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TO CONSIDER ACCOMMODATIONS FOR HANDICAPPED ON METRO SYSTEM

GOVERNMENT

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HEARING BEFORE THE SUBCOMMITTEE ON PUBLIC BUILDINGS AND GROUNDS OF THE COMMITTEE ON PUBLIC WORKS HOUSE OF REPRESENTATIVES NINETY-SECOND CONGRESS

SECOND SESSION

JUNE 29, 1972

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CONTENTS

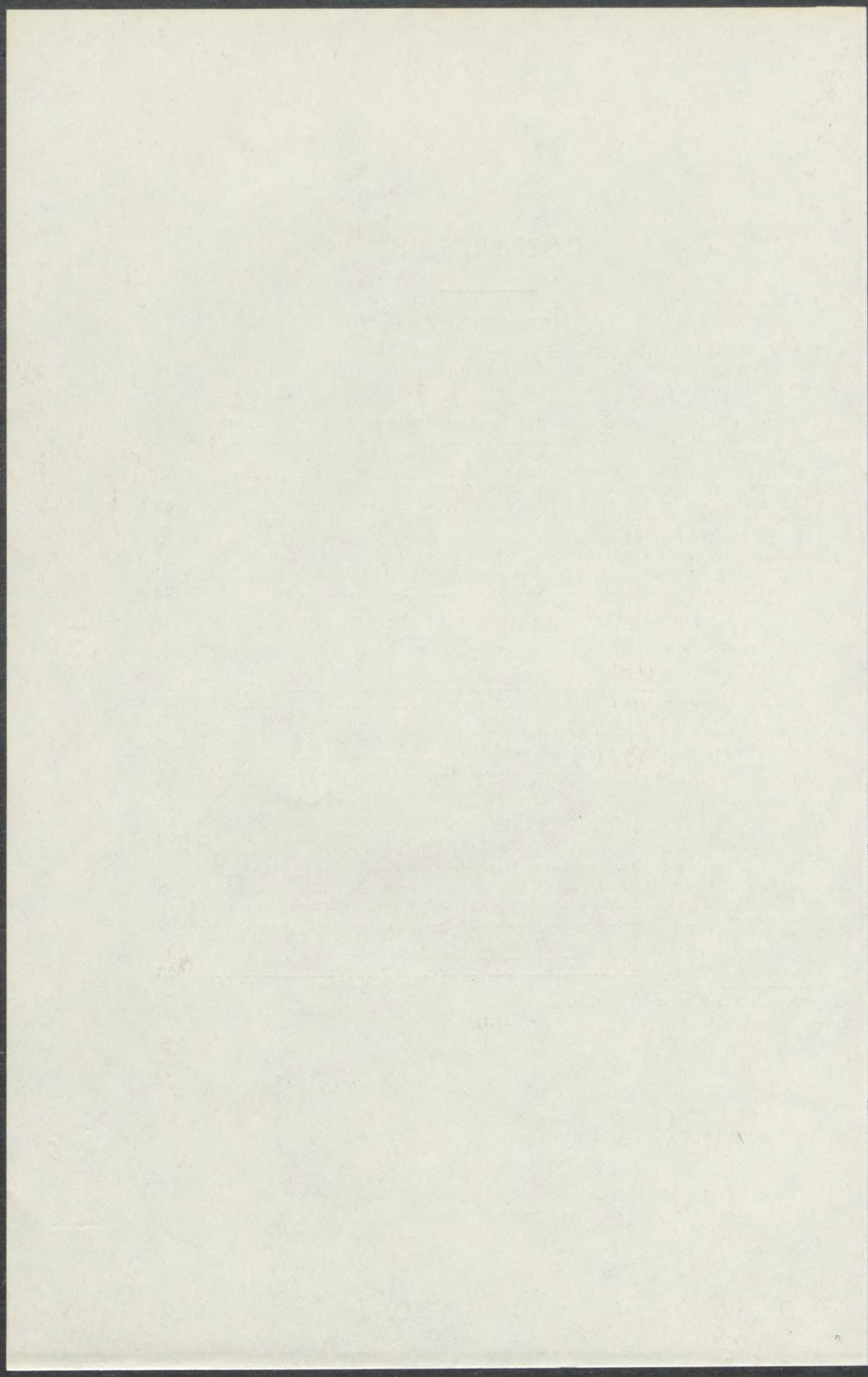
TESTIMONY

Fisher, Joseph, chairman, board of directors, Washington Metropolitan Area Transit Authority; accompanied by Warren Quenstedt, acting general manager; Roy T. Dodge, chief of engineering and operations; Ellis S. Perlman, Government relations officer; John Brill, assistant general counsel; Sprague Thresher, director, Office of Architecture; and Jerome Alper, special counsel-----	Page 28, 54
Hedding, Richard, architectural barrier chairman, National Paraplegia Foundation, Nation's Capital Area chapter-----	14, 70
Kendrick, Dr. Margaret, chairman, Department of Physical Medicine and Rehabilitation, Georgetown Medical Center, Washington, D.C.-----	63
McCahill, William P., Executive Secretary, President's Committee on Employment of the Handicapped; accompanied by Edward H. Noakes--	2
Stanton, Barney F., Jr., legislative chairman, National Association of the Physically Handicapped, National Congress of Organizations of the Physically Handicapped-----	68

MATERIAL RECEIVED FOR THE RECORD

Fisher, Joseph, chairman, board of directors, Washington Metropolitan Area Transit Authority:	
Statement-----	28
Draft legislation, Jan. 11, 1972-----	35
Minutes, 197th meeting of the board of directors, Aug. 27, 1970-----	36
Application for a research and development grant under Urban Mass Transportation Act of 1964, as amended-----	(*)
Resolution, May 18, 1972-----	37
Fox, Wm. Baltzer, chairman, Committee on Barrier Free Architecture, Potomac Valley Chapter, American Institute of Architects, letter-----	73
Hill, Mrs. Donald R., president of the League of Women Voters of the National Capital Area, statement-----	72
McCahill, William P., Executive Secretary, the President's Committee on Employment of the Handicapped, letter from General Services Administration, March 18, 1969, and additional documents-----	3
Schweikert, Harry A., Jr., representing the Paralyzed Veterans of America, statement-----	66
Villarreal, C. C., Administrator, Urban Mass Transportation Administration, letter dated December 17, 1971, to Jackson Graham, general manager, WMATA-----	23

*Retained in Subcommittee files.



ACCOMMODATIONS FOR HANDICAPPED ON METRO SYSTEM

THURSDAY, JUNE 29, 1972

HOUSE OF REPRESENTATIVES,
PUBLIC BUILDINGS AND GROUNDS SUBCOMMITTEE
OF THE COMMITTEE ON PUBLIC WORKS,
Washington, D.C.

The Subcommittee on Public Buildings and Grounds met in room 2167, Rayburn House Office Building, pursuant to notice, at 10:10 a.m., Hon. Kenneth J. Gray, chairman, presiding.

Mr. GRAY. The Subcommittee on Public Buildings and Grounds will please come to order.

First, I want to thank all of our witnesses for coming.

The purpose of this hearing is to review the construction of the METRO System in the Washington area and how it relates to facilities or the lack of them, as the case may be, to accommodate the physically handicapped.

The House Committee on Public Works passed H.R. 14464, which was signed into law March 5, 1970, which reads as follows, I quote:

An act to insure that certain facilities financed with Federal funds are so designed and constructed as to be accessible to the physically handicapped.

It has been brought to our attention by members of organizations and individuals that the METRO System is not being designed and constructed in accordance with the law that was passed to insure that the system would be able to accommodate the thousands of the physically handicapped who live in the Washington area and the other millions who will be visiting the Nation's Capital in the years to come.

We want to hear from the representatives of the handicapped, from the METRO officials, and other organizations concerning this matter. That is the reason for the hearing this morning.

The Chair would like to call Mr. William P. McCahill, Executive Secretary, President's Committee on Employment of the Handicapped.

Is Mr. McCahill here?

Mr. McCahill, we are delighted to see you this morning. We appreciate so much your coming.

Mr. McCahill. Thank you very much, Mr. Chairman.

Mr. GRAY. You may proceed in your own fashion.

STATEMENT OF WILLIAM P. McCAHILL, EXECUTIVE SECRETARY,
THE PRESIDENT'S COMMITTEE ON EMPLOYMENT OF THE HAND-
ICAPPED; ACCOMPANIED BY EDWARD H. NOAKES, BETHESDA,
MD.

Mr. McCAHILL. If it please the Chair, I would like to have Mr. Edward Noakes accompany me.

Mr. GRAY. We will be delighted to have him appear.

Mr. McCAHILL. Mr. Noakes is a prominent architect of Bethesda, and is vice chairman of our Committee on Barrier Free Design, which is made up of representatives of the national design organizations all over the country dedicated to making the physical environment more accommodating to the physically handicapped.

Mr. GRAY. We are delighted to see you, sir. We appreciate your coming.

Mr. McCAHILL. Mr. Noakes was instrumental in getting the Potomac Valley Chapter of the American Institute of Architects interested in the project of devising an inclinator or inclined elevator as a possible solution to getting handicapped passengers into the METRO System.

So, he is our expert.

Mr. GRAY. This committee is well aware of Mr. Noakes' work, and we appreciate it very much.

Mr. McCAHILL. As a representative of the President's Committee and much of the Federal Government before you today, Mr. Chairman, and gentlemen, I do appreciate this opportunity to present the views of the President's Committee.

It does seem regrettable that the need still exists for us to reaffirm our convictions regarding this subject. We are more than ever convinced that our Nation's Capital must have an accessible rapid transit system for all users.

I would like to begin my remarks with a reminder that the Congress in its intent and in its acts has always been firm that the METRO System should be designed to accommodate the handicapped.

In reporting on "Rail Rapid Transit for the National Capital Region," the 89th Congress, on August 23, 1965, stated the following in the Senate District of Columbia Report No. 637, and I quote :

During the committee's hearings a great deal of interest was expressed on providing a subway system that would meet the needs and convenience of the physically handicapped and our senior citizens. The Administrator of the National Capital Transportation Agency in his testimony assured the committee that a ramp system would be included in the subway system in order to facilitate its use by handicapped persons.

The committee was pleased to receive this assurance. In order that this policy can continue to prevail, the committee directs the National Capital Transportation Agency to take whatever action may be needed with regard to the future planning and actual construction of the subway to make the system readily accessible to disabled, elderly, and other handicapped persons.

