANSIT TRANSFER POLICIES

| TO: → / FROM: ↓ | METRORAIL | METROBUS | VRE | ARLINGTON TROLLEY | TYSONS SHUTTLE | RESTON RIBS | CITY OF FAIRFAX CUE | ALEXANDRIA DASH | FAIRFAX CONNECTOR | PRTC COMMUTERIDE |
|---|---|---|---|---|---|---|---|---|---|---|
| METRORAIL | FREE | 35¢ discount | ---------- | ---------- | ---------- | ---------- | ---------- | ---------- | 35¢ discount on express routes | ---------- |
| METROBUS | ---------- | FREE within zone | ---------- | ---------- | ---------- | FREE | ---------- | FREE | FREE | ---------- |
| VRE* | | FREE | ---------- | FREE | ---------- | ---------- | ---------- | FREE | FREE | ---------- |
| ARLINGTON TROLLEY | ---------- | ---------- | ---------- | ---------- | ---------- | ---------- | ---------- | ---------- | ---------- | ---------- |
| TYSONS SHUTTLE | ---------- | ---------- | ---------- | ---------- | ---------- | ---------- | ---------- | ---------- | ---------- | ---------- |
| RESTON RIBS | ---------- | 25-cents discount | ---------- | ---------- | ---------- | FREE | ---------- | ---------- | ---------- | ---------- |
| CITY OF FAIRFAX CUE | ---------- | ---------- | ---------- | ---------- | ---------- | ---------- | FREE | ---------- | ---------- | ---------- |
| ALEXANDRIA DASH | ---------- | 75-cents discount | ---------- | ---------- | ---------- | ---------- | ---------- | FREE (includes return trip if within 4 hours) | ---------- | ---------- |
| FAIRFAX CONNECTOR | FREE or discounted with Metro Flash Pass | FREE or discounted | ---------- | ---------- | ---------- | ---------- | ---------- | Free or discounted | FREE or discounted | ---------- |
| PRTC COMMUTERIDE | ---------- | ---------- | ---------- | ---------- | ---------- | ---------- | ---------- | ---------- | ---------- | free from Pentagon to Crystal City |

* Free transfers apply at Alexandria & Crystal City Stations

# APPENDIX D

# TAXI SERVICE BY JURISDICTION

# TAXI SERVICE BY JURISDICTION

| JURISDICTION | | COMPANY | PHONE[1] | # OF VEHICLES |
|---|---|---|---|---|
| **Alexandria** | 1. | Alexandria Diamond Cab<br>3035 Mt. Vernon Ave.<br>Dispatch Office | 549-1100<br><br>548-7505 | 200 |
| | 2. | Alexandria Yellow Cab<br>3025 Mt. Vernon Ave.<br>Dispatch Office | 549-2500<br><br>836-2500 | 199 |
| | 3. | VIP Cab<br>3700 Jefferson Davis Hwy. | 549-6900 | 58 |
| | 4. | Columbus Cab<br>50 S. Pickett St. | 684-7373 | 45 |
| | 5. | King Cab<br>104 S. Henry St. | 549-3530 | 57 |
| | 6. | White Top Cab<br>3706 Mt. Vernon Ave. #100 | 683-4004 | 111 |
| | | | **TOTAL** | **670** |
| **Arlington** | 1. | Arlington Red Top Cab<br>3251 Washington Blvd. | 522-3333 | 274 |
| | 2. | Arlington Yellow Cab<br>3251 Washington Blvd. | 527-2222 | 110 |
| | 3. | Arlington Blue Top Cab<br>1008 N. Randolph St. | 243-8294 | 145 |
| | 4. | Crown Cab Company<br>2324 N. Dinwiddie St. | 528-0202 | 23 |
| | 5. | Friendly Cab Company<br>139 S. Barton St. | 979-2082 | 20 |
| | 6. | Hess Cab Company<br>2711 Jefferson Davis Hwy. #200 | 451-9202 | 33 |
| | | | **TOTAL** | **605** |

[1] *All telephone numbers are area code 703.*

| | | | | |
|---|---|---|---|---|
| **Fairfax County & Other Areas** | 1. | Fairfax Red Top Cab Co.<br>11 Hillwood Ave. | 934-4444 | 70 |
| | 2. | Yellow Cab Company<br>11 Hillwood Ave | 534-1111(main) | 245[2] |
| | | - Annandale Yellow Cab | 941-4000 | |
| | | - Bailey's Cross Rds Yellow Cab | 820-2626 | |
| | | - Burke Yellow Cab | 941-4000 | |
| | | - Fairfax Yellow Cab | 941-4000 | |
| | | - Falls Church Yellow Cab | 534-1111 | |
| | | - McLean Yellow Cab | 356-3151 | |
| | | - Tysons Corner Yellow Cab | 534-1111 | |
| | | - Vienna Yellow Cab | 938-7272 | |
| | 3. | Springfield Yellow Cab* [3]<br>7956E Twist Lane, Springfield | 451-2255 | 69 |
| | 4. | Herndon-Reston Cab*<br>7956E Twist Lane | 451-7200 | 13 |
| | 5. | Belvoir Taxi Service*<br>7956E Twist Lane | 781-7040 | 10 |
| | 6. | Additional Murphy Brothers certificates | | 10[4] |
| | | | **TOTAL** | **417** |
| **Loudoun County** | 1. | Country Side Cab*<br>7956E Twist Lane | 444-2259 | 2 |
| | 2. | Dulles Taxi<br>1400 Shepherd Dr., Sterling | 430-2000 | 4 |
| | 3. | Dulles Executive Sedan<br>1400 Shepherd Dr. | 430-2000 | 3 |
| | 4. | Loudoun County Yellow Cab<br>11 Hillwood Ave | 437-9100 | 5 |
| | 5. | Dulles Express Cab Company<br>113 W. Church Rd., Sterling | 406-3333<br>450-0045 | 2 |
| | 6. | Sterling Taxi<br>113 W. Church Rd. | 430-4444<br>450-0045 | 2 |
| | | | **TOTAL** | **18** |
| **Other Taxi Services** | 1. | Washington Flyer Taxi<br>1008 Randolph St., Arlington | 661-8230 | 315 |

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[2] *Represents corporate total for all branches of Yellow Cab.*

[3] *All taxi companies marked with (*) are owned by Paul Wallace Management Inc., 8016 Russell Rd., Alexandria, Va. 22309.*

[4] *The Fairfax County Board of Supervisors granted 10 additional certificates on October 11, 1993.*

# TAXI OVERSIGHT AGENCIES

| | | |
|---|---|---|
| Alexandria: | Hack Inspector's Office<br>Officer Jim Oaks | 838-4240 |
| Arlington: | Hack Inspector's Office<br>Detective Dan Wines | 358-4258<br>358-4255 |
| City of Fairfax: | There is no oversight agency. | |
| Fairfax County: | Consumer Affairs Office<br>Mr. Harold Virts | 222-8435 |
| Falls Church: | Falls Church Police Department<br>Records Division | 241-5054 |
| Loudoun County: | There is no oversight agency. | |

# APPENDIX E

# PARK-AND-RIDE LOTS

# IN NORTHERN VIRGINIA

# PARK AND RIDE LOTS IN NORTHERN VIRGINIA

| Jurisdiction/Name of Lot | Address | Capacity | Served by Transit |
|---|---|---|---|
| **Alexandria:** | | | |
| Van Dorn Metrorail | Van Dorn St & Eisenhower | 361 | DASH/Metrobus/Metrorail/ Fairfax Connector |
| **Arlington County:** | | | |
| Ballston Commons Garage | Wilson Blvd. & Glebe Rd. | 750 | Metrobus/Metrorail |
| East Falls Church Metrorail Station | North Sycamore & Washington Blvd. | 422 | Metrobus/Metrorail |
| Four Mile Run Parking Lot | Columbia Pike & Four Mile | 28 | Metrobus |
| Washington-Lee Parking Lot | N. Quincy & N. 15th St. | 71 | Metrobus |
| Clarendon Metered Lot | N. Hartford St. in Clarendon | 17 | Metrobus/Metrorail |
| **City of Fairfax:** | | | |
| Kutner Park | Jermantown Rd. & Main St. | 50 | CUE |
| Municipal Lot | Intersection of Old Lee Hwy. & North St. | 96 | CUE |
| **Fairfax County:** | | | |
| Ames Dept. Store | 6457 Edsall Rd. (East of Edsall Rd. Interchange w/Shirley Hwy.) | 50 | Metrobus/Fairfax Connector |
| Backlick Road VRE Station | 6900 Hechinger Drive, in Springfield | 220 | Metrobus/Fairfax Connector/VRE |

## PARK AND RIDE LOTS IN NORTHERN VIRGINIA - CONTINUED

| Jurisdiction/Name of Lot | Address | Capacity | Served by Transit |
|---|---|---|---|
| Blackies House of Beef | 6710 Commerce Street | 183 | Metrobus/Fairfax Connector |
| Burke Centre | Roberts Pkwy., north of Burke Center Parkway | 393 | Metrobus/VRE |
| Canterbury Woods Park | Wakefield Chapel Road | 34 | Metrobus/Fairfax Connector |
| Centreville | U.S. 29 and Stone Road | N/A | Metrobus |
| Centerville Square | Centerville Square Shopping Center at intersection of Rt. 28 & Rt. 29 | 178 | Metrobus |
| Chi-Chis Restaurant | 7010 Old Keene Mill Rd. in Springfield | 82 | Fairfax Connector/Metrobus |
| Commuter Court/Mason Hirst | 1805 Michael Faraday Court | 87 | Metrobus |
| Dunn Loring Metrorail Station | Gallows Road at I-66 | 1,233 | Metrorail/Metrobus/Fairfax Connector |
| Fairlanes Bowling Center | 13814 Lee Highway | 33 | None |
| Fair Oaks | Fair Oaks Mall Parking Areas 8 & 9, off Legato Rd., north of Hecht Co. Dept. Store | 269 | Metrobus |
| Government Center | Government Center Parkway | 170 | Metrobus |
| Greenbriar Park | Melville Lane, near Stringfellow Road | 60 | Metrobus |
| Hechinger | 6555 Little River Turnpike in Annandale | 54 | Metrobus |
| Holiday Inn | 6401 Brandon Ave. in Springfield | 43 | Fairfax Connector/Metrobus |
| Huntington Metrorail Station | Huntington Ave (Between Telegraph Rd. & Richmond Hwy.) | 3,090 | Fairfax Connector/Metrobus/Metrorail |
| Lorton Park and Ride | Lorton Rd. at Gunston Cove Rd. | 100 | Fairfax Connector/(VRE as of Fall, 1994) |
| Notoway Park | Courthouse Road near Nutley Street | 15 | Metrobus/Fairfax Connector |

