Northern Virginia
Transportation Commission

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EIGHTH ANNUAL REPORT:

TRANSPORTATION SERVICE COORDINATION PLAN

--SEPTEMBER 1992--

ABSTRACT

The eighth annual report on NVTC's Transportation Service Coordination Plan provides a detailed reference document for elected officials, staff, consultants and citizens seeking to understand the complex institutional setting within which transportation policies are implemented in Northern Virginia.

Following a brief description of NVTC's coordination planning process in Section I, the report includes in Section II a review of unsettling trends that point to growing congestion due to increased use of single-occupant vehicles.

Section III reviews the scores of federal, state, regional and local government agencies that are seeking to plan, finance, and implement transportation improvements. Three major federal legislative initiatives have dictated a renewed emphasis on better planning, congestion management, air quality, and accessibility for persons with disabilities. These are the Intermodal Surface Transportation Efficiency Act (ISTEA), Clean Air Act Amendments, and Americans with Disabilities Act (ADA). Existing agencies, such as the Metropolitan Washington Council of Governments/Transportation Planning Board are taking the lead to coordinate planning, and a new group--the Transportation Coordinating Council--has been formed to help set priorities. **Appendix A** is a very detailed listing of many relevant agencies, including their functions and telephone numbers.

Section IV provides the largest component of this report. It reviews policies and programs to improve planning, manage congestion, increase air quality and better serve persons with disabilities. In order to develop more effective solutions, policymakers must understand what is already being done and by whom. **Appendix C** provides data on public transit ridership and routes.

The concluding section lists several issues and related policies that emerge from this report, together with page references to the text. These are grouped according to functions, including planning, congestion management, financing and transit/ridesharing coordination. While some of these are not formally adopted policies they do appear to accurately describe the intentions of most agencies and jurisdictions. Many will form the basis of NVTC's 1993 legislative agenda and workprogram.

Few readers will wish to read this report from cover to cover in one sitting and its primary role will be to serve as a reference document. Accordingly, it brings together current data on population, transit ridership, commuter bus and taxi operations, MWCOG/TPB and TCC workplans, planning objectives of ISTEA and strategies to achieve mandated clean air targets using transportation control measures.

Public comments on this report and invited, and should be sent to NVTC at the address listed on the cover.

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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 eighth 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 which 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 across a broad front for coping with congestion and coaxing more productivity from scarce transportation resources, by 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 (VDH&T, now 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, 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 Transportation. **Figure 1** shows the current membership.

NVTC provides a transportation policy forum, and is charged with allocating almost $70 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 provide better information for passengers, while upgrading performance of transit operators. Marketing 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, 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 1992 work program, is available in the Commission's 1992 Handbook. This document, as well as the earlier reports on the Transportation Service Coordination Plan, are available on request to the Commission.

FIGURE 1

NVTC OFFICERS AND COMMISSIONERS

--1992--

Katherine K. Hanley, Chairman
John Mason, Vice-Chairman
Edward M. Holland, Secretary-Treasurer

Arlington County

Ellen M. Bozman
Albert C. Eisenberg
Mary Margaret Whipple*

City of Alexandria

T. Michael Jackson**
Patricia S. Ticer

Fairfax County

Joseph Alexander*
Ernest J. Berger
Sharon Bulova
Katherine K. Hanley**
Elaine McConnell

City of Fairfax

John Mason

City of Falls Church

Phillip J. Thomas

Loudoun County

Charles D. Grant

Virginia Department of Rail and Public Transportation

Leo J. Bevon

General Assembly

Senator Joseph V. Gartlan, Jr.
Senator Edward M. Holland
Delegate James F. Almand
Delegate Bernard S. Cohen
Delegate Robert E. Harris

* Principal member of Metro Board
** Alternate member of Metro Board

Overview of the 1992 Report

Northern Virginia's citizens and institutions are presented with a very complex set of transportation coordination issues. Congestion is a serious problem (ranked first in most attitude surveys), and expected to grow worse as growth continues at suburban job locations not well served by traditional public transit. Financial resources are severely constrained, reflecting enormous needs and the ravages of the prolonged economic recession. Serious air pollution requires immediate remedial measures, as mandated by federal law. Accessibility to transportation facilities must be improved for persons with disabilities. New federal cooperative planning requirements must be met.

Traditional public transit solutions must be altered to meet these new challenges. Scores of federal, state, regional and local entities are charged with anticipating serious transportation problems and forging solutions, but the playing field on which these organizations operate has a new set of ground rules. For example, important new federal legislation (Intermodal Surface Transportation Efficiency Act of 1991) offers new flexible funding opportunities to encourage compliance with Clean Air Act mandates, while requiring greatly enhanced cooperation among all levels of government.

Given the growing seriousness of transportation problems, shrinking financial resources, and greater institutional complexities, the need for a plan to achieve improved coordination is evident. This NVTC report contributes to such improved coordination by reviewing in Section II the unsettling trends to greater automobile use and congestion.

Section III goes on to report the institutional setting in which regional transportation policies and programs are determined. Section IV describes what is being done, and by whom, to achieve the region's transportation goals and objectives.

Section V gives conclusions and recommendations in order to answer the question "What more needs to be done?" A lengthy set of appendices provides supporting data.

Money is scarce, congestion is getting worse, and existing facilities are in need of immediate repair. This is the serious challenge to which the Transportation Service Coordination Plan is addressed.

SECTION II

SHAPING THE FUTURE

Unsettling Trends

Efforts to coordinate existing transportation services and facilities and to plan, finance, build and operate new ones have a real urgency in Northern Virginia and throughout the Metropolitan Washington Area. Despite significant accomplishments in the past few years to build new facilities and operate new services, congestion is the preeminent local problem on most commuters' minds, according to a poll released in July, 1991 by the Northern Virginia Transportation Alliance. Forty-four percent of respondents listed transportation as the most important local issue, compared to only 9.2 percent for the next largest category (taxes, budget).[1] According to the Task Force on Growth and Transportation of the Metropolitan Washington Council of Governments:

> If existing development trends continue and no highway improvements are made beyond those currently under construction or programmed for completion by 1995, some likely transportation impacts in our region would be:
>
> - Average travel speed on highways during peak periods would drop by about one-third, from 30 miles per hour to about 22 miles per hour;
> - Declining rush-hour speeds would result in longer morning and evening travel periods;
> - 80 percent of all peak period auto travel would occur in stop-and-go traffic, with major delays happening routinely; and
> - 57 percent of the entire highway network would operate at an unacceptable level of congestion during morning and evening rush hours.[2]
>
> The Task Force concluded that solving such problems will be very difficult:
>
> It will call for a concerted effort over several decades, require inspired leadership and cooperation and commitment from the public and private sectors. Federal, state and local governments must all play substantial and supportive roles to redirect the course we are now on....We do not want to leave behind a legacy of an ailing central city, sprawling suburbs, dirty air, polluted streams, crippling traffic congestion and an overall decline in the quality of life.

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1 *Northern Virginia Transportation Alliance Report (August, 1991), page 1.*

2 *A Legacy of Excellence for the Washington Region, Task Force on Growth and Transportation, MWCOG (June, 1991) pp. 12-13*

Clearly, reliable and effective public transit services and ridesharing must be part of any such coordinated response.

The Current Situation

Figure 2 shows the 1990 population of each jurisdiction in Northern Virginia and of the neighboring jurisdictions in the Metropolitan Washington Area. Members of NVTC total over 1.2 million and of the Potomac and Rappahannock Transportation Commission (PRTC) over 330,000. The entire Metropolitan Area is approaching 4 million in population.

1990 Census data, reported in the Washington Post (7/31/92 at page A-15) show several characteristics of the Washington Metropolitan Area that are important to consider in providing public transit services to help relieve congestion:

1) The Washington Metropolitan Area, with a population of almost 4 million, ranks eighth in the United States;

2) The Washington area ranks first in the percentage (16.6 percent) of persons 25 and older with a graduate or professional degree;

3) Washington has the smallest percentage of persons who were born in their current state of residence (31.5 percent) and is well below the national metro average (52.6 percent) of persons who lived in the same house in 1985 as in 1990, with 45.0 percent;

4) The Washington area has the highest percentage of workers in executive, administrative and management occupations (20 percent) and the highest percentage of women (16 and older) in the labor force (68.8 percent);

5) The Washington area has the highest median family income ($47,254);

6) The Washington area ranks second (to New York) in average commuting time, at 29.5 minutes. The national metropolitan area average is 23.2 minutes.

Nationwide, the percentage of people taking public transit to work fell to 5.30 percent in 1990 from 6.39 percent in 1980. The percentage driving alone grew to 73.2 percent from 64.37. The percent carpooling to work fell to 13.4 percent in 1990 from 19.73 percent.

Figure 2

1990 CENSUS POPULATION OF THE METROPOLITAN WASHINGTON 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
Source: MWCOG (1990 Census Public Law 94-171 tape)	

Figure 3 shows that the federal government is the major employer in the Washington Metropolitan Area. Any coordinated solution to congestion must have the active participation of federal agencies.

According to MWCOG, during the 1980's average daily drive-alone trips to work increased in the Metropolitan Area by 510,000, while transit trips increased by 59,000 and carpool trips decreased by 32,000:[3]

> The large increase in the drive-alone mode appears to be the result of several factors. First, most of the employment growth in the 1980's occurred in suburban employment centers which are well-supplied with plenty of free parking. Second, with more members of the family and household employed, often at different locations, many non-work related trips are being made for other household members on the way to and from work. These trips would include childcare arrangements, shopping for the family, and taking younger children and other members of the household to and from various recreational, educational, and social activities. Third, the costs of owning and operating a vehicle have gone down at the same time household incomes have gone up. In the late 1970's and early 1980's, the region was still reeling from the effect of oil embargoes and energy shortages. Gasoline was also more expensive then than it is today.

Vision of the Future

MWCOG's Cooperative Forecasts of Population, Households and Employment, Round 4.1, calls for the following trends to continue through the year 2010:

- Jobs will expand faster than population so in-commuting will grow, with the most striking growth of jobs from three to 10 miles outside the Beltway;
- Total daily trips should grow from 15 million in 1990 to 22 million in 2010;
- Population will grow by 23 percent from 1990 through 2010, jobs by 42 percent, the number of automobiles by 45 percent and daily vehicle miles by 52 percent;
- Three-quarters of the growth of work trips will occur in suburban areas. Today, transit serves 40 percent of D.C. core trips but only three percent of suburban work trips, and 14 percent of overall work trips;
- Transit use should grow by 40 percent through 2010, but its share of work trips will stay about at today's level.

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[3] *A Decade of Change in Metropolitan Washington, MWCOG (July, 1992) at 6.*

FIGURE 3

FEDERAL EMPLOYEES WORKING IN AREA JURISDICTIONS			
Jurisdiction	**Civilian (Current through 1989)**	**Military**	**Total**
D.C.:	207,019	13,646	220,665
NORTHERN VIRGINIA:			
Alexandria	12,219	4,563	16,782
Arlington	40,005	20,329	60,334
City of Fairfax	424	- 0 -	424
Fairfax County	16,997	3,621	20,618
Falls Church	2,504	516	3,020
Loudoun County	1,821	- 0 -	1,821
Manassas	409	2	411
Manassas Park	- 0 -	- 0 -	- 0 -
Prince William County	2,434	6,703	9,137
MARYLAND SUBURBS:			
Montgomery County	44,813	3,971	48,784
Princes George's County	25,633	6,973	32,606
TOTAL	354,278	60,324	414,602

SOURCES: National Capital Planning Commission, based on figures from the Office of Personnel Management, General Services Administration, Defense Department and the U.S. Congress. (Washington Post (1/21//92) at page 5.

With the above trends as background, the goals of the region include:

- Upgrading Planning (mandated by the Intermodal Surface Transportation Efficiency Act);
- Managing Congestion (since the resources to eliminate it are not at hand);
- Improving the environment (the region is rated as a serious non-attainment area for ozone and must respond quickly to reduce emissions);
- Improving access for persons with disabilities (mandated by the Americans with Disabilities Act).

To accomplish these and other transportation-related regional goals and objectives, scores of government agencies are working with the private sector and citizen groups to define policies and implement programs. There is no absence of zeal, because the stakes are high. But the magnitude of the problems and the diversity of groups working to solve them can create what seems to be a confusing array of acronyms of agencies, interest groups, and legislation.

To do a better job of managing congestion through coordinated action, it first is important to understand the efforts that are underway. The next section seeks to explain these ongoing efforts.

SECTION III

THE INSTITUTIONAL SETTING

Who Is Working on Congestion Problems?

To mitigate the unsettling trends identified in the previous section, scores of agencies and organizations meet regularly, adopt policies, define programs and work diligently. Because problems persist, many individuals have called for additional agencies or organizations to be created. For example, some have advocated a new regional transportation agency for Northern Virginia (or even for the entire Metropolitan Area) that would have the power to cut through red tape, to get new projects planned and built with its own independent source of revenue. While the objective may be appealing, there is a big problem with the approach.

In today's institutional setting, before projects can be successfully built, consensus must be reached. Creating an authority with powers to act quickly and independently would inevitably bog down unless the consensus-building process were pursued simultaneously. But with an effective consensus-building process in place, the need for the all-powerful agency is greatly diminished. Projects such as the Wilson Bridge improvements and eastern and western bypasses have not achieved such consensus, and even if an all-powerful agency sought to build them, without efforts to reach broad regional agreement among affected partners, a serious local reaction would erupt.

If there is no magic cure (silver bullet) by creating a new agency to push projects to rapid completion, what can be done to better manage congestion? Opinions differ, but a common theme is to concentrate on an improved consensus-building process with very early involvement of affected citizens (those who live and work nearby proposed projects as well as those from neighboring areas that may gain or lose from the proposals).

The Metropolitan Washington Council of Governments created a task force to pursue such a consensus-building process. Participants in a recent conference on land use and transportation sponsored by the Northern Virginia Planning District Commission, NVTC, and others, concluded that MWCOG's Task Force (known as the Partnership for Regional Excellence) should be vigorously supported as part of a major effort to educate elected officials and citizens about related transportation and air quality problems and desirable solutions.

Clearly, to craft effective new solutions to the region's complex problems, a full understanding of efforts already underway should be achieved. Who is doing what? What has worked and what has not? If one has an idea for improvement, where can one turn for advice and support?

As a first step, one needs to be aware of the lengthy array of agencies and organizations already actively engaged in transportation planning, financing, constructing, regulating, and advocating change. In many cases, coalitions of these organizations form to provide greater leverage to achieve shared objectives. And, in pursuing new programs, it is essential to notify 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 is given of their current activities. The appendix is organized by federal, state regional, local, and private sector. **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 those of the others.

Throughout this report, many of the agencies listed in **Figure 4** will be referred to by their acronyms. Please remember to refer back to this figure to help recall the full names, and refer to **Appendix A** for more information.

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)
- 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
- 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 and LINK (City of Fairfax)
  - CONNECTOR (Fairfax County)
  - CRYSTAL CITY TROLLEY (Arlington)
  - RIBS (Reston)
  - TYSONS SHUTTLE (Fairfax County)
- Transportation Management Associations
  - Ballston 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

Federal Mandates and Resources

In addition to knowing the roles and responsibilities of existing agencies and organizations, it is important to have an understanding of federal mandates that influence their actions.

Three important recent pieces of federal legislation have shaped the regional response to managing congestion. They are:

1) Intermodal Surface Transportation Efficiency Act (1991);

2) Clean Air Act Amendments (1990);

3) Americans with Disabilities Act (1990).

The first on the list, known hereafter as ISTEA, is described in detail here. The other acts are covered in subsequent sections.

ISTEA

Among the key features of ISTEA are:

- More funds: $155 billion authorized over six years for highways and transit.
- Greater equity: Donor states such as Virginia receive greater shares of federal user taxes.
- Decentralization: Metropolitan Planning Organizations (MPO's) have greater responsibilities.
- Planning: States and MPO's must set short and long-term priorities and produce financing plans.
- Flexibility: Ability to move funds among modes, especially from highways to transit.
- Air Quality: Relieve congestion to improve the environment and meet clean air mandates.
- Technology: Promote Intelligent Vehicles and Highway Systems (IVHS), tolls and congestion pricing, high-speed rail including magnetic levitation (maglev).

The act includes several provisions that should benefit Northern Virginia, including:

1) Surface Transportation Program helping to meet critical highway needs (such as the Fairfax County Parkway) not on the Interstate System. The Metropolitan Washington Council of Governments/Transportation Planning Board (MWCOG/TPB) will participate with VDOT in selecting projects.

2) Flexibility to shift funds from the National Highway System to the Surface Transportation Program and to transit. The American Public Transit Association (APTA) estimates $1.128 billion is authorized for Virginia of highway funds over six years that could be shifted to transit. On the other hand, the ability to shift transit funds to highway uses is severely constrained by such requirements as first meeting all the needs of the Americans with Disabilities Act.

3) 100% federal match for certain safety improvements, including carpool/vanpool, signalization, etc.

4) A Congestion Management and Air Quality program should yield over $100 million statewide over the next six years.

5) Demonstration projects are authorized for the Beltway ($7.5 million), I-95 HOV extension ($73.5 million), $63.5 million for statewide Interstates, and $6 million (subject to appropriation) for the Dulles Corridor.

6) Ability to count as local match certain toll revenues and to use federal grants as low interest debt for private or public toll roads offers new means to finance improvements.

7) An Interstate Study Commission for the National Capital Area is established to determine mechanisms to fund, develop and manage interstates and bridges with a report due in 12 months (similar to previous Greater Washington Board of Trade proposals).

8) WMATA qualifies for rail modernization funds ($10 million annually).

9) Most matching ratios are 80/20 (except interstate construction at 90/10 and bus-related costs of the Americans with Disabilities Act and Clean Air Act, which are also 90/10).

10) Overall, Virginia was authorized about $2.6 billion over six years, or 2.28 percent of the national total.

11) Northern Virginia will be part of a "Transportation Management Area" with enhanced planning requirements, including a "Metropolitan Transportation System" which should include a financial plan, an assessment of capital investments and other measures needed to maximize mobility. A long range transportation plan must include 15 factors, such as land use, energy, congestion, and access to all modes. The factors are listed below.

12) A "Congestion Management System" must be implemented by the state for Transportation Management Areas, and six other management systems are required of the state (that also are consistent with local efforts), including "public transportation facilities and equipment" among others. The state must also develop through long range plans an intermodal state transportation system. Twenty factors must be considered in this planning.

13) A State Transportation Improvement Program that is consistent with the TIP's of Metropolitan Planning Organizations and with the state's long range plan is required.

14) The Urban Mass Transportation Administration (UMTA) is now the Federal Transit Administration (FTA).

15) Three percent of FTA funds are authorized to be taken off-the-top for research.

As referred to in point 6) above, previous federal policy prohibited or restricted tolls on federally funded facilities, although in 1987 a pilot program provided 35 percent federal funding for projects in nine states. ISTEA took major steps toward encouraging transportation facilities to be toll financed. For example, federal matching shares range from 50 to 80 percent for new construction. Feasibility studies for all such purposes are to be funded at a 50 percent federal matching ratio. Tolls now can be used to match federal funds for any federally financed project.

Private toll road projects are pending in California, Arizona, Texas, Puerto Rico and Virginia, while public toll facilities exist in all but 16 states. The 16 are primarily in the south, midwest and west. Even privately owned projects are eligible for ISTEA funding (grants or loans) through public agencies. Public agencies can even sell facilities to the private sector, subject only to reimbursing the depreciated amount of federal aid.

This new federal program provides an excellent opportunity to leverage tax dollars with private sector contributions and user fees to help finance needed improvements.

Citizen Involvement

One of the strongest mandates of ISTEA is to enhance citizen involvement in the planning and policy-making processes. As described below, citizens are participating

actively in the new Transportation Coordinating Council, as they did in the earlier Northern Virginia Transportation Plan. The Friends of the Virginia Railway Express is a group of 200 citizens boosting the implementation of the new commuter rail system.

NVTC co-sponsors with WMATA public hearings on rail and bus fare and route changes in an effort to solicit the views of riders before changes are made. The Virginia Railway Express (VRE) also conducted an extensive set of hearings and meetings regarding its fare structure before the two Commissions acted to adopt the fares.

MWCOG's Task Force on Growth and Transportation warned that the region risked paralysis without developing a consensus building process. In its June, 1991 report it quoted the Director of the Transportation Research Board:

> Our biggest danger...is not that we will take the wrong action, but that we will take no action--that we will remain paralyzed by conflicting goals, interest group views, and professional solutions confronting us. Though we have the resources, knowledge and technology, we cannot move ahead unless we can develop a unifying vision around which we can rally.[4]

The Task Force effort is continuing with the selection of a professional facilitator and public meetings to help achieve regional consensus on future transportation improvements.

Private Sector

In addition to requiring citizens involvement, ISTEA seeks to encourage more private sector involvement.

Transportation Management Associations (TMA's) are groups of private employees that seek to promote improved public transit and ridesharing services in order to relieve congestion. Several exist in Northern Virginia and are described below.

In addition to TMA's, other private initiatives offer great promise. The Route 28 Improvement Tax District is providing $110 million for widening of that important facility. The Virginia Toll Road Cooperation is seeking to build and operate an extension of the Dulles Toll Road from the Dulles Airport to Leesburg using no public funds. Elsewhere, the California Private Transportation Corporation has signed a franchise agreement with the California Department of Transportation to build and operate a 10-mile private toll road in Orange and Riverside Counties at a cost of $88 million.

MWCOG hosts annual conferences in which public and private transit providers meet to exchange information on future plans. It also has a permanent committee of private transit providers.

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[4] *Task Force Report at 17.*

A new advocacy group has been created for private transit operators, partially supported with federal grant funds. It is known as the Washington Private Operators Council.

Transit Cooperative Research Program

Another example of federal influence on congestion management activities is the financial support of research and development. Each federal transportation agency has its own research programs. A new program is the Transit Cooperative Research Program (TCRP).

TCRP was authorized in ISTEA. Three agencies are cooperating to manage it: FTA, The Transportation Research Board (TRB), and Transit Development Corporation, Inc. (TDC -- a non-profit education and research organization established by APTA).

TDC in turn has formed an independent governing board for TCRP oversight that will review research proposals and select those to be funded. TRB will select independent research contractors with the help of project advisory panels.

Almost $9 million is appropriated for FY 1992, with up to $88 million authorized through FY 1997.

Problem statements have been requested from the transit industry, with the first set due in August, 1992.

The availability of federal research and development funds make it essential for state, regional and local groups to communicate effectively while seeking funding and cooperate to share the results of experiments and demonstrations.

Improving the Planning Process

Of all of the major changes mandated by ISTEA, perhaps the greatest relates to planning requirements.

In the Washington Metropolitan Area, the Metropolitan Washington Council of Governments/ Transportation Planning Board is taking the lead in providing a coordinated response.

ISTEA Planning Requirements

ISTEA included 15 factors that must be considered in an improved process for developing transportation plans and programs:

1) Preservation of existing transportation facilities and, where practical, ways to meet transportation needs by using existing transportation facilities more efficiently.

2) The consistency of transportation planning with applicable federal, state, and local energy conservation programs, goals, and objectives.

3) The need to relieve congestion and prevent congestion from occurring where it does not yet occur.

4) 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.

5) The programming of expenditure of transportation enhancement activities as required in Section 133.

6) The effects of all transportation projects to be undertaken within the metropolitan area, without regard to whether such projects are publicly funded.

7) International border crossings and access to ports, airports, intermodal transportation facilities, major freight distribution routes, national parks, recreation areas, monuments and historic sites, and military installations.

8) The need for connectivity of roads within the metropolitan area with roads outside the metropolitan area.

9) The transportation needs identified through use of the management systems required by Section 303 of this title.

10) Preservation of right-of-way for construction of future transportation projects, including identification of unused right-of-way which may be needed for future transportation corridors and identification of those corridors for which action is most needed to prevent destruction.

11) Methods to enhance the efficient movement of freight.

12) The use of life-cycle costs in the design and engineering of bridges, tunnels, and pavement.

13) The overall social, economic, energy, and environmental effects of transportation decisions.

14) Methods to expand and enhance transit services and to increase the use of such services.

15) Capital investments that would result in increased security in transit systems.

MWCOG/TPB

The agency primarily responsible for the region's transportation planning is the Transportation Planning Board of the National Capital Area (or TPB). It is staffed by the Transportation Planning Department of the Metropolitan Washington Council of Governments (MWCOG). Consequently, in most cases in this report, the agencies will be referred to jointly as MWCOG/TPB.

The next several sections review in detail the coordinated efforts of MWCOG/TPB and its component governments to meet the challenges of ISTEA and the Clean Air Act. Again, the purpose for emphasizing these ongoing efforts and reviewing the institutional structure is to provide a setting for those who wish to suggest improvements.

MWCOG/TPB is the designated Metropolitan Planning Organization (MPO) for the area, which means that it has many important responsibilities for transportation planning and certification of project priorities. It is also leading the region's efforts to comply with the mandates of ISTEA and the Clean Air Act, and has a role in certifying compliance with the Americans with Disabilities Act.

The draft FY 1993 MWCOG/TPB work program proposes several activities that will allow the region to meet requirements of the Clean Air Act Amendments of 1990, the Intermodal Surface Transportation Efficiency Act of 1991, and the Americans with Disabilities Act. The proposed budget for TPB's work program for FY 1993 is $4.7 million. The proposal is under review by TPB and its technical committee.

Transportation Improvement Program (TIP): A six-year list of projects (split into two, three-year increments) with an annual update. The final FY 1993-98 TIP should be adopted in October, 1993, depending on the results of ongoing air quality conformity analyses. A draft of the FY 1994-99 version should be available by April 1993 for adoption in June, 1993 following public hearings. TPB selects all projects (except National Highway System, Bridge and Interstate Maintenance) in consultation with VDOT, for the Washington Transportation Management Area within Virginia. Projects (or phases of projects) must be consistent with TPB's Long Range Transportation Plan and have full anticipated funding. A detailed financial component is required.

Long Range Transportation Plan (LRTP): Revisions are to be adopted in mid-1994, with a draft available by the end of FY 1993. The forecast period is 2010. It must include land use, transportation control measures, network analyses and transportation demand management strategies, among others. It will be part of the State Implementation Plan (for air quality) for this region. It requires a financial statement.

Financial Plan for TIP and LRTP: Staff will establish base-year funding by jurisdiction, type, and source. For the TIP, projections will be made for each of six years in constant dollars. For the LRTP, forecasts for 10 and 20-year horizons will be provided. The draft is needed by the end of FY 1993 to include in the FY 1994 LRTP.

Financial Capacity of Transit Operators: The Federal Transit Administration requires annual certification of current financial conditions and capability to meet future obligations (operating and capital costs).

Congestion Management System: Required by ISTEA, the system must include performance standards and monitoring procedures. Recurring and non-recurring congestion must be measured. Specific mitigation measures in particular areas must be identified and impacts evaluated, including such candidates as telecommuting, variable work hours, and increased gas taxes, all of which can be studied using a new model to be acquired by TPB (COMSIS TDM Model). TPB intends to set up a regional traffic data clearinghouse.

State Implementation Plan (SIP): Required by the Clean Air Act Amendments of 1990, the SIP for Northern Virginia should be prepared and adopted by November, 1994 to apply to federal FY 1995. During FY 1993, TPB will conduct an inventory of mobile source emissions and examine transportation control measures. This work must be integrated with the examination of stationary sources being performed by COG's Air Quality Committee. The measures included in the SIP must achieve a 15 percent reduction in certain pollutants by 1996 and meet required standards set for 1999. This process must identify methods to track actual versus forecast vehicle miles traveled (VMT), which will trigger contingency measures included in the SIP.

Air Quality Conformity: TPB must certify its annual TIP is in conformity with requirements of the Clean Air Act. Interim guidance from EPA and DOT was issued in June 1991 and was applied to proposed amendments to the FY 1992 TIP. Final guidance was issued in July, 1992 and will be used to certify conformity of the FY 1993 TIP. TPB must itself develop procedures to determine conformity.

Cooperative Forecasts/Land Use: The Round V cooperative forecasts of employment and population should be prepared in preliminary form by January of 1993. The transportation assumptions from the Long Range Transportation Plan and the TIP that are included in the cooperative forecasts must be specified, and the effects on land activity measured by comparing the effects of not completing the specified transportation facilities. A process to consider such transportation/land use interactions is required to be part of the State Implementation Plan.

Americans With Disabilities Act: TPB certified the regional implementation plan prepared by a WMATA task force that was submitted to the Federal Transit Administration on July 26, 1992. Recertification must occur each year.

Private Enterprise: TPB must certify federal requirements are being met as part of its annual TIP submission. COG/TPB conducts an annual forum and staffs a Private Providers Task Force.

Bicycle Plan: This must be an element of the annual TIP.

Public Participation: Requirements in ISTEA will be met through new public forums on the TIP, and a new mailing list will be prepared. COG's Partnership for Regional Excellence is continuing its efforts to build a public consensus for the Long Range Transportation Plan.

MWCOG/TPB Technical Committees

MWCOG's Technical Committee consists of staff representatives from most of the area's local, regional and state agencies with responsibilities for transportation. Among the responsibilities of the Committee is advising TPB on MWCOG's transportation workplan. The Chairman of the Technical Committee sits at the table during TPB meetings and provides a report on committee activities each month.

The Technical Committee has formed several subcommittees, including:

1) **Aviation:** Oversee work on MWCOG/TPB's continuous aviation system planning program.

2) **Bicycle:** Produce update of Bicycle Element of MWCOG's Long Range Transportation Plan and a regional bike map.

3) **Ride Finders:** 20 local commuter assistance programs are represented, together with state sponsors. Includes a Ridesharing Technicians Group that meets separately.

4) **Traffic Mitigation:** Focus on Transportation Control Measures (TCM's) for the SIP process. Includes a TMA Group and a Telecommuting Group that meet separately. Producing a guidebook on TCM for federal agencies.

5) **Travel Forecasting:** Guidance for MWCOG's information, analysis and forecasting systems. Currently helping to update MWCOG's regional transportation model.

6) **Travel Monitoring:** Detailed traffic engineering reviews and oversight of new MWCOG monitoring projects. Interest in IVHS technology.

Other groups, not directly related to the Technical Committee, include:

1) **Microcomputer Users' Group:** Exchanging information on hardware/software developments.

2) **Transportation Management Associations Committee:** Meets at MWCOG but not affiliated. Includes representatives of Virginia's TMA's (DATA, Loudoun, BATA, LINK and TYTRAN), and three Maryland TMA's.

3) **Private Sector Providers Group:** Representatives of transit management firms and others with similar interests.

4) **Telecommuting Advisory Council:** Sponsored by Synergy Planning, Inc., uses MWCOG's facilities for meetings.

MWCOG's population forecasting and air quality activities have their own committee structures.

MWCOG Long Range Transportation Plan

The existing adopted plan would increase highway capacity by only 14 percent through 2010, while vehicle miles of travel would grow by 52 percent. Further, two or three times projected revenue from existing sources would be needed to build the projects.

Levels of service along major radial corridors to the Core (Washington D.C., Crystal City, Pentagon and Rosslyn) will be maintained at reasonable levels due to provisions of transit and HOV options. Levels of service elsewhere, especially on radial and circumferential corridors outside the Core, would deteriorate to unacceptable levels.

The Plan contains a policy element, with six goals pertaining to land development, energy and the environment, congestion management, disabled mobility, interregional transport, and the transportation system. For each goal, several objectives are specified.

Among these are:

- Promote local plans with concentrated development along existing corridors near transportation centers, and encourage "transit friendly" designs;
- Promote "clean travel;"
- Give priority treatment to HOV to cut travel times;
- Integrate travel to airports with other transportation systems;
- Increase coordinated, cost effective transit use and provide sufficient financial resources.

Some major Virginia highway facilities included in the Plan are:

- Study Wilson Bridge/I-95 and I-495;
- Improve several Beltway/I-395 ramps;
- Widen VA Route 7, Route 50, Route 236, US 1, Route 123, Route 234, Route 28, I-66, US 29, Dulles Toll Road, US 15;
- Construct Fairfax County Parkway and Ridgefield Road.

Major transit elements are:

- Complete Metrorail Blue Line to Franconia/Springfield;
- Extend HOV on I-95 and I-66;
- Study several corridors, including Vienna to Centreville (I-66) and West Falls Church to Dulles for rail improvements.

MWCOG Ride Finders Network

MWCOG, in cooperation with local governments and federal agencies, maintains a database of persons seeking to form carpools and vanpools. In a typical month, from 300 to 700 new applications are received at MWCOG to add to a database of 8-10,000 names. MWCOG has determined the most effective means of informing the public about the availability of this service is highway signs, followed by radio and newspaper ads, telephone book ads, and word-of-mouth.

MWCOG's Ridesharing Resources Directory contains names, addresses, telephone and fax numbers of the region's ridesharing programs, transportation management associations, public transportation operators, commuter bus lines, vanpool services, incentive programs, and commuter and Metrorail parking lots. The Directory is updated every six months.

MWCOG's Cooperative Forecasts

MWCOG has directed a cooperative regional effort to produce forecasts of population and employment. Round 4.1 is the current version, and work is underway to produce Round 5.0. For the first time, land use and transportation will be considered together in these forecasts, using an iterative process that will result in the Round 5.0 forecast being adopted at the same time as the new MWCOG/TPB Long Range Transportation Plan.

The Round 5.0 process will take local land use plans and apply assumptions about how these plans will be built out. It is most likely, however, that the projects in the LRTP, subject to financial constraints, will not meet the transportation demands resulting from the local land use plans. At this point, it must be decided whether the regional process will attempt to influence the local land use plans to allow the transportation investments proposed in the LRTP to meet the transportation demands implicit in the local land use plans.

MWCOG/TPB's Air Quality Analysis

TPB must submit a plan to EPA by November 1993 that reduces baseline (1990) emissions by 15 percent by 1996. This may be achieved most efficiently by mandating clean fuels. By 1999, it is anticipated that the region must achieve a 30-40 percent reduction in emissions, requiring more drastic actions. The region cannot go beyond its current capacity of single-occupant vehicle lanes without application of a congestion management system.

MWCOG/TPB has received an EPA grant to model the relationship between vehicle miles traveled (VMT) and emissions. Study years are 1985 for the base, plus 1995 and 2010. Various Transportation Control Measures (TCM's) will be evaluated during the study, which is to be completed by the end of 1992. The results will be combined with MWCOG's ongoing emissions inventory of mobile and stationary sources, which will be completed in 1993, and will show savings in emissions that could be generated by such actions as substituting reformulated fuels and low-emission vehicles.

Setting Priorities
(Transportation Coordinating Council)

Faced with a diversity of opinion about how best to organize the public and private sector to plan and implement needed transportation facilities and services, the new Transportation Coordinating Council (TCC) which had its first meeting on July 24, 1991, offers great promise to mediate competing interests.

While MWCOG/TPB provides an existing (and evolving) institutional mechanism for planning and prioritizing transportation investments, throughout the Washington Metropolitan Area, a means to provide coordinated input from Northern Virginia to the MWCOG/TPB process was needed.

This new organization consists primarily of the membership of NVTC and PRTC, plus representatives of several towns and of a Citizens Committee. There are 36 members altogether. The Northern Virginia representative on the Commonwealth Transportation Board (CTB) is chairing the group, which was established by Governor Wilder. (The CTB is the policy board for VDOT and determines how state and federal transportation funds are to be allocated in Virginia). The idea originated at NVTC in the late 1980's when then Chairman (now Virginia Transportation Secretary) John Milliken called for a regional body to help set priorities and update Northern Virginia's Transportation Plan.

At the first meeting on July 24, 1991, Governor Wilder stated his objectives for the process to include:

- Create an environment for consensus (this body is larger with wider participation, including VDOT, than other regional groups).
- Spark new ideas for funding.
- Provide a forum for local concerns.
- Devise new solutions.

The Secretary of Transportation reported that an important aspect of the TCC is bringing local elected officials into the process to produce a plan, implementation priorities and policies that provide balance between highways and transit.

In his charge to the TCC, the Chairman of the group, Byron Waldman, defined the work program to include:

- Updating the regional transportation plan.
- Reviewing local plans for conformity and completeness.
- Adopting guidelines for key regional projects, setting priorities and developing realistic programs for financing.
- Priorities would be provided to meet the Spring, 1992 schedule of the CTB's state allocation process.

The Chairman also urged the TCC to avoid becoming bogged down with a weighty structure, and to keep the process flexible. The members suggested that the implications of the Clean Air Act, local land use plans, the Intermodal Surface Transportation Efficiency Act of 1991, and uncertain state revenue streams are all subjects requiring careful consideration by the TCC.

An active 50-member citizens advisory committee to the TCC has already called for consideration of land use alternatives in the Dulles Corridor and special attention to Transportation Demand Management.

Appendix B shows the TCC workplan for 1992-93. An effort has been made to integrate the quarterly actions of the TCC with those of TPB and CTB. For example, in January each year TCC will analyze alternative projects and decide on priorities. TCC will then advocate these priorities to CTB and TPB as the latter two organizations define their respective annual six-year programs of projects.

TCC will also agree upon a legislative agenda each October for the following January session of the General Assembly. Each June, TCC will review the consistency of plans to fund the Council's top priorities, by considering CTB's preliminary six-year allocation, TPB's draft TIP, and local programs. Where gaps or conflicts are identified, further explanations will be obtained for discussion at the following October TCC meeting.

While adopting a workplan for the remainder of 1992 and 1993, the TCC directed staff to develop financial recommendations for its top three priority projects, develop a schedule and process for updating Northern Virginia's Regional Transportation Plan, and develop evaluation techniques for setting priorities for additional projects. The TCC-Technical Committee has formed two subcommittees, one to develop financial recommendations and the other to propose processes for updating the plan and evaluating project priorities.

Among the activities already completed by the TCC is selecting three top regional priority projects from a larger list of candidates proposed by the TCC Technical and Citizens Committees. The three priority projects, as adopted in a March 16, 1992 resolution, are:

1) Franconia/Springfield Transportation Center

2) Fairfax County Parkway

3) Route 234 Bypass.

These are in addition to improvement projects on I-495, I-95 and I-66 for which regional consensus had already been achieved.

The longer priority list from which the top three were selected organized projects according to several criteria, and provides a useful reference of projects that may be moved forward rapidly in the future if new funding sources are identified. Among the criteria are:

- Fully or partially funded versus unfunded
- Construction versus operations, design, environmental impact statement or study
- HOV, transit or roadway
- Included in MWCOG/TPB Long Range Plan
- Total cost and funded amount
- Sources of eligible funding categories

Projects included in this list vary from the $240 million Dulles Toll Road extension to Leesburg (to be privately funded) to over $225 million for VRE capital improvements (unfunded) to study of extending Metrorail to Centreville along I-66.

The TCC-Technical Committee is recommending that the update of the 1988 Northern Virginia Transportation Plan be integrated with MWCOG/TPB's Long Range Plan Update as part of the initial consideration of two networks (one emphasizes highways and the other adds significant transit investments). By January, 1993 a composite draft LRTP will be produced, with a 2010 horizon, which will be a "wish list" from which priorities will be established and specific projects selected. Northern Virginia projects will be analyzed and discussed as part of this process, to craft an updated Northern Virginia Transportation Plan for the TCC.

From this input will come the final, financially constrained LRTP of MWCOG/TPB, due by September, 1993.

Financial Issues

Obtaining and allocating the financial resources to construct and operate the region's transportation system also involves a complex array of agencies and interest groups, and careful coordination is required.

As described above, ISTEA has authorized a major increase in federal funds for transportation. These funds, when (and if) appropriated flow to the region through the Commonwealth Transportation Board, with an important role for MWCOG/TPB as the region's Metropolitan Planning Organization.

