4.
THE LONG-RANGE TRANSPORTATION PLAN

SUMMARY OF PLAN FEATURES

The long-range plan consists of capital improvements, studies, actions and strategies proposed for implementation by the year 2030. Because the majority of the projected revenues during this period are devoted to the operation and preservation of the region's existing intermodal transportation system, the capital improvements included in this financially constrained plan do not expand the system capacity greatly from previous plans.

Some **major capital improvements** are summarized as follows:

- Corridor Cities Transitway — A light rail line roughly following the I-270 corridor in Montgomery County has been slated for construction in two phases: 1) By 2012, a segment costing $515 million will be completed between the Shady Grove Metro and Metropolitan Grove. 2) By 2020, the line will be extended to the COMSAT site, costing an additional $356 million. This project was previously included in the CLRP as a study.

- Rail to Dulles — This 23.1- mile extension of Metrorail will run from East Falls Church to Dulles Airport and into Loudoun County. Estimated at $3.14 billion, the project will include 11 new Metrorail stations, four of which will be in Tysons Corner. In the CLRP, the project is slated for completion by 2010. This project has been in the CLRP since 1999.

- Tri-County Parkway — This north/ south road will link Manassas and the area west of Dulles Airport. Estimated in the CLRP at $68 million, the project is currently scheduled to be completed in two stages in 2015 and 2020.

- Capital Beltway — The 2003 CLRP includes a project to widen the Beltway in Virginia with HOV lanes. Running between the American Legion Bridge and the Springfield Interchange, the project is estimated at $2.99 billion and will be completed in three stages ending 2011, 2012, and 2013. This project was included in previous updates to the CLRP; the 2003 CLRP also includes studies for Beltway improvements in both Maryland and Virginia.

- Springfield Interchange (*Under Construction)* — One of the largest construction projects in the nation, this reconstruction will alleviate the severe congestion and safety problems at the interchange of I-95 and the Capital Beltway. The project began in 1999 and is scheduled for completion in 2007. The CLRP lists the total cost as $700 million. This project was included in previous updates to the CLRP.

- Intercounty Connector —The 2003 CLRP includes funding for study and "hardship and protective" right-of-way acquisition for this road, which would run approximately 20 miles between I-270 near Gaithersburg and I-95 near Laurel, Maryland. Governor Robert Ehrlich of Maryland has named the ICC his "number-one transportation priority." This study was previously referred to as "East- West Link Improvements" in the CLRP.

- Bi-County Transitway — Part of what is commonly called the Purple Line, this project is broken into two parts in the CLRP: 1) Construction is slated to be completed by 2012 for the 4.4-mile segment between Bethesda and Silver Spring. The cost of this portion, which has been in the CLRP since the late 90s, is estimated at $371 million; 2) A study will be conducted for a 10-mile stretch between Silver Spring and New Carrollton. The study segment was new to the CLRP in 2003.

- New York Avenue Metro Station, DC (*Under Construction*) — This infill Metrorail station, on the existing Red Line in Washington between Union Station and Rhode Island Ave., is the product of a unique public/private collaboration. Costing $91 million, the station is scheduled to open in 2005. This project was included in previous updates to the CLRP.

- K Street Busway— By 2005, two dedicated transit lanes are planned to be built and operating on K Street between 7th and 23rd Streets, NW. This project was new to the CLRP in 2003.

- Largo Metrorail Extension (*Under Construction*) — The 3.1 mile, two-station, $456 million extension of the Blue Line to Largo Town Center is expected to be completed by the end of 2005. This project has been in the CLRP since 1994.

- Anacostia Light Rail — Running 2.7 miles between Pennsylvania Ave., SE and Bolling Air Force Base, this light rail line is scheduled to be operating by 2005. This demonstration project, costing $28 million, is intended to be the first step in a wider light rail system. This project was new to the CLRP in 2003.

- Woodrow Wilson Bridge (*Under Construction*) — This massive feat of engineering, costing $2.56 billion, will ease one of the worst bottlenecks in the region. The project covers a 7.5-mile corridor and includes four interchanges and two new drawbridges. Expected to be completed in 2007, the project has been designed to permit future reconfiguration for an additional two lanes for HOV or transit. This project was included in previous updates to the CLRP.

In addition to the facilities that are shown to be built in the plan, numerous corridors are identified for study. After a study is completed, the project for the corridor will be sufficiently specified, and then can be *considered* for inclusion in the constrained plan. Only those projects for which funding can be identified can be considered for the plan. 35 multi-modal transportation studies, including several potential Metrorail extensions, are included in the plan.

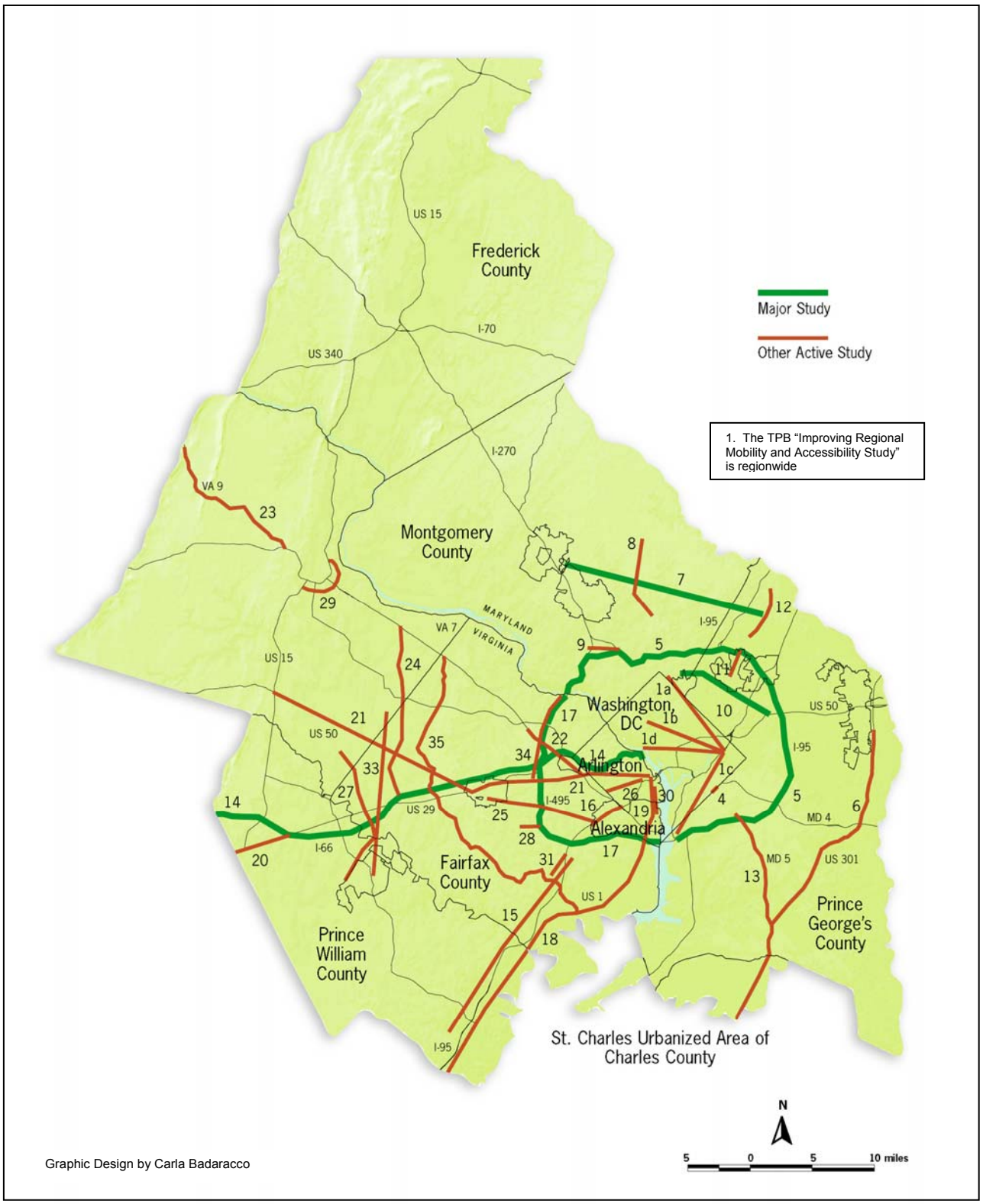
STUDIES

The TPB included a new region-wide study, "Improving Regional Mobility and Accessibility Study" in the 2000 CLRP. This study is continued in the 2003 CLRP, and will evaluate alternative options to improve mobility and accessibility between and among regional activity centers and the regional core.

> "The study will include the identification of 'additional highway and transit circumferential facilities and capacity, including Potomac River crossings where necessary and appropriate, that improve mobility and accessibility between and among regional activity centers and the regional core' (Vision Goal 2, Strategy 5) and that take into consideration the adopted land use plans of individual jurisdictions. The study will also include the development of 'a regional congestion management program, including coordinated regional bus service, traffic operations improvements, transit, ridesharing, and telecommuting incentives, and pricing strategies.' (Vision Goal 5, Strategy 1.)
>
> The study will include short and long term analyses of primary and secondary impacts of any new facilities, both circumferential and within the regional core, on land use including on established communities and open space; on transit ridership; on total vehicle miles traveled and numbers of single occupancy vehicles; and on economic shifts within the region, especially to or from the regional core."

A map of the studies in the plan is shown in Figure 4-1.

Figure 4-1: Major Studies in the Long-Range Plan
As of December 2003



Key to Figure 4-1
Major Studies

I. TPB Improving Regional Mobility and Accessibility Study (not shown)

District of Columbia

1. DC Transit Development Study
    a. Silver Spring to Minnesota Avenue Metro Station
    b. Woodley Park Metro Station to Minnesota Ave. Metro Station
    c. Minnesota Ave. Metro Station to National Harbor, Prince George's County
    d. Georgetown to Minnesota Ave. Metro Station
2. Bus Shuttle Services (not shown)
3. Metrorail extensions (not shown)
4. Southern Avenue

Maryland

5. I-95/I-495 Capital Beltway from American Legion Bridge to Woodrow Wilson Bridge
6. US 301
7. InterCounty Connector
8. Georgia Avenue Transitway
9. North Bethesda Transitway
10. Bi-County Transitway, Silver Spring to New Carrollton
11. University of Maryland Connector
12. MD 201 Extended
13. Southern Maryland Mass Transportation Analysis

Virginia

14. I-66, HOV and transit service improvements
15. Metrorail, I-95 from Springfield to Potomac Mills
16. I-395 ramp connections
17. I-495/I-95 Capital Beltway, HOV and transit service improvements from Woodrow Wilson Bridge to American Legion Bridge
18. US 1, priority bus south of the Beltway, priority bus to BRT to LRT north of Beltway
19. US 1, light rail, King Street Metro to Pentagon
20. US 29 improvements
21. US 50, transit service improvements
22. VA 7, transit service improvements
23. VA 9 improvements
24. VA 28 improvements
25. VA 236 priority bus
26. VA 244 (Columbia Pike) transit service improvements
27. Tri-County Parkway
28. HOV, Braddock Road
29. Battlefield Parkway
30. Transitway from Crystal City to Potomac Yard
31. People Mover from Fort Belvoir Proving Grounds to Franconia/Springfield
32. Techway Study from Dulles Toll Road to Maryland line (not shown)
33. Light rail from Manassas to Dulles
34. Metrorail, Dunn Loring to American Legion Bridge
35. VA 7100, priority bus

Studies Include Alternative Strategies

If people and goods are to travel efficiently throughout the region as population and economic activity continue to outpace the expansion of the transportation system, more effective management of the existing system will be necessary. The plan contains **a set of transportation emissions reduction measures (TERMs)** designed to reduce automobile emissions. It also contains **congestion management system (CMS)** components for the region. The CMS supports decision making by identifying and monitoring congestion problems (including projections of future congestion) and examining strategies that might help alleviate them. The results of these analyses can be used in developing plan updates. The other federally required management systems (pavement and bridge) also can provide information for updating the plan.

In addition to these plan components, **many existing local, state, and regional strategies have had and will continue to have an important influence on travel**. For example, the District of Columbia tax on commercial parking encourages commuters to consider transit and carpooling, and the regional Metrochek program helps employers provide subsidies to workers who commute by transit. A range of strategies that are currently adopted and in place are described at the end of this chapter. The most promising types of strategies, possibly expanded or modified, can be considered for future updates to the plan.

THE MAJOR HIGHWAY, HOV, TRANSIT AND BICYCLE FACILITIES IN THE PLAN

Location and Description of Key Facilities

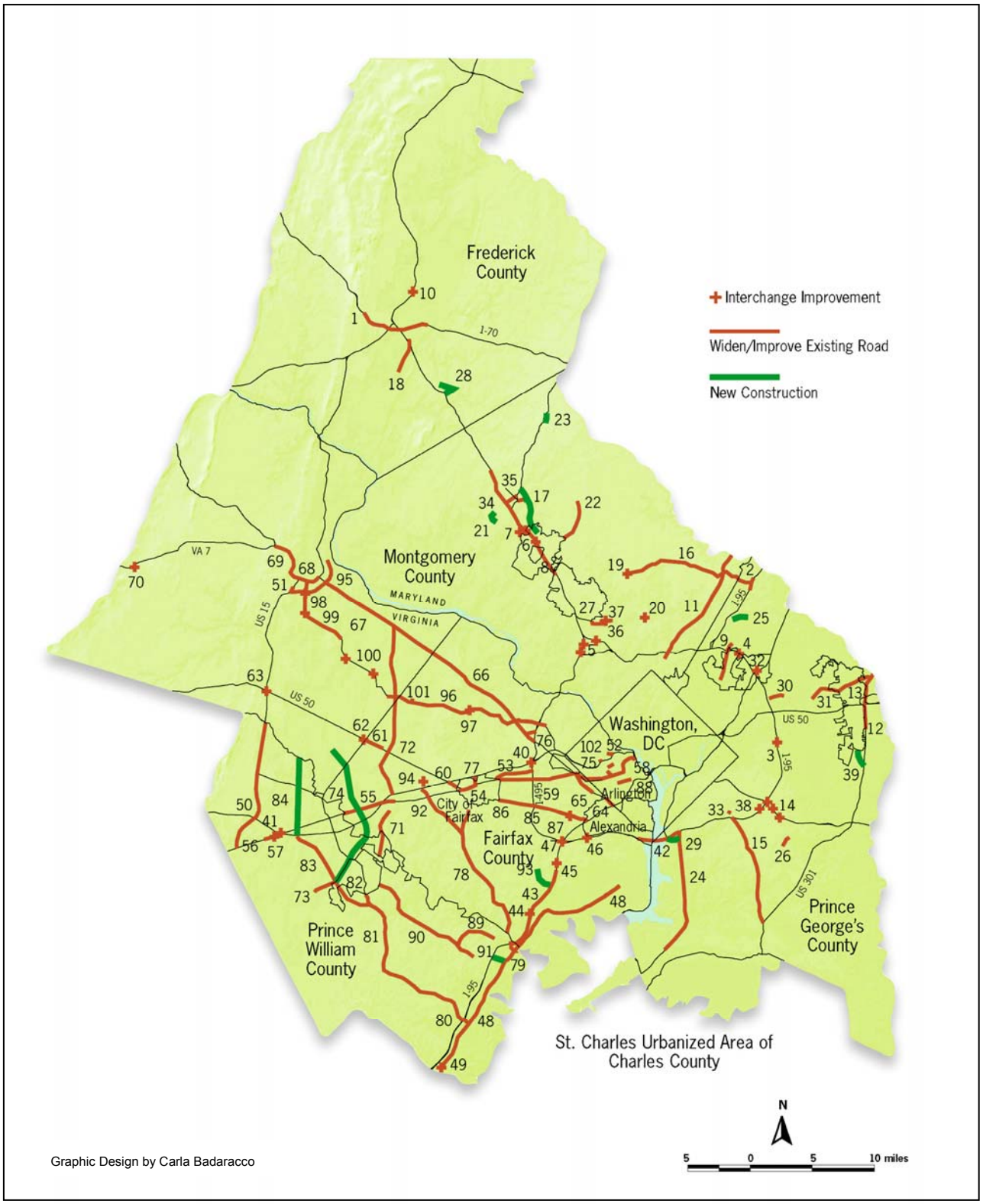
This section describes the major highway, HOV and transit facilities in the plan. Major bicycle facilities are also described. The locations of the major highway improvements[1], HOV facilities, and transit facilities included in the plan are indicated in Figure 4-2 (Highway Improvements) and Figure 4-3 (HOV and Transit Improvements). Following each map, and keyed to the numbers on the map, are brief descriptions of the proposed improvement or study, including the year by which an improvement is expected to be completed.

The projects shown on these maps are major or larger-scale facility improvements, but do not represent all of the projects in the plan. A complete listing of all projects is contained in several tables in the report on the results of the air quality conformity analysis.[2] For each project in the plan, these tables provide the specific project limits, the type of facility, the nature of the improvement (such as construct, upgrade or widen), and the time frame for completion.

1 All projects that are on Interstates or on principal arterials are shown. Improvements on minor arterials are not indicated.

2 MWCOG/TPB, *Air Quality Conformity Determination of the 2003 Constrained Long Range Plan and the FY2004-2009 Transportation Improvement Program for the Washington Metropolitan Region,* December 31, 2003.

Figure 4-2: Major Highway Improvements in the Long-Range Plan
As of December 2003



Key to Figure 4-2
Major Highway Improvements

Maryland

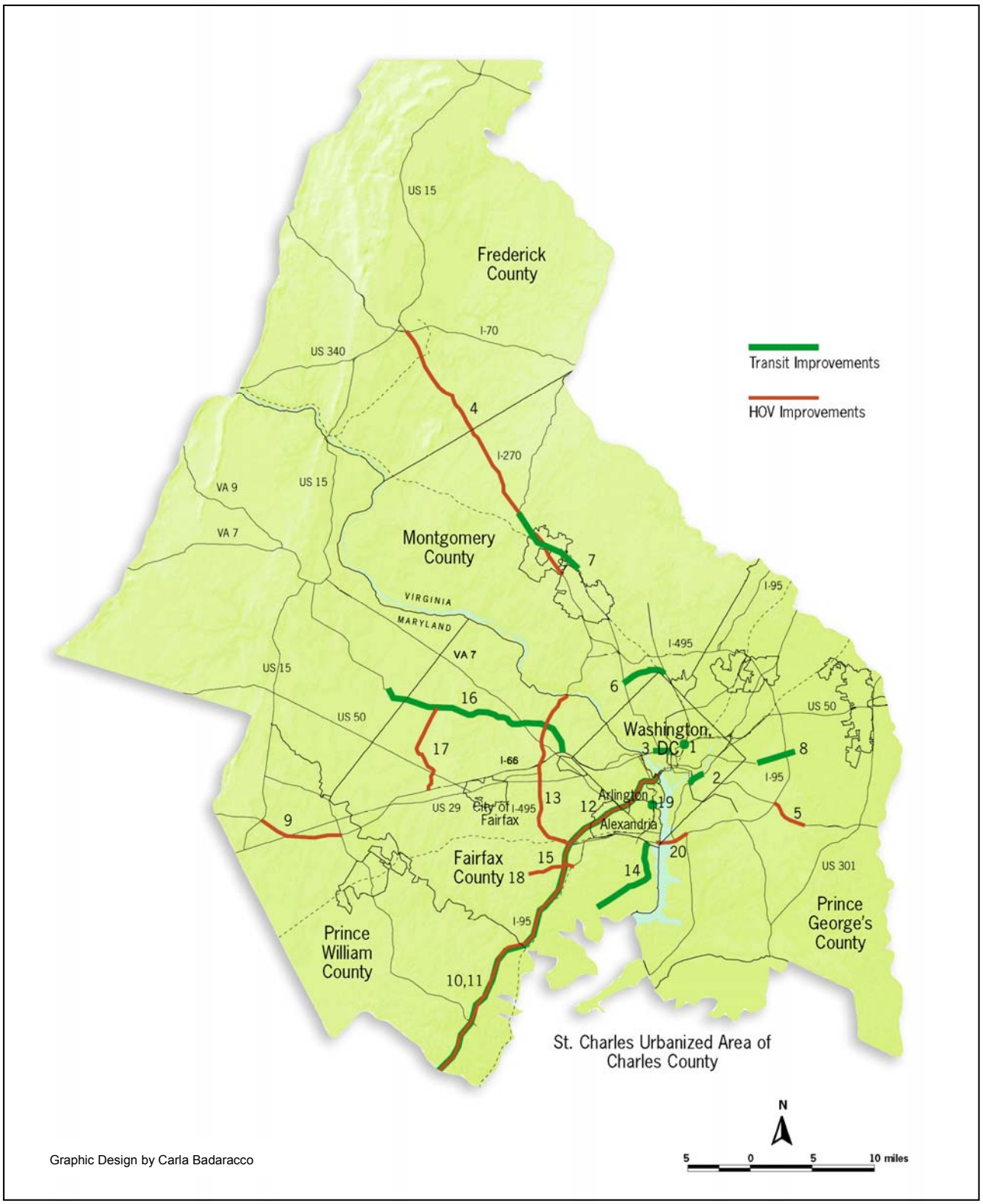
1. I-70, widen to 6 lanes, including interchange reconstruction at I-270, 2005, 2010
2. I-95, interchange and CD lanes at Contee Road, 2015
3. I-95/495, interchange at Arena Drive, 2010
4. I-95/495, interchange at Greenbelt Metro, 2010
5. I-270 Spurs, interchange improvements, 2004
6. I-270, reconstruct interchange at MD 117, including Park & Ride lot, 2004
7. I-270, interchange at Watkins Mill Rd., 2025
8. I-270, widen, 2025
9. US 1, reconstruct, widen to 6 lanes, 2010, 2025
10. US 15, interchange at MD 26, 2010
11. US 29, upgrade, including intersections/interchanges, 6 lanes, 2005, 2006, 2010, 2020, 2025
12. US 301, upgrade, widen to 6+2 lanes, 2030
13. MD 3, upgrade, 6 lanes, 2030
14. MD 4 interchanges at Westphalia Road, Suitland Parkway and Dower House, 2015
15. MD 5, widen to 6, lanes, interchange upgrades, 2010
16. MD 28/MD 198, widen, construct 4, 6 lanes, 2025
17. M-83, construct 6 lanes, 2010, 2020
18. MD 85, widen to 4, 6 lanes, 2025
19. MD 97, upgrade intersection at MD 28, 2010
20. MD 97, upgrade intersection at Randolph Road, 2010
21. MD 118 extended, construct 6 lanes, 2020
22. MD 124, widen to 6 lanes, 2010
23. MD 124 extended, construct 2 lanes, 2006
24. MD 210, upgrade 6 lanes, 2007
25. MD 212, construct 4 lanes, 2005
26. MD 223, widen to 4 lanes, 2007
27. MD 355, reconstruct 6 lanes, construct interchange at Montrose/Randolph Road, 2015
28. MD 355, Urbana Bypass, construct 4 lanes, 2005
29. MD 414 Extended, construct 4 lanes, 2006
30. MD 450, widen to 4 lanes, 2006, 2025
31. MD 450, widen to 5 lanes, 2005
32. Baltimore/Washington Parkway, southbound ramp from Greenbelt Road, 2025
33. Branch Avenue Metro Access, construct 4 lanes, 2010 lanes from Middlebrook Rd. to MD 124, 2015
34. Father Hurley Blvd., construct, widen, 4, 6 lanes, 2010, 2020
35. Middlebrook Road Extended, construct 6 lanes, 2010
36. Montrose Parkway East, construct 4 lanes, 2010, 2015
37. Randolph Road, widen to 5 lanes, 2015
38. Suitland Parkway, interchange at Rena/Forestville Road, 2025
39. Willowbrook Parkway, construct 4 lanes, 2010

