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PREFACE

This report on urban transportation planning in the Washington, D.C. metropolitan area is one of nine case studies undertaken by the Office of Technology Assessment to provide an information base for an overall assessment of community planning for mass transit.

The findings of the overall study are reported in the summary document, *An Assessment of Community* Planning for Mass Transit, which forms the first volume of this series. The assessment was performed at the request of the Committee on Appropriations of the U.S. Senate, on behalf of its Transportation Subcommittee.

The study was directed by the Office of Technology Assessment's Transportation Program Staff with guidance and review provided by the OTA Urban Mass Transit Advisory Panel. The firms of Skidmore, Owings and Merrill and System Design Concepts, Inc., were contractors for the study. This assessment is a joint effort, identifying different possible points of view but not necessarily reflecting the opinion of any individual.

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Summary and Highlights



- Planning for the Metro regional transit system began 20 years ago. The main impetus for the first study was public concern about future congestion and growth.
- During the critical period in the early sixties, rapid rail was promoted as a way to mitigate congestion while keeping freeways out of Washington's parks and neighborhoods. Both highway and transit forces viewed Washington as a test case; confrontations between these two groups delayed Metro throughout its planning and construction.
- The technical work throughout the transit planning process in Washington was progressive and, in general, fair. Yet, the political overtones in the early 1960's debate cast doubt on the planners' objectivity.
- Thanks to a remarkable achievement in regional cooperation, the 98-mile Metro system is under construction. The District has petitioned to exchange most of the once controversial freeways for funds to continue Metro construction.
- Though public pressure has brought some changes in the adopted regional system, the Washington Metropolitan Area Transit Authority (WMATA) has had, in general, a defensive approach to public involvement. As Metro construction has progressed into residential areas and people have discovered that subways can disrupt neighborhoods in many of the same ways as highways, public criticism of Metro has increased.
- Coordination of Metro with other regional land use and transportation planning has been weak. Metro alignments were selected to conform to regional comprehensive planning, but station area development planning began late and continues with neither WMATA nor the Washington Metropolitan

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Council of Governments (COG) providing coordination. COG's Transportation Planning Board, responsible for coordinating regional multimodal planning, does not assert its function effectively.

- Congress was the forum for early Metro decisions, including the important 1965 decision to build the 25-mile basic system. The promise of Federal financial support underlay and influenced Metro decision-making from the beginning.

- WMATA'S repeated underestimates of Metro's construction cost, in combination with rising deficits in Metrobus operations, have created a situation in which local governments and the Federal Government alike are wary of making the new financial commitments needed to complete the system. The current Metro cost estimate is $4.5 billion, a $2 billion rise over the original projection of $2.5 billion.

- WMATA is in an unusually difficult position with regard to funding because it persists in assuming that, in the long run, operating revenues will pay not only for operating costs but for a portion of the debt charges. Although this was a common assumption when it first appeared in Metro planning, it has been called into question by the ever-rising operating deficits of Metro's buses. This new economic situation has raised the possibility that local governments could be liable for the responsibility of paying Metro's debts, a situation which makes it politically difficult to elicit further funds for Metro. The fragility of a locally based funding structure for transit is as yet an unresolved issue.

Metropolitan Setting [1]

GENERAL CHARACTERISTICS

Washington, D. C., is unique in being a city of national and international significance as well as a regional center. Its metropolitan area is 2,400 square miles and includes two States and the District of Columbia. The Federal Government owns a sizeable proportion of the land.

Washington, D. C., is the focus of one of the Nation's fastest growing metropolitan areas. Washington ranked twelfth in population among Standard Metropolitan Statistical Areas (SMSA's) in 1940 and had moved up to seventh rank by 1970, expanding as the role of the Federal Government expanded, but this trend slowed during the 1960's, The suburbs in the meantime have continued to grow, gaining over 60 percent population between 1960 and 1970 (see Figure 2). The fastest growing sections of the SMSA during the 1960's were Prince William, Prince Georges, and Fairfax counties. The SMSA population density in 1970 was 1,216 persons per square mile, and the District of Columbia density was 12,231.

Washington has an exceptionally high proportion of jobs in the center city. In the "Journey to Work" survey from the 1970 Census, only two of the top eight cities have a higher proportion of total SMSA jobs in the central city—Philadelphia and Chicago. However, although total work trips rose by 44 percent between 1960 and 1970, by far the greatest portion of the increase occurred in trips beginning and ending in the suburban ring. The relative proportion of trips carried in private automobiles rose during the decade, while the proportion of transit trips fell (see Figure 3).

EXISTING PASSENGER TRANSPORTATION SYSTEM

The region's major highways include an interstate loop, Route 495 (the Capital Beltway). The recently upgraded Interstate 95 enters the District from the south, terminating just north of the Capitol Building, and picks up again north of the region at the Beltway. Interstate 295 approaches Washington from the Beltway south of the city, stopping after crossing the Anacostia River. Interstate 66 approaches from the west, terminating at the Beltway. Interstate 270 connects with the Beltway northwest of the city. Major parkways lead west along both banks of the Potomac and south along the Virginia bank.

Washington's highway system is one of the most congested in the Nation during peak hours. It has been targeted for major upgrading and new construction since the late 1950's, but most of the improvements have been stymied by public opposition.

Bus transit service in the region is criticized for being slow, expensive, and uncomfortable. Although streetcars have been out of circulation since 1962, many of the bus routes still follow old streetcar lines that no longer conform to the pattern of urban development. After 1950 the spectre of financial mismanagement lowered public esteem for the privately operated D.C. bus system, and the Washington Metropolitan Area Transit Authority (WMATA) took over operations in 1972. The riots of 1968 accentuated fear of crime, and ridership plummeted. Within the past 2 years, however, patronage has held generally steady.

The area's regional rapid rail system has been under construction since 1969, and a 4½-mile segment is due to open in early 1976, The Metro system (see Figure 4) currently is scheduled for completion in 1981, Table 1 shows a summary of Federal grants to area transit operations, exclusive of support for Metro.

TABLE I.—Federal Assistance to Washington, D. C., Transit Programs From F.Y. 1962 to May 31, 1975

Type of Assistance	Federal Share	Total Costs
Capital Grants	$79,958,000	$118,525,000
Capital Loans	57,000,000	58,900,000
Technical Studies	6,020,000	10,014,000
TOTAL	142,978,000	187,439,000

Source Urban Mass Transportation Administration

[1] See figure 1, pp's 14 and 15.

LAND AREA (1970)
(square miles)

Suburban Ring	2,291.6
District of Columbia	61.4
Entire SMSA	2,353

POPULATION

	Suburban Ring	District of Columbia
1960	1,312,654	763,956
1970	2,105,238	756,510

DENSITY
(Population/square mile)

	Suburban Ring	District of Columbia
1960	573	12,422
1970	919	12,321

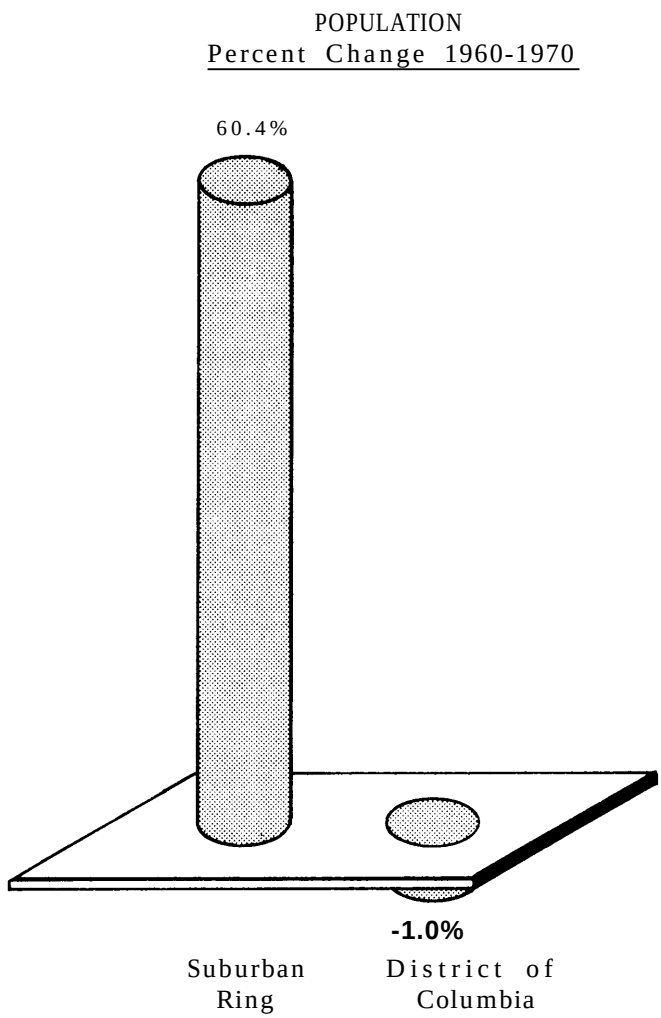
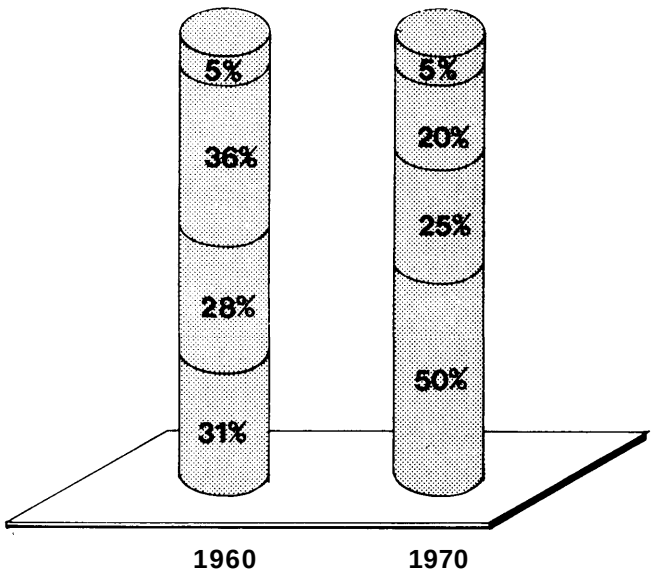


FIGURE 2: WASHINGTON **METROPOLITAN CHARACTERISTICS**

Source: Urban Transportation Fact Book, American Institute of Planners and the Motor Vehicle Manufacturers Association of the U.S., Inc., 1974.

A Standard Metropolitan Statistical Area (SMSA) includes a center city (or cities), usually-with a population of at least 50,OOO, plus adjacent counties or other political divisions that are economically and socially integrated with the central area,

WORK TRIP DISTRIBUTION



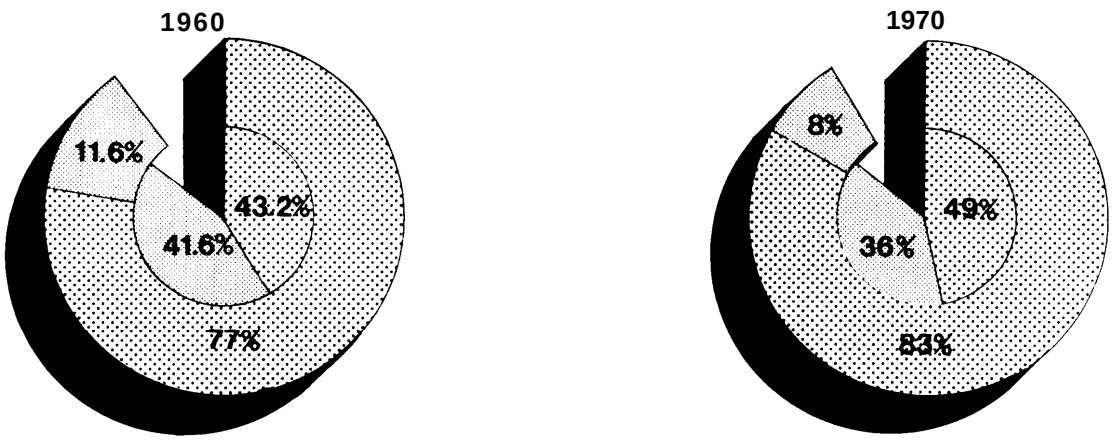
Center City to Suburban Ring

Beginning and Ending in Center City

suburban Ring to Center City

Beginning and Ending in Suburban Ring

WORK TRIP MODE



Employed Residents Using Public Transportation

Employed Residents Using Autos

Remaining workers either walked to work, stayed at home or did not report mode.