## PARK AND RIDE LOTS IN NORTHERN VIRGINIA - CONTINUED

| Jurisdiction/Name of Lot | Address | Capacity | Served by Transit |
|---|---|---|---|
| Poplar Tree Park | Stringfellow Road. near Fair Lakes Pkwy. | 125 | Metrobus |
| Parkwood Baptist Church | 8726 Braddock Road | 38 | Metrobus |
| Reston Park and Ride | Corner of Sunset Hills Rd. & Wiehle Ave. | 357 | Metrobus/Reston Express/Ffx. Connector |
| Reston South | Fox Mill Rd. at Lawyers Rd. & Reston Pkwy. | 411 | Metrobus/Fairfax Connector |
| Rolling Road VRE Station | 9016 Burke Rd. at intersection w/Ridge Ford Dr. | 368 | Metrobus/VRE |
| Rolling Valley Mall | Old Keene Mill Rd. East of Shiplett Blvd. | 688 | Fairfax Connector/Metrobus |
| South Run District Park | Pohick Rd. & Lee Chapel Rd. | 324 | Metrobus |
| Springfield Mall | Mall parking lot on Spring Mall Rd. between Frontier Dr. and Loisdale Rd. | 243 | Fairfax Connector/Metrobus |
| Springfield Plaza | Bland St. between Old Keene Mill Rd. & Amherst Ave. | 219 | Fairfax Connector/Metrobus |
| Springfield United Methodist Church | 7047 Old Keene Mill Rd. (entrance on Spring Rd.) | 89 | Fairfax Connector/Metrobus |
| Sully Station Park and Ride Lot | Stonecroft Blvd. near Westfields Blvd. | 120 | Metrobus |
| Vienna | Nutley Street at I-66 | 3,572 | Metrorail/Metrobus/Fairfax Connector/CUE |
| Vienna Park and Ride Lot | Nottoway Park Courthouse Rd. near Nutley St. | 14 | Metrobus |
| Wakefield Chapel Recreation Center | Wakefield Chapel Rd. & Queen Berry Ave | 50 | Metrobus/Fairfax Connector |
| West Falls Church Metrorail Station | Haycock Rd., South of I-66 Reston Express/Tysons Shuttle | 1,037 | Metrobus/Metrorail |
| Worldgate | Worldgate Drive (behind Cosmetic Center) | 200 | Metrobus/Fairfax Connector |

## PARK AND RIDE LOTS IN NORTHERN VIRGINIA - CONTINUED

| Jurisdiction/Name of Lot | Address | Capacity | Served by Transit |
|---|---|---|---|
| **Loudoun County:** | | | |
| Ashburn Farm | Summerwood Court & Ashburn Farm Prkwy | N/A | Loudoun County Commuter Services |
| Ashburn Village | Grottus & Gloucester | 20 | Loudoun County Commuter Services |
| Cascades Park & Ride | Palisades Parkway & Whitefield Place | 60 | Loudoun County Commuter Services |
| Hamilton | Baptist Church, Old Route 7 | 10 | N/A |
| Leesburg | Harrison Street Park | 15-20 | Loudoun County Commuter Services |
| Purcellville | Route 7 & Hatcher Street | 20 | Loudoun County Commuter Services |
| Sterling | Holiday Inn Drive at Shaw Road | 45 | N/A |
| Sterling Park Shopping Center | Enterprise Street near Park Pharmacy | 60 | Loudoun County Commuter Services |
| Walmart | Route 28 & Pacific Blvd. | 100 | Loudoun County Commuter Services |
| **Prince William County:** | | | |
| Brittany Commuter Lot | Exeter Dr. at Rt. 234, South of Montclair | 84 | None |
| Broad Run/Airport VRE Station | 10637 Piper Lane (Adjacent to Manassas Municipal Airport) | 300 | VRE |
| Dale City Commuter Lot | Minneville Rd. (Route 640) | 555 | CommuteRide |
| Festival at Old Bridge | Old Bridge Festival Shopping Center | 75 | CommuteRide |
| Gordon Blvd. | Gordon Blvd. (Rt. 123) | 180 | CommuteRide |
| Hillendale | Hillendale & Rt. 784 | 200 | CommuteRide |
| Horner Road | Horner Rd. (Rt. 639) | 375 | CommuteRide |
| Lake Ridge | Rt. 640 & Harbor Dr. | 200 | CommuteRide |

## PARK AND RIDE LOTS IN NORTHERN VIRGINIA - CONTINUED

| Jurisdiction/Name of Lot | Address | Capacity | Served by Transit |
|---|---|---|---|
| Lindendale Lot | Northside of Dale Blvd. one block west of Lindendale Rd. | 214 | CommuteRide |
| Manassas Train Station | 9451 West Street (At existing Southern Railway depot on Center St.) | 348 | VRE, CommuteRide |
| Manassas Park VRE Station | 9300 Manassas Drive | 300 | VRE |
| Montclair Commuter Lot | Dumfries Rd (Rt. 234) | 97 | CommuteRide |
| NVCC Commuter Lot | Manassas Campus | 226 | CommuteRide |
| Potomac Mills | Potomac Mills Rd. | 700+ | CommuteRide |
| Prince William Square | Smoketown Rd. | 45 | None |
| Prince William Stadium | Stadium Lot at County Complex | 53 | None |
| Quantico Train Station | 550 Railroad Ave | 50 | VRE |
| Rippon VRE Station | 15511 Farm Creek Dr. (South end of Farm Creek Dr.) | 300 | VRE |
| Triangle Lot | Intersection of Rt. 619 & Rt. 1 | 35 | CommuteRide |
| Woodbridge VRE Station | 1040 Express Way (At Dawson Beach Rd. & U.S. Rt.1) | 588 | VRE |
| **Spotsylvania County:** | | | |
| Fredericksburg Commuter Lot | Rt. 3 & I-95 Old Salem Church | 705 | Private Bus Companies |

## PARK AND RIDE LOTS IN NORTHERN VIRGINIA - CONTINUED

| Jurisdiction/Name of Lot | Address | Capacity | Served by Transit |
|---|---|---|---|
| **City of Fredericksburg:** | | | |
| 208 Commuter Lot | Rt. 208, 1/4 mile off Rt. 1 | 241 | Private Bus Companies |
| Fredericksburg Train Station | 200 Lafayette Blvd. | 100 | VRE |
| **Stafford County:** | | | |
| Aquia | Rt. 610 & Rt. 684 | 679 | Private Bus Companies |
| Brooke VRE Station | 1721 Brooke Rd. in Stafford | 300 | VRE |
| Falmouth Commuter Lot | Rt. 17 & I-95 (West of Falmouth) | 1035 | Private Bus Companies |
| Joint-Use Auxillary Commuter Parking Lot | On Rt. 17 north of Falmouth Commuter Lot | 58 | Private Bus Companies |
| Leeland Road VRE Station | 275 Leeland Rd. in Falmouth | 330 | VRE |
| Stafford Commuter Lot | Rt. 630 & I-95 | 539 | Private Bus Companies |

| METRORAIL PARKING IN NORTHERN VIRGINIA | | |
|---|---|---|
| **STATION** | **LOCATION** | **SPACES** |
| 1. Huntington | Huntington Ave. at Fenwick Dr.<br>Kings Highway north of Fort Dr. | 3,090 |
| 2. Vienna | Median of I-66 at Nutley Rd. | 3,572 |
| 3. Dunn Loring | Median of I-66 at Gallows Rd. | 1,323 |
| 4. West Falls Church | Median of I-66 at Leesburg Pike | 1,062 |
| 5. East Falls Church | Median of I-66 at N. Sycamore Rd. | 422 |
| 6. Van Dorn | Eisenhower Avenue in Alexandria | 361 |

# PARKING AND TRANSIT FEEDER SERVICES AT VRE STATIONS

| STATIONS | PARKING SPACES | DAILY FEE | TRANSIT FEEDER SERVICE |
|---|---|---|---|
| **MANASSAS LINE:** | | | |
| Broad Run/Airport | 320 | $1.25/day-$20/month | |
| Manassas | 348 | $1.00 non-residents<br>$1.00/month-residents | PRTC CommuteRide Bus |
| Manassas Park | 300 | $1.00 | |
| Burke Centre | 400 | ----- | Metrobus Routes 17L; 26G,H |
| Rolling Road | 400 | ----- | |
| Backlick Road | 220 | ----- | Metrobus Routes 18A,B,F<br>Fairfax Connector 401 |
| **FREDERICKSBURG LINE:** | | | |
| Fredericksburg | 100 | Free -available to residents only | Shuttle from Lee's Hill in Spotsylvania County |
| Leeland Road | 300 | ----- | |
| Brooke | 300 | ----- | |
| Quantico | 125 | $1.25 | |
| Rippon | 300 | $1.25 | |
| Woodbridge | 588 | $1.25 | PRTC CommuteRide Bus |
| **SHARED STATIONS:** | | **TRANSIT FEEDER SERVICE** | |
| Alexandria | ----- | Metrorail Yellow/Blue Lines<br>Dash Route-AT2, 5, and 8<br>Metrobus Routes-28A,B; 29K,N<br>Amtrak | |
| Crystal City | ----- | ----------<br>Metrorail Yellow/Blue Lines<br>Metrobus Routes-5N; 9A,B,C,E; 10A; P11,13; 23A,C,T<br>Arlington Crystal City Trolley | |
| L'Enfant | ----- | ----------<br>Metrorail Yellow/Blue/Orange/Green Lines<br>Metrobus Routes-A9,42,46,48; 13A,B,C,D; 30; 32; 34; 36; 52; 70; 71; 73; 87; M2; P1,17; V4,6<br>MTA Buses | |
| Union Station | ----- | ----------<br>Metrorail Red Line<br>MARC, Amtrak, MTA Buses<br>Metrobus Routes-40; 42; 44; 46; 80; 87; 90; 91; 92; 96; D2,4,6,8; M2; X2,4,5,8,9 | |
| **PLANNED ADDITIONS:** | | **SCHEDULED TO OPEN:** | |
| Burke Centre | 150 | December, 1995 | |
| Franconia/Springfield | 300 | Summer, 1995 | |
| Lorton | 200 | Fall, 1994 | |