Virginia

40. I-66/I-495, reconstruct interchange, 2011
41. I-66, reconstruct interchange at US 29, 2011
42. I-95, Woodrow Wilson Bridge, build 12 lane bridge, 2007
43. I-95, widen to 8 lanes, 2010
44. I-95, reconstruct interchange at VA 642, 2010
45. I-95, construct interchange at VA 7900, 2015
46. I-95, reconstruct interchange at VA 613, 2015
47. I-95/I-395/I-495, interchange reconstruction, 2007
48. US 1, widen to 6, 7 lanes including interchange at VA 123, 2005, 2008, 2010, 2015
49. US 1, reconstruct interchange at Russell Road, 2010
50. US 15, widen to 4 lanes, 2006, 2020
51. US 15, widen to 4 lanes, 2005
52. US 29, Lee Highway, widen to 6 lanes, 2015
53. US 29, widen to 6 lanes, 2012, 2015, 2020
54. US 29, widen to 6 lanes, 2010, 2012
55. US 29, widen to 6 lanes, 2010
56. US 29, widen to 5, 6 lanes, 2011
57. US 29, interchange at VA 55, 2011
58. US 50, reconstruct 6 lanes including interchanges, 2007, 2010, 2015, 2020
59. US 50, widen to 6 lanes, 2020
60. US 50, widen to 5, 8 lanes, 2020
61. US 50, widen to 6 lanes, 2020

62. US 50, reconstruct intersection at VA 609, 2005
63. US 50, construct round-about at US 15, 2010
64. VA 7, reconstruct 4 lanes, 2008
65. VA 7, Leesburg Pike, widen to 6, lanes, 2020
66. VA 7, Leesburg Pike, widen to 6, 8 lanes, 2008, 2012, 2013
67. VA 7, upgrade with interchanges, 2005, 2015
68. VA 7/US 15 Bypass, widen to 6 lanes, 2015
69. VA 7, widen, upgrade 6 lanes, 2015
70. VA 7, intersection improvement, 2006
71. VA 28, widen to 6 lanes, 2025
72. VA 28, widen to 8 lanes, with interchanges, 2004, 2005, 2006, 2015
73. VA 28, widen to 6 lanes, 2015
74. VA 411, (Tri-County Parkway), construct 4, 6 lanes, 2015, 2020
75. VA 120, Glebe Road, widen to 6 lanes, 2030
76. VA 123, widen to 8 lanes, 2010
77. VA 123, widen to 6 lanes, 2010
78. VA 123, widen to 4, 6 lanes, 2004, 2005, 2015, 2020
79. VA 123, widen to 6 lanes, 2008, 2015
80. VA 234, widen to 6 lanes, including interchange at US 1, 2011
81. VA 234, widen to 4 lanes, 2005, 2006
82. VA 234, widen to 4 lanes, 2010
83. VA 234 Bypass, widen/upgrade, 6 lanes, 2020
84. VA 234 Bypass, construct 4 lanes, 2010
85. VA 236, widen to 6 lanes, 2020
86. VA 236, intersection improvements, 2008
87. VA 236, reconstruct intersection at Braddock Road, 2005
88. VA 244, reconstruct to 5 lanes, 2010
89. VA 641, widen to 6 lanes, 2020
90. VA 3000, widen to 6 lanes, 2025
91. VA 3000, construct 4 lanes, 2004
92. VA 7100, widen to 6 lanes, 2015
93. VA 7100, construct 6 lanes, 2007
94. VA 7100, interchange at Fair Lakes Pkwy, 2010
95. Battlefield Parkway, construct 4 lanes, 2005, 2006, 2009, 2010
96. Dulles Access Road, widen to 6 lanes including interchange reconstruct at I-495, 2010
97. Dulles Toll Road, reconstruct interchange at VA 674, 2010
98. Dulles Greenway, construct interchanges at VA 653, Battlefield Parkway, 2004
99. Dulles Greenway, widen to 6 lanes, 2004, 2006
100. Dulles Greenway, widen interchanges at VA 606 and VA 772, 2004
101. Elden Street/Centreville Road, widen to 6 lanes, 2007
102. Wilson Blvd., reconstruct 4 lanes, 2004, 2010

Figure 4-3: Major Transit and HOV Improvements in the Long-Range Plan
As of December 2003



Key to Figure 4-3
Major Transit and HOV Improvements

District of Columbia

1. New York Avenue Metro Station, 2005
2. Anacostia Demonstration Rail Line, 2005
3. K Street Busway, 2005

Maryland

4. I-270, HOV, 2025
5. MD 4, HOV from MD 223 to I-495, 2015
6. Bi-County Transitway, Bethesda to Silver Spring, 2012
7. Corridor Cities Transitway, from Shady Grove to COMSAT, 2012, 2020
8. Metrorail extension from Addison Road to Largo, 2005

Virginia

9. I-66 HOV, includes interchange reconstruction at US 15, 2010, 2015
10. I-95 HOV, extend HOV lanes from Quantico Creek to Stafford County line, 2015 and restripe to 3 lanes from Quantico Creek to I-495/I-395 intersection, 2010
11. I-95, transit service improvements, 2021
12. I-395 HOV, restripe to 3 lanes, 2010
13. I-495 HOV, 2011, 2012, 2013
14. US 1, widen for bus right turn lanes, 2025
15. Franconia/Springfield Parkway HOV, 2010
16. Dulles Corridor Rail from express bus to rail, 2010
17. Fairfax County Parkway HOV, widen, upgrade, 6 lanes, 2010
18. Fairfax County Parkway HOV, construct 2 lanes, 2015
19. Potomac Yard Metrorail station, 2015
20. Woodrow Wilson Bridge/I-95, HOV, 2007

For full project descriptions of the 2003 CLRP projects, see www.mwcog.org. Go to "transportation" and search for the 2003 CLRP.

Descriptions for all CLRP projects are available for review in COG's Information Center in four separate supplementary documents titled "Inputs for the FY 2004-2009 Transportation Improvement Program and the 2003 Update to the Constrained Long-Range Plan". These four documents include project descriptions submitted by the Washington Metropolitan Area Transit Authority, the District of Columbia and Federal Lands Highway Division, Suburban Maryland, and Northern Virginia.

Pedestrian and Bicycle Facilities

In addition to the transit, highway and HOV facilities, the long-range plan includes a number of new bicycle facilities, many of which will also serve pedestrians. Projects in various phases of planning and construction include:

- the Metropolitan Branch Trail, the Anacostia River Trail, and the Watts Branch Trail Reconstruction in the District of Columbia;
- Sixty miles of on-street bicycle lanes in the District of Columbia;
- the Cross-County Trail between Great Falls and Fort Belvoir in Fairfax County;
- the Ballenger Creek Trail in Frederick County
- the Northwest Branch Greenway in Montgomery County, which will extend the existing Northwest Branch Trail to Olney;
- the Potomac Heritage National Scenic Trail, following the Potomac River in Prince William, Fairfax, Loudoun, and Prince George's Counties;
- the Prince George's Connector Trail which will connect the Northwest Branch Trail in West Hyattsville with the Metropolitan Branch Trail in Fort Totten; and
- trails along Prince William Parkway and other roads in Prince William County.

In 1995, the TPB approved the *Bicycle Plan for the National Capital Region*[3] as part of the CLRP. This Bicycle Plan portion of the CLRP includes both funded, committed improvements and bicycle/pedestrian corridors under study (but not committed for funding). This bicycle plan is further described later in this chapter. The Bicycle Plan is scheduled to be updated in 2005.

[3] MWCOG, *The Bicycle Element of the Long-Range Transportation Plan for the National Capital Region*, July 1995.

THE COSTS OF THE FACILITIES IN THE PLAN

The financial analysis[4], the project description forms, and the FY2004-09 TIP provide the projected capital costs for the projects included in the plan. The highway, High Occupancy Vehicle (HOV), transit, and bicycle/pedestrian facilities in the plan are estimated to cost $22.5 billion for the region through the year 2030. System expansion costs of the plan are shown in Table 4-1.

Transit costs, which include about $2.7 billion for the Metrorail extension to Dulles Airport in Virginia and about $1.5 billion for the Bicounty Transitway and Corridor City Transitway in Maryland, account for about 40% of the total. Highway, bridges, and HOV costs account for about 70%. Bicycle and pedestrian costs are not shown in the table since totals are not available for these projects, many of which are specified as components of larger road or transit projects.

[4] Cambridge Systematics, Inc, *Analysis of Resources for the Financially Constrained Long Range Transportation Plan for the Washington Area*, prepared for MWCOG/TPB, October 2000

Table 4-1
System Expansion Costs Of The Plan's Major Facilities
(Millions of 2003 dollars)

	Highways, Bridges, HOV	Transit	Woodrow Wilson Bridge	TOTAL 2001 - 2025
District Of Columbia	452	562		1,014
Suburban Maryland	6,356	4,042	1,425	11,823
Northern Virginia	4,148	4,463	1,123	9,734
Total Expansion Cost	10,956	9,067	2,548	22,571

TRANSPORTATION EMISSIONS REDUCTION MEASURES

The plan includes a set of regional Transportation Emissions Reduction Measures (TERMs), previously designed to offset a slight increase in mobile emissions that are otherwise projected to occur during the implementation period of the plan. This section summarizes several regional TERMs included in the plan. Many of the TERMs are intended to reduce either the number of vehicle trips (VT), vehicle miles of travel (VMT), or both. TERMs such as Taxicab Replacement and Signal System Optimization reduce emissions by technology or the way vehicles are driven. Most TERMs have been implemented, are ongoing, or are under development to be implemented in the near term; however, the following TERMs have been adopted for a long-term time frame, to help reduce emissions in the years of the CLRP beyond the closest six years (those contained in the region's Transportation Improvement Program, or TIP). Additionally, there are a number of state, regional, and local programs and activities that contribute to the region's air quality as TERMs.

Employer Outreach

The Employer Outreach TERM aims to market and implement employer-based Transportation Demand Management (TDM) programs to the private sector. This measure was launched as part of Commuter Connections in tandem with the Guaranteed Ride Home program (see below). A Transportation Demand Management Specialist coordinates the regional outreach efforts of the program. An Employer Outreach Ad-Hoc Group was also formed to address specific concerns of the participating jurisdictions and to develop the details for the implementation of the program. A regional employee commuter survey tabulation effort, and TDM sales training and technical assistance for Employer Services sales representatives have been undertaken. Also developed was a software system to be used by all jurisdictions as a contact management system, providing access to a database of the region's employers.

An additional component of employer outreach focuses on bicycles. This TERM was designed to provide information on bicycling to Commuter Connections representatives, and within Commuter Connections literature and Internet Web site, to encourage bicycling as an alternative to automobile trips.

Guaranteed Ride Home

The Guaranteed Ride Home (GRH) TERM offers commuters using alternative transportation (rideshare, transit, bicycle, or walking) a ride home in the event of an unexpected personal emergency or unscheduled overtime. This measure includes:

- A GRH operations software system to keep track of registrants, and program usage;
- Contracts with various cab companies and a car rental company to provide services;
- A contracted vendor to provide daily operations services which include eligibility verification, dispatching accepted and verified rides, and entering and tracking information on the GRH software system; and

- A marketing campaign including printed and radio media, and mailings to all employers and residents in the Washington metropolitan region.

Telecommuting

Telework is one of the most cost effective measures for significantly reducing nitrogen oxides (NOx) emissions, thus the region established Commuter Connections as a Regional Telework Resource Center. The center performs the following functions:

- Education for employers and employees on the benefits of telecommuting through seminars;

- Encouragement of both public and private sector employers to establish telecommuting programs for their employees, and providing planning and technical assistance to help them successfully implement telecommuting programs and make use of telework centers around the region;

- Coordination of local, state and federal telecommuting and telework initiatives within the region; and

- Exchange of information with other telecommuting programs around the nation and world to ensure that the most effective new concepts and approaches are fully known and utilized in the Washington region.

Continuing activities in this measure include marketing efforts, the coordination of a regional Telecommuting Ad-Hoc Group, and evaluation of teleworking in the region.

Integrated Rideshare

This measure incorporates detailed transit service information from all major providers in the Washington Metropolitan Area Transit Authority (WMATA) and Maryland Transit Administration (MTA) service areas into a Geographic Information System (GIS) database that is compatible with the Commuter Connections ridematching software. This enhanced information is available to applicants to the Commuter Connections program.

Additionally, several kiosks in the District of Columbia and Virginia have been opened that display Commuter Connections information, bus and train information, rideshare information, traffic conditions, and other related traveler information. Kiosks have been located at a number of key sites in the region, including major office developments, shopping malls, and at Union Station in Washington. Additionally, two of the kiosks purchased under this program are mobile units that can be placed temporarily at key locations.

Bicycle Parking

This TERM was designed to increase trips by bicycle, and therefore decrease trips by automobile, by providing 2,000 additional bicycle parking racks in Suburban Maryland and Northern Virginia. State bicycle coordinators for Maryland and Virginia have worked with

local planners to determine the best rack types and locations. The targets of this TERM are neighborhood developments that often do not have bicycle parking (such as shopping centers and employment sites), enabling and encouraging shoppers, workers, and other visitors to access these developments by bicycle instead of by automobile.

Taxicab Replacement

This TERM was designed to replace old, polluting taxicab vehicles. Older vehicles tend to emit a disproportionate amount of pollutants, both because older technology was not as effective in removing pollutants, and because of age-induced failures of antipollution equipment on individual vehicles. Also, taxicabs drive much greater distances in the region than do most other vehicles, thereby compounding the problem of pollution from an aging taxi. Some jurisdictions around the region already had age limits on their licensed taxicabs before this TERM was adopted. Among those jurisdictions that did not previously have such age limits, a near-term program was adopted for Prince George's County, Maryland, and a long-term program for the District of Columbia. The program has expanded to allow participation by light or heavy duty vehicles (such as airport shuttles and transit buses) meeting mileage or fuel use criterion.

Traffic Signal Optimization Program

The TPB adopted the traffic signal "optimization" program in 2002 as a Transportation Emissions Reduction Measure (TERM). In addition to cutting emissions, signal optimization has been touted as a cost-effective way to reduce congestion. Nearly 600 traffic signals have been retimed and coordinated in the past year as part of this regional program. More regularized traffic flow also improves safety for drivers and pedestrians, and improves accessibility to bus stops and Metro stations. The TPB in 2002 adopted a goal of optimizing 856 signals by 2005. The goal is likely to be exceeded by that target date. Out of 1,390 total signals that were counted in June 2002, the District of Columbia had optimized approximately 400 signals by September 2003. D.C. plans to optimize all its signals by the end of 2004. The Maryland Department of Transportation has optimized all signals in the Washington region under its control. MDOT is now working with the counties to optimize their signals. Suburban Maryland had approximately 1,509 total signals as of June 2002. According to current estimates, about 75 percent of Northern Virginia's 1,641 traffic signals (the number from June 2002) have been optimized. The signals under VDOT's control were all optimized prior to 2002. After the 272 local jurisdiction signals have been adjusted by 2005, 92 percent of the traffic signals in Northern Virginia will have been optimized.

Mass Marketing Campaign

In 2003, the TPB's Commuter Connections program launched a million-dollar mass marketing campaign aimed at changing a deeply ingrained travel behavior —driving alone. The campaign, an integrated communications plan including broadcast and Internet media, is an ongoing multi-year program reaching above and beyond the past marketing efforts of Commuter Connections. The campaign promotes a range of alternatives for commuting such as ridesharing, public transit and telecommuting. The marketing also is intended to reinforce the behavior of people already using alternative commuting modes. It aims to help commuters understand that options are available to them and that Commuter Connections can assist them in finding a personalized solution

that works best for each individual. In the language of advertising, the “brand promise” of the campaign is that Commuter Connections is the one-point solution to the aggravation of commuting alone by car. Radio was selected as the primary medium for this campaign because it is the most efficient way to target single occupant vehicle (SOV) commuters during drive times when commuter frustration is at its peak. Television advertisements were designed to complement the radio testimonials’ call to action and to reinforce the Commuter Connections message to a broader audience.

Other TERMs

The TERMs described above were adopted by the TPB through a special regional planning process. A number of other activities undertaken by state, regional, and local agencies as part of their ongoing responsibilities for the region’s transportation systems contribute a major share of emissions reductions. The impacts of these activities are vital to the region’s air quality conformity with Clean Air Act targets. General categories of these TERMs include traffic signal system improvements, park-and-ride facility construction or expansion, purchase of new transit vehicles (buses or trains), bicycle trails or facilities, bus shelters and other bus stop improvements, ridesharing support, alternative fuel vehicle programs, and transit center developments.

GROUND ACCESS ELEMENT OF THE REGIONAL AIRPORT SYSTEM PLAN

A critical and often overlooked component of the airport system is the transportation linkage between the airports and the surrounding communities. Airport ground access has become an increasingly severe problem at major U.S. airports during recent years.

The TPB prepared the first phase of a Regional Airport System Plan[5] in 1988 that focused on demand forecasts for the region's commercial airports. Volume II of the Regional Airport System Plan[6] has been developed to address ground access to Washington National and Washington Dulles International Airports, as well as access for air passengers in the Washington metropolitan area to Baltimore/Washington International Airport. The plan approaches the issue from a regional, multimodal perspective, examining the total transportation system in the metropolitan area. A modeling approach consistent with the COG regional travel demand models formed the methodology for the plan. The TPB approved the ground access element of the Regional Airport System Plan on September 21, 1994. The plan is now incorporated by reference in this long-range transportation plan.

The ground access element includes the following recommendations concerning facility improvements:

Highway Improvements

[5] MWCOG, *Washington-Baltimore Regional Airport System Plan*, Volume I (Commercial Airports), 1988
[6] MWCOG, *Washington-Baltimore Regional Airport System Plan*, Volume II (Airport Ground Access), 1993

- All airport-serving facilities in the Highway Element of the Long Range Plan be built in a timely manner;

- Transportation improvements be constructed in the corridor between Laurel and Gaithersburg that are consistent with the results of the corridor study to be done;

- Highway facilities be upgraded in the Western Study Corridor, and the construction of a complete limited-access bypass-type facility be studied by Virginia and coordinated with Maryland; and

- Further study be undertaken to determine the improvements needed in the Dulles Airport Access Highway Corridor.