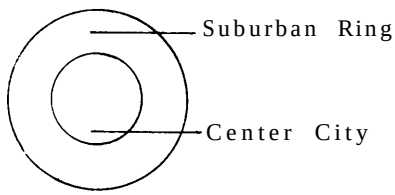


FIGURE 3: WASHINGTON SMSA TRAVEL CHARACTERISTICS 1960-1970

Source: Urban Transportation Fact Book, American Institute of Planners and the Motor Vehicle Manufacturers Association of the U.S., Inc., 1974.

A Standard Metropolitan Statistical Area (SMSA) includes a center city (or cities) , usually with a population of at least 50,000, plus adjacent counties or other political divisions that are economically and socially integrated with the central area.

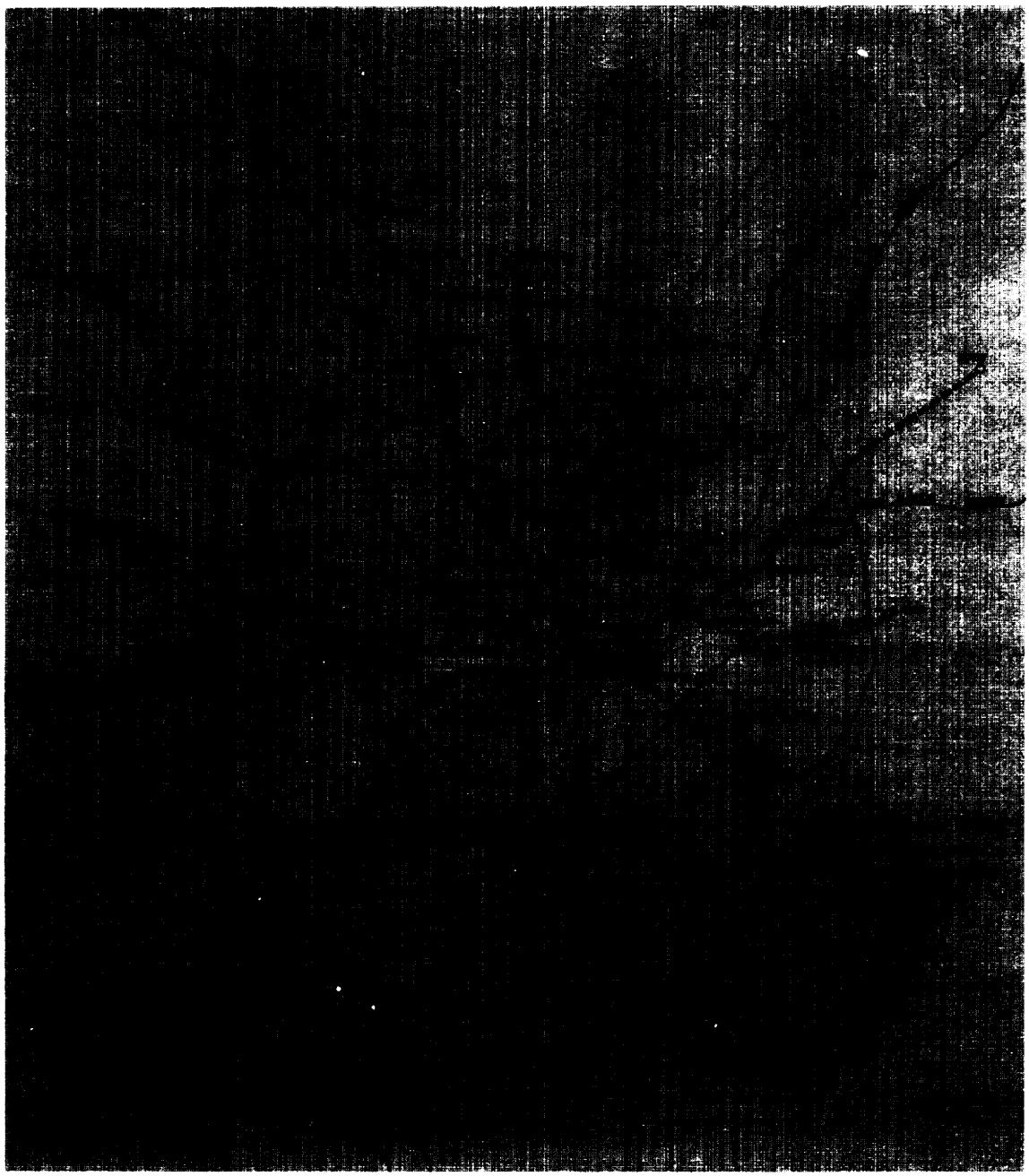


FIGURE 4: WASHINGTON, D. C., REGIONAL METRO SYSTEM

TRANSPORTATION PLANNING INSTITUTIONS

A large number of institutions currently participate in the transportation planning process in the Washington region due to the area's jurisdictional peculiarities. Most of them, however, play only minor roles.

TABLE 2.—Federally Recognized Regional Agencies

Designation	Agency
A-95	Metropolitan Washington Council of Governments (Transportation Planning Board)
MPO	Metropolitan Washington Council of Governments (Transportation Planning Board)

The Washington Metropolitan Area Transit Authority (WMATA)

WMATA is an interstate compact signed in 1966. It is empowered to "plan, develop, finance, and cause to be operated improved transit facilities." It was originally precluded from directly operating transit services, but in 1972 WMATA was given authority to take over and operate the four private bus companies in the region. The six members of WMATA's rotating board are appointed, two each by the D.C. City Council, the Washington Suburban Transit District, and the Northern Virginia Transportation District.

The Northern Virginia Transportation District (NVTD) and the Washington Suburban Transit District (WSTD)

These two suburban transit authorities (representing Virginia and Maryland suburbs, respectively) were established in 1964 and 1965 to provide funding conduits to WMATA. The commission memberships are comprised principally of elected officials from local jurisdictions.

Metropolitan Washington Council of Governments (COG) and the Transportation Planning Board (TPB)

COG, the regional A-95 agency, z was created in 1966. Its staff prepares regional land use, employment, and population forecasts and does areawide comprehensive planning.

TPB was created in 1965, prior to COG, to be responsible for **"3-C"** coordination. s It has since affiliated with COG and shares some of the COG staff. The board members come from 17 local jurisdictions and include representatives from State and District of Columbia highway departments.

National Capital Planning Commission (NCPC)

This agency and COG's predecessor, the National Capital Regional Planning Council, supervised the first transit needs study in the region. Both were Federally appointed bodies. Until recently NCPC was the planning body for the District of Columbia, but since home rule was granted its interest has been limited to planning for Federal land in the region.

Maryland-National Capital Park and Planning Commission (M-NCPPC)

The M-NCPPC is a State agency. It shares responsibility for the planning function with the two counties in the Maryland portion of the national capital region. The Commission prepared the general plan for the bicounty region and a master plan of highways. It has both advisory and administrative responsibilities for zoning and subdivision regulations, but the county governing bodies approve plans and make final decisions on zoning amendments. The county planners have undertaken Metro development impact studies.

Northern Virginia Planning District Commission

This is a State agency with advisory powers for regional planning in the Northern Virginia suburbs

[2] Circular A-95 of the Office of Management and Budget requires one agency in each region to be empowered to review all proposals for Federal funds from agencies in that region. Circular A-9.5 replaced Circular A-82, which was created to implement Section 204 of the Demonstration Cities and Metropolitan Development Act of 1966 (42 U.S.C. 3301),

[3] Originally the "3-C" regional highway agency, TPB (with COG) recently was named the area's Metropolitan Planning Organization. The Urban Mass Transportation Administration and the Federal Highway Administration require Governors to designate a Metropolitan Planning Organization (M PO) in each area to carry out the "continuing, comprehensive transportation planning process . . . carried out cooperatively . ." (the "3-C" process) mandated by the Federal-Aid Highway Act of 1962 and the Urban Mass Transportation Assistance Act of 1974. According to joint UMTA-FHWA regulations published in September 1975, MPO's must prepare or endorse (1) a long-range general transportation plan, including a separate plan for improvements in management of the existing transportation system; (2) an annually updated list of specific projects, called the transportation improvement program (TIP), to implement portions of the long-range plan; and (3) a multiyear planning prospectus supplemented by annual unified planning work programs.

of Washington. It is coordinating Metro development planning in the area.

District of Columbia

Until 1968 the District Government was composed of three Federally appointed commissioners with military backgrounds. In 1968 the administration of District affairs was turned over to an appointed City Council. The Council has been an elected body since November 1974.

The District's main involvement in transportation has occurred through its highway department. The City Council has a transportation committee. Its members are councilmen, and it has one staff assistant. The director of the Office of Transportation Systems Coordination in the Mayor's office attends WMATA board meetings as an advisor to the District's delegates to the WMATA board.

U.S. Congress and the Federal Government

Congress and the executive branch are principal participants in transportation planning in the national capital region. The House and Senate Appropriations Committees control disbursement of the Federal and District of Columbia shares of Metro capital costs. Decisions concerning new financing plans for Metro must be made with advice from two executive agencies, the Office of Management and Budget and the Urban Mass Transportation Administration.

Critical History of Transit Planning and Decisionmaking

The following history covers the decisionmaking process for Washington's Metro rapid rail system from its beginning in the 1950's to the present day. The discussion centers around three key decisions: (1) studies leading to the decision to study rail transit in 1960, (2) planning for selection of a specific system, concluding in 1968, and (3) evolution of the financial commitment that allowed construction to begin. The narrative ends with a status report on the debate over how to pay for completion of the system.

Although the history focuses on the evolution of formal decisionmaking, it also briefly explains the political context of Metro planning. To a great extent the Metro system grew out of a determined effort by civic-minded Washingtonians to stop new freeway construction. The system's purpose was to reduce auto trips between suburbs and downtown, primarily to benefit those parts of Washington that would have been destroyed to make room for new highway routes and parking garages. The system was not designed specifically to help downtown business or to make commuting from the suburbs easier. Most downtown business interests supported Metro only as part of a "balanced" transportation system. Inner city interests have influenced the system design only since it was officially adopted. Metro planners extended the system to the suburbs to get maximum patronage, yet



Public oppostion to new urban highways was a major stimulus to Metro rail transit in Washington, D.C.

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suburban commuters would have been equally or better served by new highways. Suburban jurisdictions supported Metro in part because they had to spend relatively little to get it.

DECISION TO STUDY TRANSIT

This section covers the period of transit planning ending in **1960** when Congress created an agency to plan a rail system for Washington. A collage assembled by WMATA shows headlines from Washington newspapers dating back to a 1909 Post feature story called "Why Not a Real Subway System for Washington?" Rapid transit was alternatively supported and discouraged in various public plans over the years, but it was not until **1952** that Congress authorized a special study of transportation needs in the national capital area. Congressional funding for this Mass Transportation Survey was finally granted in 1955. The survey's 1959 Mass Transportation Plan roughly outlined a network of new freeways with busways and two basic rapid rail routes, along with organizational alternatives for carrying on the planning effort. Congress quickly acted to create a Federal agency to take the next steps.

Early Studies

Serious discussion about the possible need for rapid transit appears to have been motivated by the surge in population, its spread into the suburbs, and rising automobile ownership in the late 1940's and early **1950's.**

A study published in 1944[4] recommended a 7.1-mile system of streetcar subways to augment the surface network but concluded that rapid transit was not likely to become necessary in a city with such a low population density. However, the report suggested the subway tunnels could be modified to hold rapid rail trains if future conditions mandated.

The real catalyst for rapid transit planning in the Washington area was the spectre of traffic congestion raised by several reports on regional transportation needs published by the Washington Metropolitan Area Transportation Study,[5] which was a cooperative effort of area highway departments begun in 1948. Partly in response to this public concern about the implications of growth, Congress in 1952 created two comprehensive planning bodies to help guide development. The National Capital Planning Commission (NCPC) and the National Capital Regional Planning Council (NCRPC) were instructed to prepare comprehensive plans for the capital city and for the region that would include plans for the movement of goods and people. b NCPC concluded later that year that more detailed information was needed before an adequate mass transportation plan could be developed. Congress waited until 1955 to oblige with a $400,000 grant for the two planning agencies to conduct a survey of present and future mass transportation needs.[7]

The Transportation Plan—National Capital Region of 1959

NCPC and NCRCP appointed a Joint Steering Committee to oversee the Mass Transportation Survey, created an advisory committee of transportation experts, hired a director and a small staff, and commissioned studies by a number of consultants. The most influential member of the group was Harland Bartholomew, chairman of NCPC and a member of the Joint Steering Committee of the survey, who was a strong believer in rail transit. He was also a strong believer in the merits of objective study, and he expanded the scope of the survey beyond "mass transportation" needs to include the appropriate role of the private automobile. The goals of the survey, as he articulated them, were to make a "profound effort to ascertain the relative scope and function of the automobile, the bus, the streetcar, rapid transit, and other newer concepts of transportation" and plan accordingly to provide adequate future transportation in the national capital region.