Parenthetically, I might say I was talking to Warren Quenstedt earlier and mentioned today I am 56, and I was 7 years younger when we first started these hearings.

Mr. GRAY. Congratulations.

Mr. McCAHILL. Thank you very much.

On August 12, 1968, Public Law 90-480 was signed into law. This legislation provides that any facility constructed in whole or in part with Federal funds must be made accessible to the handicapped.

Accessibility has been defined by the General Services Administration, which is responsible for administering the law, to include the provision of elevators in any multistory facility.

It was generally considered that this public law would, among other things, formalize the general understanding that the METRO System in the District of Columbia would be fully accessible.

The distinguished chief counsel of your committee, Dick Sullivan, said in his interpretation of this legislation on March 24, 1969, and I quote:

Based on Public Law 90-480 legislation to insure that certain buildings financed with Federal funds are so designed and constructed as to be accessible to the physically handicapped:

1. The committee intended under the designation of the definition of a "building" that it include a "facility" and facility would cover among other things operations of airports, railroad stations, subway stations, et cetera.

2. That any such facility financed in whole or in part by a grant or loan made by the United States would be subject to the terms and conditions of Public Law 90-480.

In addition, the chairman of the Senate Public Works Committee concluded likewise in a letter he addressed to the Paralyzed Veterans of America on January 9, 1970.

In responding to an inquiry as to whether the requirements of Public Law 90-480 applied to public transit, he stated:

It was intended by the Congress in enacting Public Law 90-480 that the provisions of this law requiring that structures, which are to be used by the general public and are financed in whole or in part with Federal funds, be designed and constructed so as to be accessible to the physically handicapped apply to all such structures regardless of whether they are constructed above or below ground. It was the intent and is the opinion of this committee that the provisions of the Public Law do apply to subway stations and surface transportation stations if any Federal funds are used for their construction. The committee very plainly stated its intent in reporting S. 222, which became Public Law 90-480.

Subsequently, as we all know, a shadow of doubt was thrown upon this interpretation by General Services Administration because of the unique financial arrangements surrounding the contributions made to the construction of the subway by the four governmental bodies involved.

The reasoning behind GSA's legal appraisal of the language of the law is contained in a letter, dated March 18, 1969, addressed to our chairman, which I would like to submit for the record.

Mr. GRAY. Without objection, it will be submitted at this point.
(The material referred to follows:)

GENERAL SERVICES ADMINISTRATION,
Washington, D.C., March 18, 1969.

HON. HAROLD RUSSELL,
Chairman, The President's Committee on Employment of the Handicapped,
Washington, D.C.

DEAR MR. CHAIRMAN: Reference is made to your letter of March 5, 1969, inquiring as to whether or not the provisions of Public Law 90-480 are applicable to the METRO System to be constructed in the Washington metropolitan area.

As you are aware, Public Law 90-480 made the Administrator of General Services responsible for promulgating standards for design and construction which will insure that handicapped persons will have ready access to and use of certain buildings. The term "building" is statutorily defined for this purpose as being either a building or a facility which is either for this purpose as being either a building or a facility which is either (1) constructed or altered by or on behalf of the United States; (2) leased by the United States after construction and alteration in accordance with Federal plans and specifications; or (3) financed

in whole or in part by a grant or a loan made by the United States after August 12, 1968, if the building or facility is subject to standards for design, construction or alteration issued under authority of the law authorizing such grant or loan.

Pursuant to the provisions of Public Law 89-774 of November 6, 1966, 80 Stat. 1324, the functions of the National Capital Transportation Agency (a Federal agency) have been transferred to a non-Federal regional organization, the Washington Metropolitan Area Transit Authority. Accordingly, it appears that construction of the METRO System will not be effected by or on behalf of the United States as contemplated under the first part of the definition in Public Law 90-480 of buildings and facilities subject to standards to be prescribed by the Administrator of General Services.

The METRO System would clearly not be a facility leased by the United States.

It is highly doubtful that the system would be a facility financed in part by a grant or loan made by the United States subject to standards of design and construction issued under authority of the law authorizing such grant or loan. In Section 2(b) of the National Capital Transportation Act of 1965, 79 Stat. 663 (40 U.S.C. 681(b)), Congress declared that the cost of improved mass transit facilities "should be financed, as far as possible, by persons using or benefiting from such facilities, and their remaining costs should be shared equitably among the Federal, State, and local governments." See also Title III, Article VII, paragraph 16 of the Washington Metropolitan Area Transit Regulation Compact, Public Law 89-774, 80 Stat. 1331, to like effect. Nothing in the foregoing language is indicative that a loan or grant of the type contemplated in Public Law 90-480 is to be made. Further, H.R. 4210 introduced in the House of Representatives on January 23, 1969, refers to "contributions" rather than to a loan or a grant.

Finally, it does not appear that the METRO will be a facility subject to standards for design or construction issued under authority of the law authorizing a Federal grant or loan. Currently enacted legislation authorizing appropriations to be made for mass transportation facilities (Section 5(a)(1) of the National Capital Transportation Act of 1965) attaches no condition that construction of the METRO system be carried out subject to any Federally prescribed standards.

In view of all of the foregoing, we are inclined to believe that the standards benefiting handicapped persons, to be issued by the Administrator, will not be applicable to the METRO System. However, you might wish to seek a definitive legal opinion from the Washington Metropolitan Area Transit Authority itself.

In any event, we would suggest that you discuss with the Authority the need for incorporating into the METRO System such construction elements as will enable handicapped persons to use this public facility. It seems reasonable to assume that the Authority would be receptive, for all of the reasons expressed during hearings on Public Law 90-480. As you are already aware, many public and private entities had adopted and have been prescribing standards of the nature contemplated in Public Law 90-480 long before the enactment of this statute. There is no reason to suppose that the Authority would be less cooperative.

Sincerely,

ROBERT L. KUNZIG,
Administrator.

Mr. McCahill. As a result, H.R. 14464 was introduced in the House of Representatives. The need for this legislation was clearly stated in its accompanying report:

Congress has authorized a complete subway system for Washington and the metropolitan area. The question arose as to whether the provisions of Public Law 90-480 were applicable to the construction of this particular public facility. By virtue of the unique Federal-State relationship created through the compact and otherwise, in this instance, doubt has been cast as to whether this METRO facility was in fact subject to the law. This legislation will resolve that doubt. . . .

The amended act, as you know, was passed on March 5, 1970, and specifically requires that the provisions of Public Law 90-480 be applicable to the facilities of the Washington Metropolitan Area Transit Authority.

Before being acted upon by the Senate, we sought an interpretation of its effect from the General Counsel of the General Services Administration. He stated that, and again I must quote:

H.R. 14464, as passed by the House of Representatives on December 15, 1969, would extend the requirements of Public Law 90-480 to the METRO System. To paraphrase the report of the House Committee on Public Works on the bill (House Report No. 91-750, December 12, 1969), this legislation will make it clear that the construction of the subway stations, entrances, exits thereto, and all other related facilities necessary for the METRO System will in fact be subject to all of the requirements of Public Law 90-480, except with respect to buses, subway cars, trains, and other rolling stock.

Immediately after this bill became law, we received from the Acting Administrator of General Services Administration a response to our specific question as to whether GSA regulations would require that elevators be provided in the METRO System. His reply stated in part, and I quote:

As a result of the recent amendment to the act by Congress, it is our intention to make the American Standard Specifications for Making Buildings and Facilities Accessible to and Usable by the Physically Handicapped, No. A117.1-1961, applicable to the Metropolitan Washington transit system, as it is to other buildings now subject to the act.

This standard prescribes certain minimum widths for entrances, doors, and doorways, and also requires that elevators be provided which are accessible to and usable by the physically handicapped on the level that they use to enter and at all levels normally used by the general public. Elevators are required to allow for traffic by wheelchairs. The inclined elevators proposed * * * appear to meet the requirements of this standard.

The regulations which were published in the Federal Register relative to this legislation made no exception to the METRO construction. It said, "regardless of design status or bid solicitation as of September 2, 1969."

Subsequently, on July 23, 1970, the Administrator of General Services Administration forwarded certain materials concerning design standards to assure the accessibility of METRO to the general manager of the Washington Metropolitan Area Transit Authority. In his October 15, 1970, response, the general manager of WMATA stated:

... it is the purpose of this organization to provide accommodations for the handicapped at all stations. However, at this stage of design, it is impossible to state unequivocally that this can be accomplished at all stations, but the architectural studies which have been made of the 86 stations within the system hold out encouragement for success.

To our knowledge, the General Services Administration to date has taken no further precautionary steps to assure that the provisions of the law were being followed in the design or construction of the METRO System.

Here, perhaps, is a crucial soft spot in trying to make Public Law 90-480 work well. In all of the federally funded construction projects around the country, there is no systematic method to weigh administratively whether the provisions of the law are being heeded.

We continue to funnel complaints of voluntary "watchdog" committees to the GSA where a building goes up with inaccessible features.

True, corrections are made promptly by the GSA, but their prior prevention would be more satisfying. It seems an anachronism in this day and age that we must depend on vigilante committees to enforce the will of Congress.

We had expressed the hope that GSA would make an early review of existing subway plans drawn up by WMATA to assure that final drawings were not locked in before adequate provisions were made for elevator shafts or other features.

To our knowledge, however, there is no administrative procedure whereby GSA reviews the construction plans or the onsite projects as the various phases of the METRO System take shape through the Washington metropolitan area.

Parenthetically, we requested General Services Administration, on May 19, 1971, to make a survey, in connection with the authorization granted the Administrator by the legislation, to ascertain the extent of compliance with this law, particularly with respect to those Federal agencies that administer construction grants and loans. We were told promptly and politely, and I quote:

The Federal Procurement Regulations which implement section 2 of this act have been effective since September 2, 1969, and we agree with you on the advisability of a survey to determine how well each agency is carrying out its responsibilities under these regulations. We are especially concerned with those agencies which administer loans and grants. Consequently, we will, within 2 weeks, request the head of each Federal agency having this responsibility to furnish us the necessary information for the survey, and will keep you advised.

We are still waiting for the results of that survey, although I understand that its compilation is continuing. Perhaps this points up on the part of the handicapped constituency around the country, their disillusionment that this law is the rainbow-colored harbinger of their bright tomorrow.

Incidentally, we now have a more accurate picture of this handicapped constituency since we last testified. Figures recently released by the National Center for Health Statistics puts the number of persons in our population who use special aids such as wheelchairs, crutches, braces, et cetera, at 6,226,000. This, of course, does not include all the aging, the cardiacs, and arithritics, and others who do not use orthopedic aids, but who would benefit by a more accommodating environment.