Transit Improvements

- Full pedestrian integration between Metrorail and the terminal improvements at National Airport;

- Completion of the full 103-mile Metrorail system as soon as possible; and

- High-quality transit service that can be implemented quickly and that maximizes the use of available resources be instituted in the Dulles International Airport Access Highway Corridor.

Paratransit Improvements

- The existing Washington Flyer service be more fully integrated into the region's overall transit service program;

- The Washington Flyer system institute a shared-ride door-to-door super-shuttle type of service;

- A study be done to assess the possibility of establishing a system of remote airport terminals; and

- A regional taxicab licensing system be studied for implementation at National Airport.

The ground access component also includes several policy recommendations of relevance to the long-range plan:

- Future high-quality access to Washington Dulles International Airport be assured by continuing operational policies that preserve free-flow travel for the airport traveler for the entire extent of the Access Highway, in both directions.

- A coordinated effort be undertaken to encourage airport employees and those making "other" trips to the airport to use bicycles, or transit and other high-occupancy modes of travel.

CONGESTION MANAGEMENT SYSTEM

The definition of a CMS is a systematic process for managing congestion that provides information on transportation system performance, on alternative strategies for alleviating congestion, and on enhancing the mobility of persons and goods to levels that meet State and local needs. The CMS results in serious consideration of implementation of strategies that provide the most efficient and effective use of existing and future transportation facilities.

The CMS is not intended to be a preemptive requirement and will not impose decisions. Instead, it will provide information to guide decisions for regional planning and programming. One exception to this, however, is that, for an air quality nonattainment area such as Washington, federal regulations have the following stipulation: for any proposed project that increases single occupant vehicle (SOV) capacity, federal funds can be used only if all reasonable travel demand and operational strategies, as identified in the CMS, are incorporated into the SOV project and implemented.

The Washington region integrates, and therefore addresses, the CMS requirements in the overall regional transportation planning process. These generally are elements that are wholly incorporated in the planning process as described throughout this CLRP; the CMS is not a separate or parallel process. The Washington region addresses these requirements in a number of ways, including ongoing programs, corridor studies, and CMS analyses.

The region has committed to and has ongoing a robust number of congestion management strategies and alternatives. These services and programs support one of the highest rates of transit use and ridesharing of any metropolitan area in the country. Examples of ongoing programs that have a congestion management impact include Metrorail, Metrobus, commuter rail, local transit services, and the Commuter Connections ridesharing and alternative commute program.

The TPB has identified locations with major transportation issues as study corridors. These studies have looked at a full range of CMS alternatives, and may be the source of future commitments by the region to increasing the already-robust set of congestion management strategies underway. Examples of congestion management strategies considered in the region include land use changes around new rail transit stations in the I-270 Corridor in Montgomery and Frederick Counties; and new transit services in the corridor of I-66 and U.S. 301. The numerous corridor studies included in the plan are shown on Figure 4-1.

A number of CMS analyses have been performed on a region wide basis or on a location-specific basis. Examples of the strategies that have been analyzed on a region wide basis include the potential impact of programs for bicycle and pedestrian improvements, parking surcharges and transit subsidies, and sensitivity analyses of the interaction of transportation improvements and land use changes (such as compact development versus sprawl). Many strategies with potential congestion management benefits have been reviewed and adopted in the region's air quality planning program to reduce emissions for mobile (motor vehicle) sources. The TPB Regional Mobility and Accessibility Study is analyzing a regional

congestion management scenario which will include coordinated regional bus and transit service, traffic operations improvements, increased management of freeway and arterial road systems, increased incentives for ridesharing and telecommuting and bicycle and pedestrian improvements.

One component of the CMS is monitoring transportation system performance and usage. The TPB and its member agencies undertake a wide variety of activities that monitor the performance and usage of the transportation system. Every three years the TPB conducts an aerial freeway congestion survey through Skycomp, Inc. The first survey was performed in 1993, and was repeated inn 1996, 1999, and in the Spring of 2002. Regional maps with results from the 2002 survey are located in Chapter 3. In addition, the TPB uses global positioning systems (GPS) to conduct an arterial travel time survey to find out where and when traffic bottlenecks occur. Overall, 363 arterial miles were studied.

Federal planning regulations require that if single-occupant-vehicle (SOV) capacity is needed, then all reasonable strategies to manage the SOV facility (or to facilitate its management in the future) shall be identified. All reasonable strategies shall be committed for implementation. This CLRP serves as evidence of the commitment of the region to implementing alternatives. A substantial portion of the region's transportation funding has been devoted to maintaining and increasing transit services, expanding the number of park-and-ride lots, expansion of the region's Commuter Connections alternative commuting program, and bicycle and pedestrian improvements.

MANAGEMENT, OPERATIONS, AND INTELLIGENT TRANSPORTATION SYSTEMS

Intelligent Transportation Systems (ITS) are the application of current and evolving technology (particularly computer and communications technology) to transportation systems, and the careful integration of system functions, to provide efficient and effective solutions to multi-modal transportation problems. In the past, ITS was a major emphasis area for improving capacity and efficiency of transportation systems. However, the opportunities and benefits seen from ITS have uncovered another key proponent of transportation systems —management and operations (M&O). As a new directive for transportation agencies, the focus on management and operations is emphasized by the TEA-21 metropolitan planning factor that requires state and regional plans to "promote efficient system management and operations".

Management and operations can be defined as the consideration of the day-to-day actions and agency responses to the region's transportation system. Examples of management and operations include routine or recurring activities such as reconstruction and maintenance, snow plowing and salting, coordination among public safety and transportation agencies, and traffic signalization. Non-recurring activities such as traffic plans for special events, severe weather, or major disasters also fall under the umbrella of M&O.

By focusing on the evolving technology of ITS and the day-to-day activities of M&O, transportation planners have a greater opportunity of providing more efficient and effective solutions to the region's transportation problems.

In order to maximize the benefits of transportation technology, the TPB has promoted regional coordination of planning and projects through it's Management, Operations and Intelligent Transportation Systems (MOITS) Policy & Technical Task Forces. These two task forces—focusing on policy and technical coordination—meet regularly to discuss coordination and to share experiences about ways in which transportation technology can be deployed to improve congestion, safety, maintenance and system efficiency. For more information on the TPB task forces, go to http://www.mwcog.org/transportation/committee/.

Management and operations took on a new urgency in the aftermath of the September 11, 2001 attacks. The TPB quickly began working on a transportation emergency management plan for the region. The first step was to implement improvements in interjurisdictional communications and coordination. The solution was developing a telephone/radio conference call protocol, supported by e-mail and electronic text messaging systems, that would be implemented in the event of future emergencies. The TPB adopted this framework for coordinated decision-making, which would use a conference call system for communication. In the event of future emergencies, the lead agency in the area where the incident occurred would initiate a conference call with other key agencies throughout the region.

Local and state officials and agency representatives have worked to enhance transportation components of the Regional Emergency Coordination Plan (RECP)[7]. Approved by the COG

[7] The "Partners in Preparedness: The Regional Emergency Coordination Plan at Work" report published in 2004 can be viewed at www.mwcog.org.

Board on September 11, 2002, the RECP included a transportation component and a transportation evacuation coordination annex, which were largely developed through the TPB's Management, Operations and Intelligent Transportation Systems (MOITS) Task Forces and an Emergency Transportation Work Group. The Emergency Transportation Work Group conducted workshops to study different potential emergency situations, such as region-wide evacuation, shelter-in-place, or widespread power failure.

BICYCLE AND PEDESTRIAN IMPROVEMENTS

Importance of Bicycle and Pedestrian Facilities

The many problems associated with a transportation system dependent primarily on single occupant automobiles have long been recognized, including traffic congestion, environmental pollution, and dependence on uncertain energy reserves. Thus modal alternatives to the single occupant automobile are encouraged; bicycling and walking are such alternatives that must be developed as an integral part of the transportation network.

Many commuting trips are five miles or less in length; this average distance can be effectively covered by means of bicycle transportation. For longer trips, bicycles can provide greater access to transit stations and services from adjacent neighborhoods. Bicycling and walking are indeed applicable in the home-to-work commuter market, in addition to serving recreation and trips to schools, shopping, recreational facilities, and other intra-neighborhood destinations. Bicycling and walking are energy efficient, economical, healthy for the user, and minimally impact physical surroundings and public budgets. Bicycle and pedestrian transportation modes, either alone or combined with mass transit modes, are some of the most cost effective, viable alternatives to the increasing use of the automobile.

Regional issues related to pedestrian access and safety have been highlighted in the last several years. In recognizing the importance of pedestrian facilities, the TPB's Bicycle Subcommittee changed its' name and focus to the Bicycle and Pedestrian Technical Subcommittee. The Subcommittee sponsored a workshop on designing pedestrian facilities for accessibility in February, 2003. In November 2003 the Subcommittee co-sponsored a Transportation Safety Workshop with the COG board, and sponsored a one-day workshop on real intersection design in Riverdale Park, MD. In the first week of May, 2004 the Subcommittee sponsored a series of eight half-day walkable communities workshops throughout the region. The Subcommittee and the Bicycle and Pedestrian coordinator also oversee the Street Smart Pedestrian and Bicycle Safety campaign, a mass media campaign aimed at raising awareness and reducing behavior that contributes to pedestrian and bicyclist deaths and injuries. Several jurisdictions have studied pedestrian safety issues and developed public education campaigns to reduce pedestrian related accidents. Maryland conducted an in-depth study on bicycle and pedestrian access to rail transit to determine improvements needed to ensure safe and effective access[8].

[8] *Access 2000: Bicycle and Pedestrian Access to Rail Transit Stations in Maryland.* June 1997. Prepared for the Mass Transit Administration, Maryland Department of Transportation. Prepared by Rummel, Klepper and Kahl, LLP Consulting Engineers.

An updated Regional Bicycle and Pedestrian Plan is currently under development by the Subcommittee. The new plan will include a statement of policy principles and a database of all planned bicycle and pedestrian projects, along with reference information on where and how much people are walking and bicycling in the region. The last regional bicycle plan was approved in 1995.

Priority Unfunded Regional Bicycle and Pedestrian Projects

The Transportation Planning Board endorsed nine unfunded pedestrian and bicycle projects as regional priorities in December, 2002. The projects, estimated to cost $26.2 million over six years, range from new trail construction to safety improvements. Developed by the Bicycle and Pedestrian Technical Subcommittee in the Fall of 2002, the list of projects reflects the growing regional emphasis on pedestrian safety. In addition to pedestrian safety, key criteria in selecting the projects included transit access and bicycle network connectivity. The projects can all be completed by 2009 and are considered priorities by the jurisdictions where they are located. Although some projects have already been funded for study, none has received a full funding commitment. The biggest project is the Metropolitan Branch Trail, which would run nearly 8 miles from Union Station to Silver Spring, where it would connect with the Crescent Trail and create a complete arc around the District of Columbia. At Fort Totten, the trail would connect with the Prince George's Connector Trail. The TPB forwarded the list of priority projects to local and state jurisdictions with the recommendation that they should be funded in the region's Transportation Improvement Program (TIP).

The nine priority projects are:

- **Metropolitan Branch Trail** (D.C.) stretching 7.7 miles from Union Station to Silver Spring, parallel to the Metro's Red Line.
- **Matthew Henson Trail** (Montgomery County) running four miles from Rock Creek Trail to the Northwest Branch Park.
- **Henson Creek Trail** (Prince George's County) extending north and south of the existing trail.
- **Holmes Run Stream Crossing** (Alexandria) connecting the north and south ends of Chambliss Street at the Holmes Run Trail. Regionally, the trail crossing will connect to Fairfax County's Stream Valley Trail system.
- **Pentagon Area Bicycle Access Improvements** (Arlington County) including the East Wall of Arlington Cemetery. The improvements would provide access to the Route110 Trail, the Washington Boulevard Trail, the Mount Vernon Trail and Boundary Drive.
- **Route 1 Pedestrian and Bicycle Safety Improvements** (Fairfax County) including sidewalks, pedestrian crossing, and other pedestrian safety improvements.
- **Centreville Road Underpass at Dulles Airport Access Road** (Herndon) connecting the existing sidewalk networks in Fairfax County and the Town of Herndon.
- **Trail construction parallel to Loudoun County Parkway** (Loudoun County) from Route 7 to Waxpool Road, a distance of 4.4 miles.
- **Trail construction along Dumfries Road** (Prince William County), 1.2 miles, from the Lake Jackson Drive intersection to the Prince William Parkway West intersection.

The Subcommittee's previous set of priorities, developed in 2000, has been more than 90 percent funded. A total of $17.6 million, out of $19.3 million requested, has been spent on eight out of the 11 projects on the 2000 list. The subcommittee emphasized that many other worthy

projects deserve funding. In the fall of 2004, the Subcommittee will develop a new list of priority projects for the TPB's endorsement and will report on the progress of the nine priority projects listed above.

Bicycling and Bicycle Facilities in Metropolitan Washington

Over the past 25 years, a great deal of progress has occurred in the area of improving bicycling conditions in the Washington metropolitan region. Planning efforts have accelerated notably over the last several years. Most area jurisdictions have now adopted, or are developing, bicycle transportation plans and/or multi-use trails master plans. Most levels of government have bicycle coordinators, trail coordinators, and/or bicycle or trail facility planners on their staffs. Master plans call for the establishment of thousands of miles of bikeways, bicycle routes, and multi-use trails. In 2003 the Virginia Department of Transportation announced that in the future all new highway construction or reconstruction projects will incorporate bicycle and pedestrian accommodations, barring special circumstances or a formal request by the local governing body that bicycle or pedestrian *not* be included. While these new policies and plans can be expected to have a significant effect in the future, only a small fraction of the planned facilities have been built so far.

Most of these facilities have been built at public expense. In recent years, however, a growing share of bicycle route mileage has been obtained from private land developers who have assumed responsibility for the construction of bicycle trails and routes that are called for in county plans and that pass through their development sites. This trend suggests that the provision of such facilities is viewed by the private sector as a desirable transportation and lifestyle amenity to offer prospective residents and office tenants.

One key area of development in recent years has been the establishment of bicycle routes along the right-of-way of railroad corridors no longer in use. Assisted by the Washington Area Bicyclist Association, the Rails-To-Trails Conservancy, and other private organizations, several jurisdictions have converted or proposed conversion of abandoned railroad lines into multi-use trail facilities. Examples of this design include the 45-mile long Washington & Old Dominion (W&OD) trail, which now serves more than two million users each year, the Bluemont Junction trail, the Washington, Baltimore & Annapolis (WB&A) Trail in Prince George's County, and the Capital Crescent Trail, along the CSX Railroad's Georgetown Branch in Montgomery County and the District of Columbia. Several additional rails-to-trails projects have been proposed for the region, including the Metropolitan Branch rail line in the District and the Chesapeake Beach line, which has been included in the Prince George's County Master Plan. Another highlight of the regional bike network is the accessibility to bicycles of the Chain, Key, Roosevelt, Memorial, and Mason Bridges, which provide links between established bicycle routes on both sides of the Potomac River.

Efforts have also been made to encourage bicycling to Metro stations. The Washington Metropolitan Area Transit Authority now includes bicycle storage facilities at most of its stations throughout the region, and allows bicycles to be carried on board trains during evening and weekend periods, as well as during midday off-peak hours, when ridership is moderate. It is estimated that 2,000 or more people a day currently use a bicycle to get to Metro. Bike on Rail is also popular, with 8,000 people taking bicycles on Metrorail in a two week period in August, 2001.

Despite these achievements, there is still a need for bicycle transportation planning to be conducted in a comprehensive and functional manner. Bicycles need to become more fully integrated into all transportation efforts, particularly with respect to highway and road development. Many roadways fail to provide sufficient lane width for bicycles and motor vehicles to safely coexist. Bicycling hazards also have resulted from roadway narrowing, intersection design, and poor maintenance of road surfaces. At the same time, jurisdictions should provide for the development of separate bicycle rights-of-way along such routes, whenever possible. The use of undeveloped land corridors, such as greenways, abandoned rail lines or utility right-of-ways, should be considered as bicycle route opportunities.

While a great deal of highway planning and construction is done at the state level, bicycle route design has traditionally been performed by local jurisdictions. To facilitate the development of a truly regional bicycle route network, consistent standards for design, construction and signage should be applied by each jurisdiction. Such common standards should also apply to sidewalks, hiking/equestrian paths, and all-terrain bicycle trails. Bicycle planning activities should include a high degree of community input, and should encourage the active participation of citizens and bicycle advocacy groups. A bicycle advisory committee is recommended for each jurisdiction, as a source of user knowledge and a barometer of trail demand.

Capital improvement programs and master plans should ensure that adequate funding is available to complete the projects recommended. Developers should be required to build the trails planned for their developments. Adequate funds should also be made available for proper maintenance of facilities once they are completed.

Although much progress has been made in recent years, there is still more potential for bicycles to serve as a significant alternative mode for short distance trips, one which could induce thousands of residents out of their automobiles. To achieve greater levels of bicycle use, there needs to be coordination of facility design and development, inter-jurisdictional cooperation in route layout and construction, and participation from all segments of the public and private sector.

TRANSPORTATION ENHANCEMENT AND COMMUNITY PRESERVATION

TEA-21 enabled a portion of federal surface transportation funding to be devoted to transportation-related projects of a community enhancement, aesthetic improvements, scenic preservation, or historic preservation nature. Every year the Washington region implements a wide range of enhancement projects; examples include a train station restoration, scenic/historic acquisition of a Civil War battlefield, and wheelchair and bicycle trails, ramps and facilities.

TEA-21 created the Transportation and Community and System Preservation (TCSP) Pilot Program and the TPB was awarded a TCSP grant in May 1999 to assist in the implementation of two key components of the adopted Vision for transportation in the Washington region:

- Circulation systems within the regional core and regional activity centers; and

- Integration of green space into a regional greenways system.

TCSP funding provided the resources needed to advance these program areas, including involvement of key agencies, officials and stakeholders and the identification of financial resources for project implementation. The TCSP funding was used to design comprehensive regional programs for each of these two components, to identify priority projects that need to be implemented within each of the programs, and to encourage the inclusion of these priority projects into the Constrained Long Range Plan (CLRP) and Transportation Improvement Program (TIP).

The TPB appointed representatives from government, non-profit, and business groups to serve on the Circulation Systems and Green Space/Greenways Advisory Committees to guide the implementation of the TCSP grant in the Fall of 1999. Reports on the TCSP projects were adopted by the TPB in February 2000 and can be found at http://www.mwcog.org/trans/priorities.html.

RELEVANT LOCAL, STATE AND REGIONAL STRATEGIES

Several existing local, state, and regional strategies have had and will continue to have an important influence on the region's travel and are pertinent to the attainment of regional transportation goals. For example, the District of Columbia tax on commercial parking encourages transit use and carpooling, and the regional Metrochek program helps employers provide subsidies to workers who commute by transit. Some of the strategies that are currently adopted and in place are highlighted in a report *Zoning and Land Use Practices to Improve Transportation*[9], produced and reviewed by the COG Metropolitan Development Policy Committee (MDPC) in June 1999. The most promising of these types of strategies, possibly expanded and modified, can be considered in developing future plan updates.

[9] MWCOG. Zoning and Land Use Planning Practices to Improve Transportation. June 25, 1999.

5.

ADDRESSING THE VISION'S GOALS AND OBJECTIVES

The purpose of this chapter is to describe the expected performance of the future transportation system in relation to the Vision's policy goals and objectives. The first section presents the plan's anticipated overall performance based on travel demand forecasts. The second section assesses how the plan is expected to perform in relation to the Vision's policy goals and objectives. The last section summarizes the policy goal assessment and identifies challenges for updating the plan.