# APPENDIX F

# ONGOING STUDIES AND PLANS

## ONGOING TRANSPORTATION PLANNING ACTIVITIES

### 1994

| Name | Primary Agencies | Schedule & Products | |
|---|---|---|---|
| **Regional** | | | |
| ADA Paratransit Plan | WMATA, local govts Frederick Co. | Updated annually | Plan |
| Beauregard Street Study | VDOT, City of Alex. | 1994 | Report |
| Bristol Passenger Rail Study | VDRPT | Jan. 1995 | Report |
| Capital Beltway Safety Study | FHWA, VDOT | Aug. 1994 | Report |
| Central Fairfax Area Study | VDOT, City of Fairfax | 1994 | Report |
| Constrained Long-Range Transportation Plan | TPB, state DOT's WMATA, local govts. | Oct. 1994 | CLRP |
| Employer-Based Transportation Focus Groups w/ Non-Participatory Employees | VDRPT | April 1994 | Report |
| Engineering Proving Grounds Study | VDOT, Fairfax County | 1994 | Report |
| External Station O/D Survey | VDOT, MWCOG | 1994 | Report |
| Interjurisdictional Bus Study | NVTC, local govts | 1994 | Report |
| I-495 Capital Beltway Improvement Study | VDOT | 1996 | Report & Prelim. Engineering |
| I-66 Commuter Survey | VDOT | 1994 | Report |
| I-66/Haymarket Transportation | VDOT | 1995 | Report |
| I-66 Park & Ride Demand Location Study | VDOT | 1994 | Report |

## PLANNING ACTIVITIES 1994 (Continued)

| Name | Primary Agencies | Schedule | Products |
|---|---|---|---|
| I-66 Rail Feasibility Study | VDRPT | 1996 | Report |
| I-95 Corridor Study | VDOT, Fairfax & Prince William Counties | 1995 | Report |
| Metrorail Fiscal Impact Study | NVTC, WMATA, local jurisdictions | Nov. 1994 | Report |
| Rail Service in Dulles Corridor Study | VDR&PT, Fairfax & Loudoun Counties, WMATA | 1996 | EIS |
| Regional Air Quality 1999 Attainment Plan | MWAQC, TPB, state DOT's and AQ agencies | Nov. 1994 | SIP's |
| Survey of Northern Virginia Park/Ride Lot Users | VDOT | 1994 | Report |
| Town of Leesburg Study | VDOT, Town of Leesburg | 1994 | Report |
| Washington/Richmond Inter-City Rail Study | VDRPT | 1995 | Report |
| Western Regional Park & Ride Lot | VDOT, MWAA, Local Governments | 1994 | Report |
| Western Washington Bypass Preliminary Engineering | VDOT, Prince William & Loudoun Counties | 1996 | Tier I EIS |
| Woodrow Wilson Bridge Improvements Study | FHWA,MDOT, VDOT DCDPW, TPB, local govts | 1995 | Final EIS |
| Stringfellow Road Park and Ride Location Study | VDOT, Fairfax County | Jan. 1995 | Report |

# APPENDIX G

# SCOPES OF WORK

# OF SELECTED STUDIES

# Dulles Corridor Rail Study

## Virginia Department of Rail and Public Transportation

### Elements of the Scope of Work

### February 1994

**Task 1 - Detailed Work Program and Project Management**

- 1.1 Detailed Work Program
- 1.2 Administration and Management of the Study

**Task 2 - Public Participation**

- 2.1 Methodology
- 2.2 Scoping Process
- 2.3 Public and Agency Participation
- 2.4 Public Hearings

**Task 3 - Development of Travel Forecasting Procedures**

- 3.1 Design of the Revised Model Structure
- 3.2 Networks and Zone System
- 3.3 Assembly of Base Data
- 3.4 Mode Choice Models
- 3.5 Time-of-Day Model
- 3.6 Trip Distribution Model
- 3.7 Trip Generation Model
- 3.8 Automobile Ownership Model
- 3.9 Stated-Preference Survey
- 3.10 Analysis of the Stated-Preference Data
- 3.11 Airport-Access Model
- 3.12 Model Validation

**Task 4 - Development of Alternatives**

- 4.1 Review of Previous Studies
- 4.2 Screening of Technology/Alignment/Station Options
- 4.3 Options for Service to Tysons Corner
- 4.4 Options for Service to Dulles Airport and Loudoun County

**Task 5 - Analysis of Service and Ridership Impacts**

- 5.1 Methodology Report
- 5.2 Transit Level-of-Service Analysis
- 5.3 Ridership Forecasts
- 5.4 Equilibration
- 5.5 Farebox Revenue Projections
- 5.6 Development of Impact Information

**Task 6 - Operations Planning**

- 6.1 Vehicle Characteristics
- 6.2 Operating Policies and Conceptual Operating Plans
- 6.3 Detailed Operating Characteristics
- 6.4 Final Plan Operating Plans

**Task 7 - Engineering**

- 7.1 Standards
- 7.2 Conceptual Engineering
- 7.3 Plans and Profiles
- 7.4 Station Areas
- 7.5 Maintenance Facility Site Planning

**Task 8 - Cost Estimation**

- 8.1 Methodology Report
- 8.2 Capital Costs
- 8.3 Operating Costs
- 8.4 Unified Cost Plan and Inputs to Financial Planning

**Task 9 - Screening of Environmental Impacts**

- 9.1 Methodology
- 9.2 Traffic Impacts
- 9.3 Noise
- 9.4 Air Quality
- 9.5 Water Resources and Ecosystems
- 9.6 Historic and Archaeological Resources
- 9.7 Parks and Recreation
- 9.8 Neighborhoods

**Task 10 - Analysis of Land Use Impacts**

- 10.1 Methodology
- 10.2 Review of Land-Use Scenarios
- 10.3 Analysis of Fiscal Impacts

**Task 11 - Evaluation and Selection of the Preferred Alternative**

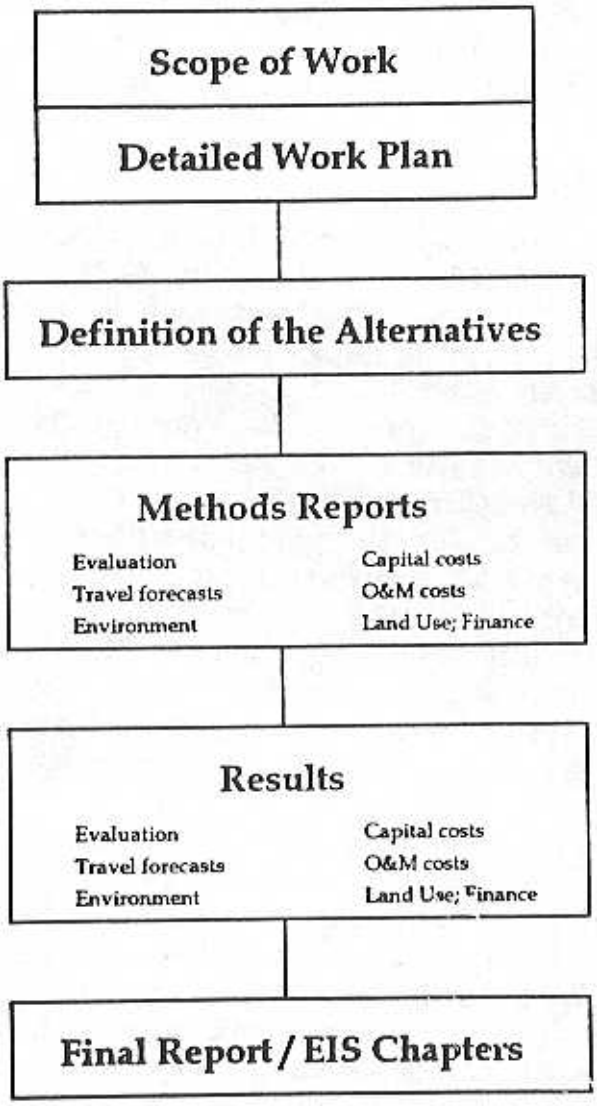
- 11.1 Methodology
- 11.2 Evaluation
- 11.3 Preferred Alternative Report

**Task 12 - Refinement of Deliverables**

## LIST OF DELIVERABLES

| Number | Title |
|---|---|
| 1-1 | Detailed Work Program |
| 1-2 | Project Management Plan |
| 1-3 | Inventory of Existing Information |
| 1-4 | Work Orders |
| 1-5 | Reporting Materials |
| 2-1 | Public Participation Methodology Report |
| 2-2 | Scoping Process Materials |
| 2-3 | Communications Products (Newsletter, meeting materials) |
| 2-4 | Record of Public Hearings/Meetings |
| 3-1 | Model Specification Report |
| 3-2 | Data Bases |
| 3-3 | Revised Highway and Transit Networks |
| 3-4 | Model Calibration/Validation Report |
| 3-5 | Application Software |
| 3-6 | Users' Guide |
| 4-1 | Conceptual Definition of the Alternatives and Feeder Services. |
| 4-2 | Detailed Definition of the Alternatives and Feeder Services. |
| 5-1 | Travel Forecasting Methodology Report |
| 5-2 | Report on the Travel Forecasts |
| 5-3 | Presentation and Briefing Materials on the Ridership Forecasts |
| 6 | None |
| 7-1 | Plan and Profile Drawings |
| 7-2 | Detail Plans of Critical Areas |
| 7-3 | Station Area Plans and Renderings |
| 7-4 | Maintenance Facility Rendering |
| 8-1 | Costing Methods Report |
| 8-2 | Capital Cost Results Report |
| 8-3 | O&M Costing Results Report |
| 8-4 | Unified Cost Plan |
| 9-1 | Environmental Methodology Report |
| 9-2 | Environmental Screening Report |
| 10-1 | Land Use and Fiscal Impacts Methodology Report |
| 10-2 | Land Use and Fiscal Impacts Report |
| 11-1 | Evaluation Methodology |
| 11-2 | Evaluation Report |
| 11-3 | Preferred Alternative Report |

# Documentation



## I-66/Haymarket Transportation Study

### Virginia Department of Transportation

### - Proposed Scope of Work - August 2, 1994

## I. PURPOSE:

The purpose of this section of the scope of work is to describe the framework for a transit service analysis. From this framework, the consultant is to develop detailed work plans for the analysis of transit service in the I-66 Corridor from the Town of Vienna to an area just west of the town of Haymarket, Virginia. The Disney Task Force intends to oversee the work of a qualified firm to conduct and to complete within _____ months from the initiation of this project.

