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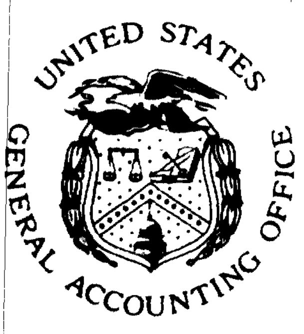
BY THE U.S. GENERAL ACCOUNTING OFFICE

Report To The Secretary Of Transportation

Applying DOT's Rail Policy To Washington, D.C.'s Metrorail System Could Save Federal Funds

The Department of Transportation's policy of requiring full funding--setting a ceiling on the level of Federal funding--and a modified version of its incremental construction policy for rapid-rail systems should be applied to the 26 unfunded miles of the Washington, D.C., rapid-rail system. The system has been planned as a 101-mile system; full or partial funding has been received for about 75 miles.

GAO believes that if the Department's rail policy were applied to the 26 unfunded miles (1) Federal savings could be realized, (2) better use of limited Federal funds could be made, and (3) more realistic cost estimates could be made, allowing for better forecasts of future needs. In addition, GAO believes that the Department needs to better define the type of funding commitment required from local jurisdictions to support the system and require periodic reevaluations of funding commitments.



GAO/RCED-83-24
JANUARY 12, 1983

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UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

RESOURCES, COMMUNITY, AND ECONOMIC DEVELOPMENT DIVISION

B-206068

The Honorable Drew Lewis
The Secretary of Transportation

Dear Mr. Secretary:

This report discusses the Washington, D.C., Metrorail system and suggests possible ways to save Federal dollars and make more cost-effective use of limited Federal funds for Metrorail construction. This review was made because of the large Federal dollar investment in Metrorail construction.

This report contains recommendations to you on pages 10, 15, and 22. As you know, 31 U.S.C. §720 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the House Committee on Government Operations and the Senate Committee on Governmental Affairs not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this report to the Director, Office of Management and Budget; the Chairman, Board of Directors, and the General Manager, Washington Metropolitan Area Transit Authority; interested congressional committees; and other parties.

Sincerely yours,

J. Dexter Peach
Director

BY THE U.S. GENERAL
ACCOUNTING OFFICE
REPORT TO THE SECRETARY
OF TRANSPORTATION

APPLYING DOT'S RAIL POLICY TO WASHINGTON, D.C.'S METRORAIL SYSTEM COULD SAVE FEDERAL FUNDS

D I G E S T

The Federal Government could save money if the Urban Mass Transportation Administration's (UMTA's) policy of setting a ceiling on the level of Federal expenditures for rail systems were applied to the remaining 26 miles of the Washington, D.C., system (Metrorail).

In addition, better use of limited funds can be made by applying a modified version of UMTA's policy of requiring rail construction in increments based on specified priorities to the 26 unfunded miles. Also, UMTA needs to require periodic reevaluations of local jurisdictions' funding commitments and provide better guidance on the type of funding commitment it requires to satisfy the congressionally mandated requirements for Metrorail.

In 1969 the Washington Metropolitan Area Transit Authority began constructing a planned 101-mile rail system which is being funded by local and Federal governments. In March 1976 rail operations began on a 4.6-mile segment, and by August 1982, 39 miles were in operation.

As of June 30, 1982, the Federal Government had contributed $3.1 billion out of $4.9 billion for Metrorail, with local governments and the authority contributing $1.8 billion. Construction has been fully or partially funded for about 75 miles of Metrorail; however, 26 miles are still unfunded.

Because of the sizable Federal dollar investment in Metrorail, GAO conducted this review to evaluate (1) the effectiveness and efficiency with which Federal funds are used to construct Metrorail and (2) local jurisdictions' ability to support Metrorail.

FEDERAL SAVINGS COULD RESULT FROM FULL-FUNDING CONTRACTS

UMTA policy requires that full-funding contracts be used for rapid-rail systems. A full-funding contract sets a ceiling on the level of the Federal Government's expenditures and gives projected annual funding levels, subject to fund availability through the annual congressional appropriation process.

At the time UMTA issued its policy, in 1978, much of Metrorail had been funded and it was not feasible to retroactively apply the policy. Currently, 26 miles of Metrorail have not yet been funded--and may not be until after 1985--and applying the full-funding approach to the remaining segments could still result in substantial Federal savings.

Estimated Federal cost savings of over $200 million have already resulted from the use of full-funding contracts for two other transit systems under construction in Atlanta and Miami. Using full-funding contracts for Metrorail would highlight the need for tight cost control and would require the transit authority to manage within the ceiling amount or local jurisdictions would have to contribute more money.

Transit authority and UMTA officials agree that a full-funding contract appears to be a good instrument to use for the remaining 26 miles. UMTA does not anticipate funding construction past 75 miles until after 1985. At that time, it would consider using the full-funding approach for the unfunded segments. (See pp. 6 to 10.)

BETTER USE OF SCARCE FUNDS CAN BE ACHIEVED THROUGH A REVISED METRORAIL CONSTRUCTION PLAN

Funding for all or parts of operable segments totaling about 75 miles of the Metrorail system has been provided with construction proceeding on four to six segments a year. Generally, UMTA has followed a practice of funding construction in all jurisdictions that were ready to proceed, greatly fragmenting the use of limited Federal funds and delaying completion of highest priority segments.

In February 1978 UMTA established a policy for new rail starts calling for incremental construction, that is, requiring a rail system to be approved and built in stages--one segment at a time. GAO supports the merits of UMTA's rail policy, but recognizes that it would be difficult to strictly apply this policy to Metrorail since construction was already underway when the policy was issued. However, a modified version of incremental construction needs to be applied to the remaining 26 miles of Metrorail to reduce the number of operable segments being worked on at one time so that the public can begin using Metrorail as soon as possible and the highest priority segments will be completed expeditiously.

Although the authority was receiving the Federal funding it requested when the policy was issued, this is no longer the case. Since 1978 the authority has received substantially less than it requested for Metrorail construction. Budget projections show this trend continuing, necessitating a review of Metrorail construction policy. In addition, the Secretary of Transportation intends to limit Federal funding for Metrorail to 75 miles until the economy improves. This 75-mile limit provides the opportunity to revise the Metrorail construction policy that began when requested Federal funds were being received.

When projects such as Metrorail must be coordinated by many autonomous local governments, progress seldom comes easily. Metrorail is unique for rapid-rail systems because of the number of local governments involved. However, to make the most cost-effective use of limited Federal funds, some change is necessary to reduce the number of segments under construction simultaneously. To achieve the necessary change may require some modifications to the local funding arrangements. A June 1982 study has proposed modification of the current funding arrangements which are based on a 101-mile system to a funding arrangement based on funded increments to the system. (See pp. 11 to 17.)

GUIDANCE IS NEEDED FOR PERIODIC FUNDING REEVALUATIONS

The National Capital Transportation Amendments of 1979 require that local jurisdictions demonstrate that a "stable and reliable" revenue source is available to fund the authority's operating and debt service costs. The Secretary of Transportation notified the Congress on August 13, 1982, that this requirement had been met.

Although the legislation did not require subsequent reevaluation of local funding sources, GAO believes that periodic reevaluations of and more specific guidance on acceptable funding sources is needed.

Such periodic reevaluations by the Department are necessary because of (1) the possibility of changes in State and local laws and funding sources, (2) rising Metrorail deficits which are burdening local jurisdictions, and (3) overly optimistic operating deficit estimates which could require additional funding sources. (See pp. 18 to 23.)

