



CENTER ON URBAN AND METROPOLITAN POLICY
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Washington's Metro: Deficits by Design

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This brief examines the unusual financial structure of the Washington Metropolitan Area Transit Authority (WMATA) and finds that the agency's serious budgetary challenges owe in large part to its problematic revenue base. Most notably, the brief finds that WMATA's extraordinary lack of dedicated funding sources has necessitated an over-reliance on annually appropriated support that makes the agency vulnerable to recurring financial crises. The report concludes by describing a number of potential dedicated revenue sources for WMATA that officials might consider to supplement local operating subsidies over the long term.

I. Introduction

About 40 years ago, a unique partnership was born to address transportation challenges in and around the nation's capital. Since then, the Washington Metropolitan Area Transit Authority (WMATA) and the integrated bus and rail system it owns and operates have become indispensable to the metropolitan area.

In addition to the area's state and local governments, the federal government is also a primary partner in WMATA. Serving federal employees was a key early purpose of the system. And since the beginning the federal government has sited most of its new facilities to take advantage of this investment: Half of the rail stations directly serve federal facilities.² As a result, one in every two WMATA passengers is a federal worker or contractor.³ In addition, many of the 20 million annual visitors to the nation's capitol ride WMATA's buses and trains each year.

Clearly, this federal commitment and local partnership has paid off. Over the years, WMATA has built an excellent record of service and reliability—and has been widely recognized for it. In 1987 and 1997 WMATA received the Outstanding Achievement Award—the highest award a transit agency can receive—from the American Public Transportation Association.⁴ A comprehensive 2001 report on operating and management activities by the General Accounting Office (GAO) touted WMATA's "sound policies, programs, and practices" to meet a series of operational and safety challenges. GAO also lauded WMATA's capital investment practices, as well as giving high marks to the management skills of senior agency officials.⁵

And yet, despite these achievements, WMATA faces tremendous challenges that threaten to undo more than a quarter century of success.

WMATA has been hounded in recent years by a series of setbacks: mechanical problems and breakdowns on buses and trains, overcrowding on certain rail lines, communications and information troubles, and ongoing elevator and escalator hassles. Recent issues such

as the lawsuit filed against WMATA's beleaguered paratransit service, the suspected theft of millions of dollars in parking fees by lot attendants, and new concerns about safety and security all have raised questions about WMATA's management and operations.

But perhaps the most ominous challenge is the financial and budgetary problems WMATA must confront in both the short and long term.

WMATA's Fiscal Year (FY) 2004 budget is \$1.24 billion, up just slightly from its \$1.23 billion budget of FY 2003. For comparison purposes, WMATA's budget is about the size of the entire state of Wyoming, and slightly exceeds what the entire Amtrak system received from Congress for the current fiscal year. According to the National Association of State Budget Officers, only half of all states spend more on transportation each year than WMATA does.

In the near term, WMATA faces a budget shortfall of nearly \$25 million for FY 2005. This gap will likely be closed through service cuts coupled with fee increases. Moreover, WMATA is also staring down a \$1.5 billion gap in essential and urgent capital priorities needed simply to maintain and upgrade the existing system. With much of the system reaching the end of its useful life, the rail operation in particular is beginning to show its age as one of the oldest in the country.⁶ But as the GAO report made clear, the major bills coming due owe to WMATA having been a "victim of its own success." In that sense, the confluence of WMATA's ever-increasing passenger ridership and the inevitable aging of its equipment and infrastructure could not come at a worse time.

Equally critical problems beleaguer the funding side. WMATA's core funding, which must be appropriated from state and local governments annually, has been put at risk as the states of Maryland and Virginia, the District of Columbia, and surrounding local jurisdictions struggle with their own fiscal difficulties. This vulnerability is a major problem because, unlike virtually every other major transit system in the nation, WMATA receives no dedicated stream of revenue each year for capital or operational costs. Instead, WMATA is uniquely dependent on annual operating subsidies from its member jurisdictions as well as revenue it generates internally from passenger fares, advertising, and parking.

Fortunately, WMATA's local partners have time and again reaffirmed their generous commitment to the regional agency through their substantial financial assistance. But occasionally, jurisdictions have also threatened to withhold, eliminate, or unilaterally reduce their annual contributions on the grounds of perceived inequities. As a result, concerns that one or more partners may balk at its annual bill are ever-present.

In view of these crosscurrents, WMATA's funding and budget needs raise important and challenging questions about the future of transit in this region. With the system complete, the immediate concern is how to keep the rail and bus network functioning and avoid the troubles that crippled agencies in New York, Boston and Philadelphia in the 1970s and 1980s. But as low-density settlement patterns, employment decentralization, and shifting consumption patterns continue to dominate regional growth trends, the need for a regional conversation about WMATA's long-term solvency grows only more urgent.

The purpose of this paper is to help inform that conversation. The brief begins by comparing WMATA to other transit agencies in order to place WMATA in a national context. It then attempts to provide some clarity on the arcane world of transit finance by analyzing WMATA's budget so as to describe how the agency is funded and how revenues are spent. This discussion focuses on an important and unique component of WMATA's financial picture: the absence of a dedicated source of revenue and the local subsidy needed to cover for it. At the end, the paper offers some observations and a menu of financing options for ensuring WMATA remains a top-quality asset to the region's transportation network and overall economy.

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II. Background

Congress began in the 1950s to study a variety of potential investments in and around the nation's capital in order to address the metropolitan area's growing traffic problems, and to make sure federal workers and contractors retained easy access to government workplaces. At that time, a proposal for an extensive highway network generated fierce local opposition and galvanized the region's transit advocates to call instead for a mix of roads and transit. In 1965, Congress authorized the construction of a basic heavy-rail system.⁷

Recognizing the metropolitan nature of many issues, some political, corporate, and civic leaders urged the region to seize on the moment to create a general-purpose authority to handle a myriad of metropolitan issues, in addition to rail transport, such as waste water treatment and the region's roadways. Ultimately, though, the interstate compact that was created to formalize the agreement served only to build the rail system. Bus operations remained in the hands of several private bus companies, and comprehensive regional transportation planning functions were not addressed.⁸

But perhaps most importantly, the compact failed to provide the new agency the authority to raise revenues through taxes or other means other than relying on fare box revenues and whatever else the agency could generate internally. Instead, capital and operating subsidies were to come from the federal government and the tax bases of the local municipalities.⁹

The new agency—WMATA—was officially born on February 20, 1967.

Planning for and building the heavy rail system—dubbed “Metrorail”—progressed, sometimes acrimoniously, for several years. Then, in 1973, while rail planning continued, WMATA's interstate compact was amended and the agency assumed control of the metropolitan area's four primary private bus lines.¹⁰ Almost overnight, “Metrobus” was born and WMATA was transformed from a rail-building agency to a multi-modal regional transit authority. To this day, it remains one of the Washington metropolitan area's few truly regional public services, operating seamlessly across state and local jurisdictional boundaries.

WMATA received a big boost in its quest to secure money to build the rail system from the Federal Aid Highway Act of 1973. That law gave states the flexibility to shift certain highway funds to mass transit projects and vice-versa. However, even with this new-found flexibility, inflation and the other financial pressures during the 1970s seriously threatened the completion of the rail system. Once in 1980 and then again in 1990, Congress passed legislation authorizing a total of \$3 billion in capital assistance to complete the original system.¹¹ The final price of the 103-mile rail system, completed in January 2001, was \$9.4 billion, of which \$6.4 billion came directly from the federal government and the rest from state and local governments.¹²

One of the congressional laws that authorized WMATA funding—the National Capital Transportation Amendments of 1979, or the Stark-Harris bill—required that local participating governments demonstrate that they have a “stable and reliable” source of revenue sufficient to meet both their payments to WMATA for debt service as well as their share of the operating and maintenance costs of the system as a condition of authorizing the funds.¹³ This concept was not new, and to this day virtually every other large transit system in the nation relies on dedicated sources for capital or operating costs—or both. However, the WMATA jurisdictions could not agree on a uniform tax and, as a result, state and local governments have picked up the tab ever since.

In fairness, Congress did not specifically define the terms by which the “stable and reliable” source should be generated. The U.S. Department of Transportation (DOT) issued written guidance in December 1979 but it was not specific, and many local governments simply passed resolutions pledging their fiscal support. However, according to a report from the GAO, the DOT orally told the jurisdictions that 70 to 75 percent of the stable and reliable funding should come directly from dedicated, earmarked sources.¹⁴ At the time the federal government was more concerned with capital costs associated with the construction

“WMATA remains something of an ‘institutional orphan’ for which no single mayor, governor, or legislature takes responsibility.”

of the system than its operation, but the stable funding sources have never approached the level requested by the U.S. DOT 25 years ago.

Beyond its lack of a dedicated funding stream, WMATA also labors under an extraordinarily complex governance structure, unique in the country. That is, in addition to serving the District of Columbia, which functions as both a state and city and is reliant on Congress to review or approve its annual budget, WMATA provides direct and seamless services to two separate and very distinct states with their own budgets, priorities, and perspectives that extend far beyond the Washington metropolitan area. Outside of New Jersey, WMATA is the only heavy rail transit system that crosses state lines.

In this sense, WMATA remains something of an “institutional orphan” for which no single mayor, governor, or legislature takes responsibility. Instead, WMATA “belongs” equally to its jurisdictional partners, the states, and the federal government. Over the years, this multi-jurisdictional ownership, coupled with the substantial federal interest and reliance on the system, has presented unique funding challenges and opportunities.

III. Budget and Finances

A. WMATA in a National Context

A national comparison of transit systems quickly reveals that, by any measure, WMATA is a very large transit agency. It is generally considered to be the fourth-largest in the nation behind those in New York, Los Angeles, and Chicago. After New York City’s famous subway system WMATA’s Metrorail is, by far, the largest in the nation in terms of annual ridership. In fact, it carries as many riders each year—in numbers approaching a quarter billion—as the heavy rail systems in San Francisco, Philadelphia, and Atlanta combined. WMATA also operates one of the largest bus systems in the nation, known as Metrobus, which carried nearly 150 million riders in 2003. WMATA’s paratransit service, MetroAccess, carried just over one million. (See the Appendix for national rankings of each of the modes WMATA operates.)