## II. INTRODUCTION:

The Disney Task Force requests detailed work plans for consultant services to conduct a study examining public transportation service options in the I-66 corridor and the Disney America project area near Haymarket, Virginia. The study is to examine options for providing public transportation service in the short range (service initiating in 1998) to accommodate business and recreational travel to and from the Disney America project connecting with: (a) the Washington Metropolitan Area Transit Authority (WMATA) Metrorail system at the Vienna station; (b) the Broad Run/Airport Station of the Virginia Railway Express (VRE); and (c) Dulles International Airport. Other transit services may be proposed and studied; all services will be planned to initiate with the opening of the Disney America project. These services will be designed to provide transit bus service in the short term (service initiating in 1998) and to accommodate projected demand until the year 2010 or until more permanent rail or other transit service can be expanded in the I-66 corridor. This study will be an integral part of the congestion management plan for the Disney America transportation improvements programmed by the Commonwealth of Virginia.

The I-66 Corridor has been identified as a major transit study corridor in the Metropolitan Washington Council of Governments (MWCOG) Long Range Plan. The Northern Virginia 2010 Long Range Transportation Plan recommended rail transit service in the corridor. Rail transit service to Centreville along this corridor and extensions of VRE have long been envisioned as important components of the regional transportation system. A planned VRE extension to Gainesville currently is the topic of a separate rail relocation study which is anticipated to start in the summer of 1994.

There are two other studies which relate in some way to this scope of work, the Dulles Corridor Rail Project and the I-66 Rail Feasibility Study. The Dulles Corridor Rail Project (currently under way) will provide transit demand modelling upgrades by December, 1994. The I-66 Rail Feasibility Study (to begin Fall 1994) will use the model upgrades to examine the feasibility of long term rail transit options for the I-66 corridor. That service will be designed to accommodate commuter, business, and recreational long term travel demands in the corridor and to serve the Disney America project. The bus transit recommendations of this study will be incorporated into the I-66 Rail Feasibility study, and if necessary that study will build upon them. To the

extent that these three studies are interrelated, the consultant for this study will be expected to work cooperatively with the consultants for the other two.

## III. STUDY TASKS OF THE SHORT RANGE TRANSIT IMPROVEMENTS STUDY

### Task 1.1 - Detailed Work Program

The consultant will develop a detailed work program that will include all administrative and technical elements necessary for direction and management of this portion of the project. The work program will be delivered to the Disney Task Force as specified by them and will be included in the contract as an amendment. Task 1 is to be completed within _____ months after initiation.

Product: *Detailed Work Plan - Administration and Management of the First Study*

### Task 1.2 - Public Participation

A process of community involvement and citizen participation will be undertaken by the consultant. This process shall be developed and implemented as an integral part of the public participation process for the greater Disney America Transportation Project implementation plan.

Product: *Citizens Participation Methodology*
*Presentation Materials for Public Meetings*
*Citizens Meeting Minutes and Summaries*

### Task 1.3 - Development of Short Range Demand Forecasts

Using the regionally adopted transportation demand forecasting model as a base and making necessary adjustments, the consultant shall develop estimates of demand for the short range transit improvements envisioned including bus service between the Disney America Project and the Vienna Metrorail station, the Broad Run/Airport VRE station, and Dulles Airport. Demand estimates shall include year by year estimates from the opening of Disney America in 1998 to the year 2010. The consultant shall ensure that patronage estimates for the years 1999, 2000, and 2010 can be integrated into the regional air quality analysis for those years. The base data (population, employment, etc.) will be the same as approved and used in the latest adopted MWCOG cooperative forecasts or any approved updates. The consultant will use the latest available network developed by MWCOG for Round 5.1 or any approved updates as the base network. Due to the size of many of the zones in the MWCOG network, the consultant will need to use subdivided zones in the study area. Where "traffic analysis zones" already subdivided by VDOT are acceptable for this study they can be used, but additional divisions may be necessary.

Product: *Short Range Transit Patronage Estimates*

### Task 1.4 - Development of Short Range Service Proposals

The consultant shall develop operating plans for proposed short range transit services including, at a minimum, location of necessary park and ride lots, transportation demand management elements, capital and operating costs, transit vehicle characteristics, operating policies, hours and frequency of service, and farebox revenue projections. The consultant shall develop an assessment of the impacts on Metrorail and VRE service levels and shall develop bus service access plans for the Disney America site, the Vienna Metrorail station, the Broad Run/Airport VRE station, and Dulles airport including transfer facilities and amenities for passengers and layover facilities for buses.

Product: *Short Range VRE and Transit Facilities, and Service Proposals*

**Task 1.5 - Screening of Environmental Impacts**

The consultant will identify and evaluate the environmental and social consequences of implementing each of the proposed short range transit services. The consultant will assemble base line information on environmental conditions, develop a preliminary estimate of the nature and magnitude of changes in these conditions introduced by each proposed service or project, and identify potential strategies to mitigate significant adverse impacts. This analysis will be done in sufficient detail to identify significant adverse impacts that may affect the choice of a preferred alternative.

Impacts will be assessed on traffic, noise, air quality, water resources and ecosystems, historic and archaeological resources, parks and recreation, and neighborhoods.

Product: *Environmental Screening Report*

**Task 1.6 - Implementation Plan**

The consultant shall develop a plan for the implementation of the short range transit service proposals. This plan shall identify the steps necessary to achieve implementation, the agencies or entities responsible for the steps, the capital and operating costs associated with each service proposal, and a proposed financial plan for each of the services.

Product: *Short Range Transit Service Implementation Plan*

**Task 2 - List of Deliverable Products**

For all tasks, methodology reports will be prepared by the consultant to detail procedures and schedules for accomplishing specific tasks before work commences. These reports will give the Disney Task Force the opportunity to comment on the proposed methodology at a point where changes can be efficiently made before implementation.

The consultant will be required to submit monthly progress reports to the Project Manager and will be required, at a minimum, to meet with the Technical Committee and/or the Disney Task Force to present the draft of each product and to meet with the Commonwealth Transportation Board when requested.

**Task 3 - Refinement of Deliverables**

The consultant will refine the deliverables developed in each of the prior tasks and produce the set of final deliverables for the project. The consultant will revise each of the deliverables produced during the project to reflect comments received on the draft materials throughout the project and to update the documentation to be consistent with the final definition of each proposed alternative. The consultant will print up to 30 copies of each deliverable and provide to the Disney Task Force a camera-ready original for printing additional copies.

# I-66 Rail Feasibility Study

## Virginia Department of Rail and Public Transportation

**Scope of Work**
August 8, 1994

**PURPOSE:**

This scope of work describes the framework for a study of the potential for rail and associated feeder bus transit services in the I-66 Corridor from roughly the Town of Vienna to an area just west of Haymarket in Northern Virginia. The I-66 Corridor is identified as a major transit study corridor in the National Capital Region Transportation Planning Board's Long Range Plan. The Northern Virginia 2010 Sub-Regional Long Range Transportation Plan recommended rail transit service to Centreville. For continued economic vitality in the I-66 corridor, highway, HOV, bus, rail, and other transportation improvements are needed. Current and projected growth rates in this corridor, and the recent decision to locate the Disney America project near Haymarket demonstrate the importance of this study. Additionally, the Virginia General Assembly requested studies of the potential for rail transit in this corridor in both the 1993 and 1994 legislative sessions.

The Commonwealth intends to competitively select one qualified firm for the conduct of this study. The study is expected to be completed within eighteen months from initiation with several interim deadlines (see under Study Tasks). Using this framework, interested consultants should develop a detailed work proposal to analyze the potential for rail and associated feeder bus transit services, and to prepare preliminary plans describing service costs, and how such services would be sited and provided in the circumscribed area.

**INTRODUCTION:**

There are two other studies which relate in some way to this scope of work, the I-66 / Haymarket Transportation Study and the Dulles Corridor Rail Project. The I-66 / Haymarket Transportation Study will examine options for providing transit bus service in the short term (service initiating in 1998). That service will be designed to accommodate commuter, business, and recreational travel in the corridor and to serve the Disney America project. The I-66 / Haymarket Transportation Study will consider bus service connecting with:

(a) the Washington Metropolitan Area Transit Authority (WMATA) Metrorail system at the Vienna station;

(b) the Broad Run/Airport Station of the Virginia Railway Express (VRE) and;

(c) Dulles International Airport.

The I-66 / Haymarket Transportation Study may include other services, and all services will be planned to initiate with the opening of the Disney America project. These services will be designed to accommodate projected demand until the year 2010 or until more permanent rail or other transit service can be expanded in the I-66 corridor.

This study will be an integral part of the congestion management plan for the Disney America transportation improvements programmed by the Commonwealth of Virginia. The bus transit recommendations of the I-66 / Haymarket Transportation Study will be incorporated into this study, and if necessary this study will build upon them.

The Dulles Corridor Rail Project, a study examining rail transit service in the Dulles Corridor of Northern Virginia, will provide demand modeling improvements for use in other studies. To the extent that this I-66 Rail Feasibility Study relates to the Dulles Corridor Rail Project, the consultant will be expected to work cooperatively with Parsons Brinkerhoff, the primary consultant for the Dulles study.

For the I-66 Rail Feasibility Study, consultant services are required to study rail, associated feeder bus and other transit services in the study area. This study will include at a minimum an analysis of rail transit demand and improvements required to extend the WMATA Metrorail system from the Vienna Metrorail station to Centreville. Further this study shall include an analysis of rail transit demand and improvement options to extend VRE or other rail passenger service to the remainder of the I-66 corridor study area. Feeder bus service to proposed VRE, Metrorail or other rail stations shall also be included in the analysis.

The Department of Rail and Public Transportation will directly supervise this study. Throughout the conduct of the study, technical advice and assistance will be provided by a Technical Advisory Committee consisting of representatives from DRPT, NVTC, PRTC, VRE, WMATA, Arlington, Fairfax, Prince William, Fauquier, and Loudoun Counties, the Metropolitan Washington Airports Authority, the National Capital Region Transportation Planning Board, and the Central Office and Northern Virginia District of VDOT. The consultant shall assist the Commonwealth in establishing administrative procedures for the project. At a minimum, this will include a project management plan to track resources (people, materials, assignments), costs, schedules, and critical decision points.

**STUDY TASKS:**

All tasks are to be completed within 18 months or less of the initiation of the study. By January 15, 1995 a preliminary report of progress will be prepared for presentation to the General Assembly. By April 1, 1995, a preliminary report on patronage and capital and operating costs for each alternative will be provided. Presentation of these preliminary results will be in a format ready for inclusion in the region's constrained long range plan for both air quality conformity analysis and to meet the regulatory requirements that the CLRP be "financially constrained."