RECOMMENDATIONS

GAO recommends that the Secretary of Transportation direct the UMTA Administrator to

--negotiate full-funding contracts with the authority for unfunded segments which UMTA is willing to fund;

--work with the General Manager of the authority to reduce the number of operable Metrorail segments under construction, consistent with UMTA's policy objective of more rapid completion of highest priority segments in times of limited Federal funding;

--issue guidance requiring periodic reevaluation of jurisdictions' stable and reliable revenue sources; and

--issue criteria defining what constitutes a stable and reliable funding source.

AGENCY COMMENTS

Department of Transportation comments were not received within the time allowed and to evaluate and include the comments would have delayed issuance of the report without significantly improving its accuracy.

The authority concurs with the full-funding recommendation, if certain conditions are met, and notes the need for Federal guidance on annual funding levels for realistic capital cost estimates. The authority does not oppose a periodic review of stable and reliable revenue sources, but it does not believe the review should be made on a regular basis. The authority opposes using the incremental construction policy because Metrorail was under construction when the policy was issued, and it believes funding of several operable segments concurrently is desirable. GAO never intended that the policy be applied to complete or partially complete miles. The Secretary of Transportation's intention to limit Metrorail construction to 75 miles, until the economy improves, provides the opportunity to consider the 75 miles as the first Metrorail increment with a modified version of UMTA's incremental construction policy applying to the remaining 26 miles.

The authority stated that funding several operable segments concurrently allows optimum use of limited Federal funds. GAO does not disagree with working on more than one operable segment at a time. It does believe that UMTA's past policy of allowing construction on up to six operable segments at one time will not allow the (1) public to begin using the system as soon as possible due to the limited availability of Federal funds and (2) highest priority segments to be built expeditiously.

Contents

ABBREVIATIONS

DOT	Department of Transportation
GAO	General Accounting Office
UMTA	Urban Mass Transportation Administration
WMATA	Washington Metropolitan Area Transit Authority

CHAPTER 1

INTRODUCTION

Construction of a rapid-rail transit system--Metrorail--in Washington, D.C., has been underway since the 1960's. Through June 30, 1982, $4.9 billion had been provided for the system, with $3.1 billion from the Federal Government, $0.8 billion from local governments, and $1 billion from Washington Metropolitan Area Transit Authority (WMATA) issued bonds and internal funds.

Metrorail groundbreaking took place on December 9, 1969, and the first rail operations began on March 27, 1976, on a 4.6-mile segment with five stations. (See photos and map on the following pages.)

By August 1982, 39.12 miles of the system were operating. The system is being phased into operation through 1993 and, when complete, is planned to include

--101 miles of revenue operations, including 48.6 miles underground;

--86 stations, including 50 underground; and

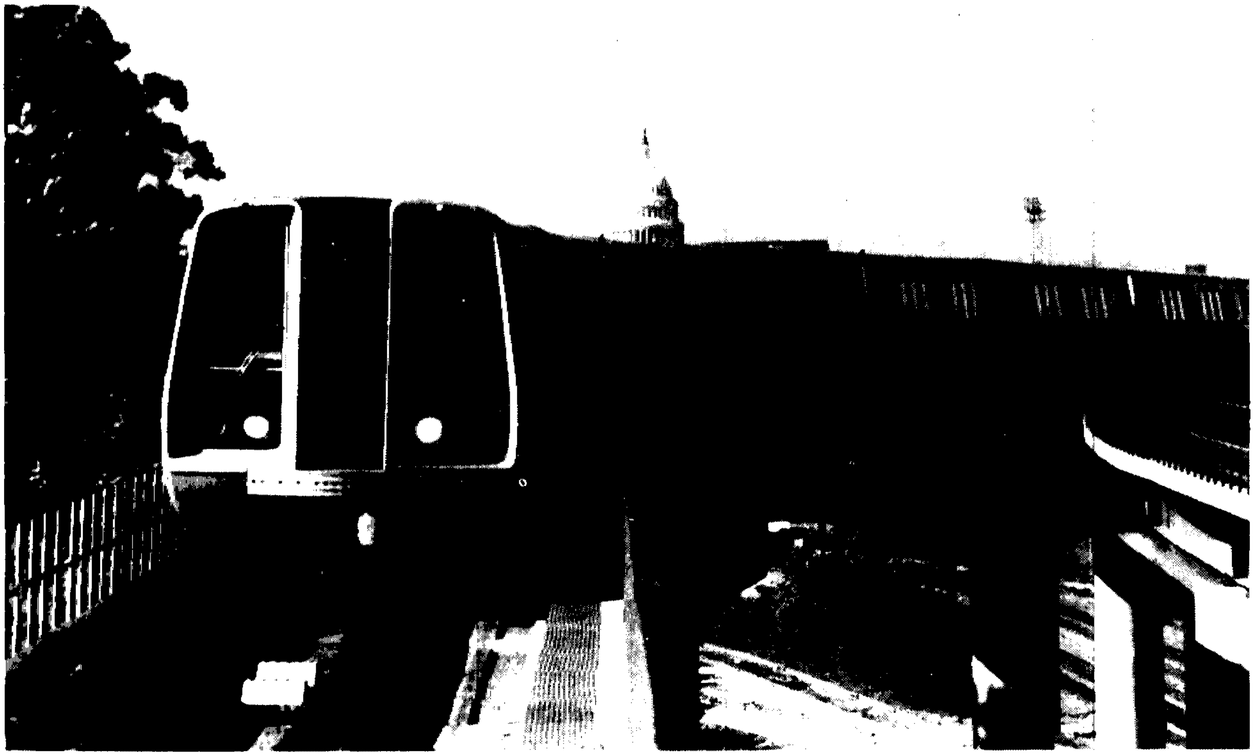
--736 air-conditioned cars, each capable of carrying 220 passengers.

From January to August 1982, Metrorail ridership averaged about 290,000 passengers daily during the week.

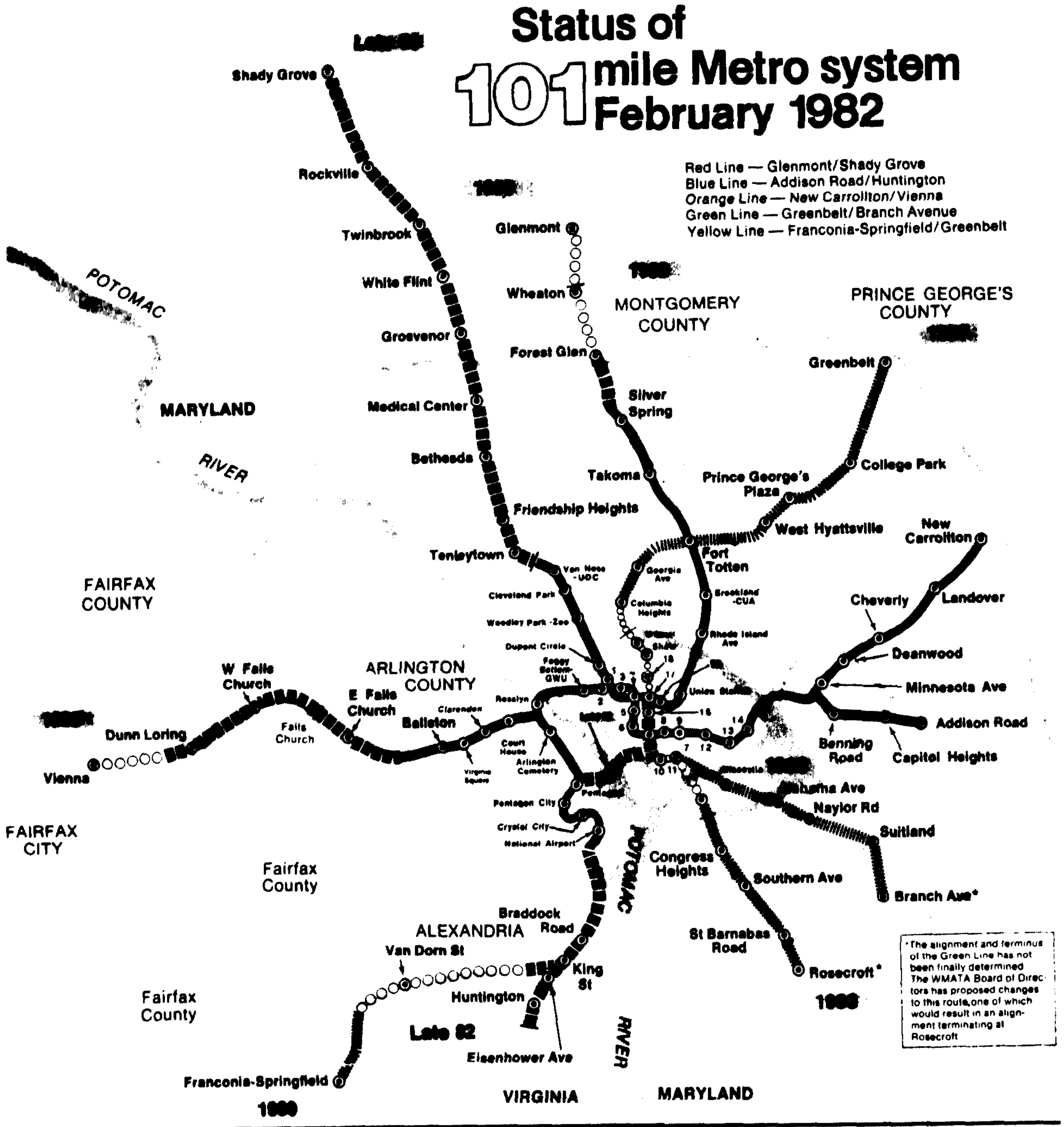
WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