The study presented a multimodal orientation. A general development plan was created; an economic base study prepared; alternatives selected, tested, and packaged into a recommended system; and a financing and organization study conducted,

4 Transportation Survey *and* Plan for the Central Area of Washington, D. C., J. E. Greiner Co. and DeLeuw, Cather & Co. in cooperation with the District of Columbia Department of Highways; the D.C. Department of Vehicles and Traffic; and the Public Roads Administration, Federal Public Works Agency, **1944.**

[5] See "A Recommended Highway Improvement Program," Washington Area Metropolitan Transportation Study, **1952.**

[6] Public Law **592 (66 Stat. 781), National** Capital Planning Act of **1952,** amending the Act of June 6, 1924 (43 Stat. 463) as amended.

[7] Public Law 84-24 (69 Stat. 33), Second Supplemental Appropriations Act of **1955.**

Altogether 10 consultant firms were involved, and the result was the *Transportation Plan—National Capital Region,* transmitted to Congress by the President on July 10, 1959.[8]

The 1959 plan recommended a major highway building program along with both rail and bus transit. It called for 248 miles of new freeways, 80 miles of which had not appeared on earlier plans, at a cost of $1.8 billion. Another $86 million was earmarked for express bus operations. A 33-mile rail system, half in subway, was estimated to cost $476 million.

The proposed plan was the subject of Congressional hearings,[9] where it met with generally favorable comment. However, the discussion contained elements of all the issues that would be argued over the coming decade: in particular, the relative appropriateness and feasibility of highway transportation versus rapid rail, the role of the Federal Government versus private enterprise in transit development, and the need to forge regional cooperation in transportation planning.

The Joint Committee decided to recommend a temporary Federal agency to develop plans and locate proposed routes for a comprehensive transportation system. The system thus designed would be owned by an interstate compact. The compact idea grew out of an effort that was underway at the time to create an interstate organization to coordinate transit regulatory functions. The National Capital Planning Act of 196010 was subsequently passed and the National Capital Transportation Agency created to take on the transportation planning tasks.

[8] A list of the studies included in the Mass Transportation Survey and the consultants who prepared them is:
- General *Development Plan* (John T. Howard).
- Economic Base *Study* (Council for Economic and Industry Research, Inc.).
- *Future* Transportation *Demand* (William Smith & Associates).
- Highway Transportation Engineering (DeLeuw, Cather & Co.).
- *Financing* and Organization (Institute of Public Administration).

[9] "Transportation Plan for the National Capital Region," Hearings before the Joint Committee on Washington Metropolitan Problems, 86th Congress, First Session, November 9, 10, 11, 12, 13, and 14, 1959.

[10] Public Law 86-669, 86th Congress.

DECISION ON SYSTEM SELECTION

The basic configuration of Washington's regional rapid rail system was determined by National Capital Transportation Agency (NCTA), the Federal agency created by Congress to undertake transit planning in **1960.** In short, NCTA proposed a regional transit system whose 25-mile core was authorized by Congress in 1965. Shortly afterwards, the jurisdictions of the region succeeded in formalizing an interstate compact organization. This organization, called the Washington Metropolitan Area Transit Authority (WMATA), began a technical evaluation process in early 1967 that led to the adoption, in March 1968, of the 98-mile Regional Metro System.

The National Capital Transportation Agency's November 1, 1962, Report to the President

The proposals of the NCTA generated far more intense controversy than the earlier findings of the Mass Transportation Survey. The debate was grounded in the ongoing argument over where and how many new freeways ought to be built to serve the District and surrounding areas. The NCTA report tended to polarize the discussion by coupling its proposal for an extensive rail network with recommendations that several key highways, including the Three Sisters Bridge across the Potomac, be dropped from area highway plans.

The fact that Congress also was considering national legislation to aid urban transit during this period brought overtones of national significance to the local debate and sharpened the antagonism of the arguments on both sides.

The NCTA work was principally a staff effort, although numerous consultants contributed over the agency's 5 years of operation. The most critical portions of the NCTA 1962 report (system planning, traffic forecasting, and engineering) were done in-house. Darwin Stolzenbach, a freeway opponent who had been a senior analyst with Operations Research, Inc. of Silver Spring, Md., guided the technical proceedings. Policy control was exerted by a five-member advisory board required by the 1960 Act. The chairman and dominating force of this group was Frederick Gutheim, a well-known architectural writer. As Staff Director to Congress' Joint Committee on Washington Metropolitan Problems during that body's brief existence from 1958 to 1960, Gutheim had turned out a series of planning reports on the NCR that were strongly transit-oriented and

representative of the then nascent wave of antifreeway sentiment.

NCTA was instructed to cooperate with all planning agencies in the region, but it pursued this cooperation in informal ways. Those agencies that disagreed with NCTA's findings generally charged that there had been little cooperation. In lieu of producing a plan that conformed to each of the often conflicting ideas of the various planning bodies in the region, NCTA focused on the new regional comprehensive plan published in 1961 by the NCPC and NCRCP. This *Plan for* the *Year* 2000, popularly known as the "Wedges and Corridors Plan," presented new population, employment, and growth data and, most importantly, changed the forecast for land use from the sprawl-like configuration that had been assumed for the 1959 plan to an organized radial network of growth corridors separated by low-growth and greenbelt "wedges, "

The data were plugged into a new traffic forecasting model and the findings used to support a regional transportation system featuring extensive rapid transit service. A seven-line system 83-miles long (a 50-mile increase over 1959) was recommended for a total cost of $796 million, an increase of $320 million over the 1959 plan. NCTA called for 74 fewer miles of highway than the 1959 plan. No cost estimate was made, as it was assumed that this mileage would be financed through the continuing highway funding mechanisms and would require no additional legislation. Proposed express bus operations total about half the transit mileage recommended in the 1959 report,

The reduction in highway cost was much greater than the increase in transit cost, so it was stated that the total cost of the 1962 plan was lower than that of the 1959 plan. Transit costs were minimized by having only two lines in city center, forming a loop around the Mall, by making only one crossing of the Potomac, and by maximizing use of rail rights-of-way.

Congress' Rejection of NCTA Proposals, 1963

The summary NCTA report transmitted to Congress in 1963 did not include the highway building restrictions, but the early debate nevertheless focused on the highway issues. Highway proponents suspected Stolzenbach's rail plan was intended to spearhead a nationwide campaign to substitute rapid rail for new highways. Rail advocates in turn accused the highway lobby—various automotive, trucking, cement, and related interests-of choosing the Nation's capital to be "the focus of their drive toward automobilization of the country."[11]

Stolzenbach's acquaintances say that he indeed sought to broaden the implications of the Washington freeway transit issue. He was politically identified with the prorail cause. Prior to becoming NCTA Director, Stolzenbach had been active in the Interfederation Council of the Greater Washington Area, a regional body concerned with a broad range of issues and representing 361" civic organizations. On behalf of the council, Stolzenbach testified that the 1959 plan "placed disproportionate emphasis on private auto transport . . and failed to consider seriously public policies that would tend to increase the utility of mass transit relative to the automobile."[12]

Stolzenbach was well connected with antifreeway and prorail spokesmen. These were members of Washington's liberal Democratic community. Among them were Elizabeth Rowe, chairperson of NCPC and a vocal opponent of the freeway program; and Paul Sitton of the Department of Commerce, who crafted the Budget Bureau's statements of policy support for the NCTA plan and later helped Department of Transportation Secretary Alan Boyd reach a decision to block construction of one of the highway advocates' pet projects, the Three Sisters Bridge.

Stolzenbach's NCTA appointment reportedly had been lobbied by lawyer Charles Horsky, an important figure in the Kennedy White House who, as president of the Washington Housing Association, had criticized the 1959 *Transportation Plan* on the grounds that it gave inadequate emphasis to rapid transit. [13]

11 See comments of Representative William Harsha for the pro-highway, antirail view and statements by Admiral Neill Phillips of the Committee of 100 on the Federal City for the opposite viewpoint, "Transit Program for the Nation's Capital Region," Hearing before Subcommittee No. 6 of the Committee on the District of Columbia, House of Representatives, 88th Congress, First Session, July 9, 10, 16, 18, 24, 25, 29, and 31, 1963.

12 November 1959 Hearings before the Joint committee on Washington Metropolitan Problems, op. cit.

13 November 1959 Hearings before the Joint Transportation Committee, op. cit.

The Kennedy liberals were not the only group who supported transit in 1963. Downtown business interests believed a rail system was essential to shore up their substantial investments in the "old" Washington central business district between 15th and 7th Streets. New office construction in the downtown area had tapered off, and at the time no one foresaw the shift to the K Street-Connecticut Avenue area that has occurred since.

Although the highway issue was prominent in committee hearings, it was not the sole or even prime reason for the defeat of the rapid rail proposals in 1963. Congress was unwilling to consider so costly a system without any sign of financial commitment from local jurisdictions. It was decided to consider only the District of Columbia portions of the proposal until the interstate compact that was in the works was completed. However, for the time being, even the less costly 23-mile basic system presented for consideration was sent back to committee.

Congress' chief complaint was that the bill threatened private transit enterprise and omitted language guaranteeing labor protection. The operators of the four private bus companies in the region, led by O. Roy Chalk of D. C. Transit, Inc., were vocal critics of the implication in the 1963 legislation that the rail system would eventually be operated by the public interstate compact, although the bill made no reference to the matter one way or the other. The only intensive lobbying on the bill was done by the bus company owners and the labor unions, who were concerned that labor would not be granted protection if the system was publicly operated.

The defeat of the enabling legislation occurred only 3 weeks after the Kennedy assassination, and this event may also have played a part in the bill's demise. The President's death threw protransit forces into disarray. Most of the protransit spokesmen also were deeply involved in other Kennedy programs and, in the aftermath of his sudden death, were absorbed in protecting these as well as the transit issue. As a result, the early momentum in favor of the proposal was diffused. Interestingly, Kennedy's death also brought an end to a compromise he had been engineering on the location of the controversial Three Sisters Bridge. Years later, in 1968 that still-unresolved issue would stand in the way of the construction of the adopted regional rail system.