## Task 1 - LONG RANGE TRANSIT IMPROVEMENTS STUDY

### Task 1.1 - Detailed Work Program

1.1.1. Develop a detailed work program that includes all administrative and technical elements necessary for direction and management of this portion of the project. The work program will be delivered to DRPT within seven to ten business days following notice to proceed and will be included in the contract as an amendment.

Product: *Detailed Work Plan - Administration and Management of the Study*

### Task 1.2 - Public Participation

1.2.1 Develop a program of community involvement and public participation in the decision making process for the implementation of rail and associated feeder bus transit service in the corridor.

1.2.2. Work closely with the Commonwealth and local jurisdictions to establish a methodology for a comprehensive public involvement program.

1.2.3. Prepare presentation materials for public meetings and supplement DRPT's staff in attending a minimum of fifteen (15) individual meetings of community groups. In addition, the consultant will document each meeting and propose methods for distributing information to the broadest possible audience.

1.2.4. Meet with local governing boards and agencies with interest in this study to discuss work to be done, available data, methodologies, schedules, and etc.

Product: *Citizens Participation Methodology*
*Presentation Materials for Public Meetings*
*Citizens Meeting Minutes and Summaries*

### Task 1.3 - Development of Long Range Public Transportation Demand Forecasts

1.3.1. Produce estimations of demand for the identified rail and associated feeder bus transit services based upon land use plans for the study area. The base data (population, employment, etc.) will be the same as approved and used in the latest adopted MWCOG cooperative forecasts or any approved updates. The consultant will use the latest available network developed by MWCOG for Round 5.1 or any approved updates as the base network. Due to the size of many of the zones in the MWCOG network, the consultant will need to use subdivided zones in the study area. Where "traffic analysis zones" already subdivided by VDOT are acceptable for this study they can be used, but additional divisions may be necessary.

1.3.2. Use the revised regional model to produce long range transit patronage estimates to 2020 for the extension of Metrorail to Centreville and the extension of

VRE or other rail services in the I-66 corridor. The Dulles Corridor Rail Study consultant, Parsons Brinkerhoff, is developing refinements to the regionally adopted travel forecasting model that will produce far more accurate estimates of transit patronage. The revisions to the model will be available by December, 1994. The current model only provides an estimate of work trips. To better account for non-work trips, this study will use traffic data from the I-66 / Haymarket Transportation Study when available.

1.3.3: Determine if long range transit patronage estimates indicate sufficient demand to warrant consideration of rail transit in the corridor. If sufficient demand is indicated, the study will continue as outlined below. If the estimates indicate insufficient demand for rail transit, revise subsequent tasks to address other appropriate long range transit modes for the corridor.

Product: *Long Range Transit Patronage Estimates*
*(Alternate: Revised Scope of Work for Other Transit Modes)*

**Task 1.4 - Development of Long Range Service Proposals**

1.4.1. Propose alignments for the extension of Metrorail to Centreville. The basic alignment for the rail line will be the median of I-66. Previous studies identified Metrorail stations for the I-66 median alignment. The consultant shall refer to the Comprehensive Plan for Fairfax County for this information. From this Comprehensive Plan base case, the consultant will consider no more than two alternate sets of station locations for testing. The consultant can recommend substituting or dropping station locations with low patronage forecasts.

1.4.2. Consider a rail extension beyond Centreville if patronage and operational conditions warrant. Metro and non-Metro types of rail may be considered for these extensions in the I-66 median beyond Centreville. A current study by the Commonwealth is considering the relocation of Norfolk Southern's main line to eliminate their train movements through the City of Manassas. To the extent available, the results of this study should be used in the analysis of VRE or other rail passenger service in the remainder of the I-66 corridor.

1.4.3. Develop operations plans for all rail and associated feeder bus transit services including operating policies, hours and frequency of service, and farebox revenue projections.

1.4.4. Identify opportunities for private participation in the provision of proposed transit service. This will include joint development opportunities.

The physical characteristics' analysis will, at a minimum, include routes and alignments, station locations, vehicle types and numbers, park and ride facilities, and storage and maintenance facilities. The operational characteristics will include, at a minimum, personnel requirements, headways, speeds, train consists, feeder operations, highway operational characteristics, vehicle miles, vehicle loadings, fares and station circulation patterns.

Product: *Long Range Rail Alignments and Transit Service Proposals*

**Task 1.5 - Testing and Refinement of Alternatives**

1.5.1. Tabulate all patronage data produced for each alternative tested in a form that is usable for analyzing all ridership and patronage related items; including but not limited to operational planning, facility size, vehicle requirements estimates, environmental impacts and economic factors. In testing alternatives, the consultant will use the farebox policy, and parking fees recommended by the Technical Committee. The tabulations will include, but not be limited to, peak period and daily station-to-station trip matrices, line volumes, boardings and de-boardings by station and by mode of access, farebox revenues, and ridership impacts to existing public transportation systems.

1.5.2. Develop recommended options from this tabulation and other materials.

Product: *Final Definition of Rail Alternatives*
*Final Definition of Feeder Service Alternatives*
*Service and Patronage Forecasts*

**Task 1.6 - Conceptual Engineering**

1.6.1. Develop conceptual plans and profiles for each rail extension. This will, at a minimum, identify alignments and locate stations identifying facilities as at grade, below grade, or above grade; locate any bridges and identify any wetlands.

**Standards** - The consultant will use WMATA standards of design for heavy rail facilities in analyzing a Metrorail extension to Centreville. Appropriate rail industry and VRE standards will be used for the VRE rail extension or other recommendations.

**Plans and Profiles** - For the recommended alternatives the consultant will develop plans and profile drawings in sufficient detail to provide reasonably accurate cost estimates and to conduct a screening of environmental impacts. This shall include passenger and bus layover facilities and any other improvements required for bus access.

The consultant may use its own data or may obtain from the counties of Fairfax and Prince William and the Virginia Department of Transportation available soil borings from recent construction activities in the corridor that may give an indication of subsoil conditions on alignments selected for study.

Product: *Conceptual Plans and Profiles for Each Rail Extension*

**Task 1.7 - Screening of Environmental Impacts**

1.7.1. Identify and evaluate the environmental and social consequences of constructing and implementing each of the long range proposed rail and associated

feeder bus transit services. The consultant will assemble base line information on environmental conditions, develop a preliminary estimate of the nature and magnitude of changes in these conditions introduced by each proposed service or project, and identify potential strategies to mitigate significant adverse impacts. This analysis will be done in sufficient detail to identify significant adverse impacts that may affect the choice of a preferred alternative.

1.7.2. Present data for ready integration with the regional air quality analysis. Detailed analysis of impacts and their mitigation will be deferred to future study.

Impacts will be assessed on traffic, noise, air quality, water resources and ecosystems, historic and archaeological resources, parks and recreation, and neighborhoods.

Product: *Environmental Screening Report*

**Task 1.8 - Financial Analysis of Alternatives**

1.8.1. Develop capital costs for each proposal based on local costs and experience by area local governments, WMATA, VRE and other similar operations adjusted to reflect construction costs in the Northern Virginia area. Capital costs will be estimated using the unit cost build up method and must include the costs of all capital improvements needed to implement service. All costs will be expressed in current year dollars (1994).

Preliminary cost estimates will be prepared for the proposed alternatives at a level of accuracy to serve as good planning estimates only. The consultant will document the cost estimating procedures and unit costs used in the analysis. These estimates must also include any costs for environmental mitigation. These preliminary cost estimates will include right of way, capital leases, environmental mitigation costs, vehicles, traction power system, and construction costs. Construction costs will include the costs of highway realignments if necessary, stations, parking lots, interface facilities, bridges, trackage, stations' storage and maintenance facilities, tunnels, equipment, and access roads.

1.8.2. Develop operating costs for each proposed service using the operating plans developed in previous tasks. Operating costs will be developed using a labor build up or a comparable method or based on existing contracts in the region for operations and lease services for commuter rail. To the extent possible, data will be based on recent experiences in the Washington, D.C. area or other similar operations. Costs from other operations must be adjusted to reflect local labor costs and conditions.

Detailed operating costs will be estimated for the following major cost categories: Maintenance of Way and Structure; Maintenance of Vehicles; Power and Fuel; Transportation; General and Administrative. For as many categories as it might apply, Incremental Costs to the system will be separately identified.

1.8.3. Develop passenger revenue estimates for each alternative using the operating plans and the ridership projections developed in previous tasks. The revenue forecasts will take into account the potential effects of the new Metrorail line on the existing service on the Orange Line and the VRE Manassas line.

1.8.4. Allocate capital, operating, passenger revenue, and maintenance costs over a project lifetime to develop an annualized cost. Federally approved discount rates shall be used in the analysis.

Product: *Capital Cost Estimate Results*
*Operating Cost Estimates*
*Revenue Projections*
*Unified Cost Plans*

**Task 2 - List of Deliverable Products**

2.1.1. Prepare methodology reports for Task 1 detailing procedures and schedules for accomplishing specific tasks before work commences. These reports will give the Commonwealth and the Technical Advisory Committee the opportunity to comment on the proposed methodology at a point where changes can be efficiently made before implementation.

2.1.2. Submit to the Project Manager monthly progress reports, meet with the Technical Committee and/or the DRPT to present the draft of each product and meet with the Commonwealth Transportation Board when requested.

**Task 3 - Refinement of Deliverables**

The consultant will refine the deliverables developed in each of the prior tasks and produce the set of final deliverables for the project. The consultant will revise each of the deliverables produced during the project to reflect comments received on the draft materials throughout the project and to update the documentation to be consistent with the final definition of each proposed alternative. The consultant will print up to 30 copies of each deliverable and provide to the DRPT a camera-ready original for printing additional copies.

## V. STUDY TASKS

The successful firm will be thoroughly versed and experienced in rail planning and innovative travel demand forecasting techniques and will have demonstrated success in performing rail passenger service studies. The study will be performed in two distinct phases. The first phase will involve an analysis of service alternatives, an assessment of current conditions, the development of a set of recommended service alternatives, a detailed analysis of current and forecasted travel demand, and the development of preliminary cost improvements for implementing the recommended alternatives.

If Phase I demonstrates that service is feasible on either or both of the two routes, and if sufficient funding is available, a second phase will be initiated to perform a more detailed analysis of the recommendations made in Phase I.

The Department will be forming a Technical Advisory Committee consisting of representatives from the localities and regional planning agencies in the areas that would be served by these two routes. All recommendations prepared by the Consultant will be reviewed by this committee. The Consultant will be required to meet with the committee at least four times during Phase I, and at least two times during Phase II of the study.