The CTB and MPO only are able to allocate what Congress appropriates. In the midst of the FY 1993 appropriations process, it appears that Congress will not appropriate the full amount authorized by ISTEA. On the other hand, Congress can (and often does) intervene in the state/regional/local process it set up in ISTEA by directly earmarking funds for particular projects.

For FY 1993, the U.S. Congress has approved $2 million to extend carpool lanes on I-66 from Route 50 to 29, and build two interchanges on I-66. WMATA would receive $170 million for Metrorail construction. An additional $9.4 million was earmarked for express bus service in the Dulles Corridor and $7.5 million for traffic signalization in Fairfax County.

In CTB's approved six-year plan, for FY 1993, state aid to NVTC will be $33.9 million for formula assistance and $9.3 million for capital, plus $2.6 million for VRE in formula assistance and $4.8 million in capital. By FY 1998, these amounts are projected to be only $41.0 million and $17.1 million for NVTC formula assistance and capital, and $3.2 million and $1.0 million for VRE formula assistance and capital, respectively. The six-year total for NVTC and VRE formula assistance and capital will be $336.7 million.

Figure 5 shows Northern Virginia's public transit capital and operating needs, as forecast by NVTC and its member jurisdictions. As can be seen, transit operating subsidies required over six years are forecast to be $684 million, and capital needs over the same period are forecast to be over $900 million. Clearly, projected state aid falls far short of the region's needs.

For highways, the six-year totals of assistance to be provided by the state to the Northern Virginia District (including federal sources) are $227.0 million for the Interstate System; $158.6 million for National Highway System-Interstate; $24.2 million for National Highway System-non Interstate; $120.9 million for the primary system; $66.8 million for the urban system; and $208.1 million for the secondary system, or $805.6 million altogether. These amounts also fail to meet the needs projected for Northern Virginia in MWCOG's six-year TIP.

NVTC SIX-YEAR TRANSIT FINANCIAL NEEDS

-- 1992 Dollars In Thousands --

SYSTEM	FY 1993		FY 1994		FY 1995		FY 1996		FY 1997		FY 1998		SIX-YEAR TOTAL	
	OPER.	CAP.	OPER.	CAP.	OPER.	CAP.	OPER.	CAP.	OPER.	CAP.	OPER.	CAP.	OPER.	CAP.
ALEXANDRIA DASH	1,373	51	1,442	885	1,514	844	1,589	689	1,668	889	1,752	844	9,338	4,202
ARLINGTON TROLLEY	367	-----	385	150	405	1,860	425	-----	446	-----	468	600	2,496	2,610
CITY OF FAIRFAX CUE	1,040	481	1,104	434	1,171	471	1,242	484	1,317	530	1,403	568	7,277	2,968
FAIRFAX CONNECTOR	4,125	190	4,518	3,015	7,217	5,540	12,626	5,058	17,898	6,727	22,632	12,449	69,016	32,979
VIRGINIA RAILWAY EXPRESS	4,969	2,000	4,674	4,000	4,471	4,000	4,739	4,000	5,009	4,000	5,268	4,000	29,130	22,000
WMATA	51,637	112,036	88,150	127,510	95,035	139,510	103,315	145,510	110,009	135,509	118,140	177,509	566,286	836,584
TOTALS	63,511	114,758	100,273	135,994	109,813	152,225	123,936	155,741	136,347	147,655	149,663	195,970	683,543	901,343

Figure 5

A 1991 cooperative staff effort to identify the shortfall of funding for projects identified in VDOT's adopted six-year plan and local capital improvement plans revealed roadway shortfalls of $1.1 billion, park-and-ride shortfalls of $27 million, and transit facilities shortages of $410 million, totalling $1.6 billion. This total is especially noteworthy since the adopted six-year plans are not abstract wish lists, nor even conceptual plans designed to meet perceived needs, but rather lists of projects that can and should be built when and if funds are provided.

The first regional allocation process of federal Congestion Mitigation and Air Quality (CMAQ) funds combined $17.2 million in federal CMAQ funds for FY 1992 and 1993, or $19.8 million including local matching funds. Projects selected include $5.8 million for replacement Metrobuses, $350,000 for new trolley bus replicas in the City of Fairfax, $1.15 million for new PRTC commuter buses, $5.2 million for traffic signalization in Fairfax County, $5.6 million for an expanded parking deck at the Woodbridge VRE station, and $960,000 for park-and-ride lots in Stafford County. Initially, almost $50 million of eligible projects were proposed by local and regional agencies for FY 1992-93 CMAQ funding.

Funding Flexibility

A May, 1992 survey by APTA revealed that 80 percent of the respondents reported their states were not segregating STP funds for multi-modal use, and 73 percent said states were not programming STP funds for transit. Another 64 percent said states and MPO's were not allocating CMAQ funds for transit.

To some extent this is also true in Virginia. ISTEA promised new flexibility, but the current method of allocating the funds by CTB does not necessarily promote flexibility. Instead of allocating new federal STP funds based on the federal allocation procedure and federal program objectives that stress regional decision-making, Virginia's current statutes require CTB to pool state and federal funds and allocate them to localities under the provisions of the existing state highway program. Section 33.1-46.1 of the Virginia Code does provide for using state allocated highway funds for transit purposes, but the local government choosing to do so must agree to several conditions and this provision has been rarely used. As a result, some believe the flexibility to spend the federal funds for eligible transit purposes (e.g. restore historic rail stations) is being thwarted.

NVTC adopted the following 11 principles to guide allocation of ISTEA funds:

1) The declaration of policy contained in the Act constitutes an excellent statement of federal intent, and state and local processes should seek to facilitate the implementation of that federal policy statement. For example, the federal policy emphasizes a balanced, multi-modal approach to moving people and goods, not vehicles.

2) Transportation plans and projects should be developed according to a holistic approach that more clearly links plans and projects to broader community interests of livability, environmental quality and good urban design.

3) The new Surface Transportation Program should be considered by VDOT to be a new source of funding, and should be allocated to urbanized areas using the population formula contained in the Act.

4) CTB should designate the routes to be included in Virginia's portion of the National Highway System through a cooperative process involving MPO's. In urbanized areas, MPO's should jointly designate the NHS corridors with CTB. A portion of NHS funds should immediately be made available for operational highway improvements and transit.

5) The new program for congestion mitigation and air quality is intended to provide funding to achieve the transportation provisions of the Clean Air Act. These funds should be allocated to non-attainment areas for the purposes intended in the Act.

6) For the above new programs, local MPO's should also utilize new processes that are consistent with the federal intent of the Act, without distorting the projects reflected in existing Transportation Improvement Programs that have been funded under pre-ISTEA programs.

7) ISTEA emphasizes interrelationships between modes and levels of government, and seeks to strengthen planning and congestion management using a systems approach. To this end, all agencies engaged in congestion management activities should cooperate fully. A more effective intergovernmental partnership is needed to take maximum advantage of the new federal funding flexibility and to avoid harmful competition among governments.

8) Transportation plans and projects should be judged according to the ability to move people and goods, not vehicles.

9) Emphasis should be placed on improving the efficiency of existing systems.

10) Transportation plans and projects should encourage fulfillment of land use principles that make mass transit more feasible.

11) The cooperative and consultative relationship among the state, the MPO, and the individual jurisdictions will be enhanced and facilitated to the extent that the affected entities participate together in the development of long-range and transportation improvement plans at an early stage.

More Equitable Allocations

While issues remain unresolved regarding the flexible use of ISTEA funds in Northern Virginia, a state study, mandated by Senate Joint Resolution 188 in 1991, is nearing completion. The study is to report by January, 1993 on the equity of existing methods of allocating transportation assistance in the Commonwealth and to examine alternatives.

VDOT has established an Advisory Network for the study consisting of elected officials, staff and citizens.

To determine if the existing state allocation formulas are equitable, VDOT has run regressions to compare the relationship of "needs" to allocated funds for geographic districts and for various programs. In most cases, the relationship is statistically close, although critics allege this may be due to poorly stated needs. For example, in Northern Virginia highway "needs" are, to some extent, reduced due to massive investments in public transit.

One aspect of the study provided estimates of total statewide needs through the year 2010 by mode, compared to available funds. Total needs of $52 billion were only 46.3 percent funded by projected sources. Public transit needs of $10.8 billion were only 35.9 percent funded.

During the remainder of the study new formulas featuring such factors as pollution, transit ridership, employment and congestion are to be evaluated. Such factors might mere accurately account for the special circumstances in Northern Virginia compared to the rest of the Commonwealth.

Allocating Public Transit Funding

Prior to ISTEA and the new federal emphasis on flexibility, the Commonwealth had established a set of programs to fund public transit operations and capital improvements. The bulk of these state funds have been used in Northern Virginia to support the regional transit agency, the Washington Metropolitan Area Transit Authority. Because WMATA is controlled by three major jurisdictions (Maryland, District of Columbia, Virginia), many complex issues of coordination are apparent. Also, the financial needs of WMATA loom large in comparison to those of other public transit agencies.

Average annual Metrobus ridership peaked in FY 1980, with almost 150 million riders, compared to today's level of about 140 million. Metrorail ridership has grown, reflecting continuing expansion of service, from about 75 million in FY 1980 to over 140 million today.

WMATA employs about 9,000 persons and has an annual operating budget of $600 million with passenger revenues of about $330 million, an annual capital program

of almost $70 million, and a construction program of up to $200 million annually. Required capital improvements (including repairs and renovation) will total almost $1 billion through FY 1998, while completing construction of the Metrorail system will require well over $2 billion through the turn of the century, so that annual capital construction spending will grow sharply over the next few years.

About $7.4 billion in federal and local funds have been spent to date on Metrorail construction. As stated, over $2 billion in additional funds will be needed to complete the remainder of the 103-mile system.

To complete the 103-mile Metrorail system, all local governments have agreed to a cooperative process known as the fifth Interjurisdictional Cooperative Contributions Agreement, or ICCA-V.

For ICCA-V, payments of each jurisdiction are allocated based on four factors, valued in 1981 dollars,

- Relative share of construction costs through the current year;
- Share of peak period ridership;
- Share of stations and train-miles; and
- Share of 1990 population.

A "Fast Track" construction program was agreed to which would complete the Blue Line in Virginia to Franconia/Springfield by June, 1997. Federal funds are authorized ($2 billion) at a matching ratio of 62.5 percent federal and 37.5 percent non-federal. Local governments have also executed Local Funding Agreements which require them to provide binding commitments of the local funds needed for the following year's construction program.

In the case of Fairfax County, for example, over $123 million will be required through 2002. The County is seeking voter approval to issue $50 million in bonds to cover part of that obligation.

Completing the Franconia/Springfield Metrorail segment will require $230.1 million ($143.8 federal and $86.3 non-federal).

Revenues to operate, maintain and expand the regional Metro System come from riders as well as various levels of government. Private sector sources are also available. WMATA currently has 12 joint development projects and eight projects with connections fees. Projected revenue from these developments for FY 1993 is $5.2 million. Over $40 million has been received to date by the Authority in rent, profit sharing, and proceeds of sales.

Figure 6 illustrates the allocation of Metrobus and Metrorail costs, revenues, and subsidies together with the formulas used to make the allocations. As shown, Metrorail operating losses are allocated among the five Northern Virginia jurisdictions, two Maryland counties, and the District of Columbia, based on a three-part formula that includes population and population density, number of stations and residences of passengers. Costs and revenues are shared by all jurisdictions and net losses are allocated by formula, so that each individual locality has little or no direct control over its allocated Metrorail subsidies. For FY 1994, the WMATA Board has been asked to approve the use of 1990 census data in this formula, which shifts costs to fast-growing jurisdictions such as Fairfax County.

On the other hand, Metrobus costs are allocated to individual jurisdictions using a formula based on buses in service as of 1975, and hours and miles of operations, while bus revenues are allocated based on a survey of riders. In essence, individual jurisdictions can be responsible for decisions as to Metrobus routes and operations, since costs and revenues are separately assigned. However, in many instances, Metrobus routes cross jurisdiction boundaries, and hence the need arises for multijurisdictional agreements on such operations. NVTC's role has been to conduct public hearings on Metrobus service, and to work with local policymakers and staffs to reach effective agreements.

A difficulty with the present allocation of bus costs by Metro is that certain fixed costs are treated as if they are variable, and fixed costs have not been reduced over time as Metrobus routes are cut back. This provides an incentive to reduce Metrobus service and add local bus service, since the jurisdiction receives credit for formula cost savings at the expense of other jurisdictions. This cost allocation dilemma lies at the heart of debate about the relative merits of a regional Metrobus system versus locally sponsored bus operations. The Metro Board conducted a consulting study to recommend improved allocation formulas for bus and rail. Results were provided in 1989, but the Metro Board did not act to change the formulas, reflecting the difficulty of agreeing on any changes that might affect the balance of costs and revenues among jurisdictions. WMATA Board decisions require at least one affirmative vote from each of the three areas (Maryland, District of Columbia, Virginia).

It is expected that reducing Metrobus fixed costs will be a major goal of the annual Chief Administrative Officers' WMATA budget review for FY 1994. Currently, Metrobus fixed costs in Northern Virginia average $62,500 per bus.

While this section has reviewed the allocation of Metro costs, revenues, and subsidies among Northern Virginia's jurisdictions as determined by formulas agreed to by Maryland, the District of Columbia, and Virginia, the next section compiles the sources and uses of funds to support Metro operations, capital, and construction in Northern Virginia. Then, the allocation by NVTC of transit assistance available to support transit costs in Northern Virginia is described.

FIGURE 6

FORMULAS USED TO ALLOCATE METRORAIL AND METROBUS COSTS AND SUBSIDIES AMONG JURISDICTIONS

Operating/Capital Costs & Subsidies	Formula Factors	Systemwide FY 1992 Estimates*
Metrobus Subsidy	Costs minus Revenues: Costs are defined in variable and fixed accounts and assigned in proportion to platform miles and hours for variable costs, and on the basis of 1975 peak-period buses for fixed costs. Revenues are assigned to specific bus trips by survey and subtracted from the allocated costs.	$202,293,800
Metrorail Subsidy	Aggregate subsidy assigned on a three-factor formula giving equal weight to stations, population and ridership by jurisdiction.	$ 66,277,639
Metro Revenue Bond Debt Service	1970 Four-Factor Formula: Construction cost 40%, service cost 30%, ridership 15% and population 15% all as estimated for the 103-mile system. Within Virginia each factor is given equal weight.	$ 27,484,200
Construction Management	1970 Four-Factor Formula (as above).	$ 2,555,999
Metrorail Construction	1970 Four-Factor Formula (as above) modified to reflect the extent of the operational system in the current capital contributions agreement.	$ 44,300,000
Metrorail Rehabilitation	For replacement of normal wear and tear: 5-year average of Metrorail subsidy. For other costs: Four-Factor Formula.	$ 9,497,807
Metrobus Capital	Weekday revenue miles, with an annual adjustment over a ten-year retrospective.	$ 5,765,068

*Unaudited; based on Approved FY 1992 WMATA Budget

Sources and Uses of Transit Funds in Northern Virginia

There are several sources of funding to support transit in Northern Virginia, including passenger revenues and federal, state and local assistance. Farebox revenues now cover roughly half of transit operating costs in the region. Northern Virginia's transit riders contributed about $83 million in bus and rail fares in FY 1992. The remainder of operating costs, and all capital and construction costs, must be met from government subsidies. In FY 1992, the total capital, operating, and construction costs of transit service provided in Northern Virginia was about $263 million.

Sources of funds included $83.5 million of passenger fares, $64.2 million of federal grants, $51.5 million of state grants, $12.9 million of two percent regional motor fuels tax receipts, and over $50 million of local funds.

Jurisdictions outside the WMATA transit zone (in Northern Virginia, all non-NVTC members) do not pay to support the Metro system (nor does Loudoun County which is a recent member of the transit zone). WMATA's 1992 ridership survey revealed sharp growth since 1990 in ridership by persons living in non-member jurisdictions (e.g. Prince William County grew 18.5 percent to reach are percent of total Metrorail ridership. Loudoun County ridership grew 30.3 percent to reach one-half percent of total ridership. Stafford and Fredericksburg riders grew 34.1 percent to reach two-tenths percent of total ridership.

NVTC Transit Assistance Allocation Process

Figure 7 shows the amounts of external assistance NVTC has received to support transit over the past several years, although the Figure does not list indirect state and federal aids. For example, the state has provided about $39.8 million in indirect transit aids for Northern Virginia in the form of state funds for bus shelters and transfers of state and federal funds to be used for preferential bus lanes and bus ramps on the Shirley Highway and elsewhere. The Metro system also has gained from $45 million in federal I-266 Interstate funds allocated to Virginia and transferred to Metro, and an estimated $45 million in I-66 construction benefits. Nonetheless, as explained above, these external sources fall far short of covering local transit funding requirements. Between FY 1971 and FY 1992, NVTC member jurisdictions have provided about three quarters of a billion dollars in local funds to support transit.

Once Metrorail subsidies, bus operating costs and revenues, and capital costs have been assigned to Northern Virginia jurisdictions, NVTC must determine exactly how to allocate the available transit aid among these member jurisdictions. While the state and federal programs providing the funds do impose strict conditions as to eligible uses, the fact that the overall transit deficits are so large in this region has ensured that all funds available are used for their intended purposes.

Effective as of FY 1985, NVTC is allocating available transit aids among member jurisdictions based on a formula that assigns relative transit subsidies paid by each jurisdiction a weight of three-quarters, and relative transit costs a factor of one-quarter. NVTC will consider its formula for FY 1994 and beyond in Spring, 1993.

Figure 7

EXTERNAL SOURCES OF FUNDS RECEIVED BY NVTC TO SUPPORT TRANSIT IN NORTHERN VIRGINIA

($ Millions)

-- FY 1973-1992 --

Fiscal Year	State Appropriations	Regional Motor Fuels Tax	Federal	Total
1992*	46.8****	12.9	4.2	63.9
1991	49.1***	12.9	4.2	66.2
1990	50.8**	12.2	4.2	67.2
1989	51.2	10.8	4.2	66.3
1988	55.7	9.4	4.6	69.7
1987	29.0	8.2	4.6	41.8
1986	21.1	9.8	4.8	35.7
1985	20.6	9.8	4.8	35.2
1984	21.1	9.7	4.8	35.6
1983	20.6	9.1	4.8	34.5
1982	17.1	9.5	6.0	32.6
1981	5.5	8.7	6.1	17.3
1980	14.5	-	6.1	20.6
1979	4.8	-	5.4	10.2
1978	15.0	-	4.0	19.0
1977	3.6	-	4.0	7.6
1976	13.0	-	2.6	15.6
1975	6.0	-	1.5	7.5
1974	10.6	-	-	10.6
1973	4.4	-	-	4.4

* Estimated.
** Excludes $2.1 million in state aid for the Virginia Railway Express (VRE).
*** Excludes 3.3 million in state aid for VRE.
**** Excludes $4.7 million in state aid for VRE.

SECTION IV

POLICIES AND PROGRAMS TO MANAGE CONGESTION, IMPROVE AIR QUALITY, AND BETTER SERVE PERSONS WITH DISABILITIES

In this section, the results of several positive actions being taken in the region are reported. Among the actions that address congestion, air quality, and accessibility for persons with disabilities are improving public transit services; providing paratransit; coordinating land use and transportation planning; considering alternative fuels; improving High Occupancy Vehicle facilities; managing and properly pricing parking; implementing transportation demand management, systems management, and control measures; and deploying new technology.

Transit benefits not only those persons who use it, but all residents, to the extent transportation systems are part of an integrated transit system. In this section, Northern Virginia's public transit systems are highlighted, and coordination issues emphasized. For example, integrated fares are believed to make transit trips more tempting for riders, and many carriers are working to accomplish such a fare system.

External Transit Benefits

A common complaint about public transit is that it doesn't pay its own way, and requires extensive taxpayer subsidies. This is regarded by some as being unfair to those who do not use transit. For example, in 1989, for every dollar paid by transit users nationwide, taxpayers paid two dollars.[5]

But consider the costs of not providing public transit. In 1988, 14.8 million traffic accidents in the United States caused 47,000 deaths and 5 million injuries, and cost roughly $334 billion. According to the Insurance Institute for Highway Safety, motor vehicle deaths for 1991 were 41,462, or 16 per 100,000 persons (down from 49,301 or 21 per 100,000 in 1981). In Virginia, there were 942 deaths in 1991, or 15 per 100,000 people.

Congested lanes of automobile traffic cost auto occupants countless hours, each valued at the hourly wage rate of every person so trapped. Costly gasoline is wasted as well. Air quality is poisoned. A study by the World Resources Institute states motorists in the United States are subsidized by about $300 billion annually, considering free parking ($85 billion), road services ($68 billion), road construction/repair ($13 billion), road maintenance ($8 billion), accidents ($55 billion),, carbon monoxide ($27 billion), other air pollution ($10 billion), security risks ($25 billion) and noise ($9 billion).[6]

The American Public Transit Association reports that:

- The average commuter in the U.S. switching to transit from driving alone saves 200 gallons of fuel each year;
- Over the course of a year, 76 fewer pounds of vehicle exhaust pollutants are emitted from a driver switching to transit;
- Every million dollars invested in transit supports 60 direct and indirect jobs.
- Travel delays in urbanized areas cause 2 billion annual hours of delay each year. These costs will amount to almost $50 billion annually by 2005;

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5 *"You Ride, I'll Pay." Janet Rothenberg Pack, The Brookings Review. (Summer, 1992) at p.48 ff. See also: The Economic Impacts of SEPTA on the Regional and State Economy, Urban Institute and Cambridge Systematics for FTA (June, 1991).*

6 *The Going Rate: What It Really Costs to Drive, James G. MacKenzie, et al., World Resources Institute (June, 1992).*

- Transit construction costs are very competitive with highways: Major urban highways cost $100-120 million per mile, busways cost $4-12 million per mile, light rail costs $10-20 million, and subways cost about the same as highways.

A study of the Southeastern Pennsylvania Transit Authority (SEPTA) commuter rail service revealed an excess of public benefits over subsidies of $39 to $75 million for 1989 alone, when considering the benefits of reduced accidents and congestion, lower noise and air pollution, and the surplus of the value received by commuter rail users compared to what they paid.[7] In 1981, the range of excess public benefits was $11-31 million. The gain from 1981 to 1989 is largely attributable to the value of access to the commuter rail line as reflected in the value of nearby housing and commercial property.

The latter phenomenon suggests that efforts to tax the benefits accruing to land owners as a result of the commercial benefits created by public transit could help local governments reduce net public outlays. This can be accomplished through growth of regular property taxes or by employing special taxation districts. Also, transit authorities themselves can directly reap some of these benefits by engaging in joint development projects.

In 1988, NVTC managed a consulting study of the economic benefits of state assistance provided to Metrorail in Northern Virginia. The study found an internal rate of return of over 13 percent annually, since new investments were stimulated near new Metrorail stations, yielding state tax revenues from the sales and income generated from the developments.

These studies suggest that those who point to transit subsidies as wasteful and unfair should also trace the stream of public benefits. Of course, the more efficiently public transit services are provided, the lower the subsidy cost to achieve these public benefits, so careful scrutiny of transit operations and investments is very much in order.

Statistics compiled by the U.S. Department of Transportation for 1990 show the average performance of various types of public transit. As can be seen in **Figure 8**, average cost recovery, cost per passenger mile, passenger miles per employee, and passenger miles per vehicle mile are best for commuter rail systems nationwide. All public transit modes shown, except demand responsive, are very competitive on a cost per passenger mile basis with single-occupant automobiles.

Northern Virginia's Public Transit Systems

Northern Virginia is served by several excellent and distinct public transit systems, both regional and local. **Appendix C** gives current ridership information and route maps for 10 such systems. **Figure 9** gives a summary. As can be seen, average daily ridership on the system exceeds 225,000 in Northern Virginia.

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[7] *"You Ride, I'll Pay" at 48 ff.*

Figure 8

RELATIVE PERFORMANCE OF U.S. PUBLIC TRANSIT MODES -- 1990 --					
	LIGHT RAIL	RAPID RAIL	COMMUTER RAIL	DIESEL BUS	DEMAND RESPONSIVE
Revenue to Cost Ratio	33.3%	45.5%	49.1%	26.8%	7.3%
Cost per Passenger Mile	41.5¢	33.3¢	26.9¢	43.5¢	$1.15
Passenger Miles per Employee	139,643	248,905	335,959	128,432	20,120
Passenger Miles per Vehicle Mile	23.5	21.4	33.9	9.8	1.5

Source: 1990 Urban Mass Transit Statistics **(U.S. DOT/UMTA).**

Figure 9

PUBLIC TRANSIT SYSTEMS OPERATING IN NORTHERN VIRGINIA FY 1992

TRANSIT SYSTEM	# VEHICLES	AVG. DAILY BOARDINGS	FY92 OPERATING BUDGET
Metrobus	407	79,196[1]	$ 56,044,170
Metrorail	198	120,529[2]	$ 17,160,304
FAIRFAX CONNECTOR	72	8,550	$ 5,102,733
Alexandria DASH	33	5,456	$ 2,536,600
City of Fairfax CUE	14	3,400	$ 1,404,335
Reston RIBS	4	471[3]	$ 482,000
Tysons Shuttle	2	358	$ 71,000
Arlington Trolley	3	619	$ 291,459
COMMUTERIDE	38	2,883	$ 2,291,015
Virginia Railway Express	59	3,944[4]	$ 3,236,904

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[1] *Virginia Metrobus routes only.*

[2] *Virginia Metrorail Stations Only*

[3] *Includes average daily ridership for RIBS service. The average daily ridership for the Reston Express is 119 passengers.*

[4] *Includes ridership counts from July 20, 1992 to August 7, 1992 and includes counts from both the Manassas and Fredericksburg Lines.*

The newest addition to Northern Virginia's public transit network is known as the LINK Trolley, which is providing service in trolley bus replicas connecting Patriot Circle at George Mason University with the Old Town area of the City of Fairfax and with CUE bus routes. The inaugural ceremonies occurred on August 27, 1992.

To help facilitate integrated fares and transfers among these systems, NVTC produced a Transit Connections Guide in 1988, together with large system maps, highlighting points of connection. The brochure was updated in 1992, and is available on request from NVTC.

The Transit Connection Guide includes a description of each transit system, including service area, hours of service, fares, connection points, and information telephone numbers. A "destination service selector" is provided that shows 40 popular destinations, and which transit systems serve each destination.

The Transit Connection Guide also describes unique resources in Northern Virginia to disseminate transit information and sell fare media: The Ballston Transit Store and The Crystal City Commuter Services Center. The Ballston Transit Store was opened in Spring of 1989, in association with NVTC and the Ballston Partnership, using federal and state grants. The store is currently operated by the Partnership with funding from Arlington County. It is located in the Ballston Commons Shopping Mall, and is open Monday-Friday, 10:00 A.M. to 7:00 P.M. and on Saturday from 10:00 A.M. to 3:00 P.M.

The Crystal City Commuter Services Center is located in the Crystal City Underground (shopping mall), also in Arlington. It is open 10:00 A.M.-6:00 P.M., Monday through Friday. Rideshare matching services are available on-site, through access to the MWCOG Ride Finders Network. The Center also serves as The Virginia Railway Express's primary location to fill ticket-by-phone and by-mail requests.

Local Taxi Services

Private firms provide door-to-door taxi service in each of Northern Virginia's jurisdictions. **Appendix D** gives the names of the firms, telephone numbers and number of vehicles. Over 1800 taxis are available in Northern Virginia, including about 600 licensed in Alexandria and Arlington, respectively, 400 in Fairfax County and 260 to serve airports via the Washington Flyer (see next section).

Private taxi firms are candidates to cooperate with government to provide paratransit service for the elderly and persons with disabilities, since many have accessible vans. Also, taxi firms can operate shuttle/feeder services to connect with fixed route transit. NVTC has sponsored several such demonstrations with its local governments providing reduced-price, late night and weekend connections to Metrorail. Alexandria's MetroTaxi program continues such an arrangement.

MetroTaxi operates 8:00 P.M. to 12:30 A.M. from the City's four Metrorail stations to any location in the City. Metered fares are discounted by $1.00, which is reimbursed to the participating companies by the City.

Private taxi firms are also likely to be contract service providers for regional "guaranteed ride home" programs, that offer free or low-cost trips in emergencies to homes or doctors for persons who carpool or take transit to work.

Washington Flyer

The Metropolitan Washington Airports Authority (MWAA) currently operates the system at an annual subsidy cost of about $1.5 million.

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 and Dulles Airports.

Express buses connecting National and Dulles Airports cost $14 one-way ($22 round trip).

Finally, seven-passenger vans operate every 20-minutes to and from the West Falls Church Metrorail station at a one-way fare of $5.

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 (Airport Management, Inc.), operation of the Washington D.C. terminal (Convention Store), 24-hour, 7-day per week telephone information system (Ads 1001), nightly washing and bi-monthly detailing, and tires and fuel. MWAA contracts for taxi service and luxury limousine service at Dulles Airport and operates charters involving trips to or from one of its airports.

When MWAA took over the operation from a private contract operator in late 1989, it completely refurbished 10 buses and added 27 new seven-passenger minivans and 9, 24-passenger minibuses.

Commuter Bus Services

Several commuter bus services are available for the regional commuter, ranging from publicly subsidized operations (e.g. PRTC's Commuteride in Prince William County) to a non-profit corporation (Sterling Commuter Bus in Loudoun County) to for-profit operators. **Figure 10** lists these carriers and provides information on telephone numbers and ridership.

SUMMARY OF COMMUTER BUS SERVICES

COMMUTER SERVICE	PHONE	SERVICE AREA	VEHICLES	AVERAGE DAILY RIDERS	FARES **
Aries P.O. Box 192 Fredericksburg, Va 22404	(703) 898-6158	Fredericksburg Spotsylvania/Stafford **TO:** Fort Belvoir	2 Buses	*140-150	$38.00 Every two weeks
BTS 407 W. 15th Street Front Royal, Va 22630	(703) 635-7644	Front Royal **TO:** CIA, Pentagon, Crystal City, Navy Annex	4 Buses	240	$32.50
Groome Transport 5500 Lewis Road Sandstone, Va 23150	(804) 222-7226	Richmond Airport **TO:** Fredericksburg, National Airport	8 Vans	170	$19.00 Fredericksburg $26.00 Nat'l Airport
Lee Coaches Route 4, Box 259-S Fredericksburg, Va 22405	(703) 371-6785	Fredericksburg **TO:** Crystal City, Pentagon, Fort Belvoir	6 Buses	552	$56.00 Crystal City, Pentagon $39.00 Fort Belvoir
National Coach Works 10411 Hall Industry Drive Fredericksburg, Va 22401	(703) 898-6959	Fredericksburg **TO:** Crystal City, Pentagon, Wash. D.C.,	13 Buses	1000	$65.00 Crystal City, Pentagon $65.00 Wash. D.C
Prince William COMMUTERIDE ATE Management & Serv. Co. 2540 Horner Rd. Woodbridge, Va 22192	(703) 494-9166	Prince William **TO:** Vienna Metro, Pentagon, Downtown Washington	45 Buses	2900	$30.00 Ten trip. $ 5.00 Single Fare
Quick's Commuter Service 41 RV Parkway Falmouth, Va 22405	(703) 373-6027	Fredericksburg **TO:** Crystal City, Pentagon, D.C., Rosslyn, Bailey's X-roads, Navy Annex	14 Buses	1000	$56.00 Every two weeks $60.00 to Wash. D.C.
Sterling Commuter Bus C/O Loudoun Rideshare 750 Miller Drive, S.E. Suite 800 Leesburg, Va 22075	(703) 771-5665	Sterling Park **TO:** Rosslyn, Pentagon, Downtown Washington	2 Buses	120	$38.00 Per week $ 7.00 Single Fare
White's Bus Rental 306 Wallace Lane Fredericksburg, Va 22401	(703) 820-8178	Fredericksburg **TO:** Pentagon, Washington	8 Buses	*560	$65.00 Every two weeks or $130.00 Per month

*** Some figures are approximate.** **** Weekly fares unless otherwise indicated.**

Figure 10

The largest operation is that of Commuteride, with 30 different routes, mainly to the Pentagon, Crystal City and downtown Washington, D.C. The service is managed by ATE Management and Service Company for PRTC.

Sterling Commuter Bus was started in 1974, and its officers are elected by members of the homeowners association that administers the program. The company contracts with a private operator to provide the service using two buses to the Pentagon, Rosslyn, downtown Washington D.C., Capitol Hill and Union Station. Loudoun County provides no operating subsidy, but does assist with marketing and distributing tickets. County staff also obtained a demonstration grant from VDOT which is being used to provide additional service.

As an example of the private commuter bus operators, Aries connects the City of Fredericksburg, Spotsylvania and Stafford Counties with Fort Belvoir in Fairfax County with two daily trips. The company was formed in 1962.

NVTC is working with selected firms to establish cooperative ticketing for Virginia Railway Express passengers who may wish to use commuter buses to return home in emergencies.

In 1988 NVTC sponsored a study by SG and Associates, Richard Pratt Consultants and Robert Hitlin Research Associates, to determine markets for improved commuter bus services in Northern Virginia. Household surveys in Loudoun and Prince William Counties were used together with econometric models to forecast potential ridership in three corridors. Given the paucity of service in the Route 7/Dulles Corridor, it seemed to be the best candidate for expanded service, and the Loudoun County experimental project, in cooperation with Sterling Commuter Bus, is designed to investigate further the feasibility of such expanded service. The study forecast an unmet demand of 175-200 trips each day.

Virginia Railway Express Commuter Rail

NVTC and its partner, the Potomac and Rappahannock Transportation Commission, opened almost 100-miles of new commuter rail service in mid-1992. Commuters are enjoying a safe, reliable and affordable alternative to the traffic-clogged I-95 and I-66 corridors. Eight daily trips are operated each workday morning and again each afternoon, four on each of the two rail lines. One line originates south of Fredericksburg on the CSX/Richmond Fredericksburg and Potomac. The other operates from a terminal called Broad Run near Manassas Airport on the Norfolk Southern Railway. Both lines terminate at Union Station in the District of Columbia.

Together the two lines are expected to carry about 4,500 people (9,000 one-way trips), or the equivalent of a rush-hour lane of interstate highway traffic, by the end of the first year.

Initial ridership is above expectations, with over 2,000 daily trips being served after the first few weeks **(see Appendix C)**. Ultimately 25 to 50 percent should continue their trips on Metrorail, and on opening day of VRE service, Metrorail ridership at some VRE transfer locations was up by 10 to 37 percent.

Figure 11 shows the system with the stations that are planned or under construction and additional sites that may be developed in the future.

The fare collection system is proving to be among the most innovative in the world, with a proof-of-payment system; credit-card activated ticket-vending machines; curbside ticket vendors; transit store distribution of mail and telephone orders; networks of regional and neighborhood retail outlets; and an automated customer information system.

Three major types of fare media are available, including single-trip tickets, a 10-trip ticket at a 15 percent discount and monthly passes at a 30 percent discount. For all but the monthly pass, tickets must be validated in machines that stamp the date of travel. AMTRAK conductors randomly check riders' tickets, and violators are subject to fines of $150. Based on the experience of other proof-of-payment systems, compliance is expected to be excellent, and VRE will save the expense of extra ticket collectors.

The automated customer information system (TRACS) permits customized station announcements, as well as providing a means for riders to order tickets by mail without needing to speak to an operator. The new Commuter Services Center at Crystal City is serving as the primary distribution center for mail and telephone ticket orders.

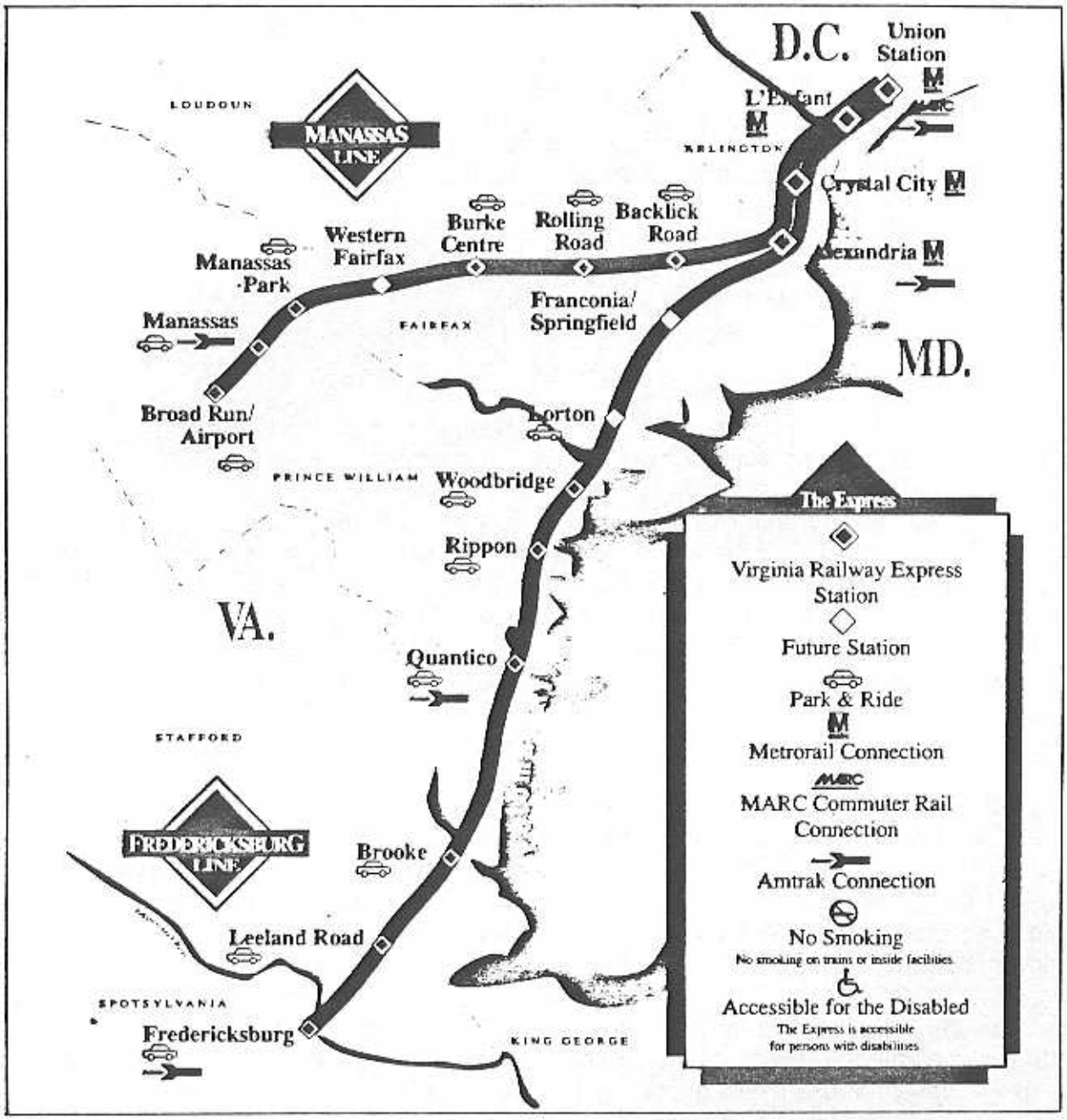
Easy connections with the Metrorail system are possible at several VRE stations, including Alexandria/King Street, Crystal City, L'Enfant, and Union Station. Local governments are cooperating with the two Commissions to establish feeder bus services.

The Virginia DOT has taken the lead in design and construction of parking lots and continues to provide valuable technical and financial assistance. The Commonwealth is responsible for about a third of annual costs, with local governments paying a third and riders paying the remaining third.