In addition to ranking fourth by number of employees and the size of overall service provided, WMATA is also the fourth-largest transit system by the size of its overall budget. Table 1 displays the budgets for the 25 largest agencies ranked by their combined operating and capital budget, which is how transit agencies normally segment their finances.¹⁵ These two categories represent very different activities and are funded through different sources.

Capital expenses refer to those funds used to finance infrastructure, including new station construction, maintenance yards, tracks, rehabilitation of existing facilities, vehicles such as buses and trains (referred to as “rolling stock”), land purchases, as well as costs related to planning and design. *Operating* expenses are the funds used to run the system. The vast majority—about two-thirds to three-quarters—of a typical agency’s operating expenses are spent on salaries, wages, and benefits for employees of the agency. In 2002, 76.7 percent of WMATA’s operating budget flowed to these types of expenses. Other operating expenses include professional services, materials, supplies, fuel, insurance, and leases.

The revenues that fund transit agency budgets are also generally separated into capital and operating sources. But the complex sources of these revenues are not widely understood. For one thing, a common misperception assumes that the revenues generated by passengers’ fares either pay for capital costs or at least the bulk of the operating costs of a transit agency.

Nationally, more than two-thirds of the funds used for capital expenses come from federal, state, or local governments—rather than passenger fares.¹⁶ For larger transit agencies, like WMATA, capital costs are most often borne by the federal government through two primary programs run by the U.S. DOT’s Federal Transit Administration (FTA): the Capital Program and the Urbanized Area Formula.

The Capital Program, known by its U.S. code section (5309), provides grants and loans

Table 1. Twenty-Five Largest U.S. Transit Agency Budgets, with Dedicated Funds, 2001

Rank	Agency	Amount of Operating Budget from		Share of Operating Budget from		Total Capital Budget (\$)		Amount of Capital Budget from		Share of Capital Budget from		Amount of Total Budget from		Share of Total Budget from	
		Operating Budget (\$)	Dedicated Funds (\$)	Funds (\$)	Dedicated Funds (\$)	Total Capital Budget (\$)	Dedicated Funds (\$)	Total Budget (\$)	Dedicated Funds (\$)	Total Budget (\$)	Dedicated Funds (\$)	Total Budget (\$)	Dedicated Funds (\$)	Total Budget (\$)	Dedicated Funds (\$)
1	New York City Transit (MTA-NYC Transit)	3,932,661,444	1,182,849,228	30.08%	2,063,191,152	0	0.00%	5,995,852,596	1,182,849,228	19.73%					
2	New Jersey Transit Corporation (NJ Transit)	1,084,250,907	273,275,152	25.20%	722,103,498	3,462,392	0.48%	1,806,354,405	276,737,544	15.32%					
3	Massachusetts Bay Transportation Authority (MBTA)	986,797,451	486,350,308	49.29%	344,202,035	0	0.00%	1,330,999,486	486,350,308	36.54%					
4	Washington Metropolitan Area Transit Authority (WMATA)	890,140,320	20,851,058	2.34%	406,725,270	0	0.00%	1,296,865,590	20,851,058	1.61%					
5	Long Island Rail Road Company (MTA-LIRR)	769,863,508	264,600,080	34.37%	472,771,210	0	0.00%	1,242,634,718	264,600,080	21.29%					
6	Chicago Transit Authority (CTA)	883,911,573	280,728,422	31.76%	352,357,239	41,433,759	11.76%	1,236,268,812	322,162,181	26.06%					
7	Southeastern Pennsylvania Transportation Authority (SEPTA)	771,027,986	106,000,532	13.75%	288,407,546	21,379,773	7.41%	1,059,435,532	127,380,305	12.02%					
8	Los Angeles County Metropolitan Transportation Authority (LA Metro)	770,912,280	472,820,277	61.33%	201,554,161	35,076,932	17.40%	972,466,441	507,897,209	52.23%					
9	San Francisco Bay Area Rapid Transit District (BART)	334,083,538	161,054,600	48.21%	485,222,068	18,934,601	3.90%	819,305,606	179,989,201	21.97%					
10	Metro-North Commuter Railroad Co. (MTA-MNCR)	597,605,764	119,851,874	20.06%	219,023,773	0	0.00%	816,629,537	119,851,874	14.68%					
11	Northeast Illinois Regional Commuter Railroad (Metra)	430,569,164	184,283,530	42.80%	314,698,277	0	0.00%	745,267,441	184,283,530	24.73%					
12	San Francisco Municipal Railway (MUNI)	427,421,393	83,702,425	19.58%	291,076,000	90,265,000	31.01%	718,497,393	173,967,425	24.21%					
13	Metropolitan Atlanta Rapid Transit Authority (MARTA)	401,378,952	207,536,506	51.71%	262,577,069	30,693,923	11.69%	663,956,021	238,230,429	35.88%					
14	Dallas Area Rapid Transit Authority (DART)	319,025,563	276,819,116	86.77%	270,182,182	174,692,000	64.66%	589,207,745	451,511,116	76.63%					
15	Denver Regional Transportation District (RTD)	256,183,898	152,255,365	59.43%	326,780,148	226,002,504	69.16%	582,964,046	378,257,869	64.89%					
16	Metropolitan Transit Authority of Harris County (Houston Metro)	278,816,744	157,096,578	56.34%	293,141,610	194,077,073	66.21%	571,958,354	351,173,651	61.40%					
17	Santa Clara Valley Transportation Authority (VTA)	282,344,229	200,174,564	70.90%	249,897,772	26,808,464	10.73%	532,242,001	226,983,028	42.65%					
18	Maryland Mass Transit Administration (MTA)	311,803,191	0	0.00%	133,319,045	0	0.00%	445,122,236	0	0.00%					
19	King County Department of Transportation - Metro Transit Division	361,222,210	220,894,105	61.15%	39,313,840	11,708,662	29.78%	400,536,050	232,602,767	58.07%					
20	New York City Department of Transportation	355,028,037	218,835,616	61.64%	22,524,171	0	0.00%	377,552,208	218,835,616	57.96%					
21	Port Authority of Allegheny County (Pittsburgh)	260,169,411	39,008,010	14.99%	114,182,848	27,008,322	23.65%	374,352,259	66,016,332	17.63%					
22	Minneapolis Metro Transit	186,280,841	56,298,605	30.22%	182,398,725	20,276,051	11.12%	368,679,566	76,574,656	20.77%					
23	Tri-County Metropolitan Transportation District of Oregon (Portland)	229,771,116	121,747,146	52.99%	118,076,762	32,277,206	27.34%	347,847,878	154,024,352	44.28%					
24	Miami-Dade Transit Agency (MDT)	256,113,443	26,395,002	10.31%	67,126,605	30,372,472	45.25%	323,240,048	56,767,474	17.56%					
25	Central Puget Sound Regional Transit Authority (Seattle)	68,605,924	24,633,671	35.91%	224,604,003	149,674,234	66.64%	293,209,927	174,307,905	59.45%					

Source: Federal Transit Administration, "2001 National Transit Database," Reporting Manual Forms 103 and 203. www.ntdprogram.com

to assist in financing new transit projects, extensions, modernization, and bus-related facilities. Some of these funds are discretionary, some are formula-driven. The largest federal transit program, the Urbanized Area Formula Program (Section 5307) provides additional capital and planning assistance for urbanized areas with more than 50,000 people. However, since 1998, federal law has prohibited urban areas with over 200,000 people, like Washington, from using these funds for operating assistance.

Operating costs are more the responsibility of the transit agency itself. A significant amount of funds do come from fare box revenues—about a third nationally. But operating costs are also balanced out from a wide range of sources, including general state and local revenues, advertising, and joint development. Interestingly, while most agencies rely heavily on dedicated taxes and tolls, WMATA must make do with neither of those as Table 2 shows.¹⁷

For transit agencies, dedicated funds for capital and operating expenses come from a variety of sources. In Portland, OR, operating funds come partly from a cigarette tax and a payroll tax on employees in the transit district. The transit agency in the Boston metropolitan area, the Massachusetts Bay Transportation Authority, is run by the state and is bolstered by revenues from 20 percent of the state's sales tax. A 1-percent sales tax is imposed on the two counties in the Metropolitan Atlanta Rapid Transit Authority service area—Fulton and DeKalb—where half of the proceeds go to operating expenses and the other half to capital. The transit agencies in the San Francisco area rely heavily on taxes and dedicated revenues from parking. A portion of the revenue from a county beer tax is dedicated to the transit agency in Birmingham, Alabama. The Maryland Transit Administration which operates heavy and light rail in Baltimore and commuter rail and buses

Table 2. Summary of Sources for Funds Applied, WMATA and Large Transit Agencies, 2002

	Type	Source	Transit Agencies in Areas with Populations		
			WMATA	over 1 million	National Total
Capital Funds	Federal	Capital and Urbanized Area Formulas	67.26%	39.31%	40.58%
	State Funds	Funds Allocated Out of General Revenue	12.11%	2.80%	3.10%
		Dedicated Taxes, Tolls, and Other	0%	8.89%	8.54%
	Local Funds	Funds Allocated Out of General Revenue	20.63%	4.79%	4.83%
		Dedicated Taxes, Tolls, and Other	0%	14.53%	15.27%
	Directly Generated Funds	Dedicated Taxes, Tolls, and Other	0%	29.68%	27.68%
Total Dedicated for Capital			0%	53.10%	51.49%
Operating Funds	Federal	Urbanized Area Formula and Other	1.64%	4.26%	5.38%
	State Funds	General Revenue	20.32%	6.54%	7.18%
		Dedicated and Other	0%	19.22%	18.10%
	Local Funds	General Revenue	14.61%	7.63%	8.46%
		Dedicated and Other	1.98%	11.53%	11.64%
	Directly Generated Funds	Fare Revenues	44.33%	35.53%	33.69%
		Other and Non-Transportation Funds*	17.12%	7.44%	12.46%
Total Dedicated for Operating			1.98%	38.60%	32.83%

* Non Transportation funds are those not directly associated with the provision of transit services such as investment income and development fees.

Source: Federal Transit Administration, "2002 National Transit Database," Tables 1 and 7, www.ntdprogram.com

throughout the state also lacks a dedicated source of funding but can, as a state agency, rely on proceeds in the state transportation trust fund which is fed by a number of sources, including the state gas tax and vehicle taxes.