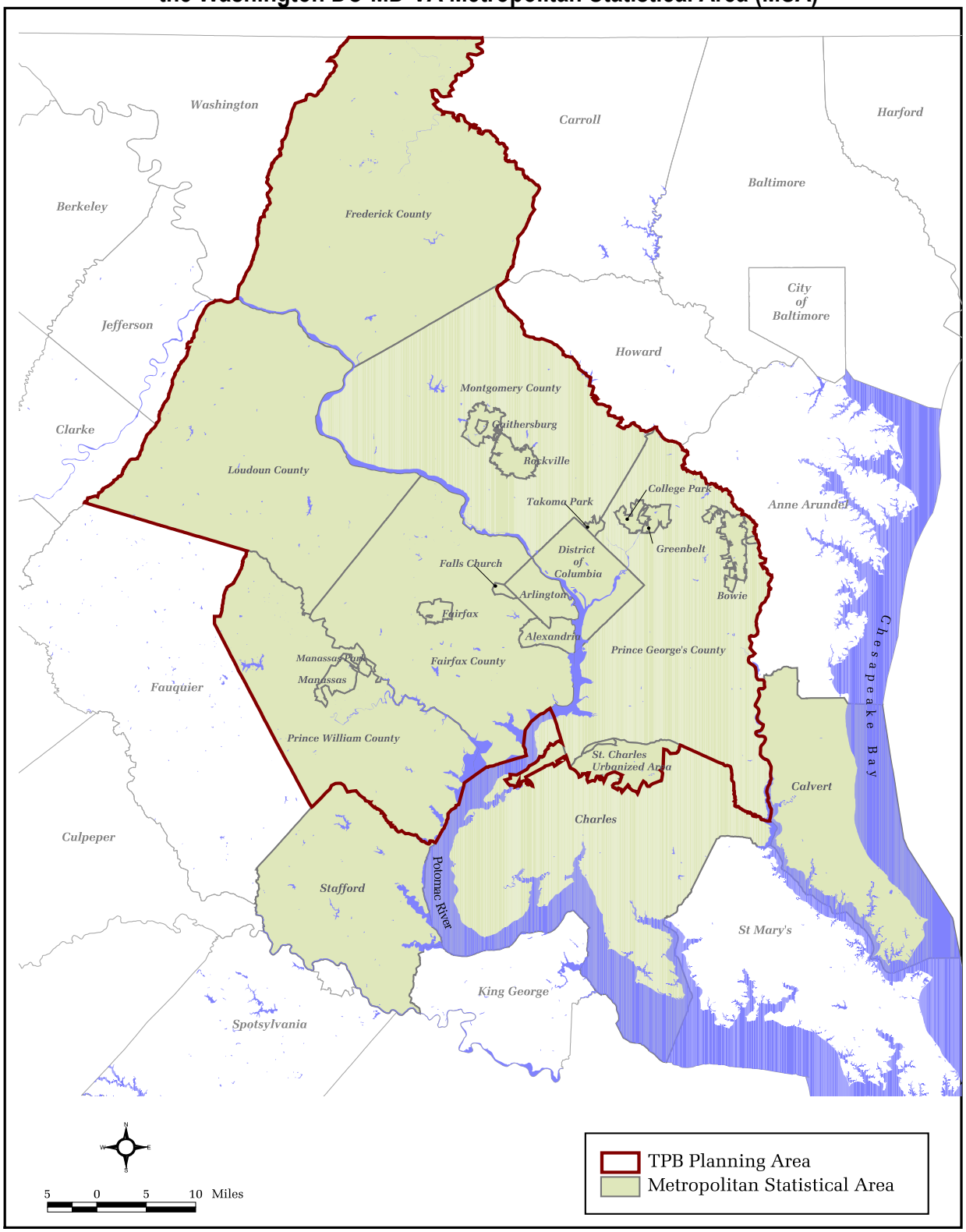
THE EXPECTED PERFORMANCE OF THE PLAN

Regional transportation demand projections for the plan, developed from the COG/TPB travel forecasting process, provide background information on the overall expected performance of the plan. The COG/TPB travel forecasting process utilizes forecasts of households and jobs together with a simulation of the expected transportation system in future years to predict the amounts and types of travel by persons and vehicles, and the resulting system performance. This section contains information on changes in demographics and travel characteristics, such as vehicle miles of travel (VMT), vehicle trips, transit trips, transit mode share and accessibility measures.

The travel demand data provided in this chapter are based on the Washington, DC-MD-VA Metropolitan Statistical Area (MSA), which also serves as the area for air quality planning for the region[1] and is shown in Figure 5-1 along with the TPB planning area.

[1] Previous CLRP Updates and the Air Quality Conformity document provide travel demand data for the TPB modeled area or the TPB planning area.

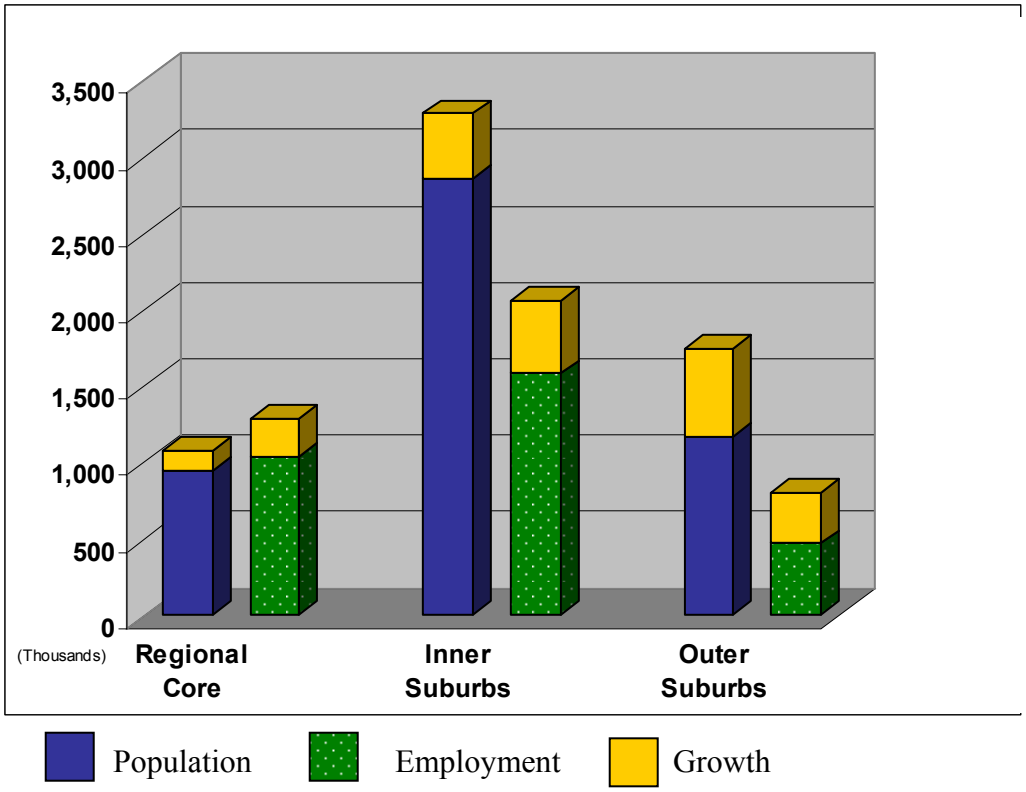
Figure 5-1: The TPB Planning Area and the Washington DC-MD-VA Metropolitan Statistical Area (MSA)



Population and Employment Growth

Land use changes expected over the next 25 years were discussed in Chapter 3 (see Metropolitan Growth and Development). As an introduction to forecast conditions and the plan's performance, information on how the region is expected to develop is helpful because metropolitan growth greatly impacts the transportation challenges this region is facing. The region is forecast to grow by more than one million people and one million jobs over the next 25 years—a 23 percent increase in population and a 34 percent increase in employment.

Figure 5-2: Change in Population and Employment in the Regional Core, Inner Suburbs and Outer Suburbs 2005 - 2030



Regional Core:

District of Columbia; Arlington County and the City of Alexandria in Virginia.

Inner Suburbs:

Montgomery and Prince George's Counties in Maryland; Fairfax County, the City of Fairfax and the City of Falls Church in Virginia.

Outer Suburbs:

Loudoun, Prince William, and Stafford Counties in Virginia; Frederick, Calvert and Charles Counties in Maryland.

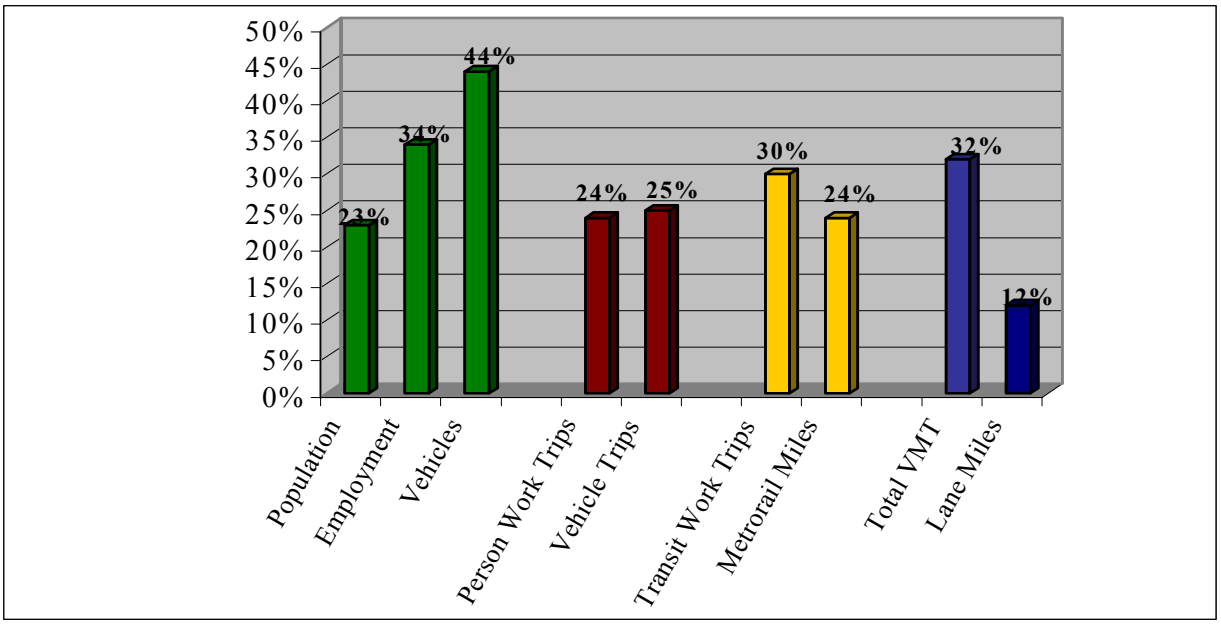
Figure 5-2 shows that the regional core will grow at a slower rate than the outer suburbs, which will see dramatic increases in population and employment. Despite the dramatic growth in the outer suburbs, the inner parts of the region (the regional core and inner suburbs) are still expected to have the highest concentrations of jobs and people in 2030. However, while most of the employment is in the regional core and inner suburbs, most of the population is located in inner and outer suburbs.

Travel Demand Forecasts and Resulting Conditions

The significant increase in population and jobs creates additional vehicles, trips and congestion on the region's transportation system. Regional transportation demand projections for the plan predict the amounts and types of travel by persons and vehicles and the resulting system performance levels.

Figure 5-3 presents a summary of the change in regional demographic and transportation forecasts over the next 25 years. The figure illustrates that while population will increase 23 percent, employment and total daily vehicle miles of travel (VMT) will grow at even higher rates.

Figure 5-3 Percent Changes in Demographics and Travel Characteristics 2005 - 2030



Source: Air Quality Conformity Determination of the Year 2003 Constrained Long-Range Plan and the FY2004-2009 Transportation Improvement Plan for the Washington Metropolitan Region. National Capital Region Transportation Planning Board. December 31, 2003.

Tables 5-1 and 5-2 provide the year 2005 and 2030 data for regional travel that support Figure 5-3. Significant increases in travel are expected over the next 25 years. Total VMT is increasing faster than population. The transit system is expected to be under greater strain due to the demand for transit ridership.

Table 5-1: Summary of Regional Travel Forecasts 2005 - 2030 (in Thousands)

	2005	*2015*	*2025*	*2030*	*Absolute Change 2005-2030*	*Percent Change 2005-2030*
Demographics						
Population	4,970	5,600	5,980	6,100	1,130	23%
Employment	3,080	3,590	4,000	4,140	1,060	34%
Vehicles	3,670	4,320	4,970	5,290	1,620	44%
Estimated Daily Travel						
Truck Trips	360	420	480	500	140	39%
Total Vehicle Trips	15,520	17,530	19,010	19,460	3,940	25%
Total Daily VMT	126,450	146,520	160,390	166,400	39,950	32%
Total Daily VMT Per Capita*	25	26	27	27	2	7%
Lane-Miles of Roadway	15,700	17,162	17,580	17,600	1,900	12%

*Figures are shown in total and are not in thousands.
Source: Air Quality Conformity Determination of the Year 2003 Constrained Long-Range Plan and the FY2004-2009 Transportation Improvement Plan for the Washington Metropolitan Region. National Capital Region Transportation Planning Board. December 31, 2003. Figures are for the Washington, DC-MD-VA Metropolitan Statistical Area, as shown in Figure 5-1.

Table 5-2: Summary of Regional Work Travel Forecasts 2005-2030 (in Thousands)

	2005	2015	2025	2030	Absolute Change 2005-2030	Percent Change 2005-2030
All Person Work Trips	3,390	3,820	4,130	4,210	820	24%
Auto Person Trips	2,820	3,130	3,390	3,470	650	23%
Auto Driver Trips	2,510	2,770	3,000	3,080	570	23%
Auto Passenger Trips	310	360	390	390	80	26%
Vehicle Trips		34	35	33	4	14%
Average Auto O		1.13	1.13	1.13	0.01	1%
Transit Work T		690	740	740	170	30%
Transit Share of		18%	18%	18%	1	--
Transit Share i		50%	51%	51%	5	--

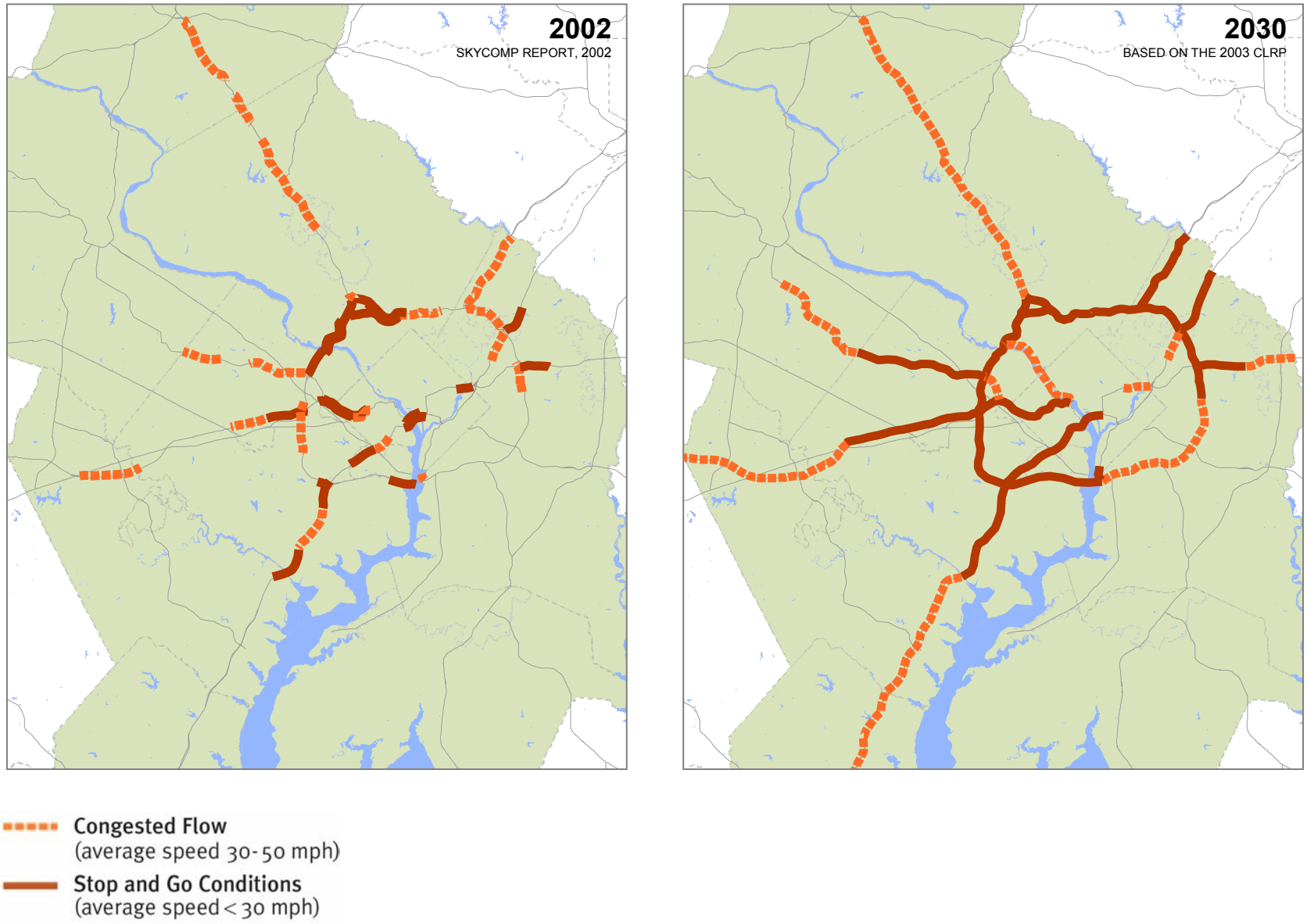
*Figures are shown in total and are not in thousands.
Source: Air Quality Conformity Determination of the Year 2003 Constrained Long-Range Plan and the FY2004-2009 Transportation Improvement Plan for the Washington Metropolitan Region. National Capital Region Transportation Planning Board. December 31, 2003. Figures are for the Washington, DC-MD-VA Metropolitan Statistical Area, as shown in Figure 5-1.

Levels of Highway Congestion

Figure 5-4 displays the expected changes in evening peak-hour highway congestion by 2030. The 2002 levels are based on aerial photo-surveys of highway traffic. The expected congestion levels for 2030 are based on travel demand forecasts. Severe stop and go congestion is expected to be prevalent throughout the entire region in 2030, not just in isolated areas.

While travel forecasts and simulations of the transportation system predict more congestion in the future, it is less clear how people during the next 25 years will adjust to those conditions. As the durations of the daily peak congestion periods spread, increasing numbers of commuters and others may change their times of departure, seeking less congested travel times. Employees may be more likely to try telecommuting. Automobile users may be more likely to carpool or ride transit. As congestion becomes more pervasive, people may be more likely to combine trips with different purposes and take shorter trips in order to avoid frustrating delays. People also might be more likely to seek jobs closer to where they live, or conversely, to seek housing closer to where they work.

Figure 5-4: Changes in Evening Highway Congestion 2002 - 2030



SUMMARY OF THE EXPECTED PERFORMANCE OF THE PLAN

The financially constrained plan's predicted performance between 2005 and 2030 can be summarized in the following points:

- Vehicle ownership will increase at a faster rate than population, employment and vehicle miles of travel.
- Total daily vehicle miles of travel (VMT) will increase 32 percent, whereas capacity is planned to expand only 12 percent (as measured in roadway lane-miles).
- Over 80% of commuters are forecast to travel by single occupancy vehicle in both 2005 and 2030, and this mode share increases for the more frequent non-work related trips.
- Stop-and-go conditions will be prevalent on most of the region's highways by 2030.
- Average auto occupancy will remain relatively steady—1.12 in 2005 and 1.13 in 2030.
- Both transit trips for work and non-work purposes will increase by approximately 30 percent, and Metrorail miles will expand by 24 percent.
- In 2030, transit trips will account for about 17 percent of all work trips, and over half of the work trips in the District of Columbia.

THE PLAN'S PERFORMANCE IN RELATION TO THE VISION POLICY GOALS AND OBJECTIVES

The TPB Vision is a useful reference point and measuring stick. In contrast to the financially limited CLRP, the Vision considered creative approaches to the region's transportation future without being limited to projects and programs that can be paid for with existing funds. Looking at the Vision's policy goals and objectives can provide the region with important information on shortcomings of the CLRP in relation to regional goals. What are the shortcomings of the financially constrained plan? What areas need specific attention the next time the CLRP is updated?

The TPB Vision is also a symbol of regional consensus. The TPB consists of multiple levels of agencies and officials within varying political, institutional and geographic entities. The TPB Vision reflects the views, ideas, and goals of the region as a whole and reflects the collective sense of how the region wants the transportation system to develop and perform. Along with providing a framework for the development of the transportation system, the Vision also sets goals for the environment, metropolitan development patterns, and the economy. Because the Vision extends beyond transportation, not all of the TPB Vision's policy goals can be assessed with travel demand forecasts.

The following assessments of each Vision goal provides information on where we are today, what the plan does by 2030 and challenges to be addressed in future plan updates. Travel demand and land use activity forecasts are the main sources of information used to describe the plan's performance. The Regional Mobility and Accessibility Study will provide supplemental information on the 2003 CLRP's performance in relation to the Vision.

Policy Goal #1

The Washington metropolitan region's transportation system will provide reasonable access at reasonable cost to everyone in the region.

Objectives:

(1) A comprehensive range of choices for users of the region's transportation system.