The Potomac and Rappahannock Transportation Commission (PRTC) was established in 1986 primarily to facilitate the role of its members in the commuter rail project. Most of its members had not supported public transit financially prior to the VRE project. The two percent motor fuels tax that is collected within PRTC is financing the local share of commuter rail costs, with the balance used for public transit, ridesharing and highways.

It is clear that the process of planning and implementing the VRE project has been very beneficial to improved intergovernmental communications, as well as increased contacts between the freight railroads providing the rights-of-way and the state and local government sponsors.

Figure 11



RAILWAY EXPRESS VIRGINIA

The Express™

You've got a train to catch.℠

Currently, the VRE Operations Board consists of seven members (three from each Commission and one from VDOT) plus three alternates. That Board only acts on matters specifically delegated to it by the two Commissions, and all major financial and policy decisions must be made simultaneously by the two Commissions.

The Commissions have hired a director of rail services who serves under contract. The FY 1993 VRE budget identifies approximately 10 full-time equivalent positions that are filled or being filled.

Figure 12 shows the areas of specialization for staff of the two Commissions and the Operations Group. The figure illustrates that VRE is truly a complex, joint venture, which is guided by a Master Agreement (signed by six participating and two contributing jurisdictions).

Appendix E reveals the lengthy, frustrating, but ultimately rewarding process by which NVTC, PRTC and their member governments crafted the VRE.

As another example of the extensive cooperation among agencies to build and operate VRE, a future VRE station (1995) will be located at the Transportation Center at Franconia/Springfield in Fairfax County along with a new Metrorail station (1997), a 3,400 space parking garage and bus and carpool facilities. Fairfax County has entered into an agreement with WMATA for the regional authority to design and construct the VRE station and any required modifications to the Metrorail station to accommodate the VRE facilities. Design should cost less than $200,000, and construction should be less than $1.5 million. Groundbreaking is expected to occur in November, 1992.

Figure 13 reveals most VRE stations are not currently served by public transit. Several opportunities are being explored, including intra-county service to Prince William County stations by PRTC, and possible connections to Tysons Corner and GMU from Burke Centre, perhaps using City of Fairfax CUE buses, Fairfax Connector buses, or Metrobus. From the Fredericksburg Line, connections to Fort Belvoir and Springfield via Lorton are being investigated.

Given the extensive service territory of VRE, stretching almost 60 miles from the District of Columbia to the Spotsylvania County yard at Crossroads and 40 miles to the Broad Run/Airport station/yard beyond Manassas, and the involvement of scores of government agencies and private companies, numerous issues have arisen which require careful attention to coordination. Several of these are summarized below. Some have been successfully resolved, while others are just being recognized and solutions proposed.

- Ambassadors for customer relations at stations: During the first several weeks of service on both lines, well-trained volunteers served as ambassadors to answer customer questions, assist with ticket vending and provide feedback from riders to VRE management. A detailed ambassador's manual was prepared and training sessions held before service began. Each day ambassadors reported by telephone on any problems and customer reactions to VRE staff. These responses were complied and corrective actions taken.

Figure 12

VIRGINIA RAILWAY EXPRESS FUNCTIONAL AREAS OF RESPONSIBILITY	
NVTC and PRTC:	• Financing and revenue Generation • Market Analysis and Development • Legislative Agenda • Coordination of Legal Services • Long-Term Strategic Planning • Grant Applications • Multi-jurisdictional Negotiations
VRE Operations Group:	• Marketing, Media Relations • Customer Service • Equipment Maintenance Oversight • Station Maintenance Contract Monitoring • Develop Technical Specifications for Facilities and Rolling Stock Procurement • Monitor Automated Systems • Prepare and Monitor Budgets • Revenue and Other Project Accounting • Loss Prevention • Monitoring Train & Crew Performance • Short-Term Operations Planning • Security and Emergency Response Coordination • Other Operations Administrative Activities

Figure 13

PARKING AND TRANSIT FEEDER SERVICES AT VRE STATIONS

STATIONS	PARKING SPACES	DAILY FEE	TRANSIT FEEDER SERVICE
MANASSAS LINE:			
Broad Run/Airport	300	$1.00	
Manassas	348	$1.00	
Manassas Park	300	$1.00	
Burke Centre	400	-----	Metrobus Routes 17L; 26G, H
Rolling Road	400	-----	Metrobus Route 17L
Backlick Road	220	-----	Metrobus Route 18E, Fairfax Connector 401
FREDERICKSBURG LINE:			
Fredericksburg	100	$1.00 Residents $2.00 non-residents	Shuttle from Lee's Hill in Spotsylvania County
Leeland Road	330	-----	
Brooke	300	-----	
Quantico	50	$1.00	
Rippon	300	$1.00	
Woodbridge	588	$1.00	
SHARED STATIONS:		**TRANSIT FEEDER SERVICE**	
Alexandria	-----	Metrorail Yellow/Blue Lines Dash Route-AT2, 5, and 8 Metrobus Route-28A, 28B, 29K, 29L, 29N, 9E, 10A, 10B, 10C	
Crystal City	-----	---------- Metrorail Yellow/Blue Lines Pentagon Shuttle Metrobus Route-5N, 9A, 9B, 9C, 9E, 10A, 11P, P13, 23A, 23C, 23T Arlington Crystal City Trolley	
L'Enfant	-----	---------- Metrorail Yellow/Blue/Orange/ Green Lines Metrobus Routes-A9, A42, A46, A48, 13A, 13B, 13C, 13D, 30, 32, 34, 36, 52, 70, 71, 73, 87, M2, P17, V4, V6, P1	
Union Station	-----	---------- Metrorail Red Line MARC Amtrak Metrobus Routes-40, 42, 44, 46, 80, 87, 96, D2, D4, D6, D8, M2, X2, X4, X5, X8, 91	

- Bus feeder service: Transit service is sparse at outlying stations, given generally low densities surrounding most stations. When schedules are adjusted after the first several weeks of service, efforts are being made to better time the transit connections that are available, primarily in Fairfax, Alexandria and Arlington.

- Grant applications: To facilitate the complex paperwork requirements commensurate with state and federal grants for VRE, the two Commissions are sharing grant application management, with PRTC responsible for new federal grants and NVTC continuing to manage state grants.

- APTA Conference: The American Public Transit Association sponsors a national commuter rail committee which provides support for legislative and regulatory issues of concern to all commuter rail operators. In April, 1992, NVTC and PRTC co-hosted the fifth annual national APTA commuter rail conference. The Commissions had co-sponsored the first such conference in Rosslyn in 1988. Among the activities at the 1992 conference was a trial run on VRE to Fredericksburg, during which the APTA delegates reviewed the performance of the new Mitsui/Mafersa railcars and rehabilitated Morrison Knudsen locomotives, examined stations and parking lots, and offered suggestions on VRE service and capital programs.

- Vendors at stations: To reduce personnel costs and protect against vandalism, VRE provides ticket vending machines at stations that accept no cash, only credit or debit cards. To supplement machine sales, many nearby retail outlets have agreed to sell VRE tickets (e.g. 7-11, Giant). As a further convenience, at some stations private mobile vendors have contracted with VRE to provide ticket sales, together with such services as sales of newspapers, coffee, donuts and even dry cleaning.

- Telephones on railcars: During emergencies in which VRE passengers may experience delays on-board, the presence of telephones to contact homes and offices would provide some relief. VRE is exploring on-board pay telephones and has obtained additional cellular phones for crews to make available during emergencies.

- Bus emergency plan: On those occasions when VRE is unable to operate during afternoon rush hours, buses will be provided by AMTRAK to shuttle passengers to their destination stations. Service will originate from two Metrorail terminal stations. VRE's Fredericksburg Line will be accessed from Van Dorn Metrorail station on the Blue Line, and VRE's Manassas Line will be accessed from the Vienna Metrorail station on the Orange Line. When VRE is unable to operate during morning rush hours, at present no alternative bus service will be provided, but other alternatives are being investigated.

- Refund policy: During VRE service interruptions, passengers may request, and VRE sometimes will offer, ticket refunds, depending on the circumstances. A written policy describing the factors to be considered is being prepared, as a supplement to the published tariff. Technically, VRE's tariff absolves the Commissions of financial responsibility for service failures, but for customer relations purposes, refunds are sometimes provided.

- Policy on leaving trains during delays: For obvious safety reasons, passengers are prohibited from leaving VRE trains unless on-board crews determine that it is safe to do so. In emergencies, local law enforcement officers may be requested to escort passengers safely from disabled trains. To execute this policy requires close coordination with public safety officials, as is true of responses to accidents.

- VRE Key Station Plan: To fully comply with the Americans with Disabilities Act, VRE must make certain capital improvements. Some stations, however, are owned by others, including AMTRAK and the private railroads. Thus, it is necessary to negotiate the extent to which each entity will be financially responsible.

- Rehabilitation of historic rail stations: Improvements are desired at Fredericksburg, Manassas and Alexandria, and a new ISTEA program has provided funds for this purpose. However, to date local governments have chosen to use the new funds to continue ongoing highway projects.

- Ownership of assets: The Master Agreement is silent on the extent to which railcars, stations and other capital improvements will be owned by the Commissions or the local and state governments that have helped to finance them. An amendment to the Master Agreement will be required.

- VRE Administrative Rules: Employees hired by the Commission to work in the VRE Operations Group are currently subject to Prince William County's personnel rules. Written procedures are being prepared that will specify more precisely the rules and regulations by which the Operations Group will function.

- Accepting VRE tickets on commuter buses: Several private commuter bus firms operate service that could be used by some VRE passengers. For example, Greyhound Lines operates service from Washington D.C. to Fredericksburg late in the evening (well after the last VRE train departs). VRE is exploring an agreement with these bus operators by which VRE tickets would be honored, and the companies then reimbursed by VRE for occasional travel by VRE passengers.

- Employer Transit Benefit Program: The Internal Revenue Service allows employers to provide tax-free transit subsidies of up to $21 per month to employees. VRE is preparing a voucher plan that would allow employees to obtain VRE fare media.

- Ridership survey: The VRE Master Agreement calls for subsidies to be shared according to a formula that weights ridership by jurisdiction of residence at 90 percent, and population by 10 percent. Passenger surveys will be used to adjust the formula which is now based on forecast ridership.

- Metro telephone number for TRACS: VRE's automated telephone information system is available for ticket sales as well as route/fare/schedule information. However, the number (703-497-7777) requires a long distance charge to be reached from the District of Columbia and Maryland suburbs.

- Improve vendor services at VRE stations: VRE has contracted with private firms to sell VRE tickets at stations from mobile vans, together with other items such as newspapers, coffee and donuts. Vendors are currently under contract (one year term, renewable up to five years) at Broad Run, Manassas Park, Burke Centre, Rolling Road and Leeland Road, with an in-station vendor at Woodbridge. Vendors keep five percent of ticket revenues and receive free, exclusive space in the stations or adjacent parking lots. Initial sales have been slow, and some vendors may seek additional concessions from VRE to cover costs.

- Add mid-day, weekend and counter-flow trains: Experience of other commuter rail operations indicates that adding such services will boost ridership on peak-hour, peak direction trains, as the flexibility to return home in an emergency, or to reach suburban employment locations from core residences is enhanced. Careful coordination with the freight railroads is required.

- Federal commuter rail issues: Concerns include the applicability of the Railroad Retirement Act, Federal Employer's Liability Act, Interstate Commerce Act, Railway Labor Act as well as user fees from the Federal Railroad Administration for safety regulations.

In early August, 1992, the VRE Operations Board reviewed a 22-point program to improve responses to service delays, to be pursued in cooperation with the railroads.

For, the future, an ambitious capital improvement program is being developed, that will feature cooperative investments with the private railroads on track and signed improvements; engineering of a larger tunnel under the U.S. Capitol to permit the use of bi-level, high-capacity railcars; new locomotives and railcars; and additional stations and parking.

Part of the great promise for VRE is due to the tremendous success being experienced elsewhere in Northern America as commuter rail operators grow and prosper:

- In nearby Maryland, MARC carries 19,000 daily passenger on three lines.

- In New York, Metro North carries 100,000 passengers a day on three lines. The Long Island Railroad carries 146,000.
- New Jersey transit carries 85,000 daily passengers.
- In Chicago, Metra hauls 140,000 daily.
- In Boston, MBTA carries 36,000 riders on 11 lines.
- In Philadelphia, 47,000 daily riders are carried by SEPTA.
- In Miami, TriRail carries 9,000 daily on 67 miles of line.
- In the San Francisco Bay area, ridership is 22,000 daily.
- In Connecticut, a 36-mile line serving New Haven carries 1,100 daily riders.

New lines are being discussed and planned in Atlanta, Seattle, Cleveland, Columbus, San Antonio, Tampa, Jacksonville, Brunswick Maine, Burlington Vermont, Milwaukee, Albuquerque, Dallas-Ft. Worth, Houston, and especially in Southern California, where 420 miles on 9 lines in Los Angles and one in San Diego are moving forward. The first, to San Bernadino, opens in October, 1992.

Public Transit Fares

Appendix F shows the fares charged by Northern Virginia's public transit systems. As can be seen, some offer reduced fares during off-peak hours to help fill available capacity, and many also offer reduced fares for multiple trips to encourage regular riders and reduce administrative costs **(see Figure 14)**.

WMATA increased its fares in July 1989 for the first time in five years, and again in July 1991 and July 1992. System ridership has declined somewhat (average weekday Metrobus ridership was 428,000 in July, 1992 compared to 456,000 in July, 1991, and average weekday Metrorail ridership was 529,000 in July, 1992 compared to 542,000 in July, 1991). However, after accounting for bus service reductions and the slight downward trend in Metrorail ridership since FY 1991, the negative impact of the latest fare increase is, according to WMATA staff, virtually nil on Metrobus and about 1.6 percent on Metrorail.

Another aspect of the region's public transit fare structure that is readily apparent from **Appendix F** is the complexity of the fares, especially those of WMATA. With a mileage-based Metrorail fare structure and zone charges for Metrobus, together with special surcharges and transfer discounts, the fares are difficult for riders to understand.

Figure 14

DISCOUNT FARES ON NORTHERN VIRGINIA'S PUBLIC TRANSIT SYSTEMS -- 1992 --	
TRANSIT SYSTEMS	**DISCOUNTS AVAILABLE**
Metrorail*	• 5 percent bonus for over $10 on fare card, 10 percent bonus over $20. • $13 savings with a $50 Fast Pass (unlimited rides for 2 weeks).
Metrobus*	NO DISCOUNTS
VRE	• 30 percent discount on monthly passes. • 15 percent discount on Ten-Trip Tickets.
Arlington Trolley	NO DISCOUNTS
Tysons Shuttle	NO DISCOUNTS
Reston Ribs	NO DISCOUNTS
City of Fairfax CUE	• $50 Metrorail Fast Pass plus associated CUE bus rides for $56.
Alexandria DASH	• Approximately 20 percent discount on monthly passes.
Fairfax Connector	NO DISCOUNTS
Prince William County Commuteride	• 40 percent discount on Ten-Token Purchase.

* Systems providing half fares for elderly/handicapped riders during off-peak hours.

In other U.S. cities (e.g. the San Francisco Bay Area) transit systems cooperate to provide regional transit passes for their riders, that are accepted on all systems. Such a pass for the Washington Metropolitan Area must certainly rank as a highly desirable objective.

The WMATA Board approved the sale of a $50 pass that will allow unlimited Metrorail trips for two weeks, but could not agree on a $65 pass that would provide unlimited rail and bus travel for two weeks. The City of Fairfax CUE Bus offers the $50 Metrorail Fast Pass with associated CUE bus rides for $56.

Another new Metrorail daily pass costs $5 and can be used all day weekends and on weekdays after 9:30 A.M.

Sales of passes by credit card will also be allowed.

WMATA is seeking a federal grant to defray 100 percent of the costs of a demonstration of an advanced "Uniform Automatic Fare Collection" system to be used by bus, rail and parking locations. The system will be designed to allow convenient passenger transfers, durable fare media, purchase of fare media by credit/debit cards, and diverse transit passes.

Coordination of Fares and Passenger Transfers

Figure 15 shows the transfer policies of Northern Virginia's public transit systems. **Figure 16** provides estimated transfer volumes of each operator.

A report on this subject was completed by Maryland DOT in April 1991. It contains several useful recommendations for action in the short-term and long-term that should also be considered for Northern Virginia. **Among the recommendations are:**

1) **Passenger Convenience**

   a. Offer Metro fare media for sale at outlets for other systems to permit passengers who transfer to obtain all required media in one transaction.
   b. Expand tickets by mail for all systems.
   c. Sell non-Metro media at WMATA's Metro Center sales outlet.

2) **Agency Coordination**

   a. Better scheduling of transfer times.
   b. Better information about connecting services.
   c. Joint marketing of connecting modes.

NORTHERN VIRGINIA TRANSIT TRANSFER POLICIES

TO: → / FROM: ↓	METRORAIL	METROBUS	VRE	ARLINGTON TROLLEY	TYSONS SHUTTLE	RESTON RIBS	CITY OF FAIRFAX CUE	ALEXANDRIA DASH	FAIRFAX CONNECTOR	PRINCE WILLIAM CO. COMMUTERIDE
METRORAIL	FREE	35¢ discount	-------	-------	-------	-------	-------	-------	35¢ discount on 300 routes	-------
METROBUS	-------	Free within zone	-------	-------	-------	FREE	-------	FREE	FREE	-------
VRE	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
ARLINGTON TROLLEY	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
TYSONS SHUTTLE	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
RESTON RIBS	-------	Discounted	-------	-------	-------	FREE	-------	-------	-------	-------
CITY OF FAIRFAX CUE	-------	-------	-------	-------	-------	-------	FREE	-------	-------	-------
ALEXANDRIA DASH	60¢ discount	-------	-------	-------	-------	-------	-------	FREE	-------	-------
FAIRFAX CONNECTOR	Routes 100 & 300 free or discounted	-------	-------	-------	-------	-------	-------	Routes 100 & 300 free or discounted	Routes 100 & 300 free or discounted	-------
PRINCE WILLIAM CO. COMMUTERIDE	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

Figure 15

Figure 16

ESTIMATED ANNUAL TRANSIT PASSENGERS AND TRANSFER VOLUMES IN NORTHERN VIRGINIA

-- 1992 --

TRANSIT SYSTEM	TOTAL ANNUAL PASSENGERS FOR FY 92 (INCLUDING TRANSFERS)	PASSENGERS TRANSFERRING
Metrorail	30,603,000	7,030,800[1]
Metrobus	19,449,000	16,128[2]
VRE	55,215[3]	------
Arlington Trolley	7,407	------
Tysons Shuttle	81,009	------
Reston Ribs	145,289	1,285[4]
City of Fairfax CUE	817,000	------
Alexandria DASH	1,542,291	119,250[5]
Fairfax Connector	2,473,586	158,027
Prince William County Commuteride	722,855	------

[1] *Average Weekday, includes transfers from all bus systems (Metrobus, Fairfax Connector, DASH, and all other bus systems). Source: Spring 1992 Metrorail Passenger Survey.*

[2] *Spring 1990 Weekday Passenger Survey, Annual Passengers (from other buses not Metrorail)*

[3] *Total Ridership between 7/20/92 and 8/7/92.*

[4] *Transfers received from Metrobus in FY 92.*

[5] *Transfers received from Metrobus and Fairfax Connector in FY 92.*

3) **Fare Integration**

a. Expand systems offering free or discounted transfers.
b. Consider a regional commuter pass.

Coordination of Transit Services in the Region

A report on this subject was provided to WMATA's Strategic Planning Committee on March 28, 1991 by Metro staff. WMATA's strategic plan, Phase I, calls for pursuing greater coordination among transportation providers, including schedules, fares and centralized information systems. **Recommendations include:**

1) **Fare Integration**

a. Simplify Metrobus fares.
b. Expand reciprocal transfer agreements.
c. Develop a Metrorail-commuter rail pass.
d. Explore feasibility of regional transit pass.

2) **Schedule and Service Integration**

a. Coordinate service hours among systems.
b. Extend bus service hours to coincide with rail service hours.
c. Time transfers at major bus-to-bus locations.
d. Time transfers of Metrorail and Metrobus when rail headways exceed 10 minutes.
e. Encourage local buses and commuter rail to time transfers with Metrorail.

3) **Information Integration**

a. Sell all local transit fare media at WMATA sales outlets.
b. Sell WMATA fare media at all local transit sales outlets.
c. Enhance "ARTS" software to display location of nearest transit fare media outlets.
d. Provide a central number for all transit information.
e. Expand "ARTS" to include schedules and fares of all local transit systems.
f. Offer "ARTS" terminals to local transit systems.
g. Display and distribute local transit schedules at Metrobus stops and Metrorail stations where transfers occur.
h. Expand WMATA's schedules-by-mail program to include local transit systems.
i. Consider joint public hearings for Metrobus and local bus service changes when they are made simultaneously.

NVTC is working with MWCOG and local staff to help upgrade ARTS (WMATA's automated information system for routes, schedules and fares) to include all local transit operators. Also, if MWCOG's Ride Finders network could be integrated with ARTS, persons requesting ridesharing information could be provided personalized transit information at the same time. MWCOG, using a grant from The Virginia Department of Rail and Public Transportation, is also seeking to establish kiosks at activity centers to utilize the ARTS and Ride Finders databases.

Given the recommendations for improved coordination reported above, and summarized in **Figure 17**, the agenda seems clear. The challenge is to achieve consensus on coordinated and integrated policies that will make transit more user friendly and encourage transit use.

To that end, NVTC's 10-point fare policy is provided as **Figure 18**. It calls for three principal determinants of fares, including the cost of providing service, the value of service to the user, and the value of service to the non-user/general public.

Figure 17

SUMMARY OF IMPORTANT COORDINATION ISSUES BY REGIONAL TRANSIT SYSTEM	
Metrorail	• Completion of 103-mile system on a "Fast Track". • Rehabilitation and replacement of rolling stock and other facilities. • Ridership declines partially due to the need for fare increases. • Integrated fares (i.e. unlimited ride regional bus/rail passes). • More parking at certain stations. • Fair and Affordable labor Settlement.
Metrobus	• Continued substitution of service by local governments without overall plan for remaining regional service. • Oldest average bus fleet in U.S. • Implement regional paratransit service plan to meet ADA. • Locating new bus garages (e.g. Arlington garage will be closed).
Virginia Railway Express	• Better communication with private railroads. • Develop and finance a capital improvement program. • Add off-peak and reverse flow service. • Expand parking and offer feeder service to stations. • Integrate fares structure, especially with WMATA.

Figure 18

NVTC FARE POLICY

-- May 3, 1984 --

1) Transit as a public service should be priced to encourage ridership while yielding revenue appropriate to the level of service provided.

2) The cost of transit services should be shared by the user (rider) and the general public. It is desirable to contain costs and improve productivity so that the system's fare-box recovery ratio will steadily improve, without increasing systemwide fares more rapidly than the rate of inflation.

3) A simple, easily understood fare structure is desirable.

4) Fare adjustments should coincide with Metro's annual budget process and preferably remain in effect longer than one year.

5) Three principal determinants should be used to establish fares:

   - First, the cost of providing the service;
   - Second, the value of the service to the user, as reflected in the willingness of the user to pay, considering competitive alternatives to transit; and
   - Third, the value of the service to the nonuser/general public, as reflected in the willingness of local jurisdictions to provide subsidies.

6) An equitable fare structure will assess riders equal charges for trips that have similar cost and value. Thus, fares should be similar for comparable service over equal distances.

7) Peak-period riders should pay higher fares than off-peak riders to offset higher costs associated with peak service.

8) Where discounts are provided, a specific market objective with identifiable benefits should be established, and if the discount reduces net revenues, the increased subsidy should be allocated to jurisdictions according to net benefits.

9) Transit passes should offer multiple-rider discounts, be tailored to specific market segments to encourage new riders (such as weekend group-ride passes), and be aggressively marketed to transit users and employees in order to increase net revenues and reduce subsidy requirements.

10) Public transit should be viewed as an integrated system, with fares and fare media designed to encourage interchanges of passengers between bus and rail and between Metro and locally sponsored transit systems.

Service Adjustments Based on Performance

Metrobus service is provided at the request of each local jurisdiction. Costs are assigned to the jurisdictions, and revenues credited, based on agreed upon allocation codes. In effect, WMATA serves as a contract operator, although the overhead costs for the system are shared by all jurisdictions.

In order to reduce costs, local governments in Northern Virginia have reduced Metrobus service, primarily on low productivity, intrajurisdictional routes, and substituted service by their own local bus systems. Each time this occurs, the Metrobus overhead costs assigned to other jurisdictions increase, since overhead does not fall in proportion to reduced bus miles and hours of service.

To determine the best balance between community needs for transit service, and ability of the jurisdictions to pay for Metrobus versus local bus service, staffs of WMATA and the jurisdictions use various performance measures. WMATA's Office of Planning publishes semi-annual reports containing so-called "peer group comparisons" (that is, how well WMATA performs in relation to other providers of bus service around the U.S.) and individual route comparisons.

As of December, 1991, WMATA carried an average of 3.25 passengers per platform mile and 32.58 passengers per platform hour using 1439 peak hour buses. By comparison, the Fairfax Connector carried 1.32 passengers per platform mile and 25.23 passengers per platform hour using 48 peak hour buses. Corresponding figures for DASH are 2.25, 27.77 and 17 buses, respectively, and for the City of Fairfax CUE, 1.85, 25.27 and 8 buses. The average for the 20 U.S. systems in WMATA's database are 3.01, 39.68 and 741 buses.

These figures illustrate that the local bus systems in Northern Virginia are specializing in low density routes, but performing well because of lower costs.

For individual routes, 16 factors are used in WMATA's performance ranking system, including:

1) Total platform miles
2) Total platform hours
3) Passengers
4) Costs
5) Trips
6) Cost per passenger
7) Passenger's per trip
8) Cost recovery ratio
9) Passengers per hour
10) Peak hour maximum load factor
11) Revenues
12) Passengers per mile
13) Passengers per vehicle
14) Revenue miles per platform mile
15) Revenue hours per platform hour
16) Maximum vehicles

Data are provided for each factor by line (combination of routes), time, jurisdiction and type of service (express, local, cross-town).

Of the 16 factors, staff primarily focus on three indicators (cost recovery ratio, passengers per platform hour, peak hour maximum load factor). Scores are produced for each line, and lines are ranked by score. These are compared to standards which establish benchmarks of acceptable performance.

Examples of Metrobus routes performing well in Northern Virginia during peak hours include:

- 16 Line on Columbia Pike, with a normalized cost recovery ratio that was over twice the average, and a normalized score of 7.28.

- 7 Line serving Lincolnia, with cost recovery slightly less than twice the average, and an overall normalized score of 6.39.

Lines receiving low scores that do not meet the acceptable standards are analyzed carefully by staff. Some low productivity lines may serve transit dependent groups and be retained for that reason; others may be candidates for special promotions. If low productivity persists, staff often recommend that the routes be adjusted to reduce costs and concentrate resources on the best performing segments.

Changes are recommended to the WMATA Board, which in turn approves public hearings, which are co-sponsored in Virginia by NVTC. After hearings and a staff analysis of the hearing record, the WMATA Board approves any resulting changes. Since local governments are responsible for the net losses, they also approve any changes to routes within their jurisdiction.

Examples of routes in Northern Virginia highlighted in this process as having low productivity during peak hours are:

- 5W Serving Dulles Corner: As a relatively new (September, 1988) counterflow route, ridership in building slowly as development in Reston and Dulles expands. Fairfax County has requested that the service be continued. Cost recovery is two-thirds of average, with an overall score of 1.96.

- 12C Centreville Express: Provides feeder service to Metrorail from a low density residential neighborhood. Fairfax County recommended service reductions. Cost recovery was about half of the average, with an overall score of 2.65.

Where low productivity bus lines cross local boundaries, the process requires negotiation among local staffs. Often a segment in one jurisdictions will perform well, and poorly in another. NVTC serves as a forum for discussing and resolving any differences.

Responding to Transportation Needs of Persons with Disabilities

Estimated nationwide costs to comply with the Americans with Disabilities Act (ADA) by the transit industry are $670 - $940 million annually, of which operations would cost $550 - $640 million.

WMATA Key Station Plan

WMATA has created a separate Department of the Americans with Disabilities Act, headed by an Assistant General Manager. A key station plan was prepared, public hearings were conducted, and the plan was submitted to the Federal Transit Administration.

Essential elements of the key station plan include:

- 43 of 74 Metrorail stations are designated key stations.
- Modifications include braille station entrance signs and other sign improvements as well as minor changes to the automatic fare vending and collection systems.
- Request for waiver of 24-inch tactile strips at platform edges in favor of the existing 18-inch granite edges (or alternately 24-inch granite edges). Tactile edging would cost $47.3 million and be a safety hazard.
- Electronic visual public address system.

Costs are about $1.8 million ($6.2 million if 24-inch granite platform edging is required). Most improvements would be made by July 26, 1993, but extensions are requested for braille signs (January, 1994), tactile platform edges (July, 1997), and electronic visual public address system (July, 1995).

ADA Paratransit Plan for the Washington Metropolitan Area

A regional task force worked with WMATA staff and consultants to create a plan for complying with the paratransit provisions of the Act. In July 1992, WMATA submitted the plan to FTA on behalf of its member jurisdictions. It describes transportation actions to be taken to comply with the paratransit provisions of ADA by WMATA and its jurisdictions.

There are 11 fixed-route transit systems in the area included in the plan, including six in Virginia. Representatives of these systems and their sponsoring local governments participate on the Regional Paratransit Coordinating Committee that prepared the plan.

Existing paratransit operations of WMATA's jurisdictions will be folded into the new regional system. Service that cannot be provided by these core systems (e.g. interjurisdictional trips) will be provided by a new regional system, to be competitively bid by WMATA to a private management firm. That firm, in turn, will contract with other private service providers.

In 1995 ADA-eligible population is estimated at 33-38,000 (including visitors), expected to make 1.5 million annual transit trips, of which 1.3 million will be via paratransit. Core paratransit providers currently provide about 366,000 annual trips to ADA-eligible persons, and social service agencies another 460,000, leaving about 500,000 trips for the new regional system.

WMATA will administer certification of eligibility. The service territory will include all points within three-quarter miles of a bus or rail line. Reservations must be made the day preceding travel. Fares will be distance based and be higher during peak hours, ranging from $2.00 for a trip up to three miles to $7.05 for trips over 15 miles in the peak.

Implementation will begin in 1994, but compliance will not be achieved until January, 1997. Total costs for start-up and operations are estimated to be $800,000 in FY 1993, $1.9 million in FY 1994, $3.8 million in FY 1995, $6.4 million in FY 1996, and $8.6 million in FY 1997. These estimates exclude the costs of trips now being provided by core carriers or social service agencies. WMATA joint development earnings will fund the FY 1993 costs. In subsequent years, costs will be shared by jurisdictions.

Adding the costs of service being performed by core providers and social service agencies, and other ADA improvements, total ADA compliance costs are about $20 million annually by 1997.

The plan contains detailed information about public transit fares, service territories, hours of service, transfer policy, and accessibility. It also describes existing public paratransit services and transportation services provided by social service agencies.

VRE Key Station Plan

To meet Section 242 (e)(2)(A)(i-iv) of the Americans with Disabilities Act of 1990 (42 USC 12101-12213) and its governing regulations (49 CFR Part 37 Section 37.51), VRE prepared and submitted to FTA on July 24, 1992 its Key Station Plan.

Commuter rail key stations must be made fully accessible by July 26, 1993. It is the goal of the two Commissions sponsoring VRE service (NVTC and PRTC) to have all 16 stations fully comply with ADA as soon as possible. By July of 1993, the plan identifies several actions that must be taken to bring at least the eight key stations into full compliance.

Among these actions are installation of a 24-inch tactile warning strip along all platforms, additional signs showing accessible routes through stations, adding a visual component to the station public address system, accessibility improvements to fare vending machines, providing posted system and fare information in accessible formats for visually impaired persons and installation of elevators at two stations. Costs at the eight key stations for these and related improvements total over $700,000. Funds will be sought by amending an existing federal grant.

The two Commissions are parties to a request to FTA by several commuter rail operators to provide better guidance on the 24-inch tactile platform edge requirement. The Commissions allege existing materials are unsatisfactory and pose a safety hazard.

IMPROVING COORDINATION OF LAND USE AND TRANSPORTATION

As described above, MWCOG's Task Force on Growth and Transportation provided in its June, 1991 report a clarion call to develop an all-inclusive process to join land use and transportation considerations into a successful strategy to beat traffic congestion:

> If current trends continue, widespread traffic congestion is inevitable in the future because new employment sites have been developed with an insufficient mix of housing options close by. The dispersion of employment and household growth will result in densities too low to support transit and other high occupancy vehicle modes. And as residential developments are built farther and farther from the center of the region, where they cannot be well served economically or environmentally, the cost of living will continue to rise. We will quickly find that the quality of life we expect from our economic prosperity will be harder and harder to achieve.[8]

While some would argue that transit, even rail transit, still can be cost-effective without massive densities, the Task Force's concern is well-founded. Local land use, both current patterns and plans for the future, must be considered when preparing transportation solutions for congestion.

NVTC has adopted a 10-point policy on preserving future rail and HOV options, which calls for major transportation decisions to include a benefit/cost consideration of rail and/or HOV access, including preserving access and preventing incompatible land uses.

The Northern Virginia Planning District Commission (NVPDC) sponsors annual Land Use and Transportation Seminars for local elected officials that are well attended and informative. That agency also has obtained federal grant funds to examine the before and after impacts of the VRE commuter rail system on local land use near stations.

Transportation Land Use Conference

On June 27, 1992, NVPDC sponsored an all-day conference on land use and transportation, focusing on the new ISTEA legislation. Participants included elected officials, local staff, academicians, consultants and citizens. After presentations by experts. participants moved into small groups to develop recommendations. At the concluding general session, these recommendations were compiled.

Participants generally believed that plans for concentrated, mixed use, urban development are the ideal, and recognized that most public transportation investments are designed to facilitate such patterns. Arlington County was cited as a good example, which

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[8] *Task Force Report at 12.*

has been achieved over an extended period of time by developing a system by which citizens are heavily involved from the start.

Among the consensus principles of the groups for long-term action were:

Use land use to link jobs and housing and reduce the need to travel;

- Expand regional corridor planning to encompass more connections between suburban activity centers;

- Use new technology (e.g. IVHS) and pricing incentives to help change behavior.

Short-term actions favored by the participants include:

- Better educate citizens and elected officials on interrelationships between land use, transportation and environmental quality;

- Support MWCOG's Partnership for Regional Excellence (the successor to the Task Force on Growth and Transportation) in its efforts to build regional consensus and encourage citizen participation and empowerment;

- Better coordinate existing local, state and regional institutions as they seek to implement ISTEA;

- Provide better data, a uniform vocabulary, and evaluations of experiences elsewhere.

NVPDC/VRE Land Use Study

NVPDC has received a $300,000 federal grant from FTA to conduct the first phase of a study on the impact of VRE on land use development patterns in Northern Virginia. The first phase will provide a baseline as of 1984, before VRE service was announced, to 1992, when VRE was inaugurated. The second phase is proposed for 1996, to examine changes that may occur as a result of VRE.

A task force of jurisdiction staff has been assembled to provide technical assistance for the study.

The extent to which VRE is influencing development has been the subject of widespread coverage in the media during the initial weeks of service. In Fredericksburg, for example, some citizens have expressed concern that affordable housing near the downtown VRE station will be "gentrified," and some City Council members fear downtown traffic congestion. Real estate agents, on the other hand, have welcomed the increased interest along both VRE corridors from homebuyers, and local officials are using the availability of commuter rail service to help lure new businesses.

Gasoline costs an average of $1.15 per gallon in the United States, $2 in Canada, $4.50 in England and $4 in Norway.[9] Consequently, proposals to increase gas taxes to deter driving, promote clean air and conserve energy, have some appeal. Other programs such as those described below seek to switch drivers and transit fleets to alternative fuels.

Alternative Fuels

According to the American Public Transit Association, no alternative fuel has gained a national consensus to replace diesel fuel in the transit industry. In 1994, stiff federal standards for compliance with the Clean Air Act's mandates will become effective, and 33 state legislatures are considering some form of alternative fuels requirements. The pending national energy policy bill contains further federal mandates, such as specific requirements for municipal fleets including transit, to require more alternative-fueled vehicles (e.g. 70 percent by 2000 in the Senate version).

APTA estimates that conversion to diesel particulate traps, required to meet Clean Air Act mandates, would cost the transit industry $100 million per year nationwide. Alternative fuel requirements could be even more costly. Conversion to methanol would add almost $2 billion in capital costs and $380 million in annual operating costs, compared to "clean diesel" programs. Compressed natural gas would add $2.5 billion to capital costs compared to clean diesel, and extra operating costs of $55 million annually.

The Southern California Rapid Transit District has purchased 220 methanol-fueled buses using Detroit Diesel Corp. engines to meet federal and California standards.[10] Pierce Transit in Tacoma, Washington, is converting its 150 buses to compressed natural gas and is ordering 90 new buses equipped with new Cummins Engine Company engines. Other transit properties are experimenting with ethanol and ethanol injection, liquified natural gas, liquid propane gas, and particulate traps for diesel fuel. The U.S. Department of Energy is developing an electric fuel cell system (a reformer will extract hydrogen to combine with water to produce electricity) to be tested on a SCRTD bus.

Virginia Energy Plan

In September, 1991, Governor Wilder issued an executive order, directing all state agencies to implement the August 1991 plan. All agencies are required to implement the designated strategies in the plan, including the production of agency energy management plans.

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[9] *Passenger Transport (6/15/92) at 4.*

[10] *"Exploring the Options for Alternative Fuels," Simpson Lawson, PTI Journal (May/June, 1992) at 2.*

Two major goals and seven objectives are listed, including increased energy efficiency and increased use of renewable and alternative energy sources. For each of the objectives as many as 20 strategies are given, each directed to an individual department. For example, VDOT is directed to promote non-motorized alternatives to the automobile, through development of urban bike paths and walkways. VDOT must also convert by June 30, 1994, 50 vehicles in the state's fleet to compressed natural gas. VDOT is also urged to promote expansion of public transit. Also, VDOT should implement incentives for HOV use, including reduced tolls, special HOV toll booths, and automatic toll collection procedures.

For 1992, the Virginia Department of Mines, Minerals and Energy made available grants of up to $100,000 for local governments to encourage reduced use of petroleum fuels in fleet vehicles and promote the use of alternative fuels.

HOV Facilities

According to the U.S. Census, the Washington Metropolitan Area has the highest average auto occupancy in the country. Northern Virginia's set of HOV facilities helps accomplish this. HOV facilities exist in the I-95/395 corridor, I-66, Dulles Toll Road (opened in September, 1992 but likely to be eliminated through pending Commonwealth Transportation Board action and/or federal legislation), and Washington Street and Route 1 in Alexandria. **Figure 19** shows these facilities, usage levels, and hours in which HOV restrictions apply.

The benefits of HOV lanes are many, as their ability to move people far exceeds conventional lanes. However, despite their success, the lanes are controversial, for many critics focus only on the number of vehicles. At times, HOV lanes may appear to be under utilized because few vehicles are present. But it is precisely the significant contrast in travel times between free-flowing HOV lanes and congested conventional lanes that provide the incentive for HOV users to form carpools and vanpools or ride public transit.

Data from VDOT show that the reversible lanes on I-395, for example, are highly productive, with well over 9,000 persons per lane per hour, over six persons per vehicle, and a violation rate of only six percent during the peak hour. The conventional lanes carry about 2,500 persons per hour. Even the diamond lanes south of Springfield on I-95 carry almost 6,900 persons per lane in the peak hour with a violation rate of 24 percent. The conventional lanes there carry 2,400 persons per lane per peak hour.