WMATA is a public agency established in 1967 through a congressionally approved interstate compact (Public Law No. 89-774) among Maryland, Virginia, and the District of Columbia. WMATA's primary function is to plan, develop, construct, finance, and operate a rapid-rail and bus transit system for the Washington Metropolitan Area Transit Zone. The zone includes the District of Columbia; the cities of Alexandria, Fairfax, and Falls Church and Arlington and Fairfax Counties, Virginia; and Montgomery and Prince George's Counties, Maryland.

WMATA is governed by a board of directors, consisting of two directors and two alternates from each of the three jurisdictions. The Maryland members are appointed by the Washington Suburban Transit Commission; the Virginia members are appointed by the Northern Virginia Transportation Commission; and the members from the District are appointed by the Mayor and the City Council. WMATA's chief administrative officer, the General



WASHINGTON, D.C.'S METRORAIL SYSTEM IN OPERATION.
SOURCE: WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY.



LEGEND

The above dates are uncertain.

Operating Lines 39.12 miles 44 stations

Under Construction or Substantially Complete 33.52 miles 21 stations

Under Final Design 11.69 miles 9 stations

Remainder of System 16.85 miles 12 stations

1986 Projected start of operations for this segment based on approved schedule. Applies to all stations inbound from this point

Total mileage—101.18

Total stations—86

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

M metro **Washington Metropolitan Area Transit Authority**
600 Fifth Street, N.W., Washington, D.C. 20001

Source: Washington Metropolitan Area Transit Authority.

Manager, is appointed by the board of directors and is responsible for all activities, subject to policy direction and delegations from the board.

DESCRIPTION OF UMTA'S ROLE

The Urban Mass Transportation Administration (UMTA), Department of Transportation (DOT), administers a capital facilities grant program authorized by the Urban Mass Transportation Act of 1964 (49 U.S.C. 1601 et seq.). The program is funded in part under the Federal-Aid Highway Act of 1973 (Public Law No. 93-87) which permits State and local governments to substitute interstate highway funds for use on mass transit projects, such as Metrorail. Under this program, UMTA makes grants to States and localities to improve existing transit systems or to build new transit systems in urban areas.

Before 1975 UMTA did not participate in the Metrorail system because the Congress made Federal appropriations directly to WMATA. However, in 1975 the localities chose to use interstate highway funds for Metrorail, and UMTA began reviewing WMATA grant applications for Metrorail construction.

The National Transportation Amendments of 1979 (Public Law No. 96-184), commonly referred to as the Stark-Harris Act, authorized the Secretary of Transportation to make grants to WMATA for part of the system's construction cost and to monitor how the funds were used. The act also provided, for the first time, that

> "Such grants shall be subject to terms and conditions that the Secretary may deem appropriate for constructing the Adopted Regional System in a cost-effective manner."

OBJECTIVES, SCOPE, AND METHODOLOGY

This review was undertaken to examine the multibillion dollar Federal investment in the Washington Metropolitan Area Transit Zone rapid-rail system. Our objectives were to determine

--if WMATA is developing its rapid-rail system in the most economical and effective manner, considering future funding uncertainties;

--what problems the local jurisdictions have in supporting Metrorail operations and construction; and

--if UMTA's monitoring of the use of Federal funds for Metrorail construction has ensured the best use of Federal funds.

We made our review at UMTA headquarters in Washington, D.C., WMATA, and at the eight local governments involved.

At UMTA we interviewed the Deputy Administrator, the Executive Director, and officials in the Office of Transit Assistance and in the Office of Planning Assistance. In addition, we interviewed UMTA regional and headquarters officials who oversee funding for other transit systems. We reviewed UMTA's policies and procedures regarding rail transit and obtained information on the benefits of using UMTA's full-funding concept in other transit systems. We also reviewed UMTA correspondence and internal memorandums and examined material on Metrorail construction grants.

We reviewed executive branch policy statements regarding new rail construction, mass transit operating subsidies, and anticipated future WMATA funding.

At WMATA we reviewed documents dealing with general construction plans and interviewed officials responsible for Metrorail construction and planning. We also reviewed various legislation creating and funding WMATA and the Metrorail system. We reviewed DOT's Inspector General and WMATA's internal audit reports.

At the local jurisdictions we interviewed transit, fiscal, and management officials. We also interviewed Maryland Department of Transportation and Northern Virginia Transportation Commission officials. We obtained documentation from local jurisdictions on their legislation dealing with funding sources for WMATA and total jurisdictional expenditures from 1973 to 1981.

We performed this review in accordance with generally accepted government audit standards.

DOT's comments were not received within the time allowed and to evaluate and include the comments would have delayed issuance of the report without significantly improving its accuracy. We did receive comments from WMATA which are included as appendix I.

CHAPTER 2

FEDERAL SAVINGS COULD RESULT FROM

FULL-FUNDING CONTRACTS

Use of "full funding" contracts for the 26 unfunded miles of Metrorail could result in dollar savings to the Federal Government. For the two rapid-rail systems where such contracts have been used for over a year, savings of over $100 million each have been attributed to such contracts.

UMTA rail policy calls for the use of full-funding contracts for rapid-rail systems. These contracts set a ceiling on the level of Federal expenditure and give an anticipated schedule of annual Federal funding, subject to fund availability through the annual congressional appropriation process. Exceptions to the Federal ceiling are allowed for such occurrences as higher than anticipated inflation or Federal funding delays. Such contracts benefit UMTA by setting a ceiling on Federal costs and giving the transit authority an incentive to cut construction costs as well as providing an anticipated level of annual Federal funding that can be used for making capital cost estimates more realistic.

When UMTA's policy calling for full-funding contracts first came out in 1978, WMATA was in the middle of constructing several different rail segments and it was not feasible to retroactively apply the policy. However, for the 26 miles for which funding has not been received, we believe that full-funding contracts can be used.