(2) Accurate, up-to-date and understandable transportation system information which is available to everyone in real time, and is user-friendly for first-time visitor and residents, regardless of mode of travel or language of the traveler.

(3) Fair and reasonable opportunities for access and mobility for persons with special accessibility needs.

(4) Convenient bicycle and pedestrian access.

Where We Are Today

The region currently has a comprehensive transportation system primarily focused on access to the regional core. Many highways and roads are radially orientated; the Capital Beltway is the major highway providing circumferential access. Currently, there are approximately 15,700 miles of roadway and 190 miles of high-occupancy vehicle lanes. The transit system, comprised of local bus, Metro bus, Metrorail, and commuter rail, is also designed to serve the regional core and exists primarily in radial corridors. The 103-mile Metro system was recently completed with the opening of the Green line extension to Branch Avenue. Today, 17 percent of work trips are made by transit and 80 percent by low-occupancy vehicle auto. There are approximately 700 miles of trails and on-street bikeways in the region. From the 1994 Household Travel Survey, we know that over a million pedestrian trips are made everyday, accounting for 8 percent of all trips. The region's 77,000 average daily bicycle trips account for 0.7 percent of all trips.

Freeway Congestion

The TPB conducts a study of freeway congestion every three years. The 2002 study offered hope that major bottlenecks can be relieved with relatively modest road improvements. Using aerial photography the study showed that since 1999, traffic flow increased at several congestion points after improvements occurred. However, in a number of other locations, the study supported the pervasive view that the region's highways are getting more congested.[2].

[2]Traffic Quality in the Metropolitan Washington D.C. Planning Region (Spring 1996, 1999, 2002). Prepared for the Metropolitan Washington Council of Governments by Skycomp.

"Access for All"

The TPB established the Access for All Advisory (AFA) Committee in 2001 to create an on-going dialogue with communities not typically included in the transportation planning process, including low-income populations, minority communities and people with disabilities. The committee's name comes from the first policy goal in the Vision and advises the TPB on projects, programs and issues that impact these population groups. The committee's first report to the TPB recommended improvements in transit information for people with limited English proficiency and urged transportation decision makers to provide adequate funding for bus services. The committee also requested improvements and expansions in existing transportation programs, including MetroAccess service for persons with disabilities, WMATA's Access to Jobs program, and pedestrian safety programs throughout the region. As a result of the committee's efforts, improved transit information is now available in languages other than English. The committee continues to call attention to the need for improved transit and pedestrian access for people with disabilities. The AFA provided comments on the 2003 CLRP which can be found in Appendix B.

Real-Time Traveler Information

Several current activities relate to Objective 2: *Accurate, up-to-date and understandable transportation system information which is available to everyone in real time, and is user-friendly for first-time visitors and residents, regardless of mode of travel or language of the traveler*. The Internet has made transportation information more available to people in real-time. A variety of websites provide real-time travel conditions and incident information including the websites for the Washington Post and transportation agencies such as VDOT, MDOT, DDOT and WMATA. Each Metro bus schedule can be viewed on-line and downloaded. Transit information from WMATA by telephone is available in several different languages. Metrorail has electronic messaging signs in most stations that provide real-time information on train arrivals. Some bus shelters in Montgomery County and the City of Fairfax offer the same type of real-time information with electronic signs. Interactive kiosks are available at malls and other public places throughout the region that provide on-line traffic, transit and weather information.

There are other recent good examples of improved and effective communication of travel information. The Downtown D.C. Business Improvement District (BID), with assistance from the District Department of Transportation (DDOT) and WMATA, developed large bus route maps that have been posted in approximately 300 bus shelters in downtown D.C. The maps are customized for each stop with "You are here" markers, and highlighted routes that serve the specific bus stop. Another example of improved transit information is the free distribution of Metrobus route maps from WMATA, which previously charged for the maps.

Pedestrian and Bicycle Safety

Regional leaders launched a public education and outreach campaign in October 2002 to reduce pedestrian deaths and injuries throughout the Washington region. With pedestrian fatalities outnumbering homicides in many jurisdictions, leaders vowed to work together on a multi-year effort to heighten awareness about pedestrian safety and change the behavior of drivers. The campaign, titled "Street Smart," was aimed at young drivers who are involved in the majority of pedestrian collisions. The campaign featured Metrorail and Metrobus ads, radio ads, television public service announcements and posters. Campaign materials urged drivers to "Imagine the Impact" of traffic accidents on the lives and families of both

pedestrians and drivers. A special task force of the TPB's Bicycle and Pedestrian Subcommittee developed the regional concept for the campaign and launched it at a news conference. An evaluation of the campaign's effectiveness reported an increased awareness of messages featured in the campaign. One message reported to be particularly memorable was "Every seven minutes a pedestrian is injured or killed." [3]

What the CLRP Does by 2030

Transportation system users already have a *comprehensive range of choices* (Objective 1) including highways, arterial roads, Metrorail, Metrobus, local bus, commuter rail, and an extensive HOV system. The 2003 CLRP further expands these options. The Metrorail system will expand by 24 percent, from 106 to 131 miles by 2030. The District of Columbia plans to add a light rail demonstration line in Anacostia running 2.7 miles between Pennsylvania Avenue SE and Bolling Air Force Base by 2005 as part of a first step in a wider light rail system. New Metro rail stations are under development for New York Avenue in the District of Columbia and Potomac Yards in Alexandria. The most significant transit improvement is a 23.1 mile Metrorail extension from East Falls Church to Dulles airport, with four stations in Tysons Corner. Other transit improvements include the Corridor Cities Transitway from the Shady Grove Metro station to COMSAT, new Metrorail stations at Potomac Yards and New York Avenue, the Bi-County Transitway between Bethesda and Silver Spring, the Anacostia Light Rail line,. One hundred and ninety more miles of high-occupancy vehicle lanes will be added to the region. Road miles are planned to increase 12 percent from 15,700 miles to 17,600 miles by 2030[4]. Bike and pedestrian accommodations are included in 41 percent of the projects in the plan and 7 percent are primarily bike and pedestrian projects.

*Accurate, up-to-date and understandable transportation system information (*Objective 2) can be expected to improve over the life of the plan. Technological improvements will make readily available real-time information on transportation even more accessible.

Objective 3 states *fair and reasonable opportunities for access and mobility for persons with special accessibility needs.* In support of this objective, the Access for All Advisory Committee has advocated for improvements to the fixed transit and paratransit systems[5]. As the current population ages, demand will increase for improved transit and pedestrian access and improvements that meet and exceed the American with Disabilities Act (ADA) requirements. It should be noted that congestion of the region's roadways would limit access and mobility for everyone, including bus users and those with special accessibility needs.

Convenient bicycle and pedestrian access (Objective 4) will be improved in the plan. Seven percent of the transportation improvements in the plan are primarily bicycle and/or pedestrian projects—or 58 of the 782 projects in the plan. Although the travel demand model does not provide forecasts on travel by bicycle and walking if it is not connected to transit access, bicycling and walking will likely increase in certain areas due to the implementation of specific projects and through the inclusion of bicycle and pedestrian facilities in other transportation improvements. However, as roads and intersections are

[3] The Street Smart 2002 Pedestrian Safety Awareness Campaign report can be found on-line at http://www.mwcog.org/transportation.
[4] Lane miles include arterials and freeways.
[5] To view the AFA recommendations, go to http://www.mwcog.org/transportation, and search for "2003 AFA Report".

expanded for motor vehicles, bicycle and pedestrian access often decreases. The challenge is to design transportation improvements that improve, or at least maintain, bicycle and pedestrian access. Another major factor affecting pedestrian and bicycle access is land use and urban design. More compact areas with a mix of land uses have higher levels of bicycling and walking than areas with destinations far apart and separated by busy highways.

Most of the greenway and circulation projects identified in the TPB's *Priorities 2000*[6] reports (see page 4-27) under the federal Transportation and Community and System Preservation (TCSP) Pilot Program are bicycle and pedestrian oriented. Through the distribution of these reports, the TPB hopes to encourage implementation of these projects and others like them.

Challenges to Be Addressed in Future Plan Updates

The review of the 2003 CLRP against Policy Goal 1 indicates that while the region is making progress towards this goal, there are remaining challenges that need to be addressed.

The high levels of congestion on both the transit and highway system will be examined in more detail under the Regional Mobility and Accessibility Study. The need for additional funding to accommodate the demand for transit ridership is expected to be a priority in 2005, along with funding for other critical transportation needs.

Providing "access to all" at a "reasonable cost" is remaining challenge for future plan updates. A particular challenge is maintaining and expanding transit services for people with disabilities given WMATA's short-term budget problems. Transit information should be widely available to transit dependant populations and limited English speakers who do not have convenient internet access. Effective written materials should use simple language and many visuals, and rely more on universal symbols and images rather than words. The effects of transit fare policies on transit dependant populations, who tend to be low-income, also needs to be considered in future plan updates.

In reviewing draft 2003 CLRP, the AFA committee observed that the transit improvements appear to be serving more suburban areas, rather than low-income communities that may be more transit dependant and concentrated in the inner part of the region.[7] In addition, the AFA raised concerns about the lack of planned transit improvements or studies in Southern Prince George's County. Finally, although the expansion of the Metrorail system is very important, the AFA stressed that bus service levels should be maintained for current transit-dependant customers.

Finally, investing in bicycle and pedestrian facilities and improvements to encourage more non-motorized travel, increase safety conditions, and provide better access to transit by people with disabilities is a continuing challenge for the region.

[6] To view the reports, go to http://www.mwcog.org/transportation/, and then "Featured Publications".
[7] The AFA comments on the 2003 CLRP are included in Appendix B.

Policy Goal #2

The Washington metropolitan region will develop, implement, and maintain an interconnected transportation system that enhances quality of life and promotes a strong and growing economy throughout the entire region, including a healthy regional core and dynamic regional activity centers with a mix of jobs, housing and services in a walkable environment.

Objectives:

(1) Economically strong regional core.

(2) Economically strong regional activity centers with a mix of jobs, housing, services, and recreation in a walkable environment.

(3) A web of multi-modal transportation connections which provide convenient access (including improved mobility with reduced reliance on the automobile) between the regional core and regional activity centers, reinforcing existing transportation connections and creating new connections where appropriate.

(4) Improved internal mobility with reduced reliance on the automobile within the regional core and within regional activity centers.

(5) Efficient and safe movement of people, goods, and information, with minimal adverse impacts on residents and the environment.

Where We Are Today

The Washington metropolitan region has a well-developed transportation system that is radially oriented towards moving people and goods to and from the core. Both the transit and highway systems tend to connect activity centers along radial corridors with the exception of the circumferential connections that the Beltway provides.

The region is economically prosperous and has experienced significant increases in population and employment in the last two decades. The regional core, which includes the District of Columbia, the City of Alexandria, and Arlington County, continues to have large concentrations of employment and residents. The District of Columbia continues to gain employment and is thriving in many respects, but has decreased in population in the last decade.

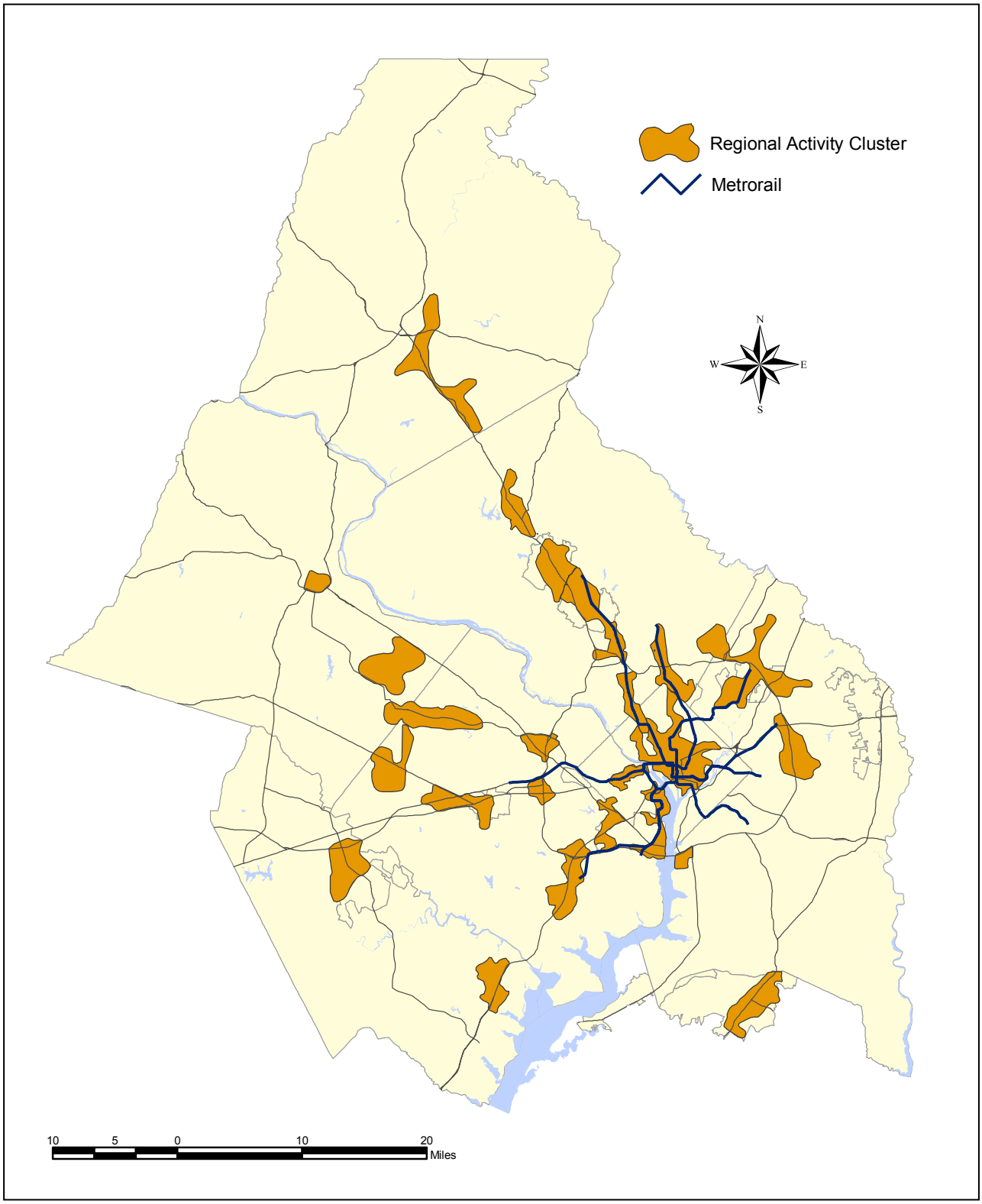
Multi-modal connections are greatest in the regional core and within regional activity centers. Transit use is highest in these areas, although regional activity centers in suburban locations tend to have a higher reliance on the automobile.

Fifty-eight regional activity centers were defined in a joint effort by the COG Board of Directors and the TPB based on current local government growth forecasts and categorized according to similar employment, residential and growth pattern characteristics. Recognizing that significant concentrations of residential and commercial development exist immediately

adjacent to the tightly defined activity centers along the region's transportation facilities, 24 "activity center corridors" of development were created. Each corridor, referred to as a "cluster," contains several activity centers. The locations of regional activity clusters are shown in Figure 5-5. For more information, see http://www.mwcog.org/planning/planning/activitycenters.

Another activity that supported Policy Goal 2 was the development of a multimedia CD-ROM and Web site by COG to inform and educate elected officials, civic groups, the development community and citizens about the land use and transportation challenges currently facing the region. The accepted principles of "Smart Growth" are candidly introduced and discussed in the context of the varied and distinct communities across the region. The CD-ROM highlights the responsibilities and successes of local government policies while acknowledging the common concerns which elected officials and citizens encounter (e.g., neighborhood opposition, traffic, loss of open space, increased density, etc.). The CD and accompanying Web site contain numerous examples of local best management or best development practices that exemplify the ideas of 'choices, connections and collaboration.' In addition, the discussion focuses on developing partnerships that engage all stakeholders, aim to minimize conflicts and result in the highest quality growth. For more information see http://www.mwcog.org/planning/planning/smartgrowth.

Figure 5-5: Regional Activity Clusters



What the CLRP Does by 2030

The plan addresses Policy Goal 2 in several ways. First, the plan will support local planning efforts that promote concentrated development along existing transportation corridors and within regional activity centers. Highway improvements in the plan are almost exclusively widenings of existing highways. Second, the projects and programs in the plan emphasize maintaining existing transit and highway corridors as opposed to new construction in new corridors, which is one way of using transportation investment to encourage an economically strong regional core and regional activity centers. Third, numerous improvements in the plan contribute to a web of multi-modal connections between the core and activity centers. These improvements include Dulles Rail, High-Occupancy Vehicle (HOV) lanes on the Virginia portion of the Capital Beltway, the Bi-County Transitway between Bethesda and Silver Spring, the Anacostia Light Rail, and improvements to circumferential corridors such as US 301 and the Tri-County Parkway[8]. All of these projects reinforce existing transportation connections between activity centers.

Assessment of the Objectives

Employment and population growth forecasts are indicators of a strong economy, which is part of Objective 1 (*Economically strong regional core)* and Objective 2 (*Economically strong regional activity centers).* Employment is expected to increase by 34 percent by 2030 and population is expected to increase 23 percent. The regional core is expected to remain economically strong, and is forecast to account for 31 percent of the region's employment and 18 percent of the region's population.

Objective 2 refers to a mix of uses in the regional activity centers (*activity centers with a mix of jobs, housing, services, and recreation in a walkable environment).*

The 24 regional activity clusters comprise about 455 square miles (13 percent) of the region's total land area and contain 71 percent of the region's jobs and 38 percent of the region's households. The clusters include 60 out of the 83 total current Metrorail stations in the region. Fourteen activity clusters currently have no Metrorail station.

Figures 5-6 and 5-7 show the percent of regional growth in employment and households that will occur within regional activity clusters between 2005 and 2030. For some jurisdictions, such as the District of Columbia, Arlington County in Virginia, and Montgomery County in Maryland, a large majority of the growth will occur within regional activity clusters. For other jurisdictions, such as Prince William County in Virginia and Prince George's County in Maryland, much of the growth will occur outside regional activity clusters. Across the whole region, activity clusters will capture 70 percent of the region's employment growth and 36 percent of the region's household growth by 2030. This means that the percent of jobs and households contained within regional activity clusters will remain constant over the next 25 years.

[8] See Chapter 4 for more information about these and other 2003 CLRP projects.