Efforts to improve HOV facilities in Northern Virginia include ongoing projects on I-95 to extend permanent (separated) HOV lanes 19 miles south to Quantico by 1996. This HOV extension will incorporate a Traffic Management System which consists of a series of cameras, computerized signs, entrance ramp metering and closed circuit television. Temporary diamond (and ultimately permanent) HOV lanes are being constructed on I-66 west of the Beltway to Route 50 by the end of 1992.

The CTB has also approved a proposal to provide HOV lanes on the Beltway, perhaps initially between I-66 and I-395. TPB has withheld its approval pending further studies. A 1989 study by JHK and Associates for VDOT called for adding a lane in each direction on the Beltway (increasing total lanes to 10) between Route 123 (Tysons) and I-95 (Springfield), by reconstructing the left shoulder and reducing lane widths to 11 feet. For safety reasons, VDOT is instead proposing that a new outside fifth lane and shoulder be added in each direction. The inside lane in each direction would be used by HOV's during peak periods. Connections to I-66, I-395/I-95 and Dulles Toll Road HOV facilities would be included, providing an interconnected system.

"Instant carpools" provide an informal mechanism to take advantage of HOV facilities. As examples, commuters park in the Springfield area and the Rolling Valley

HIGH OCCUPANCY VEHICLE (HOV) HOURS AND USE (1990 A.M. PEAK PERIOD)

HOV FACILITY	PERSONS	DIRECTION	RESTRICTED HOURS	VEHICLES PER HOUR	PEOPLE PER HOUR
I-95: (inside diamond lanes)	HOV-3	Northbound Southbound	6:00 A.M. - 9:00 A.M. 3:30 P.M. - 6:00 P.M.	3,840	14,795
I-395: (reversible lanes)	HOV-3	Northbound Southbound	6:00 A.M. - 9:00 A.M. 3:30 P.M. - 6:00 P.M.	6,664	38,926
I-66: (inside the beltway)	HOV-3	Northbound Southbound	6:30 A.M. - 9:00 A.M. 4:00 P.M. - 6:30 P.M.	1,678	5,390
ALEXANDRIA:					
Washington Street	HOV-2 HOV-2	Northbound Southbound	7:00 A.M. - 9:00 A.M. 4:00 P.M. - 6:00 P.M.	141 223	508 673
Patrick Street-Rte. 1	HOV-2 HOV-2	Northbound Eastbound	6:00 A.M. - 9:00 A.M. 3:00 P.M. - 7:00 P.M.	499	1,038

Sources: Virginia Department of Transportation
Alexandria Department of Transportation & Environmental Services

Figure 19

Park-and-Ride lot (both in Fairfax County) and form lines with drivers pulling up and announcing their destinations. The commuters at the head of the line jump in when theylocate the proper carpool. Central to the success of "instant carpooling" are these lots and quick access to the Shirley Highway HOV lanes. Also, good transit service is needed since many instant carpoolers use transit for their return trips. A total of about 2.600 daily commuters use this informal network of lots and instant carpools.

According to MWCOG, it takes 300 square-feet to park one car. In total, 360 million square-feet are required for parking in the Washington Metropolitan Area, or 8,300 acres.

Employers provide about $1 million daily in free parking. Over a year, the $240 million in free benefits approximates the net public operating subsidy to WMATA. Structured parking is expensive, even for transit access. Garages constructed by WMATA cost about $12-14,000 per space, although Fairfax County added 2,000 spaces at its Huntington and Vienna parking structures for about $5,500 to $6,000 per space.

MWCOG Commuter Parking Cost Study

In April, 1991, MWCOG completed a study on this subject which found that only in downtown areas of the District of Columbia, Arlington, Alexandria and the Maryland suburbs are parking charges pervasive. These same areas have high densities (of over 10,000 employees per square mile) and achieve higher transit shares (over 10 percent).

Tysons Corner is an exception, with densities of 20,000 employees per square mile, but mostly free parking and little transit use.

In the downtown business area, about 118,000 commuters are given free parking by employers, about 38 percent of all cars parked. About a quarter of cars parked free (41,000) are at federal facilities.

The report gives sampled parking prices by area. Based on the monthly rates, downtown commuters paid $5.30 to $7.50 daily.

A July 6, 1992 article in the Washington Post (at page A-1) provided an update. Average parking costs actually dropped slightly over the last year.

Commuter Park-and-Ride Lots in Northern Virginia

As shown in **Appendix G**, over 14,000 spaces are available at park-and-ride lots throughout Northern Virginia, many of which are served by scheduled public transit. For example, over 9,000 spaces are available at the six Northern Virginia Metrorail stations listed in **Figure 20**.

Figure 20

METRORAIL PARKING IN NORTHERN VIRGINIA		
STATION	**LOCATION**	**SPACES**
1. Huntington	Huntington Ave. at Fenwick Dr. Kings Highway north of Fort Dr.	3,095
2. Vienna	Median of I-66 at Nutley Rd.	3,567
3. Dunn Loring	Median of I-66 at Gallows Rd.	1,203
4. West Falls Church	Median of I-66 at Leesburg Pike	1,034
5. East Falls Church	Median of I-66 at N. Sycamore Rd.	391
6. Van Dorn	Eisenhower Avenue in Alexandria	350

Transportation Demand Management/Transportation Systems Management/Transportation Control Measures

Transportation Systems Management/Transportation Demand Management

TSM and TDM are non-capital intensive, flexible and often low-cost techniques to mitigate traffic congestion and improve air quality, jointly referred to as Transportation Control Measures (TCM). **Among the more popular techniques are:**

1. **Trip reduction ordinances (as in Alexandria)**

   a. Special use permits.
   b. Reduction of required parking or institution of parking maximums.

   c. Mandated trip reduction programs operated for the life of the project or a specific period of time. Program components include such measures as a transportation coordinator to implement program, on-site transportation information center, on-site sale of subsidized transit fare media, free rideshare matching, free parking for those who rideshare, a guaranteed ride home program, bicycle and pedestrian incentives, staggered work hours and flextime incentives, and parking managment program favoring HOVs and discouraging SOVs.

   d. A transportation account to fund program activities based on the occupied square feet or dwelling units in a project.

2. **Driving restrictions**

   a. Voluntary no-drive days.
   b. Route diversion (e.g. residential traffic controls).
   c. Controlled truck movements.
   d. Improved enforcement (e.g. HOV).

3. **Employer actions**

   a. Financial incentives (e.g. charge for drive-alone parking, transit subsidy).
   b. On-site transportation coordinator.
   c. Shuttles among company facilities.
   d. Ridematching services.
   e. Priority HOV parking.
   f. Telecommunications/flex-time/work at home/staggered hours.

4. **Transit improvements**

   a. Operations and management improvements (e.g. express buses, dedicated transit lanes, bus traffic signal preemption, coordinated schedules, more circumferential routes, more reliable service).
   b. Fares/marketing improvements (e.g. fare incentives, integrated fares,easier transfers).

5. **Parking management**

   a. Off-street restrictions and fees and HOV incentives.
   b. Controlled supply of new SOV spaces.

6. **Park and ride lots**

   a. More parking at strategic locations.
   b. HOV preference.
   c. Coordinated transit.shuttle services.

7. **Road pricing and taxes/fees**

   a. Tolls and HOV incentives.
   b. Use automatic vehicle identification technologies.
   c. Increased motor fuels taxes.

8. **Traffic engineering**

   a. More HOV lanes.
   b. New lanes on shoulders and reduced lane widths.
   c. Freeway incident management systems.
   d. Better signs.
   e. Ramp metering.
   f. Freeway surveillance and control.
   g. Computerized signalization.
   h. One-way streets, turn lanes.
   i. IVHS (e.g. traveler information systems).

9. **HOV promotion (e.g. regional database)**

While techniques such as these are widely believed to offer hope to fight congestion, many are not glamorous, and require a lot of effort to implement, since careful coordination among jurisdictions and employers is required. Virginia's Transportation Efficiency Improvement Fund (see below) was created to encourage such actions, and TCC's Citizens Advisory Committee has been very active in encouraging positive consideration of these techniques.

TCM

The amendments to the 1990 Clean Air Act emphasize TCM as elements of state implementation plans and as contingency measures. Sixteen specific TCM's have been set out in Section 108(f) of the Act, as shown in **Figure 21**. State Implementation Plans (SIP's) must include enforceable control measures in severe non-attainment ozone areas. SIP's must also demonstrate a 15 percent reduction in volatile organic compound emissions by November 15, 1996. They must also utilize TCM's to offset growth in emissions due to growth in vehicle miles traveled and vehicle trips (since cold starts and evaporative emissions are significant pollution causes.

ISTEA adds funding for Section 108(f) TCM's and other projects contained in SIP's via the new Congestion Mitigation and Air Quality Program. ISTEA also requires all urbanized areas of over 200,000 be designated as Transportation Management Areas, for which a congestion management system must be provided, that uses travel demand reduction and operational management strategies. Long Range Transportation Plans in these areas must be coordinated with SIP's. ISTEA also authorizes a $25 million annual Congestion Pricing Pilot Program for which Northern Virginia is eligible to apply.

The Environmental Protection Agency (EPA) cautions that regions should plan integrated TCM programs rather than provide only haphazard collections of individual measures. To this end, the agency emphasizes the use of TMA's, pricing incentives, public education, and intergovernmental cooperation. Also important is a built-in monitoring mechanism to allow "learning by doing."

Charging for parking at work could have a significant effect on promoting HOV use, but has proven to be politically unpopular (e.g. President Carter's proposal to change federal employees for parking). One measure that might reduce the sting of new parking charges is a proposal to provide travel vouchers to employees equal to (and financed primarily by) the new parking charges. The net result would be incentives to carpool and use transit and disincentives to drive alone.

MWCOG staff evaluated the effects using a TDM model, assuming three levels of vouchers and corresponding areawide parking charges ($20, $40 and $60 monthly). From the base to the $60 level, single-occupant travel would decrease from 63.1 percent of work trips to 56.2 percent, and carpools would grow from 18.6 percent to 20.5 percent. Overall, home-based work vehicle trips would decline by 6.7 percent.

Among other demonstration ideas for using prices to help relieve congestion:

- Areawide parking charges;
- Sale of excess HOV slots to SOV's;
- Variable pricing of existing toll lanes;
- Finance new corridor development with tolls.

Figure 21

TRANSPORTATION CONTROL MEASURES IN SECTION 108(f) OF THE CLEAN AIR ACT

1) Trip Reduction Ordinances: Performance goals or trip limits from employment sites.

2) Employer-Based Transportation Management Programs: Subsidized shuttles, guaranteed rides home, transit passes.

3) Work Schedule Changes: Encourage off-peak commuting, telecommuting.

4) Area-Wide Rideshare Incentives: TMA's, brokerages, financial incentives.

5) Improved Public Transit: Better transfers, schedule coordination, reduced-fare passes.

6) High Occupancy Vehicle Lanes: As of 1989 there were 38 such facilities in 18 U.S. metropolitan areas.

7) Traffic Flow Improvements: Signalization, turn restrictions, enforcement, ramp metering.

8) Parking Management: Reduced fees for HOV's, higher long-term rates, zoning restrictions on new developments.

9) Park and Ride/Fringe Parking: New lots at suburban intersections and activity centers served by public transit.

10) Bicycle and Pedestrian Measures: Bike paths, secure storage, signalization, pavement markings, site design.

11) Special Events: Remote parking, signs, shuttles, enforcement.

12) Vehicle Use Limitations/Restrictions: Route diversion, auto-free zones, no-drive days, truck controls.

13) Accelerated Retirement of Vehicles: Purchase older cars with higher emission rates. 8,300 pre-1971 cars were purchased in Los Angeles in 1990 for $700 each.

14) Activity Centers: Transit and pedestrian-friendly design.

15) Extended Vehicle Idling: Control drive-through facilities. Restrict diesel vehicle (e.g. buses) idling.

16) Extensive Low Temperature Cold Starts: Block heaters and restrictions on auto use help reduce CO emissions at O-20 degrees F.

While many TCM's are focused on altering commuting patterns, most trips in the Washington Metropolitan Area are not related to work. MWCOG's 1987-88 home interview survey revealed that 51.4 percent of the 9.7 million daily trips were for non-work purposes. Remaining trips included 18.9 percent to work, 21.8 percent from work, and 7.8 percent made during the workday related to work.

Thus, TCM's should also seek to reduce non-work trips. Still other measures would focus on meeting Clean Air Act mandates by reducing the emissions from automobiles. During the 1992 Virginia General Assembly session proposals to implement a so-called Low Emission Vehicle Program were considered but not enacted. The LEV program would apply California's strict emission standards is Virginia, and require that vehicles be certified to comply. Virginia officials estimate costs of complying would add $70 - $170 to the price of each car, as the standards are phased in. Alternative fuels are not necessary to achieve the benefits of the LEV program, and no electric vehicles would be required (as they are in California). Benefits are estimated to be 6.8 tons per day of reduced hydro carbons and nitrogen oxides, respectively, beyond the reductions available from meeting federal emission standards. By 2015, the benefits would grow to 9.3 tons per day. By contrast, all currently regulated industrial sources in Northern Virginia yield only 7.7 tons per day of hydrocarbon emissions.

State officials estimate the cost per ton of hydrocarbons and nitrogen oxides reduced by the LEV program to be about $8,500 to $12,000. Another method is Stage II vapor recovery at gas stations, new being implemented, at about $3,000 per ton. Other ideas being explored are repurchase of older, more polluting cars or allowing property or sales tax reductions for new cars.

Transportation Efficiency Improvement Fund (TEIF)

As explained in the preceding sections, many good ideas exist for employing relatively low cost means to reduce congestion and improve air quality. Virginia's 1992 General Assembly approved a $1 million state program (using ISTEA funds, specifically from the Congestion Mitigation and Air Quality appropriations) to reduce the demand for new facilities to serve single-occupant vehicles. The program will fund local demonstrations of innovative means to reduce traffic congestion in non-attainment areas (Richmond, Tidewater and Northern Virginia do not comply with federal air quality standards).

Grant applications were due by June 30, 1992, and awards are expected by the CTB in early November of this year. In future years, applications will be due by February 15th.

The following grants were approved by the CTB:

1) Arlington County: Computerized Marketing/Service Development Plan ($111,484);

2) MWCOG: Instant Matching Centers ($84,650) and Upgrade Software ($40,000);

3) Fairfax County: TDM Test Program ($301,124);

4) Alexandria: Alternative Transportation Program ($149,500) and with TEMPO, Market Research and Training ($100,000);

5) VDOT: Bike Lockers at Reston Park-and-Ride ($36,366);

6) City of Fairfax: Transportation Management Seminar for Businesses in Central Fairfax ($14,600) and Bike Lockers/Racks at City Parking Lots ($19,775).

A requirement of the TEIF program is that an endorsement be received from the appropriate transportation district commission (NVTC for the above projects). NVTC endorsed the first five in July (the sixth was submitted later), but did not evaluate the proposals on their relative merits, given a lack of time before the deadline. For the next cycle of applications due in February, 1993, the Commission expressed its desire to perform such an evaluation to assist the Department of Rail and Public Transportation in its selection of projects for this region.

As stated above, NVTC is working closely with MWCOG and local transit operators to implement the instant carpool matching/transit information program, which will feature kiosks at major activity centers.

Employer Transit Subsidy

A legislative agenda item that NVTC has pursued aggressively is to increase the level of federal tax-free transit benefits that can be provided by employers to their employees. The current limit is $21 monthly for transit, while parking subsidies remain totally untaxed.

WMATA has pushed into the government and private sectors to offer its fare media to employers wishing to provide this benefit. For example, as of July, 1992 about 14,000 of 365,000 federal employees in the area were participating. Problems delaying implementation include the Department of Defense's concern that only civilian employees are eligible, many agencies have no funds to provide the subsidies, and some agencies have expressed confusion about whether cash rebates can be given for transit fare media purchased elsewhere by employees.

The U.S. House of Representatives has passed a provision (as part of HR 776, Comprehensive National Energy Policy Act) increasing the monthly tax-free transit benefit to $60, and taxing parking benefits of greater than $160 monthly. The Senate approved a similar measure in late August, 1992.

MWCOG Analysis of Reverse Commuting Patterns

The July, 1990 report by MWCOG explored existing patterns of cross-region movements to reach jobs, focusing on so-called reverse commuting (counter to peak flows).

Entry-level job concentrations were identified in Fairfax County at Tysons Corner; I-95 corridor; Route 28/50 from City of Fairfax/Fair Oaks Mall to Dulles Corridor; and Merrifield. In the County, these entry-level jobs were expected to grow by almost a third from 290,000 in 1990 to 311,000 in 2010. Most of the persons now traveling to work in those locations live in Alexandria and Arlington.

The difference between time and cost of travel by transit versus automobile was found to be higher for reverse commuting to Fairfax County than for similar trips to employment sites in suburban Maryland. Consequently, 92 percent of reverse commuters to Fairfax County use single-occupant automobiles.

Among the suggestions to provide better transit access are:

- Concentrate jobs;
- Lower reverse flow Metrorail and bus fares or provide employer transit subsidies;
- Coordinate local bus schedules with Metrorail to facilitate multiple transfers;
- Add employer shuttles to Metrorail.

MWCOG Circumferential Transit Study

MWCOG staff has conducted a study of transit alternatives that would seek to implement some of the recommendations that grew out of the Regional Conference on Growth and Transportation (November 15, 1989) and the report of the Task Force on Growth and Transportation (June, 1991).

Specifically, the feasibility of express line-haul buses with separate feeder services was explored, together with through routing and timed transfers as ways to provide better transit connections to suburban activity centers.

The report is complete in draft as of August, 1992. It concludes that forecast patterns of (low-density) land use do not support development of circumferential rail transit along the Beltway or further out. Sufficient demand does exist for staged development of HOV links along the Beltway and other radial facilities, and consideration should be given to the feasibility of time-transfer transit systems and the potential for ramp metering and congestion pricing to give priority to HOV and transit vehicles.

Wilson Bridge Beltway Transit Study

The 1992 General Assembly (HB 30, Item 570) directed VDOT to perform a study of the demand for, and the capital and operational requirements of, enhanced public bus service along the Beltway Corridor. Among the items to be studied are:

1) Transit service linking Virginia and Prince George's County, Maryland via the Wilson Bridge;

2) A network of timed transfer service including Metrorail and VRE stations, as well as major residential and employment centers;

3) A plan for phased implementation, including a one-year pilot project.

The report is due by November 1, 1992 to the Governor and General Assembly.

VDOT has assembled a team of jurisdictional representatives and begun work. The group is first assembling data, including ridership on the existing Metrobus Route P-13 that crosses the Wilson Bridge, and origin/destination information from several sources (1990 WMATA Metrorail Survey, 1988 JHK Beltway O/D Study, 1992 VDOT Wilson Bridge O/D Survey, and 1990 Census Journey to Work Survey). The group intends to concentrate first on designing a demonstration linking one or more existing park-and-ride lots in Prince George's County with one or more destinations in Northern Virginia (e.g. Huntington and/or King Street Metrorail).

Bicycle Element of MWCOG Long-Range Transportation Plan

The Bicycle Technical Committee of TPB prepares the Bicycle Element, and endorses a goal of a five percent mode share for bicycles by the year 2000. A set of policies is recommended and a list of capital improvements proposed.

The recommended policies include:

- Incorporate bicycle elements in local plans;
- Use uniform design standards;
- Establish a comprehensive route network;
- Enhance support facilities (e.g. lockers, showers).

The Element lists specific projects that would help accomplish each policy objective. Total costs for Virginia exceed $15 million.

Northern Virginia, with an area of 1,336 square miles, has 439 miles of on- and off-street bikeways built and another 1,394 miles planned. The built total includes the Washington and Old Dominion trail, which is 45-miles long and carries over a million riders each year, primarily for recreational purposes.

Currently about 1,000 people a day commute by bike to Metrorail stations regionwide, and 3,600 persons have permits to carry bicycles on-board during evenings and weekends.

An appendix to the Bicycle Element lists staff contacts in each local jurisdiction, at federal agencies, and among citizens groups.

Transportation Management Associations

Transportation Management Associations (TMA's) form an institutional mechanism that can be used to coordinate the needs of activity centers for ridesharing and transit services. The Reston Timed Transfer Center is a prime example of how TMA's can work with local governments and regional agencies. Staff from Fairfax County, NVTC and WMATA worked with Reston's TMA (Reston Town Center Joint Committee) to realign bus routes to provide the area with better service. In addition, NVTC worked with the TMA for the Ballston area (Ballston Partnership's Ballston Area Transportation Association) in opening the Ballston Transit Store. Office space and other grants were provided to help make the store a success.

TMA's usually have full- (or part-) time executive directors or managers who serve at the pleasure of a Board of Directors consisting 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.

The Dulles Area Transportation Association has applied for a grant from the FTA/FHWA Operational Action Program for Improving Urban Mobility. It seeks to deploy an Advanced Traveler Information System in the Dulles area, including the application of Intelligent Vehicle Highway Systems (IVHS) technologies. The project will combine travel demand management (TDM), freeway incident management, and transit service improvements. These include "guaranteed ride home" programs to provide free trips by taxi for transit users or ridesharers who must travel home during non-peak hours. **Other TDM actions to be evaluated by DATA are:**

- Better transit service.
- Promotion of ridesharing.
- Customized commute service such as subscription buses and vans.
- Incentives for using commuting alternatives (e.g. preferential HOV parking, on-site services such as dry cleaning).
- Flexible work schedules or telecommuting (work at home) to reduce peak travel.
- Park-and-ride network.
- Transit sensitive site design.

The grant would seek to demonstrate "real time" carpool matching to provide current lists of interested commuters for a greater likelihood of successful matches. This may be done by television or video/audio-tex systems.

For freeway incident management, roadside transmitters or coaxial cables could broadcast current information to cars and homes, and roadside variable message signs could also be used. For the future, in-vehicle navigation systems might also guide drivers away from incidents. For Metrorail and Metrobus, electronic displays at stops could indicate the arrival time of the next vehicle. Because many users of the Dulles Toll Road will choose to use transponders for the "Fastoll" system (automatic debiting), these devices may also be used to provide data on travel times by various routes.

Entrepreneurial Services Program

FTA manages this discretionary grant program established in 1987 to encourage private initiatives to develop and operate urban and rural transportation services. Examples of such services include express commuter, local circulation, and reverse commute. Up to two years of assistance is available, including funds for capital purchases or leases or for planning.

A 20 percent non-federal share is encouraged, with grants typically from $25,000 to $75,000 for planning and from $25,000 to $250,000 for capital, based on annual depreciation charges.

Projects must have the potential to be self-sustaining after two years. A local public sponsor (such as NVTC) must be identified. This program offers financial incentives for the private sector to approach public agencies with ideas for new services. Together, financial and service plans can be developed and implemented, supported with federal grant funds until the projects become self-sustaining. Apparently, no such grants have been sought from Northern Virginia to date.

Investments in Systems Improvements

As part of the region's efforts to manage congestion, several plans and studies are underway that would require significant investments.

Dulles Corridor Plan

A Dulles Corridor Plan has been produced by a task force of local, regional and state staff headed by the Northern Virginia District Office of VDOT. The Plan, currently in final draft dated January, 1992, has been presented in public hearings.

It was prepared pursuant to a September, 1990 resolution by the Commonwealth Transportation Board, in which CTB asked for "a comprehensive, phased, multi-modal transportation program, including rail service as its transportation objective for the Dulles Corridor." Initially not less than 15 percent of surplus toll revenues from the Dulles Toll Road would be set aside for improvements identified in the Plan, growing to not less than 85 percent upon implementation of rail service.

The Plan developed by staff identifies $952 million of capital improvements (in 1991 dollars) through 2014, of which $766 million is attributable to transit. Transit operating costs are $6 million annually for express bus service starting in 1995 and $33 million annually for feeder bus and rail, starting in 2005. Surplus toll revenues over the next 18 years would yield only $186 million. Accordingly, over $700 million must be provided from other sources, excluding operating costs.

Possible sources to close the funding gap include higher tolls, special taxation districts, issuing debt, and contributions from The Metropolitan Washington Airports Authority (MWAA).

When presented with this staff report, the CTB responded with a resolution dated February 20, 1992 that stated, in strong terms, the desire to move quickly to establish rail service in the corridor at the earliest practicable date. CTB endorsed the program of improvements contained in the staff report and asked that "a fair and equitable financial plan for rail transit in the Corridor" be developed. A companion resolution urged VDOT staff to secure the $6 million authorized for alternatives analysis and preliminary engineering of rail transit in the Corridor as part of ISTEA.

Congress has not yet appropriated the $6 million, but the CTB responded with another resolution in August, 1992, calling for staff of the new Department of Rail and Public Transportation to identify methods to move the project forward quickly, including seeking a federal "letter of no prejudice" to permit state funds to be used with the chance of future federal reimbursal. The CTB again requested a financial plan.

Dulles Toll Road Extension

The Toll Road Corporation of Virginia has been given the final go-ahead by the State Corporation Commission for the Nation's longest privately operated toll road. The 14-mile roadway, costing at least $180 million, will stretch from the western terminus of the Dulles Toll Road at Washington Dulles International Airport to Leesburg. The extended Toll Road will help relieve the congested Route 7 corridor. Although it is not an HOV facility, the Northern Virginia Transportation Plan designates its route as a possible HOV and/or rail corridor, extending to Leesburg.

Currently the plan is delayed due to financing difficulties. When a financial plan is approved by lending institutions, assembly of land will begin.

Although the Toll Road is not slated to be completed for several years, the State Corporation Commission has approved the initial toll charges for automobiles. These initial fees are expected to be $1.75 at the time the road is completed, and increased gradually to $2.00. The Commonwealth presently charges 85-cents to travel the current 15-mile Toll Road from the Capital Beltway to the Airport. This stretch of road provides the State with excess revenues, some of which will be used to fund public transit projects in the Dulles Corridor. It is expected to cost a person driving by car from Leesburg to the Beltway by way of the Toll Road extended and existing Toll Road $2.40 on the opening day of the Extension.

Many areas of the United States are watching the developments of the first private toll road in Virginia since 1816 with keen interest. Since much of the right-of-way is donated by developers who feel the cost of the land they give to the Toll Road Corporation will be more than offset by rising land values on their remaining properties, the actual cost of the project should be less than if the Commonwealth had to purchase the right-of-way. Further, it seems apparent that the Commonwealth does not have sufficient funds to build the roadway at this time without jeopardizing other needed projects. If this project goes ahead as planned, there are several other proposals within the Commonwealth that may invite similar private sector participation.

Traffic Plan for Proposed Stadium in Potomac Yards

A consultant's traffic plan for the proposed Redskins football stadium was released at a public hearing on August 4, 1992. It calls for a new transportation center to be built about 1,500 feet south of the stadium to include a new Metrorail station for the Blue and Yellow Lines and facilities for commuter rail, Amtrak, and buses. One thousand spaces would be available for weekday commuter parking.

Initially, 22,750 parking spaces would be provided for the opening in 1994 of the 76,800 seat stadium. The Metrorail station would open in 1995, and require one million dollars annually to operate, according to the study. Virginia Governor L. Douglas Wilder

has promised $130 million for improvements, to be financed by bonds, if approved by the General Assembly.

Forecasts call for 85 percent of fans initially to arrive by automobile, dropping to 47 percent by 1997. With the construction of a tunnel under Route 1 at South Glebe Road, widening of Route 1 from Glebe Road northbound, and a new six-lane road called Potomac Avenue (parallel to Route 1), as well as applying reversible lanes and other neighborhood traffic restrictions, the consultants allege that the stadium could empty in less than two hours without disrupting neighborhoods or access to National Airport. Parking spaces would be gradually reduced from 22,750 to 13,000 by 2009. By 2009, 52 percent of fans would arrive by mass transit.

A special session of the General Assembly may be convened in October, 1992 to consider these matters.

Woodrow Wilson Bridge Improvement Study

Traffic on the congested bridge is projected to grow to 260,000 vehicles per day in 2010, from 160,000 in 1989 (and a design capacity of 75,000).

In September 1991, the agencies sponsoring this ongoing study of the feasibility of improving the bridge conducted public hearings. The sponsoring agencies include USDOT/FHWA, VDOT, MDOT, and D.C. DPW. Alternatives included expanding the number of lanes and using several possible alignments. Costs ranged from $810 million to $1.4 billion.

The hearings generated considerable citizen interest. In particular, the City of Alexandria has expressed its deep concerns with the underlying study methods that produced the draft environmental impact study reviewed at the hearing. It is the City's position that improvements should be analyzed on a systems basis, and that examining the bridge improvements by themselves provided too narrow a view.

NVTC, in October 1992, provided comments on the draft EIS. The Commission noted:

1) Any improvements to the federal facility should be financed by the federal government.

2) If federal appropriations are not forthcoming, any improvements could be financed with toll revenues and this alternative should be analyzed in the final EIS.

3) Transit improvements should be explored as part of any study improvements. The draft EIS did not adequately do so. Although assuming 11,000 daily transit trips across the bridge, to be provided by increased bus service through the region, a light rail line across the river connecting Metrorail stations at Branch Avenue and

Eisenhower Avenue, and two dedicated HOV lanes (in all "build" alternatives), no operating or financing details for these associated transit improvements were provided.

Currently FHWA's Administrator has formed a Woodrow Wilson Bridge Study Coordination Committee, consisting of three elected officials (including Alexandria's Mayor), four public works officials, and a representative of the National Park Service.

JHK/MWAA Dulles Airport Ground Access Study

The consulting firm of JHK and Associates has undertaken a study for MWAA that seeks to forecast and evaluate entry to Dulles Airport by various modes, links to nearby employment sites, as well as needs for airport circulation and parking. The planning horizon is the year 2010, with assumed passenger levels of 24 million annually, and alternative futures of 45 and 55 million annually (versus about 10 million today).

This study is part of a comprehensive Ground Transportation Plan for Dulles Airport, that MWAA intends to maintain and expand.

Coordination, presentation and communication are noted as "extremely important in this project."

PRTC Six-Year Regional Transportation Plan (1992-98)

This document, last revised in January, 1992 provides "an iterative program for strategic planning and management." It identifies the mission and goals of PRTC, which include efforts to provide a balanced transportation system that is coordinated among member jurisdictions, and that addresses needs for accessibility, reduced congestion, improved environment and integrated land use.

The document also provides a six-year "program of projects," with updates to be made annually. In addition, it matches PRTC's workplan with that Commission's objectives and provides public information. In many respects, it fulfills the same functions as NVTC's Transportation Service Coordination Plan.

The six-year program of projects lists PRTC staff activities according to budgeted employee-hours, rising from over 31,000 annual hours (17.7 full-time equivalent employees) in FY 1992 to 33,000 hours in FY 1998 (18.8 FTE's). Also, agencies with which PRTC should coordinate each of the activities are identified. Projected annual PRTC staff costs and revenues are also shown for each member jurisdiction.

Dulles Area Traveler Information System (DATIS)

This is a joint public-private venture to relieve traffic congestion in the Dulles Airport area. Advanced methods will be used to collect and display traffic and transit information on a "real time" basis. Several organizations are cooperating, including FHWA, VDOT, DATA, Metro Traffic Control, Fairfax County Police, and others. An advisory committee meets regularly.

The demonstration will use several means of data transmission, including radio via roadside transmitters, telephones to personal computers, cable television to homes and offices, and electronic massage signs. Using the existing private facilities of Metro Traffic Control, DATIS will expand information resources to include WMATA, MWAA, VRE and others. Specifically, DATIS will seek connections with VDOT's Highway Advisory Broadcast System and its Airborne Video Monitoring, with Fairfax County's Computerized Signal Control and Geographic Information System (GIS)/Automatic Vehicle Locator System (AVL) projects, and perhaps with VRE's TRACS system.

The first phase will be the design of the operational field test and an evaluation of the institutional implications of widespread deployment of the new information system. Prospects for financing the system via subscription fees will also be explored. The federal grant application is to be submitted in August, 1992.

GMU Evaluation Project for IVHS

GMU's Public Policy Institute has created a Chair in Local Government with an ambitious research program, including:

- State of the region report, including transportation;
- Regional Economic Indicators project;
- Economic model of Northern Virginia for policy analyses;
- Intelligent Vehicle Highway Systems.

GMU is developing a federal grant proposal to model and evaluate TDM applications in this region, including IVHS. An advisory committee of agency staff has been formed.

In a related effort by this group, a conference for local elected officials on IVHS, and specifically applications of that technology to transit, is being planned for December, 1992.

Federal grant programs also encourage the demonstration of new technologies. For example, the joint FTA/FHWA Operational Action Program for Suburban Mobility offers

to public agencies in urban areas over 200,000 (when endorsed by the local MPO) a portion of the $1-2 million reserved each year to support TDM, freeway incident management, transit service improvements (real-time monitors, videotex, shuttle services, freeway transit stops, discount fare systems), and IVHS applied intermodally (especially traveler information systems). Fifty percent non-federal funding is required.

Advanced Public Transportation Systems Program (APTS)

FTA has established the APTS program as a component of the USDOT initiative on IVHS. Research is being supported on innovative applications of advanced navigation, information, and communications technologies that benefit public transit. This includes in-service operational tests.

Four focus areas have been identified, including market development, customer interface, vehicle operations and communications, and HOV preference and verification.

A related concept is that of a "Mobility Manager," in which a clearinghouse is provided to match users and providers of multi-modal services and manage the flow of funds from transactions. Among the applications are "smart card" technologies that allow integrated fare collection and billing from multi-modal trips, perhaps including social service agencies or employer-sponsored subsidy programs. The International Taxicab Association undertook an FTA-funded effort to investigate and initiate mobility-manager programs.

High Speed Rail/Maglev

To compete for federal funds available as part of the "National Maglev Initiative," a local group (known as Magtrans) was coordinated by a McLean attorney. The group includes representatives of "high-tech" firms, Center for Innovative Technology, GMU and others. The group was not successful in winning an FRA grant to perform research, but many participants continue to work to include the Washington D.C.-Richmond Corridor in plans for high-speed rail demonstrations.

NVTC passed a resolution in March, 1991 "expressing strong interest in a federally funded study of high technology, high speed rail connections," and obtained a modest state grant to help support the work of the local group. The Commission's interest is in "integrating and coordinating local and regional public transit systems with such a high-speed rail system."

High-speed rail initiatives are progressing across the United States, including Texas (Dallas-Ft. Worth-Houston-San Antonio-Austin using French TGV technology, with construction to start in 1995); Florida (13-mile demonstration in Orlando using German Transrapid Maglev technology, with construction to start in 1993); Pittsburgh (19-mile Transrapid line to the airport being studied with $1.5 million in federal and local funds); and Ohio (plan for $3 billion steel-wheel system linking Cleveland-Columbus-Dayton-Cincinnati).

ISTEA established a National Magnetic Levitation Prototype Development Program with $725 million in federal funds authorized, and up to $1 billion in federal loan guarantees, to help construct high-speed steel wheel systems. A $50 million Technology Demonstration Program was also established for maglev and steel wheel technologies, as was a $25 million research and development fund. Another $30 million is authorized to remove grade crossing hazards in five corridors. Richmond to Washington D.C. is one of the corridors competing for funding. Federal aid highway rights-of-way were made eligible to carry such service.

MWCOG Helicopter System Inventory and Vertiport Feasibility Study

This 1992 report inventoried the 109 public and private landing facilities in the Metropolitan Area, of which about half are heliports. In 1988 there were 180,000 annual helicopter take offs and landings, with projections of up to 300,000 by the year 2000.

The report also assessed the feasibility of "vertiports" to serve tiltrotor aircraft that potentially could link New York City with the Washington area. There could be 170,000 to 320,000 such trips annually for 24 to 45 daily departures in an 30-passenger tiltrotor. At a possible Tysons Corner site 400 to 800 daily passenger originations are forecast, with another 500-950 from National Airport.

Ground access to such facilities would have to be considered in the region's surface transportation plans. Also, since high-speed intercity rail, perhaps serving multi-modal surface transportation centers, is being promoted, competition should be considered with the proposed tiltrotor service contemplated in this study.

SECTION V

CONCLUSIONS AND RECOMMENDATIONS

What More Needs to Be Done?

Woven into the tapestry of transportation facilities and service, plans, studies and demonstrations described above, are many issues that demand immediate attention. The issues are summarized and proposed policy responses set forth below, together with page references for a more complete description.

The proposed policy responses are themselves candidates for the Northern Virginia Transportation Commission's (NVTC) 1993 legislative agenda and 1993 workprogram.

Planning

1) Apply the 15 planning factors that are required in the Intermodal Surface Transportation Efficiency Act (ISTEA) to be considered in developing transportation plans and programs (pp. 22-23). These include such factors as preserving rights-of-way and existing transportation facilities, integrating transportation and land use decision-making, and considering the overall social, economic, energy and environmental effects of transportation decisions.

2) Coordinate planning schedules, modeling techniques and data between the Commonwealth Transportation Board (CTB), Transportation Planning Board (TPB), Transportation Coordinating Council (TCC), etc. (pp 22 ff, Appendix B)

3) Implement NVTC's 11-point policy on ISTEA (pp. 34-5). The policies call for state and regional allocation processes to be revised to conform to ISTEA's guidelines. Judge plans on the ability to move people, not vehicles.

4) Implement TCC workplan. Include an examination of how local plans encourage regional priorities and provide criteria for ranking regional projects. Provide financing for the top priority projects. (p. 30) These activities are listed in the workplan but have not yet been completed.

5) Regarding land use planning, implement NVTC's policy on preserving rights-of-way (p.74); the Northern Virginia Planning District Commission's (NVPDC) policies resulting from the 1992 transportation land use conference (p.74); and coordinate The Metropolitan Washington Council of Government's (MWCOG) Round 5.0 population forecasting with MWCOG's Long Range Transportation Plan with respect to common land use assumptions (p. 28).

6) Seek consensus through early public involvement in planning by all government transportation agencies. (p. 19)

7) Implement the state energy plan and integrate its concerns with air quality analysis at the regional and state level. (p. 76)

8) Plan for project improvements at a systems level and include realistic public transit alternatives in such studies (e.g. the Wilson Bridge improvement study (p. 95).

9) Plan for introducing new technologies (e.g. Intelligent Vehicle Highway Systems -- IVHS) (p. 97).

Congestion Management

1) Seek the active involvement of the federal government as the region's primary employer. (p. 10)

2) Implement the seven state management systems required in ISTEA. (p. 19) These include a congestion management system and a public transportation facilities and equipment plan, among others.

3) Actively consider tolls as a means to finance improvements and encourage rational use of facilities. (p. 19)

4) In cooperation with the private sector, implement low-cost transportation control measures using funding from the Congestion Mitigation and Air Quality (CMAQ) program and the Transportation Efficiency Improvement Fund (TEIF), among other sources. (p. 87)

5) Implement an NVTC-sponsored review of TEIF applications within the Commission's six jurisdictions to assist the Virginia Department of Rail and Public Transportation (DR & PT). (p. 87). Coordinate other grant applications. (p.21)

Financing

1) Work to educate legislators about the adverse consequences of the current state policy for implementing ISTEA and alter it to reflect ISTEA objectives. (p. 34) Current state practice commingles state and federal funds, which fails to encourage spending choices by localities and the CTB that fully consider the new objectives of regional decision-making and flexibility offered by ISTEA.