## PHASE I

### Task I-1 Assessment of Current Conditions and Capacity of the Rail Facilities

The current conditions of the various rail lines between the two city pairs being studied will be analyzed and documented. The Consultant will work with the railroad companies to analyze the condition of the track and all related facilities, including signals, grade crossings, structures and stations. The Consultant will develop an inventory of current traffic on the route alternative railroads, including both passenger (Amtrak and commuter rail) and freight service.

### Task I-2 Development of Service Alternatives

The Consultant will review historical data and previous reports, including An Evaluation of Service to Areas Not Presently Served, issued by Amtrak on July 6, 1992. Based on this review, and on the Assessment of Current Conditions, the Consultant shall identify potential routes between Bristol and Washington, D.C. and between Bristol and Richmond. The Consultant will also identify potential station locations. The Consultant will develop a list of potential service alternatives, including routes, station stops, approximate travel time, frequencies and schedules.

The Consultant will provide a list service alternatives which will be reviewed by the Technical Advisory Committee. Based on the recommendations of the Consultant and the Committee, the Department shall select for further study a recommended route and level of service for each of the two lines. The Department may also select alternate routes and several different service scenarios for the Consultant to study in more detail.

## Task I-3 Existing Travel Demand

The Consultant shall, in his proposal, describe the methodology, including use of census data, appropriate surveys, and computer models, proposed for use in the assessment. he model structure shall be explained along with a description of any variables to which the model is sensitive, for example, population, employment, household income, cars per household and/or other measures of socioeconomic activity used. The Consultant must be able to demonstrate that the model that is proposed will be acceptable to Amtrak for the purposes of establishing 403(b) service.

The Consultant's models will have to account for various scenarios that may be proposed for the corridor and will be required to operate in an interactive and iterative process at the corridor level. The models should also be sensitive to: changes in travel time for existing passenger rail service, auto and air travel; pricing, to include rail and air fares, auto travel, and parking costs.

The Consultant may need to develop additional behavioral and preference surveys. The contractor will design and conduct those behavioral and preference surveys which are needed for the models of travel and mode choice behavior. The behavioral and preference attributes should be correlated to market segment. Extensive coordination between the contractor and the Study Technical Committee will be required in developing the survey formats. The contractor will be responsible for conducting all behavioral and mode preference surveys, if required. The contractor will also process the survey data and combine it with existing sources of data to synthesize required model calibration and forecasting databases.

The Consultant, in his proposal, shall state the terms under which the survey mechanism (if recommended) and model, complete with operational documentation and data base, will be provided to the Department at the conclusion of the study.

The Consultant will provide a detailed estimation of passenger demand for the start up of service based on the service scenarios recommended in Task 1-2. These estimates will be reviewed by DRPT, the Technical Advisory Committee, and Amtrak, and must be fully acceptable to Amtrak.

## Task I-4 Projected Future Demand

The Consultant shall also evaluate and project rail passenger ridership using the model for the years 2000 and 2015. The Consultant will project demand based on existing conditions and provide information on the sensitivity of ridership to pricing, frequency, speed, quality and other factors.

Ridership projections shall be provided for several scenarios as identified in Task 1-2.

### Task I-5 Develop Preliminary Estimates for Improvements

The Consultant will be required to develop preliminary estimates for the costs of making proposed improvements to the railroads, as well as for capital and operating costs of providing the proposed services. These cost estimates shall be based on unit costs or other factors. More detailed analysis of costs will be conducted in Phase II.

The Consultant shall provide preliminary cost estimates for the recommended service alternatives broken down into the following categories:

1. General capital improvements to the railroads
2. Operating costs, including:
   a. Insurance costs
   b. Projected revenues
   c. Deficit (governmental operating subsidies)
3. Equipment costs

### Task I-6 Develop Service Recommendations

The service alternatives and projected demand and cost estimates prepared by the Consultants will be reviewed by the Department and presented to the Technical Advisory Committee. The Consultant shall incorporate input provided in this review into their final list of recommendations. These recommendations will include a general schedule for implementation of the proposed service, along with preliminary cost estimates for stage.

### Task 1-7 Preparation of Phase I Report

The Consultant shall prepare a report outlining the recommendations developed in this phase of the study. The report shall also summarize the analysis conducted in this phase of the study. This report will be completed by January 1995 so that it can be presented to the General Assembly during their 1995 Session.

## PHASE II

The second phase of this study will involved a more detailed analysis of those recommendations provided by the Consultant in Phase I. This portion of the study will only be conducted if the project is deemed to be feasible and if there is sufficient funding available to continue. A preliminary outline of the scope of work for this phase of the project is provided below. This scope is subject to change, however, based on the findings of the first phase, and on the direction provided after review of the initial report.

## Task II-1 Analysis of Issues

The Consultant shall conduct an in depth analysis of the issues identified in Phase I. It is expected that the Consultants will have identified certain key issues and problem areas that need further review. In this task the Consultant will perform a more detailed review of the problem, identify solutions, and provide detailed schedules and cost estimates for implementing any recommendations.

## Task II-2 Refinement of Ridership and Revenue Projections

The Consultant will have developed general ridership and revenue projections in Phase I, both for current ridership (i.e. at service start-up) and projected year 2000 and 2010 usage levels. In this task the Consultant will refine these estimates, taking into account such factors as demand elasticities and sensitivities to service changes/improvements. This analysis will be used to develop an operating budget for the service, as well as for the establishment of a fare structure and minimum service standards.

## Task II-3 Development of Detailed Capital Improvement Schedule and Cost

The Consultant will provide a detailed list of capital improvements to the railroads which will included a more refined estimate of costs. This will include all improvements necessary to roadbeds, signals, communications, structures, grade crossings and stations. Costs for remedying station access problems will also be included, if any such problems are identified. The Consultant will provide a staged implementation plan which will be based on realistic levels of expected funding.

This schedule of improvements must be taken to the affected railroads to get their agreement on the recommendations. The railroads will want to be shown that any proposed additional service and changes to their physical plant will not adversely impact their freight operations. The Department will assist the Consultant in establishing the necessary contacts with the railroads.

## Task II-4 Determination of Services and Costs

The Consultant will provide a detailed description of the services recommended along with specific operating costs.

1. **Operations** The Consultant will provide a proposed schedule for all services recommended. Operating speeds shall be calculated and specific station stops and dwell times shall be identified. An analysis of insurance requirements, costs and alternatives will be provided. Issues such as manpower requirements and work rules will also be addressed. The Consultant should identify potential rolling stock maintenance locations and calculate the associated costs.

2. **Equipment** The Consultant will provide specific recommendations for the rolling stock which will be required to operate the recommended service. The number and type of locomotives and coaches, along with the estimated cost for each unit

will be provided. The Consultant will also provide cost estimates for any other major capital purchases which may be recommended. The Consultant should also review alternative strategies for acquiring the necessary equipment (purchase vs. lease, etc.).

Task II-5 Final Recommendations

Based on the detailed analysis conducted in Phase II of this study, the Consultant shall provide a final list of recommendations for service implementation. These recommendations shall include detailed cost estimates and an implementation schedule for phasing in full service.

The Consultant will prepare a final report presenting the detailed analysis conducted in the second phase of this study. This report will be considered the final report for the entire study, so will therefore also include a summary of Phase I.

## VI. SCHEDULE

Notice to Proceed will be issued to the successful Consultant when the Contract has been signed. Phase I must be completed, and all supporting reports finalized, by January 6, 1995.

Phase II of the study will only be performed if it is recommended by the General Assembly after the Phase I report has been completed. The initiation of Phase II will also be dependent on the availability of funding. The schedule for Phase II will be developed when the notice to proceed on this part of the study is issued. The Department expects that all work on the second phase of the study, if it is undertaken, will be completed by June 30, 1995.

The Consultant will be required to conduct at least four meetings of the Technical Advisory Committee during Phase I, and at least two additional meetings during Phase II. These meetings will be held at critical decision points during the study as described above. In addition, public meetings will be held and at least one public hearing will be held to review the Phase I recommendations.

## Richmond Corridor High Speed Rail Study

### Virginia Department of Rail and Public Transportation

In January 1993 the Virginia General Assembly approved $425,000 for a High Speed Rail Study. The budget bill states that:

> "The Secretary of Transportation in conjunction with the Department of Rail and Public Transportation and the Department of Transportation shall perform a study of the rail freight and passenger demands of the corridor between Washington, D.C. and the Richmond area. The study shall include an assessment of the existing conditions, capacities, and improvements needed. The study will also include a preliminary engineering feasibility analysis of the corridor between Richmond and the Tidewater area. The study shall be completed by January, 1995." (Chapter 994, Item 556D of the 1993 Virginia Acts of Assembly)

The High Speed Rail Study will include the following elements:

- A forecast of travel demand and freight traffic in the corridor.
- An assessment of existing rail conditions.
- An assessment of current capacity.
- An assessment of rail passenger and rail freight conflicts and the identification of potential resolutions to those conflicts
- Development of a system of improvements to increase capacity to meet forecasted demand.
- Perform preliminary engineering for identified improvements.
- Perform a preliminary environmental evaluation.
- Identify potential land use strategies for development along the corridor.

Virginia is also cooperating with the States of North Carolina, South Carolina, Georgia and Florida to conduct a travel demand analysis for southeastern high speed rail corridors. This study will determine current and future inter-city traffic between major destination points in the southeast.

**Schedule:** Funding for the High Speed Rail Study became available on July 1, 1993. A work plan has been drafted to set a detailed schedule for the various tasks. Work on certain tasks will begin immediately; others will be phased in over the 18-month life of the study. The task of assessing current capacity of the Washington to Richmond corridor will be performed in conjunction with the Virginia Railway Express as part of its Computer Simulation project. Advisory and technical committees will be established to provide input to the study. Public hearings will be held at the beginning of the study, and then again prior to the preparation of the final report. The final report will be completed in November 1994. This report will be presented to the General Assembly in January 1995.

## Metrorail Fiscal Impact Study

### Northern Virginia Transportation Commission

## SCOPE OF WORK

### Summary

This study will examine the fiscal impact of Metrorail on the Commonwealth of Virginia. Local jurisdictions will cooperate by providing detailed information about development at Metrorail stations. The Contractor will use this data to update a 1985 study (Fiscal Impact of Metrorail on The Commonwealth of Virginia, Peat Marwick Mitchell & Company, November, 1985) which found a positive relationship between development at Metrorail stations and the resulting effect on jobs, income and sales. Accordingly, the increment in state tax collections due to Metrorail-induced economic activity will be recalculated. This, in turn, will be related to the levels of state Metrorail investment.