Figure 5-6: Percent of Employment Growth between 2005 and 2030 Occurring in Activity Clusters

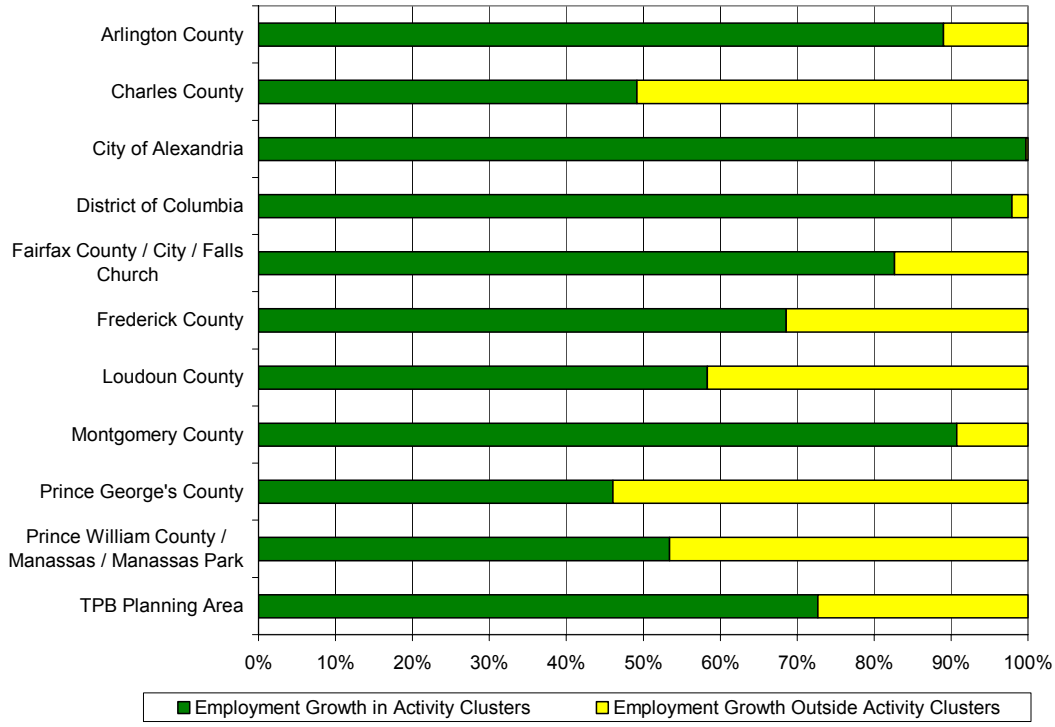
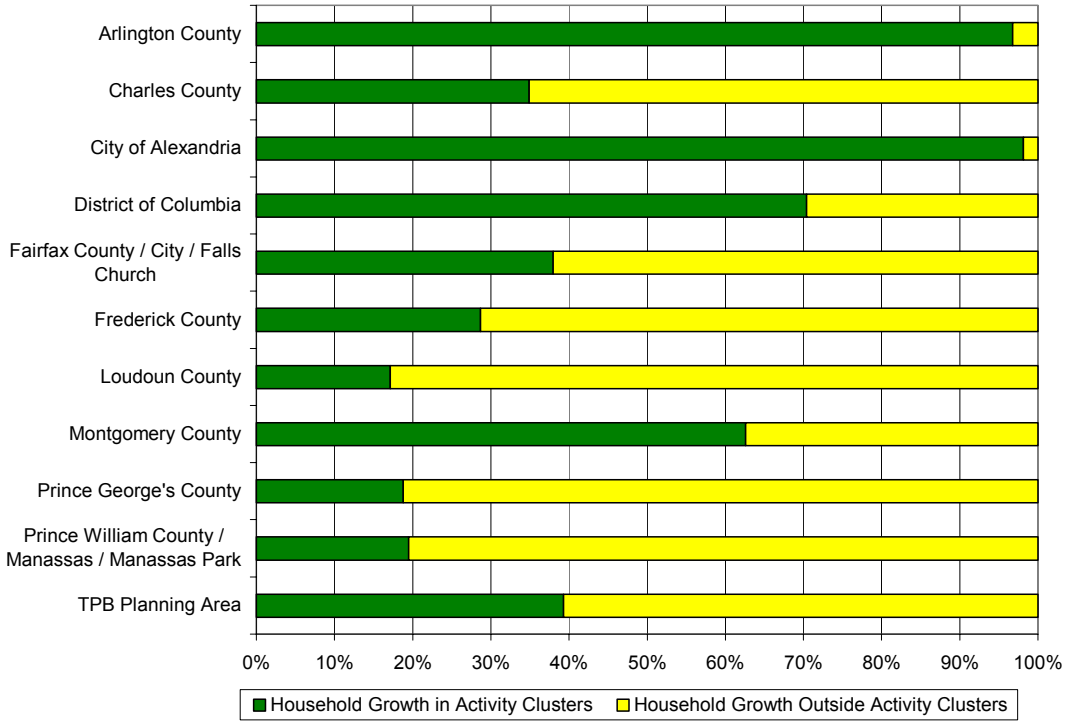


Figure 5-7: Percent of Household Growth between 2005 and 2030 Occurring in Activity Clusters



Round 6.3 of the Cooperative Forecasts[9] provide some information on the mix between jobs and households in the clusters over the next twenty-five years. As shown in Table 5-3, the 2030 jobs-to-households ratio in the activity clusters range from 1.2 to 7.8. All clusters have a higher concentration of employment than housing.

Table 5-3: Jobs to Households Ratio in Activity Clusters, 2030

Activity Cluster	Jobs 2030	Households 2030	2030 Jobs to Households Ratio
Bailey's Crossroads Area	66,876	57,666	1.2
Bethesda / Friendship Heights	112,867	32,536	3.5
Downtown Washington	733,482	186,488	4.0
Dulles Corridor	157,984	30,243	5.2
Dulles North Area	82,027	15,620	5.3
Dulles South Area	76,085	9,813	7.8
Fairfax Center / City of Fairfax / GMU	93,646	36,331	2.6
Frederick Area	112,247	38,228	3.0
Gaithersburg / Life Sciences Center	102,630	36,675	2.8
Germantown / Clarksburg	49,754	26,018	1.9
Greenbelt / College Park / White Oak Area	151,682	49,086	3.1
I-95/Springfield Area	74,457	20,021	3.7
Leesburg Area	29,088	19,360	1.5
Manassas Area	65,102	25,433	2.6
Merrifield / Dunn Loring	60,285	19,844	3.0
National Harbor	18,498	4,926	3.8
New Carrollton / Largo Area	62,243	23,164	2.7
Pentagon / Reagan Airport / Alexandria Area	232,714	56,978	4.1
Potomac Mills Area	40,879	21,058	1.9
Rockville / North Bethesda	209,884	38,201	5.5
Rosslyn / Ballston Corridor	127,143	41,407	3.1
Silver Spring / Takoma Park / Wheaton	87,825	47,651	1.8
Tysons Corner	140,405	24,401	5.8
Waldorf Commercial	33,939	28,403	1.2
All Clusters	**2,921,742**	**889,551**	**3.3**
Washington, DC-MD-VA MSA	**4,138,300**	**2,352,300**	**1.8**

A web of multi-modal transportation connections which provide convenient access (including improved mobility with reduced reliance on the automobile) between the regional core and regional activity centers, reinforcing existing transportation connections and creating new connections where appropriate is Objective 3. The majority of the projects in the plan reinforce existing transportation connections by upgrading, improving, extending, or widening routes. The region's transportation system was built to serve demand to and from

[9] The Cooperative Forecasts are produced by each local jurisdiction and approved by the COG Board. The forecasts are updated annually.

the core with radial corridors. Travel patterns are changing with less radial-oriented travel and more travel between suburbs.

Objective 4 calls for *Improved internal mobility with reduced reliance on the automobile within the regional core and within regional activity centers.* In both 2005 and 2030, approximately 17 percent of commuters are expected to use transit. The transit mode share for the regional core and within some activity centers is much higher. For example, in D.C. transit is forecast to account for over 50 percent of all work trips in 2030. The Regional Mobility and Accessibility study will evaluate in more detail the jobs-housing mix, multi-modal connections, and travel mode shares within the regional activity centers.

A TPB Advisory Committee was established in 2000 under the Transportation and Community and System Preservation (TCSP) grant to assist in the implementation of circulation systems within the regional core and regional activity centers. This committee recommended nine circulation system projects, such as the Downtown DC circulator, a pedestrian plaza over Rockville Pike and improving pedestrian access in Tysons Corner.

Efficient and safe movement of people, goods, and information, with minimal adverse impacts on residents and the environment is Objective 5. The growth of e-commerce has led to a boom in the home delivery of goods ordered on-line—everything from garden tools to groceries. The region must be ready to handle the emerging demands of the freight industry. The efficient movement of information has become a growing issue in the region. The demands of information technology have caused conflicts over adding cable lines in and around streets in the region and cell phone towers within existing rights-of-way. Projects in the plan that upgrade key transportation routes to move both people and goods help address this objective.

Challenges to Be Addressed in Future Plan Updates

While the region has made progress toward developing and maintaining *an interconnected transportation system…including a healthy regional core and dynamic regional activity centers*, (Policy Goal 2) there are significant challenges for future plan updates. A major challenge is securing adequate funding to maintain and develop an interconnected transportation system, which is discussed under Goal 7 in this chapter. Another challenge is developing a consensus regarding how to best develop *a web of multi-modal transportation connections* given the opposing views on new highways, such as the Intercounty Connector.

The Regional Mobility and Accessibility study will review how to provide better connections between the transportation corridors and the regional activity centers, including additional highway and transit circumferential facilities and capacity, such as Potomac River crossings, and ways to increase transit and high-occupancy vehicle (HOV) travel mode shares.

Policy Goal #3

The Washington metropolitan region's transportation system will give priority to management, performance, maintenance, and safety of all modes and facilities.

Objectives:

(1) Adequate maintenance, preservation, rehabilitation, and replacement of existing infrastructure.

(2) Enhanced system safety through effective enforcement of all traffic laws and motor carrier safety regulations, achievement of national targets for seatbelt use, and appropriate safety features in facility design.

Where We Are Today

Throughout the region, various transportation agencies have placed cameras at key intersections to help prevent red-light running, coordinate seatbelt campaigns, operate motorist assistance patrols, implement programs to enforce speed limits and educate the public on safety issues like drinking and driving. While such programs are effective, safety issues also need to be addressed at the regional level. Addressing safety at the regional level is challenging because three jurisdictions are involved—the District of Columbia, Maryland, and Virginia—which have different safety and traffic regulations and laws.

A TPB effort to enhance pedestrian and bicycle safety was under Goal 1, but is also relevant for Goal 3. The "Street Smart" campaign conducted in Fall of 2002 was aimed at young drivers who are involved in the majority of pedestrian collisions. The campaign featured Metrorail and Metrobus ads, radio ads, television public service announcements and posters. The campaign materials urged drivers to "Imagine the Impact" of traffic accidents on the lives and families of both pedestrians and drivers.[10]

What the CLRP Does by 2030

Objective 1 calls for *adequate maintenance, preservation, rehabilitation, and replacement of existing infrastructure.* The region will spend approximately $93.3 billion on the plan over the next 25 years. 77 percent will be spent on operating and preserving the transit and highway system. Why do operations and maintenance claim the lion's share of available resources? In part, this is the price of yesterday's successful construction programs. The major facilities built during the past 40 years are aging and need upkeep. Older transportation systems cost more to maintain, just as older homes and cars do. Highway and transit operating costs are also significant and growing, and transit operations are only partially offset by passenger fares. Transit rehabilitation and maintenance is a growing unmet need in this region. The plan does not currently provide a reliable source of funding for adequate highway and bridge maintenance and rehabilitation.

[10] The Street Smart 2002 Pedestrian Safety Awareness Campaign report can be found on-line at http://www.mwcog.org/transportation.

Objective 2 focuses on safety issues by calling for *enhanced system safety through effective enforcement of all traffic laws and motor carrier safety regulations, achievement of national targets for seatbelt use, and appropriate safety features in facility design.* Transportation agencies in the region have various programs to address safety. Safety is the first priority in all transportation improvements. Technology-related safety enhancements offer opportunities for better highway lighting and visibility, crash avoidance, bicycle and pedestrian safety, railroad grade crossing camera enforcement systems, and safety-related law enforcement.

Challenges to Be Addressed in Future Plan Updates

While the operating agencies within the District of Columbia, Maryland and Virginia have programs and policies in place that give *priority to management, performance, maintenance, and safety of all modes and facilities*, the region as a whole can do more to address system wide and inter-jurisdictional safety issues.

Management and operations will be a focus area for the TPB in the immediate future, with an emphasis on safety. Safety performance measures such as traffic fatalities, crashes and injuries by mode will be useful to the region in better understanding trends and influencing safety programs and policies. The TPB can play a role in bringing together the safety data already collected by the operating agencies to look at regional trends. Understanding the trends is the first step towards better *management, performance, maintenance, and safety of all modes and facilities*. Continuing safety efforts, such as the Street Smart campaign to educate pedestrians and drivers, will help improve bicycle and pedestrian safety.

Future technology will likely offer ways to improve both management of the existing system and safety. Intelligent Transportation System (ITS) improvements will help the region better manage the system to enhance system performance, which is the subject of Policy Goal 4. Technological safety improvements to cars, roads, buses, rail and pedestrian facilities will likely enhance system safety in the future.

A remaining challenge is finding reliable sources of funding to rehabilitate and maintain the region's transportation system adequately. The TPB will continue to discuss funding issues and raise awareness of the funding shortfalls at the federal, state and local levels.

Policy Goal #4

The Washington metropolitan region will use the best available technology to maximize system effectiveness.

Objectives:

(1) Reduction in regional congestion and congestion-related incidents.

(2) A user-friendly, seamless system with on-demand, timely travel information to users, and a simplified method of payment.

(3) Improved management of weather emergencies and major incidents.

(4) Improved reliability and predictability of operating conditions on the region's transportation facilities.

(5) Full utilization of future advancements in transportation technology.

Where We Are Today

Reducing crashes, managing congestion, making transit more user-friendly, and providing timely, accurate information on which to base travel decisions have great potential to improve the overall quality of life in the region. The application of emerging computer, telecommunications and other electronic technologies to transportation systems is referred to as "Intelligent Transportation Systems," or ITS. These technologies have demonstrated impacts on maximizing transportation system effectiveness, and hold promise in the future for more improvements. The latest technology is being incorporated and utilized by traffic management centers in the Washington region.

More and better information is provided to the public through agency web sites (such as MDOT, VDOT, and Montgomery County web sites). Variable message signs on the region's freeways provide information to motorists at critical locations. Local bus providers, such as Montgomery County and the City of Fairfax, use Global Positioning System (GPS) technology to tell passengers exactly when their bus will arrive. In addition, WMATA has installed changeable message signs in the Metro system that will alert passengers of the arrival of the next train. WMATA's SmarTrip electronic payment system is now available on several bus lines.

Further examples of how the region's transportation agencies and private sector partners are utilizing the Internet and other technology more effectively than ever include the following:

- WMATA's Internet based "Ride Guide" is one of the most comprehensive and user-friendly automated transit trip planning systems in the country. The technology also supports WMATA's telephone information line.

- Traffic cameras on major roadways are now easily accessible to the public on major media outlets' websites.
- Increasing use of text messaging systems now allows transportation customers to receive pager or e-mail alerts regarding, for example, transit service disruptions.
- An increased commitment to optimize the timing of the region's traffic signals through the use of the latest hardware and software technologies aids both congestion reduction and air quality.

In order to maximize the benefits of transportation technology, the TPB has promoted regional coordination of planning and projects through the Management, Operations and Intelligent Transportation Systems (MOITS) Policy & Technical Task Forces. These two task forces—focusing on policy and technical coordination—meet regularly to discuss coordination and to share experiences about ways in which transportation technology can be deployed to improve congestion, safety, maintenance and system efficiency. For more information on the TPB task forces, go to <http://www.mwcog.org/transportation/committee/>.

Management and operations took on a new urgency in the aftermath of the September 11, 2001 attacks. The TPB quickly began working on a transportation emergency management plan for the region. The first step was to implement improvements in interjurisdictional communications and coordination. The solution was developing a telephone/radio conference call protocol, supported by e-mail and electronic text messaging systems, for coordinated decision-making. In the event of future emergencies, the lead agency in the area where the incident occurred would initiate a conference call with other key agencies throughout the region.

Local and state officials and agency representatives have worked to enhance transportation components of the Regional Emergency Coordination Plan (RECP)[11]. Approved by the COG Board on September 11, 2002, the RECP included a transportation component and a transportation evacuation coordination annex, which were largely developed through the TPB's Management, Operations and Intelligent Transportation Systems (MOITS) Task Forces and an Emergency Transportation Work Group. The Emergency Transportation Work Group conducted workshops to study different potential emergency situations, such as region-wide evacuation, shelter-in-place, or widespread power failure.

What the CLRP Does by 2030

Many expansion projects in the plan are expected to take advantage of the best available technology, and there is currently a significant level of funding for transportation technologies. Because most technologies are scalable (e.g. more cameras could cover more locations for traffic management), additional deployments could have a nearly immediate impact on traffic congestion and pollution in the region.

Objective 1 calls for *Reduction in regional congestion and congestion-related incidents*. However, figure 5-4 indicates that stop-and-go conditions are expected on the majority of the region's highways by 2030. Additional congestion-related incidents can be expected with higher levels of congestion.

[11] The "Partners in Preparedness: The Regional Emergency Coordination Plan at Work" report published in 2004 can be viewed at www.mwocg.org.

In an era of quickly advancing technology, the region must ensure that public capabilities are in place to enable travelers to take advantage of the latest technology, as Objectives 2 through 5 indicate. TPB's MOITS Task Forces are providing regional coordination to help take advantage of the best available technology.

Challenges to Be Addressed in Future Plan Updates

The Washington region has been highly successful in deploying transportation technology to maximize system effectiveness. However, congestion is anticipated to worsen over the next 25 years, and alleviating congestion through technology will continue to be a challenge. Other remaining challenges being addressed by the MOITS Task Forces include improving cooperation and coordination between multiple jurisdictions for full utilization of advanced technology.

Another challenge that is central to achieving many of the Vision's policy goals is the need for additional funding. Reliable sources of funding are needed to maintain the technological systems already in place. Additional funding is also needed to further maximize system effectiveness in areas such as safety and incident management systems, traffic detection, management and information systems, Automatic Vehicle Location (AVL) systems for buses, traffic signal systems and electronic payment systems.

Finally, a critical remaining challenge is to continue to strengthen emergency response, communication and coordination as the region grapples with increased security threats and other incidences. Public information improvements are essential. Technical and operational improvements are needed to ensure that transportation agencies that monitor roadway and transit systems are ready to initiate and shepherd regional communications and coordination during an incident. These improvements will require additional money. The pending Congressional reauthorization of the federal surface transportation programs is expected to provide new funding and authority for regional incident management improvements.

Policy Goal #5

The Washington metropolitan region will plan and develop a transportation system that enhances and protects the region's natural environmental quality, cultural and historic resources, and communities.

Objectives:

(1) The Washington region becomes a model for protection and enhancement of natural, cultural, and historical resources.

(2) Reduction in reliance on the single-occupant vehicle (SOV) by offering attractive, efficient and affordable alternatives.

(3) Increased transit, ridesharing, bicycling and walking mode shares.

(4) Compliance with federal clean air, clean water and energy conservation requirements, including reductions in 1999 levels of mobile source pollutants.

(5) Reduction of per capita vehicle miles traveled (VMT).

(6) Protection of sensitive environmental, cultural, historical and neighborhood locations from negative traffic and developmental impacts through focusing of development in selected areas consistent with adopted jurisdictional plans.

Where We Are Today

Transportation dollars have been used effectively throughout the region to *enhance and protect the region's natural environmental quality, cultural and historical resources and communities.* Examples of this include the Alexandria train station, the George Washington Memorial Parkway, and the Baltimore Washington Parkway.

Across the region, both residents and local governments are recognizing the value of integrating green space into communities. Momentum is building as jurisdictions, both small and large, are acquiring lands and opening them to the public. The Washington Metropolitan area has over 75 miles of existing greenways or trails. Significant existing regional greenways and trails include the C&O Canal National Historic Park, Mount Vernon Greenway, Washington and Old Dominion (W&OD) Trail, Rock Creek Greenway, Capital Crescent Trail, Anacostia Tributary Trail System, Appalachian Trail Greenway, Cactoctin-Gambrill Greenway, Bullrun Occoquan Greenway and the Patuxent River Greenway.

Over the past decade, the region has made tremendous strides in cleaning up the air. The question now is whether the region is making progress fast enough to meet federal requirements. Under the Clean Air Act, the region is classified as a "non-attainment area" for federal standards for ground level ozone. Sometimes called smog, ozone is formed on hot summer days when nitrogen oxides (NOx) and volatile organic compounds (VOCs) are combined in sunlight. Motor vehicles emit VOCs and NOx, but power plants and other sources also emit these pollutants.

The Clean Air Act requires states to develop State Implementation Plans (SIPs) laying out steps to "attain" federal air quality standards. In our multi-state region, the Metropolitan Washington Air Quality Committee (MWAQC) is responsible for developing a regional air quality plan that contributes to the three SIPs produced by D.C., Virginia and Maryland. Like the TPB, MWAQC is an independent body at the Council of Governments including local and state representatives from across the region. The Washington region must attain these standards by 2005[12].

One of ways in which the TPB and the plan promote the use of alternative modes to the single occupancy vehicle is through the Commuter Connections program. Administered through the TPB, the program provides services designed to reduce congestion and improve air quality in the short-term. Services include ridematching, the "Guaranteed Ride Home" program, telework resource centers, and assistance for employers in setting up commuter programs. Commuter assistance programs and advertising are having an impact on how people travel, according to the TPB's 2001 State of the Commute Survey. In the survey, 55 percent of respondents said they had seen, heard or read advertising for ridesharing, HOV lanes or telecommuting in the last six months. More than a quarter of respondents said they would consider alternative commuting because of this advertising.

What the CLRP Does by 2030

Environmental enhancement and protection is challenging at the regional level because many of the decisions that affect the environment are made at the local level. Local comprehensive land use plans and transportation agency plans guide these decisions. Impacts on the environment, natural and cultural resources and communities are considered when transportation improvements are in the project planning process, as required by the National Environmental Policy Act (NEPA). However, there is no mechanism to examine all the local impacts of a regional plan for an area that covers over 3,000 square miles. System-wide impacts of all the transportation improvements included in the plan are best captured by the air quality conformity analysis for the region (reviewed below).

Federal enhancement and CMAQ funding, which made projects such as the C&O Canal and the Alexandria train station possible, are assumed to continue throughout the time period of the plan.