2) Seek full appropriations of ISTEA authorized funding levels. (p. 32)

3) Pursue federal funding for rail in the Dulles corridor, including interim state funding if necessary. (p. 93)

4) Identify funding sources for the significant gaps between needs and available resources (p. 32), including the Franconia/Springfield Transportation Center and the Washington Metropolitan Area Transit Authority's (WMATA) program to rehabilitate Metrorail. (p. 37)

5) Carefully monitor the Senate Joint Resolution 188 (SJR 188) study by the Virginia Department of Transportation (VDOT) to be certain its methods are sound (e.g. needs properly measured), since the results may lead to recommended legislative changes. (p. 36)

6) Work actively to reduce sharply WMATA's Metrobus overhead costs to reflect accurately reduced levels of service. (p. 38)

Transit/Ridesharing Coordination

1) Work with transit operators to respond to growing suburban employment markets that are not well served by traditional transit services. (p. 10)

2) Better coordinate and integrate information, fares, transfers and schedules. (p. 63, 65)

3) Address specific coordination issues for major public transit systems (p. 67), including Metrobus replacement, completion of Metrorail construction on a "Fast Track" schedule, more feeder buses to Virginia Railway Express (VRE), improved schedule integration with private commuter buses, and mid-day VRE service. (pp. 54, 59)

4) Apply NVTC's fare policy to WMATA, VRE and local transit systems. (p. 68) Fares should be integrated among systems, easy to understand and result in steadily improving fare-box recovery ratios without increasing fares more rapidly than the rate of inflation. Peak fares should exceed off-peak fares to reflect higher costs.

5) To boost High Occupancy Vehicle (HOV) use, provide more park-and-ride lots and support instant carpool staging areas. (p. 78)

6) Boost transit ridership by applying increased prices to parking. (p. 81, 85)

7) Provide tax-free employer transit subsidies (currently $21 monthly) more widely and urge Congress to increase the tax-free limits to at least $60 monthly. (p. 88) Resolve the special issues associated with federal employees use of the subsidies.

APPENDICES

APPENDIX A

TRANSPORTATION AGENCIES AND ORGANIZATIONS

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. Thomas Bliley (R)

4. Norman Sisisky (D)
5. L.F. Payne (D)
6. Jim Olin (D)
7. George Allen (R)
8. James Moran (D)
9. Rick Boucher (D)
10. Frank Wolf (R)

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 Andrew H. Card. Jr., 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

The Honorable Brian Clymer, 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: Provide grants to support public transit capital investments operations and research.

FEDERAL HIGHWAY ADMINISTRATION

The Honorable Thomas D. Larsen, 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

Gilbert Carmichael, 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

William Reilly, 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

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

U.S. ARMY CORPS OF ENGINEERS

Major General, C.E. Edgar, III
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

James M. Ridenour
National Park Service
1849 C Street, N.W.
Washington, D.C. 20420
Telephone: 202/208-3100
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

Richard G. Austin, 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: Help 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

Thomas Deen, Executive Director
Transportation Research Board/National Research Council
2101 Constitution Avenue
Washington, D.C. 20418
Telephone: 202/334-2933
Fax: 202/334-2003

Function: Sponsor 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, 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 L. Douglas Wilder
Governor
Commonwealth of Virginia
P.O. Box 1475
Richmond, Virginia 23212

Telephone: 804/786-2211

Function: Has proposed financing measures for transportation and created Northern Virginia's Transportation Coordinating Council.

Office of the Secretary of Transportation

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

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

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

Virginia Department of Transportation

Ray D. Pethtel
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 John G. Milliken, 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

Mr. Preston Shannon, Chairman
Motor Carrier Division
Jefferson Building
1220 Bank Street
Richmond, Virginia 23219

Telephone: 804/786-3683

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
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 Richard Cranwell
Speaker 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 Broad Street
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.

Virginia Association of Public Transit Officials (VAPTO)

Honorable J. Robert Gray, President
C/O Penntran
3400 Victoria Boulevard
Hampton, Virginia 23661

Telephone: 804/722-2837
Fax: 804/722-9662

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: 703/538-5384

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

Telephone: 703/

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)

Katherine K. Hanley, 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 MWATA Board of Directors. Levies a two percent motor fuels tax generating $12 million annually and 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

David Brickley, Chairman of Operations Board
Thomas R. Waldron, 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)

Sharon Bulova, 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
Ellen B. Bozman, 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. 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

Cleatus Barnett, Chairman
David S. Gunn, 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.

Metropolitan Washington Council of Governments

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

Hilda Pemberton, 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

James E. Nathanson, 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.

Baltimore/Washington/Regional Association

Milton H. Miller, Chairman Transportation Committee
Robert T. Grow, Executive Director
B/WRA
1129 20th Street, N.W. Suite 202
Washington, D.C. 20036

Telephone: 202/861-0400

Function: Sponsored recent Baltimore/Washington Commuter Rail Accessibility Study which recommends upgraded stations and parking, improved access, more frequent service, better intermodal connections, and cooperative marketing. The Transportation Committee is facilitating cooperation between MARC and VRE to offer through service into Virginia and Maryland for the convenience of riders on both systems.

Greater Washington Board of Trade

Gerald M. Lowrie, President
1129 20th Street, N.W.
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.
Washington, D.C. 20005-2773

Telephone: 202/223-4560

Function: Undertakes studies of regional issues, including a major financial study of WMATA.

Maryland-National Park and Planning Commission

Leroy J. Hedgepeth, Acting Executive Director
6609 Riggs Road
Hyattsville, Maryland 20782

Telephone: 301/853-4802

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

Function: Provides a form 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

Function: Provide most of Maryland jurisdictions WMATA funding.

MARC

William McCaffrey, Acting 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

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

E.E. Hull, Northern Virginia District Engineer (Acting)
Telephone: 703/934-7300

MaryAnn Reynolds, Public Information Officer
Telephone: 703/359-1100

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: 703/685-8100

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

Function: Regional agency owning and operating Washington National and Dulles 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, 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)

Alexandria Office of Transit Services and Programs

Mary J. Anderson, Division Chief/Transit
City Hall, 301 King Street (Room 4000)
Alexandria, Virginia 22314

Telephone: 703/838-4000

Function: City agency coordinating information and marketing for ridesharing, DASH and other transit services.

Alexandria Department of Transportation & Environmental Services

Thomas F. O'Kane, Jr., Director
City Hall, 301 King Street (Room 4100)
Alexandria, Virginia 22314

Telephone: 703/838-4966

Function: Planning, construction and maintenance of streets, bridges and HOV-facilities.

Arlington Department of Public Works

Sam Kem, Director
No. 1 Courthouse Plaza
2100 Clarendon Blvd.
Arlington, Virginia 22201-5445

Telephone: 703/358-33711

Function: Planning, construction and maintenance of streets, bridge, transit and HOV-facilities.

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, Director of Transit Services
Telephone: 703/385-7827
Telephone: 703/385-7859 (Information for CUE Bus and LINK Trolley 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

Robert Liebbrandt, Assistant Director of Public Works
300 Park Avenue
Falls Church, Virginia 22046

Telephone: 703/241-5080

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

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

William Wiggins, Department of Planning and Zoning
18 North King Street
Leesburg, Virginia 22075

Telephone: 703/777-0246

Eric Vogel, Chief of Transportation Planning
750 Miller Drive, S.E.
Leesburg, Virginia 22075

Telephone: 703/777-0246

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

RIDESHARING OFFICES

Alexandria

Christopher Arabia, Ridesharing Coordinator
Alexandria Rideshare
P.O. Box 178
City Hall
Alexandria, Virginia 22313

Telephone: 703/838-3800

Arlington County

James Hamre
Department of Public Works
Traffic Engineering Division
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
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

Fairfax County

Transportation Advisory Commission

C/O Don Emerson, Chairman
Fairfax County Office of Transportation
12055 Government Center Parkway
Suite 1034
Fairfax, Virginia 22035-5511

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.

Arlington Transportation Commission

C/O Mark Kellogg
Arlington Department of Pubic Works
2100 Clarendon Blvd.
Arlington, Virginia 22201

Telephone: 703/358-3698

Alexandria Transportation Planning Board

Mary Anderson
Alexandria Department of T&ES
City Hall, 301 King Street
Alexandria, Virginia 22314

Telephone: 703/838-3800

Falls Church Planning Department

Citizens Advisory Committee on Transportation
Leslie Florance, Chairman
C/O City Clerk
300 Park Avenue
Falls Church, Virginia 22046

Telephone: 703/241-5014

LOCAL TRANSIT OPERATORS

Arlington Crystal City Trolley

James Hamre
Traffic Engineering Division
#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 six 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

Steve Rowland, Manager of Operations
Potomac & Rappahannock Transportation Commission
1519 Davis Ford Road, Suite One
Woodbridge, Virginia 22192-2737

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 and LINK Trolley Bus (City of Fairfax)

Paul Briggs, Director of Transit Services
10455 Armstrong Street
Fairfax, Virginia 22030

Telephone: 703/385-7827

Function: Provides local transit service with connections to Metrorail. A new service called the LINK Trolley connects GMU with Old Town Fairfax.

Fairfax Connector

Chris Jenks, 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

Chris Jenks, 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

Chris Jenks, 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 Area Transportation Association (BATA)

Ms. Robin Bard, Transit Store Manager
4301 N. Fairfax Drive, #301
Arlington, Virginia 22203

Telephone: 703/271-5391

Function: Affiliated with the Ballston Partnership. The Partnership co-sponsors the Ballston Transit Store, now located at Ballston Commons Shopping Mall.

Crystal City Commuter Service Center

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

Telephone: 703/271-4287 (Business)
703/271-5391 (Commuters)

Function: Sponsored by Arlington County.

Dulles Area Transportation Association (DATA)

Eddie Byrne, Executive Director
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
11911 Freedom Drive, Suite 530
Reston, Virginia 22090-5604

Telephone: 703/318-9663
Fax: 703/742-6557

Function: Improving mobility in the Reston Area.

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

Ms. Cynthia Fondriest, Executive Director
1725 Duke Street, Suite 660
Alexandria, Virginia 22314

Telephone: 703/519-8970

Function: A private, non-profit TMA founded in July, 1989. Boundaries include business and residential communities adjacent to the King Street, Eisenhower and Van Dorn Metrorail stations in Alexandria. The TMA serves as a resource center through developers to provide information about transit and ridesharing opportunities in the community.

Tysons Transportation Association (TYTRAN)

A. Edward Knauf, Jr., 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

Ralph Stanley, CEO
7 East Market Street
Leesburg, Virginia 22075

Telephone: 703/478-8815
Fax: 703/777-2082

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. The Corporation reports that it is now completing agreements with 25 land owners. Barclays Bank of New York is participating in the $300 million financial plan.

Following final approval of the loan, about $80 or $90 million of construction bids could be awarded about one month later. Opening could then occur about 2 1/2 years later.

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

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

Telephone: 703/836-0925

Function: Citizens group working for improved public transportation.

Northern Virginia Transportation Alliance

Linda Wright, 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.

League of Women Voters

Gloria Hwang
Editor of the "Transportation Connection"
1200 Meadow Green Lane
McLean, Virginia 22102

Telephone: 703/893-3691

Function: A non-partisan organization whose purpose is to promote political responsibility through informed and active participation of citizens in government. Each year the League sponsors a very informative pamphlet, "The Transportation Connection," which lists telephone numbers of many transportation agencies in the Metropolitan Region.

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)

Jim Simpson, Director, Operating Services and Development
Amtrak
60 Massachusetts Avenue, N.E.
Washington, D.C. 20002

Telephone: 202/906-3886
Fax: 202/906-2652

Function: Contract operator for VRE commuter rail service.

APPENDIX B

TRANSPORTATION COORDINATING COUNCIL WORKPLAN AND MWCOG/TPB SCHEDULE 1992-93

TRANSPORTATION COORDINATING COUNCIL

WORKPLAN

OCTOBER, 1992 -- DECEMBER, 1993

As Revised and
Adopted by TCC

June 30, 1992

The Transportation Coordinating Council adopted the Transportation Coordinating Council Workplan for the time period from October 1992 through December 1993 under the condition that the Workplan remain flexible and open to changes submitted by local governing bodies.

[June: TPB Draft TIP for FY 1993-98.]
[June: CTB Final Allocation Hearing for six-year plan.]
[July: CTB Final allocations.]
[September: TPB Approval of 1993-98 TIP.]

TCC October 8, 1992

1. Develop possible legislative agenda for 1993, focusing on issues that are of regional significance to Northern Virginia. This agenda should include detailed legislative and financial options for completion of the Fairfax County Parkway, Route 234 Bypass and Springfield - Franconia Transportation Center.

2. Review explanations of state/regional/local agencies regarding consistency of funding TCC's top priority projects; consider strategies for unfunded items.

3. Begin discussion of 1993 regional priority projects list by reviewing and discussing preliminary report on evaluation of Northern Virginia regional priorities. Evaluation criteria may include, but are not limited to; reductions in VMT, congestion, improvements in air quality, safety, interstate access, and cost effectiveness; (using current subregional and/or current COG Long Range Plans as evaluation context; and ensuring all criteria chosen are consistant with COG criteria).

4. Receive informational report from TPB staff on Air Quality Conformity findings for FY 93-98 Transportation Improvement Program (TIP) and for the current TPB regional Long Range Plan. This report will provide background information for discussion on 1993 TCC regional priority project list.

5. Receive initial informational report on TPB regional Long Range Plan (LRP) update, concentrating on the Northern Virginia (subregional) highway and transit facilities and services being tested in the first round of analysis. Discuss appropriate relationships of TCC to TPB in this process and how the Subregional Plan update will be integrated; based on results of that discussion schedule additional reports on LRP update, as desired.

6. Receive update on SJR 188 study.

7. Receive and discuss recommendations from Technical Committee regarding process and time table for updating Subregional Plan.

TCC January 14, 1993

1. Appoint new Co-Chair and Steering Committee members, based on new NVTC/PRTC chairmanship.

2. Review and coordinate TCC, CAC, and Technical Committee workplans for upcoming year. Reconfirm TCC workplan.

3. Discuss possible candidate projects for CMAQ funding for '94 fiscal year. Provide input to TPB Board Members for consideration.

4. Refine TCC's priority project list for the six years beginning in 1993. This becomes input for the CTB pre-allocation hearing in April, and for TPB's draft FY 94-99 TIP in June.

5. Receive update on progress of legislative issues regionally significant to Northern Virginia. Develop plan/strategy for supporting that agenda, as necessary.

6. Receive update on SJR 188 study and recommendations.

TCC March 11, 1993

1. Adopt TCC Priority List and testimony for CTB.

2. Review candidate projects for Northern Virginia for draft (FY 94-99) TIP, including proposed CMAQ allocation. Provide comment to Northern Virginia's TPB members for consideration prior to release in June of TPB's draft TIP. Focus on TCC's top priority projects.

3. Receive update on legislative issues.

[April: CTB Preallocation Hearing.]
[May: CTB Preliminary Allocation.]

TCC JUNE 10, 1993

1. Review consistency of plans for funding the TCC's top priority projects for 1993 and beyond, as reflected in the CTB's preliminary allocation, TPB's DRAFT TIP, and local programs. Request explanations for further discussion in October.

TCC June 10, 1993 (continued)

2. Receive informational report from TPB staff on Air Quality Conformity findings for draft FY 94-99 TIP (if available). This report will provide background information for discussion on 1994 TCC regional priority project list.

3. Consider candidates for further analysis and possible inclusion in the 1994 TCC priority list.

[June: TPB Draft TIP for FY 1994-9.]
[June: CTB Final Allocation Hearing.]
[July: CTB Final Allocation.]
[September: TPB Approval of 1994-9 TIP.]

TCC OCTOBER 14, 1993:

1. Develop possible legislative agenda for 1994, focusing on issues that are of regional significance to Northern Virginia.

2. Review explanations of state/regional/local agencies regarding consistency of funding TCC's top priority projects; consider possible strategies for unfunded items.

3. Begin discussion of 1994 Regional Priority Project List by reviewing and discussing preliminary evaluation of candidate projects.

[TPB adopts new Long Range Plan]

NOTE:

It is proposed that the TCC would meet regularly on the second Thursday evening of June, October, January, and March.

The specific meeting dates covered by this proposed workplan would be:

October 8, 1992
January 14, 1993
March 11, 1993
June 10, 1993
October 14, 1993

TCC may wish to incorporate into agendas at appropriate intervals informational reports relating to ongoing corridor studies. These might include:

- I-95 Corridor Study
- Beltway Transit Study
- Dulles Corridor Study
- Ongoing Woodrow Wilson Bridge Study

NATIONAL CAPITAL REGION TRANSPORTATION PLANNING BOARD
TENTATIVE SCHEDULE OF KEY ACTIVITIES FOR 1992/1993

Presented to TPB Technical Committee, July 2, 1992

July 15, 1992

- Review of submissions for FY93-98 TIP
- Approval of projects for inclusion in air quality conformity analysis for FY93-98 TIP
- Presentation on performance of current Long Range Plan (as updated by the TPB on 9/18/91)

September 16, 1992

- Approval of FY93-98 TIP, including air quality conformity
- Review of "Proposed For Testing" (PFT) Networks for Long Range Plan Update
- Approval of preliminary budget for FY94 UPWP
- Review of procedures for developing FY94-99 TIP

November 18, 1992

- Review of preliminary project submissions for FY94-99 TIP
- Review of preliminary FY94 UPWP

January 20, 1993

- Review of performance of PFT Networks for Long Range Plan Update
- Identification of additional alternatives for testing for LRP
- Further review of project submissions for FY94-99 TIP
- Review of draft FY94 UPWP

March 17, 1993

- Approval of FY 94 UPWP
- Approval of draft FY94-99 TIP projects for air quality conformity testing
- Review of performance of LRP alternatives

April 21, 1993

- Further review and refinement of LRP alternatives

May 19, 1993

- Review of LRP alternatives, including air quality conformity
- Review of draft FY94-99 TIP, including air quality conformity

June 23, 1993

- Approval of draft LRP Update, including air quality conformity
- Approval of draft FY94-99 TIP, including air quality conformity

September 22, 1993

- Adoption of Long Range Plan Update
- Adoption of FY94-99 TIP
- Adoption of preliminary budget for FY95 UPWP

TARGET DATES

- NOV. 1994 - COMMITMENTS ACHIEVED FOR IMPLEMENTATION OF AIR QUALITY SIP'S
- NOV. 1993 - COMPLETION OF TECHNICAL ANALYSIS LEADING TOWARD IMPLEMENTATION OF SIP'S
- JUNE 1993 - COMPLETION OF UPDATED LONG RANGE PLAN FOR THE REGION
- FEB. 1993 - EVALUATION REPORT ON THE "PROPOSED FOR TESTING" ALTERNATIVES (PFT) TO THE LRP
- DEC. 1992 - ALL TECHNICAL MODELING ACTIVITIES FOR THE PFT ALTERNATIVES ARE COMPLETED
- OCT. 1992 - ALL CODING OF NETWORKS FOR PFT ALTERNATIVES MUST BE COMPLETED
- JULY 1992 - DEADLINE TO RECEIVE ALL INPUTS FOR PFT ALTERNATIVE NETWORKS
- JULY 28, 1992 - TENTATIVE MEETING DATE FOR D.C., MD., AND VA. REPRESENTATIVES TO SPLICE TOGETHER ALL INPUTS FOR REGIONAL PFT ALTERNATIVES

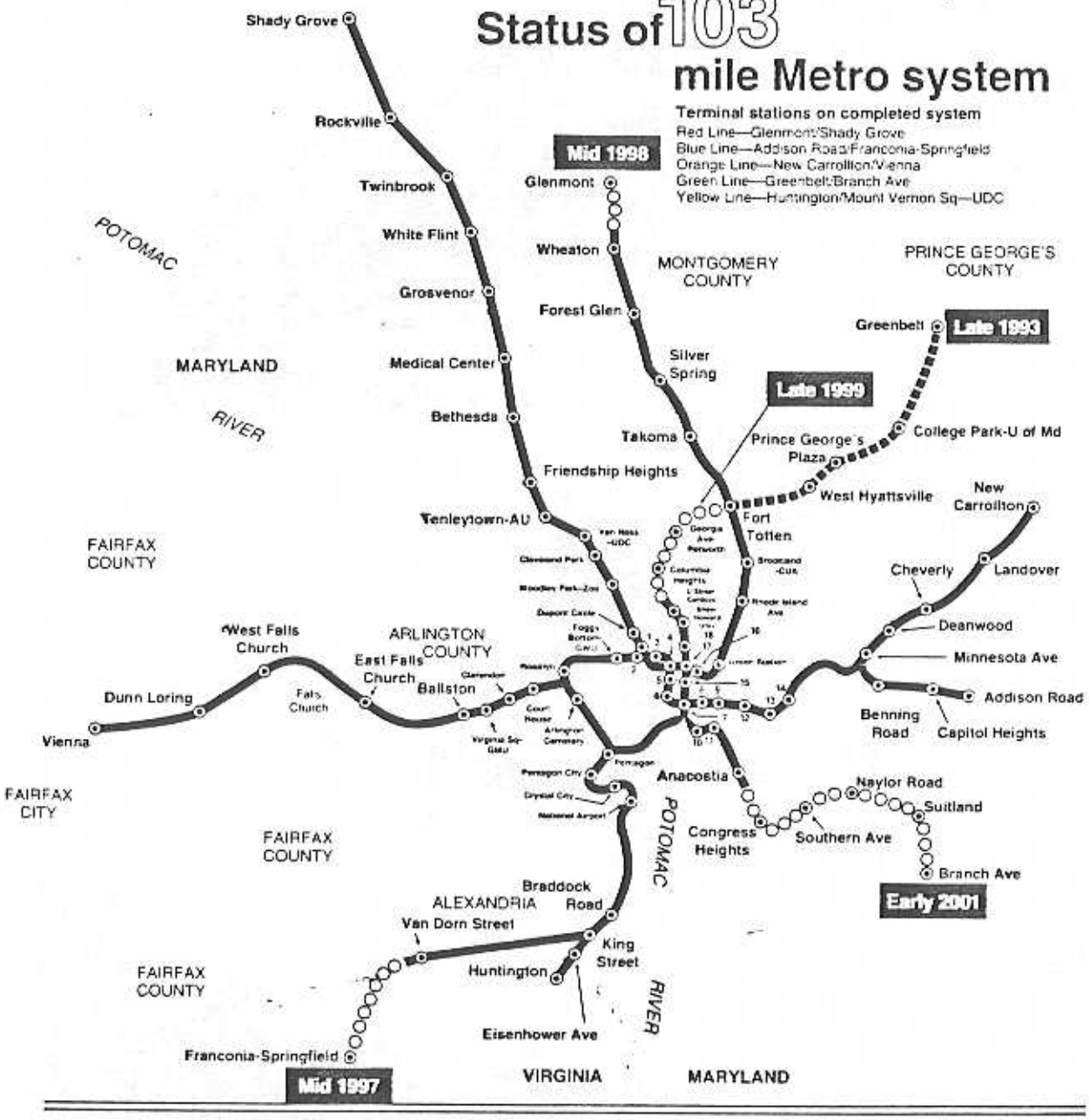
APPENDIX C

PUBLIC TRANSIT RIDERSHIP AND ROUTES

July 1992

Status of 103 mile Metro system

Terminal stations on completed system
Red Line—Glenmont/Shady Grove
Blue Line—Addison Road/Franconia-Springfield
Orange Line—New Carrollton/Vienna
Green Line—Greenbelt/Branch Ave
Yellow Line—Huntington/Mount Vernon Sq—UDC



LEGEND

Operating Lines	81.05 miles	70 stations	Total Mileage—103.02
Under Construction	7.97 miles	4 stations*	Total Stations—83
Fast Track Program for System Completion	14.0 miles	9 stations	

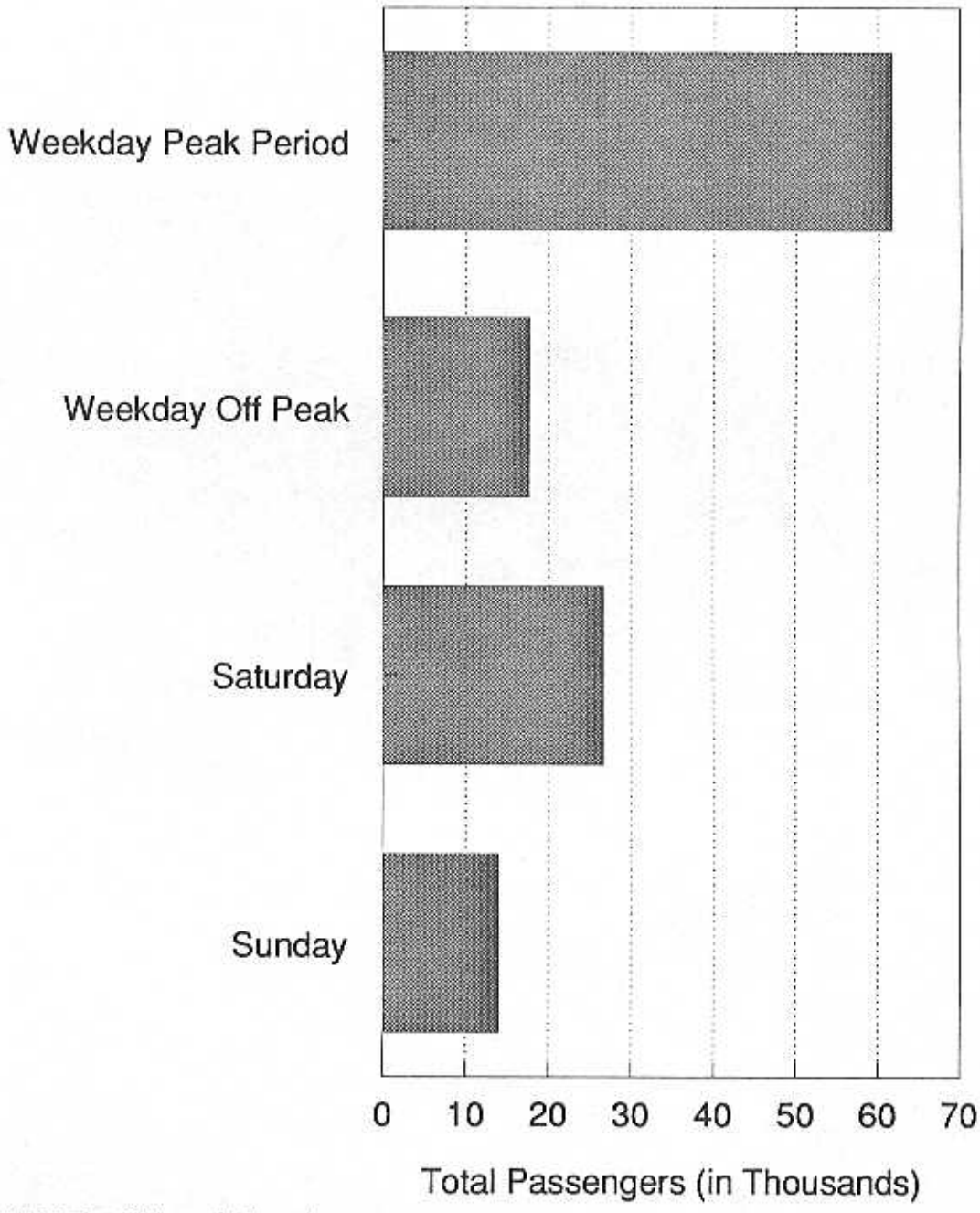
DATE — Projected start of operations for this segment based on approved schedule. Applies to all stations inbound from this point.

*Not including lower level of Fort Totten Station which is under construction as part of the northern Green Line

1. Farragut North
2. Farragut West
3. McPherson Sq
4. Metro Center
5. Federal Triangle
6. Smithsonian
7. L'Enfant Plaza
8. Federal Center SW
9. Capitol South
10. Waterfront
11. Navy Yard
12. Eastern Market
13. Potomac Ave
14. Stadium-Armory
15. Archives-Navy Mem'l
16. Judiciary Sq
17. Gallery Pl-Chinatown
18. Mt Vernon Sq-UDC

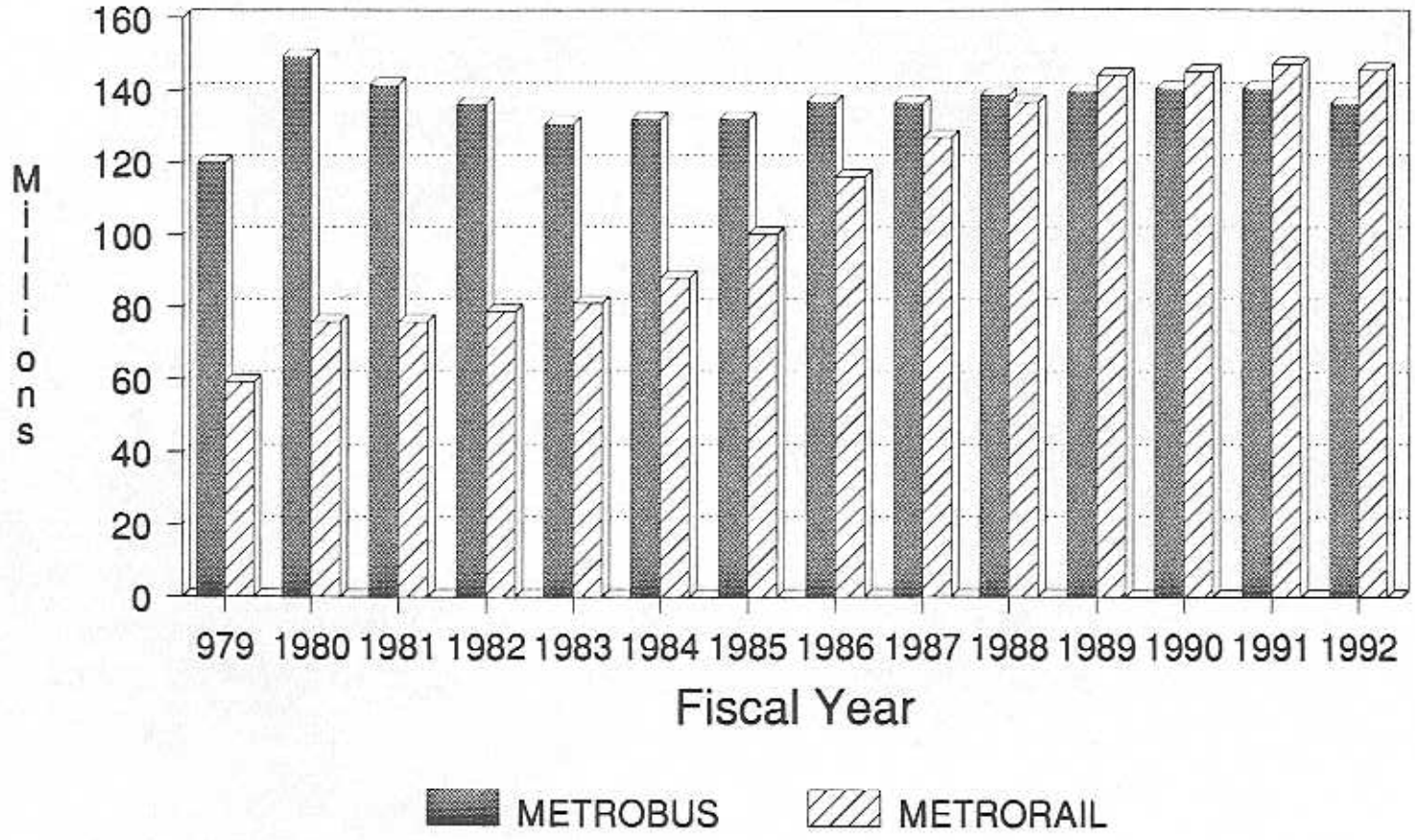
metro
Washington Metropolitan Area Transit Authority
600 Fifth Street, NW, Washington, D.C. 20001
Office of Communications

VIRGINIA METROBUS RIDERSHIP
(as of June, 1992)