Congressional Authorization of the Basic Metro System, 1965

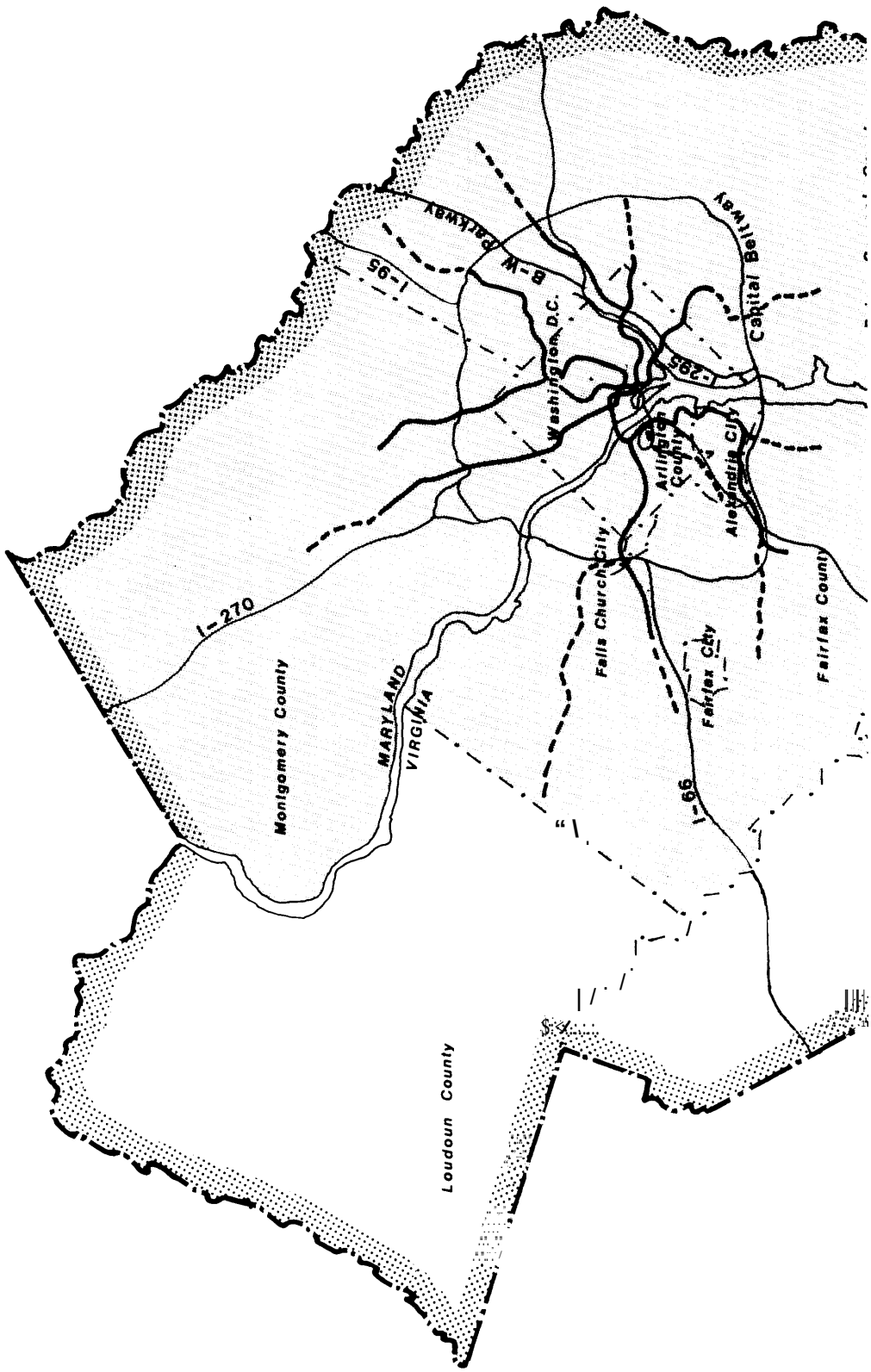
The plan NCTA brought to Congress, 18 months after the 1963 defeat, proposed a similar 25-mile rail system in the District of Columbia extending to the Pentagon in Arlington. It would cost an additional $30 million (total $431 million) and included 2 additional miles (total 25 miles, 13 in subway). The planning was headed by NCTA's new director, Walter McCarter. McCarter was a more moderate personality than Stolzenbach and was well respected as a transit expert with 43 years of experience in Cleveland, Chicago, and Milwaukee. The 1965 proposal reduced the proportion of Federal investment in the system (and increased the relative share of the District). It also stipulated that the rail facilities could be operated only by private concerns, and it incorporated labor protection provisions that had been written into the Urban Mass Transportation Act of 1964.

Because the 1965 proposal directly remedied the shortcomings identified in 1963, because the new NCTA director was a more effective politician[14] because the freeway controversy had been isolated from the transit planning agency to other forums, and because the interstate compact and eventual local financial support for the remainder of the system was near at hand, the rail measure passed Congress in 1965 and was enacted into law. Dissenters were concerned chiefly with what they alleged to be overcommitment by the Federal Government to a local system.

Adoption of the Regional Metro System, March 1968

The Federal expression of commitment to a basic rail system gave a boost to the effort to create an interstate compact agency to plan the system's regional extensions. On November 6, 1966, President Johnson signed legislation authorizing the District to participate in an interstate transit authority, and by the end of the month Maryland and Virginia had ratified the compact. The Washington Metropolitan Area Transit Authority (WMATA) officially began to function in October 1967, when NCTA expired and its 30 staff people transferred to WMATA.

[14] McCarter represented NCTA on the NCPC Board and consistently voted against the majority and in favor of the package of D.C. freeways that continued to be the focus of controversy.


I-95
B-W Parkway
Washington, D.C.
Capital Beltway
I-270
Montgomery County
MARYLAND
VIRGINIA
Falls Church City
Fairfax City
I-66
Fairfax County
Loudoun County

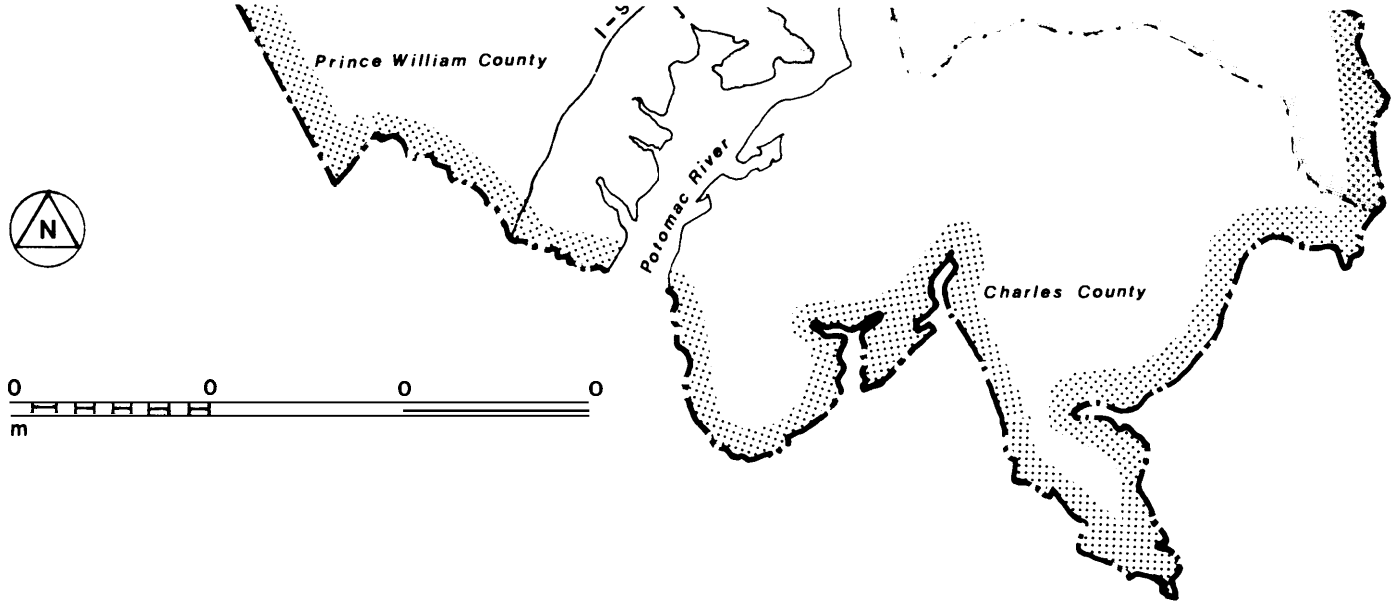


FIGURE 1: WASHINGTON, D.C., METROPOLITAN AREA

Metropolitan Washington Council of Governments Boundary
SMSA Boundary
Washington Metropolitan Area Transit Authority
County Boundary
Rapid Rail System (under construction)
Proposed Extensions of Rapid Rail System

A Standard Metropolitan Statistical Area (SMSA) includes a center city (or cities), usually with a population of at least 50,000, plus adjacent counties or other political divisions that are economically and socially integrated with the central area.

Meanwhile, the embryonic WMATA organization had already begun the technical and political process of planning the regional system. The WMATA board (two members from each major jurisdiction in the region) and numerous representatives of the area's political subdivisions came together at 3 regional workshops at Airlie House during the year to discuss technical findings and give policy direction. A patchwork system evolved and subsequently was tested for patronage and modified to become the Proposed Regional System in December 1967.

The Proposed Regional System comprised 7 radiating lines continuing out from the authorized basic system. The basic system itself was amended by Congress in 1967 to add service to the new employment center in southwest Washington and to change the basic configuration downtown from a branching system to one with lines crossing over each other in order to increase service levels.

The Proposed Regional System was taken to a series of 11 public hearings in January 1968. Following the hearings some minor modifications were made in route alignment and station locations, and on March 1, 1968, the WMATA Board officially adopted the Regional Metro System.

DECISION TO CONSTRUCT

The decision to build the system was implied by both Congress' commitment to the basic system and by WMATA's adoption of the regional system. In fact, the adopted system plan has been characterized as a formality necessary to establish the more important regional commitment to a financial plan for the system's construction.

The 1962 plan was the first in the evolution of the Metro system to apportion financing responsibilities. However, as early as 1959 Elmer Staats, Deputy Director of the President's Bureau of the Budget, had expressed Federal willingness to undertake a portion of the financial responsibility. In 1963 he testified that Congress should bear two-thirds of the cost, the same formula under discussion at the time for the Federal transit support activities nationwide. Congress adhered to the two-thirds formula in 1965 (it was eventually adopted for UMTA support as well), and the two-thirds formula formed the basis of the financial plan for the 1968 system.

It was assumed from the beginning that there would be Federal financial support for the rail system. This was one of the principal reasons behind the willingness of local governments to give consideration, and eventually their commitment, to the transit idea. An equally important aspect of the financial commitment was the assumption from the beginning that future operating revenue would pay back to the bond debt. The voters from the five Washington area jurisdictions that held bond referenda in November 1968 endorsed Metro by an average 71.4 percent ratio, believing the system would operate at a profit. (The other jurisdictions were not required by local regulations to hold bond votes.) By the time the bonds were to be sold, however, creditors required them to be backed by a Federal guarantee, which was granted by Congress in 1972.

WMATA first formally included a construction allocation in its budget for fiscal year 1969 and set groundbreaking for October 1968. However, the continuing battle in other agencies over construction of certain interstate highways played a role in delaying the groundbreaking until December 1969. The man behind the budget delay was Congressman William Natcher, Chairman of the District of Columbia Subcommittee of the House Appropriations Committee. In 1966, Mr. Natcher said he would withhold his committee's recommendation from WMATA budget items until freeway construction, then curtailed through actions of the NCPC, was given a green light. Mr. Natcher was not opposed to Metro per se but was concerned over cost escalations and time delays in completing the interstate system through the District region. The green light came later in 1966, and Mr. Natcher approved the rapid rail budget; but subsequently the freeway activities were curbed once again. The situation was still unresolved in spring of 1968, and Mr. Natcher did withhold his approval of WMATA's money that year. The House supported him. Under this pressure the D.C. City Council voted in August 1969 to release the freeway money and Mr. Natcher agreed to free up money for Metro. Groundbreaking occurred December 9. That same day President Nixon signed into law Federal authorization of the entire **98-mile** Regional Metro System.

Decision To Continue Construction

At present the Metro planners, local jurisdictions contributing to its financing, and the Federal Government face a difficult decision whether to

complete the 98-mile system or cut it short. The source of the dilemma is the dramatic rise in the estimated total construction cost. It is complicated by increasing public criticism of Metro.

To be sure, the great majority of the public appears to support the regional rail system and to advocate its completion. [15] However, more and more complaints are being voiced as construction progresses from the downtown and into residential areas where people are directly affected.

The growing dissatisfaction with Metro has three causes. First, people have tended to assume subways will have no undesired effects on the neighborhoods they serve. They are surprised and often angered to find that Metro can stimulate traffic and growth in their neighborhoods and destroy homes and businesses—just like the highways Metro has replaced. Secondly, many citizens have come to feel that WMATA planners over the years have purposefully avoided informing them about these impacts and are now giving them little opportunity, short of confrontation politics, for resolving them. Thirdly, some people, particularly from inner city black neighborhoods, feel they are helping pay for a system that will serve others and not them.

The recurring increases in the cost of building the system are also threatening Metro's support. By late 1970, estimates had escalated from the original $2.5 billion to $3 billion, and the most recent announcement sets the final figure at $4.5 billion. WMATA has submitted a request to OMB and Congress for a retroactive change in the Federal-local share from 2 to 1 to 4 to 1, in accordance with UMTA's capital grant program levels. The additional Federal share ($1.25 billion) would increase by $135 million. However, the Federal Government is expected to reject the plan.

With the funding situation thus unresolved, Congressman John McFall has requested the Department of Transportation to study several alternative transit modes at the **as** yet undesigned extremities of the Metro system. UMTA and DOT have replied that they are willing to fund such a study if it is undertaken by the local agencies, but that they do not wish to conduct it themselves. Negotiations began in the spring of 1975 between the WMATA staff, the staff of the Transportation Planning Board, and UMTA with respect to such a study, which would look at alternative modes for Metro's extensions as well as raise the question of whether or not the full system should be completed.