Assessment of Objectives

Objective 1 envisions that *The Washington region becomes a model for protection and enhancement of natural, cultural, and historical resources.* One of the ways that the plan addresses this objective is through a grant awarded to TPB under the Transportation and Community and System Preservation (TCSP) Pilot Program to support a key component of the TPB Vision: Integrating green space into a regional greenways system. In order to provide the level of attention needed to advance regional greenways and to involve key agencies, officials and stakeholders, the TPB created a Green Space Advisory Committee to help guide the planning and implementation process. Working with these experts and local planners, regional greenway priorities were established along with an implementation

[12] For more information on air quality planning at COG, see http://www.mwcog.org/environment/air/.

strategy to help make these proposed greenways a reality. Eight regional priority projects were identified and are described in detail in the report. 175 miles of additional greenways and trails are proposed—doubling the miles of greenways and trails currently found in the region. These projects range in scale and character, but they all provide inter-jurisdictional connections that are the foundation of the greenway network.

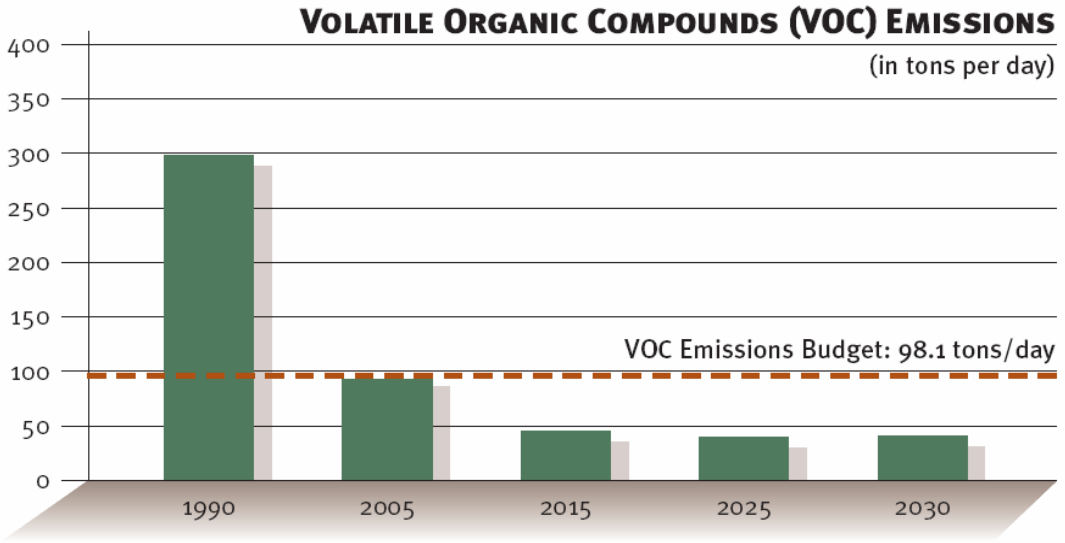
Objective 2, *Reduction in reliance on the single-occupant vehicle (SOV) by offering attractive, efficient and affordable alternatives*, can be measured in several ways. Attractive, efficient and affordable alternatives include rail, bus, and High Occupancy Vehicle (HOV) lane systems. Over 60 percent of the funding for the plan is committed to transit projects, including rail transit to Dulles airport by 2010, the Corridor Cities Transitway from the Shady the Bi-County Transitway and the Anacostia Light Rail line. Transit trips are expected to increase 28 percent over the next 25 years. However, average auto occupancy is expected to remain steady -- 1.12 in 2005 and 1.13 in 2030. TPB's Commuter Connection program will continue to encourage the region to reduce reliance on the SOV and market the many other alternatives to commuters.

Objective 3 calls for *Increased transit, ridesharing, bicycling and walking mode shares*.
The travel demand forecasts show that transit mode share remains at about 17 percent for work trips, and about 5 percent for all trips, in both 2005 and 2030. Transit mode share is forecast to grow in the regional core – over half of all work trips in the District of Columbia are forecast to be made on transit.

Compliance with federal clean air, clean water and energy conservation requirements, including reductions in 1999 levels of mobile source pollutants is Objective 4. Under the Clean Air Act, the CLRP is required to conform to regional air quality improvement goals. The Washington region currently does not meet national air quality standards for ground-level ozone. Before the CLRP update could be approved, the TPB was first required to approve a "conformity determination" showing that anticipated vehicle emissions will conform to emissions ceilings (called "mobile emissions budgets") contained in the region's air quality improvement plan. As mentioned earlier, the Metropolitan Washington Air Quality Committee (MWAQC) is the body responsible for developing the regional air quality plan. MWAQC developed a new air quality plan in 2003, which was closely coordinated with the CLRP development.

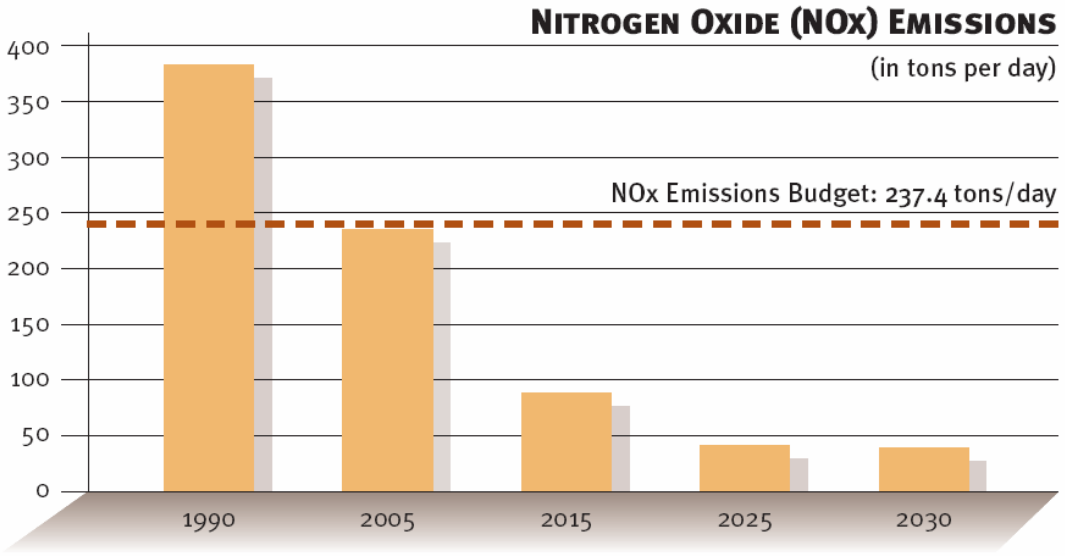
Figures 5-8 and 5-9 below show the emissions budgets in the 2003 air quality plan, which were 98.1 tons per day for VOC and 237.4 tons per day for NOx. The air quality analysis for the 2003 CLRP predicted the emissions levels shown in the charts. The emissions forecasts for 2005
were under the emissions budgets, although they were close. The long-term trend shows significant emissions reductions since 1990, which will help meet the requirements in 2015 and beyond.

Figure 5-8: Volatile Organic Compounds (VOC) Emissions 1990 -2030



Graphic Design by Carla Badaracco

Figure 5-9: Nitrogen Oxides (NOx) Emissions 1990 -2030



Graphic Design by Carla Badaracco

Objective 5 contains the most specific quantitative measure listed in the Vision, which is the *Reduction of per capita vehicle miles traveled (VMT)*. Daily VMT per capita increases seven percent from 25 miles per person in 2005 to 27 miles per person in 2030, as shown in Table 5-4.

Table 5-4: Daily Vehicle Miles of Travel (VMT) Per Capita 2005 - 2030

	2005	2015	2030	Change 2005-2030
VMT Per Capita	**25**	**26**	**27**	**7%**
Population (Thousands)	4,970	5,600	6,100	23%
Total Daily VMT (Thousands)	126,450	146,520	166,400	32%

Total daily VMT is forecast to increase 32 percent between 2005 and 2030. This means that more people will be driving and traveling longer distances. The growth in VMT reflects the location of increases in population and employment, which is greatest in the inner and outer suburbs, as shown in Figure 5-2. VMT tends to be higher in suburban areas than in central cities because there is greater spatial separation between housing, jobs, and shopping centers. The development occurring in the outer jurisdictions increases the length of trips, which causes VMT to increase.

Other factors that influence VMT and VMT per capita include auto ownership, trip lengths, income, the number of workers in a family, access to transit, and the location of housing and jobs. Household income is a key factor affecting driving choices, not only because income closely correlates with auto ownership levels, but also because higher income households have more housing choices, including large suburban homes that have limited transit service and few walkable destinations. Transit use tends to be highest and vehicle use lowest in communities with a high proportion of low-income households.[13]

The rate of growth in VMT per capita could be reduced by improved transit, more ridesharing, telecommuting incentives, and increased bicycle and pedestrian facility options. Compact, mixed-use development tends to be more pedestrian- and bike-friendly, which can encourage less driving. The Vision's objectives regarding regional activity centers (Policy Goal 2) call for a mix of uses in a walkable environment. Opportunities exist within the centers to improve the mix of uses and the walkability of these areas.

Objective 6 emphasizes *Protection of sensitive environmental, cultural, historical and neighborhood locations from negative traffic and developmental impacts through focusing of development in selected areas consistent with adopted jurisdictional plans.* Parts of this objective is addressed at the project planning level, where negative traffic and development impacts are identified in an Environmental Impact Statement (EIS) for major investments. Impacts on the environment, cultural, and historic resources also have to be identified in the EIS. In creating the Regional Activity Centers, COG and TPB encouraged local jurisdictions and other agencies to promote mixed-use development and to further concentrate jobs and households in the regional activity centers and clusters[14].

[13] The Region. National Capital Region Transportation Planning Board. Volume 37 1997, page 9.
[14] Figure 5-1 shows the locations of regional activity clusters. More information on the Regional Activity Centers can be found at http://www.mwcog.org/planning.

Challenges to Be Addressed in Future Plan Updates

The TPB continues to *plan and develop a transportation system that enhances and protects the region's natural environmental quality, cultural and historic resources, and communities* and the Washington region is working towards many of the objectives in Policy Goal 5. However, significant challenges remain in achieving this goal.

As our prosperous metropolitan area continues to grow, people have to travel longer distances to reach jobs and services. In addition, the nature and location of new development presents a challenge to the objective *increased transit, ridesharing, bicycling and walking mode shares*. Vehicle Miles of Travel per capita will continue to be difficult to reduce, or even maintain in the region. More VMT means increased VOC and NOx emissions, and meeting the new air quality tests – such as the "8-Hour standard[15]" will be a key challenge for future plans. The TPB will continue work to ensure that mobile source emissions conform to budget levels established in the air quality plan.

Protecting neighborhoods from negative traffic and development impacts as the region promotes transit-oriented development (TOD) is a continuing challenge. More development around transit stations, especially on the eastern side of the region, has been called for. However, states and localities need to ensure that provisions to mitigate potentially negative impacts from such development in the short- and long-term, such as the increased housing costs and displacement, are in place.

Many of these challenges will be examined under the Regional Mobility and Accessibility Study through transportation and land use scenarios, including air quality impacts, ways to reduce the reliance on the single-occupant vehicle, and changes in per capita VMT. A land use scenario that focuses development in selected areas, such as the regional activity centers and transit stations, will also examined in the study.

[15] For more information on the 8-Hour Standard, see page XX or go to http://www.mwcog.org/environment/air/.

Policy Goal #6

The Washington metropolitan region will achieve better inter-jurisdictional coordination of transportation and land use planning.

Objectives:

(1) A composite general land use and transportation map of the region that identifies the key elements needed for regional transportation planning—regional activity centers, principal transportation corridors and facilities, and designated "green space."

(2) Region-wide coordination of land use and transportation planning in accordance with the recommendations of the Partnership for Regional Excellence report approved by the COG Board of Directors in 1993.

Where We Are Today

The coordination of land use and transportation planning within one jurisdiction is challenging. The coordination of land use and transportation planning within 20 jurisdictions with different land use controls and laws is considerably more challenging. County and state offices of planning, elected officials, and planning commissions are responsible for implementing and creating laws, regulations and policies that guide land use and development. Land use planning is done locally and there is no regional body responsible for long-range land use plans. Land use laws and philosophies vary in each of the three major jurisdictions (Maryland, Virginia and the District of Columbia). Even though transportation planning is also done by transportation agencies in the states and counties, the TPB is a forum to weave the plans together and to discuss emerging issues and challenges for the region.

A composite map of adopted land use plans was produced in 1996 that provides information on local comprehensive plans. The TPB and COG strengthened the linkage between land use and transportation planning in 2002 with the development of maps depicting regional activity centers. According to a resolution passed by the TPB, “the maps and accompanying information have been developed for use by local jurisdictions, the TPB and other regional bodies to encourage mixed-use development and to increase significantly the percentage of jobs and households found in regional activity centers.” The COG Planning Directors Technical Advisory Committee developed the maps, with review by a joint task force including members of the TPB and the COG Board of Directors. The data source for the activity centers maps was COG’s Cooperative Forecasts, which are based on the local jurisdictions’ projections of population, households and employment. The maps identify 58 regional Activity Centers that are organized into six categories: downtown core, mixed-use centers, employment centers, suburban employment centers, emerging employment centers and regional airports[16].

[16] Figure 5-1 shows the locations of regional activity clusters. More information can be found on the Regional Activity Centers at http://www.mwcog.org/planning.

The activity centers maps are integral to the development of the TPB's Regional Mobility and Accessibility Study, which is another important analytical effort to improve regional coordination between land use and transportation. The study is a multi-year initiative looking at the effects of alternative long-term scenarios for transportation and land use development. For example, the study will consider the effects of a greater concentration of jobs and/or housing in regional activity centers and clusters, and examine the impacts of a High Occupancy Toll (HOT) lane network. The study will also examine a "congestion management system," featuring a package of improvements to manage demand for the region's highway and transit systems.

Another way that the TPB addresses Policy Goal 6 is through COG's cooperative forecasting program. Each year the local jurisdictions provide employment and household forecasts for the TPB to use in planning the transportation system and testing the long-range transportation plan for conformity with air quality standards. The cooperative forecasting program enables local and regional planning to be coordinated by using common assumptions about future growth and development. The program combines regional data, which are based upon national economic trends and regional demographics, with local projections of population, households and employment. These local projections are based on data about real estate development, market conditions, adopted land-use plans and planned transportation improvements.

What the CLRP Does by 2030

The regional activity clusters will capture 70 percent of the region's growth in employment and 36 percent of the region's household growth by 2030. This means that the percent of jobs and households contained within regional activity clusters will remain constant over the next 25 years.

Objective 2 calls for *region-wide coordination of land use and transportation planning in accordance with the recommendations of the Partnership for Regional Excellence report approved by the COG Board of Directors in 1993*. The report's recommendations included reconstituting COG's Metropolitan Development Policy Committee (MDPC) by adding representation from TPB, the Metropolitan Washington Air Quality Committee (MWAQC), business and environmental communities, and the federal government[17]. The MDPC initiated a series of local land use planning and development dialogues to promote the exchange of information that will help educate local officials on planning challenges in the region. This activity led to the development of a multimedia CD-ROM and Web site by COG to inform and educate elected officials, civic groups, the development community and citizens about the land use and transportation challenges currently facing the region. The accepted principles of "Smart Growth" are candidly introduced and discussed in the context of the varied and distinct communities across the region. The CD-ROM highlights the responsibilities and successes of local government policies while acknowledging the common concerns which elected officials and citizens encounter. For more information see http://www.mwcog.org/planning/planning/smartgrowth/.

[17] MWCOG. The Report of the Partnership for Regional Excellence. July 14, 1993.

Challenges To Be Addressed in Future Plan Updates

Positive steps have been taken to work towards *better inter-jurisdictional coordination of transportation and land use planning*. A challenge for future updates of the CLRP will be increasing the percentage of regional jobs and people in the regional activity clusters.

"Green space" needs to be designated and integrated into the composite land use and transportation map. Efforts have been made to define and map the region's "green space", however; because definitions and the levels of protection from future development vary from jurisdiction to jurisdiction, this task is not an easy undertaking.

The Regional Mobility and Accessibility Study will look at the impacts of concentrating residential and commercial development in regional activity centers along transportation corridors.

Policy Goal #7

The Washington metropolitan region will achieve an enhanced funding mechanism(s) for regional and local transportation system priorities that cannot be implemented with current and forecasted federal, state, and local funding.

Objectives:

(1) Consensus on a set of critical transportation projects and a funding mechanism(s) to address the region's growing mobility and accessibility needs.

(2) A fiscally sustainable transportation system.

(3) Users of all modes pay an equitable share of costs.

Where We Are Today

An analysis of revenues and expenditures through 2030 was conducted and used to financially constrain the 2003 CLRP. The plan was adopted with the full awareness that the funding is inadequate to maintain and operate the existing transportation system, let alone expand the system. There is a continuing public dialogue on transportation funding challenges and ways to address the shortfalls.

Transportation funding is an issue for several reasons. First, much of the transportation infrastructure in the region is aging and, just like a house, more rehabilitation and maintenance is required keep the system operating. Second, fuel taxes have not maintained the revenue levels they did in the past because of more fuel-efficient cars and tax rates not keeping pace with inflation. For these reasons, future revenues are projected to be inadequate to keep pace with growth and development.

In a February 2001 report "A System in Crisis," the TPB reviewed the regional unfunded transit and highway needs and found a $1.74 billion per year revenue gap. In the introduction to this report, Kathy Porter, chair of the TPB in 2000, stated:

> *"The Washington region is facing a crisis in transportation funding. This is a crisis that even now is affecting our economy and quality of life. And unless we take action, the situation will just get worse."*

Three years later, with growing maintenance, rehabilitation and preservation needs, the situation has not improved. In fact, the state and local revenue outlook appears to have worsened since the 2001 TPB report, compounding the regional financial crisis. The region has made several serious attempts to increase revenues for transportation, but to date has not succeeded in securing the funding needed.

TPB Reauthorization Principles

Every six years, Congress reauthorizes the multi-billion dollar federal surface transportation programs that fund highway and transit systems across the country. The last reauthorization occurred in 1998, with the Transportation Equity Act for the 21st Century, known as "TEA-21." The TPB brought attention to regional transportation priorities with the brochure "Principles for Reauthorization of the Federal Surface Transportation Programs", released at a press conference in November 2002[18]. The TPB's policy positions support regional "must-do" transportation priorities, including emergency preparedness, system rehabilitation and maintenance, and air quality improvement measures. The TPB reauthorization principles stressed the region's unique relationship with the federal government. With state and local governments facing growing financial shortfalls, regional leaders emphasized that federal transportation funding has become more vital than ever.

Value Pricing for Transportation

The TPB and transportation agencies are beginning to discuss a concept which until recently was considered politically nonviable: the use of tolls and other pricing mechanisms to influence travel behavior, cut congestion and raise revenue. In June 2003, the TPB convened more than 200 elected officials, community leaders, planners and academics for a one-day conference that explored innovative transportation pricing strategies[19]. It was the first major public event to discuss "value pricing," which, in the terminology of transportation planning, means giving drivers and transit riders the option of paying an extra fee for the value of reduced congestion. The TPB organized the conference in conjunction with the Federal Highway Administration and the departments of transportation in the District of Columbia, Maryland and Virginia. The most commonly discussed value pricing mechanism is high occupancy/toll (HOT) lanes, which permit travelers to either ride for free in a carpool or pay a toll if they are driving alone. Tolls are typically paid through electronic transponders attached to car windshields. More sophisticated HOT lanes automatically adjust tolls based on congestion levels—an approach called "dynamic pricing." In addition to expanding travel options, pricing strategies aim to reduce congestion by influencing travel behavior.

The state departments of transportation (DOTs) in the Washington region are seriously considering the implementation of variably-priced lanes on several existing and proposed new facilities. One project that has gained attention is a proposal from the Fluor Daniel Company to build HOT lanes on the Capitol Beltway between Springfield and Route 193. Maryland is considering Express Toll Lanes, special highway lanes that could be used by paying a fee, on I-270, the Capital Beltway, and portions of I-95 north of Baltimore. The District of Columbia is looking at variable pricing for parking and WMATA is currently implementing Smart card technologies which might accommodate new pricing strategies in the future.

The TPB has identified value pricing as a concept worth pursuing and has appointed a task force to examine how value pricing could benefit the Washington region. The task force will guide the development of a regional HOV/HOT lane scenario for the TPB's Regional Mobility and Accessibility Study.

[18] The TPB's reauthorization principles can be found at http://www.mwcog.org/transportation/.
[19] For more information on the TPB's value pricing efforts see http://www.mwcog.org/transportation/.

What the CLRP Does by 2030

The financial analysis of the 2003 CLRP reviews and updates projected transportation revenues and costs for operating, maintaining and expanding the transportation system through 2030. The analysis is financially constrained to revenues reasonably expected to be available, and does not include estimates for needed levels of expenditures. The region will spend approximately $93.3 billion on the plan over the next 25 years. The region's transportation funds come primarily from federal and state fuel taxes, vehicle fees, transit fares, tolls, and local property and sales taxes. It was estimated that 77 percent of available funding will be needed to maintain and operate the regional transportation system, leaving only 23 percent for expansion of the existing system[20].