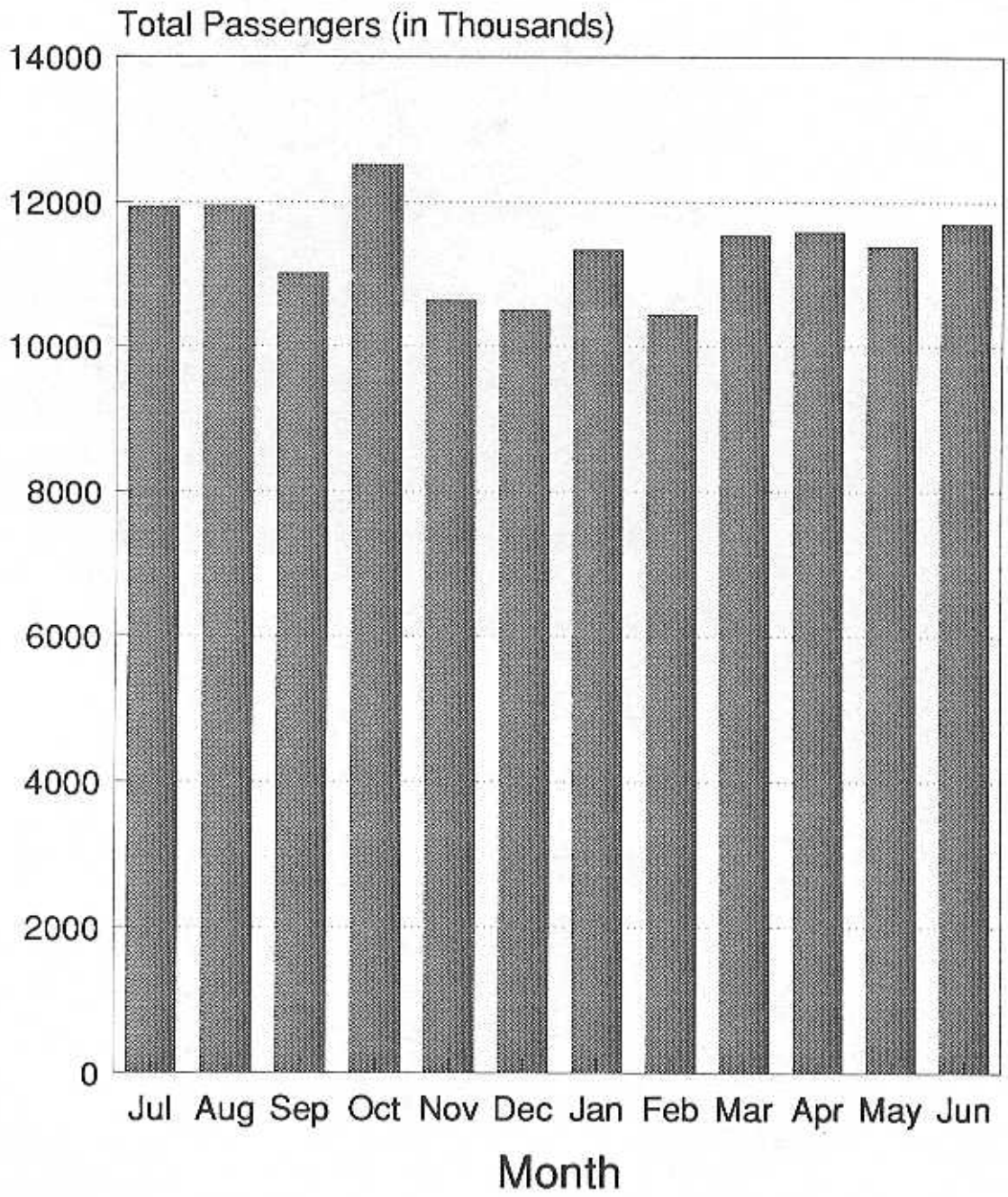
Source: WMATA, Office of Planning

SYSTEMWIDE METRORAIL & METROBUS RIDERSHIP BY FISCAL YEAR, 1979 - 1992



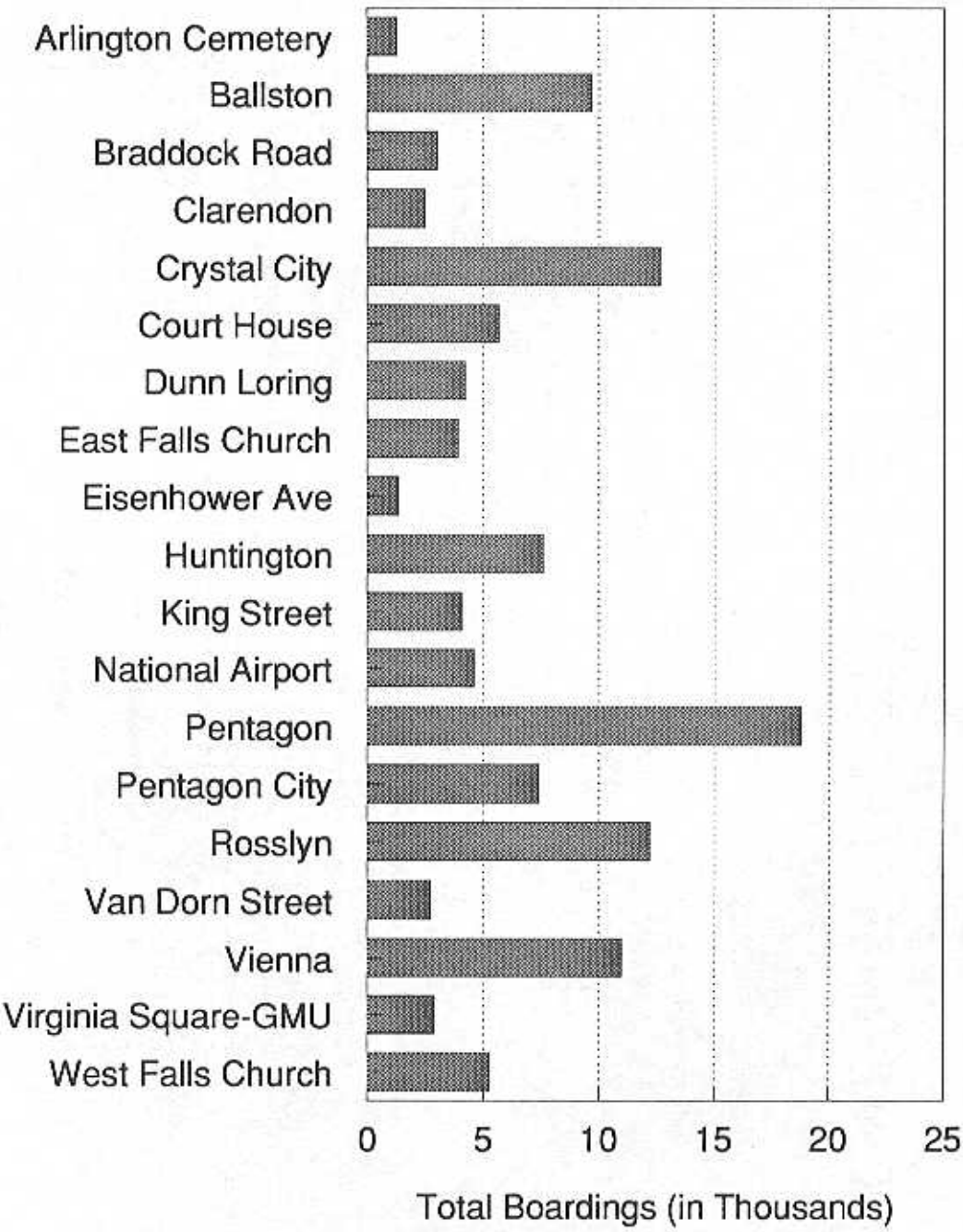
Source: WMATA Planning

METROBUS MONTHLY RIDERSHIP
Systemwide FY 1992



Source: WMATA Planning

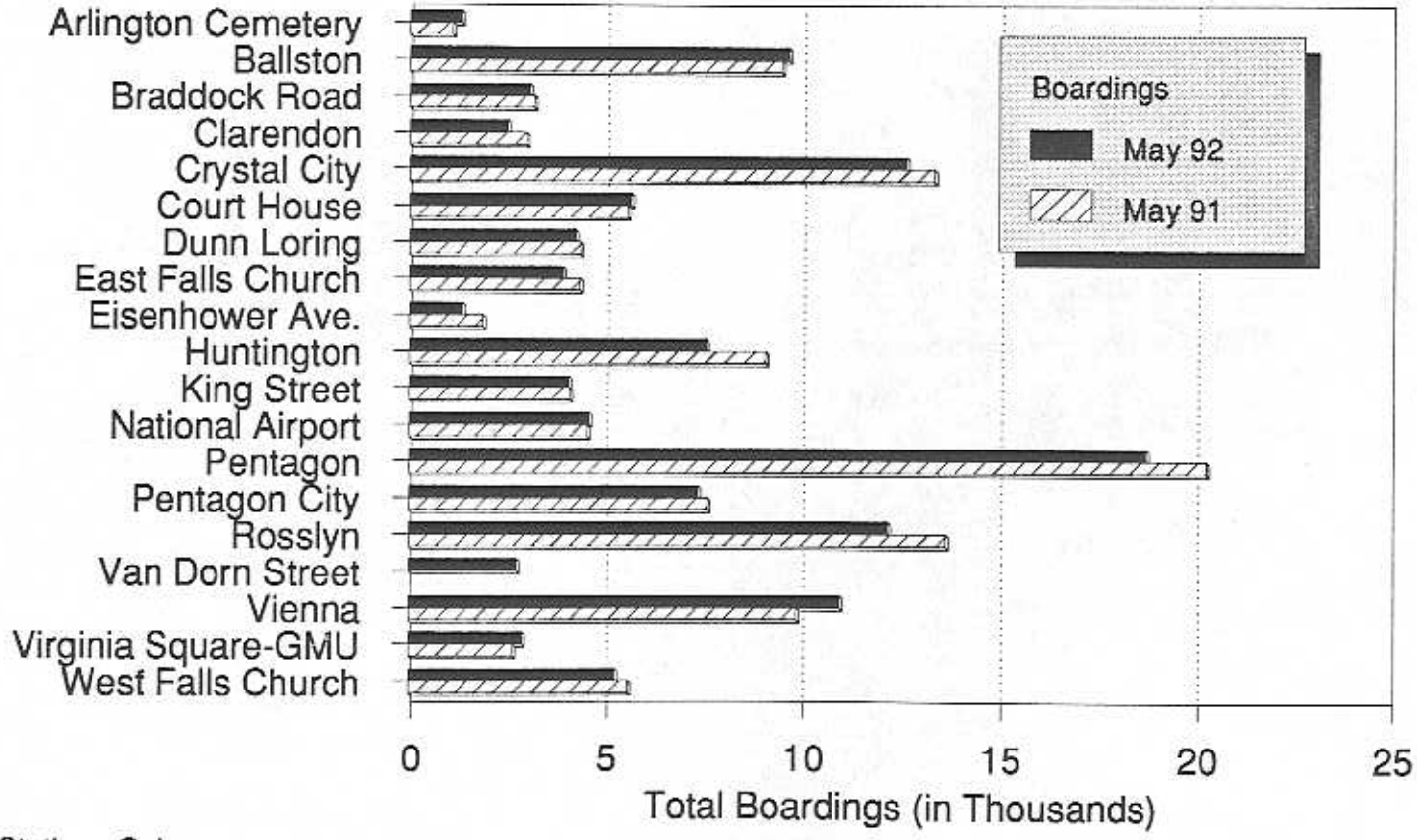
DAILY METRORAIL PASSENGER BOARDINGS
MAY, 1992 VIRGINIA STATIONS ONLY



Source: WMATA Planning

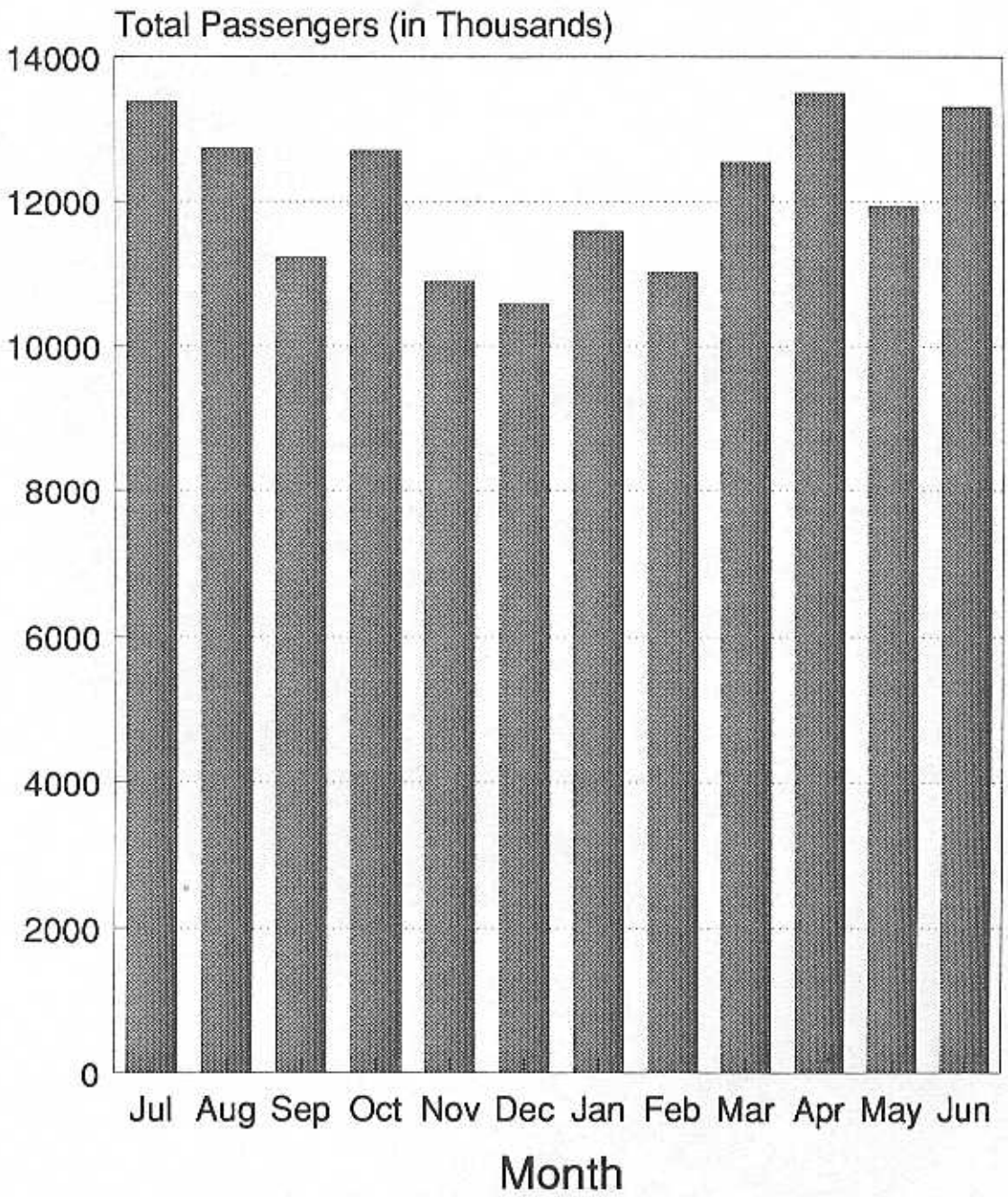
DAILY METRORAIL PASSENGER BOARDINGS COMPARISON OF MAY, 1991 AND MAY, 1992

Virginia Stations



Virginia Stations Only
Source: WMATA Planning Office

METRORAIL MONTHLY RIDERSHIP
Systemwide FY 1992

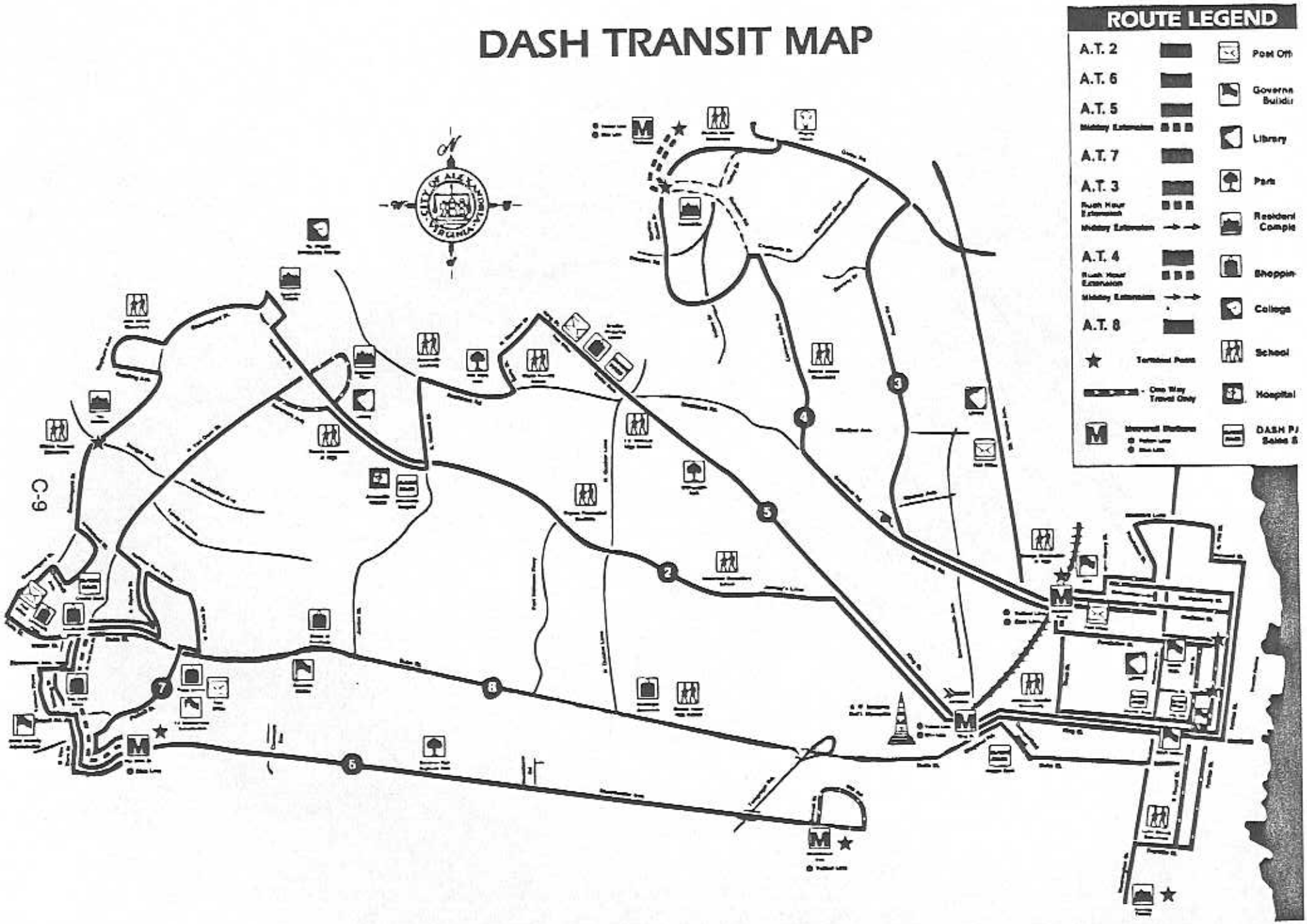


Source: WMATA Planning

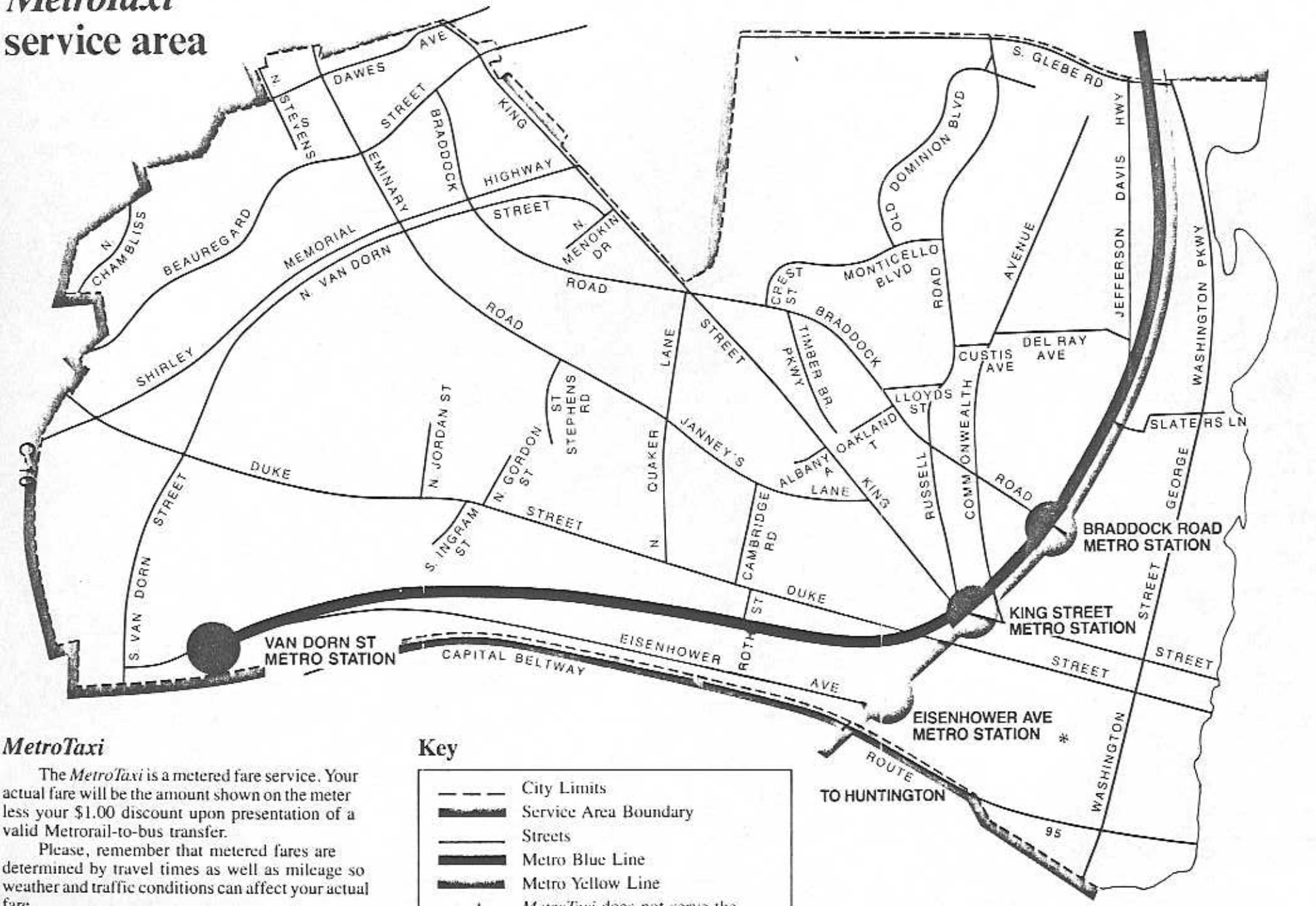
ALEXANDRIA

1.	DASH:		(703) 370-DASH
2.	DOT:	Specialized Transportation for Persons with Disabilities	(703) 838-3800
3.	MetroTaxi:	Diamond Cab	(703) 549-6200
		White Top Cab	(703) 683-4004
		Yellow Cab	(703) 549-2500
4.	Senior Taxi:		(703) 836-4414
5.	Office of Transit Services & Programs:		(703) 838-3800

DASH TRANSIT MAP



MetroTaxi service area



MetroTaxi

The *MetroTaxi* is a metered fare service. Your actual fare will be the amount shown on the meter less your $1.00 discount upon presentation of a valid Metrorail-to-bus transfer.

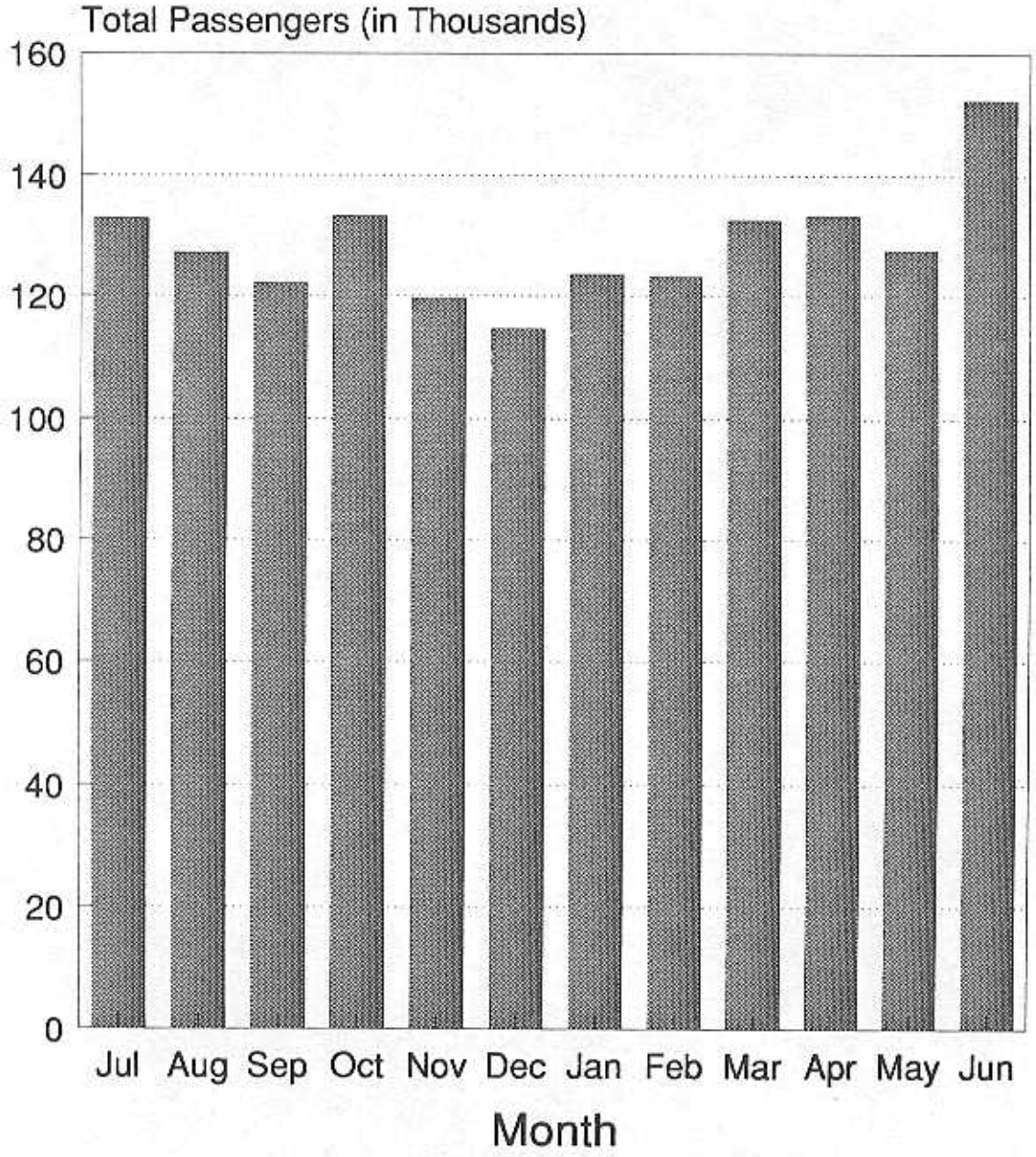
Please, remember that metered fares are determined by travel times as well as mileage so weather and traffic conditions can affect your actual fare.

For general information, call the City of Alexandria Office of Transit Services at 838-3800.

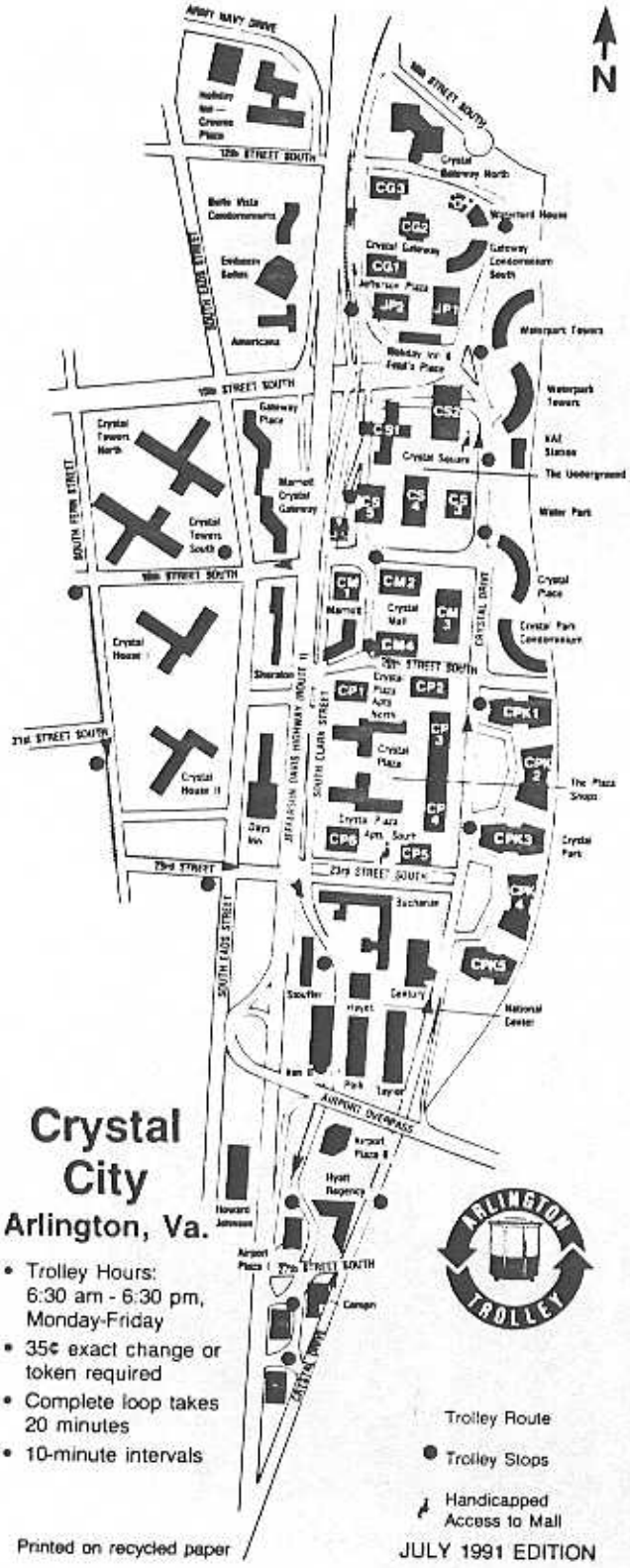
Key

- City Limits
- Service Area Boundary
- Streets
- Metro Blue Line
- Metro Yellow Line
- * *MetroTaxi* does not serve the Eisenhower Avenue Metro Station because of space limitations.

DASH
Ridership for FY 1992



Source: DASH



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ARLINGTON, VIRGINIA
703/358-3575
Accessible to Disabled Riders

Operating Weekdays 6:30 AM - 6:30 PM
22 Convenient Stops on a 3-mile Loop
In the Heart of Crystal City

FARE

35¢

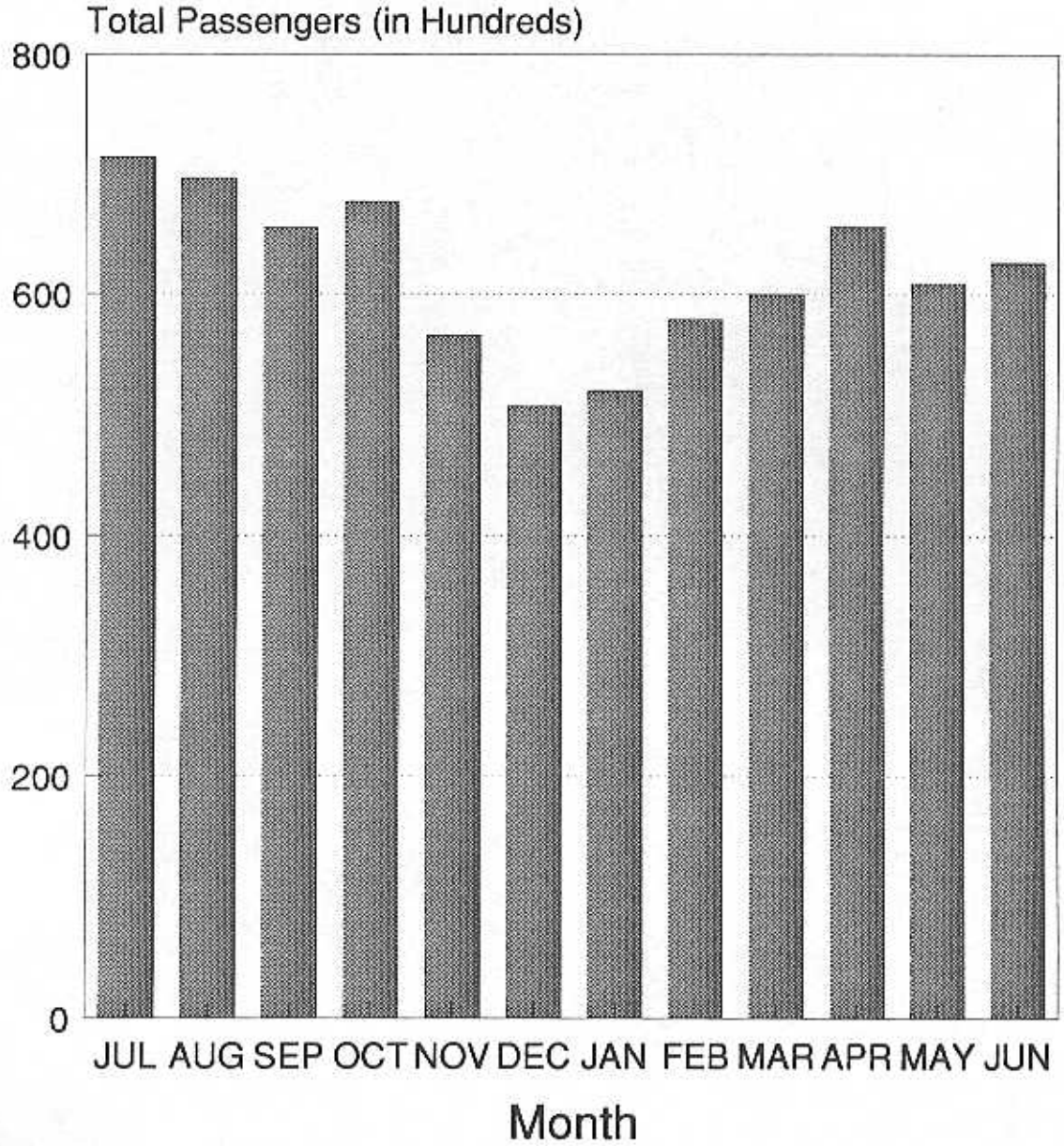
Exact Change or Token Required

Discount Available for Purchase of Tokens

For Information:
Traffic Engineering Division
Arlington County
Department of Public Works
#1 Courthouse Plaza, Suite 706
Arlington, VA 22201
703/358-3575
TDD only: 358-4611

ARLINGTON TROLLEY

ARLINGTON TROLLEY
Ridership for FY 1992

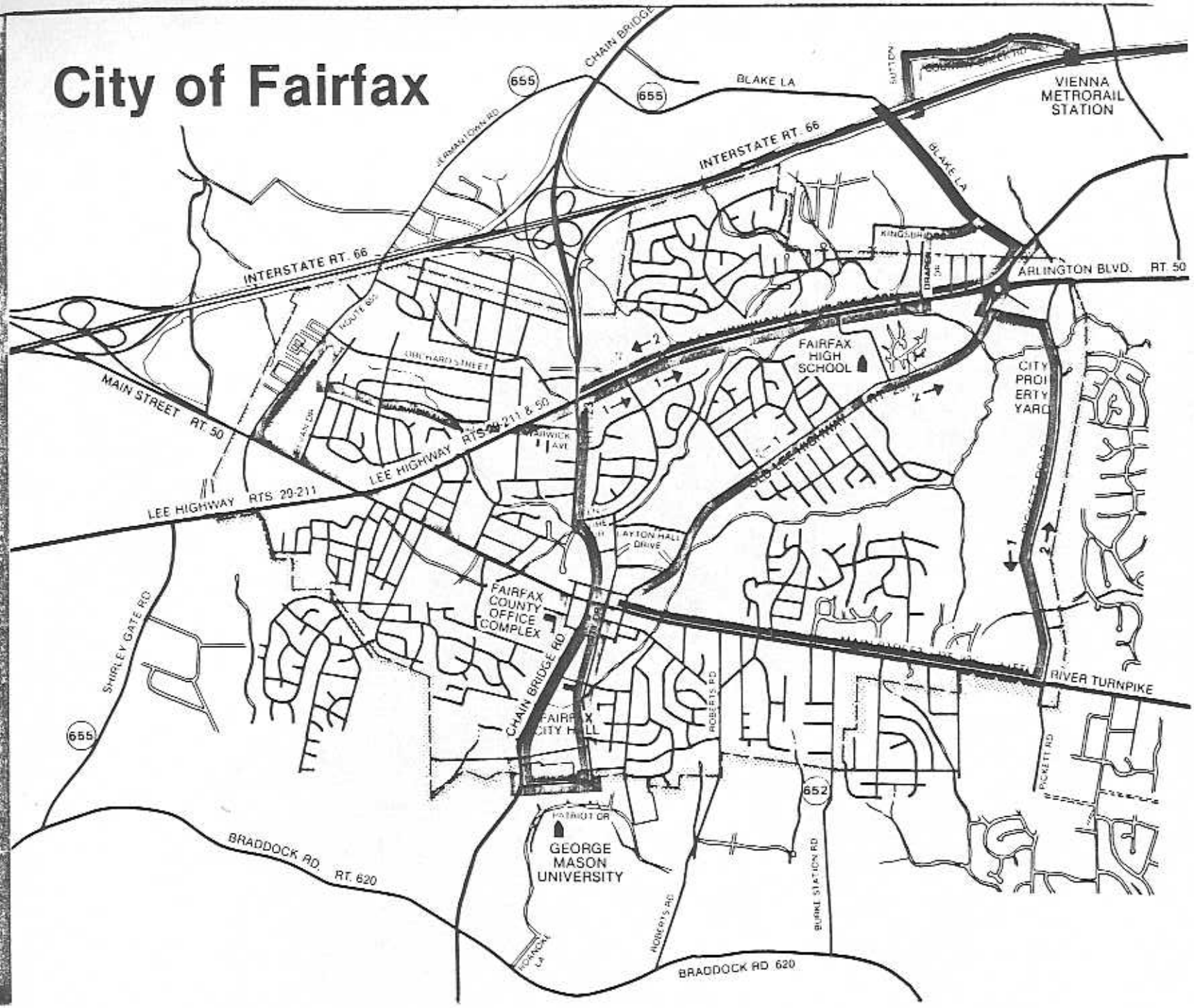


Source: Arlington County
Dept. of Public Works

CITY OF FAIRFAX

1. Transit Services Information: (CUE Bus and LINK Trolley)	(703) 385-7859
2. City Wheels (Paratransit)	(703) 385-7920

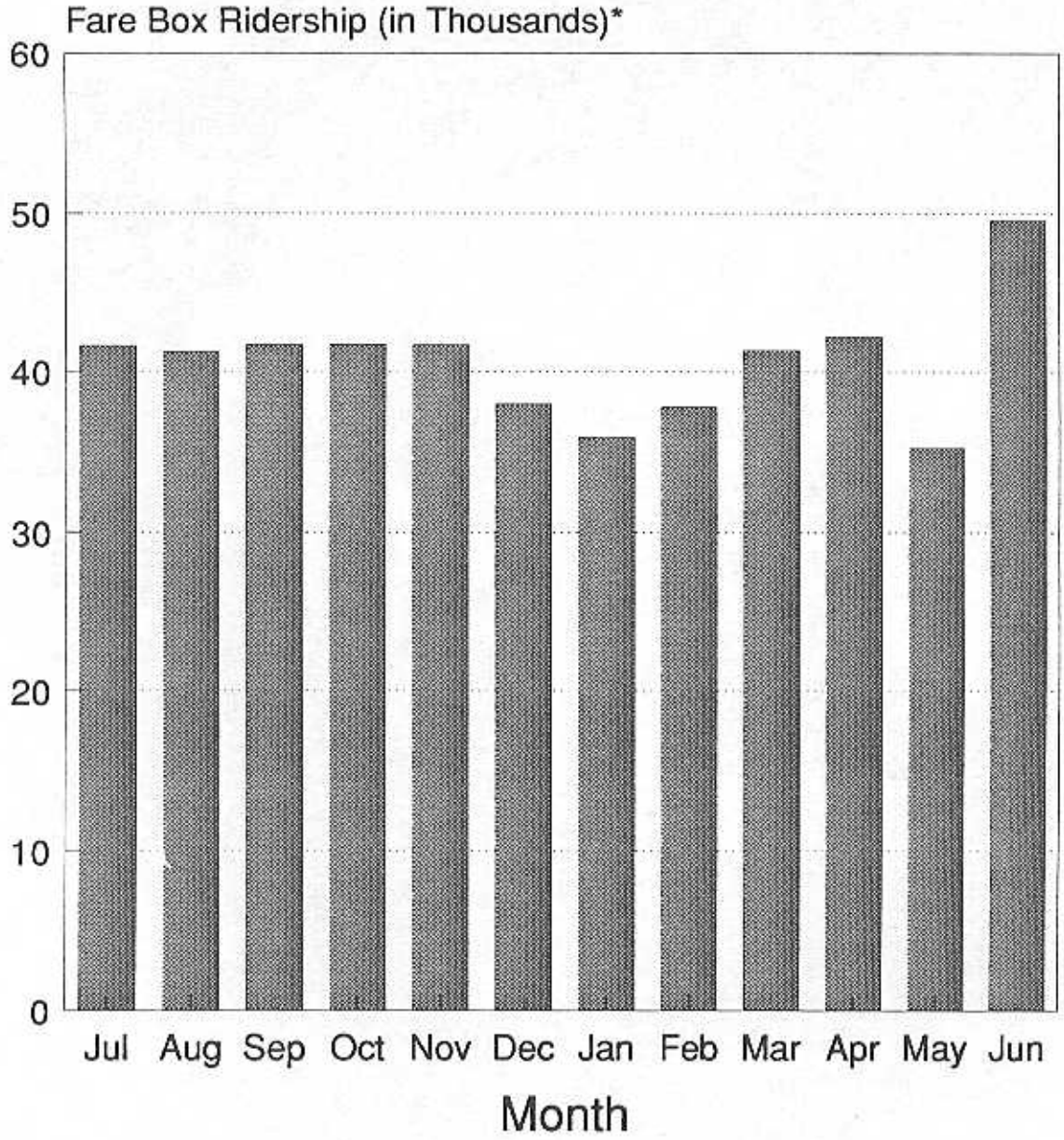
City of Fairfax



C-16

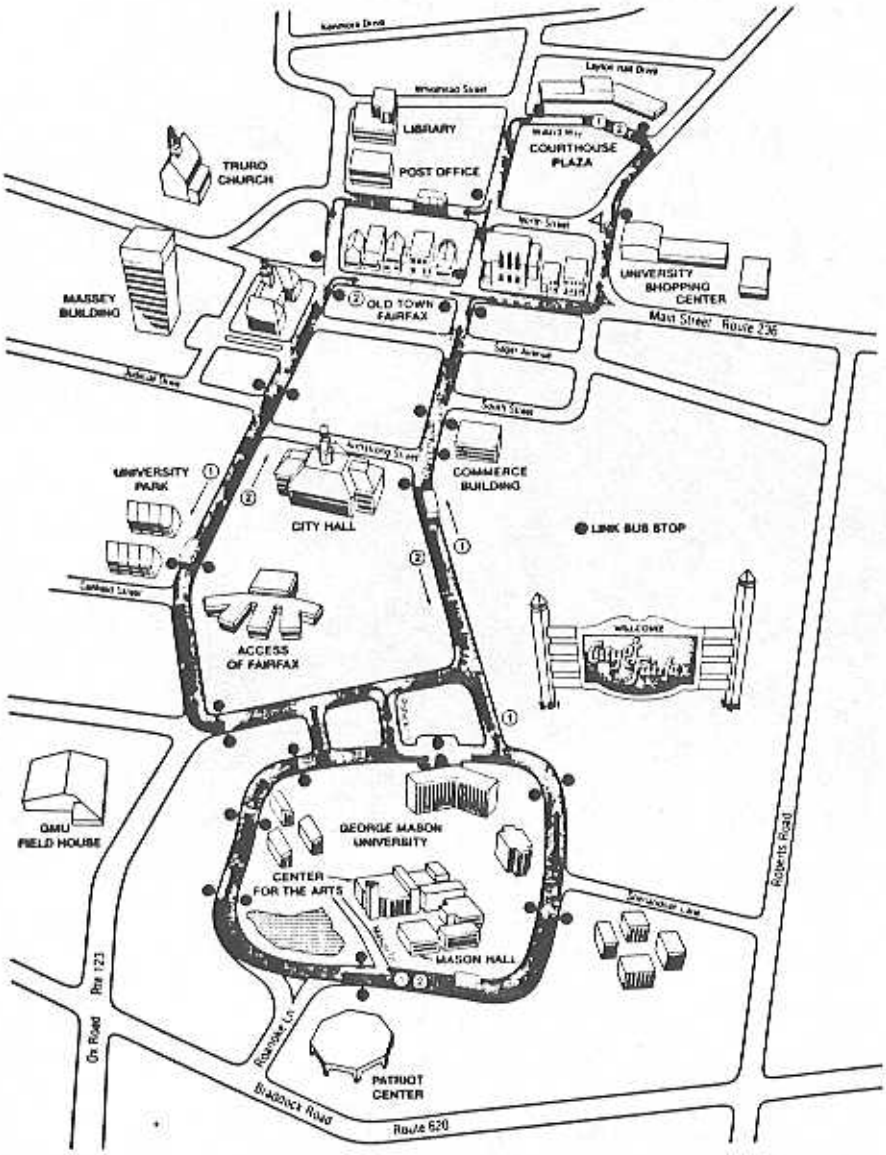
CUE Bus Routes

CUE BUS SYSTEM
Fare Box Ridership for FY 1991

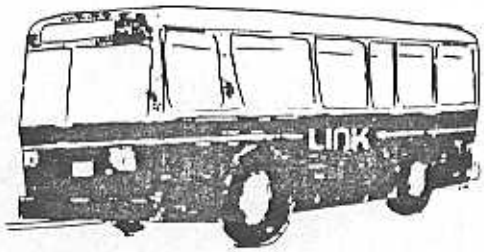


Source: City of Fairfax,
Office of Transit & Utilities

* Does not include GMU Ridership. GMU provides the City with a subsidy which allows their riders a reduced fare of 25 cents.