Using data from the FTA's National Transit Database, Table 2 summarizes the sources for funds applied for capital and operating costs for WMATA, agencies in other large urbanized areas, and totals for the nation. It is important to note that there are some slight discrepancies between how the FTA categorizes some funding sources and how transit agencies, like WMATA, categorize them for budgetary purposes. For that reason, the figures in Table 2 differ somewhat from WMATA budget figures discussed later in this brief. For example, some federal funds used for preventative maintenance are categorized as capital by the FTA though some transit agencies consider them operating funds.

Nevertheless, Table 2 illustrates that, in 2003, over half of the total capital spending for the nation's transit systems came from dedicated sources of one kind or another. For WMATA, none did. For operations spending, about one-third of the total funding came from dedicated sources. For WMATA less than 2 percent did.

B. WMATA Current Budget

WMATA's most recent budgets underscore the complexities of the agencies' position. As Table 3 illustrates, WMATA's FY 2004 operating budget exceeds the FY 2003 budget by 5.3 percent. However, the capital budget is 2 percent lower resulting in an overall budget that is essentially unchanged.

In FY 2004, the vast majority—about three-quarters—of WMATA's total expenses are pro-

Table 3. WMATA Expenses, FY 2002–FY 2004

	FY 2002 (Actual \$)	FY 2003 (Approved \$)	FY 2004 (Approved \$)	Share of FY 2004 Total (%)
OPERATING				
Bus	310,700,000	320,100,000	333,300,000	26.79%
Rail	446,800,000	469,900,000	499,000,000	40.10%
Access	26,200,000	33,000,000	40,100,000	3.22%
Debt Service	27,500,000	27,500,000	27,500,000	2.21%
Reimbursable Operating	10,100,000	13,200,000	9,600,000	0.77%
Operating Subtotal	821,300,000	863,700,000	909,500,000	73.09%
CAPITAL				
Rolling stock & preventive maintenance	68,600,000	82,200,000	69,000,000	5.55%
Passenger & maintenance facilities	138,400,000	96,600,000	134,100,000	10.78%
Track & structures	22,100,000	14,100,000	16,600,000	1.33%
Systems (e.g., power, fare collection)	39,600,000	32,900,000	53,100,000	4.27%
Other (e.g., program management, information technology)	31,900,000	38,900,000	35,100,000	2.82%
System accessibility projects (e.g., station improvements)	208,400,000	50,600,000	8,300,000	0.67%
System expansion projects (e.g., Largo extension)	551,500,000	26,500,000	18,600,000	1.49%
Capital Subtotal	1,060,500,000	341,800,000	334,800,000	26.91%
RAIL CONSTRUCTION PROJECTS	71,400,000	26,800,000	0	0.00%
TOTAL EXPENSES	1,953,200,000	1,232,300,000	1,244,300,000	100.00%

Source: Washington Metropolitan Transit Authority, "Approved Fiscal 2004 Annual Budget," 2003.



grammed for the operation of the bus and rail systems. The remaining quarter of the budget supports capital purchases and construction projects. Note, in this connection, that the very high costs of some projects ensure that the capital budget fluctuates often dramatically from year to year. It also bears noting that the funded portions of system accessibility and system expansion projects are reimbursable and are paid for almost entirely by the particular jurisdiction that receives the project.

In general, the overall revenue picture for WMATA is fairly straightforward (Table 4). Capital projects are paid for by outside sources, depending on the type, purpose, and origin of the project. In the absence of any dedicated sources of funding, the federal government pays the largest share of capital expenses for WMATA. Meanwhile, revenues raised by the agency itself defray the operating budget: In FY 2004, over 80 percent all of the revenues used for operating expenses came from two almost equal sources: passenger fares and the subsidy from local jurisdictions.

Although Metrorail operations make up the largest line item in WMATA's budget, Metrorail has one of the highest cost/recovery ratios (fare revenues per total operating expenses) of any heavy rail system in the nation. Table 5 ranks all 14 heavy rail systems and the top 20 bus systems in terms of their cost recovery ratio in 2001. For the rail systems, Metrorail remains a national exemplar—recovering over 60 percent of its operating costs from fare revenues. Only the New York City subway system has a higher ratio. For bus systems, the

Table 4. WMATA Revenues, FY 2002–FY 2004

	FY 2002 (Actual \$)	FY 2003 (Approved \$)	FY 2004 (Approved \$)	Share of FY 2004 Total (%)
OPERATING				
Passenger Revenue – Bus	91,322,900	94,316,800	97,300,500	7.82%
Passenger Revenue – Rail	284,911,200	294,415,400	330,455,500	26.56%
Passenger Revenue – Access	1,698,300	1,346,000	2,402,000	0.19%
Parking	12,282,100	14,179,800	21,446,200	1.72%
Advertising	20,009,900	23,200,000	23,200,000	1.86%
Joint Development	5,786,200	5,042,900	4,219,900	0.34%
Other	11,739,400	14,401,300	8,274,200	0.66%
Local Subsidy	383,465,700	405,645,900	412,482,000	33.15%
Operating costs for projects reimbursed from state and local sources	10,100,000	13,200,000	9,600,000	0.77%
Operating Subtotal	821,400,000	863,700,000	909,400,000	73.09%
CAPITAL				
Federal funding	139,700,000	159,700,000	161,500,000	12.98%
Local and state	777,700,000	117,000,000	110,600,000	8.89%
Other	29,300,000	45,500,000	19,900,000	1.60%
Financing	113,800,000	19,600,000	42,900,000	3.45%
Capital Subtotal	1,060,500,000	342,500,000	334,900,000	26.91%
RAIL CONSTRUCTION PROJECTS	71,400,000	26,800,000	0	0.00%
TOTAL REVENUES	1,953,300,000	1,232,300,000	1,244,300,000	100.0%

Source: Washington Metropolitan Transit Authority, "Approved Fiscal 2004 Annual Budget," 2003.

Table 5. Fare Revenues Per Total Operating Expenses (Recovery Ratio), All U.S. Heavy Rail and Top-20 Bus Systems, 2002

Rank	Heavy Rail Agency	Ratio	Rank	Bus Agency/Company	Ratio
1	New York City Transit (MTA-NYC Transit)	67.3	1	New Jersey Transit Corporation (NJ Transit)	43.5
2	Washington Metropolitan Area Transit Authority (WMATA)	61.6	2	New York City Transit (MTA-NYC Transit)	40.9
3	Port Authority Transit Corporation (PATCO: New Jersey/Philadelphia)	61.4	3	Chicago Transit Authority (CTA)	40.1
4	Southeastern Pennsylvania Transportation Authority (SEPTA)	58.6	4	Southeastern Pennsylvania Transportation Authority (SEPTA)	37.1
5	San Francisco Bay Area Rapid Transit (BART)	58.4	5	New Orleans Regional Transit Authority (NORTA)	36.7
6	Chicago Transit Authority (CTA)	44.3	6	Miami-Dade Transit Agency (MDT)	33.3
7	Massachusetts Bay Transportation Authority (MBTA)	43.7	7	Green Bus Lines, Queens, NY	32.8
8	Port Authority Trans-Hudson Corporation (PATH)	41.0	8	Minneapolis Metro Transit	32.5
9	Metropolitan Atlanta Rapid Transit Authority (MARTA)	39.2	9	Milwaukee County Transit System	31.7
10	Maryland Mass Transit Administration (MTA)	26.3	10	Metropolitan Atlanta Rapid Transit Authority (MARTA)	30.9
11	Greater Cleveland Regional Transit Authority (RTA)	21.5	11	Pace - Suburban Chicago Bus Division	30.9
12	Los Angeles County Metropolitan Transportation Authority (LA Metro)	19.6	12	Maryland Mass Transit Administration (MTA)	30.5
13	Miami-Dade Transit Agency (MDT)	16.1	13	Orange County Transportation Authority (OCTA)	30.1
14	Staten Island Rapid Transit Operating Authority (MTA-SIRTOA)	15.2	14	Los Angeles County Metropolitan Transportation Authority (LA Metro)	29.6
			15	Southwest Ohio Regional Transit Authority (Cincinnati)	28.7
			16	Honolulu Department of Transportation Services	26.8
			17	Washington Metropolitan Area Transit Authority (WMATA)	26.2
			18	Port Authority of Allegheny County (Pittsburgh)	24.2
			19	Massachusetts Bay Transportation Authority (MBTA)	22.5
			20	San Francisco Municipal Railway (MUNI)	22.0

Source: Federal Transit Administration, "2002 National Transit Database," Table 26, www.ntdprogram.com. Cost recovery is calculated by dividing fare revenues earned by total operating expenses. Bus systems include all companies and agencies with over 300 vehicles in service.

cost/recovery ratio is substantially lower, though not dramatically different than similar systems throughout the nation. Nevertheless, only two other very large bus systems have a lower cost/recovery ratio than Metrobus.¹⁸

IV. Local Government Operating Subsidies

One of the most unique aspects of how WMATA is funded is the local operating subsidy. With essentially no dedicated revenues at its disposal, WMATA must rely on appropriations from each local jurisdiction, or from Maryland or Virginia, to keep both the rail and the bus systems functioning.

When WMATA develops its budget each year, it estimates the revenues it expects to receive (i.e., from fares, advertising, etc.) As this is not nearly enough to cover all operating expenses, the majority of the balance comes from direct subsidy payments from the localities, which must authorize these payments each year through their normal budgeting process.¹⁹

This differs sharply from how virtually all transit agencies throughout the country are funded.

As Table 2 suggests, WMATA derives a significantly higher share of its funds from local general revenues than the national average or even just the large agencies. In terms of capital expenses, 20.6 percent of WMATA's funds came from local general revenues in 2002, compared to less than 5 percent nationally. On the operating side, WMATA's 14.6 percent local-revenue figure compares to only about 8 percent nationally.

Due to the multi-jurisdictional nature of the WMATA partners, meanwhile, the local subsidy must be derived from a patchwork of different sources.