UMTA RAIL POLICY

On February 28, 1978, UMTA issued a statement of policy for federally supported rail transit construction projects. The policy's objective was to ensure that Federal funds are spent prudently and with maximum effectiveness. The policy stipulated that construction grant contracts would be negotiated with a fixed ceiling on the Federal contribution, subject to adjustments for inflation. Localities would be required to complete the project as defined and absorb any additional costs incurred, except under certain specified circumstances, such as inflation, beyond the estimated rate or delays in anticipated Federal funding. A mutually agreeable schedule for anticipating Federal contributions during the project would also be established.

This policy has been implemented through the use of full-funding contracts. Such contracts have been used for three rail transit projects in Atlanta, Georgia; Dade County (Miami), Florida; and Portland, Oregon.

USING THE FULL-FUNDING APPROACH FOR METRORAIL

The Washington, D.C., rapid-rail system is planned as a 101-mile system. Construction for about 75 miles 1/ has already been fully or partially funded. However, construction has not yet been funded for 26 miles, and we believe that substantial savings could be made if the full-funding approach is used for the remaining 26 miles.

Since construction has not begun or been funded on the 26 miles, they could be treated as "new starts," as the Atlanta and Miami rail segments were, and the full-funding approach could be used. We discussed this possibility with UMTA's Deputy Administrator and WMATA's General Manager, and they agreed that full-funding could be used for the unfunded miles. However, both UMTA and WMATA officials noted that a full-funding contract could not be prepared until these sections are fairly far advanced in the design process because reliable cost estimates would not be available until then. UMTA does not anticipate funding construction past 75 miles until after 1985. At that time, UMTA would consider using the full-funding approach for the unfunded segments; however, UMTA made no commitment to use this approach.

Historically, UMTA has funded all overruns regardless of cause and/or size. As a result, the grantee has little incentive to control these overruns due to the matching ratio of 80 percent UMTA/20 percent local. Overruns only cost the grantee 10 to 20 cents on the dollar, depending on local share arrangements. Thus, UMTA overrun funding inadvertently reinforces poor management practices contributing to excessive costs.

The full-funding contract can be viewed as an approach or process designed to place maximum schedule, cost incentive, and responsibility on the grantee. Typically, at a point in design where all major variables are identified and costs can be realistically projected, a very thorough cost estimate is made which is acceptable to both UMTA and the grantee and a full-funding contract is executed which stipulates the scope of work, ceiling of Federal cost participation, and milestones for all major project components. While some margin is allowed for cost increases beyond the grantee's control, the basic assumption is that the project is accomplished expeditiously thus avoiding prolonged inflationary delays. All subsequent costs caused by avoidable delays are borne by the grantee.

Full-funding contracts are in place within UMTA's Region IV (Atlanta) for the Atlanta Phase A System and the Miami Stage I Rapid Transit System. In a September 25, 1981, letter to UMTA's Administrator, the Atlanta Regional Administrator stated that the full-funding contracts had helped achieve the following.

1/According to WMATA, construction was underway on operable segments totaling 77 miles of the system as of October 1982.

--Withdrawal of UMTA from day-to-day involvement to a new management oversight role.

--Decreased paperwork between the grantee and UMTA.

--Actual savings to UMTA in excess of $130 million in Atlanta.

--Probable cost savings to UMTA in excess of $100 million in Miami.

--Maximum grantee incentive on cost and schedule.

The Regional Administrator told us that the extra costs were absorbed by Atlanta, and in Miami it is anticipated that there will be a combination of cost cutting and absorption of extra costs by localities.

WMATA'S CAPITAL COST ESTIMATES HAVE BEEN UNREALISTIC

Using a full-funding approach with anticipated annual funding levels and a ceiling on the Federal Government's investment could also help improve WMATA's capital cost estimates. These estimates have traditionally been understated. WMATA believes that unexpected delays and cost escalations have accounted for a large part of the cost increase. In 1980 the Stark-Harris bill was signed, authorizing additional funds for Metrorail based on a $7.2 billion capital cost estimate. However, this estimate is several billion dollars less than the amount that will be needed to construct a 101-mile Metrorail system. Adopting UMTA's full-funding approach should enable WMATA to make more realistic estimates since the Federal Government's share would be fixed.

In past reports we commented on how unrealistic WMATA's capital cost estimates have been. The last official estimate of $8.2 billion was also unrealistic because it used annual Federal funding levels much greater than can reasonably be expected. For example, this estimate assumed that Federal funding for fiscal year 1982 would be $600 million (85 percent of the total estimate of $707 million for 1982). However, only $284 million in Federal funds was appropriated for Metrorail for fiscal year 1982. Since 1980 WMATA has not prepared a system estimate because of the uncertainty of future annual Federal funding levels.

Starting in fiscal year 1984, WMATA will be relying solely on Stark-Harris appropriations for the Federal Government's share of Metrorail construction costs. The following table shows the amounts projected in the President's fiscal year 1983 budget for WMATA under Stark-Harris funding for fiscal years 1984 to 1986 and compares these amounts with the three different funding scenarios presented in WMATA's March 10, 1981, testimony before the Subcommittee on Transportation, Senate Committee on Appropriations. The amount given for WMATA's estimate of Federal funding is 80 percent of the year's total.

Description	1984	1985	1986
	----(000,000 omitted)----		
President's fiscal year 1983 budget projections	$275	$275	$200
Scenario I--$8.2 billion WMATA estimate with 1989 completion date	511	511	453
Scenario II--$9.4 billion WMATA estimate with 1992 completion date	409	443	480
Scenario III--$11.8 billion WMATA estimate with 2002 completion date	275	275	275

As the chart shows, the $11.8 billion estimate with a 2002 completion date estimate seems much more realistic than the $8.2 billion estimate with a 1989 completion date.

In commenting on the draft report, WMATA noted that the $11.8 billion estimate was a quick analysis of the impact of continuing a $275 million annual Federal appropriation on WMATA's 1980 system cost estimate. The estimate was not based on any scheduling of work or evaluation of what projects might fit into the lower annual funding level. Thus, WMATA does not consider it a valid estimate of realistic system costs. However, Federal funding has been much lower than that used in the $8.2 billion estimate. Even though the $11.8 billion estimate was not based on a detailed scheduling of projects, we believe that it provides an estimate of the level of increase to be expected from lower annual funding levels and based on projected Federal budget figures, a more realistic picture.

CONCLUSIONS

Prudent use of Federal funds requires use of full-funding contracts for rail systems where possible. Millions of Federal dollars have been saved using existing full-funding contracts in Atlanta and Miami. While it is not feasible to use full funding on Metrorail miles already partially funded and constructed, substantial Federal savings could be made if the full-funding approach is used for the 26 miles of Metrorail that have not yet been funded. In addition, setting a ceiling on the Federal Government's investment in Metrorail and providing anticipated levels of annual Federal funding should help to make Metrorail capital cost estimates more realistic.

RECOMMENDATIONS

We recommend that the Secretary of Transportation direct the UMTA Administrator to

--negotiate full-funding contracts with WMATA for unfunded Metrorail segments which UMTA is willing to fund and

--provide WMATA with anticipated levels of annual Federal funding and require that WMATA develop more realistic capital cost estimates using this data.

AGENCY COMMENTS AND OUR EVALUATION

WMATA endorses the full-funding concept for the remainder of Metrorail subject to a thorough evaluation of its implications. WMATA stated that a full-funding concept will enhance planning and enable it to improve its estimates as long as certain conditions are adhered to. (See app. I.) Two of the conditions--adjustment if inflation factor assumed in the Federal forecast is exceeded and adjustments for delays in Federal funding--are provisions in the existing full-funding contracts. A third condition is that firm annual funding levels must be provided by the Federal Government to cover the full construction program. Although estimated funding levels are needed for realistic capital cost estimates, firm levels cannot be given due to the uncertainties of the annual appropriations process. A fourth condition is that total Federal funding should be based on contract documents developed during the preliminary design stage with an agreed upon contingency rate for adjustments such as contract modifications and claims. The agreed upon Federal participation level should be based on realistic estimates and should not need to be adjusted for individual contract modifications and claims. Full-funding contracts with other transit authorities include a provision allowing additional costs due to acts of God and exceptional costs due to compensation in eminent domain cases.