The LINK Trolley



GMU | City of Fairfax

A Cooperative Effort Between
The City of Fairfax
and George Mason University

•

Free Fare

Routes and Schedules

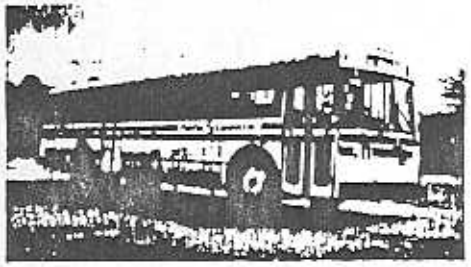
Effective August 26, 1992

City of Fairfax Transit Information • 385-7859 (voice/TDD)

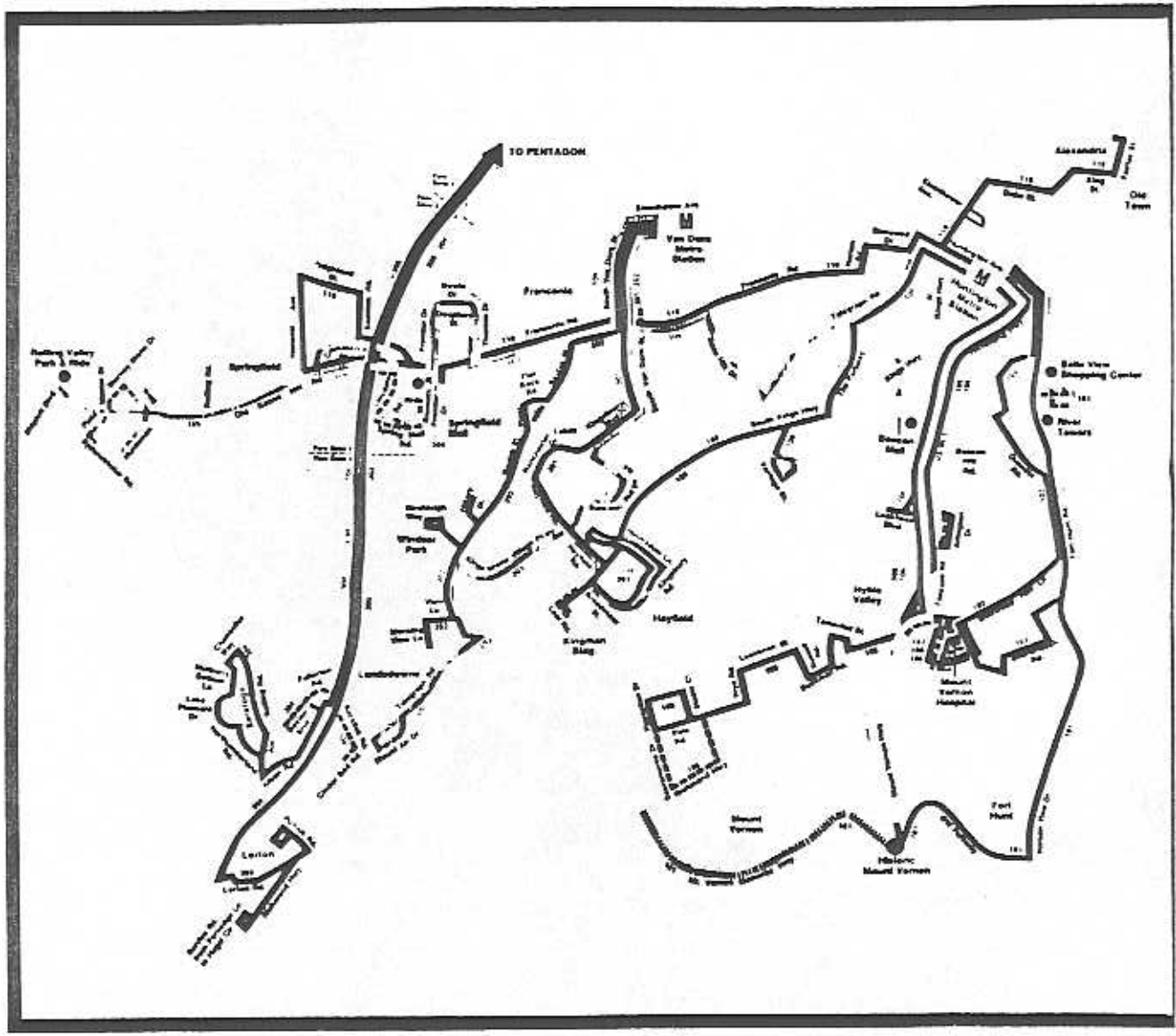
FAIRFAX COUNTY

1. FAIRFAX CONNECTOR:	(703) 339-7200
2. Tysons Shuttle:	(703) 548-4545
3. Reston Internal Bus System (RIBS):	(703) 548-4545

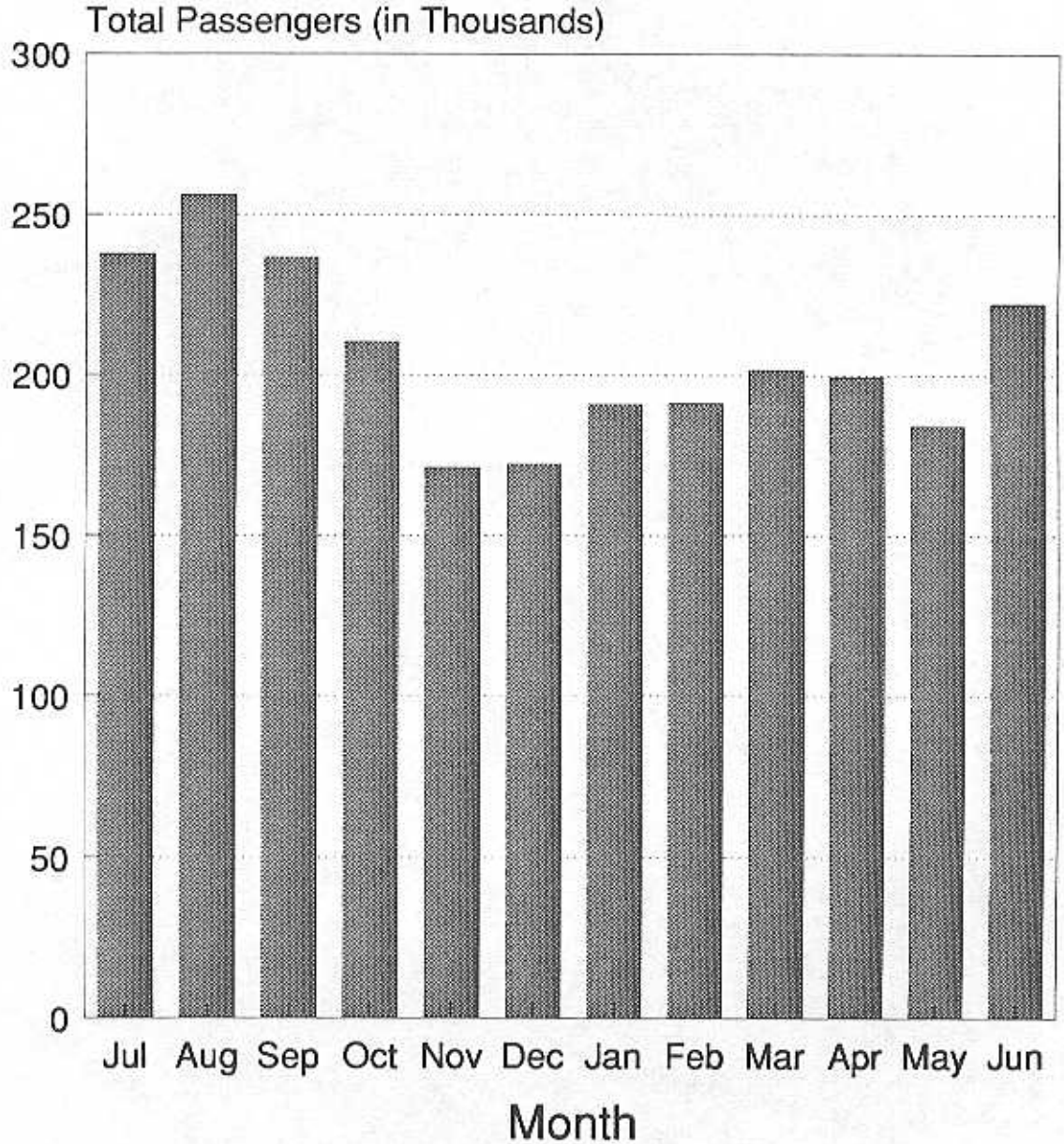
Fairfax Connector SYSTEM MAP



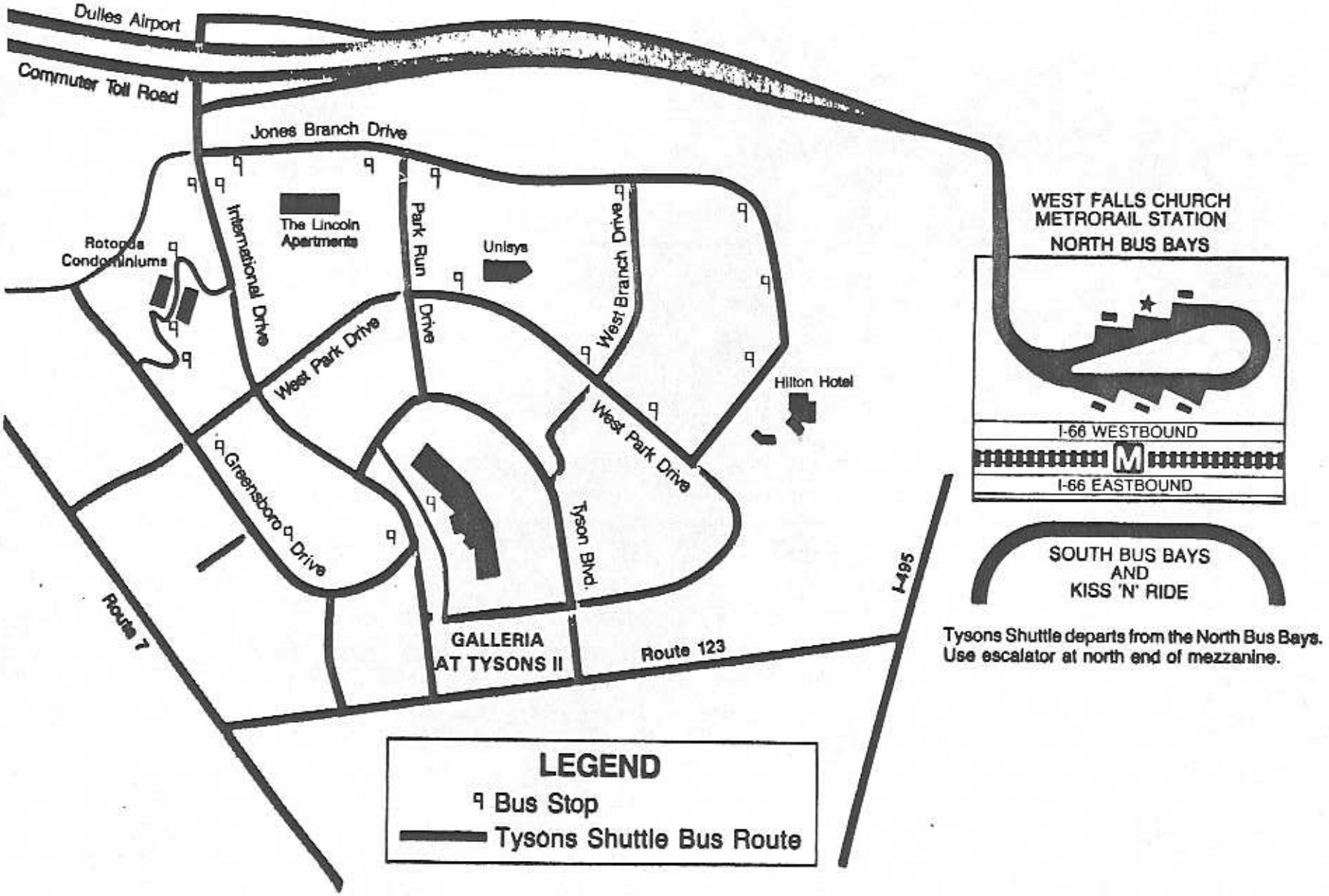
ROUTE NUMBER	AREA OF SERVICE
101	Mt. Vernon to Huntington via Fort Hunt Road
102	Hollin Hall to Huntington via Sherwood Hall Lane and Quander Road
103/ 104	Bucknell Manor to Huntington Loop
105	Woodlawn to Huntington via Richmond Highway
106	Mount Vernon Hospital to Huntington via Mt. Vernon Square and 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



FAIRFAX CONNECTOR
Ridership for FY 1992

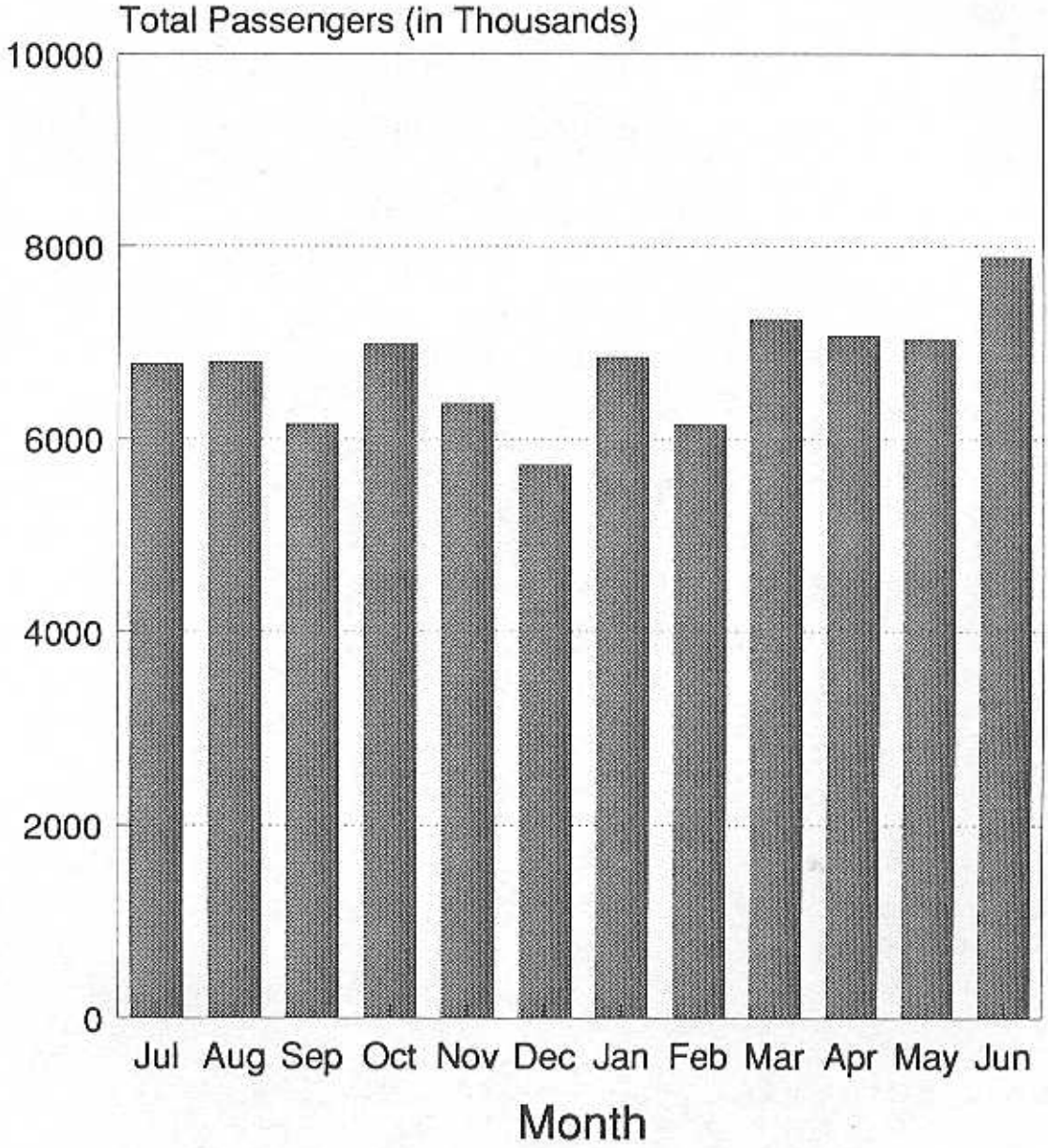


Source: Fairfax County
Office of Transportation

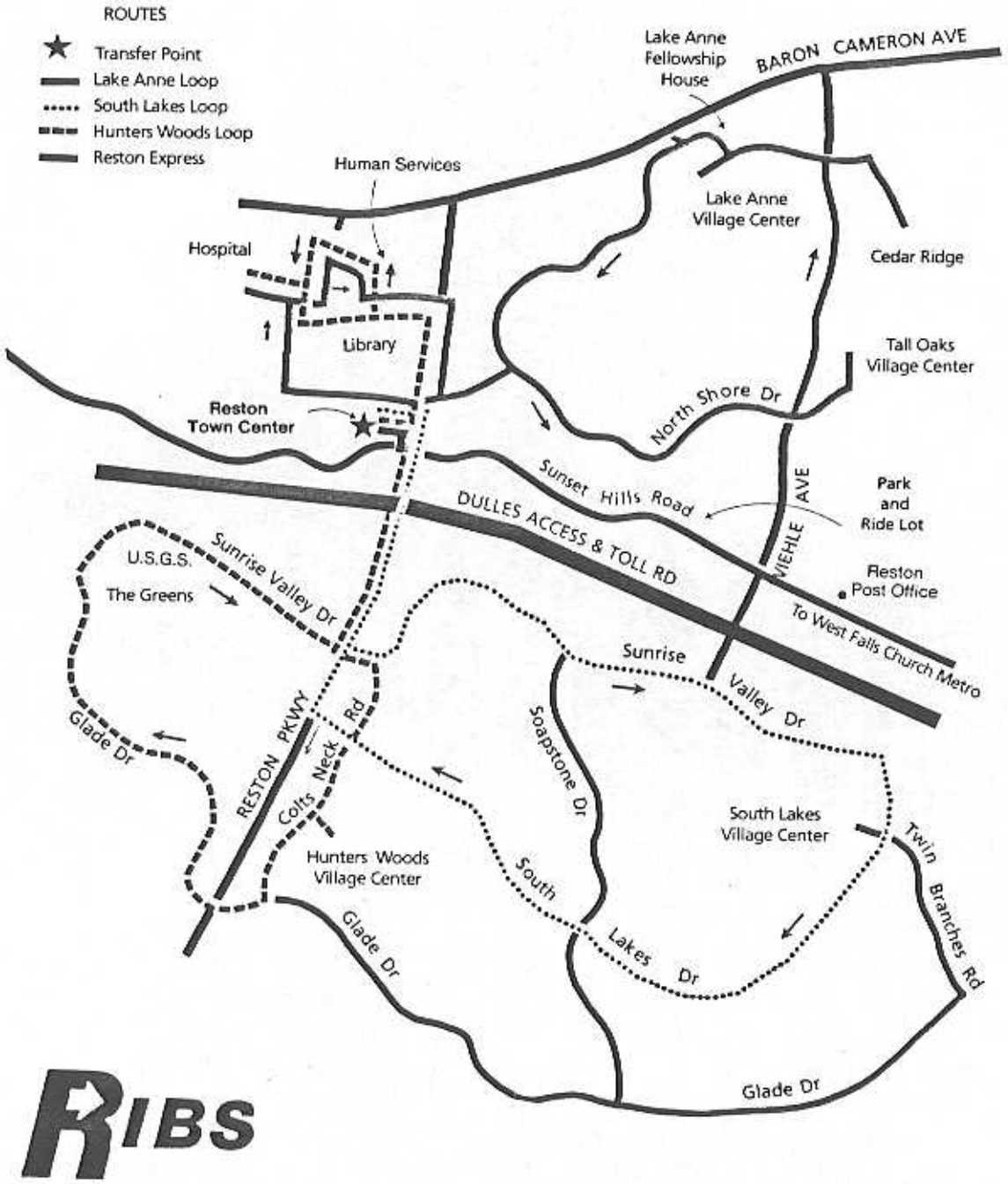


Tysons Shuttle departs from the North Bus Bays.
Use escalator at north end of mezzanine.

TYSONS SHUTTLE
Ridership for FY 1992

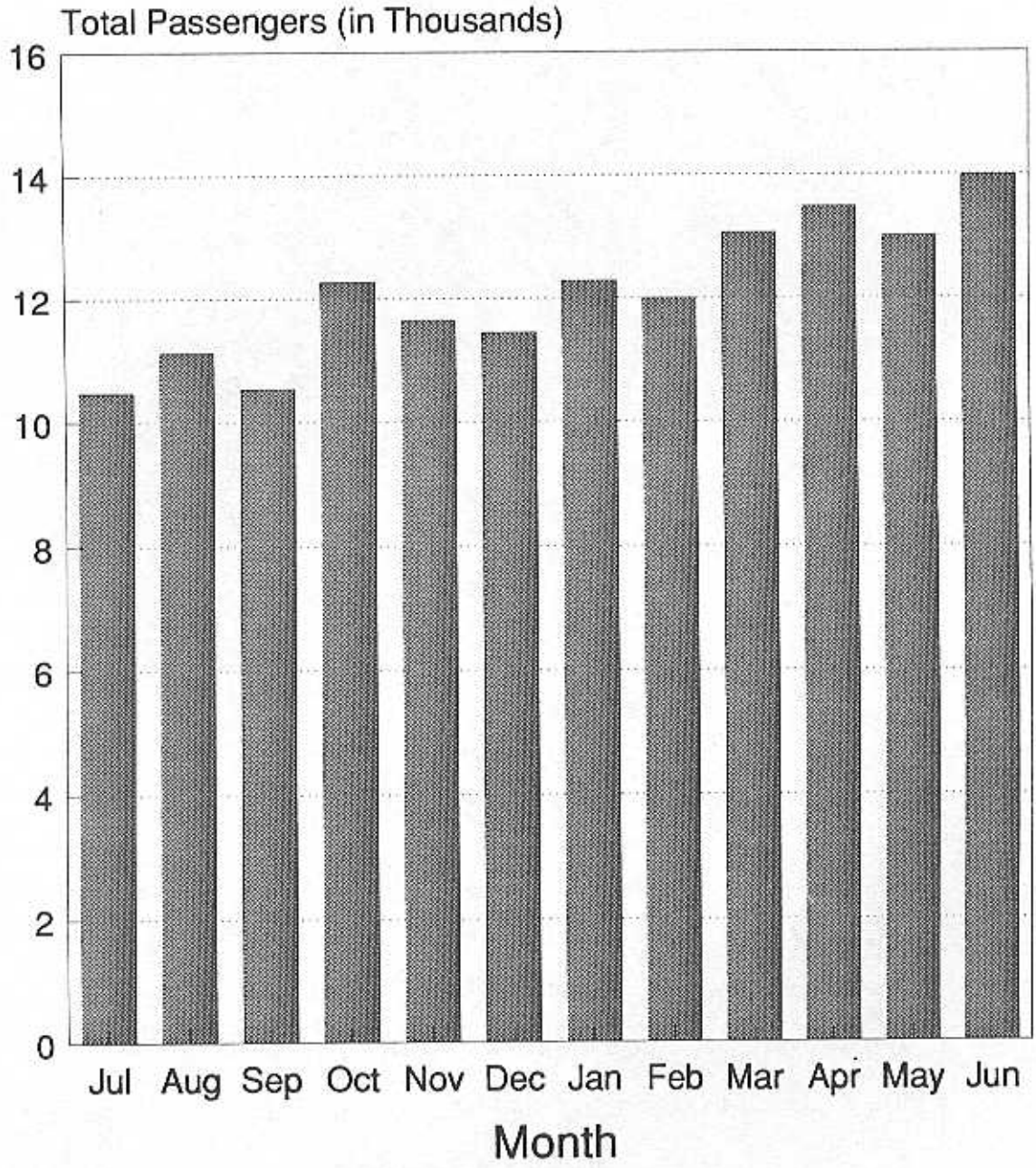


Source: Fairfax County
Office of Transportation

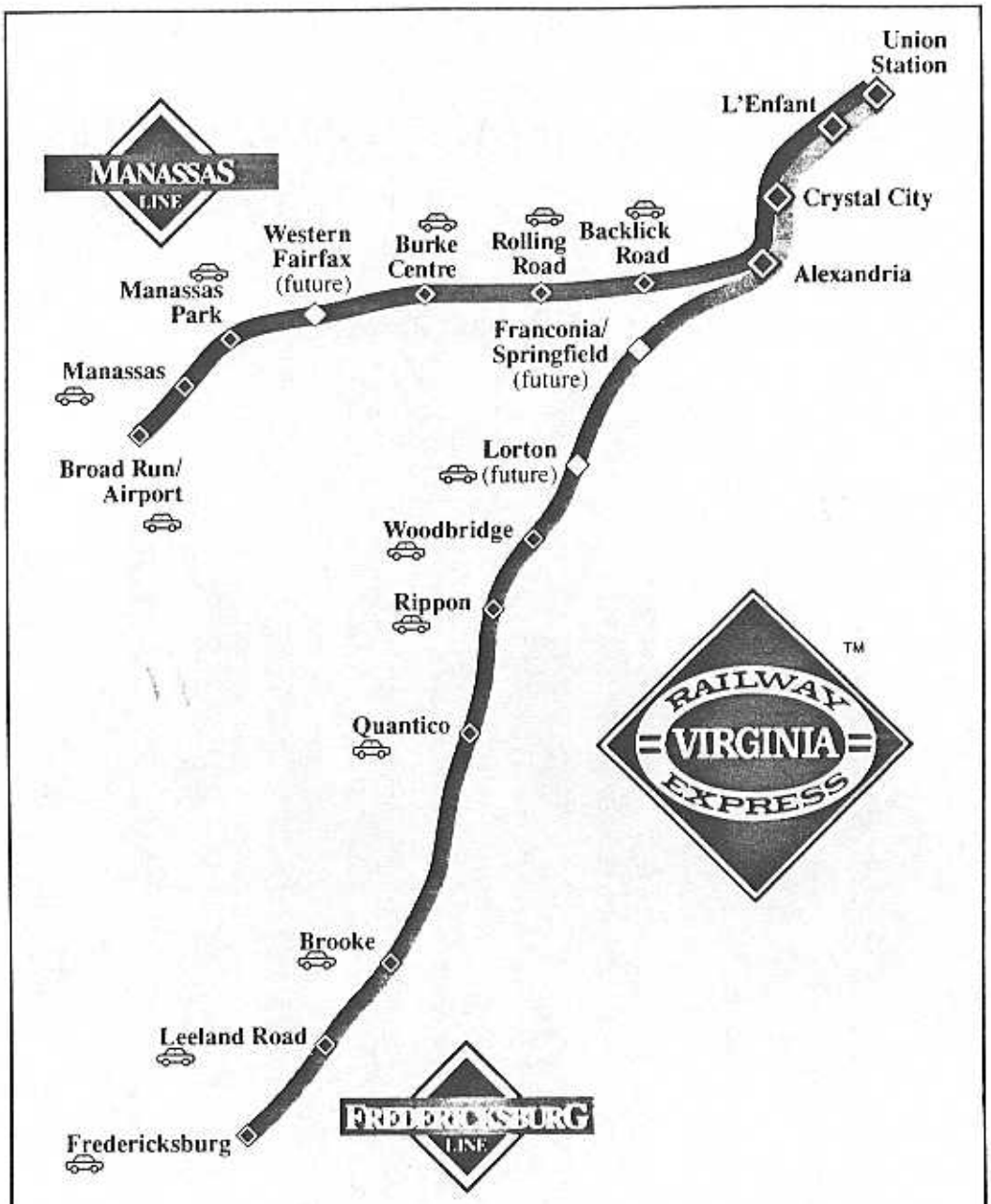


RIBS is supported through funding provided by Fairfax County. The service is operated under contract by Transportation Management Services, Inc. 703/548-4545.

RESTON INTERNAL BUS SYSTEM (RIBS)
Ridership for FY 1992



Source: Fairfax County
Office of Transportation



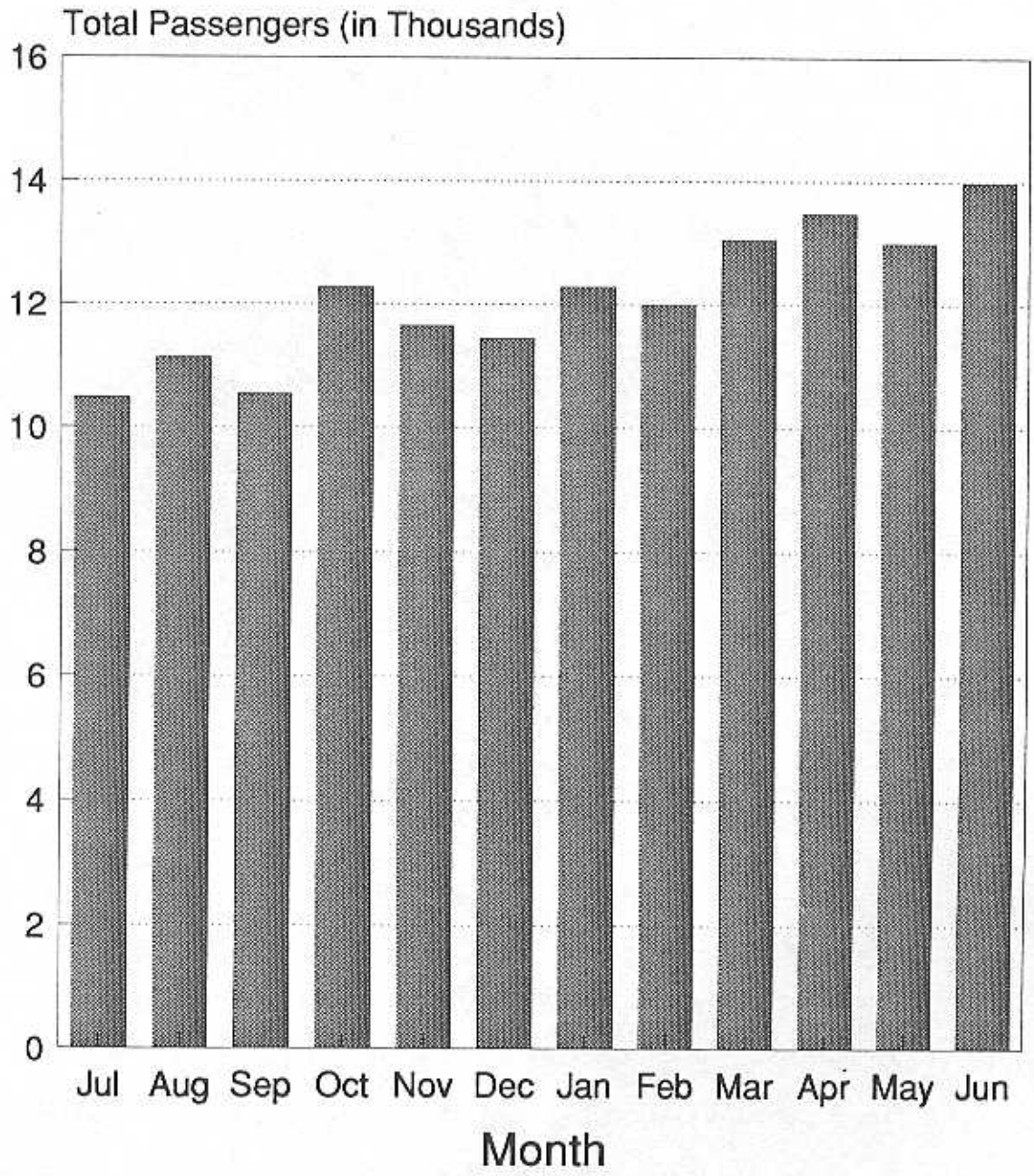
The Express connects with Metro at Union Station, L'Enfant, Crystal City, and Alexandria; with Amtrak at Union Station, Alexandria, Manassas, Quantico, and Fredericksburg; and with MARC at Union Station.

The Express is accessible to persons with disabilities.

The Express™

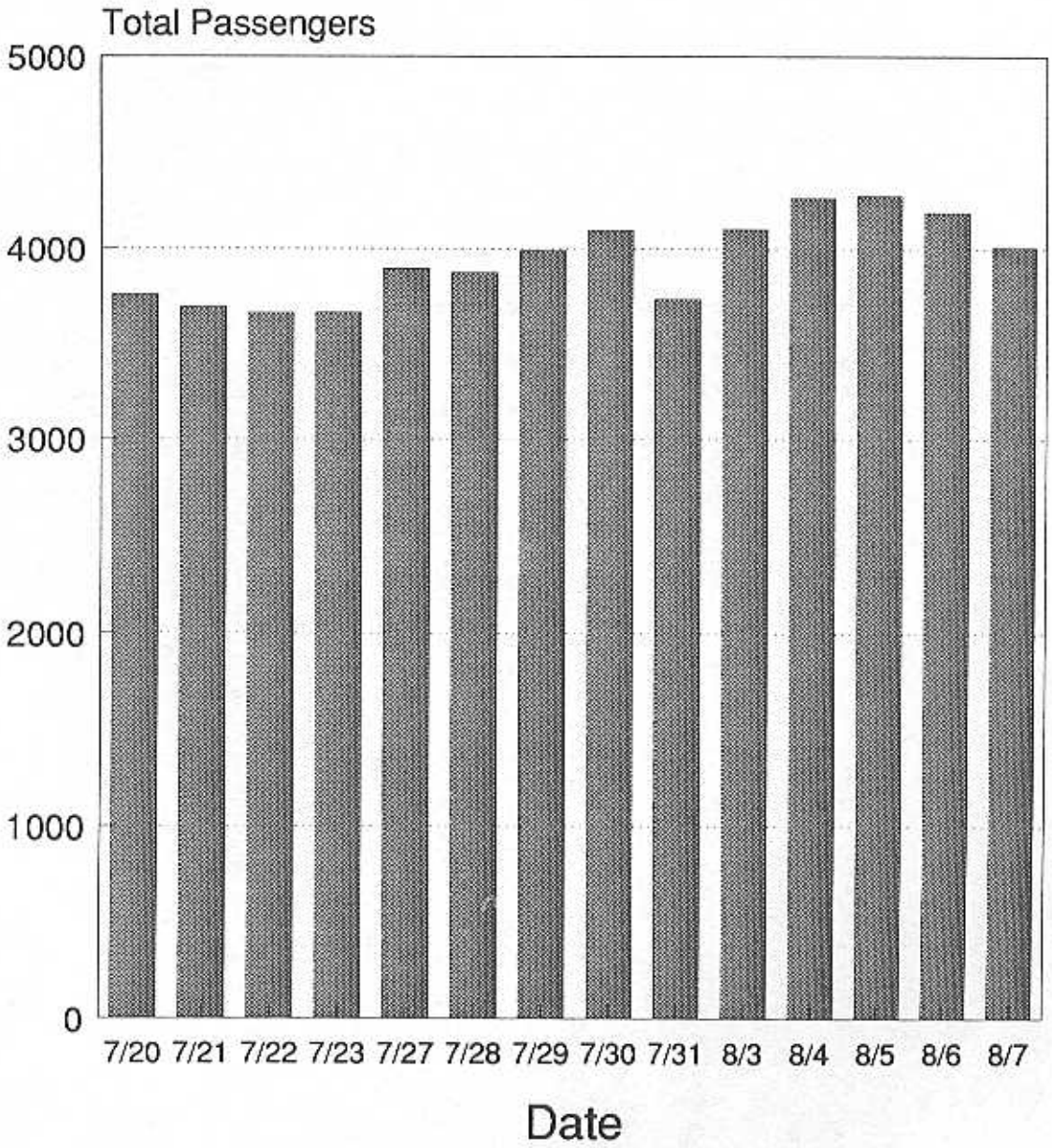
You've got a train to catch.™

RESTON INTERNAL BUS SYSTEM (RIBS)
Ridership for FY 1992



Source: Fairfax County
Office of Transportation

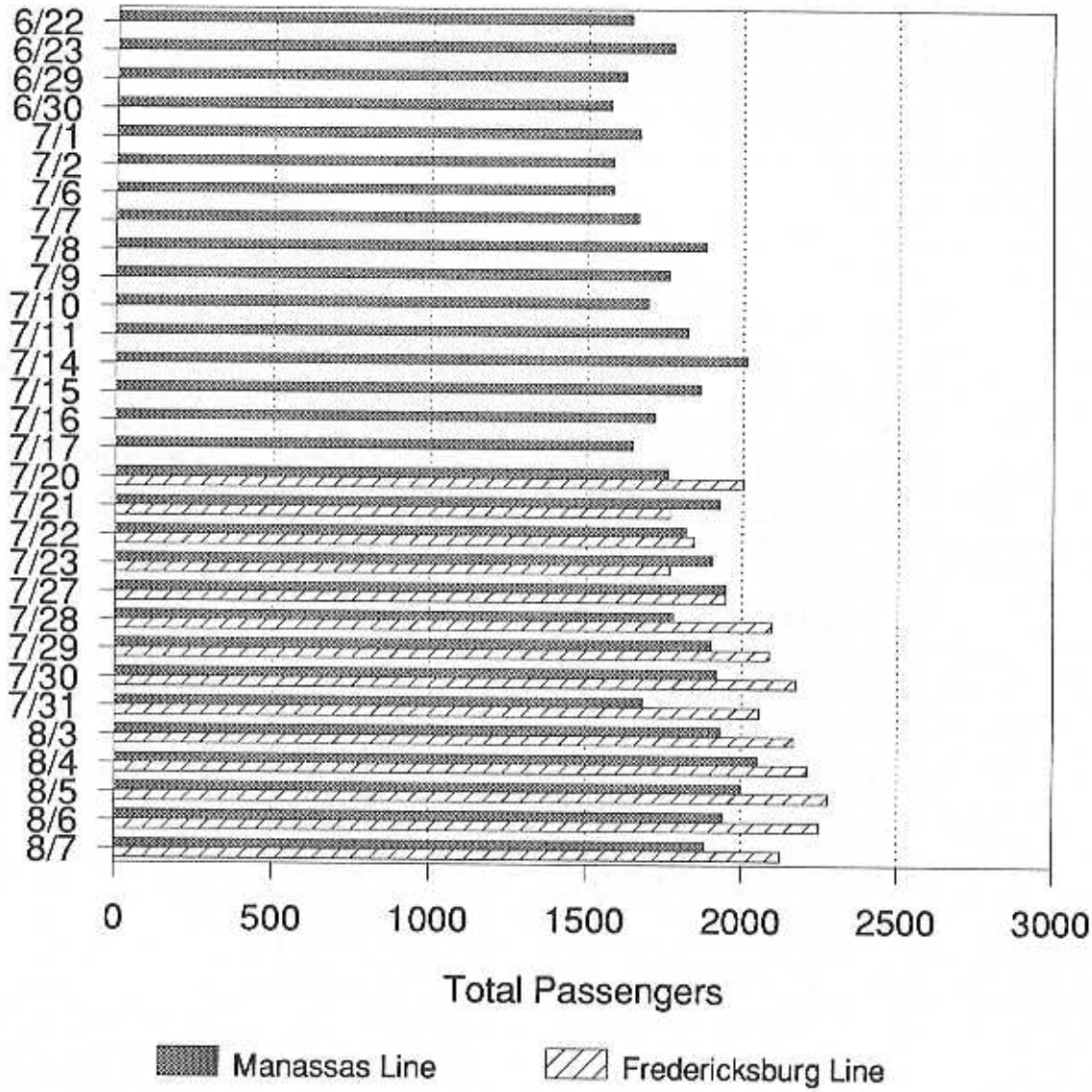
VIRGINIA RAILWAY EXPRESS
Daily Systemwide Ridership



Note: Includes both Manassas & Fredericksburg Lines. Data unavailable for 7/24.

VIRGINIA RAILWAY EXPRESS

Daily Ridership by Line



Note: Data is unavailable for 7/3 and 7/24.