The District of Columbia's portion of the local subsidy comes exclusively from general fund revenues which are fed, in part, by the 20-cent tax on gasoline.²⁰ Other WMATA funds come from parking meter fees, traffic fines, vehicle registration fees, and restaurant and hotel taxes. These funds are earmarked for WMATA, but they are not dedicated. That is, they are legislatively—but not statutorily—authorized each year. The District is unique in that it acts as both a state as well as a local funding source, but for the purposes of WMATA funding, the funds are considered part of the local subsidy. The District is also unique in that it receives direct allocations from the federal budget as an “other independent agency.” In FY 2005, the District's department of transportation received \$3 million to offset a small portion of the District's operating subsidy for WMATA.²¹ WMATA funding (12.0 percent) trailed only public schools (16.8 percent) as the District's largest authorizations over the last 18 years.²²

In Maryland, the state pays Montgomery and Prince George's counties' local share of the WMATA subsidy through an annual grant to the Washington Suburban Transit Commission, which acts as the financial conduit for funding the WMATA subsidy as well as other transit projects in the counties.²³ These funds are derived from the state's transportation trust fund which is fed primarily by the state's 23.5 cent tax on gasoline, vehicle taxes, and fees.²⁴ Yet for all that, not even this state money is dedicated. To be sure, the funds allocated to WMATA flow from the revenues generated by the trust fund, which is separate and distinct from the state's general fund. But even these funds are also subject to annual legislative appropriations and are not guaranteed for WMATA. At the same time, while there are dedicated funds for transit from a portion of the property taxes in Prince George's and Montgomery counties, these are programmed to support local bus service.²⁵

The five Virginia cities and counties, meanwhile, are the only jurisdictions in the WMATA service area that have any dedicated funding for the local subsidy. In northern Virginia, a 2-percent tax is levied on gasoline sellers and retailers (in addition to the 17.5 cent state tax). These funds are provided to the Northern Virginia Transportation Commission (NVTC), which was created by the Virginia General Assembly in 1964 to plan and develop transportation projects in that part of the commonwealth. NVTC then administers these funds to supplement the localities' share of the WMATA subsidy.²⁶ But while these are dedicated funds, they only make up a small portion of the jurisdiction's total subsidy amount. In FY 2004, the gas tax generated \$17 million for WMATA—only about 13.2 percent of the total northern Virginia subsidy. Another 43.2 percent comes from state transit aid and federal funds not allocated directly to WMATA. Local jurisdictions provide the

“With essentially no dedicated revenues at its disposal, WMATA must rely on appropriations from each local jurisdiction, or from Maryland or Virginia, to keep both the rail and the bus systems functioning.”

Table 6. Local Subsidy Payments, in Dollars, to WMATA, FY 2004

	D.C.	Montgomery	Prince George's	Alexandria	Arlington	Fairfax City	Fairfax County	Falls Church	Total
BUS									
Regional	76,949,133	26,562,176	29,108,305	8,869,521	12,672,227	332,216	20,925,184	731,303	176,150,065
Non-regional	17,315,612	4,682,892	11,878,399	636,406	0	0	6,020,639	0	40,533,948
Subtotal	94,264,745	31,245,068	40,986,704	9,505,927	12,672,227	332,216	26,945,823	731,303	216,684,013
RAIL									
Base Allocation	44,198,345	23,290,589	22,136,308	5,770,593	12,480,986	380,370	17,637,677	342,739	126,237,607
Max Fare Subsidy	258,595	2,070,527	903,504	103,721	71,711	39,559	950,055	11,953	4,409,625
Subtotal	44,456,940	25,361,116	23,039,812	5,874,314	12,552,697	419,929	18,587,732	354,692	130,647,232
PARATRANSIT	8,975,200	12,306,000	10,477,300	376,900	430,800	109,600	4,936,400	54,600	37,666,800
DEBT SERVICE	10,331,300	4,867,500	4,872,900	1,418,200	2,740,200	46,700	3,168,900	38,500	27,484,200
TOTAL	158,028,185	73,779,684	79,376,716	17,175,341	28,395,924	908,445	53,638,855	1,179,095	412,482,245
Percent of Total									
Regional Subsidy	38.31%	17.89%	19.24%	4.16%	6.88%	0.22%	13.00%	0.29%	100.00%

Source: Washington Metropolitan Area Transit Authority, "Approved Fiscal 2004 Annual Budget," 2003.

remaining 43.3 percent through allocations from their general fund.²⁷

Naturally, the subsidy allocation and the formulas used to calculate it generate their fair share of contention among state and local governments. All general revenue line items come under tighter scrutiny when budgets are tight and the WMATA subsidies are no exception. However, that contention is certainly tempered by the fact that WMATA's Board of Directors is made up of individuals appointed by local and state officials and the formula is therefore, by definition, the result of regional cooperation and negotiation (See Table 6).

Still, the subsidy formula for Metrobus became an object of some scrutiny a decade ago when several local governments began to establish their own local bus systems as a way to save costs over "buying" the service from WMATA. Although the jurisdictions remained members of the WMATA partnership, they proposed to reduce their Metrobus subsidy since their new operations would allow them to remove routes and riders from the formula calculation. The localities would then save money by running their own local bus service because they could avoid—by forgoing federal funding—the costly federal regulations that WMATA had to contend with. They also could save on wages and benefits by employing non-union and/or part time workers (although most became unionized soon after they were established). Localities also saved by employing "new" drivers who started at lower wages than drivers from WMATA with more experience.²⁸

Since 1975, when Montgomery County established its own local bus system, every other government in the WMATA service area—with the exception of the District of Columbia—has followed suit and created its own service. This has presented an important challenge to Metro, for once jurisdictions began establishing their own services and at least partially pulling out of Metrobus, a disincentive was created for other jurisdictions to remain. When one jurisdiction left, the fixed costs of operating Metrobus did not necessarily decline but were instead assumed by the remaining members. As a result, WMATA went from supplying nearly all of the region's bus service in 1975 to 73 percent just a quarter century later.²⁹

In 1997, a group of 30 local officials met in 1997 to address the proliferation of local bus routes and come to grips with the declining condition of an increasingly decentralized bus network. Among other things this group—the Regional Mobility Panel—sought to change how the local bus subsidy was allocated among the localities. The panel, after reviewing detailed evaluation criteria, deemed 75 percent of the Metrobus routes “routes of regional significance” that WMATA would continue to operate. The remaining 25 percent—the local routes—were left to jurisdictions to either operate themselves, contract out, or have WMATA operate. Although the plan created no new bus routes and drew the ire of transit unions, it did stabilize the bus system in addition to achieving its key purpose of addressing what it considered to be inequities and inefficiencies in the bus subsidy allocation formula.

Today, the local subsidy is the result of six carefully constructed formulas for bus, rail, paratransit, and debt service costs.

The bus subsidy allocation is split into two formula-driven categories: one for the regional bus routes and one for the non-regional, local routes. The regional route allocation is based on a weighted formula that includes density, services supplied, and ridership. The local formula is a complicated calculation based on the difference between marginal costs of route operation and revenues for each non-regional route. Three-quarters of the local bus subsidy is paid by the District of Columbia and Prince George’s County—jurisdictions with very high bus ridership but with little to no locally-operated services.

The rail formulas also have two components: base rail and “max fare.” The base allocation reflects three equally weighted elements—population density, number of rail stations, and ridership—intended to reflect the benefits that jurisdictions would receive by having Metrorail service. The max fare allocation adjusts for the fact that WMATA’s fare structure results in diminishing returns for longer trips. The paratransit subsidy, meanwhile, considers basic service costs while the debt service subsidy incorporates the same formula devised to finance the construction of the system in 1978.³⁰

Although the Regional Mobility Panel did address some issues related to the formulas, issues that generate arguments still remain:

The density measurement: Formulas affecting one-third of the base rail subsidy allocation, and one-quarter of the regional bus subsidy, consider the density of each jurisdiction as a surrogate for potential demand and determine local subsidy payments accordingly. This calculation raises questions since dense and compact development are generally more conducive to effective and efficient transit than low-density, sprawling development.³¹ Low-density development patterns are difficult and costly to serve, yet this element of the formula rewards these places and penalizes those that maximize land use and enable the system to function better and more efficiently.

Omitted outer jurisdictions: The local subsidy only applies to those jurisdictions in the original WMATA compact. Yet the area from which WMATA riders are drawn clearly extends far beyond those initial jurisdictions. A 2002 passenger survey determined that over 50,000 Metrorail customers each day live within the Washington region yet outside of the compact area. (Another 20,000 live outside the area altogether.)³² Although riders from these jurisdictions only make up about 8 percent of all passengers, their omission from subsidy calculations remains significant—and increasingly so. For example, fast-growing Anne Arundel, Prince William, and Howard counties each generate more Metrorail riders than Falls Church and Fairfax cities combined, yet only the two tiny jurisdictions are WMATA members and contribute to the rail subsidy despite lacking (like the outer counties) rail stations within their borders.

Station locations: Another third of the base rail subsidy is determined by the number of rail stations within each jurisdiction. However, although a few stations are counted as “shared” between jurisdictions, several others such as Takoma in the District, Capitol Heights in Prince George’s, and West Falls Church in Fairfax certainly provide immediate and direct benefits to neighboring jurisdictions that are not assessed for having stations since they essentially straddle local boundary lines. Other stations provide metropolitan-

wide benefits by serving as regional commuter hubs for other, further-out areas, but increase the local subsidy in the jurisdiction in which it is located.

But, in the end, these are minor points: For the most part, WMATA's funding formulas are still applicable and relevant today. Taken by itself, the local-subsidy formula represents an appropriate allocation of costs, if for no other reason than it reflects a long-standing compromise among local officials. Moreover, the local subsidy remains absolutely essential to WMATA given its lack of dedicated resources. For that reason great caution about adjusting the local-subsidy formula seems in order. Over time excessive tinkering could dilute the spirit of regionalism and cooperation that established the system in the first place.

V. The Need for a Dedicated Revenue Source

The budgeting and funding issues that WMATA faces are complex and challenging. Recently, WMATA initiated what is essentially a fund-raising campaign to close a \$25 million gap in next year's budget. It also must address an unfunded \$1.5-billion six-year capital program. Where these funds ultimately will come from remains unclear.