Any talk about truncating the system is greeted with trepidation by WMATA board members and other agencies in the region because changes would require adjustments in the financing plan. Thus far the suburban jurisdictions have plugged proportionally more money into the system that they have been given back in terms of segments under construction. Yet the politicians and political observers in the area seem to agree that new bond issues would be defeated at the polls. WMATA has been unsuccessful in getting Congress to take the lead in obtaining new financing for Metro.

As the debate intensified, in June 1975, the President appointed DOT Secretary William T. Coleman to take personal responsibility for coordinating administration policy on WMATA's requests for additional aid. Since then, a number of financing options have been discussed publicly, including the possibility of using interstate transfer money from deleted District of Columbia interstate highways and from northern Virginia's Interstate 66 to support the regional rail system. By mid-July DOT produced an interim report that calculated that available highway money would not cover the requested Federal share of Metro's projected cost overrun. Based on these numbers, UMTA officials began considering whether to apply the agency's newly articulated policy of encouraging metropolitan areas to build rail systems in incremental stages, as the demand for transit grows, in the Metro case, Under this policy, available funds would be spent to build links between the Metro segments under construction in order to put as many interconnected miles as possible into service as early as possible. WMATA argued that by shifting Metro construction priorities, UMTA's approach would delay completion of the full system 4 years until 1985 and hike costs to nearly $5 billion,

UMTA backed off its speculations about applying the incrementalist policy to Metro within a week after the discussion was reported publicly. On September 4,1975, UMTA issued a statement that it had underestimated the highway funds and that the potentially available supply appeared to be sufficient to complete at least a fully interconnected basic system.

[15] See "Metro is Coming! Metro is Coming!" by Charles Conconi, *The Washingtonian,* May 1975.

As of this writing, the controversy continues over how completion of the Metro system should be financed. Although last spring observers were predicting a decision by the end of the year, from the present vantage point no clear resolution is in sight.



Chronology of the Transit Planning Process

1948-52 The Washington Metropolitan Area Transportation study, a cooperative effort of area highway departments, published several reports projecting severe traffic congestion in the Washington area. These catelyzed plans for rapid transit.

1952 Congress created the National Capital Planning Commission (NCPC) and the National capital Regional Planning Council (NCRPC) to prepare comprehensive plans, including regional transportation plans.

1955 Congress granted funding to NCPC and NCRPC for a Mass Transportation Survey to study present and future mass transportation needs.

1959 In July, the Joint Steering Committee of the Mass Transportation Survey submitted to Congress the *Transportation Plan—National Capital Region,* which called for 248 miles of freeways and 33 miles of rail. The report spurred controversy over the relative roles of freeways and transit.

1960 The National Capital Planning Act created the National Capital Transportation Agency (NCTA), an interstate organization charged with coordinating transit regulatory functions.

1961 The NCPC and the NCRPC published a regional comprehensive plan, *The Plan /or the Year 2000,* popularly called the "Wedges and Corridors" plan. It presented new population, employment, and growth data and called for an organized radial network of growth corridors separated by low-growth green "wedges."

1962 The NCTA's November 1 *Report 10 the President* proposed a regional transportation plan, based on data from the "Wedges and Corridors" plan, that called for an **83-mile** seven-line rapid rail system along with 174 miles of new freeways.

1963 Congress rejected the NCTA proposal. Its chief complaint was that the NCTA bill threatened private transit enterprise and failed to guarantee labor protection.

1965 Congress authorized a basic 25-mile rapid rail system for the District of Columbia. Dissenters were chiefly concerned with what they considered to be an excessive Federal commitment to a local system.

1966 The authorization of the basic rail system boosted ongoing efforts to create an interstate compact agency to plan suburban extensions to the system. In December the Washington Metropolitan Area Transit Authority (WMATA) was ratified by all area governments. In October, WMATA officially replaced NCTA.

1967 In December, WMATA published the "Bronze Report." The report presented the Proposed Regional System (PRS), which extended the authorized basic system into the suburbs.

1968 On March 31, following **a** round of public hearings, WMATA adopted the 98-mile, $2,5 billion Regional Metro System. In November, the transit issue was supported by 71,4 percent of the voters in the five suburban jurisdictions that held referenda.

1969 After a is-month delay, Metro construction began on December 9. The entire **98-mile** Regional Metro System was authorized by Congress the same day.

1970 By late 1970, estimates of the cost of building Metro escalated from the original $2.5 billion to $2.98 billion.

1972 WMATA took over operation of several privately owned D.C. bus companies.

1974 In late fall, WMATA announced a revised Metro construction cost estimate of $4.5 billion.

1975 Controversy continued over how continuing construction of Metro is to be financed.

Assessment of the Planning and Decision Process

INSTITUTIONAL PROCESS

The Washington region is an institutional jungle. The Federal Government, two States, the District of Columbia, four counties, three independent cities, and numerous smaller jurisdictions have created a tangle of Federal agencies, regional organizations, and local governments with overlapping responsibilities and powers. These circumstances pressed the planners of Washington's regional transit system to create an independent interstate compact organization beyond the reach of local regulation, State law, and even many Federal requirements. The success of the approach is measured by miles of rapid transit construction. Metro is the most significant product to come out of regional cooperation in the Washington area.

The nature of the institutional context for Metro planning changed over the years as the responsibilities were transferred from congressionally appointed agencies to the interstate compact organization in charge today. In particular, the degree of accountability to the public, the extent and effectiveness of citizen involvement, the role of public agencies, and the adequacy of the forum for decisionmaking have altered over time. The following section examines the institutional framework for Metro decisionmaking with special attention to its evolution over three periods: the period of early Metro planning from 1959 to 1965; the years prior to adoption of the Regional Metro System in 1968; and the period of system design and station area development planning since then.

Forum for Decisionmaking

The forum for transit planning was lodged in two clearly designated institutions during the period of early Metro planning (the National Capital Planning Commission and the National Capital Regional Planning Council). Decisionmaking and implementation authority, on the other hand, was clearly the prerogative of Congress. In 1966 and 1967, as the Washington Metropolitan Area Transit Authority (WMATA) took over, some competition and duplication of system planning efforts briefly rose between it and suburban jurisdictions. However, WMATA's compact clearly spells out its powers and has allowed the Metro plans to pass through the complex review channels and into implementation in the national capital region with relative ease. Historically, the most significant issues have been coordination of multimodal transportation planning and responsibility for station area and development planning.

Both institutions charged with early planning were Federally appointed bodies. The congressionally funded Mass Transportation Survey, created in 1959, was a study organization only and its findings were intended only to guide further study. Therefore, other agencies were satisfied to allow this planning forum to operate undisturbed. The National Capital Transportation Agency (NCTA), created by Congress in 1960, also provided a clear forum for transit planning, but its hold on highway planning responsibilities was less secure. Unlike its predecessor, NCTA was instructed to produce a plan for actually implementing a program. Its highway recommendations proved to be so controversial that the responsibilities for highway planning were quietly removed after 1963.

The key decisions during this period of early planning[16] were made by Congress. Congressional committee hearings were the arena for input from local jurisdictions. The suburban governments had no interest in challenging Congress because the decisions did not undermine their powers in any obvious way. It was understood that Congress had authority to implement the plans in the District of Columbia but that implementation responsibilities in the suburban jurisdictions would be given to an interstate compact organization.

WMATA took decisionmaking power from Congress in that the system WMATA adopted was backed by a financing commitment from local governments. Furthermore, WMATA's compact empowered it to construct the system. In 1967, as alternative regional plans were evaluated, the

[16] Establishment of the Mass Transportation Survey in 1955, the NCTA in 1960, rejection of NCTA's rail proposals in 1963, and authorization of the basic system in 1965.

Northern 'Virginia Transportation District performed some of its own technical planning work in competition with Metro's consultants. At the time this was the only sign of disagreement over the adequacy of the WMATA forum.

Since the system was adopted, local governments have increased their involvement in transit planning. They have been planning for station area development, a responsibility that they agree ought to be lodged where it is in local government rather than WMATA. Local governments are also undertaking reevaluation of portions of the adopted system as pressures are felt for change. The relative responsibility WMATA should assume for this kind of work has not been clearly defined.

Planning for station area development began several years after the regional system was adopted in 1968. WMATA had authority to acquire land only for right-of-way and for stations. For this reason, and because UMTA funds for station area studies are allocated not through WMATA but through the Transportation Planning Board, WMATA did not take the initiative in station area planning.

Maryland's two counties, the two counties and three cities in Northern Virginia (through the Northern Virginia Planning Commission), and the District of Columbia have been engaged in development planning for several years. All regret that the major decisions had been made before their work began. Development planning could have been done in the context of a coordinated comprehensive planning effort that would have included Metro planning. Because this approach was not taken, development plans are created piecemeal for different station areas and are not coordinated at the regional level. Within Virginia, each city and county takes responsibility for its element and the elements are assembled with few adjustments into the Northern Virginia Planning District's plan. In the District, development planning might not have occurred at all were it not for the efforts in 1971 of a newcomer to the Planning Office staff. Today, after a stack of station area plans has been developed, citizens still criticize the District for the lack of a comprehensive plan that would be a point of reference for the station area plans.

The issue over responsibility for Metro route reevaluations has arisen in recent years as construction presses further into residential areas and people become concerned over the impact of Metro's presence (or absence). WMATA's financing plan was carefully tailored to a specific system, and any alterations in the system would naturally require changes in the financing plan. To avoid this necessity, the WMATA board has agreed that the extra cost of major changes in the adopted system must be borne by the locality involved. The locality also must pay for studies that consider the necessity of such changes. Maryland DOT recently completed such a reevaluation in the context of its I-95 corridor study. The District and Prince Georges County are preparing to study an alternative alinement for the Suitland route through Anacostia.

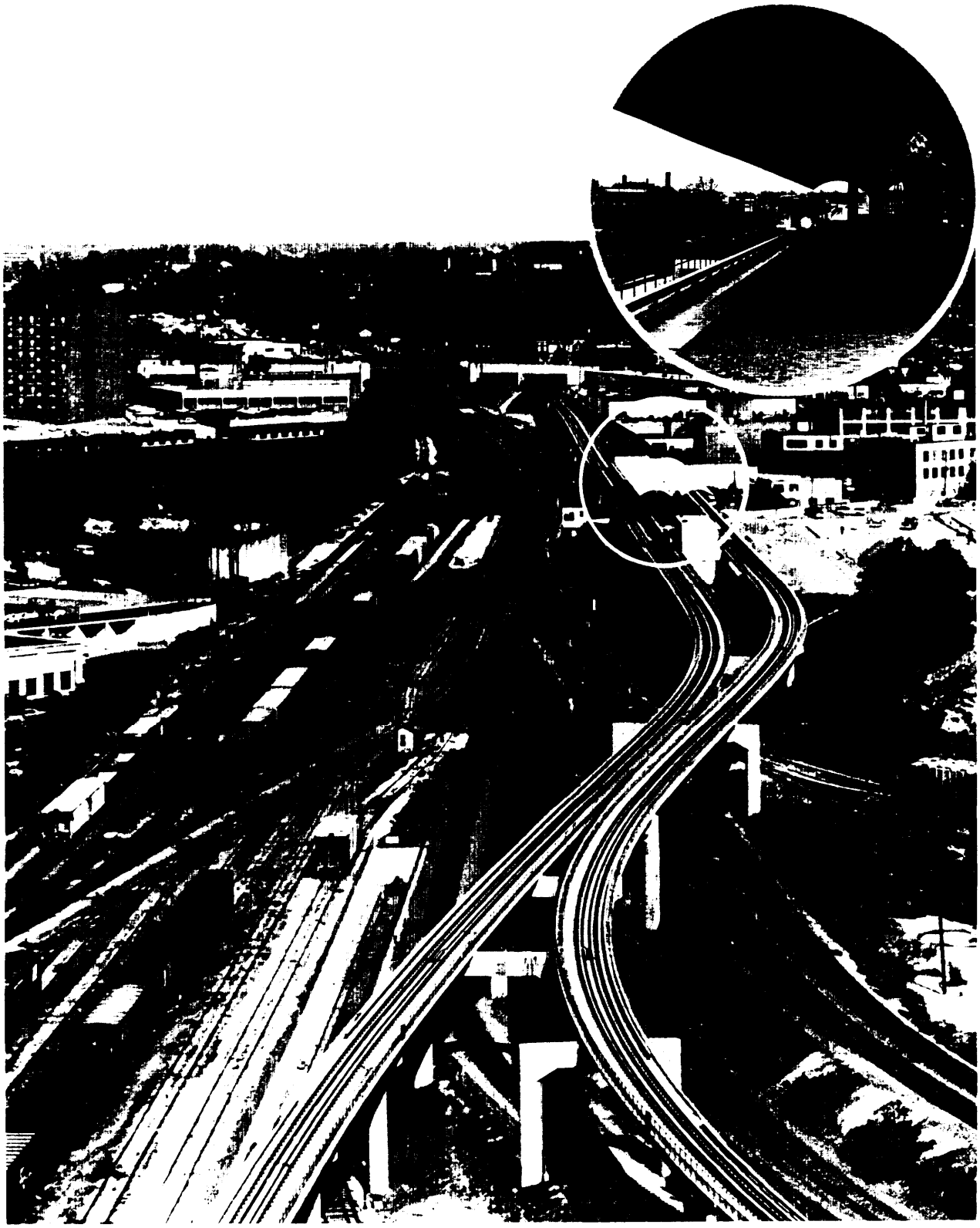
The WMATA board is in the process of creating a policy statement that will help resolve potential future conflicts to sift out which types of changes are the collective responsibility of all WMATA participants and which are the responsibility of local governments.