APPENDIX D

TAXI SERVICE BY JURISDICTION

TAXI SERVICE BY JURISDICTION

JURISDICTION	COMPANY	PHONE[1]	# OF CABS
Alexandria	1. Alexandria Diamond Cab 3035 Mt. Vernon Ave.	549-1100	150
	2. Alexandria Yellow Cab 3035 Mt. Vernon Ave.	549-2500	175
	3. VIP Cab 3600 Jefferson Davis Hwy.	549-6900	56
	4. Columbus Cab 1307 Prince St.	684-7373	45
	5. King Cab 104 S. Henry St.	549-3530	54
	6. White Top Cab 226 W. Glebe Rd.	683-4004	111
		TOTAL	**591**
Arlington	1. Arlington Red Top Cab 1200 N. Hudson St.	522-3333	274
	2. Arlington Yellow Cab 1200 N. Hudson St.	527-2222	110
	3. Arlington Blue Top Cab 905 N. Glebe Rd.	243-8294	145
	4. Crown Cab Company 2324 N. Dinwiddie Rd.	528-0202	23
	5. Friendly Cab Company 139 S. Barton St.	979-2082	20
	6. Hess Cab Company 730 N. Frederick St.	841-1555	33
		TOTAL	**605**

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

Fairfax County & Other Areas	1. Fairfax Red Top Cab Co. 11 Hillwood Ave.	934-4444	70
	2. Yellow Cab Company[2] 11 Hillwood Ave		245
	- Annandale Yellow Cab	941-4000	
	- Bailey's Cross Roads 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] 7956E Twist Lane Falls Church	451-2255	59
	4. Herndon-Reston Cab* 7956E Twist Lane	451-7200	13
	5. Belvoir Taxi Service* 7956E Twist Lane	781-7040	10
	6. A Econo Sedan Service 7806 Trevino Lane	573-0830	5
		TOTAL	**402**
Loudoun County	1. Country Side Cab* 7956E Twist Lane	444-2259	2
	2. Dulles Taxi 1526 Millikens Bend Rd. (Herndon)	481-8181	6
	3. Loudoun County Yellow Cab 11 Hillwood Ave	437-9100	5
	4. Dulles Express Cab Company Loudoun County	450-0045	10
	5. Sterling Taxi W. Church Rd. Sterling	430-4444	10
		TOTAL	**33**
Other Taxi Services			
	Washington Flyer Taxi 905 North Glebe Rd.	661-8230	260

---

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

[3] *All taxi companies marked with (*) are owned by Paul Wallace Management Inc., 8017 Russell Rd., Alexandria, Va. 22309.*

TAXI OVERSIGHT AGENCIES

Alexandria:	Hack Inspector's Office Officer Marion Huffman	838-4240
Arlington:	Hack Inspector's Office Detective Dan Wines	358-4258
Fairfax County:	Consumer Affairs Office Mr. Harold Virts	222-8435
Loudoun County:	There is no oversight agency.	

APPENDIX E

CHRONOLOGY OF THE VIRGINIA RAILWAY EXPRESS

CHRONOLOGY OF THE VIRGINIA RAILWAY EXPRESS

Richard K. Taube
May 7, 1992

INTRODUCTION:

By the early 1950's, what commuter rail service remained in Northern Virginia was abandoned. As summarized below, the idea for restoring commuter rail service on the tracks of the Richmond, Fredericksburg and Potomac Railroad and the Norfolk Southern Railway connecting Fredericksburg and Manassas to Union Station in the District of Columbia is certainly not new. When the Virginia Railway Express commences service on June 22, 1992 to Manassas and July 20, 1992 to Fredericksburg, a long and sometimes frustrating process will at last have reached a successful conclusion.

Over the entire life of the Northern Virginia Transportation Commission (which dates to 1964) and the Potomac and Rappahannock Transportation Commission (1986), far-sighted and dedicated local and state government officials have struggled to overcome funding shortfalls and opposition from private railroads to initiate commuter rail service. At the same time, NVTC has helped to build the regional Metrorail system, conducted the highly successful demonstration of express buses on the Shirley Highway, and helped secure federal, state and regional funding sources that make it possible to build and operate the region's successful public transit systems. PRTC operates a heavily used commuter bus system and has expanded its boundaries to include new jurisdictions that previously had no involvement with public transportation.

The information reported below has been gleaned from the minutes of monthly NVTC meetings, from research reports and from discussions with staff, Commissioners and Consultants.

Of necessity, the chronology is somewhat sterile, and does not reveal the identities of the women and men who struggled over the years to initiate commuter rail service. These heroes will be recognized in other forums, and the honor roll of potential winners of the mythical "VRE John Henry Award" is lengthy indeed.

CHRONOLOGY:

1964: Northern Virginia Transportation Commission created by Virginia General Assembly.

1965: Commission acts to oppose abandonment of Washington and Old Dominion Railway (current I-66 Corridor) because of its potential for regional transportation, and seeks financing to purchase the railroad for rapid rail and freight purposes, with emphasis on continued private enterprise operation.

During reconstruction of the Shirley Highway (I-395), Commissioners called for the use of the RF&P for experimental commuter rail service to relieve congestion. Self propelled, rail diesel cars (RDC's) were suggested, with service from outlying areas to connect with the planned subway system (Metrorail). Commission voted to conduct discussions with the RF&P and hire staff to accomplish feasibility studies. Second-hand, good condition RDC's were located.

A consultant (Transit Engineer for the City of Philadelphia) recommended initial service with RDC's and to accommodate future growth, diesel locomotive-hauled trains and ultimately electric trains. Initial service would include workday (and one Saturday) trips extending to Lorton and Woodbridge, and eventually to Quantico and Fredericksburg. Fares would be 3-cents per mile plus a 15-cent boarding change (a trip to the current L'Enfant station from Franconia would be about 50-cents one way).

The Commission also considered a proposal from an Alexandria company for a monorail connection for National Airport/Crystal City/Pentagon, estimated as a $5 million project.

Representatives of private bus companies (AB&W and D.C. Transit) agreed to cooperate in providing feeder bus service to commuter rail, using joint fares. A proposed train schedule was submitted to the RF&P. Federal agencies agreed to poll their employees to help NVTC estimate patronage.

The Commission urged Loudoun and Prince William Counties to join NVTC.

1966: Staff discussions with the RF&P continued. Possibilities of operating pooled service with the B&O Railroad, providing direct links between Franconia and Rockville, were explored. In response to many requests from Fairfax County residents, the scope of the study was expanded to include the Southern Railway.

Commissioners suggested that commuter rail services could be integrated into the planning efforts of the Washington Metropolitan Area Transit Authority, which was created by Interstate Compact in this year.

The Commission voted to commend the RF&P for its "splendid cooperation" in preparing cost estimates and requested that the railroad help to provide a test train with borrowed RDC's from the B&O.

1967: Plans were discussed for a six-year demonstration of commuter rail service on the RF&P between Franconia and Washington, D.C., with one-third of the costs to come from local governments. Commuter rail service could be replaced by proposed rapid rail service at the end of the six-year period. NVTC requested that WMATA apply for a federal demonstration grant.

The Commission proposed a test network to be part of WMATA planning for three commuter rail lines: 1) RF&P, Franconia to D.C.; 2) Southern Railway, Alexandria to Sideburn in Fairfax County; 3) W&OD, and new and abandoned rights-of-way, between Crystal City and Herndon, Vienna and the City of Fairfax. Capital costs would be $400 million, including rolling stock.

The Commission, noting great similarities between Northern Virginia and the Toronto Metropolitan Area, agreed to send observers to the initiation of GO-Transit commuter rail service.

The Commission approved the final report of its commuter rail consultant on feasibility of the RF&P project, and asked staff to continue discussions with the railroad to implement the service.

In a telegram to the Commission, the President of the RF&P objected to the proposal to bring freight and passenger trains from the W&OD right of way into Washington Terminal via the RF&P, and called the proposal "operationally infeasible." NVTC staff argued that about $20 million would be needed to upgrade the W&OD, but WMATA's General Manager put the figure at over $70 million, with an operating deficit per passenger of $1.25, and service inferior to the rapid rail service proposed by WMATA's consultants for that corridor. He went on to warn that if commuter rail service is provided by NVTC in the RF&P corridor, a 10-year delay in providing Metrorail service would result since the corridor would be given a lower rapid rail priority.

1968: WMATA staff completed their evaluation of NVTC's proposed six-year commuter rail demonstration on the RF&P. Capital costs would be $12.3 million, with a $4.6 million salvage value. Operating costs would total $14.7 million over six years, with passenger revenue less bus feeder costs totaling $5.4 million. The net project cost was estimated at $17 million, with trains at 15-minute headways

over two-hour morning and evening rush periods, plus every 60 minutes mid-day, evenings and Saturday. The subsidy would be $1.23 per rider, for about 9,000 work day trips.

WMATA staff warned that seeking federal funding for the six-year experiment could jeopardize funding for the proposed regional rapid rail system. Commissioners responded that it is wise to experiment with commuter rail service while new rapid transit lines are being designed, financed and built. The initial cost of commuter rail is minimal compared to rapid transit, and it can be integrated with rapid transit and extended outward as demand grows. Consultants informed the Commission that at least two years would be required to order rolling stock, build stations and parking lots, and rearrange tracks.

Following extended discussions and public hearings, NVTC voted to support a regional transit system for Northern Virginia with rapid transit in the three proposed commuter rail corridors, and only interim commuter rail service. In adopting the regional system plan, the WMATA Board omitted the W&OD corridor but called for a staff study of interim commuter rail services.

1969: A Senate Public Works Committee report reiterates the feasibility of commuter rail service along the RF&P. The Commission votes to urge WMATA to "redouble" its efforts to investigate the integration of commuter rail service into its rapid transit network, since the Franconia/Springfield Metrorail station is not planned to open until 1978. Commissioners continue to comment on the difficulties of simultaneously seeking federal funding for WMATA's rapid transit network and interim commuter rail service. The Commission forms a subcommittee to work with WMATA and the Transportation Planning Board to implement commuter rail service, and another to identify consultants to reconcile different conclusions of the Public Works Committee and WMATA regarding commuter rail costs.

1971: USDOT Secretary Volpe favors the use of existing rail rights of way for commuter rail service, and his staff undertakes a feasibility study of such service in Northern Virginia and Southern Maryland.

1972: A consultant's study (the fourth in five years) is presented to the Commission. Four daily trains would carry 2,500 passengers in Virginia (and additional service would capture 4,200 daily riders in Maryland). By comparison, NVTC's Shirley Busway demonstration was carrying almost 18,000 daily riders at that time. Capital costs would be $9.5 million with used rolling stock, or $16 million with new, and first year net operating subsidies would be $500-750,000. It was reported to the Commission that the private railroads were **not** interested in undertaking such service.

1973: The Commission discussed $1.8 million appropriated by Maryland for state purchase of a commuter rail system. NVTC supported similar action in Virginia and asked the WMATA Board to report to NVTC by January, 1974 on the concept of including commuter rail service in its Mass Transit Plan, as was proposed in pending federal legislation.

1974: An Amtrak official contacted the Commission, suggesting that it was possible to obtain funding (one-third from Amtrak and two-thirds from the District of Columbia) for a rail line from Frederick, Maryland to Richmond, permitting commuter service in Virginia as far south as Quantico.

Transportation Planning Board staff urged NVTC to work with WMATA, Prince William County and environmental groups to provide a concrete proposal for commuter rail service to include in TPB's plans and programs.

Prince William County officials developed a proposal for service on the Southern Railway and the RF&P after speaking with the Presidents of those railroads. Both were believed to have surplus locomotives and railcars that could be refurbished. The County intended to seek $700,000 of grants to help buy rolling stock and finance parking lots and shelters. Operating costs would be met from passenger fares for the single daily round trip. Stops on the Manassas line would be at Clifton and Burke on the way to the District of Columbia. On the RF&P, service would originate at Quantico with stops at Woodbridge and one site in Fairfax County before reaching to the District. An anticipated 600-800 daily riders would pay $1800 to $2400 per day to cover the $1200-$1500 daily operating costs. If no capital grants were obtained and instead equipment were leased, fares would be $3.00 per round-trip to cover the $2.69 per passenger daily operating costs, assuming 90 percent of the available seats were filled.

The County did not seek NVTC's support or participation.

Maryland initiated commuter rail service on the B&O's Brunswick Line.

1978: Commission reviews status of commuter rail proposals. The RF&P is reported to be "totally disinterested" in any commuter rail service, in light of its heavy freight schedules. Also, difficulties in financing the Maryland system are cited as grounds not to proceed with further in-depth studies on this line. Commission contacts Southern Railway regarding possible service from Culpepper, Manassas and Burke Centre to King Street Metrorail in Alexandria.

1980: Two percent motor fuels tax legislation approved for NVTC.

1981: The State Rail Plan contains an element concerning commuter rail service for Northern Virginia. TPB asks NVTC to consider coordinating a further study, in light of indications from the Virginia Department of Highways and Transportation

that the RF&P might now be amenable to allowing commuter rail service on its tracks. Proposals for additional passenger service to Newport News and Busch Gardens might lead to new opportunities for commuter service.

Commissioners commented on the results of earlier studies that identified high costs of refurbishing rolling stock and entry into Union Station, as well as the reluctance of private railroads, as stumbling blocks. Staff was directed to update previous studies and report back to the Commission.

1983: The Metropolitan Washington Council of Governments completes Phases I and II of a Northern Virginia commuter rail study, which analyzes travel demands, capital requirements, operations issues and institutional problems. Service contemplated in the study would link with outer Metrorail stations and not continue into the District of Columbia. MWCOG requested that NVTC and local governments express interest before Phase III of the study was undertaken. NVTC staff recommended against further study, citing opposition of the railroads and limited funds, among other reasons. Some Commissioners urged that the study proceed, since private conversations with rail officials indicated a willingness for further discussions.

1984: Third phase of state-sponsored commuter feasibility study completed by R.L. Banks and Associates, for MWCOG. It calls for service to King Street Alexandria using new equipment at a capital cost of $45 million, plus contingencies. Using new locomotives and railcars, with service terminating at Alexandria, about 3,000 daily riders were expected. No new yards were contemplated. NVTC staff introduced the concept to the Commission, together with a Prince William County member of the House of Delegates. Staff was directed to report back regarding the terms and conditions required by the RF&P and Southern, since strong railroad opposition had doomed earlier commuter rail efforts.

1985: Monthly briefings are initiated for Commissioners by NVTC staff. VDH&T representatives reported that the RF&P was amenable to further discussions if no railroad subsidy would be required. In April NVTC staff proposed two-year experimental service with used railcars and locomotives and with reduced crews at significant savings. A two-year budget and five year pro forma financial statement was provided. Eight trains would operate during rush hours. An NVTC resolution endorsed the plan and provided staff's findings to a new Legislative Subcommittee on Commuter Rail, to be used to help determine the willingness of local jurisdictions and the Commonwealth to participate financially. Staff was directed to seek reduced crew size agreements to contain costs.

Staff was also directed to undertake a study of commuter bus alternatives. The commuter bus report reviewed existing studies, described current operations and proposed a two-year experimental budget comparable to that of the commuter

rail experiment. For an 80-bus operation to carry 3,000 daily passengers in the two corridors, net costs for the two-year period would be $12 million, or only $5 million if leased buses and a private operator (at a contract rate of $3.55 per revenue mile) were used. The net cost of the two-year rail experiment with used equipment was stated to be about $8 million annually, plus $2 million in start-up costs. A public meeting with citizens, government officials and private bus operators is convened by NVTC in Manassas to discuss the report and related issues.

Despite the difference in costs, staff and Commissioners were concerned that bus service would not attract single-occupant automobile drivers as effectively as would commuter rail service.

The Commission adopts a resolution approving a detailed scope of work to implement the commuter rail experiment.

NVTC staff accompany federal and state officials to examine used railcars and locomotives in Pontiac, Michigan and Toronto. Suitable used railcars cannot be located, although locomotives are readily available for rehabilitation.

Draft Master Agreement is negotiated with several local jurisdictions, and a basis for sharing costs and revenues is agreed to. Stations are identified. Discussions occur between NVTC and outlying jurisdictions regarding joining NVTC.

Meetings with organized labor provide promise that reduced crew sizes may be acceptable.

Robert L. Banks and Associates, Inc. is hired to provide overall project consulting. He reevaluates the NVTC staff budget and two-year operating plan and finds it sound. Consulting costs are shared by local jurisdictions in the service territory. Among the issues identified for further analysis is insurance.

Proposal to operate a single commuter rail train (Amtrak's Virginian) as a pilot is evaluated. The Urban Mass Transportation Administration promises a grant. NVTC arranges for Greyhound to accept commuter rail tickets on parallel routes. Congressman Parris sets a target of Labor Day 1986 for the start of pilot service using the Virginian. Amtrak refuses to allow the use of its insurance for the Virginian.

1986 Public hearings on state and federal capital grants for the project are held and grant requests are filed. Costs for the full eight-train demonstration are estimated at over $7 million of net local subsidy per year. Amtrak is asked to provide a precise cost estimate for operating the schedule provided by NVTC staff, and for including NVTC's service in Amtrak's self-insurance program.

A March 17, 1986 Rail Rally arranged by a Commissioner drums up popular support using a group known as the "Friends of the Virginia Railway Express."

In June, Governor Baliles commits the Commonwealth to financial support of commuter rail in a speech to NVTC.

In July the Commission acts to proceed with the Virginian pilot, including sending the draft Master Agreement to the jurisdictions for further comment. Contracts with the RF&P and Amtrak are to be negotiated. Construction cannot proceed until UMTA provides a "letter of no prejudice" for its $1 million grant for parking and platforms.

In September, the General Assembly, acting in special session, increases NVTC's transit assistance substantially.

Liability insurance problems prevent the pilot train from operating, since commercial insurance is not available at any price.

Work begins on establishing a self-insurance trust, with a $5 million state contingent loan and $150,000 grant.

Tillinghast Nelson and Warren is hired to perform a study of expected insurance claims for VRE service.

NVTC sought to store railcars owned by Go-Transit of Toronto (that had been used by MARC in Maryland) to give the Commission time to arrange for leasing, but liability insurance for storage could not be obtained.

Negotiations proceed with organized labor for a 13(c) labor protection agreement to permit receipt of a federal grant.

New legislation creates the Potomac and Rappahannock Transportation Commission with a two percent motor fuels tax to help pay for the commuter rail project.

Legislation that would have capped liability failed in the Virginia House of Delegates' Courts of Justice Committee; instead, NVTC's liability was clearly established so that it could agree to indemnify the railroads (i.e., issues of sovereign immunity were resolved).

Negotiations continued on terms of the draft master agreement.

1987: Chase, Maryland accident between a Conrail locomotive and Amtrak train calls into question the enforceability of Amtrak's no fault insurance plan. Conrail withdraws its support for the project despite two years of active cooperation.

Ridership study completed by R.H. Pratt raises earlier estimates to almost 4,000 daily, depending on the amount of parking, and provides station-specific estimates.

VDOT provides $3.2 million for capital and administrative costs.

VDOT agrees to undertake parking lot design and construction.

Work begins with several federal and District of Columbia government agencies regarding the proposed L'Enfant Station.

NVTC approves 13(c) agreements with organized labor.

NVTC and PRTC endorse the Master Agreement in concept.

A detailed financial plan is developed with financial advisors, bond counsel and underwriters. A Commonwealth Transportation Board resolution provides a stable financial basis for planned borrowing by NVTC. An insurance broker of record is selected by the Commissions.

Agreement is reached with Amtrak on an operating contract that provides modest crew reductions.

Drafting of specifications begins for the competitive procurement of rolling stock. Up to 38 railcars and eight locomotives are to be purchased. Proposals are received for locomotives that far exceed the available budget, so the proposals are rejected.

NVTC contracts with a team of consultants to study commuter bus alternatives in Northern Virginia and Prince William County undertakes a complimentary study also encompassing Manassas and Stafford County.

1988: NVTC and PRTC participate in a year-long effort to produce a transportation plan for Northern Virginia through the year 2010, including identifying commuter rail corridors.

The commuter rail project becomes known as the Virginia Railway Express with a distinctive, historical logo. At the insistence of the private railroads, a plan for a self-insurance-trust is developed that will provide up to $100 million in liability protection for the participating railroads although the Commissions actuarial study indicated a level of $30 million would be sufficient. The plan would be administered by the Commonwealth's Division of Risk Management.

Railcar and locomotive procurement continues. Staff establishes a target of March 1989 to start service but stresses that well over a year is needed from the

time equipment contracts are signed. Locomotives are in very short supply and only one suitable bid is received. A railcar supplier is chosen and a losing bidder files suit. Since agreement with the railroads is not achieved on the indemnification plan the existing procurements are terminated and the suit is dropped. New procurements are initiated.

A detailed report on the status of all station sites is provided by Commission staff to local chief executive officers.

In an effort to encourage smaller properties to join together in negotiations with potential contract operators (such as Amtrak,) NVTC, PRTC, R.L. Banks and APTA co-sponsor the first annual North American commuter rail conference held in Rosslyn, (Arlington).

New Virginia legislation permits the Commissions to purchase off-shore captive insurance to help establish the self-insurance trust. Also, enforcement of honor system fare collection is enabled through new state legislation.

The Commonwealth's Division of Risk Management is assigned the role as the project's risk manager by the Governor and the General Assembly.

A quarterly newsletter called the Track Record is issued to an extensive mailing list.

Financial advisors, bond counsel and bond underwriters advise the Commissions on a financial plan and $79 million debt issue to purchase 38 railcars and 10 locomotives while funding the Self-Insurance Trust.

All six participating and contributing jurisdictions endorse the Master Agreement and financial plan in concept. Fredericksburg decides not to participate.

Amtrak, the Southern Railway and the RF&P finally agree to the Self-Insurance-Trust, as does the Division of Risk Management, at a level of $200 million per occurrence.

Amtrak's Graham Claytor presents the SIT plan to Conrail. Conrail refuses to consider the plan, since a federal judge has ruled in the case of the January 1987 Chase, Maryland accident that a similar arrangement was not enforceable.

A new chief executive officer, Richard Sanborn, takes over at Contrail. He agrees to work out an operating agreement with the Commissions but continues to insist that it be contingent on settling Conrail's concern that the SIT provide iron-clad coverage. After a month on the job, Mr. Sanborn passes away, and negotiations cease. Other remedies are considered by the Commissions, including ICC intervention and terminating service at Crystal City.

The Commissions begin another railcar procurement process, but are forced to suspend it indefinitely since Conrail will not agree to terms.

Commissions appoint members and VRE's Operations Board begins to meet monthly, and selects its officers.

UMTA provides a formal grant award of $750,000 but requires the project to be implemented by October, 1989, or most of the grant will be lost.

1989: Southern Railroad provides a draft operating agreement which the Commissions hope to use as a model for RF&P and Conrail.

Negotiations are resumed with Conrail under the auspices of its new chief executive, James Hagen.

Federal legislation is introduced by Senator Robb and Representative Boucher to resolve Conrail's concerns with the enforceability of the Commissions' indemnification contract.

The Operations Board calls for the two Commissions to recommence the purchase of railcars and locomotives, issue the tax-free debt, and establish the SIT. The proposal calls for the Master Agreement and financial plan to be revised to include a contingency for service terminating in Crystal City, if Conrail will not otherwise cooperate. New patronage estimates are prepared for this option, employing a fare discount for passengers transferring to Metrorail to cross the Potomac River.

After refusing to consider enlarging its First Street Tunnel since 1985, Amtrak agrees to investigate the possibilities and the Commissions contract to do so. Enlarging the tunnel would permit high-capacity railcars to be used at significant savings to the project.

New Virginia legislation strengthens the Commission's powers to plan and operate VRE service. Protection of the assets of NVTC's members held in trust by the Commission is included in the biennial budget. Language clarifying terms by which Loudoun County would join NVTC is included in the Transportation District Act.

The Northern Virginia Transportation Plan is completed, and calls for doubling VRE service frequencies along existing corridors. A $7 billion funding shortfall for highway and transit projects is identified, through the year 2010. NVTC leads a regional consulting effort to identify sources of funds. Fairfax County proposes that NVTC issue contract revenue bonds to fund completion of the Fairfax County Parkway.

In October, 1989 the Commissions vote to execute the VRE Master Agreements, Liability Insurance Management Agreement, and operating agreements with Amtrak, Southern Railway, RF&P, and Conrail (although Conrail will not execute the agreement until federal legislation is in force providing indemnification). The agreements are signed in a special ceremony and train ride on October 27, 1989.

1990: Loudoun County joins NVTC.

An architect/engineering consulting team is hired to design platforms and stations.

Following an exhaustive investigation of the low-bidder in the railcar procurement, the Commissions award the contract to Mitsui and Company (USA) Inc. and its Brazilian partner, Mafersa S.A. All railcars are due in 24 months, with sufficient railcars to start service due by October, 1991.

Staff pursues the purchase and rehabilitation of F10 locomotives from the MBTA in Boston, but Amtrak refuses to agree to operate the units. Instead, an award for 10 rehabilitated railcars is made to Morrison-Knudsen.

The Commission's $79 million bond issue closes on February 7, 1990.

Fredericksburg and Manassas Park agree to join PRTC and become full participants in the VRE project. Discussions with Fauquier County officials are hindered by the refusal of the Norfolk Southern to entertain any extension of VRE service beyond Manassas.

The VRE Operations Board recruits a rail operations manager.

President Bush vetoes Amtrak's reauthorization including Conrail indemnification for VRE. Congress fails to override. Shortly thereafter, a new bill passes and is signed by the President. The Conrail operating agreement is then executed.

Fare collection equipment (40 units) is ordered from Schlumberger, to accept credit card transactions. Additional machines will validate tickets for the proof-of-payment system.

Ft. Belvoir officials announce plans to bring an additional 6,000 people to that location, and to use a connection to VRE to help relieve congestion. The Commissions did not consent to such plans.

Two new ridership forecasting studies are undertaken to confirm that sufficient rolling stock has been ordered.

A proposed constitutional amendment to allow the Commonwealth to issue pledge bonds for transportation projects is defeated in a statewide referendum.

The Americans with Disabilities Act is signed into law, requiring extensive modifications to stations and accessible rolling stock. The Commissions planned to provide accessibility with mobile lifts at each station.

Norfolk Southern proposes to retire 11.5 miles of track north of Manassas.

The Commissions initiate discussions with MBTA in Boston regarding procuring surplus, used stainless steel railcars instead of exercising the option for 14 new railcars from Mitsui.

The Commissions begin to discuss the VRE fare structure and related policies.

1991: The Commissions' limited waiver of sovereign immunity is reenacted by the General Assembly after a sunset provision had taken effect.

Deliveries of Mitsui's railcars are delayed.

Rehabilitated locomotives are completed ahead of schedule by Morrison Knudsen and some are leased to other operators (Maryland's MARC) pending start-up of VRE service. At $1.1 million each, the locomotives are like new at half the cost.

Serious negotiations begin for up to 25 surplus stainless steel railcars from MBTA. Discussions with UMTA fail to yield a solution that would permit transfer of the railcars in time to meet the planned October, 1991 starting date. Late in the year, MBTA does agree to sell 21 coaches to the Commissions. Morrison Knudsen is chosen to rehabilitate the units in Hornell, New York.

The Commissions agree to pay to keep the Norfolk Southern track north of Manassas in place for VRE operating flexibility, since replacing the track in the future would cost $500-$600,000 per mile. The annual payment by VRE to Norfolk Southern is about $150,000.

The purchase of ticket vending machines from Schlumberger is converted to a capital lease on favorable terms to improve cash flow.

Bids for construction of 11 VRE stations are rejected, since the lowest bid was $4 million above the engineering estimate for a $7 million budget. Despite value engineering, a rebid yields a total cost $2 million above estimates. The contract is awarded to Keystone Builders with funding from other budget line items.

NVTC and PRTC agree to cooperate with NVPDC in a federally funded study of the land use implications of VRE.

A contract is awarded to Henderson Construction for construction of two layover yards at almost $1 million less than the engineering estimate (which was $4 million).

A contract is awarded to Wang Laboratories for VRE's automated customer information system.

A contract is awarded for 16 mobile wheelchair lifts with options for additional units, to comply with the Americans with Disabilities Act. The Commissions also authorize solicitation of bids for on-board wheelchair lifts.

Revised ridership estimates are provided by R.H. Pratt, increasing expectations to about 4,500 daily riders. JHK and Associates completes a survey research study that confirms these estimates but suggests as many as 13,000 riders may choose to use VRE each workday.

Unsuccessful negotiations continue with UMTA to permit spending approved grant funds on the project.

Public hearings are held on VRE's proposed fare structure.

Contracts with Facchina Construction for L'Enfant Station in the District of Columbia (to be used by 60 percent of VRE's riders) and with Amtrak for Ivy City yard improvements are awarded.

Cross-border leases for VRE's rolling stock are pursued following a favorable Attorney General's opinion, but no lease arrangement is consummated.

DeLeuw Cather is awarded a contract to manage construction at VRE's stations and yards.

A staffing plan is approved for VRE by the Commissions providing up to 11 employees for the Operations Group. Management and policymaking responsibilities are defined.

"The Express" is selected as a system nickname. The motto is "You've got a train to catch."

The Commissions agree to help sponsor the new Crystal City Transit Store to sell VRE tickets and help respond to telephone inquiries.

Congress approves the Intermodal Surface Transportation Efficiency Act which offers significant flexible funding increases and provides new opportunities for environmentally friendly projects such as VRE.

CSX acquires part of the RF&P, which splits into two organizations, one with land assets and the other with railroad assets. Accordingly, the Commissions must now deal with three organizations versus one.

1992: The first two Mitsui railcars arrive from Brazil in January and more follow later in the year. At about $700,000 each, the railcars are a bargain while providing superior ride quality.

Separate offices are established for the VRE Operations Group.

Staff prepares a $228 million six-year capital improvement program (CIP) including track improvements, additional rolling stock, new parking, and extended services. If the region determines that it wishes to use VRE as part of an aggressive strategy to meet federal Clean Air Act mandates, approximately 32,000 daily riders could be served as a result of the investments included in this plan.

Opening dates are chosen: June 22, 1992 for the Manassas Line and July 20, 1992 on the Fredericksburg Line. The inaugural trip, including the Governor, is set for June 12, 1992, with local station celebrations preceding the openings.

The Commissions co-sponsor the annual APTA Commuter Rail conference, including a test ride for delegates on April 12, 1992 to Fredericksburg.

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CONCLUSION:

The chronology provided above reveals almost three decades of false starts in trying to reestablish commuter rail service in Northern Virginia. The concept was repeatedly studied, and usually found to be a feasible alternative to continued subsidy of the private automobile through traditional highway investments. But barriers to implementation were repeatedly encountered, and until now could not be surmounted. These barriers include a shortage of funds, preoccupation with other modes (highways, Metrorail), opposition of private railroads, inability to obtain insurance and failure to locate affordable rolling stock.

The project as currently constituted will cost about $131 million for capital items. The 1984 R.L. Banks feasibility study estimated $45 million, plus contingencies, but this was for a system terminating in Alexandria and serving only 3,000 daily riders (versus 4,500 for the current system). The 1985 staff estimates of less than $10 million in capital costs were for an experimental system with rudimentary wooden platforms and gravel parking lots, and used railcars and locomotives. The platforms weren't acceptable to the railroads and the railcars weren't available.

By 1988, the staff financial plan for the project had grown to $68 million for a permanent system with new railcars and an insurance reserve of $5 million. But this amount of insurance was not acceptable to the railroads, and the October, 1989 financial plan accompanying the approved Master Agreement called for $100 million in capital costs to accommodate concrete and steel platforms, additional stations and yards, insurance, and costs of issuing and carrying about $80 million of debt.

The current $131 million financial plan includes more reserves for insurance required by the railroads, larger parking structures, yard improvements for operating flexibility, and improvements required by the Americans with Disabilities Act.

Consequently, capital costs have grown considerably as the scope of the project evolved to incorporate an enlarged scope, improved quality, long term perspective, increased ridership, and inflation. At the same time, local governments have been assisted with VDOT grants of about $3 million annually and have utilized regional gas tax revenues dedicated to the project.

If the project were to be discontinued, which appears extremely unlikely, much of the investment could be recovered. The insurance reserve ($18 million) could be returned, new and rehabilitated railcars and locomotives sold on the open market ($40 million), some land sold and strategically located parking lots used as park-and-ride facilities for ridesharing.

Regarding operations, the VRE should recover 70 to 80 percent of operating costs, among the best in North America. The VRE system will serve the equivalent of a new freeway lane at considerably less capital cost and with much greater potential for carrying additional commuters in the future.

The Express has arrived. At last, YOU'VE GOT A TRAIN TO CATCH!

APPENDIX F

COMPARISONS OF PUBLIC TRANSIT FARES IN NORTHERN VIRGINIA

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		
• Each composite mile over 6	0.165		• Rail Fast Pass - $50.00 - 2 weeks unlimited travel.
• Maximum peak period fare	3.15		
• First 7 composite miles		$1.00	• One Day Pass - unlimited travel - $5.00 after 9:30 AM, all day weekends, holidays.
• Composite miles over 7 up to 10		1.50	
• 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 Virginia (base fare)	$1.00	$ .75	$1.00	$ .75
• Between Virginia Zones G & 1	1.00	.75	1.00	.75
• Virginia Zones G & 1 - Arlington/Alexandria	1.35	1.10	1.00	.75
• Virginia Zones G & 2	1.70	1.45	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
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 fare Metrobus Virginia, Maryland, Washington DC, during peak hours. Full fare Metrobus anywhere during off-peak.
4. Arlington County Flash Pass - $23.00 with $15.75 Metrorail value. For Metro-trips in Arlington County only.

   In Arlington County only pay $1.05 for round trip bus/rail transfer.

COMPARISONS OF PUBLIC TRANSIT FARES - CONTINUED

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.	Base $.75 with $.25 surcharge to Pentagon Metrorail Station at all times	Monthly pass - $25.00 and $35.00 for trips to Pentagon Metrorail station at all times
Arlington Trolley	$.35 at all times. No transfers accepted or given.	
City of Fairfax CUE	$.35 at all times. Persons with valid George Mason University I.D., Senior Citizens Pass and school children through High School pay 25-cents. Children under three ride free.	
City of Fairfax LINK Trolley	Free fare	
Fairfax Connector	$.50 base fare at all times. Express routes 300 series $1.00 base + zone.	
Prince William Commuterlde	$5.00 one way cash fare $30.00 - 10 tokens	
Reston RIBS	The base fare $.25 with Reston/Metrobus transfer worth full fare. Reston - West Falls Church Metrorail Shuttle is $.50.	
Sterling Commuter Bus	$7.00 one way cash, $38.00 ticket for 10 one - way rides.	
Tysons Shuttle	Fare $.60 ($1.00 round trip) at all times. No transfers given or accepted.	
Virginia Railway Express	9 zone fare structure - distance based. Full fare single ride ticket Ten-trip ticket - 15% discounted Monthly, unlimited travel - 30% discounted Additional discount Fares Zones 4-9. See chart for complete fare structure.	

APPENDIX G

COMMUTER 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	360	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.	383	Metrobus/Metrorail
Four Mile Run Parking Lot	Columbia Pike & Four Mile	28	Metrobus
Washington-Lee Parking Lot	N. Quincy & N. 15th St.	356	Metrobus
Clarendon Metered Lot	N. Hartford St. in Clarredon	17	Metrobus/Metrorail
City of Fairfax:			
Kutner Park	Jermantown Rd. & Main St.	50	CUE
Municipal Lot	Intersection of Old Lee Hwy. & North St.	100	CUE
Fairfax County:			
Ames Dept. Store	6457 Edsall Rd. (East of Edsall Rd. Interchange w/Shirley Hwy.)	50	Metrobus
Backlick Road VRE Station	6900 Hechinger Drive, in Springfield	220	Metrobus/VRE

PARK AND RIDE LOTS IN NORTHERN VIRGINIA - CONTINUED

Jurisdiction/Name of Lot	Address	Capacity	Served by Transit
Burke Centre	Roberts Pkwy., north of Burke Center Parkway	400	Metrobus
Centerville Square	Centerville Square Shopping Center at intersection of Rt. 28 & Rt. 29	200	Metrobus
Chi-Chis Restaurant	7010 Old Keene Mill Rd. in Springfield	65	Fairfax Connector/Metrobus
Fairlanes Bowling Center	13814 Lee Highway	125	None
Fair Oaks	Fair Oaks Mall Parking Areas 8 & 9, off Legato Rd., north of Hecht Co. Dept. Store	150	Metrobus
Hechinger	6555 Little River Turnpike in Annondale	56	Metrobus
Holiday Inn	6401 Brandon Ave. in Springfield	50	Fairfax Connector/Metrobus
Huntington Metrorail Station	Huntington Ave (Between Telegraph Rd. & Richmond Hwy. Metrobus/Metrorail	3095	FAIRFAX CONNECTOR
Lorton Park and Ride	Lorton Rd. at Gunston Cove Rd.	100	Fairfax Connector
M.J. Design	6711 Bland St. at Augusta in Springfield	23	Fairfax Connector/Metorbus
Reston Park and Ride	Corner of Sunset Hills Rd. & Wiehle Ave.	230	Metrobus/Reston Express
Rolling Road VRE Station	9016 Burke Rd. at intersection w/Ridge Ford Dr.	400	Metrobus
Rolling Valley Mall	Old Keene Mill Rd. East of Shiplett Blvd.	340	Fairfax Connector/Metrobus
South Run District Park	Pohick Rd. & Lee Chapel Rd.	340	Metrobus
Springfield Mall	Mall parking lot on Spring Mall Rd. between Frontier Dr. and Loisdale Rd.	350	Fairfax Connector/Metrobus

PARK AND RIDE LOTS IN NORTHERN VIRGINIA - CONTINUED

Jurisdiction/Name of Lot	Address	Capacity	Served by Transit
Springfield Plaza	Bland St. between Old Keene Mill Rd. & Amherst Ave.	133	Fairfax Connector/Metrobus
Springfield United Methodist Church	7047 Old Keene Mill Rd. (entrance on Spring Rd.)	101	Fairfax Connector/Metrobus
Sully Station Park and Ride Lot	Stonecroft Blvd. near Westfields Blvd.	140	Metrobus
Vienna Park and Ride Lot	Nottoway Park Courthouse Rd. near Nutley St.	220	Metrobus
Wakefield Chapel Recreation Center	Wakefield Chapel Rd. & Queen Berry Ave	50	Metrobus
West Falls Church Metrorail Station	Haycock Rd., South of I-66 Reston Express/Tysons Shuttle	1034	Metrobus/Metrorail
Prince William County:			
Brittany Commuter Lot	Exiter Dr. at Rt. 234, South of Montclair	84	None
Broad Run/Airport VRE Station	10637 Piper Lane (Adjacent to Manassas Municipal Airport)	300	None
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
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	None
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	None

PARK AND RIDE LOTS IN NORTHERN VIRGINIA - CONTINUED

Jurisdiction/Name of Lot	Address	Capacity	Served by Transit
Fredericksburg Train Station	200 Lafayette Blvd.	100	VRE
208 Commuter Lot	Rt. 208, 1/4 mile off Rt. 1	241	None
Stafford County:			
Aquia	Rt. 610 & I-95	318	Private Bus Companies
Brooke VRE Station	1721 Brooke Rd. in Stafford	300	VRE
Falmouth Commuter Lot	Rt. 17 & I-95 (West of Falmouth)	415	Private Bus Companies
Joint-Use Auxillary Commuter Parking Lot	On Rt. 17 north of Falmouth Commuter Lot	58	None
Leeland Road VRE Station	275 Leeland Rd. in Falmouth	330	VRE
Stafford Commuter Lot	Rt. 630 & I-95	539	Private Bus Companies