WMATA notes in its comments that a realistic estimate of costs can only be developed if future annual Federal funding levels are established. WMATA also noted that it no longer prepares an estimate of total system cost in inflated dollars because of the uncertainty of annual Federal funding levels.

CHAPTER 3

BETTER USE OF SCARCE FUNDS CAN BE ACHIEVED

THROUGH A REVISED METRORAIL CONSTRUCTION PLAN

WMATA has planned Metrorail construction based on a 101-mile system with several lines and segments built simultaneously. Since 1975 WMATA has worked on four to six segments a year. However, WMATA has been receiving less construction funds than requested in recent years and has not made the most cost-effective use of such limited funding due to its construction plan. Rather than establishing construction priorities based on ridership projections and performing actual construction in increments, which UMTA requires other transit authorities to do, UMTA has allowed construction as long as it was contiguous to segments already under construction. However, WMATA's policy of funding construction in jurisdictions that are ready to proceed greatly fragments the use of limited Federal funds and delays construction of highest priority segments.

The Secretary of Transportation has stated that he plans to limit Metrorail construction to 75 miles until the economy improves. We believe that this lull in construction provides an opportunity to revise the Metrorail construction plan for the remaining 26 miles now that lower Federal funding is being received.

A June 1982 report by the Greater Washington Research Center 1/ recommends modifying existing agreements for allocating the capital costs of Metrorail construction to show that the phasing of the uncompleted segments of the proposed 101-mile system has become quite uncertain. The report proposes substituting a "funded system" for the 101-mile system in the allocation formula and treating unfunded portions as incremental add-ons which can be included as and when funds become available.

UMTA RAIL CONSTRUCTION POLICY

On September 9, 1976, the Secretary of Transportation issued a Statement of Policy covering major urban mass transportation investment decisions in an effort to ensure that Federal mass transportation funds are used prudently and with maximum effectiveness. The policy calls for, among other

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1/An independent, nonprofit, nonpartisan organization providing research and analysis on issues affecting the Greater Washington, D.C., metropolitan area.

things, incremental development and preference to rail segments serving densely populated areas.

On February 28, 1978, the Secretary and the UMTA Administrator issued a supplementary policy on rail transit. The policy included two principles of rail system construction:

--DOT will require a rail system to be approved and built in stages--one segment at a time. Federal financial support will be limited to these staged projects. The incremental approach is aimed at ensuring that (1) the burden of financing the system is spread out over time, (2) high-volume corridors receive priority attention, (3) the public can begin using the system as soon as possible, and (4) projects have maximum flexibility to respond to advances in technology, changes in growth patterns, and other unforeseen circumstances. This policy is designed to encourage construction of the most cost-effective segments first and to discourage localities from relying on a continued flow of Federal funds to complete marginally justified segments of a system.

--DOT will give preference to rail segments serving densely populated areas. This policy is designed to target Federal transit funds to areas with the greatest potential payoff in ridership, congestion relief, help to people who are dependent on public transit, and aid to real estate development and revitalization.

UMTA's incremental construction policy has been used in several cities. For example, Atlanta is planning a 53-mile rapid transit system, but it has been funded incrementally with 14 miles now in service and construction on another 2 miles in progress. When UMTA awarded Atlanta a $800 million grant for the first 14 miles of its system, it was with the stipulation that funds must be used to construct a segment which could operate as a full system if the remaining portions were not built. Similarly, Baltimore planned a 28-mile system and UMTA requested that it begin with an 8.5-mile increment with other increments deferred.

METRORAIL CONSTRUCTION

WMATA has planned Metrorail construction based on a 101-mile system. Several lines and segments have been built simultaneously, resulting in piecemeal construction. WMATA has consistently constructed several segments simultaneously even after UMTA became involved in 1975. A review of UMTA grant approvals shows construction on as many as six segments was funded in one year. From October 1975 to September 1980, UMTA funded construction on at least four operable segments each year. WMATA, in its early years, had received all of the funding that it had requested. The situation has now changed and only limited funds are available for Metrorail construction. If piecemeal construction is allowed to continue, the most cost-effective use of limited funds will not be made, resulting in several partially built segments not being completed until funds become available.

When UMTA became involved in Metrorail in the mid-1970's, construction was in progress and WMATA was receiving all of the Federal funds it requested. However, since 1978 WMATA has been receiving substantially less than it has requested for Metrorail construction. Projections through 1985 contained in the President's fiscal year 1983 budget show this trend continuing. In addition, the Secretary of Transportation intends to limit Federal funding for Metrorail construction to 75 miles until the economy improves. This 75-mile limit provides the opportunity to revise the Metrorail construction plan now that lower Federal funding is being received.

WMATA's Board of Directors prefers to have some construction going on in each jurisdiction and, as a result, it has constructed parts of several segments simultaneously. For example, as of June 30, 1978, a total of 21 percent of the revenue-producing Metrorail miles and 25 stations were listed as under construction. These miles were on a variety of segments in each of the six localities which have or will have rail service. However, compared to the total capital cost of the completed system, Metrorail's annual capital funding generally is not large. Therefore, WMATA's policy of spreading construction among several jurisdictions and segments means that relatively little money is available annually for individual segments.

One factor complicating a change to incremental construction is the fact that local jurisdictions have been making contributions for construction based on their share of a 101-mile system. When the capital-sharing formula was devised, it was anticipated that the rail system would be completed in 10 years, now one estimate predicts it will take over 30 years. In October 1981 the local jurisdictions signed a new agreement covering Metrorail construction for the next 4 years. It spread funding among all the unconstructed lines with a provision that if less than anticipated Federal funding were received, prorata reductions would be made for lines in each of the local jurisdictions. Thus, this provision extends WMATA's practice of working on multiple segments at once rather than concentrating funds on a few increments.

A June 1982 study by the Greater Washington Research Center entitled "Washington's Metro: Issues and Options" concludes that the current agreements for allocating the capital costs of Metrorail construction should be modified to show that the phasing of the uncompleted segments of the proposed 101-mile system has become quite uncertain. The major element requiring modification is the use of the full 101-mile system as the base for allocating costs among participating jurisdictions. If certain segments of the 101-mile system are delayed for extensive periods because of funding cutbacks, the jurisdictions with the uncompleted segments are likely to have paid more than their fair share for the completed portions.

To solve this problem, the study proposes substituting a funded system for the 101-mile system in the allocation formula and treating unfunded portions as incremental add-ons which can be included as and when funds become available. At any point in time, the funded system would be that portion for which capital funding was in hand. The study concludes that the change in the base would require some adjustments in participating jurisdictions' contributions, but because of possible delays in Federal funding, such changes seem essential to preserve the equity of the regional agreements to build the Metrorail system.

During meetings held in the fall of 1981, local jurisdiction officials told us that construction in their jurisdictions was needed to show taxpayers that the money contributed for Metrorail construction was benefiting them. The State of Maryland is trying to reduce its current expenditures for Metrorail construction because construction in Maryland is not progressing as fast as elsewhere. The Arlington County Board Chairman said that Arlington is willing to speed up its payments since most of its construction is completed.

WMATA and the local jurisdictions want to continue spreading construction funding among the local jurisdictions with work proceeding on several segments at the same time. Progress seldom comes easily in metropolitan areas when programs affect many autonomous local governments. However, the most cost-effective use of limited Federal funds necessitates building only a few Metrorail segments at a time. Without such construction, several partially constructed lines will exist with completion of segments delayed by fragmented use of available Federal funds.