I am not prepared to state here today how closely and how accurately the Washington Metropolitan Area Transit Authority is complying with the terms of the law. I do know that we have been negotiating with the officials of that organization and its predecessor agency since 1964, and have received sympathy, promises, assurances, and flat rejections of our pleas for an accessible system. Not one of us has seen a blueprint, drawing, or plan that contains a suitable means for admitting the handicapped and aging to the use of the system.

Among the first excuses raised by the subway officials to the use of elevator service was the design constraints imposed by planning commissions in the District of Columbia. They challenged us to come up with a solution that would meet such highly restrictive design considerations that the task was almost too discouraging to tackle.

However, our subcommittee of professional designers and others came up with the concept of an inclined elevator—a vehicle that would meet the criteria and constraints imposed upon them.

We hold no particular pride of authorship for this inclined elevator concept. We do feel that it meets the particular needs of the handicapped. We are in favor of some suitable means of vertical transpor-

tation that can get a handicapped person and the general public from the sidewalk to the mezzanine to the station platform with ease, dignity, and safety.

Mysteriously we now understand that, previous objections of the planning commissions notwithstanding, conventional vertical elevators are back in favor and under consideration by WMATA. From what we hear, though, these elevators may not be in the mainstream of traffic, but in isolated, lonely, segregated entrances, where the handicapped and aging will be subject to all the forms of urban assaults.

We would not be in favor of such segregated facilities. These vehicles should be considered for the use of all, not just for certain segments of users.

In this connection, and in conclusion, I wholeheartedly agree with the words of the chairman of the Senate Public Works Committee, Senator Randolph, addressed to the general manager of WMATA, and I quote:

With reference to your comment on financing a program for the handicapped, I was not aware that the rapid transit system was to be financed as program for the physically fit and a program for the handicapped. It is my understanding that the entire system will be financed in large part from the taxes collected from all the taxpayers and is to be constructed so that it can be used by all or the taxpayers who want to use it, regardless of physical impairment or lack of such.

That, I believe, sums up magnificently the philosophy behind this legislation, and why we would want to see it implemented as Congress intended.

This completes my prepared testimony, Mr. Chairman and members of the committee.

I might say that we have singled out the WMATA. We have been working with the Civil Aeronautics Board. We have been working with the AMTRAK people. We have been working with the bus people. We have been working all over the country in an effort to make all kinds of transportation available to the handicapped.

So we have not singled out WMATA for any particular assault.

I might say as a result of contacts with AMTRAK that we were delighted and pleased to help formulate a policy statement for intercity passenger trains, which is so favorable to the handicapped and so understandable that it could not be better.

I would like, sir, to submit this for the record to indicate what steps AMTRAK is taking for the benefit of handicapped passengers, partly at our request, but in a large measure on their own.

We feel that if AMTRAK can do this, that others can have the same attitude, the same philosophy, if you will, and the same dedication to the public interest.

Mr. GRAY. Without objection, it will be printed at this point in the record.

(The material referred to follows:)

FEBRUARY 15, 1972.

Memorandum to: Mr. Harold Rosenthal; Mr. Barney F. Stanton, Jr.; and Mr. Paul B. Terry

From: Edmond Leonard, Director of Information.

I believe each of you plus Harold Russell are the only parties who filed initial statements with the Interstate Commerce Commission regarding the need to consider barrier free intercity train service.

I have discussed the procedure with officials in the ICC and this is what happens next:

We can consolidate our views and stand behind one statement. We have reproduced Harold Russell's statement, according to required procedures, and have sent 16 copies to ICC and one each to the parties listed on pages 1-3 of the January 20, 1972 memorandum from ICC Secretary Robert L. Oswald. We have also sent notification to the Commission "showing service upon all parties of record." This simply means we notified the ICC that we sent a copy of our statement to everyone.

The parties of record can rebut our statement by March 31, 1972.

If you wish to take an active part in the proceedings in the name of your organization, you can follow the above procedure. If you do not wish to go through all this duplication and mailing procedure, notify the Commission that you are joining in our statement. Chairman Russell's statement is enclosed.

Enclosure

FEBRUARY 15, 1972.

INTERSTATE COMMERCE COMMISSION,
Office of Proceedings,
Washington, D.C.

GENTLEMEN: We are enclosing 15 copies of our statement relating to the proceeding on "Proposed Regulations of Intercity Rail Passenger Service". The original of this statement was previously forwarded to you prior to January 6, 1972.

On February 15, 1972 we mailed to the parties named on pages 1-3 of the January 20, 1972 memorandum from ICC Secretary Robert L. Oswald a copy of this statement.

Sincerely,

HAROLD RUSSELL, *Chairman.*

Enclosures.

THE PRESIDENT'S COMMITTEE ON EMPLOYMENT OF THE HANDICAPPED,
Washington, D.C., February 15, 1972.

To: All Interested Parties.

Enclosed is a copy of our statement filed with the Interstate Commerce Commission in accordance with procedures relating to proposed regulations of Intercity Rail Passenger Service.

HAROLD RUSSELL, *Chairman.*

Enclosure.

THE PRESIDENT'S COMMITTEE ON EMPLOYMENT OF THE HANDICAPPED
WASHINGTON, D.C.

STATEMENT ON PROPOSED REGULATIONS, INTERCITY PASSENGER TRAINS

The Rail Passenger Service Act of 1970 authorizes the Interstate Commerce Commission to prescribe such regulations as necessary to provide for safe and adequate intercity passenger train service, equipment and facilities. The new regulations recently proposed do not provide for adequate service, equipment and facilities for a sizeable number of Americans.

The condition of man is not one of physical and mental fitness every day, all his life. There are endless variations in his capacity to function that come and go—or that come and stay. But despite the changeability of his condition he still wants to work, live, and move about to the greatest extent of his capacity.

The extent of physical limitations apparent in a large segment of our population stems not so much from their physical condition as it denotes the impact of their everyday environment. Many of the incapacities we refer to as functional limitations, and which imprison the severely handicapped within the confines of their home, can be traced to design barriers.

These barriers are constructed or manufactured from design criteria which have grown out of tradition and expediency, rather than from a critical appraisal of man's needs and responses.

For instance, many of the architectural barriers found in train stations are residuals of the Greek and Roman eras of classical extravagance, where imposing flights of steps may have had a meaning in the symbolism of that age,

but which are poor patterns to emulate in a culture which is dependent on rapid movement of masses of people.

The presence of these barriers has a meaningful significance for the families of disabled persons. It is not difficult to observe that the family of a shut-in tends to be a shut-in family. When the family with a handicapped member can travel together and do things together, the result is a happier and more viable community.

Despite the clamor for improvements in the Nation's rail system, and the sincere efforts to bring about improvements in several areas around the country, there is no evidence that the disabled will benefit. Lack of suitable transportation is one of the most serious problems faced by the handicapped; yet there are no standard specifications to make it more accessible. There are no Federal, State or local requirements for accessible intercity passenger trains.

Design decisions on either the policy, administrative, or drafting board level can literally stop hundreds of thousands of people from enjoying their right to mobility. These decisions find their base in a statistical analysis of the dimensions, strengths, senses, and adaptability of a select sample that excludes everyone who is low in physical fitness. The predictable result is an environment that, through design, is either difficult, exhausting, or impossible to use the nonaverage person.

Designers of structural, mechanical or electrical systems in stations and trains accept the maximum foreseeable extreme of performance as the basis for their design decisions. It is ironical that when a person is being considered for whom the buildings and vehicles are being built and financed, his average rather than his maximum needs are considered.

A request that provisions for the handicapped be designed into a specific project is frequently met with a counter request to prove that there are indeed enough handicapped people to justify the effort and added costs. Most of these people are invisible—a heart condition that forbids walking up steps; arthritis that makes turning a door knob or pushing it open very difficult; pulmonary problems that make extra exertion dangerous. Some are visible—a wheelchair user, someone using crutches or canes, a broken leg or arm in a cast.

Who are the handicapped? There is a lack of reliable, nationwide data concerning the disabled because it is difficult and costly to obtain facts about this large and varied population. Available studies and surveys point up variations due to differences in definition and methodology, comprehensiveness and time periods studied. There are, however, at least 22.6 million disabled, and the total may be over 30 million.

Two major nationwide studies of disability are available. The Social Security Administration conducted a mail and personal interview study in 1966. The Public Health Service did a household interview study during the period 1963-65. The highlights of both are presented below :

Public Health Service Survey

Total Population (all ages)-----	187, 109, 000
Total With Chronic Activity-Limiting Conditions-----	22, 581, 000
Condition does not effect Major Activity-----	6, 114, 000
Condition affects amount or kind of Major Activity-----	12, 317, 000
Unable to carry on Major Activity-----	1, 122, 000

Social Security Survey of Disabled Adults

Total Population Aged 18-64-----	103, 058, 000
Total With Work Limiting Conditions-----	17, 753, 000
Some limitation on amount or kind of work-----	6, 639, 000
Unable to do former job full time-----	5, 014, 000
Severely disabled-----	6, 100, 000

The findings also show that about one-half of the disabled live in cities. Of the remaining number, about one quarter live on farms while the other three-quarters live in small communities. The Federally aided State vocational rehabilitation agencies are able to rehabilitate about a quarter million disabled each year, less than the number of new disabled each year.

There are indeed enough handicapped people to justify economically the requirements that our designers provide for them in all aspects of transportation facilities.

Regarding added costs, they are normally minor with relation to the cost of the entire project, particularly if, from the outset of the design process, these provisions are a part of the requirements the designer must meet.

Once the design decision makers are persuaded to provide a public transportation facility accessible to and usable by all the people, the requirements of that system would include the following:

Stations

1. There would be no step or change in level between the outside sidewalk and the inside floor level.
2. If doors are provided, they would be automatic and at least 3' 0" wide.
3. Elevators would be available at every level and clearly marked for those not wishing or able to use an escalator or stairs.
4. Provisions for people in wheelchairs or on crutches would be made at the ticket turnstile.
5. The height and design of counters, drinking fountains, telephone booths would be determined to permit use by people in wheelchairs.
6. Public toilets would be planned for full use by people in wheelchairs including mirrors, soap dispensers, towel dispensers and at suitable heights.
7. All floors would be level without changes in elevation.
8. There would be appropriate audio and visual announcing systems to aid the blind and the deaf.
9. There would be a map readable visually and by touch conveniently located at each station.
10. Where free-standing stations are built, the floor level would be flush with the sidewalk as well as the rail rapid transit car to permit easy and direct transfer from rail to bus rapid transit or to a parking lot via short easy ramps.