The resulting implicit rates of return on state investment in Metrorail will be verified and/or updated for the period 1972-1979 and for the years 1980-1995, and will be provided for the years 1996-2010 in a final report that will clearly and concisely describe the findings and explain the methods and data employed in the study.

Provided a contract is signed with the Contractor by May 9, 1994, the five tasks (including preparation of an approved final report) will be completed no later than October 31, 1994, with presentation of the results to NVTC on November 3, 1994.

### Introduction

Metrorail service is vital to the economy of Northern Virginia. Over 540,000 trips are made systemwide each workday by Metrorail, including 121,116 boardings on an average workday at Northern Virginia's Metrorail stations in FY 1993. In Northern Virginia, 19 Metrorail stations link 89.5 miles of track. By mid-1997, one additional Metrorail station and 3.3 miles of track will be brought into service. Another 110,000 persons use other forms of public transit in Northern Virginia each workday, many of whose bus and rail trips converge on employment sites clustered around Metrorail stations.

These Metrorail and other transit services are financed by a partnership of Metrorail users and taxpayers at the local, state and federal levels. Metrorail would not exist if any one of these essential partners failed to contribute.

The 1985 study found that the Commonwealth's internal rate of return on its Metrorail investment was expected to be 13 percent for 1972 through 1995. In 1995 alone, Metrorail-related state tax revenues were forecast to exceed the state's contribution by $51 million, with the cumulative surplus from 1972 through 1995 totaling $284 million. Although state aid to Metrorail has turned out to be larger than forecast in 1985, even if state tax revenues did not also grow, the 1995 surplus is still about $24 million.

The state has, over the years, provided a considerable amount of assistance for Metrorail. However, state appropriations are modest in relation to the shares provided by riders and by local and federal sources. From 1971 to the present, state appropriations have accounted for about $525 million. Over the same period, local payments have been twice as much. With local funds becoming more scarce, the economic health of the Metrorail system continues to depend crucially on state investment.

While the 103-mile Metrorail system nears completion (in 1997 in Virginia), plans are underway to extend the system in the Dulles Corridor and perhaps in the I-66 corridor. Also, a new Metrorail station is planned within the 103-mile system at Potomac Yard in Alexandria. The clustering of economic development around stations in these corridors in the next two decades would appear to offer positive land use and economic impacts, just as were demonstrated in the 1985 study.

At issue is the extent to which the Commonwealth's investment of funds can be said to be providing an effective yield, as measured by the stream of economic benefits accruing to the state from Northern Virginia's Metrorail system. It is undeniable that citizens of Northern Virginia benefit from Metrorail, since access to schools, jobs, recreation, medical care, and other activities depend on the existence of such a system. Users of Metrorail benefit directly, while those who choose to drive benefit indirectly through less congested roadways and the value of the option to use Metrorail in an emergency.

Beyond these obvious mobility-related benefits of Metrorail, however, are the economic benefits that accrue to the state from the construction and operation of Metrorail facilities and services. Not only does Metrorail provide jobs to those who work in the industry, but more importantly it also generates a strong and measurable economic multiplier effect that spills out through the economy of the entire state in waves of productive activity.

New buildings have mushroomed at Metrorail station sites to take advantage of proximity to the system. Businesses have crowded around stations to serve those who use transit and to provide a more convenient working location for their employees.

As a result, local, state and federal tax revenues are enhanced since these depend on the value of property, the volume of sales, and the level of personal and business income, all of which are boosted by the healthy regional transit system. In this way, state investments in Metrorail capital and operating assistance (currently about $ 47 million annually) may yield a substantial return through enhanced income taxes, sales and use taxes, and other levies. This study will identify the nature of that return and quantify it.

Management of the Study

A Task Force of affected jurisdictions and private entities will be formed to help manage the study and provide policy guidance. The Task Force will consist of representatives of the Washington Metropolitan Area Transit Authority (WMATA), Arlington and Fairfax Counties, the cities of Alexandria, Fairfax and Falls Church, Northern Virginia Transportation Commission (NVTC) and the Metropolitan Washington Council of Governments (COG), as well as representatives of local businesses.

NVTC will convene meetings and be primarily responsible for the contract management of the study. NVTC will assign responsibility for detailed contacts with the Contractor to one person who will serve as the primary contact for all contract management decisions. Similarly, the Contractor must designate a project manager who will serve as a primary contact.

Schedule

The following key dates are proposed; subject to agreement with the contractor and Task Force:

| | | |
|---|---|---|
| o | May 4, 1994: | Contractor technical proposal and cost estimate. |
| o | May 5, 1994: | NVTC approves contract. |
| o | May 9, 1994: | Contract executed. |
| o | May 10, 1994: | Initial Contractor meeting with Task Force. |
| o | June 14, 1994: | Progress meeting with Task Force to review Tasks 1 and 2. |
| o | September 13, 1994: | Task 3 report meeting with Task Force |
| o | October 4, 1994: | Task 4 report meeting with Task Force |
| o | October 21, 1994: | Delivery of draft final report to individual Task Force members. |
| o | October 25, 1994: | Meeting for approval of draft final report by Task Force |
| o | October 31, 1994: | Draft final report mailed to NVTC commissioners. |

- o November 3, 1994: Presentation of final report to NVTC and commission approval.
- o November 15, 1994: 100 copies of approved final report delivered to NVTC.

Content of the Study

In order to quantify the economic benefits to the Commonwealth of Virginia from state investments provided to Northern Virginia's Metrorail system, the Contractor will undertake five tasks and provide 100 copies of an approved final report. Local and regional units of government and participating firms will cooperate in providing the necessary data for the study. Each task is outlined below, and further details will be jointly determined in cooperation with the Contractor.

In summary, Task 1 consists of the Contractor organizing and assimilating data to be provided by local units of government and others. Task 2 provides for an economic analysis of the impacts of Metrorail on economic activity in Northern Virginia, including net increases in jobs, income, and sales. Estimates for the period 1972-1979 and annually from 1980 through 1995 will be verified and/or updated; new estimates for the years 1996 through 2010 will be projected. In Task 3, the Contractor will calculate state tax yields from Metrorail-induced economic activity in Northern Virginia, while in Task 4, rates of return on state investment in Metrorail in Northern Virginia will be determined for the period and years identified above. Finally, in Task 5, a final report will be prepared, consisting of a clear and concise presentation of the methods and findings.

**Task 1: Data Collection**

Representatives of local units of government in Northern Virginia and other participants will meet with the Contractor and provide data pertaining to the history of Metrorail-related activity, financial information regarding operating and capital costs, and the nature of Metrorail services. Each jurisdiction represented on the Task Force will also provide available data pertaining to Metrorail-related economic development, including zoning regulations in general and transit development zones in particular, and the status of construction near Metrorail stations (completed, under construction and planned through the year 2010). Each jurisdiction will also provide available details of current employment and tax yields, together with estimates through 2010. Additionally, MWCOG and WMATA will cooperate by making available the results of their studies of the Metrorail system.

The Contractor shall identify needed data and devise appropriate formats, review local and regional data, and request any additional information.

**Task 2: Economic Analysis**

Using the data assembled in Task 1, the Contractor will determine the economic effects of Northern Virginia's Metrorail system by calculating net increases in development and the resultant jobs, income and sales. A technical document shall be provided to the Task Force describing the methods and data used to make these determinations, as well as the estimates required in Tasks 3 and 4. Where methodology differs from that used in preparing the 1985 study, this shall be highlighted, along with the rationale for such changes. The Task Force may suggest modifications in the methods and data recommended by the Contractor.

To ascertain whether the methods used in the 1985 study remain valid, the Contractor shall identify for the Task Force and review any relevant studies conducted since 1985 which show the relationship between transportation activities and induced economic development.

Estimates for the period 1972-79 and for each of the years 1980 through 1995 shall be verified and/or updated, and estimates for each of the years 1996 through 2010 shall be prepared. The Consultant shall consider whether activity in suburban Maryland and the District of Columbia influences the results for Virginia (e.g., jobs in Virginia are created for residents of Maryland or vice versa). If so, these spill-over effects should be included in the analysis.

Comparisons to the scale of and growth in Central Business District development in Richmond and Norfolk, Virginia should be made (and perhaps in other states), in order to place Northern Virginia's Metrorail-related economic development in a useful context.

The Consultant shall inform the Task Force in writing of the findings of Task 2.

**Task 3: Calculation of State Tax Yields from Metrorail-Induced Economic Activity in Northern Virginia**

Using the results of Task 2, state tax yields due to increased economic activity attributable to the Metrorail-induced development shall be calculated. Among the taxes to be considered are state personal and corporate income taxes, sales and use taxes, business license and gross receipts taxes, and any other relevant levies. Forecast tax yields for the period 1972-79 and annually from 1980 through 1995 should be verified and/or updated, and should be prepared for the years 1996 through 2010.

Initial results shall be provided to the Task Force in writing.

**Task 4: Calculation of Rates of Return on State "Investments" in Transit in Northern Virginia**

Using the findings of Task 3, the Consultant shall relate the state appropriations devoted to Metrorail uses in Northern Virginia, to the net tax yields induced by Metrorail-related development. The analysis of implicit rates of return contained in the 1985 study for the period 1972-79 and annually from 1980 through 1995 should be verified and/or updated. An analysis of implicit rates of return for the years 1996 through 2010 shall be prepared.

The results shall be provided to the Task Force in writing.

**Task 5: Final Report**

A draft final report shall be submitted to the Task Force. After the Task Force has reviewed the report and submitted comments to the Contractor, a meeting between the Contractor and Task Force shall be convened, if necessary, to resolve any outstanding issues. The Contractor will make any needed changes to the study, and submit a final report to the Task Force. When the Task Force determines that the Contractor has satisfied the requirements of the approved Scope of Work, the Task Force shall recommend approval of the final report to NVTC.

With approval by NVTC on November 3, 1994, no later than November 15, 1994, the Contractor shall copy and deliver to the Northern Virginia Transportation Commission, 100 copies of the final report, together with the unbound original. These copies will be suitably bound and attractively printed to provide an effective presentation of the study's findings. The final report shall include the following:

1. Executive Summary. Shall be a stand-alone document.

2. Introduction.

3. Findings. Quantification of the net economic benefits to the Commonwealth of Virginia from Metrorail programs in Northern Virginia, as measured per dollar of annual state Metrorail investment, and reported for the period 1972-79 and annually from 1980 through 2010.