NEED TO CONSIDER UMTA CONSTRUCTION PREFERENCES WHEN CONSTRUCTING INCREMENTS

The lull in Federal funding for new Metrorail construction created by the 75-mile limit also gives UMTA an opportunity to implement its policy of first building segments serving densely populated areas. Some of the unbuilt Metrorail segments have widely varying worth based on a 1978 DOT ranking of Metrorail segments by cost effectiveness. Some third-rated routes, such as the Vienna and later Springfield, Virginia, lines are scheduled to be completed before some first- and second-rated routes, such as Gallery Place to Fort Totten and the line to Prince George's Plaza in Maryland. Although alignment difficulties have contributed to this problem, limited Federal funds and WMATA's own policies have also contributed.

Multisegment construction can also delay the construction of highest priority segments. In October 1981 the local jurisdictions approved $80.9 million in fiscal year 1982 for structural work on the inner Green Route. However, Federal funding for fiscal year 1982 was less than anticipated, and the total program amount had to be reduced. This was done by a prorata reduction for each of the various jurisdictions. For example, the District of Columbia's share of the inner Green Route (ranked first) was cut $18 million to $62.9 million. Yet at the same time, the fiscal year 1982 grant application also includes $28.6 million for the K Route to Vienna, Virginia, ranked third, and $19.4 million for the outer E Route advance parking in Prince George's County also ranked third. Thus, routes which are in the most densely populated areas are not being advanced in an expeditious manner.

CONCLUSIONS

To make the most cost-effective use of limited Federal funding for Metrorail construction, a change in the Metrorail construction plan is needed. WMATA is building too many Metrorail segments at one time. Construction has been based on a 101-mile system, with several lines and segments being built simultaneously. Although in its early years WMATA received all of the Federal funding that it requested, now only limited funds are available for Metrorail construction. Although it is hard to reach agreements with so many local governments involved, we believe that a revision is necessary to preclude several partially built segments existing with completion of segments delayed by fragmental use of available Federal funding.

The lull in construction provides an opportunity to apply a modified version of the incremental policy to the remaining 26 miles of Metrorail. This would also coincide well with the full-funding approach discussed in chapter 2 because full-funding contracts could be issued for increments after the first 75 miles.

When considering implementation of a modified version of incremental construction, UMTA's policy of constructing the highest priority segments first should also be considered.

RECOMMENDATION

We recommend that the Secretary of Transportation direct the UMTA Administrator to work with WMATA's General Manager to reduce the number of operable Metrorail segments under construction, consistent with UMTA's policy objective of more rapid completion of highest priority segments in times of limited Federal funding.

AGENCY COMMENTS AND OUR EVALUATION

WMATA opposes the application of UMTA's incremental construction policy to the completion of the 101-mile Metrorail system. WMATA claims that the UMTA policy to approve and build rail systems in stages--one segment at a time--does not apply to Metrorail since construction was well underway when the policy was developed and could not possibly meet the conditions of such a policy. We never intended that the policy be applied to the approximately 75 miles of Metrorail that are complete or partially complete. However, we believe that the Secretary of Transportation's intention to limit Metrorail construction to 75 miles until the economy improves provides the opportunity to consider the 75 miles as the first Metrorail increment with a modified version of UMTA's incremental construction policy applying to further construction.

WMATA in its comments on our draft report noted that it tries to provide jurisdictional equity in its construction program. However, this approach does not necessarily mean the most cost-effective construction. Spreading construction among jurisdictions does not meet the goals of incremental construction, such as maximum flexibility and having the public begin using the system as soon as possible.

WMATA also states that funding several operable segments concurrently allows optimum use of lower Federal funding levels. While we do not disagree with working on more than one operable segment at a time, we believe that UMTA's past practice of allowing construction on up to six operable segments in one year does not allow optimum use of lower Federal funding. Although WMATA states in its comments that only two routes have construction underway where an operable segment is not practically complete, it does not mention that at the same time it is finishing three routes and wants to start construction on four more routes in 1983. WMATA wants to fund construction for five operable segments a year for 1983 to 1985 according to its proposed construction plan. We believe that funding construction on this many segments at one time detracts from the completion of the highest priority segments in the current climate of limited Federal funding for rapid-rail construction.

Federal funding for Metrorail was projected at about $375 million for 1983 while for the last 2 years WMATA has received less than $300 million each year for Metrorail construction. WMATA's Third Interim Capital Contributions Agreement states that if less than anticipated Federal funds are received, the reduction will be made on a prorata basis among the local jurisdictions. This prorata provision is very much governed by local preference but is very contrary to the idea of incremental construction. With the prorata spreading of reductions, construction will be slowed on all or almost all segments. For example, when less than anticipated Federal funds were received in fiscal year 1982, funding reductions were made for all five segments scheduled for funding. This practice creates the potential for a number of partially constructed operable segments rather than a smaller number of completed operable segments that could be operating. Also, as discussed on page 14, the reductions resulted in routes which are the highest priority not being advanced in an expeditious manner. In the current tight funding situation with large Federal deficits and continued pressure to reduce such deficits, contingency and revised plans based on less than desired Federal funding need to be made.

The incremental construction policy was established due to limited availability of Federal funds and the desire to make the most cost-effective possible use of these funds. While we support the merits of UMTA's incremental construction policy, we recognize that it would be difficult to strictly apply this policy to Metrorail as construction had been started many years before this policy and due to Metrorail's uniqueness. For example, Metrorail has been planned as a 101-mile system, has had relatively large annual Federal funding compared to other rapid-rail systems, and has more local governments involved than other rapid-rail systems. Also, construction has already begun or been completed on most of the planned lines. Because of these circumstances and the number of operable segments involved, it may make sense to work on more than one operable segment at a time to make the best use of available Federal funds. However, a modified version of incremental construction needs to be applied to Metrorail to reduce the number of operable segments being worked on at one time so the public can begin using the system as soon as possible and so the highest priority segments will be completed expeditiously.

In our draft report we recommended "that the Secretary of Transportation direct the UMTA Administrator to require that Metrorail construction beyond 75 miles be done incrementally as called for by UMTA policy." We acknowledge the difficulties in scheduling construction cited by WMATA. However, we still believe it is important that DOT exercise its authority over Federal funds for Metrorail to ensure that funds are not spread out on so many segments that completion of the highest priority segments is delayed. Therefore, we have modified our recommendation to

> "* * * work with WMATA's General Manager to reduce the number of Metrorail segments under construction, consistent with UMTA's policy objective of more rapid completion of highest priority segments in times of limited Federal funding availability."

CHAPTER 4

GUIDANCE IS NEEDED FOR PERIODIC REEVALUATIONS OF STABLE AND RELIABLE FUNDING SOURCES

The 1980 Stark-Harris Act authorized construction funds for Metrorail but required local governments to establish a "stable and reliable" source of revenue for WMATA operating and debt service costs. Funding authorized by the Stark-Harris Act was contingent on having such sources in place by August 15, 1982. On August 13, 1982, the Secretary of Transportation notified the Congress that such sources of revenue had been established.

Although periodic reevaluation of stable and reliable funding sources is not specifically called for in the law, we believe that it is needed due to changes in existing funding sources, rising WMATA operating deficits which are burdensome to local jurisdictions, and overly optimistic 1990 operating cost estimates.

STABLE AND RELIABLE REQUIREMENT FOR FUTURE METRORAIL FUNDING

In January 1980 the President signed the Stark-Harris Act, which authorized an additional \$1.7 billion for Metrorail construction but required local governments to establish a stable and reliable source of revenue before they could receive their share. The purpose of this requirement is to ensure that a rail system is not built if local governments cannot afford to operate it.