The final issue with regard to decisionmaking forum and authority concerns coordination between regional highway and transit planning and decisionmaking. As the regional organization charged with coordinating transportation planning in the national capital region, COG's Transportation Planning Board (TPB) logically is the appropriate forum. However, it has almost entirely abdicated its transit decisionmaking powers to WMATA.

TPB was established in 1965 in response to the requirements of the 1962 Federal-Aid Highway Act. It was staffed by highway planners and engineers. State and District highway department representatives sit on the Board and tend to dominate their politician colleagues. Not surprisingly, TPB deals mainly with highway matters.

When the Metro system was adopted in 1968, TPB had not yet published its first 5-year plan and hence was not in a strong position to comment upon the rapid transit proposal. Charged with carrying out COG's A-95 reviews on transportation matters since 1969, TPB now passes approval on any major changes in the system that are brought to its attention, but TPB never opposes a WMATA request. The same political actors are engaged in the WMATA forum and this is where most policies are hammered out.

TPB has two important functions in transit planning. It prepares the region's annual unified work program for submission to UMTA. There-



Poor coordination between transit systems and adjacent development leads to situations such as this one at the Washington, DC., Metro's Rhode Island Avenue station. Residents of the housing complex on the left have no direct access to the station.

fore, TPB is the conduit of funds for station area impact studies. TPB also is responsible for developing the transportation element in the region's long-range plan.

Even in its long-range planning efforts, TPB defers to WMATA. The current long-range plan contains Metro extensions as they appeared on the map of the adopted system in 1968. The reason these and no other routes appear has been explained by a TPB staff member in colorful language: "Jackson Graham (WMATA's General Manager) thumped his fist on the table and said, 'Put them there'." Another indicator of WMATA's power is the fact that the base case network used to test alternatives for a new long-range plan includes the entire 98-mile system—even though most of it is unbuilt—and yet shows no highways other than those in existence today.

TPB's highway orientation, in combination with its relative weakness vis-a-vis WMATA, work against genuinely multimodal planning in the national capital region.

Accountability of Decisionmakers

The degree to which Metro planners and decisionmakers directly represented the people who would use and pay for the system changed significantly over time. At first there was no direct relationship and little substantive communication between the Federally appointed planners and local powers. The structure of the WMATA board, on the other hand, provides for a high degree of accountability and participation by the local governments who have been delegated decision-making authority by their constituents.

The Mass Transportation Survey and the National Capital Transportation Agency (NCTA) work was prepared" by Federal appointees. They had no direct responsibility to an electorate; their degree of cooperation with the local governments varied (Arlington, for example, worked closely with NCTA, while Alexandria did not) but generally was minimal. A number of organizations complained bitterly to Congress in 1963 that they were not consulted in NCTA's work.

WMATA was a more politically accountable organization than its predecessors, and local agencies participated in planning for the first time after WMATA was started. WMATA's accountability is due both the composition of its board and to the realities of the Metro financing situation. The board is made up of two delegates from each of the three major political subdivisions of the national capital region. They are appointed by the District of Columbia City Council from among the Council members, and by Maryland's Washington Suburban Transit District (WSTD) and the Northern Virginia Transportation District (NVTD) from the members of these commissions. NVTD's bylaws require its commissioners to be members of a governing body; a number of WSTD's commissioners may be "qualified residents" rather than office holders. The District names members of the City Council. Hence, a maximum of two of the WMATA board members (the WSTD delegates) could be private citizens, but the majority will be public officials accountable for their actions to their constituents.

A further impetus for accountability at WMATA is the fact that the compact itself represents a complex financial plan keyed to a particular regional transit system. A board member who might want to change it must be prepared to "put his money where his mouth is," in the words of WMATA's community relations director Cody Pfanstiehl, and that necessitates responsiveness to the will of his constituents.

WMATA brought all the local jurisdictions into the same room to plan the adopted regional system. The approach, motivated by the need to negotiate agreement on the financing plan, differed dramatically from the approach taken by NCTA: WMATA succeeded in stemming complaints from local governments about lack of cooperation.

Public Involvement

Participation by the general public in Metro decisionmaking began relatively late in the planning process. Until early 1968, when the first public hearings were held prior to adoption of the regional system, the public could participate only indirectly. WMATA reluctantly has created channels for citizen participation in recent years. Several significant amendments to the system were made in response to citizen pressure, and more changes appear to be in the offing. But, in general, WMATA's approach to public involvement has been defensive and reactive.

Neither the Mass Transportation Survey nor the NCTA attempted to bring public agencies and

citizens into the respective studies in a structured process. Both made a vigorous effort to reach as much of the public as possible in presentations to service clubs, civic associations, and the like. The adequacy of this approach was called into question in 1959 by a staff report of the Joint Committee on Washington Metropolitan Problems, which stated that the business community, banking interests, and existing transportation concerns were excluded from participation. [17]

The NCTA came under heavy criticism for creating inadequate channels for participation by the general public and interest groups. Private transit operators—particularly O. Roy Chalk of D.C. Transit—complained that they had not been consulted when the NCTA developed its plan to mitigate the effect of its transit proposals on bus operators.

The first opportunity outside Congress for the public to comment on Metro plans occurred in January 1968. Regional jurisdictions and the WMATA Board had approved the Proposed Regional System the previous month. In January the plan was presented to the public at a series of 11 public hearings in the District, Maryland, and Virginia. In general, the hearings were not heavily attended.

The hearings in the District, however, marked the first time in a public forum on the rapid rail proposal that the issue of poor service to District residents was raised. Wilbert Williams of Chase, Inc., complained that Metro would serve Rockville residents better than it would the majority of Washingtonians, particularly those in Anacostia. The matter of inadequate service to Anacostia is still an issue today and has prompted the District of Columbia (with cooperation from Prince Georges County) to initiate reevaluation of the Suitland line.

The riots that occurred in Washington in April 1968, shortly after the Metro regional system was formally adopted, proved a catalyst for an important route change in the District. The mid-city alinement (the Greenbelt line) was moved from 13th to 14th Street where it could become an impetus for reconstruction of that riot-torn corridor. Principal advocate of the change, which was formally made in June 1970, was Walter Fauntroy. Fauntroy was a considerable political force in the District, having been a Councilman and a WMATA Board Member. At that time, in early 1970, he was president of the Model Inner City Community Organization. He is now the District's nonvoting delegate to Congress. Fauntroy was able to bring enough pressure to bear to persuade the District to provide an extra $3 million to pay for the increased costs of the route change.

Fauntroy could argue effectively on behalf of the mid-city route because he was an established political figure. But there were few opportunities after the 1968 public hearing for the general public to affect the system, which WMATA considered ready for final design and construction. An attempt by some board members to create a citizens' advisory committee to ensure continued citizen involvement never got off the ground. [18]

WMATA did not begin holding public hearings on its station plans until forced to do so by the courts. It was not until construction had begun on four Metro stations that WMATA first used its power of condemnation. This led to a suit by several landowners, on the grounds that WMATA had condemned private property without public notification. The suit resulted in a ruling by the court requiring WMATA to hold a public hearing each time it buys a piece of land. [19]

WMATA responded by scheduling a public hearing on its "general plans" for a given area. As a result of a second suit focusing on the need for environmental impact reviews, [20] WMATA has revised its procedure to include two public hearings, one on alternatives developed in the impact study and the second on general plans.

The handicapped represent a specific group that has been dissatisfied with WMATA's response to its input. Representatives of a number of organizations for the handicapped testified as early as

[17] Arthur Lazarus, "Metropolitan Transportation," a staff report prepared for the Joint Committee on Washington Metropolitan Problems, April 1958.

[18] Minutes of one of WMATA's first board meetings in late 1966 reveal a proposal by a board alternate member to establish a citizens' advisory committee. It was not discussed and no action was taken on it.

[19] *Bootery, Inc.* v. *WMATA*, U. S. District Court for the District of Columbia, January 6, 1971 (amended January 8, 1971), Citation 326, Federal Supplement, p. 794.

[20] *Birnberg* v. WMATA, Civil Action 73-1853.

1965[21] that they wanted Metro to be fully accessible to the handicapped. Elevators or "inclinators" were proposed as solutions to the station access problem. WMATA took no action on the requests. Now, following a 1973 court decision,[22] WMATA is retrofitting some stations and modifying plans for others to include elevators.

Much of the criticism has come from residents of the residential neighborhoods now being impacted as Metro reaches out from the city center. But in addition to strictly localized opposition, which has surfaced in many cities when their system reaches a similar stage of development, the District's liberal and radical political elements are becoming discontented. However, these groups are not expected to become a major roadblock to completion of the system as long as funding continues to be available. In the words of an individual who was one of Washington's most outspoken antifreeway activists in the late 1960's and early 1970's: "It is very fashionable among a lot of people to hate Metro and not do anything about it."

TECHNICAL PLANNING PROCESS

Due to the dominating role of Congress in Metro decision making, technical planning for the regional system in Washington was subjected to more formal debate than in perhaps any other city. The technical process, as a result, kept pace with and adequately informed the decision making. Decisions were grounded firmly in the technical information provided.

Goals and Objectives

The plans for the basic Metro system and the adopted regional system were developed between 1959 and 1968, before it was an accepted planning procedure to set formal goals. Therefore, no formal process was employed and goals were not always explicitly stated in the Metro plans. However, implicitly the plans are directed to accomplishing a clearly identifiable, albeit controversial, set of goals.

Goals were not formally stated in the two earliest plans *(The* Transportation Plan—National Capital *Region* of 1959, and the National Capital Transportation Agency's November 1962 *Report* to *the President). The* former plan stated that its purpose is to accommodate future transportation needs in the face of an expanding population. The findings and policy statement prefacing the 1960 Act,[23] which mandated the NCTA study, spelled out the need for an improved transportation system to enhance the welfare of the District of Columbia, enable the orderly growth and development of the national capital region, and preserve the beauty and dignity of the Nation's capital. Each of these concepts eventually was used to explain the merits of the transit/highway package that was proposed,

Furthermore, the popular concern over the implications of growth gave direction to both study teams. However, the fact that goals were not explicitly defined allowed confusion to develop over the mandate of Metro's early planners and ultimately contributed to (1) a delay in system construction and (2) an end to multimodal transportation planning in the region. Although in 1959 it seemed clear that the public supported rapid rail as a substitute for new highways, highway interests in 1963 criticized Darwin Stolzenbach and NCTA for assuming that the protransit feeling went further than it really did. A number of observers believe a rapid transit system would be in operation today if Stolzenbach had not made this assumption. A public goal-setting process may have helped resolve the controversy at the beginning.

The desire to plan a coordinated multimodal network was implicit from the beginning of the work on Metro, However, adopting a multimodal approach was never identified as a goal. If it had been, some voices might have been raised when the NCTA lost its authority to plan for highways as well as transit in 1963, victim to the continuing controversy over the appropriate relative roles of highways and transit. Instead, stripping the NCTA of its authority over highway planning led to a seemingly arbitrary modal bias. Since at that time express bus transit was assumed to require reserved lanes in new freeways, and NCTA had lost all authority over freeway construction, planning for express bus transit was abandoned.