What is clear, though, is that compared to other systems, WMATA relies excessively on general fund revenues from its state and local partners. This is, of course, a difficult problem for any transit agency. But for the fourth-largest agency in the country such over-reliance is extraordinary. Although WMATA's local partners have recently indicated their willingness to absorb a significant 4.5-percent increase in their local payments, this is not nearly enough to cover even the immediate deficit.³³ And given the dire situation in which state and local governments currently find themselves, additional increases appear unlikely, despite the region's strong history of support.

It has long been understood, meanwhile, that WMATA's recurring fiscal struggles owe in large part to its lack of a dedicated funding source. This problem was explicitly mentioned as a major issue facing WMATA and the jurisdictional partners by the GAO in 1979.³⁴ Another GAO report on WMATA financing four years later warned that state and local officials were having to pick-up an increasing share of the costs of public services due to declining federal shares. In order to continue to maintain the local subsidy "the only solution" would be to "cut local services or raise taxes. Neither of which is desirable."³⁵

More recently, Moody's rating service pointed out that "as a multi jurisdictional entity without a dedicated funding source to support operations and capital needs ... WMATA is vulnerable to some degree of appropriations risk."³⁶ By that, Moody's meant that WMATA's lack of dedicated funds exposes it to some danger of the state and local legislatures not authorizing the annual resources. Moody's does go on to say that never in 20 years has a WMATA jurisdiction failed to make its payments.³⁷

Still, a crisis appears to be looming. Throughout the region, transportation revenues are becoming increasingly scarce. In Virginia, which has not raised its gas tax since 1987, revenues for all statewide transportation programs are expected to *fall* by \$100 million over the next five years. This decline comes in the face of increasing costs of new construction, maintenance, and operations, coupled with the escalating burden of debt service payments. According to the Northern Virginia Transportation Commission, "Many local property taxpayers are understandably concerned at the need to pay higher real estate taxes for necessary public services because the state is not meeting its own targets for helping fund transportation."³⁸ Maryland is also experiencing a transportation funding crisis. For FY 2004 and FY 2005, approximately \$300 million was transferred from the state transportation trust fund—the source for the local subsidy in that state—to help cover shortfalls in the general fund.³⁹ In the District, many projects that have been deferred for the lack of resources are becoming increasingly urgent, including safety improvements and \$300 million in emergency bridge repairs.⁴⁰

“Dedicated revenues for metropolitan transit systems, whether generated on a regional or statewide level, are justified given a series of oft-cited benefits that extend far beyond the inherent value of a soundly financed transit system.”

Such gyrations underscore that although transportation funds may be generated they are not guaranteed for use by WMATA without a budgetary firewall, despite reassurances from the states and localities. Unless dedicated funds are statutorily earmarked for WMATA, this volatility will remain and long-range investments will be elusive.

So the upshot is clear: Dedicated revenues for metropolitan transit systems, whether generated on a regional or statewide level, are justified given a series of oft-cited benefits that extend far beyond the inherent value of a soundly financed transit system.⁴¹ An extensive transit network like WMATA, for example, provides important transportation alternatives to those who have options and provides basic mobility for those who do not. It can help mitigate regional air-quality problems by lowering overall automobile emissions and slowing the growth in traffic congestion.⁴² And it can also provide economic benefits by creating development opportunities around transit stations and help enhance regional economic competitiveness as an important and attractive metropolitan amenity.⁴³

In view of these broader societal impacts, then, a number of potential dedicated revenue sources for WMATA can be described and evaluated.

Many others have examined the efficacy of these sources in other forums. The point here is to provide some context and texture to the debate today and to offer a menu of options so that officials can consider dedicated sources for WMATA as a way to supplement local operating subsidies over the long term.

Here are six potential approaches:

Gasoline taxes: Transit advocates in many metropolitan areas have promoted regional gasoline taxes as a way to finance transit. For many, gas taxes represent an attractive option because motorists already pay federal, state, and local taxes on motor fuel so the levy would not impose a new type of tax. To be sure, few transit agencies derive their dedicated funding from regional or metropolitan gas taxes (although the taxes are widespread on other jurisdictional levels). But even so such proposals continue to have merit because of their ability to reduce the externalities associated with automobile travel (e.g., congestion, pollution) and induce drivers to use vehicles that are more fuel-efficient.⁴⁴

However, the long-term feasibility of gasoline taxes as a sustained source of revenues for transportation financing in general is increasingly being called into question. The primary reason is that after decades of steady growth, gas tax receipts have plateaued and are actually declining after accounting for inflation.⁴⁵ This is due to the fact that new vehicles’ fuel economy is twice what it was 30 years ago and governments on all levels are loathe to raise gas taxes, despite the increase in vehicle-miles traveled. Indeed, a metropolitan-wide, one-cent-per-gallon tax on gasoline, levied on top of existing rates, would generate only about \$25 million per year in the Washington area—about 6 percent of the current local subsidy.⁴⁶ For that reason, an additional gas tax may not be worth the political capital that would be expended to secure it as a dedicated revenue source for WMATA.

Sales taxes: By contrast, regional sales taxes are a very common form of dedicated funding for transit agencies. In the Dallas metropolitan area, for example, a 1-cent sales tax generates about \$350 million each year for the transit agency there. In and around Chicago, a complex sales tax in the regional transit authority district generates more than \$500 million for the agency. As others have pointed out, the key appeal of a dedicated sales tax for transit is that it has a broad base and significant resources can be raised with a barely noticeable change in the tax rate.⁴⁷ In the Washington metropolitan area, a 1-cent regional sales tax dedicated for transit would generate about \$400 million each year and would cover the entire cost of the annual local subsidy. The main disadvantages of sales taxes are that they are regressive unless modified, and they are not directly related to the use of transportation so they can be unpopular over a wide area. However, the significant amount of revenue this option raises, the relative ease in its administration, and its widespread and successful use to support transit throughout the nation make it a viable alternative.

In November 2002, voters in northern Virginia rejected a half-cent sales tax increase that would have raised between \$5 and \$6 billion over 20 years for a mix of road and transit

projects. But although the measure failed on the sub-regional northern Virginia level, it passed in the three transit-intensive inner-suburban jurisdictions that were slated to receive targeted transit projects—Alexandria, Arlington, and Falls Church.⁴⁸ This suggests the possibility of support for a sales tax increase dedicated to WMATA at least in agency's service area. Nor should the 2002 measure's failure preclude trying again. Nationally, the recent spate of ballot measures designed to generate funding for transit projects demonstrates that cities and metropolitan areas that ultimately win approval from voters usually have to go to the ballot box several times before they are successful.⁴⁹ At the same time, Virginia's recent increase in its state sales tax after a lengthy debate does complicate prospects for increases in the short term.

Congestion charges. Charging commuters who travel on roads during peak hours is becoming a popular idea throughout the world, although its applications in the U.S. have been rather limited. But as congestion continues to increase at the same time revenues are become scarcer, interest in such solutions is gaining momentum. Moreover, new toll collection technologies enable charges to be collected without slowing down vehicles, thereby removing a significant barrier to implementing such a plan. How might such a plan be structured? As Anthony Downs points out, there are basically two kinds of road pricing: area pricing, and roadway facility pricing.⁵⁰ In *area pricing*, a zone with chronic congestion, such as a downtown area, is defined and, in effect, a line is drawn around it. Drivers crossing the line into the zone are detected through a transponder voluntarily attached to the vehicle and levied a charge. A network of cameras detects violators and issues fines. London has had such a system in place for just over a year, the net revenues of which are dedicated to transit expenditures there. In *roadway facility pricing*, charges are levied for drivers on certain roads, rather than in a small area. For both of these options, the tolls can vary from high during the peak to zero when traffic is very low.

Although both of these options are possible in the Washington metropolitan area, estimating their viability and potential yield is difficult. For example, the absence of any major toll-generating facilities in the region akin to the bridge and tunnels in New York and San Francisco makes it hard to assess how much revenue could be generated. However, a 1998 report did find that road pricing of 20–25 cents per mile on 200 lane miles of roads would generate about \$100 million each year (there are about 2,000 lane miles of freeways in the Washington area).⁵¹ Another study found that pricing freeway and arterial lanes at 10–30 cents per mile would yield about \$700 million per year.⁵² In view of such estimates, the states of Maryland and Virginia are seriously considering the development of express toll lanes on some roads such as the Capitol Beltway. In such cases motorists would pay a toll to access lanes that would theoretically have less congestion than standard highway lanes. However, the revenues generated from their tolls would not be programmed for anything other than construction of the toll lanes themselves.⁵³ But the potential is there for tolls to support transit: A tolled freeway in the San Diego metropolitan area generates about \$1 million annually for transit on the roadway.⁵⁴

Parking taxes. A related idea is that of a parking tax to fund WMATA. A parking tax was first proposed before construction even began on the rail system. Such a source could take the form of a sales tax on commercial parking or an excise tax that all parkers pay. Parking taxes have the added advantage of discouraging vehicle trips and perhaps increasing transit's share of total trips.⁵⁵ Parking taxes are currently used in several U.S. cities and in almost every case the primary goal is revenue generation.⁵⁶ Parking taxes for transit purposes are enabled by statute in states such as California and Illinois.

A decade ago, the District of Columbia proposed raising its parking tax in order to generate about \$25 million per year, which would have supplemented its WMATA subsidy.⁵⁷ This proposal faced strong opposition and was eventually scrapped. Officials also shelved a \$1 per day region-wide commuter parking tax in 2002. Such a levy was estimated to have generated \$1 billion over three years and would have been applied to commercial garages,

as well as parking spaces that employees provide for their workers.⁵⁸

Land-value capture. Another revenue-raising idea proposed decades ago was to capture the increase in the value of land adjacent to new Metrorail station areas. WMATA already does this to some extent through its joint development projects that have netted about \$5 million annually in recent years (see Table 4.) However, since WMATA only owns relatively small parcels around stations areas (because it was not afforded powers of excess condemnation) most of the benefit from the significantly increased land value accrues to private developers. A recent study found premiums of up to 30 percent for commercial buildings located near rail stations.⁵⁹ Due to Arlington County's transit-oriented development initiative, the assessed value of the Rosslyn-Ballston corridor has increased 80 percent since 1992 to over \$9 billion. Land in the corridor is worth about \$2.2 billion while the aggregate developments are worth about \$6.8 billion.⁶⁰ A special assessment on station area real estate could capture the increase in land value and provide direct revenues for WMATA. Such special benefit assessment districts exist in one form or another in areas such as Los Angeles, Miami, and Denver.