Section 16(a) of the Stark-Harris Act states that the Secretary may not make any Metrorail grants from these funds until he or she has determined that the local participating governments or signatories to the compact have stable and reliable sources of revenue. These sources must be sufficient to pay both (1) the local share of the principal and the interest on bonds issued by WMATA and (2) those operation and maintenance costs not covered by WMATA's revenues or DOT's contributions for operating expenses.

PERIODIC REEVALUATIONS ARE NEEDED

DOT has not established a formal requirement for periodic reevaluation of stable and reliable funding sources. UMTA's Deputy Administrator told us on April 6, 1982, that DOT plans to reevaluate the stable and reliable revenue sources. However, DOT has no written policy to assure that future reevaluations will take place. Such reevaluations are needed because

(1) WMATA's operating deficits have been rising faster than the rate of inflation and are expected to continue to rise (thus, even stable and reliable revenue sources which dedicate specific tax receipts to WMATA may become inadequate in the future), (2) WMATA's costs are burdensome to local jurisdications, and (3) WMATA's 1990 operating deficit estimates have been optimistic. In addition, local laws establishing stable and reliable revenue sources may be repealed or changed. For example, in March 1982 Virginia repealed an additional 2 percent regional gas sales tax for WMATA that was scheduled to go into effect in July 1982.

Rising WMATA operating deficits

Between fiscal years 1976 and 1981, WMATA operating and debt service subsidies increased from $48.9 million to $142.4 million, an increase of 192 percent. At the same time--a period of very high inflation--the Consumer Price Index rose 59.8 percent. Hence, WMATA subsidy increases have far outstripped even the fast-rising Consumer Price Index.

WMATA's operating costs rose from $120 million in fiscal year 1976 to $276 million in fiscal year 1981. This rise has been primarily caused by

--a contract that grants almost full cost-of-living increases to union employees and

--expansion of the rail system.

In addition, the three major nonpersonnel WMATA cost items--diesel fuel, electrical power, and parts--have all been rising faster than the inflation rate.

While WMATA costs have been increasing faster than inflation, WMATA fare increases have not kept pace with inflation. From fiscal year 1976 to 1981, average fares increased only 47 percent while the cost of operation per passenger increased 62 percent and the Consumer Price Index rose 60 percent.

WMATA plans to have fares keep pace with inflation. However, ridership is sensitive to fare increases and fares cannot be raised to fully cover WMATA's rising costs without causing a great loss in ridership.

In fiscal year 1981, WMATA experienced its first drop in ridership since taking over area bus companies in 1973. The slight drop (2.3 percent) followed a substantial gain (8.1 percent) between 1979 and 1980. WMATA attributes this decline principally to two major fare increases during a period of relatively stable gasoline prices and to significant reductions in bus service to save costs. Other cited reasons included frequent service changes, maintenance difficulties, and limited marketing.

WMATA operating deficits are a burden to local jurisdictions

When WMATA started building Metrorail in 1969, it expected the rail system to be self-sustaining and to pay both the principal and interest on WMATA-issued rail construction bonds. However, since 1973 local jurisdictions have had to subsidize WMATA operations, and Metrorail has operated at a loss. WMATA predicts increasing operating deficits as the rail system expands and acknowledges that it will not be able to pay the principal and interest on the bonds. Moreover, local subsidies for WMATA have increased so much that local officials believe that WMATA payments may affect other local services.

The Director of the District of Columbia's Department of Transportation said that WMATA's operating account is the single fastest growing account in the District's budget. Likewise, the Chairman of the Fairfax County Board of Supervisors said that WMATA is the single most increased cost in the county's budget. This increase in costs comes at a time when State and local governments are being asked to pick up an increasing share of the costs of other public programs with already scarce resources. According to the Arlington County Board Chairman, the only solution to rising subsidy payments is to cut local services or to raise taxes, neither of which is desirable.

DOT's proposed elimination of Federal section 5 funds by 1985 further increases local jurisdictions' financial burdens. In both 1980 and 1981, Federal section 5 mass transit operating assistance paid for about $26 million of WMATA's operating subsidy annually, 22 and 18 percent, respectively. When these funds are eliminated, the responsibility of raising additional funds will fall on the local jurisdictions.

Unrealistic 1990 operating deficit estimate

WMATA's 1990 operating deficit estimates have been consistently unrealistic, and the latest official estimate is outdated. Although UMTA criticized WMATA's latest official 1990 operating deficit estimate as being overly optimistic, it has never required WMATA to revise it. We believe that realistic future operating deficit estimates are needed to help ensure that a system is not being built that local jurisdictions cannot afford.

WMATA originally estimated that Metrorail farebox revenues would be sufficient not only to cover all operating costs but to retire $997 million in construction bonds as well. However, the latest official estimate made in 1978, puts the combined rail and bus deficit for 1990 at $329 million. WMATA attributed the optimistic 1990 operating deficit estimates to optimistic assumptions on inflation and public policy on fares.

GUIDANCE IS NEEDED FOR DETERMINING STABLE AND RELIABLE FUNDING

Although local jurisdictions took actions to meet the stable and reliable funding requirements, DOT did not provide sufficient guidance to judge the adequacy of their actions and determine what if any additional action was needed. Virginia took action in early 1980. However, for over a year and a half there was not sufficient guidance from DOT to judge the adequacy of its actions and determine what if any additional action was needed. Due to lack of timely formal DOT guidance, actions had to be taken in late May 1982 to early August 1982 with local jurisdictions in Virginia passing resolutions pledging their intent to support WMATA costs in order to meet the August 15, 1982, deadline. To periodically reevaluate the local funding sources, DOT should issue some guidance.

The Stark-Harris Act, which establishes the requirement that funding be from stable and reliable sources, does not define those terms, and DOT's guidelines issued in December 1979 were not specific. The guidelines simply stated that a stable and reliable source is one for which

"(1) The mechanism to generate funds which would be sufficient to meet the local share of the Metro operating costs, including debt service, has been enacted into law.

(2) The authority to spend those funds on Metro costs has been enacted into law.

(3) The executive and legislative entities have publicly committed themselves through official declarations to routinely making sufficient funds available through the budget process of the state and local jurisidictions or the funds generated are dedicated by law to meet the local share of the Metro costs."

We asked UMTA officials why no specific guidance on what was needed to meet the requirement was issued. UMTA's Deputy Administrator told us that, although no specific written guidance had been provided, the local jurisdictions had been told orally what DOT wanted, including 70 to 75 percent of the stable and reliable funding sources to be from sources earmarked for WMATA. In our fall 1981 meetings with local jurisdiction representatives, they told us that as far as they knew, their actions on stable and reliable funding sources met DOT criteria. However, in a December 22, 1981, letter to Senator John Warner of Virginia, the Secretary of Transportation stated that a high dependence on general revenues, such as 76 percent of the WMATA costs in Virginia, was not acceptable for fulfilling the stable and reliable funding requirement. An UMTA summary of a February 10, 1982, meeting with Virginia representatives notes that DOT was asked to provide a minimum percentage but did not. Also, in response to questioning at March 11, 1982, hearings before the Subcommittee on Transportation, House Committee on Appropriations, WMATA's General Manager said that DOT had never provided a minimum percentage for revenue sources earmarked for WMATA. Thus, although UMTA's Deputy Administrator believed that DOT's guidance was clearly known by the local jurisdictions, it was not.

CONCLUSIONS

Lack of timely DOT guidance contributed to the necessity for additional actions by local jurisdictions from late May to early August 1982 to meet the August 15, 1982, stable and reliable funding source requirement. The lack of earlier specific guidance and subsequent need for additional action created great strain on the local jurisdictions in 1982 in order to ensure that funding sources were in place on August 15, 1982, so Metrorail funding would continue. Although the August 15, 1982, deadline is past, specific written guidance is still needed because periodic reevaluations are desirable. Such periodic reevaluations are necessary due to (1) the possibility of changes in laws or funding sources, (2) rising WMATA deficits which are burdensome to local jurisdictions, and (3) optimistic WMATA 1990 operating deficit estimates.