In another respect, in spite of the lack of explicit definition of its goals, the Metro technical planning was able to conform relatively well to the area's development objectives as stated in regional

[21] "To Authorize the Prosecution of a Transit Development Program for the National Capital Region," Hearings before the Committee on the District of Columbia, U.S. Senate, 89th Congress, 1st Session, July 20, 21, and 23, 1965.

[22] *Washington Urban League, Inc., et al. v. WMATA,* Civil Action 776-72, January 29, 1973, and October 23, 1973.

[23] Public Law 86-669, July 1960.

comprehensive plans. In 1955 the Mass Transportation Survey staff prepared a general development plan as the first step in its planning process. The NCTA evaluated its alternative schemes against the new "Wedges and Corridors" regional plan prepared in 1961 by area planning bodies. Later, in 1967, population, employment, and land use forecasts prepared by the Council of Governments were used in testing alternatives prior to selecting the final Metro system.

Development and Evaluation of Alternatives

Much of the alternatives evaluation work done for Metro was solid, and some of the technical backup was innovative and pioneering. There has been complaint, however, about the validity of the technical findings at each stage. In particular, there have been allegations that the 1962 NCTA plans were biased toward rail, and that work in preparation for the 1968 referendum relied too heavily on input from localities.

The 1959 Transportation Survey and the 1962 NCTA study can be commended for their breadth of coverage. Both studies examined highway as well as transit alternatives; the NCTA examined not one but several highway alternatives. The 1959 study concluded with recommendations for three transportation modes: auto, rapid rail transit, and express bus. To these modes the NCTA study added commuter rail. (Both mentioned regular bus transit but did not develop service recommendations.) Although today transportation studies routinely pursue such a multimodal analysis, for their time these studies were advanced.

Nevertheless, the studies had their shortcomings. The 1959 study was criticized from two sides. Prorail and antihighway interests attacked it, claiming that it underestimated the need for rail transit. At the same time, conflict within the study staff centered on the allegation that the study's conclusions were unfairly biased in favor of rail rather than bus transit. Although the contention that the 1959 study underestimates the need for rail was justified, it was led to such conclusions because it had to rely on outdated regional comprehensive plans. The staffers who made the second allegation—that the study was biased against rail—have not provided much evidence for this contention.

The only concrete evidence of the controversy is that study leaders refused to publish a draft of the final report prepared by contractors. The consultant, the Institute of Public Administration (IPA), produced a version of the report that cast doubt on the feasibility of rapid transit and emphasized the need for highways; the published version gives equal emphasis to rail and highway recommendations. The IPA staff claimed that their draft of the report was not acceptable because of policy differences, a contention made moot by the fact that the IPA draft also was poorly written, badly organized, and contained errors of fact.

Criticisms of the 1962 NCTA plan took two forms. Some complaints focused on inadequacies in the technical procedure used. For example, NCTA used two alternative land-use forecasts in its evaluation—a commendable step. Unfortunately, the average of the two was used in the development of traffic forecasts, and the information that could have been gained by comparing the effects of two different land uses was lost, The results of the analysis would have been much more useful if separate trip tables for these two land-use futures had been developed.

However, the most serious charge is that NCTA biased its technical studies to favor the rail alternatives. NCTA Director Stolzenbach is characterized as a foe of highways for whom the ends justified the means. There are several concrete allegations at issue. The first criticism is that NCTA, although it considered five alternatives (including an all-bus system), did not quantitatively evaluate all five. This criticism is less strong in light of the fact that several of the alternatives had been considered in 1959, ably and in detail, and the NCTA could rely on this information. The second criticism, by several prohighway groups, alleged that NCTA assumed a low average expressway speed to increase its patronage projections. At low speeds, highway travel looks less desirable compared to high-speed transit.

A third criticism was that NCTA projected large growth for the downtown area in spite of trends already in evidence for decreasing downtown growth. The high growth rate favored a radial rail system, which would be best able to handle high volumes of traffic to and through downtown. The dispersion of transit trips throughout the area tends to increase the attractiveness of a bus system by decreasing the peak hour volumes. (It is not likely, however, that decreases in the volumes forecast by NCTA would have made the all-bus system clearly superior to the rail system.)

Another example of NCTA's willingness to manipulate its findings in order to advance its goals has been alleged by a senior staff member of the study. The 1962 plan shows a dashed line indicating a future rail route heading directly east from the Capitol in the direction of one of the District's enclaves of poor, black residents. Reportedly this line was added to make the plan a more politically palatable to inner city interests. The route was never evaluated in the course of the technical work and was drawn on the map during a midnight conference as the plan was being rushed to completion.

The criticisms of NCTA's lack of objectivity were stated perhaps most forcefully by Martin Wohl, writing as a consultant to the Department of Commerce:

> [The NCTA findings] are not supported by empirical studies and tests and certainly not by historical population, travel, or bus trends over the past two decades. In the main, they merely reflect the judgment of business and civic groups with a central city orientation and vested interests of one sort or another. . . . To use this sort of judgment and "back of the envelope" thinking may result in chronic overinvestment and substantial deficits. [24]

A final inadequacy in both the 1959 and 1962 studies was lack of attention to the "no-build" alternative and alternatives involving only minimal or low capital transit and highway improvements. Such approaches were not usually considered at the time. But although this option was given no formal consideration, over the years some discussion occurred regarding minimal solutions to improving transit. Congressman Joel T. Broyhill testified in 1955 that the new Mass Transportation Survey should determine the feasibility of fringe parking cost and inquire into the desirability of staggered hours of work. O. Roy Chalk of D.C. Transit discussed priority lanes for bus transit in several of his speeches over the years.[25]

After NCTA recommended its rail system for Washington in 1962, there was no further consideration of alternative modes of transit. The analysis that preceded selection of the regional system in 1968 assumed a rail system and examined only route options. No public criticism of the 1967 evaluation of alternative route configurations has come to light, although participants acknowledged there were two shortcomings.

First, the 1967 work was hampered by inadequate base data. The staff was directed to use the COG *Regional Planning Guide* land use/population/employment forecast. The *Guide* was acknowledged to be inadequate, and COG was in the process of updating it at the same time the alternatives were being developed and evaluated. To compensate, WMATA hired a consultant to contact planners in each jurisdiction and record changes in land use policy from the *Guide.*

The second criticism was that the route alternatives selected for evaluation in 1967 were biased by local interests. The 1967 process, led by Alan M. Voorhees & Associates for WMATA, was relatively open compared to its precedessors, and local agencies helped select the alternative systems to be evaluated. Their influence worked against Voorhees' desire to design alternatives for testing purposes to show most clearly which worked best. For example, Voorhees had wanted to evaluate the feasibility of a minimal system, but local politicians insisted on modifications that spoiled the effectiveness of the test.

Representatives from all the jurisdictions came together at an Airlie House workshop in July 1967 to assemble a regional system from elements of the three alternatives. They did so, dividing by State and adjourning to three separate closed-door meetings. Afterwards they assembled and agreed upon the Proposed Regional System. Subsequently, this configuration was tested in light of new COG data, subjected to public hearings, modified and adopted.

To the allegation that the basic system had been chosen because it was best for the District of Columbia was added the contention that the regional system, too, served local interests rather than serving the entire region. The Voorhees staff director for the project stated that the route and station locations followed logically from the technical findings in an inverse proportion to political pressures in the three major jurisdictions. In Maryland, where staff had worked closely with

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[24] **Hearings before Subcommittee No.** 6 of the House District Committee, July 1963, op. cit.

[25] **A** humorous exchange on the subject took place in 1958 before the Joint Committee on Washington Metropolitan Transportation Problems. Congressman DeWitt S. Hyde asked Keneth Hoover, director of the 1959 study, whether he would recommend reductions of parking in order to force people onto rapid transit. Hoover answered, "I am a man of peace, Mr. Hyde. " The two men agreed the best that could be done was to try to "attract" ridership.

WMATA, the alternatives testing yielded data that provided an adequate base for rational decisions on routes and station locations. The District also worked closely with WMATA but was dominated by the suburbs and usually conceded to their wishes. Virginia, through the staff of the Northern Virginia Transportation District, was at loggerheads with WMATAover a number of issues and allegedly bowed to the wishes of politicians. Unrealistic alternatives were tested, and the system in Virginia therefore did not grow out of a logical process. The Franconia branch on the Springfield line was described as an example of a purely political decision with no technical justification; it was dropped following later study.

WMATA considered the Regional Metro System to be fixed after it was adopted in 1968. It was thought to be ready for final design and construction with no further need to look at alternatives. One and a half years later the National Environmental Policy Act was enacted, and environmental assessments were legally required of major actions by the Federal executive branch affecting the environment. The Metro system was exempted from NEPA, as it is not sponsored by a Federal agency, but in 1973 a court ruling[26] required WMATA nevertheless to identify alternatives to environmentally harmful actions. The studies are being conducted on segments (portions of line 1 or 2 miles long, usually with a station) or groups of segments. Their findings are made public at hearings, citizen comments invited, and the package presented to the WMATA board for it to recommend a course of action. One of the six completed studies has resulted in dropping an alinement (the Franconia branch, mentioned earlier in this case assessment).

The environmental review process in theory gives citizens a role in selecting alternative alinements and station designs. However, WMATA's review did not provide for reevaluation of major sections of the system. The consultant[27] prepared a regionwide environmental assessment in which highways were the only alternative considered; alternative modes (e.g., light rail, bus) were not investigated. The adopted system was given a stamp of approval.

Some additional alternative studies of portions of the adopted system have been done or are underway outside WMATA. The District and Prince Georges County recently have agreed to finance a study of an alternative route for the Branch Avenue line. Citizens in the District's Anacostia communities have complained ever since the 1968 hearings that they were inadequately served by the line to Branch Avenue.

A particularly admirable process was sponsored by the Maryland Department of Transportation in a corridor of Prince Georges County roughly overlapping the Greenbelt alinement. Goals were set, evaluation criteria derived, and multimodal transportation alternatives studied in the context of a broadly participatory process. The study concluded with the decision to delete a section of Interstate Route 95 and to request moving the Metro alignment several miles to the West. The WMATA staff approved; the board has not yet acted.

Financial Plan

Metro's financial planning has been criticized for two key failings: (1) costs have been consistently underestimated, and (2) WMATA has repeatedly delayed altering its financial plan to keep pace with rising costs. The shortcomings of Metro's financial planning, in combination with steeply rising construction costs, have jeopardized completion of the 98-mile system.

An assessment of the financial plan is central to an evaluation of Metro planning because financial considerations have influenced the size of the system, the willingness of the local jurisdictions to cooperate in the undertaking, and the willingness of voters to buy into the system.

Since the Regional Metro System was adopted in 1968, the estimated cost of constructing the system has risen from $2.5 billion to $4.5 billion. Consequently, WMATA faces a dilemma. The financial plan is keyed to the full 98-mile system. Jurisdictions have all contributed accordingly and would sue for recovery of funds if service were cut. In addition, a smaller system could not draw the original patronage and revenues and would not balance costs. But WMATA claims that if it does not get the added funds, 36 stations will have to be eliminated, causing a 26 percent loss in ridership and a 35 percent loss in revenue. In addition, more funds would have to be spent on buses to serve some of the lost patrons, and new ratios between patronage, fares, and revenues would have to be approved.

[26] Birnberg v. WMATA, Civil Actions 73-1853 and 74-1740.
[27] Wallace, McHarg, Roberts & Todd.

Inflation, compounded by delays in construction, is responsible for the increase in the estimated cost of the WMATA system. The original estimate in 1969 assumed a 5 percent inflation rate over the 40-year construction period. By 1970, the inflation assumptions already proved too low and were adjusted upward to an average of 6.7 percent over 7 years,

A WMATA report, submitted March 31, 1975 to the House Committee on the District of Columbia illustrated the impact of inflation on Metro. The table that follows, excerpted from the WMATA report, is a comparison of WMATA's 1970 forecasted rates with the actual annual percentage change (inflation) and price index.