Payroll taxes. Still another potential option for WMATA funding would be a payroll tax on workers' earnings in the service area dedicated to covering local operating subsidies. Such a tax could be assessed based on place of employment rather than place of residence in order to expand the tax base to individuals working in the WMATA transit district but residing outside of it. The transit district in Portland, OR is supported by such a tax, as are the transit agencies in Cincinnati and Louisville. In the Washington primary metropolitan area, a one-half-percent payroll tax would generate enough revenue to completely cover the local subsidies. A payroll tax closely tracks inflation, so revenues would remain quite stable. It can also be made progressive by exempting low-income workers.

Implementation of a payroll tax in this region is admittedly complex. For example, Congress, which retains oversight over Washington's operations, has so far refused to allow the District to impose an earned income tax on nonresidents working in the city. Although a regional payroll tax for WMATA would necessarily be structured differently, one is unlikely to gain passage in the short term.

But all of these are just possibilities. Despite the clear need, many pitfalls and challenges complicate the establishment of a region-wide dedicated revenue source for transit in the Washington region. Problems of implementation and acceptance are paramount, but so do problems of reliability intrude: Nothing guarantees the stability of a even dedicated revenue stream. Even a dedicated revenue source can slip below expectations. Moreover, with a dedicated revenue source in place, local partners might not be as amenable to authorizing general fund revenues as they are now, should the yield falter.

WMATA is also hampered by the fact that it has always been a politically weak institution with its functions restricted to transit. Although a board of local elected officials governs it, WMATA only participates in, and does not direct, local or regional transportation planning activities. It would be a great leap forward for WMATA to develop into a regional transportation authority with the power to plan and fund regional transportation projects with the proceeds of a regional transportation tax.

In the end, the politically fragmented nature of the metropolitan area probably argues that the best option for WMATA may be some mix of dedicated revenue sources generated on the subregional level. In this way, dedicated revenue sources could be generated and administered in Virginia, Maryland, and the District independently, according to their particular preferences and traditions. At the same time, though, the special relationship between the Washington metropolitan area and the federal government should not be ignored. In the National Capital Transportation Act of 1960, which helped create the rail system, Congress stated that an "improved transportation system for the National Capital Region is essential for the continued and effective performance of the functions of the Government of the United States."⁶¹ Given the number of federal workers who rely on the system, and the number of federal facilities directly served by WMATA, the federal government has a critical and continuing stake in WMATA and should provide an annual operating subsidy, at minimum, to supplement revenue raised or provided by the localities.

VI. Conclusion

Ultimately, the implementation of any sort of dedicated revenue source will be extraordinarily complex. Nor will any such transformation of WMATA's revenue side occur in time to narrow the agency's immediate fiscal gaps. For that reason, WMATA has already proposed increasing Metrobus and Metrorail fares, daily parking rates, paratransit fares, and modifying policies to allow advertising in stations, tunnels, bus shelters, and on trains and buses.

But the short-term budget gap is actually emblematic of a fundamental structural problem. For the long-term, WMATA needs a stable, reliable, and dedicated revenue source to take the pressure off passenger fares and the local governments' annual subsidy.

The Washington metropolitan area cannot afford to make do with a transit system whose fiscal straits keep it from operating to its potential. The transit backbone—and the local land-use that supports it—remains one of the true assets that holds this region together. If the transit system becomes dysfunctional and continues to deteriorate, it will be far more difficult concentrate development, and the region's ongoing decentralization of jobs and workers will get worse.

By denying WMATA a stable, reliable, dedicated source of funding, this region is doing just that. The passengers, businesses, commuters and governments that rely on WMATA deserve better and the states and local governments that support it deserve better.

Appendix: Additional Data and Methods

The data and information incorporated in this report come from a variety of sources. The national transit agency information comes from the FTA's National Transit Database (NTD) (www.ntdprogram.com). It should be noted that the transit agency information provided is simply a snapshot in time and agency budgets can fluctuate depending on a variety of factors. Specific budgetary information about WMATA is taken from the proposed and approved annual budgets the agency publishes. As the latter information is more current it was used whenever possible. This explains differences in the time horizons and detailed facts and figures in some of the tables. Some 2002 data from the NTD was not available when the report was written. Ridership figures come from the American Public Transportation Association and/or the agencies themselves.

To provide some additional context, what follows offers more detailed information about the operating statistics of WMATA's three basic services: heavy rail, bus, and demand-responsive transit, or "paratransit."

In comparisons of transit agencies, WMATA is most often compared to the Metropolitan Atlanta Rapid Transit Authority (MARTA) and the San Francisco Bay Area Rapid Transit District (BART) since their rail systems were planned and built generally at the same time.⁶² The metropolitan areas are also similarly sized.⁶³ However, as the tables below illustrate, WMATA provides much more extensive services than either BART or MARTA. In fact, in terms of overall trips and passenger miles, WMATA is generally more similar to the much older and established agencies in the Boston (MBTA) and Philadelphia (SEPTA) metropolitan areas. After New York, WMATA provides the most passenger miles of any transit system (excluding those that also provide commuter rail service which increase the passenger miles figures since those trips are often much longer.)

Rail: WMATA's heavy rail, or subway, service is called Metrorail. Before the Metrorail system was conceived in the 1960's, true heavy rail rapid transit systems existed only in Boston, Chicago, Cleveland, New York, and Philadelphia. Since the initial concept, new systems have been opened in Atlanta, Baltimore, Los Angeles, Miami, and San Francisco. Heavy rail differs from the light rail systems which have been built in many metropolitan areas in recent years. Where heavy rail is characterized by large volumes of passengers, high speeds, and dedicated rights-of-way, light rail systems use smaller trains, carry fewer

passengers, and utilize tracks that may share space on roadways.

Bus: As with most other large transit agencies, Metrobus generally serves shorter trips than Metrorail: approximately 3 miles per trip versus 6 miles for rail. Since WMATA assumed the operation of the region's bus network in the 1970's, Metrobus' share of the region's bus service has declined by about 25 percent. This is because suburban jurisdictions have initiated their own local services. Of WMATA's local jurisdictional partners, only the District of Columbia relies exclusively on WMATA for bus service. Another reason for the decline is that some of the densest routes were replaced by rail service. Although some bus service remains in parallel, much was logically terminated.

Total Transit Operating Statistics, Top 20 Transit Agencies, Ranked by Passenger Trips, 2002

Rank	Agency	Modes*	VOMS**	Passenger Trips	Passenger Miles
1	New York City Transit (MTA-NYC Transit)	HR, MB, DR	9,325	2,671,728,300	9,743,353,000
2	Chicago Transit Authority (CTA)	HR, MB, DR	3,362	485,225,000	1,815,306,600
3	Los Angeles County Metropolitan Transportation Authority (LA Metro)	HR, LR, MB, DR	2,473	453,630,000	1,875,627,000
4	Washington Metropolitan Area Transit Authority (WMATA)	HR, MB, DR	2,049	391,303,600	1,897,126,800
5	Massachusetts Bay Transportation Authority (MBTA)	CR, DR, FB, HR, LR, MB, TB	2,126	388,975,800	1,823,179,900
6	Southeastern Pennsylvania Transportation Authority (SEPTA)	CR, DR, HR, LR, MB, TB	2,177	313,687,100	1,333,880,900
7	San Francisco Municipal Railway (MUNI)	CC, LR, MB, TB	833	233,015,600	453,701,500
8	New Jersey Transit (NJ Transit)	CR, DR, LR, MB, VP	3,095	225,436,300	2,473,942,900
9	Metropolitan Atlanta Rapid Transit Authority (MARTA)	HR, MB, DR	853	159,357,700	816,748,000
10	Maryland Transit Administration (MTA)	CR, DR, HR, LR, MB	1,132	115,678,700	629,710,200
11	Long Island Rail Road (MTA-LIRR)	CR	957	100,504,000	2,094,066,800
12	Tri-County Metropolitan Transportation District of Oregon (Portland)	DR, LR, MB	799	100,219,500	413,843,800
13	King County Department of Transportation - Metro Transit Division	DR, LR, MB, TB, VP	2,645	97,517,500	523,282,200
14	San Francisco Bay Area Rapid Transit District (BART)	HR	493	97,146,100	1,176,305,500
15	Metropolitan Transit Authority of Harris County (Houston Metro)	DR, MB (LR as of Jan. 2004)	1,605	82,087,500	457,141,700
16	Miami-Dade Transit (MDT)	AG, HR, MB	672	81,891,400	386,328,800
17	Denver Regional Transportation District (RTD)	DR, LR, MB, VP	1,192	80,923,500	385,040,900
18	Honolulu Department of Transportation Services	DR, MB	551	74,260,200	323,599,600
19	Port Authority of Allegheny County (Pittsburgh)	IP, LR, MB	889	73,807,400	321,715,300
20	Metro-North Commuter Railroad Co. (MTA-MNCR)	CR, FB, MB	883	73,461,100	2,130,049,500

Source: Federal Transit Administration, "2002 National Transit Database," Table 19, www.ntdprogram.com.

* The "modes" of an agency refers to the services the transit agency provides—either directly operated or through purchased services. The abbreviations in this column refer to the following modes: heavy rail (HR), bus (MB), demand responsive (DR), light rail (LR), commuter rail (CR), ferry boat (FB), trolley bus (TB), cable car (CC), van pool (VP), automated guideway (AG), inclined plane (IP).

** VOMS is an abbreviation for Vehicles Operated in Maximum Service that measures the number of vehicles operating, by mode, on the busiest days of the agency's year (excluding special events). This measurement of fleet size provides a helpful assessment of an agency's operating characteristics.