Trams

1. The cars would level flush with, and close to, the passenger platforms, without swaying as the passengers enter and leave the cars. The gap between the car floor and the platform should not exceed $\frac{1}{2}$ inch to prevent catching of heels, wheelchairs, canes, or crutches.
2. Space should be provided immediately inside the car door for parking of a wheelchair.
3. Door widths should permit easy access for a wheelchair or a person on crutches.
4. Doors should have safety edges full height to prevent closing if a crutch or wheel of a wheelchair is projecting.
5. The stop interval should allow for people of less than average agility to enter or leave the car in safety.
6. There would be appropriate audio and visual announcing systems to aid the blind and the deaf.

Other design considerations are included in American National Standards Association specifications A117.1-1961, developed by the President's Committee on Employment of the Handicapped and the National Easter Seal Society for Crippled Children and Adults. This Standard has been incorporated into the regulations flowing from Public Law 90-480, which requires that any facility built in whole or in part with Federal funds must be constructed so as to be accessible to and usable by the physically handicapped.

In 1968 the Federal Aviation Administration distributed an Advisory Circular to all airport managers entitled "Airport Terminals and the Physically Handicapped." This Circular recommends features that can be incorporated into modifications or new construction of airport facilities to accommodate the needs of handicapped travelers. The Interstate Commerce Commission similarly should take action to assure that the Nation's intercity rail service is accessible to all who have a right to use it.

Mr. McCahill. Thank you, sir.

I think that is sufficient for the moment, and I will be happy to endeavor to answer any questions from the chairman or the members of the committee.

If I get too technical a question, I will ask Mr. Noakes to help us.

Mr. GRAY. Thank you, Mr. McCahill.

I deeply appreciate your testimony. It was very well outlined.

I notice in your testimony you state, and I quote:

I am not prepared to state here today how closely and how accurately the Washington Metropolitan Area Transit Authority is complying with the terms of the law.

Then you go on to say:

Not one of us has seen a blueprint, drawing, or plan that contains a suitable means for admitting the handicapped and aging to the use of the system.

So I assume from your testimony that you are not pleased with the liaison that the Washington Metropolitan Area Transit Authority has had with your office or any other group in Washington.

Is this an accurate statement?

Mr. McCahill. Well, sir; we have had liaison for 7 years. We have had friendly and cordial relations.

Mr. GRAY. I am talking about getting together and discussing what has been actually done to provide facilities for the handicapped.

Mr. McCahill. The action seems to be lacking, and I am sympathetic to their money problems. I do feel with all the counsel available to us that we should have been able to resolve it a long time ago.

Mr. GRAY. Especially after these many years while we have seen the METRO System in the planning stages.

Mr. McCahill. I have some carbons here of some correspondence I dug out this morning, going way, way back, in which we wrote to the President of the United States, Speaker McCormack, to Mr. McCarter, to Senator Mike Mansfield, and to Congressman John McMillan, and the emphasis is that we are more than willing to work with anybody to, you know, come up with some kind of a plan that will do it in the financial area.

They know that we have indicated that, and in the past it has been somewhat indicated that we should get the money for them.

Well, our total appropriation would be eaten up in the construction of one of their small stations. So obviously, our own funds would not be the best approach.

Mr. GRAY. Mr. McCahill, let me ask you if you feel GSA has been following this closely since the Congress and this committee gave them the mandate to not only follow the METRO System, but all Federal buildings, to see they had access to the physically handicapped.

Mr. McCahill. Well, sir; we have build a history for 25 years of not making invidious comparisons with our fellow Federals. I do not wish to castigate GSA.

I would like to say we would be very happy to see the results of their survey, and so far it is quite apparent that nothing has happened.

So I would have to answer it in the affirmative.

Mr. GRAY. I was not trying to put you on the spot. I was referring to your testimony, where you say:

To our knowledge the General Services Administration to date has taken no further precautionary steps to assure that the provisions of the law were being followed in the design or construction of the METRO System.

Mr. McCahill. That is the truth, sir; yes, sir.

Mr. GRAY. So you feel there could be some tightening up as far as GSA is concerned?

Mr. McCahill. I think so.

Mr. Gray. Any questions?

The gentleman from New Hampshire.

Mr. Cleveland. Mr. McCahill, can you tell me if the court suit that was the occasion for these hearings is being appealed? Do you know?

Mr. McCahill. No, 1, we were not a party in that court suit. We knew about it, obviously, as interested people, and we had people from our office there.

I understand from the newspaper account that it is being appealed, or that it is under consideration. One of the witnesses, sir, is Mr. Hedding, who was part of that suit, and I think possibly that question might be better directed to him when he approaches.

I do not know.

Mr. Cleveland. If it is appealed, do you intend to file a brief amicus curiae, or appear in the suit and lend a hand to that endeavor?

Mr. McCahill. We had not been party to that citizen class action. If it would appear to be indicated that the committee thinks this might be a helpful role for us to play, I am sure we could do it.

We have not really wanted to go into the court area ourselves, being a Federal body. Hopefully we thought we could work this out within the family.

I think you would have to ask Mr. Hedding, one, if it is going to be appealed, and I would have to reserve decision as to whether we will file an amicus curiae suit along with them until I talk to my chairman.

Mr. Cleveland. Speaking about working that out in the family—it has not worked out very well so far.

Mr. McCahill. No, sir.

Mr. Cleveland. You have had trouble with the executive branch of the Government?

Mr. McCahill. Being part of it myself, yes, sir; we have had trouble.

Mr. Cleveland. I have had a lot of trouble with them, too; so welcome to the club.

Mr. McCahill. Happy birthday. [Laughter.]

Mr. Gray. Let me ask you one other question, Mr. McCahill.

I would like to hurry along, as we do have a long list of witnesses.

I have before me a memorandum dated August 27, 1970. This was sent by the general manager, Jackson Graham, to the chairman of the Board of Directors of METRO, and he states:

Although access to the METRO System may be provided for the nonambulatory handicapped and made easier for others, it is not in fact a complete solution to their transportation problems.

He goes on to say:

Their need is rather for a system of transportation that will carry them from origin to destination as economically and with the same ease as public mass transit serves the larger portion of the public.

In a word, their need is mobility.

Then here is the crucial part:

While it may be the function of this Authority to provide public transportation to the community, it does not necessarily follow that it must be provided to all persons by the same mode.

When you read the continuity of this statement you get the impression they are trying to find a way out.

Why do we not consider buses or something, all surface transportation for the handicapped?

Do you subscribe to this theory, sir? Is the METRO System being built at a very high cost to the taxpayers, that we should delineate the modes of travel? One mode for the handicapped, another mode for the nonhandicapped? Do you subscribe to General Graham's theory of dual transportation on METRO?

Mr. McCahill. I do not see how I could, and not be flying in the face of both the House and Senate testimony, and the members of your committee, and Senator Randolph's committee, and the law itself.

No; I do not concur with that at all. I might remind the committee that in my testimony I did say that we are working with the bus people. We are working with the AMTRAK people. We are working with the airlines. We are working with other modes of transportation.

But the law does not specify that it should be a certain kind of U.S. citizen or foreign visitor. It just says it shall be accessible to the public, and the handicapped are a large part of the public.

Mr. Gray. I agree with you implicitly, but the act we amended, stating specifically METRO would be considered a public facility and would fall under the provisions of the law, was passed in March 1970, and this memorandum was written in August 1970, several months after the law was passed, which shows that at least the working people down in METRO are trying to find a way of segregating, as it were, the transportation for the handicapped from those masses that will be using the subway system.

You are representing the president's office, and you do not subscribe to this theory?

Mr. McCahill. Absolutely not. It is so different from the AMTRAK's philosophy that it is like night and day. That is why I mentioned the AMTRAK philosophy. They leaned over backward to be accommodating. They have set up training programs for their pullman people and their porters, to train them how to service handicapped people, to try to get them in and out.

It just does not jibe with the way we think, and the way we think this country should run.

Mr. Gray. I am casting no aspersions. We have not heard from the METRO officials.

But while you were on, I wanted to ask if you subscribe to this philosophy. I thank you for your candid reply.

Mr. McCahill. I might say I do intend to stay, and I will be here later with you during the day, if you wish to recall me.

Mr. Gray. Yes; the gentleman from California.

Mr. Johnson. I would like to ask Mr. McCahill a question. All through your statement you talk about the lack of progress in complying with the law, and reaching some understanding between organizations like your own, or departments or agencies, and trying to bring about consideration for the handicapped within the METRO System here.

Now, is it too late to do this at the present time as to the design and contracts, what have you, have been agreed upon? Do we have an opportunity to bring about an understanding and make these improvements for the handicapped in the system? Where are we?

Mr. McCahill. I think you have asked the \$64,000 question; maybe the \$64 million question.

A couple of weeks ago, at the instigation of Mr. Sullivan, we met with Mr. Quenstedt and Gen. Jackson Graham and some of their senior officials over at WMATA, and General Graham made a statement similar to the question that you asked me.

He implied that they were this far down the road, that it was too late to put some of these things into the structure that we were asking for.

My comment was, "General, you may say that, but we do not agree." We do not concur, because we have been promised all along, sir, there would be two parallel areas, side by side, for the escalators they have now evidently on order, the device that will take people up and down like it does in a department store, and that within one of these escalator slots an inclinator, or whatever you decide on, could be placed.

We were promised this years ago. I am not an engineer. I am not a designer. I am merely a harassed public official.

I believe that we should hold them to that promise, and I did not agree with Gen. Jackson Graham when he and Mr. Quenstedt met with Mr. Sullivan and the other people from this staff.

I said if that is your feeling, that is fine for you, but we do not agree with you. We cannot believe the thing is set in concrete and cannot be fixed, and that is not our position.

Our position is that we had better do it now, and it is really late in the game. Whatever it takes, and whatever money we have to help them get in a supplemental, or however they decide to do it, we think we have got to get at it.

Mr. JOHNSON. Very good. Thank you.

Mr. GRAY. Thank you, Mr. McCahill. Any other questions or comments? [No response.]

Thank you, gentleman, for coming. We appreciate it very much.

Since Mr. Schweikert has not arrived, without objection we will call Mr. Richard Heddinger, architectural barrier chairman, National Paraplegia Foundation, National Capital Area Chapter.