Comparison of Forecast With Actual Cost of Metro

Date	Forecast Nov. 30, 1970		Actual Cost Review	
	Annual percent change	Price index	Annual percent change	Price index
Jan. 1, 1969	—	100,0	—	100.0
Jan. 1, 1970	7,40	107.4	7.70	107.7
Jan 1, 1971	10.99	119.2	10.40	118.9
Jan. 1, 1972	8.81	129.7	8.66	129.2
Jan. 1, 1973	7.40	139.3	7.50	138.9
Jan. 1, 1974	6.25	148.0	7.20	148.9
Jan. 1, 1975	5.81	156.6	8.93	162.2

The table shows that the original assumption about inflation was inaccurate by January 1975. WMATA material illustrates the impact of increasing oil prices on its vast material purchases and also shows the result of the lifting of Federal price controls for particular key materials such as steel. More generally, WMATA also stated that the original escalation assumptions were wrong because the 1969 forecasts had assumed the Vietnam War would be over by late 1971 and that the war-generated inflation would abate.

In addition to inflation, numerous project delays contributed to escalating costs. Delays occurred in acquiring land rights from the railroads, particularly for the Green belt route along the B & O tracks. It had been assumed that railroad rights of way would be relatively inexpensive because their use would minimize the need for relocation. In fact, serious delays were encountered because the railroad personnel were not in a position to be generous because of their own precarious financial position.

Other land acquisition delays were caused by what WMATA calls "disputes with local jurisdictions." For example, the City of Alexandria changed its mind on whether or not to use a rail right-of-way for a major Metro route. The track right-of-way was finally chosen, but only after time had been lost. Changes in required administrative procedures also caused delay and extra expense. For example, environmental review requirements were imposed after the original cost estimate had been made.

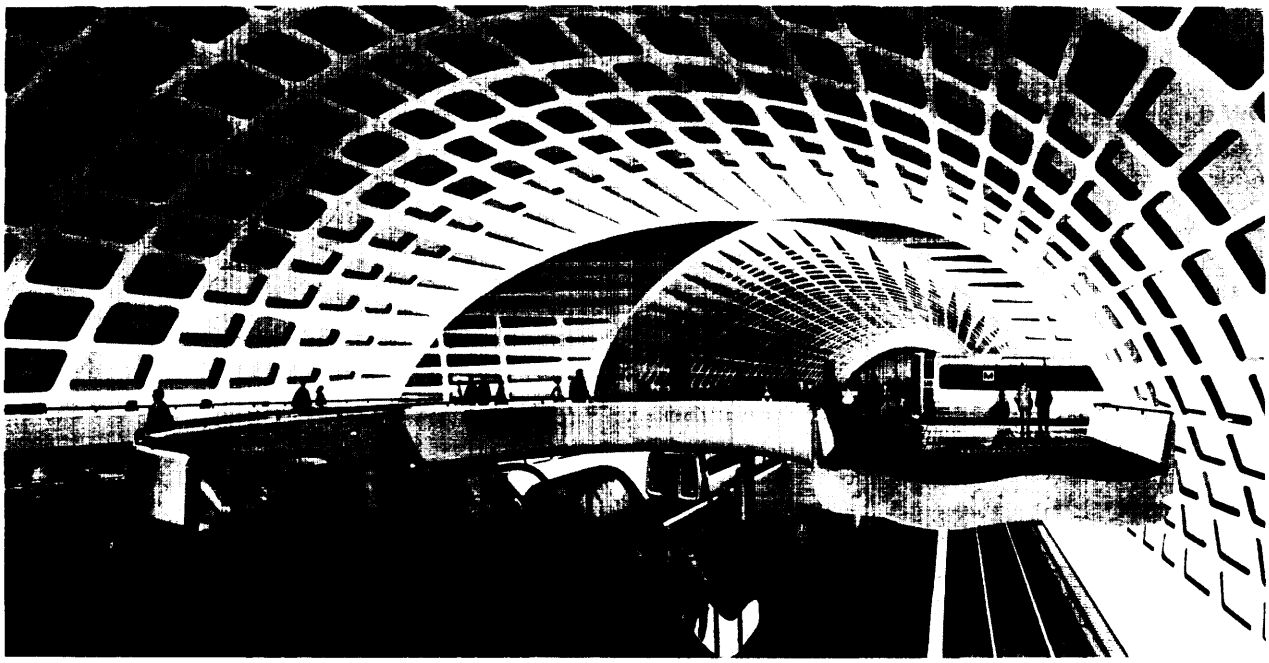
Other delays and cost increases relate more closely to the design and construction methods of the system. These have to do with unforeseen soil conditions; requirements (imposed by the U.S. Park Service, for example, in Lafayette Square) that the construction method be tunnel rather than cut-and-cover as originally assumed; more stringent utility-handling requirements imposed by the local utilities company after the original estimate; and new environmental requirements.

The erroneous inflation assumption in turn compounded the cost of every project schedule delay because it meant everything would have to be purchased at higher prices.

Certain design decisions also added to the cost of Metro. A vaulted station ceiling was chosen for all stations. The engineers claimed in the beginning that the vault was more expensive than boxlike construction of stations that would allow height to be determined by individual rock conditions. Others, led by design-oriented architects, claimed the regularity of design would save time and cost by using standardized materials and by allowing designers to develop each station more quickly and efficiently with less chance for requiring change orders from the field.

The technical aspects of delay and cost increase are easy to describe, for there is ample precedent on other major public works. The political delays are more difficult, particularly the delays Congressman William Natcher caused by withholding the District's local matching funds pending a resolution of the highway funding for Washington. Mr. Natcher claimed that the system would cost more than WMATA estimated. WMATA officials claimed that he created a self-fulfilling prophecy, because the delays he caused escalated the costs by over $100 million.

At this point the lesson learned from the cost increase is not conclusive. On the one hand,



The vaulted ceiling design chosen for Metro's underground stations may have added to the system's cost

WMATA was criticized for including too small an inflation factor in the original estimate. On the other hand, contingency plans were overly optimistic: a 10 percent factor for incomplete design. The cost estimates were assumed to be valid "if all went well ." The history of Metro suggests the tenuousness of so optimistic an assumption.

Some observers have commented in retrospect that the size of the system and the source of funding contributed heavily to the cost increases. For example, much smaller systems designed in Montreal and Toronto and funded by local rather than Federal sources stayed within their budgets better than WMATA. Others claim that the Corps of Engineers background of the WMATA builders led to a lack of concern for cutting costs. And still others state that WMATA was certainly not the only body, private or public, that made investment miscalculations during the late 1960's.

The financing plan currently in effect is based on a total system cost of $2,980,200,000. WMATA's plan calls for the Federal Government to provide $1.441 billion through grants to be matched at a ratio of two Federal dollars for each local dollar contributed. Thus the local jurisdictions in the plan are to provide $720.5 million. The remainder, slightly less than $900 million is to be made up by revenue bonds issued by WMATA, bonds which will have a Federal guarantee together with a good faith pledge by the localities to support the debt service. Responsibility for the local share was divided in accordance with a weighted formula that took account of amount of construction, train miles and stations, population, and ridership in each of the jurisdictions.

When the estimate rose to nearly $4.5 billion, WMATA called for the Federal Government to provide an additional $1.25 billion. A portion of this increase represents a retroactive increase of the Federal funding share to 80 percent in keeping with the UMTA capital grant program, The local share would increase by $135 million.

The chief alternative to this option, other than reducing the size of the system, is to transfer funds available for high way construction to the rail rapid transit. This alternative is available under the 1973 Federal Highway Act and is OMB's recommendation at least for the D.C. area, which has formally requested the transfer. The Maryland Department of Transportation also has requested transfer of

funds allocated for a section of I-95 but has not clearly indicated whether it would commit a portion of the money thus released to Metro. In Virginia, the Governor and State highway commission adamantly oppose diverting funds from deleted I-66 to any transit project.

Finally, even with the transfer, the local jurisdictions would be required to produce substantial sums of money, chiefly because of requirements that they fund bus operating deficits now as well as rail capital costs. Once they have exhausted their own financial capabilities, the localities may turn to the States for aid. Northern Virginia communities already requested the State legislature to levy a sales tax increase in the region to be devoted to transportation. The State refused in early 1975. Maryland's DOT has been providing the Maryland portion of Metro contributions since 1973. Any request for additional funds would have to compete with priorities that are set statewide.

Historically, financing plans and cost estimates for Metro always have been controversial. One of the reasons Congress rejected the first financing proposal in 1962 was its concern that the Federal share was excessive. NCTA's revenue projections in 1962 were ridiculed by many critics, who doubted that operating revenues from such a rapid transit system would in fact be able to pay back the bonded debt.

The doubt continues today. It is exacerbated by dramatically rising operating deficits on Metro's bus operations. During its first years of service, Metrorail also is expected to operate at a loss. However, WMATA still holds to its claim that revenues from the fully operating Metro system will meet operating costs with a surplus for paying off part of the bond indebtedness. In August 1975, a commit tee of WMATA board members recommended a fare "structure designed for this purpose that the *Washington Post* said might lead to the "world's costliest ride" on an urban transit system. [28] Although WMATA's projections may be intended to reassure nervous local governments, there is little 'reason to expect that they will be taken seriously at a time when transit systems across the country are experiencing rapidly accelerating rates of growth in operating deficits.

In spring 1975 WMATA, COG, and UMTA were planning to conduct a study of alternative transportation modes for the yet unconstructed extremities of the system that would consider the option of cutting the system back. As of this writing, no products of such a study had been reported. Hopefully the effort will provide ample information about alternative courses of action for the public and their officials to draw upon in making what promises to be a difficult choice. Some observers expect this kind of investigation will show the need for a combined transportation-land-use policy that gets at the source of the transit financing problem by leading to more efficient patterns of urban development and land use.

Obviously, it is extremely important for WMATA to restore faith in its financial planning. The completion of the system—any system—hangs in the balance.

[28] Jack Eisen, "Metro May Prove the World's Costliest Ride," Washington Post, September 1, 1975.



Summary Case Assessment

The purpose of this section is to summarize the nature of the transit planning and decisionmaking process in the Washington region in light of the guidelines listed in the approach to the assessment. The summary, therefore, is divided into two parts: (1) Assessment of the Institutional Context, and (2) Assessment of the Technical Planning Process.

1. ASSESSMENT OF THE INSTITUTIONAL CONTEXT

- **Forum for Decisionmaking.—In early** years Congress provided the Metro decisionmaking forum. Since the creation of the Washington Metropolitan Area Transit Authority (WMATA) in 1966, the region's governments have negotiated most transit policy decisions during WMATA board meetings, although the Metropolitan Washington Council of Governments (through its Transportation Planning Board) is the officially designated forum. Under these circumstances WMATA's transit planning has tended to be inadequately coordinated with the efforts of other agencies. Relevant agencies are notified of WMATA's plans but, in general, only those who are helping pay for the system have influence on the plans. Early Metro planners were sharply criticized for failure to coordinate effectively with interested public agencies.

- **Accountability of Decisionmakers.—Early** Metro planners bore no direct responsibility to a constituency. In contrast, most WMATA board members must hold elected positions in their jurisdictions and, through them, can be held accountable by the public for their actions. The agency was created by interstate compact and given authority to plan transit (although the power to make long-range transit decisions now nominally belongs to the Council of Governments).

- **Public Involvement.—The** general public was excluded from early Metro planning and involved in system selection only indirectly through their elected officials. Although the courts since then have forced WMATA to hold public hearings on station area plans, the agency has never taken the lead in structuring a process to involve citizens in a more substantive way.

2. ASSESSMENT OF THE TECHNICAL PLANNING PROCESS

- **Goals and Objectives.—Metro** was planned before it was common to develop formal goals. Responding to widespread public concern over the implications of future growth, NCTA assumed it had a mandate to plan an extensive rapid rail system in order to cut back the highway program. The ensuing controversy contributed to delaying a decision to build Metro for several years.

- **Development of Alternatives.—The two** early studies (1959 and 1962) considered highway, express bus, and rail transit alternatives in a multimodal approach that was advanced for its time. However, only transit alternatives were considered in the 1967 study that led directly to adoption of the Regional Metro System, and at least one of the alternatives was designed to answer political rather than technical concerns.

- **Evaluation of Alternatives.—Although based** on an outmoded regional comprehensive plan, the Washington region's first transit study in 1959 conducted a fair evaluation of alternatives. In contrast, the planning during the next 3 years, which laid the groundwork for the system eventually adopted, was accused of biasing its data to favor rail transit. In fact, the political debate on the transit versus highways issue had more influence in shaping transit decisions than the technical findings did.

. **Financing and Implementation.—From the earliest period Metro supporters assumed that the system would be backed by Federal** money and that it would eventually turn a profit. As construction costs and projected operating deficits both rise, local governments and the Federal Government alike are wary of making new financial commitments, and as a result completion of the system is in jeopardy.