Operating and Financial Statistics for All U.S. Heavy Rail Systems, Ranked by Passenger Trips, 2002

Rank	Agency	VOMS	Miles of Track	Stations	Passenger Trips, 2003	Capital Expenses (\$)	Operating Expenses (\$)
1	New York City Transit (MTA-NYC Transit)	5,031	835.0	468	1,755,687,400	2,391,429,100	2,255,945,200
2	Washington Metropolitan Area Transit Authority (WMATA)	812	220.4	83	249,326,100	448,449,200	460,755,400
3	Chicago Transit Authority (CTA)	988	287.8	144	150,319,600	381,219,700	359,022,200
4	Massachusetts Bay Transportation Authority (MBTA)	320	107.7	53	123,939,500	93,334,400	206,319,000
5	San Francisco Bay Area Rapid Transit District (BART)	493	246.3	39	94,914,600	536,957,500	330,953,700
6	Southeastern Pennsylvania Transportation Authority (SEPTA)	275	102.3	76	86,953,800	185,748,500	118,743,700
7	Metropolitan Atlanta Rapid Transit Authority (MARTA)	186	103.7	38	69,272,000	189,009,200	122,276,200
8	Port Authority Trans-Hudson Corporation (PATH)	231	39.5	13	47,920,000	241,943,000	170,699,000
9	Los Angeles County Metropolitan Transportation Authority (LA Metro)	70	34.1	16	27,465,100	3,893,500	62,228,900
10	Miami-Dade Transit (MDT)	90	53.2	21	14,318,500	20,888,000	61,511,600
11	Maryland Transit Administration (MTA)	66	34.4	14	12,452,100	37,056,300	39,345,000
12	Port Authority Transit Corporation (PATCO: New Jersey/Philadelphia)	96	38.4	13	8,863,700	14,236,600	31,374,700
13	Greater Cleveland Regional Transit Authority (RTA)	22	41.9	18	4,605,100	13,331,600	22,876,500
14	Staten Island Rapid Transit Operating Authority (MTA-SIRTOA)	44	32.7	23	3,398,400	1,198,600	25,409,300

Source: Federal Transit Administration, "2002 National Transit Database," Tables 11, 12, 21, and 23. www.ntdprogram.com.
 Note: Ridership figures come from the American Public Transportation Association, "Heavy Rail Transit Ridership Report, Fourth Quarter 2003," www.apta.com/research/stats/ridership/riderep/documents/03q4hr.pdf

Operating and Financial Statistics for 15 Largest U.S. Bus Systems, Ranked by Passenger Trips, 2002

Rank	Agency	VOMS	Miles	Passenger Trips, 2003	Capital Expenses (\$)	Operating Expenses (\$)
1	New York City Transit (MTA-NYC Transit)	3,915	1,864,387,000	735,279,900	175,327,730	1,476,348,630
2	Los Angeles County Metropolitan Transportation Authority (LA Metro)	2,643	1,479,164,000	307,326,100	192,813,100	733,018,800
3	Chicago Transit Authority (CTA)	2,013	807,540,400	291,804,400	101,652,160	559,683,670
4	Southeastern Pennsylvania Transportation Authority (SEPTA)	1,090	470,378,900	159,933,400	80,337,890	370,435,800
5	Washington Metropolitan Area Transit Authority (WMATA)	1,442	450,768,800	147,455,200	89,281,060	342,558,980
6	New Jersey Transit (NJ Transit)	2,186	880,327,900	146,366,900	58,778,660	524,842,600
7	Massachusetts Bay Transportation Authority (MBTA)	863	290,169,200	112,349,500	48,538,510	237,565,600
8	Metropolitan Transit Authority Harris County (Houston Metro)	1,053	450,079,900	90,073,700	160,803,000	234,145,800
9	King County Department of Transportation - Metro Transit Division	1,186	428,968,400	71,009,600	57,007,450	279,791,560
10	Minneapolis Metro Transit	841	286,565,100	69,589,300	64,455,000	191,673,200
11	Metropolitan Atlanta Rapid Transit Authority (MARTA)	590	304,108,800	69,156,700	36,700,880	166,178,300
12	Honolulu Department of Transportation Services	427	313,831,300	68,899,200	32,979,900	114,075,100
13	Maryland Transit Administration (MTA)	799	322,455,300	67,303,300	52,192,020	185,715,300
14	Orange County Transportation Authority (OCTA)	494	225,814,300	65,746,200	90,524,000	132,151,000
15	Miami-Dade Transit (OCTA)	969	273,614,000	65,046,900	44,454,000	164,278,100

Source: Federal Transit Administration, "2002 National Transit Database," Tables 11, 12, and 19. www.ntdprogram.com.
 Note: Ridership figures are from the American Public Transportation Association, "Largest Bus Systems Transit Ridership Report, Fourth Quarter 2003" www.apta.com/research/stats/ridership/riderep/documents/03q4bus.pdf. New Jersey Transit ridership figures are from the 4th quarter 2002 from New York Metropolitan Transportation Council: www.nymtc.org/files/transportation_statistics/travel-patterns-4qtr-02-final.pdf.



Operating and Financial Statistics for 24 Largest Demand Responsive Systems, Ranked by Passenger Trips, 2002

Rank	Agency	VOMS	Miles	Passenger Trips	Capital Expenses (\$)	Operating Expenses (\$)
1	New York City Transit (MTA-NYC Transit)	379	23,976,100	2,277,000	0	128,574,927
2	Los Angeles Access Services Inc.	465	22,353,000	2,101,700	6,879,431	55,413,690
3	Port Authority of Allegheny County (Pittsburgh)	-	13,417,700	1,965,900	0	29,602,045
4	King County Department of Transportation - Metro Transit Division	498	11,128,700	1,632,800	4,645,327	41,603,378
5	Chicago Transit Authority (CTA)	679	12,145,200	1,530,400	0	37,485,928
6	Southeastern Pennsylvania Transportation Authority (SEPTA)	355	10,875,000	1,474,900	7,191,587	37,529,095
7	PACE - Suburban Chicago Bus Division	321	8,918,200	1,437,500	3,766,454	23,522,700
8	Metropolitan Transit Authority Harris County (Houston Metro)	552	14,570,100	1,351,500	1,791,030	25,710,609
9	San Francisco Municipal Railway (MUNI)	-	7,445,100	1,287,100	0	18,198,683
10	City of Los Angeles Department of Transportation	149	5,128,500	1,142,700	3,788,031	13,897,796
11	Broward County Division of Mass Transit	258	10,117,600	1,140,100	0	19,619,003
12	Massachusetts Bay Transportation Authority (MBTA)	376	15,012,600	1,097,100	1,313,320	28,286,718
13	Minneapolis Metro Mobility	244	11,018,500	1,088,200	0	26,632,981
14	Miami-Dade Transit Agency (MDT)	-	14,058,600	1,060,900	0	22,562,932
15	Milwaukee County Transit System	227	7,097,700	1,058,800	0	17,900,446
16	Los Angeles County Metropolitan Transportation Authority (LA Metro)	158	3,751,800	1,040,200	186,409	11,910,303
17	San Antonio Metropolitan Transit (VIA)	82	12,080,700	1,019,500	911,534	19,602,000
18	Santa Clara Valley Transportation Authority (VTA)	336	7,947,500	1,019,000	0	38,492,150
19	Tri-County Metropolitan Transportation District of Oregon (Portland)	173	7,244,200	845,600	3,661,370	17,082,690
20	San Diego Metropolitan Transit Development Board	82	3,700,900	798,700	0	6,330,884
21	Orange County Transportation Authority (OCTA)	207	7,315,900	778,300	4,169,258	19,681,038
22	Minneapolis Metropolitan Council	173	4,627,100	773,000	513,560	11,143,547
23	Suburban (Detroit) Mobility Authority for Regional Transportation (SMART)	122	4,946,200	770,700	3,039,936	16,215,500
24	Washington Metropolitan Area Transit Authority (WMATA)	138	8,021,800	738,300	0	26,245,787

Source: Federal Transit Administration, "2002 National Transit Database," Tables 11, 12, and 19 www.ntdprogram.com

Note: Ridership figures come from the American Public Transportation Association, "Major Transit Agency Demand Response Ridership Data, Fiscal Year 2002," www.apta.com/research/stats/demand/ridership.cfm. This table includes purchased transportation.

Paratransit: Like most other large agencies, WMATA provides demand responsive transit service. Demand responsive transit fleets, which is also known as paratransit, or dial-a-ride, are generally no larger than small buses and do not operate on any kind of fixed route. Passengers request pick-up and drop-off to specific locations. This service, which is the most plentiful in the nation (over 5,000 agencies provide such service) is generally limited to the elderly or disabled.⁶⁴ WMATA's service, known as MetroAccess, carried just over 700,000 passengers in 2002. Costs for MetroAccess have escalated in recent years as demand has skyrocketed.