Mr. Heddinger, will you please come forward?

Mr. Heddinger, I hope you do not mind being called out of order. We want to try to lay on the record some of the problems before we ask the METRO officials to come forward, so they would have a better idea of what we are talking about.

Mr. HEDDINGER. I would appreciate, if after the METRO officials do speak we also have an opportunity to speak, if that can be arranged.

Mr. GRAY. Yes, I am sure we can accommodate you.

You may proceed in your own fashion. We are delighted to have you come this morning. We appreciate it so much.

This committee also knows of your very fine work in this field.

**STATEMENT OF RICHARD HEDDINGER, ARCHITECTURAL BARRIER
CHAIRMAN, NATIONAL PARAPLEGIA FOUNDATION, NATION'S
CAPITAL AREA CHAPTER**

Mr. HEDDINGER. Thank you, Mr. Chairman. I hope before starting that you are not negatively impressed by the numbers of handicapped here. We have gone to so many hearings, so many various places.

At the courtroom we sat from 2 until 7 o'clock in the evening last Friday, and it just is tiring for people to keep running around in this rat race and all.

Mr. Chairman, members of the House Committee on Public Works, my name is Richard W. Hedding. I am the architectural barriers chairman of the National Capital Area Chapter of the National Paraplegia Foundation, and treasurer of the Washington, D.C., Area Chapter of the Indoor Sports Club, an international organization of physically handicapped individuals.

I want to thank you for giving me the opportunity to testify here today on the subject of METRO and its accessibility to physically handicapped individuals.

Currently underway here in the Nation's Capital is the largest single public works project ever undertaken in the world. Approximately \$3 billion will be spent building a 97-mile, 86-station rapid transit system. Approximately \$2 billion of its cost will come from the taxpayers of the Nation and the area, both the able bodied and the handicapped.

The policy has been established on a national level by the Congress of the United States that this system shall be accessible to and usable by the physically handicapped.

I want to thank this committee for its longstanding efforts in the formulation and expression of this policy through its enactment of Public Law 91-205.

As you recall, it was initially felt that the original Federal Architectural Barriers Act, Public Law 90-480, was indeed applicable to the design and construction of METRO. But due to the possibility that there may have been a loophole in "if subject to standards" in section 1, paragraph 3, of that legislation, Public Law 91-205 was enacted to resolve any doubt whatsoever.

Congressman, I just may like to comment after hearing the earlier testimony that on December 9, 1969, concerning that legislation, representatives from the Transit Authority testified to you that they had presumed that they were covered by Public Law 90-480, which was enacted in 1968, that they were operating on those grounds, that they were covered.

Mr. GRAY. So the point is that they have had 5 years to design this system?

Mr. HEDDINGER. Yes, indeed.

To continue, also I might mention that the States of Maryland and Virginia have enacted similar legislation effectively requiring METRO within their respective jurisdictions to be accessible to the physically handicapped.

The Federal Government should not have to pay for all of this.

But will the policy of the Congress of the United States and of the legislatures of the States of Maryland and Virginia be carried out? Will an estimated 3.8 million handicapped individuals throughout our country be able to use METRO when visiting their Capital?

Will more than 100,000 right here in the Nation's Capital area be able to use METRO? Will many parts of the city, which with the coming of METRO may be closed to automobile traffic, be off limits to the thousands of individuals who cannot safely or reasonably use the escalators within METRO?

Will also thousands of elderly and other ambulatory handicapped who currently cannot drive, but who do use the inadequate bus system

in the city, be literally stranded when all bus routes lead to and from METRO's escalator entrances?

Will METRO indeed be designed and constructed so as to provide ready access to the physically handicapped?

These questions will only be answered at some time in the future. But there are other questions which the community is ignorant about that can be answered now.

The Transit Authority, during the past years, and continuing to this day, rather than enlightening, has perpetuated and spread its own ignorance throughout the country.

Who cannot reasonably use an escalator?

I did not in here state where that quote was from. I would like to insert that in the record. That is Mr. Warren Quenstedt, October 20, 1971, just this past October, before Senator Frank Church's committee holding hearings on a barrier-free environment to the elderly and the handicapped.

The Transit Authority's ignorance.

It was decided to provide escalators from platform to surface in all stations. With this decision all persons except for a very small number in wheelchairs, would have ready access to the transportation facilities.

To give credence to their own ignorance, on August 27, 1970, and again on May 11, 1972, just 7 weeks ago today, the board of directors of the Transit Authority was shown a motion picture of the general manager of the Transit Authority, Mr. Jackson Graham, sitting in a wheelchair riding up and down an escalator at Dulles Airport.

Then again, just 2 weeks ago, an employee in the Office of Community Services at METRO pulled out the film of Mr. Graham riding the escalator to show to a group of doctors on a tour of METRO.

Now, ladies and gentlemen, I do not claim that trickery was used in that he was glued to the steps or something like that; it can be done. I myself have done it. But it is no more reasonable than to require you to ride on the roof of the METRO cars.

I might compare it to one of you, an able-bodied individual, walking upon a narrow plank 4 inches wide, 20 feet in the air, spanning an open chasm. Picture, if you will, the wheelchair slipping over so slightly, and 50 to 100 people below it on the steps of the escalator trying to get out of the way as the chair, with or without its occupant, goes careening down 50 to 200 feet of escalator stairs.

Why, ladies and gentlemen, if the practice is as safe as some from METRO allege, are there signs warning the public not to take strollers and other wheeled vehicles on escalators in department stores throughout the city? Why does the District of Columbia Code forbid it?

If any of you have any lingering doubts and feel that perhaps I am not speaking the truth, I invite you, as well as those from the Transit Authority, to accompany me to the escalators within this building where we can dispel any honest ignorance once and for all.

Furthermore, it does not end with the individual in the wheelchair. There are between 20 and 30 times as many individuals who also have difficulties with escalators who are not confined to wheelchairs. This group consists of millions throughout the Nation. Many who valiantly resist confinement to the wheelchair. They can and do walk, and, furthermore, they are extremely proud of it. Many do not even consider

themselves as physically disabled or handicapped—thinking those terms apply to someone who is in a chair.

Many are elderly who walk cautiously. Many others use aids such as canes, crutches, or hidden braces. Many have no aids whatsoever. They frequently are sensitive about questions pertaining to what they can or cannot do. They have told me when asked whether they can or cannot use an escalator that they would rather not or they will not.

Their problem with using the escalator is entirely different from the individual in the wheelchair. Precisely, it is in getting on, and most seriously, in getting off those moving stairs. One must be prepared and able to step quickly when the ride has ended, otherwise be exposed to a high probability of tripping, and possibly being trampled by those behind him as the escalator unavoidably pours out people at the rate of up to 60 persons per minute.

One who encounters a fall, one out of 10 times, would not be able to claim he could not ride an escalator. Yet is it reasonable that he should be required to do so?

I have often wondered if anyone in the Transit Authority has also donned a stiff back and leg braces in their escalator escapades to further reinforce their ignorance, or have they just assumed that all of those mentioned above do not exist?

I know that the above detailed description was lengthy, but for the record, and for those within the Transit Authority who have honest ignorance of the subject, I felt it had to be said.

What are the ASA standards?

You have often heard of the "American Standards for Making Buildings and Facilities Accessible to and Usable by the Physically Handicapped." These standards were developed over 10 years ago to avoid confusion and disagreement over what made a building or facility accessible to the handicapped.

The standards avoided arguments over a door being 26 inches wide, or 48 inches wide, or an incline or ramp rising 1 foot in 8, or 1 foot in 16, as being acceptable. The handicapped have kept within those minimum standards, asking for no more or less. It is precisely those standards that have been adopted pursuant to the law requiring ready access to METRO for the physically handicapped.

Throughout the years, however, spokesmen for the Transit Authority have attempted to give the illusion that those who say elevators are necessary are stepping beyond the standard and asking for more.

Testimony was given to this committee itself on December 9, 1969, that "in all respects we have complied with the American Standards Specifications * * *"

Furthermore, on at least four occasions subsequently, they have given substantially the same testimony to other congressional committees. Were they ignorant of section 5.9 of ASA standards which states "In multiple story buildings elevators are essential to the successful functioning of the physically disabled." Or are they going to quibble over whether or not some stations that are buried five or 10 stories below ground really need elevators, because, in their minds, these stations are not buildings?

What kind of elevator should be used?

Back during the period of 1964 through 1967, before I ever got involved, and before the exact nature of the Washington Rapid Transit

System was ever known, representatives of handicapped organizations were attempting to get assurances from the predecessors of WMATA, the National Capital Transportation Agency, for the inclusion of ramps in the system in stations that had a modest vertical travel and conventional vertical elevators in the deeper stations where the rise would be too great for ramps. At that time METRO's position was that vertical elevators would be unacceptable to them for surface mezzanine travel in underground stations for the following reasons:

1. They could not have a vertical elevator coming up in the middle of the street.

Who says they have to?

2. The cost would be much greater due to shaft needs than an inclined device traveling in the same shaft as the escalators.

3. In many circumstances separate property would have to be acquired for the entrance point of the vertical elevator.

4. In other situations long underground passageways would be necessary.

5. Additional surveillance equipment, such as closed circuit TV, would be required to prevent mugging and attack of patrons using the elevators.

WMATA insisted that the only acceptable solution would be an inclined elevator that met the following criteria.

1. No permanent obstruction higher than 3 feet 6 inches at the surface.

What is that requirement for? Well, we were told that the Park Service does not allow anything higher than 3 feet 6 inches in the parks.

When making inquiries to the Park Service, they said, yes, but that restriction can be changed for a good purpose, and all. But that was used against us. That had to be met, that restriction.

2. The inclined elevator must fit within the confines of an escalator module.

Well, if it is used in place of one of the escalators, it will fit into the confines of the escalator module.

Why cannot it be 5 or 6 inches or a foot wider? Why does it have to fit the escalator module?

3. It be capable of operating in all kinds of weather.

Thus, beginning in late 1967, and ending in September 1969, Mr. E. Noakes, with financial support from HEW for the President's Committee on Employment of the Handicapped, developed the design concept of an inclined elevator meeting the above WMATA requirements.

When presented with this design in September 1969, to the astonishment of all then concerned, WMATA failed to do anything. Even with the passage of Public Law 91-205, nothing was done. At that time they said there was no urgency in that the stations would not be ready for the inclined elevator for quite some time.