RECOMMENDATIONS

We recommend that the Secretary of Transportation issue

--guidance requiring periodic reevaluation of jurisdictions' stable and reliable revenue sources and

--criteria defining what constitutes a stable and reliable funding source for WMATA, including the minimum percentage of the total to be supplied by sources earmarked for WMATA.

AGENCY COMMENT

WMATA does not oppose a periodic review of stable and reliable revenue sources, but it does not believe the review should be made on a regular basis.

metro

Washington Metropolitan Area Transit Authority

600 Fifth Street, N.W., Washington, D.C. 20001
(202) 637-1234

October 28, 1982

Mr. Henry Eschwege
Director, Community and Economic
Development Division
United States General Accounting Office
Washington, D.C. 20548

Dear Mr. Eschwege:

The Authority has completed its review of the partial draft report "Applying DOT's Rail Policy to the Washington, D.C. Rapid Rail System Could Save Federal Funds." We are presenting in the enclosed comments our position on the three major recommendations in the report:

1. UMTA should apply a full-funding policy to the unfunded 26 miles of the rail system;
2. UMTA should apply an incremental construction approach and policy for the remaining 26 miles of the rail system; and
3. UMTA should periodically reevaluate the stable and reliable resources for operating and debt service assistance.

I appreciate the opportunity to comment on the report.

Sincerely,

Richard S. Page

Richard S. Page
General Manager

Enclosure

A PUBLIC TRANSPORTATION PARTNERSHIP OF THE DISTRICT OF COLUMBIA, MARYLAND AND VIRGINIA

WMATA Comments on GAO Report
"Applying DOT's Rail Policy to the Washington,
D.C. Rapid Rail System Could Save Federal Funds"

The draft GAO Report "Applying DOT's Rail Policy to the Washington, D.C. Rapid Rail System Could Save Federal Funds" has been reviewed. The following comments relate to the three major recommendations by GAO:

1. UMTA should apply a full-funding policy to the unfunded 26 miles of the rail system;

2. UMTA should apply an incremental construction policy for the remaining 26 miles of the rail system; and

3. UMTA should periodically reevaluate the stable and reliable resources for operating and debt service assistance.

<u>Application of the Full-Funding Concept to WMATA Construction of the Rail System</u>

The Authority endorses the concept of full-funding for the balance of the rail system, subject to a thorough evaluation of its implications. A realistic estimate of costs can only be developed if future annual federal funding levels are established and maintained. To date, no commitment of annual federal funding has been provided. A full-funding concept will enhance planning and enable the Authority to improve its estimates if the following conditions are adhered to:

1. Firm annual funding levels must be provided by the Federal Government in timely fashion to cover the full construction program;

2. If the inflation factor assumed in the federal forecast is exceeded, a commensurate adjustment will be made in the total federal funding available for the program;

3. Total federal funding should be based on contract documents developed during the preliminary design stage with an agreed upon contingency rate for adjustments such as contract modifications and claims;

4. To the extent that delays in federal funding or higher than anticipated inflation postpone completion of the system, federal funding should be provided for the additional years of project management and consultants' costs.

There needs to be clarification of the $11.8 billion system cost estimate referred to in this section of the report. The Authority no longer prepares an estimate of total system cost in inflated dollars because of the uncertainty of annual federal funding levels. The GAO audit team was so informed. The last official estimate of $8.2 billion was prepared in 1980 assuming completion of the 101-mile system in 1989. This assumed the availability of annual funding in excess of that provided by the Federal Government. The basis of the estimate in the GAO report of $11.8 billion with funding for the system completed in the year 2002 was a quick analysis of the impact of continuing a $275 million annual federal appropriation on the Authority's 1980 system cost estimate. This exercise was not based on any scheduling of work or evaluation of what projects might fit into the low annual ceiling. Thus, the Authority does not consider it a valid estimate of realistic system costs.

Application of the Incremental Construction Policy

The Authority opposes application of this policy to the completion of the 101-mile system. The Authority's construction sequencing is based on operable segments and the scheduling of construction contracts is geared to complete a given operable segment. This insures the most effective use of public funds. The DOT policy to approve and build rail systems in stages--one segment at a time--is not applicable to Metro since Metro construction was well underway when the policy was developed and could not possibly meet the conditions of such a policy. The methodology used provides jurisdictional equity by having several operable segments under construction simultaneously.

Funding several operable segments concurrently allows optimum use of the lower Federal funding levels. This permits funding of a large underground contract in the same time frame with stage and finish work and a lower price surface contract. Projects are undertaken where the design status allows construction to proceed in order to offset the inflationary spiral. This is the most cost-effective use of the limited funding. Because annual federal appropriations have not tracked inflation in several years, the scope of work placed each year has in fact been reduced. Thus, the Authority is not placing work as quickly as it could.

The Authority tries to provide jurisdictional equity in its construction program. This has held the coalition of local governments together in constructing the system. It has resulted in 39 miles of the system being in operation and another 22 miles substantially complete. To the extent funding allows, this process facilitates progress being made on each operable segment and within each jurisdiction. The WMATA Metrorail system is a regional system, and construction should be reviewed on a regional not a local basis.

The statement that "numerous partially constructed lines will exist with completion of segments delayed by fragmented use of available Federal funding" is incorrect. Only the "B" and "K" routes have construction underway where an operable segment is not practically complete. Even here funding sufficient to bring the remainder of the "K" route beyond its current interim terminus into revenue operation has been provided under the approved ICCA-III.

The Secretary of Transportation has indicated that the Federal funding commitment will continue for rail construction for approximately 75 miles of the system and that when economic conditions warrant, further commitments for construction of the additional 26 miles will be made. In the meantime, this

APPENDIX I

does not preclude funding design and rights-of-way acquisition for operable segments beyond 75 miles of the system. This will permit construction to proceed in the future on an orderly and cost-effective basis on each operable segment and completion of the system at the earliest possible date.

Periodic Evaluation of Stable and Reliable Revenue Sources

The Authority is not opposed to a periodic review of stable and reliable revenue sources. However, we do not see a need for this review on a regular basis. It is the intent of the Authority to notify the Secretary of Transportation whenever new legislation affecting stable and reliable revenues is enacted or existing legislation is changed or repealed. It should be noted that none of the legislation passed as part of the plan will expire.

The local and state governments have consistently maintained their commitment to the construction and operation of the Metrorail and Metrobus system. For example, in March, 1982, the Virginia General Assembly appropriated an additional $20 million for WMATA administrative and debt service costs. At the same time, the additional two percent gasoline sales tax schedule to take effect in July 1982, was repealed. These actions increased the amount available for FY1983 administrative and debt service assistance by $5.2 million. The General Assembly also approved a resolution sought by the Department of Transportation supporting the completion of the 101-mile Metrorail system and pledging their efforts to assure that all funding requirements necessary to that end are met.

The paragraph relating to the growth of WMATA operating assistance requirements must also be clarified. In 1969 Transit in the United States was private and profit making. In our 1969 studies it was, therefore, not naive to assume that fares could keep up with costs, and with the impact of a labor efficient rail system, revenues could continue to exceed costs. At that time, no one foresaw even the possibility of the lofty ranges of nationwide inflation which the U.S. has experienced in the 1970's. At the same time the advent of public ownership led to citizen pressure to stabilize and even reduce fares. The continuation of these two trends led to a sharp increase in operating assistance during the last decade. The wide swings in project inflation rates and the uncertainty of the political process vis-a-vis fares led to unreliable operating assistance forecasts. Indeed this situation still exists today.

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