Endnotes

1. Robert Puentes is the senior research manager at the Brookings Institution Center on Urban and Metropolitan Policy.
2. Richard White, "Testimony to U.S. Senate Committee on Governmental Affairs" (December 13, 2001). Available at www.senate.gov/~gov_affairs/121301white.htm
3. Alex Marshall, "Love (and Hate) That Metro," *Planning*, February 2004, pp. 18–24.
4. American Public Transportation Association, "APTA Award Winners 1983-2001" (Washington: undated). Available at www.apta.com/services/awards/documents/awardshist.pdf
5. U.S. General Accounting Office, "Many Management Successes at WMATA, but Capital Planning Could Be Enhanced." GAO-01-744. (2001).
6. WMATA's annual financial report states that transit facilities and equipment are "depreciated or amortized using the straight-line method over the estimated useful lives of the assets. The useful lives are as follows: buildings and improvements, 20–45 years; rail transit facilities, 10–75 years; revenue vehicles, 12–35 years; other equipment 2–20 years." It is WMATA's stated policy not to expense maintenance and repairs until they are incurred. See: Washington Metropolitan Area Transit Authority, "Comprehensive Annual Financial Report" (2002).
7. *National Capital Transportation Act of 1965*. Public Law: 89-774. For a comprehensive history of early WMATA planning, see Zachary M. Schrag, "The Washington Metro as Vision and Vehicle, 1955–2001." Ph.D. dissertation, Columbia University, 2002. See also: U.S. Congress, "An Assessment of Community Planning for Mass Transit, Volume 10 – Washington D.C. Case Study" (Office of Technology Assessment, 1976).
8. Schrag, "The Washington Metro," p. 182.
9. The local municipalities are: the District of Columbia, Montgomery and Prince George's Counties in Maryland, Arlington and Fairfax Counties and the cities of Alexandria, Fairfax, and Falls Church in Virginia.
10. WMATA was essentially forced to take control over the bus lines after condemning DC Transit, a poorly managed and operated company. The other three bus lines were: Maryland's WMA Transit Company and Virginia's WV&M Coach Company and AB&W Transit Company. See Schrag, "The Washington Metro," p. 313.
11. *National Capital Transportation Amendments of 1979*. Public Law: 96-184; and *National Capital Transportation Amendments of 1990*. Public Law: 101–551.
12. Marshall, "Love (and Hate) That Metro." It bears noting that this federal support remains less than the 80 percent many capital projects, especially highways, have enjoyed over the years.
13. *National Capital Transportation Amendments of 1979*.
14. U.S. General Accounting Office, "Applying DOT's Rail Policy to Washington, D.C.'s Metrorail System Could Save Funds." GAO/RCED-83-24. (1983).
15. Capital and operating budgets are not usually combined since they are so different, but it is helpful here for ranking purposes.
16. American Public Transportation Association, "2003 Public Transportation Fact Book" (2003) pp. 94–97.
17. A small but important gas tax in northern Virginia generates revenue for WMATA (see Section IV.)
18. That is, those systems with more than 1,000 vehicles operating in maximum service (VOMS). The other two systems are in Houston and Seattle.
19. WMATA, "Comprehensive Annual Financial Report."
20. The District's funds for WMATA come from its highway trust fund which is considered to be a subset of the general fund. For budgetary purposes, the District's Office of the Chief Financial Officer does not consider motor fuel tax revenue part of the general fund. However, the mayor's proposed FY 2004 budget shows that the WMATA subsidy came out of "general funds" and federal highway statistics on the disposition of the gas tax receipts also consider the highway trust fund a subset of the general fund.
21. Office of Management and Budget, "Budget of the United States Government, Fiscal Year 2005—Appendix."
22. U.S. General Accounting Office, "District of Columbia: Structural Imbalance and Management Issues." GAO-03-666 (2003), p. 80.
23. Maryland General Assembly, "1998 Legislative Handbook Series, Volume II: Government Services in Maryland, Chapter 9: Transportation."
24. Adding to the complexity of the issue, Maryland is also responsible for funding the Baltimore metropolitan area's transit system. For more information on how states fund transit see: Robert G. Stanley, "Characteristics of State Funding for Public Transportation—2002." TCRP Project J-6/Task 46 (Washington: National Academy Press, 2002)..
25. Todd Goldman, Sam Corbett, and Martin Wachs, "Local Option Transportation Taxes in the United States, Part Two: State-by-State Findings." Research Report UCB-ITS-RR-2001-4 (Berkeley: University of California at Berkeley Institute of Transportation Studies, 2001).
26. Except in Loudoun County, which may use the proceeds from the tax for any transportation expense.
27. Northern Virginia Transportation Commission, "Northern Virginia Transit Funding Resource Guide" (Arlington, VA: 2003). Available at: www.thinkoutsidethecar.org/pdfs/Revised_Transit_Funding_Resource_Guide_9-29-03.pdf
28. *Mass Transit*, "From One to Many: The Proliferation of Bus Systems around Washington, D.C." September 1, 1999, p. 84.
29. John Milliken, "Save Metrobus." *Washington Post*, August 10, 1997, p. C8.
30. Washington Metropolitan Area Transit Authority, "Approved Fiscal 2004 Annual Budget."
31. See, for example, Brian Taylor and others, "Increasing Transit Ridership: Lessons from the Most Successful Transit Systems in the 1990s." MTI Report 01-22. (San Jose: San Jose State University, Mineta Transportation Institute, 2002) and Steve E. Polzin, Xuehao Chu, and Joel R. Rey, "Density and Captivity in Public Transit" *Transportation Research Record* 1735 (2000) pp. 10–18.
32. WB&A Market Research, "2002 Passenger Survey Final Report" (Crofton, MD: 2002).
33. See Washington Metropolitan Area Transit Authority, "Notice of Public Hearings." Docket No. B04-2. (March 17, 2004). The agency's pending budget will propose a 3.6-percent increase in the local subsidy share. Lyndsey Layton, "Passengers Would Pay More of Metro's Cost; Localities Would Get Refund on Subsidies," *Washington Post*, April 30, 2004, p. B1.
34. U.S. General Accounting Office, "Issues Being Faced by the Washington Metropolitan Area Transit Authority." CED-79-52. (1979).
35. U.S. General Accounting Office, "Applying DOT's Rail Policy to Washington, D.C.'s Metrorail System Could Save Funds." GAO/RCED-83-24. (1983).
36. Moody's Investors Service, "Washington Metropolitan Area Transit Auth. D.C." (October 19, 1999).
37. In actuality some smaller jurisdictions have from time to time refused to make their payments because of disagreements over the formula. Their shares were then picked up by other jurisdictions. So while the Moody's report is technically accurate on the regional level, localities' substantial support is not guaranteed.

38. Northern Virginia Transportation Commission, "A Crisis in Transportation Funding" (Arlington, VA: 2003).
39. Maryland Transportation Task Force, "Transportation Needs and Funding Report" (Hanover: Maryland Department of Transportation, 2003).
40. National Capital Region Transportation Planning Board, "The National Capital Region's Six-Year Transportation Capital Funding Needs (2005–2010)" (Washington: Metropolitan Washington Council of Governments, 2004).
41. See e.g., Janet Rothenberg Pack, "You Ride, I'll Pay: Societal Benefits and Transit Subsidies," *Brookings Review* 10 (3) (1992) pp. 48–52.
42. It has been estimated that WMATA helps stem the problems of worsening air quality by eliminating 10,000 tons of pollution each year, and saves the region 75 million gallons of fuel. Maryland Transportation Task Force, "Transportation Needs and Funding Report" In terms of traffic, the region's congestion delays would be over 40 percent worse were it not for transit. David Schrank and Tim Lomax, "The 2003 Annual Urban Mobility Report" (Texas Transportation Institute, Texas A&M University System: September 2003) Exhibits A6 and A7. Available at: mobility.tamu.edu.)
43. The economic benefits of transit are well documented. A 1997 report found that every dollar invested in transit yields six in economic returns. (Donald H. Camph, "Dollars and Sense: Economic Case for Public Transportation in America" (Los Angeles: The Campaign for Efficient Passenger Transportation, 1997).) Locally, a report by KPMG in 1994 found that over the period 1995 to 2010, Metrorail in Virginia will achieve nearly a 20 percent rate of return for the commonwealth, mainly from development activity. (KPMG Peat Marwick LLP, "Fiscal Impact of Metrorail on the Commonwealth of Virginia" (McLean, VA, 1994).)
44. Peter Nelson, Ian W. H. Perry, and Martin Wachs, "Is Northern Virginia Voting on the Right Transportation Tax?" *Issue Brief* 02-35. (Washington: Resources for the Future, 2002)
45. Robert Puentes and Ryan Prince, "Fueling Transportation Finance: A Primer on the Gas Tax" (Washington: Brookings Institution, 2003). Available at: www.brookings.edu/es/urban/publications/gastax.htm.
46. Cambridge Systematics, "New Ways to Implement New Transportation Revenue Sources" (October 1998).
47. Todd Goldman and Martin Wachs, "A Quiet Revolution in Transportation Finance," *Transportation Quarterly* 57 (1) (2003) pp. 19–32.
48. The measure was defeated in two large counties that are not part of the WMATA service area (Prince William and Loudoun) and in one that is (Fairfax.) These counties are where the road projects were to be located.
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50. Anthony Downs, *Still Stuck in Traffic* (Washington: Brookings Institution Press, 2004).
51. See e.g., Cambridge Systematics, "New Ways to Implement New Transportation Revenue Sources."
52. Nelson, Perry, and Wachs, "Is Northern Virginia Voting on the Right Transportation Tax?"
53. A Maryland report found that in the short term, toll lane projects would actually require their own subsidies from other sources, rather than generating additional revenue for other projects. Maryland Transportation Task Force, "Transportation Needs and Funding Report."
54. Eric Schreffler, "I-15 Congestion Pricing Project Monitoring and Evaluation Services: Phase II, Year Three Implementation Procedures, Policies, Agreements, Implementation Barriers and Overall Institutional Findings" (San Diego: San Diego Association of Governments, 2001).
55. Donald C. Shoup, "Cashing Out Employer-Paid Parking: A Precedent for Congestion Pricing?" In *Curbing Gridlock, Peak-Period Fees to Relieve Traffic Congestion*, Volume 2 (Washington: National Academy Press, 1994) pp. 152–200.
56. Cy Ulberg, Graciela Etchart and Bethany Whitaker, "Local Option Commercial Parking Tax Analysis" (University of Washington, Washington State Transportation Center: 1992) Research Project GC 8719, Task 30.
57. Stephen Fehr, "Metro Foresees Kelly Tax Boosting Ridership; Commuters Fleeing Parking Levy Would Raise Transit Revenue by \$5 Million, Officials Say," *Washington Post*, February 19, 1994, p. B4.
58. Katherine Shaver, "'Parking Tax' Could Fund Efforts to Cut Air Pollution," *Washington Post*, August 9, 2001, p B5.
59. Lee Cockerill and Denise Stanley, "How Will the Centerline Affect Property Values in Orange County?" (Fullerton: California State University at Fullerton Institute of Economic and Environmental Studies, 2002).
60. Dennis Leach, "Rosslyn-Ballston Corridor." In Hank Dittmar and Gloria Ohland, eds., *The New Transit Town; Best Practices in Transit-Oriented Development* (Washington: Island Press, 2004).
61. *National Capital Transportation Act of 1960*. Public Law: 86-669.
62. See e.g., Vukan R. Vuchic and Jeffrey Casello, "Washington Metro: Planning for Growth" *Urban Transportation International*, 40 (March/April 2002) pp. 26–30.
63. U.S. Census Bureau figures show the Atlanta metropolitan statistical area (MSA) contained 4,112,198 residents in 2000. The San Francisco and Oakland primary MSAs contained 4,123,740 and the Washington DC primary MSA had 4,923,153.
64. APTA, "2003 Public Transportation Fact Book" p. 144.

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