Finally, after months and months of prodding by representatives of the handicapped, the Council of Governments of the Washington Area, Congressmen and others, on October 8, 1970, WMATA filed an application for a grant with the Urban Mass Transit Administration of DOT to build a prototype of the inclined elevator meeting WMATA's requirements.

This grant, as you know, was turned down on December 18, 1971, 14 months later. Absolutely nothing had changed, the inclined elevator was as good or bad then as it is now.

If WMATA was ever seriously interested in the inclined elevator, it is incomprehensible why they did not proceed themselves to develop it. This in particular since time was of the essence and, according to documentation, submitted by WMATA with their final application to DOT, a savings of cost of more than \$16 million over the conventional elevator system would accrue to the taxpayers of the region and the Nation.

WMATA has never, to my knowledge, done any point by point comparative analysis of the advantages or disadvantages of the separate escalator and vertical elevator system versus the integrated entrance module provided by using the inclined elevator as a companion unit to two or more escalators. The Architectural Barriers Committee of National Paraplegia Foundation is currently doing such an analysis.

Although the inclined elevator concept is far superior to the separate vertical elevators, we can only conclude that a grand hoax was played on the handicapped by WMATA for a period of almost 5 years.

What is the current status?

WMATA now says "plans are being developed so as to not preclude the installation of vertical elevators." They do not say that there will be vertical elevators. We still do not know where they will be. How often have we heard this kind of talk in the past, only to find either broken promises or deception?

The following is a paragraph from a document presented to the WMATA Board of Directors by Mr. Warren Quenstedt, deputy general manager, on August 27, 1970. This same paragraph was repeated in the official application to UMTA for the grant.

Congressman Gray, this is the memorandum that you had mentioned previously. I am not sure of the page, but it is down there a little bit.

This paragraph states as follows:

Throughout the early days one difficulty was that of determining the cost of any special provisions for the handicapped and the source from which the required funds would be obtained. Because it was impossible to estimate the probable cost of a device not yet designed, it was the position of NCTA that no provision could be made for the cost of the special facilities, nor could the transit system design activities of NCTA be suspended pending completion of a design from which cost could be established and in turn those costs distributed to the participating jurisdictions.

Consequently, in August of 1967 NCTA agreed to reserve space in which an inclined elevator could be installed, and agreed to direct its architectural and engineering consultants to design stations so as not to preclude the later installation of an inclined elevator, or other device in the event initial construction of the transit system should precede the final resolution of the design problem.

As to the financial responsibility, since costs could not be determined with reliability and in consonance with the timetable of transit planning, it was made clear and agreed that the task of providing funds for the special facilities to be installed in the space reserved would be the responsibility of those interested in the handicapped.

Careful reading of this paragraph can lead one to believe only one of the following:

(1) The cost for the space reserved and the structural requirements for the inclined elevator, which could be estimated with reliability have been included in the estimated \$2.5 billion and later increased by \$500 million for the \$3 billion system.

- (2) WMATA has broken an agreement made also 5 years ago, or
 (3) Officials of WMATA are guilty of deception.

From this paragraph we see that the only costs that were not included in the system were those which could not be determined at that time, for example, "the device not yet designed."

One can also see that "it was agreed to reserve space." But what happened? Did WMATA's architectural and engineering consultants violate their orders and not "design stations so as to not preclude the later installation of the inclined elevator?"

What are the facts about the need to widen entrances 3 years later? How could this be true if WMATA reserved space? Is the truth that WMATA subsequently decided to widen the entrance and provide maybe another escalator, thereby taking the space they agreed to reserve in 1967? Perhaps it is true that cost of the system has risen somewhat more than \$500 million, and we, the handicapped, have been caught in the middle.

Presuming that the first is true, in all good faith, the only additional cost not included is for the inclined elevator hardware. This in the estimates supplied to DOT is somewhere between \$5 and \$10 million, not \$44 or \$65 million.

Why must we be subjected to the indignities that we have been? Why cannot WMATA proceed at once to construct those stations that are now being built in accordance with the laws of our States and Nation?

The success or failure of the METRO will not be based on whether or not they get another nickel for building the system at this time. Its success will be determined in the future when the first trains begin to roll. If people use it, they will have no trouble getting funds for improvements or extensions. With the bond bill that just passed in the House, they should have ample resources to prove their worth.

In closing, I would like to comment on the remarks of Mr. Stokes, general manager of the Bay Area Rapid Transit District, San Francisco, Calif., made before a public gathering of more than 300 people here in the Washington area in the spring of 1970.

When the question of access for the handicapped within the BART System came up he said substantially the following:

For years we fought them (the handicapped). We used every argument we could find. Each of those arguments were repudiated with logic and facts. We are now providing elevators at all stations, many of which we had to go back and tear up. We are now convinced that it is the only right thing to do.

I admire Mr. Stokes for his honesty and his courage in that public admission of their errors and mistakes. I only wish I could bestow the same admiration upon the officials of METRO here in Washington.

I want to thank the committee for the opportunity to testify here today. I would appreciate the opportunity of working with any of your staff members to clarify any points and issues I have raised. I am also prepared to answer any questions you may have at this time.

Thank you.

Mr. GRAY. Thank you, Mr. Hedding, for a very knowledgeable and well-documented statement, and we commend you for it.

Is it your feeling that vertical elevators would not suffice; that you prefer the inclined elevators? Did I get that impression from your statement?

Mr. HEDDINGER. You see, it is hard to answer that question. There are certain circumstances in certain stations where the vertical elevator would be adequate. There are other circumstances in other stations where the vertical elevator would not.

For example, I may point out—let us say one of the stations, the Rosslyn station, where the station is in one block; the entrance is in another block.

This would mean that if they put the vertical elevator in that station, you would be a block away from the principal entrance around the corner, not along the street. It would be a walk around that way.

Now, take, for example, an individual that I spoke of who uses the buses or gets a taxi, or something like that, and all. They come up here and then they have to go around that block because that is where the taxis are going to be, around near the principal entrance. They are not going to be over here where, say, the elevator is.

This presents certain problems.

In addition, you come along with the situation where this is a block away, and we may be inundated with respect to the individuals who do not have a need for the elevator, but who are over on this side and do not feel like going all the way down to the escalator entrance, which is a block away, and then coming back that block.

So, now, we do not want to say there should be any extra entrances for us, but with the inclined elevator the things are altogether. You have an up escalator, a down escalator, and maybe an extra escalator if there is heavy traffic and all, and then you have an inclined elevator right alongside that.

You take someone who went shopping and is carrying packages, or something like that, and they get to this point right here. Well, if at that point they think they are in any danger of falling on the escalator and there goes the bags and packages, they can just move over here and take the inclined elevator, which is running right there alongside.

So, there are certain problems with the vertical elevators and the greater the distance, then there is more of a problem involved.

Furthermore, there are many stations in which the inclined elevator concept, if used, would be able to make every entrance at those stations accessible.

You take the Judiciary Square station up here. There is one entrance that is up on F Street. There is another entrance that is down on D Street around the corner.

Now, if I were going to go on that train; and I was going to the District Building, or one of those buildings down around D Street there; and I got off the train at a point nearest the District Building, I would have to go 600 feet up to that platform to the other entrance, go up and out and then come back another 600 feet, or 800 or 900, or a thousand feet, because that is on an angle, and I have to go down the street and around and across, et cetera.

So the possibilities of being able to have every entrance accessible still exist here now; nothing has changed, you know. They have not put those escalators in. They have not put them in yet.

When I say that the possibilities still exist, I truly believe that, and that they can put the inclined elevators in those stations and all.

Mr. GRAY. Do you believe that construction already is sophisticated enough to build inclined elevators?

Mr. HEDDINGER. I do not see a problem. There is an inclined elevator in Stockholm, Sweden's rapid transit system. They know about it.

But when anyone talks, well, this is different. The Transit Authority says, "We do not want it just like what is in Stockholm, Sweden."

Mr. GRAY. We would both recognize that the inclined elevator would probably cost more than the vertical.

Mr. HEDDINGER. Not necessarily.

Mr. GRAY. It would not?

Mr. HEDDINGER. No.

Let us say there may be an initial development cost, but the need for additional shafts with the vertical elevators would make the vertical cost more. This is what they were saying. They were saying this inclined elevator is going to be less costly, but, you see, they say they need so much more money and everything, and we would be happy to do it, but this moves around in a circle.

They one time say they have provided all the provisions in those stations for the inclined with the exception of the device.

Mr. GRAY. I realize this is not in your field, but would you even hazard a guess as to why DOT turned down the grant request to study the inclined elevator?

Do you have anything on their reasoning?

Mr. HEDDINGER. Yes; I will tell you why.

Where does METRO get its money? Does it get money from the Urban Mass Transit Administration? It does not.

The Urban Mass Transit Administration has to use its funds all throughout the country. It has got to meet needs of your State and your State, gentlemen, all these needs to meet.

Here the Washington system has a big share of Federal moneys in their system that the others are not entitled to.

Mr. GRAY. So, the rejection does not necessarily mean they were casting any doubts on the feasibility of putting in inclined elevators?

Mr. HEDDINGER. No.

Mr. GRAY. Just they did not feel they should take the funds, their funds that were meant to go to mass transit throughout the country, for a specific location that is already being funded by Federal funds?

Mr. HEDDINGER. Probably you would not get that from them. That is not in their official reasons.

Mr. GRAY. But that is your feeling?

Mr. HEDDINGER. That is one of my feelings.

Another feeling has to do with the fact they may be caught holding the bag. Suppose they developed this inclined elevator and they put up the \$1 million, and then WMATA says if you do not want your money to go down the drain, you are going to have to come and give us the money to put the rest of them in throughout the system.

These are the kinds of things—you can say I am, you know, dreaming, that they are pie in the sky, but they are really realistic and everything.

The other thing has to do with what they were asking for. They were asking for \$1 million for this, and there is no reason why the development should cost \$1 million.

But, you see, the thing is they have these requirements that they can stick to, they can say, well, we do not like this and we do not like that, and they can drag it on.

So, they have got to wind up and really start working on the problem and doing it the best way.

Mr. GRAY. I have a copy of a letter here from the Administrator of DOT to Jackson Graham, general manager, dated December 17, 1971, and without reading it all, the gist of it seems to be that they are sympathetic to the problem, but because of physical restraints and, as you pointed out, the \$1 million for this, they cannot justify it.

So they really are not saying they do not believe in the inclined elevator, but they are putting a dollar and cents judgment on it.

Mr. HEDDINGER. Budget limitations was one of the reasons.

That paragraph, being you have that letter—I have read that.