The financial analysis presents aggregate expenditures and revenues over a 27-year period, from 2004 to 2030, but does not address year-by-year expenditure requirements relative to year-by-year availability of revenues. The financial analysis notes that within the aggregate 27-year totals "are critical short-term funding needs such as the ramp-up requirements in WMATA's rehabilitative program, which call for substantially increased funding over the next six to ten years."

Assessment of Objectives

Objective 1 is *consensus on a set of critical transportation projects and a funding mechanism(s) to address the region's growing mobility and accessibility needs.* A TPB study on short-term critical transportation needs represents this consensus. The study found that the region must double its anticipated transportation revenues in the next six years in order to fund key transportation priorities. This analysis of six-year funding streams estimated that transportation revenues between 2005 and 2010 will be 12.2 billion, while total needs are forecast at $25.4 billion, meaning a shortfall of $13.2 billion over the next six years. This analysis was compiled in a brochure called Time to Act which was released by the TPB in February 2004. This brochure was used to inform Federal, state and local funding partners on critical regional transportation needs.

Objective 2 calls for a *fiscally sustainable transportation system.* This objective stresses the importance of funding the maintenance, rehabilitation and operating costs that recur on an annual basis before funding system expansion. The former requires a reliable, predictable stream of current revenues; the latter requires large injections of capital funds over relatively short periods. In effect, the region must enact strategies that both increase available funds from current sources, as well as expand the authority to leverage those funds through new financing techniques.

Users of all modes pay an equitable share of costs is Objective 3. This objective involves raising awareness about the subsidies for automobile use—such as free or reduced parking, construction and maintenance of roads and highways, the interest on debt assumed for earlier construction, some police costs, street lighting costs, and sewer and sidewalk costs. One way in which this objective is addressed is by the Metrochek program, which provides transit benefits to employees and attempts to "level the playing field" between automobiles and transit.

[20] See Chapter 2 for more information on the financial analysis for the 2003 CLRP.

Challenges To Be Addressed in Future Plan Updates

The region has been struggling with inadequate financial resources for transportation for many years. The situation has worsened because of continued growth in the needs and stagnating funding levels. It is clear that a regional approach to addressing these problems is an appropriate and necessary response. The 2001 System in Crisis report made a concluding statement regarding unfunded transportation needs that is perhaps even more pertinent today:

> *"Solving the problem will require an unprecedented level of cooperation among the numerous jurisdictions across the region. Only with a concerted effort can the region begin to tackle the critical rehabilitation and capacity needs of the region's transit and highway networks."*

Policy Goal #8

The Washington metropolitan region will support options for international and inter-regional travel and commerce.

Objectives:

(1) The Washington region will be among the most accessible in the nation for international and inter-regional passenger and goods movements.

(2) Continued growth in passenger and goods movements between the Washington region and other nearby regions in the mid-Atlantic area.

(3) Connectivity to and between Washington Dulles International, National, and Baltimore-Washington International airports.

Where We Are Today

In the past few years, the region has seen rapid growth in air cargo and passenger travel as well as increased freight and goods movement. The Washington-Baltimore Region Airport System Plan includes components on Commercial Airports, Ground Access and Air Cargo that support the planning, development, and operation of airport facilities and other transportation facilities that serve the airports in a systematic framework for the Washington-Baltimore region.[21]

According to a TPB survey, Baltimore-Washington International (BWI) Airport is now the most popular airport for local passengers. Most passengers reported that "closest airport" was their primary reason for choosing an airport. However, 32 percent of BWI users and 16 percent of Dulles users said their primary reason was "lowest fare." In 1992 only three percent of passengers at each of those airports reported that "lowest fare" was their primary reason[22].. The TPB survey was the fifth in a series of air passenger surveys conducted at the region's three major airports—BWI, Dulles and Reagan National. The surveys provide data for air systems and master planning processes at the airports. The data are also incorporated into the regional travel demand model, which is used to forecast vehicle emissions, among other things.

Since 1992, air travel in the region has increased 55 percent. In 2000, BWI had 38 percent of trips originating in the Washington-Baltimore region, up from 25 percent in 1992. Reagan National had 34 percent of the region's trips, down from 43 percent in 1992, and Dulles had 28 percent, down from 32 percent in 1992. The most common way of getting to the airport

[21] Washington-Baltimore Regional Airport System Plan. Metropolitan Washington Council of Governments. National Capital Region Transportation Planning Board. Volume I—Commercial Airports. 1988. Volume II—Ground Access 1993. Volume III—Air Cargo 1997.

[22] 2000 Washington-Baltimore Regional Air Passenger Survey. Summary of Findings. National Capital Region Transportation Planning Board. July 19, 2002.

continued to be the private car— accounting for 63 percent (up from 60 percent in 1992) of all arriving passengers. In 2000, 12 percent of passengers leaving from National Airport used Metrorail, which continued to be one of the highest proportions of public transit usage at any airport in the country. Approximately one percent of trips at BWI were made using Amtrak/MARC or light rail.

What the CLRP Does by 2030

Forecast information on goods movement over the next twenty-five years was unavailable for the 2003 CLRP update, but will be examined in more detail in the Regional Mobility and Accessibility Study. Available travel demand forecasts indicate that daily truck trips in the region will increase 39 percent between 2005 and 2030. A total of 500,000 truck trips per day are forecast for 2030. A challenge for freight movement and planning is increasing congestion levels and travel times, which will seriously affect goods movement.

Assessment of Objectives

Objectives 1 through 3 are addressed in part by transportation improvements in the plan such as rail to Dulles airport by 2010 and other highway improvements near the airports and in major corridors. The plan also contains a variety of projects relevant to the maintenance of airport access facilities. These objectives are also addressed through the Commercial Airports, Ground Access and Air Cargo components of the Regional Airport System Plan. The information provided on highway congestion levels in this chapter indicate that the high levels of congestion expected by 2030 will impact access to the airports. Travel time reliability will become much worse in the future, and costly delays can be expected for passenger and goods movement.

Challenges To Be Addressed in Future Plan Updates

The 2003 CLRP moves the region towards achieving the objectives under Policy Goal 8 but challenges for future plan updates remain. A regional plan for freight movement could be useful to the region in understanding trends and planning a regional system that accommodates freight movement with minimal disruption to traffic flow. The Regional Mobility and Accessibility Study will provide more information on regional freight movement, accessibility to the region's airports and high quality inter-regional travel for people and goods. Air travel, air cargo and ground access will be addressed by the TPB's continuous airport system planning process.

SUMMARY OF GOAL ASSESSMENT AND CHALLENGES FOR UPDATING THE PLAN

This section summarizes the main findings of the previous assessment. These conclusions concerning the plan's accomplishments and the challenges that remain are intended to provide guidance for future updates to this plan.

Achievements of the Plan

The long-range plan will move the region toward the goals expressed in the Vision. The plan

- Is financially realistic and includes all projects of regional significance;

- Provides enhanced people-moving capacity along existing transportation corridors using a combination of transit, HOV and highway approaches;

- Expands the region's transit system by extending Metrorail to Largo, by providing rail transit to Dulles airport by 2010, by building the Corridor Cities Transitway from the Shady Grove Metro station to COMSAT, by adding a station at Potomac Yards and New York Avenue, and by creating the Bi-County Transitway between Bethesda and Silver Spring, the Anacostia Light Rail line, and the K Street busway;

- Improves the region's highway system and adds an additional 1,900 highway and arterial lane miles;

- Meets current Clean Air Act requirements, including the reduction of ozone-causing mobile emissions, although air quality issues will continue to be a challenge for this region;

- Encourages ridesharing through informational and incentive programs, new park and ride facilities, and the expansion of HOV lanes;

- Encourages telecommuting through the establishment of a regional resource center, telework centers, and promotional activities;

- Was developed with public participation and comment, including input from low-income communities minority populations and people with disabilities; and

- Increases the awareness of remaining transportation funding shortfalls.

Challenges for Updating the Plan

Challenges specific to each policy goal were reviewed in the previous section with information on ways the TPB will be addressing the challenges. This summary presents the general categories or themes these challenges fall into:

- Addressing the projected growth in highway and transit congestion with effective, equitable and feasible strategies,

- Identifying additional transportation revenues to address these challenges, including funds that are needed to adequately maintain and rehabilitate existing facilities;

- Working towards the implementation of value pricing projects that will ultimately work together as a system;

- Ensuring that the region takes full advantage of new technologies to maximize system performance and enhance the safety of all transportation modes;

- Continuing to strengthen emergency response, communication and coordination as the region grapples with increased security threats; and

- Accounting for the special issues of moving goods and the needs of freight transportation within the regional planning process;

- Improving pedestrian and bicycle facilities and safety for everyone, including people with disabilities;

- Ensuring that transit services continue to serve the needs of low-income and minority communities, as well as disabled persons through improved transit information and efficient paratransit services;

- Increasing the regional employment and household share in the regional activity centers and clusters;

- Identifying ways in which regional planning can enhance walking, bicycling and transit use; and

- Designating “green space” in a composite land use and transportation map.

6.
PUBLIC COMMENTS AND RESPONSES

Federal regulations require the long-range plan to include a summary analysis and report on significant public comments made as part of the public involvement process. This chapter presents summaries of the comments received on the plan and associated TIP and air quality documents along with the TPB's response to each comment. The 2003 CLRP received significant public comment, both in writing and during the TPB public comment period, throughout the update process. Below are the summaries and responses to the main categories of public comment received which were presented to the TPB at the May 21, 2003, and November 13, 2003, TPB meetings.

Response to Comments Received on Submissions for Inclusion in the Air Quality Conformity Assessment for the 2003 CLRP and FY 2004-2009 TIP

At its April 16, 2003 meeting, the TPB was briefed on the project submissions received from state, regional and local agencies for the 2003 CLRP and the FY 2004-2009 TIP. These submissions were released for public comment and inter-agency review at the TPB Citizens Advisory Committee (CAC) meeting on April 10, 2003. The public comment period on the submissions ended on May 16, 2003. Key comments and TPB responses are summarized below.

Suburban Maryland

1. Comment: Funding the transitway from Bethesda to Silver Spring (a portion of the inner Purple Line) is welcome, but only including the Silver Spring to New Carrollton portion of the line as a study is disappointing.

   Response: The transitway from Bethesda to Silver Spring has been in shown for construction in the CLRP for several years. The Silver Spring to New Carrollton portion of the transitway has consensus and is being included for study in order to examine various alignments and station locations. The entire transitway is now called the “Bi-County Transitway” in the CLRP.

2. Comment: The study of the Silver Spring to New Carrollton portion of the Bi- County Transitway should be accelerated to 2005, and construction should take place at least at the same time or before the Corridor Cities Transitway (CCT) expected completion date of 2012. The proposed schedule for these projects reflects a bias towards the "favored quarter of growth" at the expense of communities in need of revitalization and traffic relief.

   Response: The Maryland Transit Administration will revise the management of the study for the Bi-County Transitway with the goal of achieving consensus on a cost-effective project. The Corridor Cities Transitway is being included in the plan for construction as a "place holder," with completion dates of 2012 (to Metropolitan Grove) and 2020 (to Comsat). The EIS process for the CCT is still underway and the alignment, completion date and other details could change.

3. Comment: While the potential need for the Greenbelt Metro Interchange at I- 95/495 is recognized, the project should not be funded until development proposals are shown to be truly transit-oriented and pedestrian-friendly.

   Response: A project location/design hearing will be held in Fall 2003. The land use and development approvals are under the local jurisdiction and the project is consistent with the local master plan.

4. Comment: The conversion of MD 210 to an eight-lane highway should not occur because it would favor long-distance commuting from Charles County, increase sprawl, and further divide Prince George's County communities on either side of the highway.

   Response: In the mailout of May 15, the status for this project was corrected to show that the proposed two HOV lanes are removed. The six-lane highway will be shown in the CLRP for reconstruction with intersection improvements and enhanced bus service.

5. Comment: The intersection improvements on MD 210 should not be included because they would favor long-distance commuting from Charles County and increase sprawl development.

   Response: The intersection improvements will relieve traffic congestion along this corridor. The project is consistent with the Prince George's County Master Plan.

6. Comment: The Intercounty Connector (ICC) Study should not be revived.

   Response: A comprehensive NEPA process study will be conducted to address the concerns and issues identified in previous studies, the last of which was not completed.

7. Comment: Frederick County requests that the intersection of MD 15 and MD 26 be improved with a ramp from west bound MD 26 to MD 15.

   Response: This intersection improvement is included for construction by 2010.

8. Comment: Rail connection between Alexandria, Virginia and Branch Avenue on the Woodrow Wilson Bridge must be added to the CLRP.

Response: The design and configuration of the new Woodrow Wilson Bridge allow for the construction and operation of future rail service. HOV lanes on the bridges are shown in the CLRP as a place holder until a decision is made on a future rail service connection and on HOV lanes on the Beltway.

Northern Virginia

9. Comment: The Tri-County Parkway should not be constructed for several reasons, including its adverse impact on Bull Run Regional Park and the region's environment.

   Response: The route alignment and other details are under study. The parkway is shown in the CLRP for construction by 2020 as a place holder. This project was included in the 2020 Plan adopted by the local jurisdictions in Northern Virginia.

10. Comment: Including the Tri-County Parkway in the CLRP before the Environment Impact Statement (EIS) is complete, public hearing held, and a final decision made raises procedural questions. Including the project for construction indicates that authorities have prejudged the outcome of the EIS.

    Response: Projects can be included in the CLRP for construction as "place holders." The degree of specificity required in the transportation plan and the specific travel network assumed for air quality conformity analysis do not preclude the consideration of alternatives in the EIS process or other project development studies. If the outcome of the EIS is different than assumed in the CLRP, the CLRP will be amended to reflect the change.

11. Comment: The completion date of 2010 for the study of the Potomac Yards Metro Station should be accelerated to 2005.

    Response: In the mailout of May 15, the study status for this project was incorrect. The Potomac Yards Metro Station is shown in the CLRP for construction and the completion date was changed from 2010 to 2015.

12. Comment: VA 28 and the Dulles Greenway should not be expanded because more lanes will increase sprawl pressures.

    Response: These projects are designed to respond to traffic and development pressures that already exist in these highway corridors. The road expansions are intended to improve safety, mobility and accessibility. These projects have been examined and developed through the Northern Virginia 2020 Plan.

13. Comment: Loudoun County requests that the proposed improvement of US 50 from west of Middleburg east to Route 616 (to be completed by 2015) be removed from the CLRP.

    Response: As detailed in the letter of May 16, 2003 from VDOT to the Loudoun County Administrator, the completion date for this project will be changed to 2025.

14. Comment: The TPB should request the appropriate authorities to fix the northbound and southbound merges into the George Washington Parkway from the 14th Street Bridge.

Response: In 2001, the Federal Highway Administration (FHWA) Eastern Federal Lands Division, in cooperation with VDOT, DDOT, and the US Department of the Interior identified a number of projects, including ramp merger improvements, associated with the 14th Street Bridge to help reduce congestion and improve safety. These projects were included in the FY 2001-2006 TIP and several improvements have been completed.

Response to Comments Received on the Air Quality Conformity Assessment, the 2003 Update to the Constrained Long Range Plan (CLRP), the FY2004-2009 Transportation Improvement Program (TIP), and Project Information to Develop an Interim 2003 CLRP and FY 2004-2009 TIP

At the October 15, 2003 TPB meeting, the air quality conformity analysis, the draft 2003 CLRP update, and the draft FY 2004-09 TIP were released for a 30-day public comment period which ended on November 14. A summary of key comments and TPB responses are summarized below:

1. Comment: Since one of the greatest threats to better air quality and protecting public health is slower traffic speeds due to gridlocked roads and bridges, the TPB must do more to increase road and bridge capacity.

   Response: Increases in road and bridge capacity do not always improve air quality. The effects of such increases on regional air quality are assessed in the air quality conformity analysis.

2. Comment: Since one of the greatest threats to better air quality and protecting public health is bad air transported to this region from areas outside the region, the TPB must petition Congress to amend the Clean Air Act to no longer penalize this region for air pollution beyond it borders and ability to control.

   Response: Transported air from outside the region comes from all source categories, not just transportation. This issue is being address by the Metropolitan Washington Air Quality Committee (MWAQC).

3. Comment: The CLRP needs more balance in funding based upon actual demand, with 60 percent of all transportation revenues being spent on transit systems that carry only 6 percent of all daily trips.

   Response: The region has consciously made a significant investment in its rail and bus transit systems, and has made funding commitments to operating and maintaining them, with some expansions such as rail to Dulles and to Largo and a new station at New York Avenue in the District of Columbia. In addition to the revenues shown in the CLRP through 2030, a new study is underway to identify short term highway and transit system needs and funding availability through 2010. This information will be used to inform the public and elected and appointed officials about the critical short term funding shortfall in the region for highway, transit and other travel modes.

4. Comment: In the wake of 9/11, the CLRP lacks a comprehensive strategy to address transportation capacity-related regional security deficiencies.

Response: Under COG's National Capital Region Emergency Preparedness Council, a great deal of the effort has been focused on the transportation and evacuation components of the regional emergency coordination plan. This involves coordination of regional transportation management and operations activities, with priority to measures needed to ensure better preparedness in the near-term. Because of the current federal, state and local fiscal pressures and long lead times to plan, design and construct new transportation capacity, it is prudent at this time to focus on short-term deficiencies.

5. Comment: The CLRP is overly optimistic because sharper cost estimating methodologies are likely to show that a number of projects will cost more than assumed within the long-range revenue forecasts.

   Response: Uncertainty always exists when estimating the future costs of major transportation facilities. The cost estimates for the projects in the CLRP are provided by the transportation implementing agencies responsible for constructing and operating the facilities. Staff at each agency apply professional judgment to select the appropriate cost estimating methodology, with ongoing review and updates of the estimates as needed. The costs for major projects are reviewed and revised as needed for the updates to the CLRP.

6. Comment: The plan is not adequately funded. Federal, regional, state and local sustained leadership has been lacking to secure higher funding levels. The plan does not include adequate new highway facilities and the most needed improvements languish as studies. A regional funding mechanism is necessary to address the funding issues.

   Response: The TPB highlighted the region's shortage of transportation funds with public meetings at Union Station in late 2000 and 2001, and with the February 2001 publication: "A System in Crisis." The TPB drew attention to the regional priorities for federal reauthorization of the surface transportation programs with a reauthorization principles brochure published in October 2002, the first principle of which calls for "encouraging a strong federal/state/local partnership with enhanced participation by all parties, to generate the necessary resources to meet the region's roadway and transit needs." In addition to documenting the region's long-term funding needs, short-term critical funding issues will be explicitly examined in a new TPB study to be finalized in early 2004. Highway and transit funding needs will be quantified and specific sources of revenue will be recommended over the period from 2005 to 2010 in the study. The results from this study will be used to inform state and local funding partners on critical regional transportation needs. The TPB also hosted a conference on Value Pricing for Transportation in the Washington Region in June 2003. This successful conference led to the creation of a TPB task force that is examining ways to implement pricing strategies in the region to allow for less congested travel and new sources of revenue.

7. Comment: The plan should be more regional in scope and evaluated for how it improves connectivity, accessibility and mobility. A new Potomac River Crossing is needed.

Response: After adopting the 2000 CLRP, the TPB was dissatisfied with the performance of the plan in meeting the goals set out in the TPB Vision. The TPB called for a Regional Mobility and Accessibility Study (RMAS) to "evaluate alternative options to improve mobility and accessibility between and among regional activity centers and the regional core." The TPB specified that "additional highway and transit circumferential facilities and capacity, including Potomac River Crossings, where necessary and appropriate…" will be included in the study. The integrated land use and 4 transportation scenarios for the RMAS are currently under development with the assistance and input of the state and local transportation staff and interested citizens.

8. Comment: The plan should do more to connect outer jurisdictions and to accommodate suburb-to-suburb travel.

   Response: In calling for a "web of multi-modal transportation connections," the TPB Vision recognized the need to improve circumferential linkages among regional activity centers in outer jurisdictions, and between outlying activity centers and the regional core. Despite a major regional funding shortfall, the 2003 CLRP includes some key facilities to meet these needs, such as the planned construction of rail transit to Dulles Airport and the Corridor Cities Transitway in Montgomery County. The plan also includes a study of a key circumferential facility, the Intercounty Connecter between I- 270 and US 1. In addition, the Regional Mobility and Accessibility Study noted in response to comment 7 above provides an opportunity to examine and evaluate additional circumferential linkages.

9. Comment: The plan's highway portion should emphasize construction of long-delayed facilities. Only 17 of the plan's 105 road improvements involve new facilities. Most are relatively insignificant.

   Response: Given the funding shortfalls facing the entire region, transportation funding agencies have selected a limited number of projects, many of which are relatively small, to provide the most cost effective improvements currently available for the region's highway system.