4. Appendices. One or more technical appendices providing documentation of methods and data used in the study.

Technical Proposal and Cost Estimate

The Contractor shall review this Scope of Work and respond with a detailed technical proposal and cost estimate no later than **May 4, 1994**. The technical proposal must discuss the approach to be taken, the understanding of the issues, and the experience and background of the individuals who will undertake the study. The proposal shall also describe data needs, including formats for presentation of data to be provided by the jurisdictions and other members of the Task Force. All variations in the methodology used in the 1985 study must be explained.

In its technical proposal, the Contractor should present a schedule for completion of individual tasks. The October 31, 1994 deadline is not negotiable.

A project manager must be specified by the Contractor. This person will serve as the primary contact with NVTC and the Task Force.

The cost estimate shall show expense categories (such as salaries, overhead, computer expense, travel) and individuals assigned to each task. The Contractor shall budget up to five meetings with the Task Force in Northern Virginia during the course of the study and one meeting to present the findings to NVTC (on November 3, 1994). Options for additional presentations to General Assembly Committees and others should be indicated in the proposal on a cost per meeting basis.

Sole Source Justification

The Northern Virginia Transportation Commission (NVTC) intends to award a sole source contract to KPMG Peat Marwick to identify the economic benefits to the Commonwealth of Virginia from Metrorail assistance provided to Northern Virginia. This contract is a follow-up of a study original completed by KPMG (then Peat, Marwick, Mitchell & Company) in 1985 for a coalition of private businesses.

KPMG is the only source that is practicably available to undertake the study in the time required and without substantial duplication of cost to NVTC. KPMG compiled a substantial amount of background data in connection with the original study. This compilation, accessible only to KPMG, will provide the basis for the follow-up study.

KPMG is familiar, not only with the underlying data and the methodology used in the original study, but has also maintained contacts with the various jurisdictions that will supplement the original data. The results of this follow-up study need to be completed by November, 1994 for presentation prior to the end of the year to the ongoing SJR 240 committee of the Virginia General Assembly.

# APPENDIX H

# HOLIDAY SCHEDULES OF

# LOCAL TRANSIT SYSTEMS

# REGIONAL TRANSIT SERVICE

## HOLIDAY SCHEDULES FOR FISCAL YEAR 1995

| | (1994) Fourth of July Mon., July 4 | Labor Day Mon., Sept.5 | Columbus Day Mon., Oct. 10 | Veterans Day Fri., Nov. 11 | Thanksgiving Thurs.,Nov. 24 | Thanksgiving Fri., Nov. 25 | Christmas Sun., Dec. 25 | Christmas Mon., Dec. 26 |
|---|---|---|---|---|---|---|---|---|
| METRORAIL | 8A - 1A (Mod. Sat.) | 8A - 12M (Sunday) | 5:30A - 12M (Mod. Sat.) | 5:30A - 12M (Mod. Sat.) | 8A - 12M (Sunday) | 5:30A - 12M (Weekday) | 8A - 12M (Sunday) | 8A - 12M (Sunday) |
| METROBUS | Sat. + Specials | Sunday | Sat. + Supp. | Sat. + Supp. | Sunday | Weekday | Sunday | Sunday |
| METRO-ACCESS[1] | No Service | No Service | Weekday | Weekday | No Service | Weekday | No Service | No Service |
| RIDE-ON | Sunday[2] | Sunday | Sat. + Supp. | Sat. + Supp. | Sunday | Weekday | Sunday[3] | Sunday |
| DASH | Sunday | Sunday | Saturday | Weekday | No Service | Weekday | No Service | Sunday |
| CUE | Sunday | Saturday | Mod. Weekday | Weekday | No Service | Mod. Weekday | No Service | Saturday |
| FAIRFAX CONNECTOR | Saturday | Sunday | Saturday | Saturday | No Service | Weekday | No Service | Saturday |
| TYSONS SHUTTLE | No Service | No Service | Bus "A" Only | Bus "A" Only | No Service | Weekday | No Service | No Service |
| CRYSTAL CITY TROLLEY | No Service | No Service | No Service | No Service | No Service | Weekday | No Service | No Service |
| RIBS | No Service | No Service | Mod. Sat. | Mod. Sat. | No Service | Weekday | No Service | No Service |

[1] MetroAccess operates 7:00 a.m. - 6:00 p.m. Monday - Friday.
[2] Ride-On will operate Saturday service on C8, Q4, Y6 and Z2.
[3] Christmas eve, Saturday, December 24, 1994, Ride-On will end its service at 7:00 p.m.

SERV/Market Analysis
August 11, 1994

H-1

## REGIONAL TRANSIT SERVICE

## HOLIDAY SCHEDULES FOR FISCAL YEAR 1995

| | (1994) Fourth of July Mon., July 4 | Labor Day Mon., Sept.5 | Columbus Day Mon., Oct. 10 | Veterans Day Fri., Nov. 11 | Thanksgiving Thurs.,Nov. 24 | Thanksgiving Fri., Nov. 25 | Christmas Sun., Dec. 25 | Christmas Mon.,Dec. 26 |
|---|---|---|---|---|---|---|---|---|
| MARC | No Service | No Service | Mod. Weekday | Mod. Weekday | No Service | Mod. Weekday | No Service | No Service |
| VRE | Mod. Weekday | No Service | HOLIDAY SCHEDULES FOR THE REST OF FISCAL YEAR 1995 ARE NOT AVAILABLE | | | | | |
| MTA SERVICES | | | | | | | | |
| –IAUREL FLYER/320 | No Service | No Service | Weekday | Weekday | No Service | Weekday | No Service | No Service |
| –Rt. 29 Flyer 929 | No Service | No Service | Weekday | Weekday | No Service | Weekday | No Service | No Service |
| –I-95 Express | No Service | No Service | Weekday | Weekday | No Service | Weekday | No Service | No Service |
| –Annapolis/921 | No Service | No Service | Weekday | Weekday | No Service | Weekday | No Service | No Service |
| –Annapolis/922 | No Service | No Service | No Service | No Service | No Service | Weekday | No Service | No Service |
| –Crofton/923 | No Service | No service | Weekday | Weekday | No Service | Weekday | No Service | No Service |
| –Hagerstown–Frederick/991 | No Service | No Service | Weekday | Weekday | No Service | Weekday | No Service | No Service |
| –Rt. 5 Flyer/905 | No Service | No Service | Weekday | Weekday | No Service | Weekday | No Service | No Service |
| –Rt. 4 Flyer/904 | No Service | No Service | Weekday | Weekday | No Service | Weekday | No Service | |
| "THE BUS" | No Service | No Service | No Service | No Service | No Service | Weekday | No Service | No Service |
| CONNECT-A-RIDE | No Service | Saturday | Weekday | Weekday | No Service | Weekday | No Service | No Service |
| PRTC COMMUTERIDE | No Service | No Service | Mod. Weekday | Mod. Weekday | No Service | Mod. Weekday | No Service | No Service |

SERV/Market Analysis
August 31, 1994

# REGIONAL TRANSIT SERVICE
# HOLIDAY SCHEDULES FOR FISCAL YEAR 1995

| | (1994) New Year's Eve Sat., Dec. 31 | (1995) New Year's Sun., Jan. 1 | New Year's Mon., Jan. 2 | MLK Day Mon., Jan. 16 | Presidents' Day Mon., Feb. 20 | Memorial Day Mon., May 29 |
|---|---|---|---|---|---|---|
| METRORAIL | 8A - 2A (Mod. Sat.) | 8A - 12M (Sunday) | 8A - 12M (Sunday) | 5:30A - 12M (Mod. Sat) | 5:30A - 12M (Mod. Sat.) | 8A - 12M (Sunday) |
| METROBUS | Saturday | Sunday | Sunday | Sat. + Supp. | Sat. + Supp. | Sunday |
| METRO-ACCESS | No Service | No Service | No Service | Weekday | Weekday | No Service |
| RIDE-ON | Saturday | Sunday | Sunday | Sat. + Supp. | Sat. + Supp. | Sunday |
| DASH | Staurday | No Service | Saturday | Saturday | Saturday | Sunday |
| CUE | Saturday | No Service | Saturday | Mod. Weekday | Mod. Weekday | Saturday |
| FAIRFAX CONNECTOR | Saturday[4] | No Service | Saturday | Saturday | Saturday | Sunday |
| TYSONS SHUTTLE | No Service | No Service | No Service | Bus "A" Only | Bus "A" Only | No Service |
| CRYSTAL CITY TROLLEY | No Service | No Service | No Service | No Service | No Service | No Service |
| RIBS | Saturday | No Service | No Service | Mod. Saturday | Mod. Saturday | No Service |

[4] Fairfax Connector will end its service at 9:00 p.m. on New Year's eve, Saturday, December 31, 1994.

SFRV/Market Analysis
August 31, 1994

# REGIONAL TRANSIT SERVICE

## HOLIDAY SCHEDULES FOR FISCAL YEAR 1995

| | (1994) New Year's Eve Sat., Dec. 31 | (1995) New Year's Sun., Jan. 1 | New Year's Mon., Jan. 2 | MLK Day Mon., Jan. 16 | Presidents' Day Mon., Feb. 20 | Memorial Day Mon., May 29 |
|---|---|---|---|---|---|---|
| VRE | HOLIDAY SCHEDULES FOR THE REST OF FISCAL YEAR 1995 ARE NOT AVAILABLE | | | | | |
| MARC | No Service | No Service | No Service | Mod. Weekday | Mod. Weekday | No Service |
| MTA SERVICES | | | | | | |
| –LAUREL FLYER/320 | No Service | No Service | No Service | Weekday | Weekday | No Service |
| –Rt. 29 Flyer 929 | No Service | No Service | No Service | Weekday | * Weekday | No Service |
| –I-95 Express | No Service | No Service | No Service | Weekday | * Weekday | No Service |
| –Annapolis/921 | No Service | No Service | No Service | Weekday | Weekday | No service |
| –Annapolis/922 | No Service | No Service | No Service | No Service | No Service | No Service |
| –Crofton/923 | No Service | No service | No Service | Weekday | Weekday | No Service |
| –Hagerstown-Frederick/991 | No Service | No Service | No Service | Weekday | Weekday | No Service |
| –Rt. 5 Flyer/905 | No Service | No Service | No Service | Weekday | Weekday | No Service |
| –Rt. 4 Flyer/904 | No Service | No Service | No Service | Weekday | Weekday | No Service |
| "THE BUS" | No Service | No Service | No Service | No Service | No Service | No Service |
| CONNECT-A-RIDE | Saturday | No Service | No Service | Weekday | Weekday | Saturday |
| PRTC COMMUTERIDE | No Service | No Service | No Service | Mod. Weekday | Mod. Weekday | No Service |

SERV/Market Analysis
August 31, 1994