Mr. GRAY. Without objection, we submit the entire letter in the record at this point.

(The material referred to follows:)

DECEMBER 17, 1971.

Mr. JACKSON GRAHAM,
General Manager, Washington Metropolitan Area Transit Authority, Washington, D.C.

DEAR MR. GRAHAM: This letter responds to your application for a demonstration grant under Section 6 of the Urban Mass Transportation Act of 1964, as amended. The purpose of the grant: "To finance, in its entirety, a project to research, develop, construct and test a prototype inclined elevator designed to provide access to METRO Stations for the handicapped."

We have assured you in our public statements and in our written communications of our concern over the vital goals that the project is designed to achieve and of our desire to assist WMATA in achieving them. Our intended vehicle was to be a Demonstration Program Grant. However, as you may have heard, our 1972 R&D request to the Congress (\$78 million) was cut to \$65 million. I regret that, within these budget constraints, and the relative priority of the various contenders for FY 72 R&D funds, the development of an inclined elevator cannot be justified.

We feel that the design constraints imposed on WMATA by the local community and the resultant architectural themes and standards adopted by the Authority are likely to be unique to your system. This will mean that the device proposed will lack the national applicability that is so essential to priority in our program. Because of our budget squeeze there is room in our program for only those projects whose benefits flow to public transit user groups throughout the country.

We have considered, as an alternative, the use of capital grant funds to assist in financing a prototype installation. It is our opinion, however, that the use of capital grant funds in connection with the basic system would contravene the general prohibition against supplementing a specific appropriation with funds authorized or appropriated for more specific purposes.

I am sorry that there appears to be no way in which we can assist WMATA in this undertaking.

Sincerely,

C. C. VILLARREAL,
Administrator.

Mr. HEDDINGER. The paragraph concerning national applicability is in there, but there is also a little phrase added on there, due to the local community, whatever it is, standards or whatever that is. In other words, what I feel they are talking about there are the specific requirements that WMATA would not budge from.

So, in other words, like we cannot change anything and you get down to that other paragraph when they said we are trying to get money from some other place. I do not think you or anybody else understands what that paragraph is all about.

Mr. GRAY. Any questions on my right?

The gentleman from California, Mr. Johnson.

Mr. JOHNSON. I would like to just ask one or two questions or make an observation here.

You followed the location of all of the stations very closely, I guess?

Mr. HEDDINGER. Yes; and I probably have gone to more METRO public hearings than anybody else in this city, excepting for people that work for METRO. They have gone to more than I have.

Mr. JOHNSON. I would say that, based upon what you have said here, there is ample space acquired by METRO that could provide for this type of installation to take care of the handicapped; right?

Mr. HEDDINGER. Would you repeat that, please?

Mr. JOHNSON. As I understand your testimony here, you state that in most of the stations, or at least those you mentioned, there is ample room within their acquisitions of property and their construction of the actual facility itself, room for the type of facility you speak of?

Mr. HEDDINGER. Yes, sir. The situation has to do with certain, call it, tradeoffs and how you like to look at things.

For example, their initial statements concerning this were, "you will not see inclined elevators in our plans. You will see three escalators. There is an up and a down, and you will see a spare."

"Now, if we have the inclined elevator, we can substitute the inclined elevator for one of those spares." That is what they said.

With the substitution of that for a spare, you have a situation that if your up escalator goes down, you still have the ability to take people in the opposite direction with one escalator running and the inclined elevator.

People would be able to go both ways.

Most situations, in most stations, there is what you call a maximum flow in one direction. At Judiciary Square, their estimates are something like several thousand people will be coming out of that station going to work in the morning, but only about 100 or 200 will be entering and going to some other place away from that station, and that is the way it is in many stations, this peak in one direction.

All in all, the stations with peak in one direction, have the ability to have two escalators and the inclined elevator as the entrance situation and all, and still have the necessary, let us say, cushion with respect to if one of the escalators goes down.

Now, they want to say that we want to make sure that if one of the escalators goes down that people that use the escalators have the third other escalator.

Well, then to me, the METRO officials are breaking their agreement if they are making this change. They then did not reserve a space.

Mr. JOHNSON. That is all, Mr. Chairman.

Mr. GRAY. Any other questions on my right?

On my left?

The gentleman from New Hampshire, Mr. Cleveland.

Mr. CLEVELAND. I am a bit curious as to what one of those so-called inclined elevators costs.

Are there any built and operating anywhere in the Capital area?

Mr. HEDDINGER. Not in the Capital area.

You see, the inclined elevator, there does have to be some particular design for it made. There are inclined elevators that are different from what is desirable here, which are available, which, let us say, are used in the Stockholm, Sweden, rapid transit system.

In addition, the concept is old. It goes back into the 1970's, for example, in Pittsburgh. There is an inclined device which goes up a track up the side of Mount Washington there and all. It is basically that same concept, and it is nothing that needs to be invented.

It needs to be worked out with respect to the details and configuration in this particular circumstance within METRO.

Mr. CLEVELAND. I was not sure from your testimony, though, if you were urging the inclined elevator or just any type of elevator. It is not quite clear to me.

Mr. HEDDINGER. I support the inclined elevator concept. I feel if there are any problems with the concept as presented in barrier free rapid transit that we are quite agreeable to making changes.

We are not hard and fast as to exactly and precisely as to what in barrier free rapid transit must be used.

For example, there can be a closed shaft. I can see no reason why there cannot be a closed shaft.

But the transit authority will not let a closed shaft be there.

Mr. CLEVELAND. You concluded your remarks with some very laudatory words about the San Francisco Mass Transit System.

Mr. HEDDINGER. I have been there.

Mr. CLEVELAND. What do they do up there?

Mr. HEDDINGER. They were quite along the way with respect to their system when the architectural barrier law in California was passed. They are 7 years, some 7 years ahead of Washington though, but yet they are going to be accessible, and they have vertical elevators that they have put in their stations and, you see, they have stair entrances also. They have entrances spread around and stairs.

The transit system here in Washington is designed differently. They are making these three escalator kind of entrance things, three here, three here, three here, whereas, in San Francisco, they have some entrances with stairs, some with escalators, and now they then have the elevator as well, the vertical elevators.

Mr. CLEVELAND. Just for my own information and for the record, you are not asking for inclined elevators and only inclined elevators?

You would, as in San Francisco, feel your mission was accomplished if they had vertical elevators?

Mr. HEDDINGER. Yes. But, how do we put them to task with respect to getting started and cutting this stuff out about more money and whatever?

Let them go ahead and start the job and do it. There are stations they are building now.

Those stations, whatever they are going to do, they should do it today. This is a project that is going to be going on for 10 years. It is not like, you know, overnight that we are going to build it and all. It is 10 years.

Let them do it right in those stations right here which they have constructed now, that they are starting to construct now.

Mr. CLEVELAND. In San Francisco, do all the stations have elevators or just some of them?

Mr. HEDDINGER. I have been told that all of them will have them. San Francisco is not open to the public yet, and I have been told—there are something like 38 stations altogether—that when they are all completed, I am not sure, but I have been told they will all have elevators in them when they are finished and all.

Mr. CLEVELAND. You were a party to the lawsuit that we have been talking about earlier in these hearings?

Mr. HEDDINGER. Yes, sir.

Mr. CLEVELAND. And it is true you intend to appeal the decision of the court?

Mr. HEDDINGER. I do not know. My lawyers will decide that and everything.

Mr. CLEVELAND. That decision has not been made?

Mr. HEDDINGER. Well, I do not want to talk too much about the lawsuit itself, but I just would mention this.

The action Friday was our request for a preliminary injunction or a temporary restraining order.

We have not lost the case or won the case with that judge. He just said, no, he is not going to give us the injunction.

All these things about irreparably injured and, you know, as to the balance of equities and the merits and so on, it is very complex and you gentlemen know what you meant when that law was passed.

Mr. CLEVELAND. I appreciate the compliment.

Mr. HEDDINGER. OK; fine. Thank you. [Laughter.]

Mr. GRAY. Any other questions?

Mr. MILLER. Yes.

Mr. GRAY. The gentleman from Ohio, Mr. Miller.

Mr. MILLER. Mr. Chairman, if I may.

You certainly have given us some food for thought, Mr. Hedding. I am wondering about a couple of comments that you had made stating it was necessary for the inclined elevator to fit within the confines of an escalator module.

Now, apparently, the design, the engineering, the specifications are far enough along where there would be only a given size. It would be necessary to fit this inclined elevator in where that third escalator would be that you called a spare; is that correct?

Mr. HEDDINGER. Not necessarily. I was looking at one of the holes down there at the Judiciary Square Station, where the escalator entrance concrete has been poured and I would say if they need to eke out another foot or so, they probably could. They probably will tell me I do not know what I am talking about and everything, but it looks like that entrance could easily be changed—how many stations have we got going that are to that point? We do not have that many. Maybe two or three.

So, even if they made a couple of changes in them, you know—

Mr. MILLER. The cost you came up with also was some \$14 million, but would that be over \$5 million and possibly \$10 million, as I see it, not as you say in your statement, \$45 or \$65 million.

Apparently there was some wide differential there as far as costs.

Is that cost over and above the cost of the regular escalator that would be installed which would be the spare?

Mr. HEDDINGER. No. We could take that off, too, and it would be even less.

In METRO's estimates to DOT, they figure \$150,000 apiece for the inclined elevators. Now, Otis Elevator Company—I do not like to talk about this too much and all—back a couple years ago gave them an estimate of \$70,000 for building an inclined elevator which met the elevator industry standards.

Now, they have never even asked the elevator companies just what they propose. Otis said \$70,000 if they could be assured of a contract for 30. So, 30 times \$70,000 is \$2.1 million.

The question is would that inclined elevator fit within the confines? What did Otis Elevator Company really offer?

But Otis said that would not meet the requirement, that exceeded that 3-foot, 6-inch thing at the surface. But just try to find out though just what Otis was offering? What was it like? And why was it not acceptable to METRO?

Mr. MILLER. Do we have any figures to show what the standard escalator would cost compared to that inclined elevator?

Mr. HEDDINGER. In general they would not be comparable. But, the only thing that we can look at in the system is the fact that they had a contract with Westinghouse Escalators for the first six stations, some 86 escalators, I believe, and they cost something like \$12 million some odd dollars and all.

But, remember, some of these escalators, in that \$12 million figure are some escalators that are 200 feet long. You are in the station down there at DuPont Circle, and it is 200 feet, that escalator length.

It may be 110 feet down there below ground. I do not know whether all the people around the community will like that—this great, long escalator.

Maybe in that station there should be all high speed vertical elevators. That is not my problem to decide though as to whether or not for the community as a whole there should be vertical elevators as access to that station. That is their problem, and I do not want to suggest that this is what should be.

But, have they taken that into consideration? I don't know.

When you say how much does the escalator cost, the escalator costs more the longer it is. It is linear. It goes up. Each additional foot of escalator increases the cost. Each additional foot of elevator either inclined or vertical, however, only increases just a little bit in cost.

There is a fixed basic cost of an elevator for the cab and the motor and the hardware, and each additional foot is just a little bit more in cost, something like, I think according to the Westinghouse figures, \$2.50 additional for the elevator per foot of travel.

For elevators, it costs more for each stop you make, and there is a shaft cost for each foot.

Mr. MILLER. Thank you.

Mr. GRAY. Thank you very much for coming. We appreciate it.

We now have heard in a documented and very fine manner what the problem is. Now I would like to call Mr. Joseph Fisher, chairman of the Board of Directors of the Washington Metropolitan Area Transit Authority; accompanied by Mr. Warren Quenstedt, acting general manager; Roy T. Dodge, chief of Engineering and Operations; Mr. Ellis S. Perlman, Government relations officer; Mr. John Brill, assistant general counsel; Mr. Sprague Thresher, director, Office of Architecture; and Mr. Jerome Alper, special counsel.

We deeply appreciate your coming and, Chairman Fisher, we are delighted to have you and you may proceed.

I assume you will be the leadoff witness?

Mr. FISHER. Yes; I will.

STATEMENT OF JOSEPH FISHER, CHAIRMAN, BOARD OF DIRECTORS,
 WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY;
 ACCOMPANIED BY WARREN QUENSTEDT, ACTING GENERAL
 MANAGER; ROY T. DODGE, CHIEF OF ENGINEERING AND OPER-
 ATIONS; ELLIS S. PERLMAN, GOVERNMENT RELATIONS OFFI-
 CER; JOHN BRILL, ASSISTANT GENERAL COUNSEL; SPRAGUE
 THRESHER, DIRECTOR, OFFICE OF ARCHITECTURE; AND
 JEROME ALPER, SPECIAL COUNSEL

Mr. FISHER. Thank you, Mr. Chairman.

Mr. Chairman and members of the committee, we appreciate the opportunity of appearing here today to discuss the status of WMATA activities to provide access to the handicapped on our planned 98-mile transit system.

With your permission, Mr. Chairman, to save the time of this committee and the others present, I would like to submit a detailed statement for the record and, in the next few minutes, simply summarize the highlights of that statement.

Mr. GRAY. Yes; without objection, we will be delighted to receive the entire statement in the record at this point.

(The statement referred to follows:)

STATEMENT OF JOSEPH L. FISHER, CHAIRMAN, BOARD OF DIRECTORS,
 WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

Mr. Chairman and members of the committee; we appreciate the opportunity of appearing here today to discuss the status of WMATA activities to provide access to the transit system for the handicapped. This has been a matter of keen interest to our organization from the very beginning of the transit program, and we believe that a great deal has been accomplished. The purpose of this hearing as we understand it, is to obtain a clear understanding of the present situation so that the Committee may be informed as to the nature of legislation needed to achieve the Congressional objective of Public Law 91-205 to provide accessibility to the transit system for the handicapped.

Beginning in the early 1960's, NCTA, the predecessor of WMATA, established what has been a continuing relationship between those interested in the welfare of the handicapped and those concerned with planning METRO. Almost at the outset the determination was made to adhere to the "American Standard Specifications for Making Buildings and Facilities Accessible To, and Usable By, the Physically Handicapped." This decision assured features in the METRO System which meet or exceed the requirements for the accommodation of all but the nonambulatory handicapped.

Recognizing that entering and leaving stations of great depth would be difficult, it was decided to provide escalators from platforms to the surface in all stations. Thus, the vast majority of handicapped persons are assured of ready access to the transportation facilities.

Other provisions will be made to assist the handicapped. For instance, extensive acoustic refinement along with high quality audio announcements will provide greater security to those with impaired hearing who use the system; a difference between the texture of the granite edging of the train platform and adjacent paving will provide a warning that will particularly help those with poor vision, as will the underfloor lights along the platform edge which will flash on and off at the approach of the train.

Non-slip floors, without abrupt changes of level, doorways and entrances of proper width, walkways with gentle slopes, are all requirements of the American Standard Specifications which the system meets or exceeds.

One feature which the peculiar character of subway construction makes especially difficult to provide is access to the system by persons in wheelchairs. Spokesmen for the handicapped have convinced us that such access is important and we have had wide-ranging conversations with them. Our inquiries have

included conferences with the Ad Hoc Committee on Transportation of the President's Committee on Employment of the Handicapped, with outstanding individuals in the architectural profession, and with public spirited citizens concerned with solving this problem.

Perhaps the problem itself should be described. Fifty-three of the eighty-five subway stations lie beneath streets. Access by means of elevators poses the problem of a vertical device rising abruptly through the surface of a busy street or through a sidewalk too narrow for such an intrusion. In contrast, escalators rise at an angle and thus transport passengers from beneath the city's street to a point of egress beyond the curb line and even beyond the sidewalk itself. In a conventional approach to subway construction the solution to the problem presented by the elevator is self-evident. To avoid penetration of the street surface or sidewalk by elevators, subterranean tunnels would be constructed to a point from which the vertical rise to ground level could be accomplished without conflict with the day-by-day activities of the community. This prospect was distasteful to the representatives of the handicapped because it had the effect of removing them, however briefly, from the usual stream of traffic entering or leaving the system.

These were difficult matters to reconcile. Ultimately, the idea was conceived that an inclined elevator suitable for installation in association with the escalator system might be designed, and decision was made to pursue this possibility. On August 4, 1967, NCTA responded to Mr. Edward H. Noakes, A.I.A., Chairman of a Committee on Transportation of the Potomac Chapter of the American Institute of Architects, and indicated our encouragement of his proposal to pursue the design or adaptation of a device acceptable for installation in transit stations and suitable for safe and convenient movement of the handicapped between the street, mezzanine, and train level of the transit station. Expenses in connection with Mr. Noakes' study were to be met by the President's Committee on Employment of the Handicapped from funds obtained from the Vocational Rehabilitation Administration. It was also understood that the necessary financing for the procurement and installation of the conveyance agreed upon would be the responsibility of the President's Committee. As to this latter point, Mr. Noakes responded on August 18, 1967 to indicate that his conceptual study would be carried forward promptly in accordance with the needs of the situation at a cost of approximately \$15,000. He went on to say in his letter that "Mr. Henry Viscardi, Chairman of the Transportation Committee, has committed the President's Committee on Employment of the Handicapped to provide all possible support for your budget request dealing with the cost of procurement and installation of the conveyance we agree upon." This exchange must be understood in the context of long and frequent oral exchanges, and with the realization that even at that time the Authority was proceeding with system design and the negotiation of a financial plan which would provide the basis of agreement between the Authority and the local jurisdictions for local financial support of the undertaking which Congress had established as prerequisite to approval of plans for a regional system.

The reference to "support for your budget request" involved the very special problem that no financial plan for the transit system could be computed with provision for the inclined elevator. Since the device had not been designed or received any engineering study, its cost could not be determined, and hence, no provision could be included in the contracts with the local jurisdictions. Those contracts required specific information as to cost so that the obligation of each participating jurisdiction could be clearly set forth, understood, and accepted. This certainly as to cost was equally essential in any presentation the Authority might make to the Congress concerning Federal financial support of the overall undertaking.

There then resulted a period of time in which the Potomac Chapter, A.I.A., pursued its conceptual design of an "inclinator" or inclined elevator. In this effort, a Transportation Advisory Panel was formed with representatives of the Project Task Force, Potomac Valley Chapter of the American Institute of Architects; D.C. Dept. of Licenses and Inspections; Public Health Service; Architectural Planning Service, Veterans Administration; Dept. of Transportation; Dept. of Health, Education and Welfare; Elevator Branch, General Services Administration; Metropolitan Washington Council of Governments; Paralyzed Veterans of America, Inc.; and Washington Metropolitan Area Transit Authority. Representatives of elevator manufacturers were also called in from time to time to participate with this Panel as the Potomac Chapter design activity proceeded.

In September, 1969 a report *Barrier Free Rapid Transit* was published by the Potomac Valley Chapter, A.I.A. This presented a concept of an inclinator which appeared to meet the requirements of the situation. A copy of that report was published in the hearings before the Subcommittee on Public Buildings and Grounds of the Committee on Public Works, House of Representatives, 91st Congress, 1st Session, on H.R. 14464. (Public Law 91-205)

There ensued a period during which this concept was circulated for comment and reaction. It was recognized, of course, that this was a conceptual approach and that it would be necessary to develop an industrial design and industrial technology for manufacture to assure that the device could be made available and placed in public service.

With your permission, Mr. Chairman, I submit for the record a copy of a memorandum directed to the Chairman of the Board of Directors of WMATA by the General Manager on August 27, 1970. Better than anything I might say here, this sets forth in detail the situation as it then obtained. In the memorandum the staff recommended that:

1. The Authority apply to the Department of Transportation for financial support of a research and development effort leading to industrial design and production of the inclinator device;
2. inquiry be made into the progress and status of the Dial-A-Bus or individual service approach to providing specialized service;
3. a market survey of the region be conducted to ascertain the extent to which special transportation service might be required in this region;
4. the staff be authorized to develop the concept of mobility training as it might be applicable and useful as METRO operation becomes imminent.

The Board approved the staff recommendation and directed that the staff proceed with all possible dispatch. The Board cautioned the staff, however, that investigation should be conducted into alternative mechanical devices for vertical transportation in the event that development of the inclined elevator should prove unsuccessful.

Conversations were initiated promptly with Department of Transportation officials who encouraged the Authority to pursue its interest in the research and development grant. On October 8, 1970, an appropriate preliminary application was filed, and liaison established between the staffs of the two organizations. In due time the Department of Transportation informed the Authority that it would accept for consideration an application for a research and development grant in the amount of \$1,208,064 to finance the research and development, construction, and test of a prototype inclined elevator to provide access to the METRO System for the handicapped. A copy of that application is available for the record, Mr. Chairman, if you would care to have it made a part thereof.

On December 17, 1971, the Department of Transportation denied the application, and at the December 28, 1971 meeting of the WMATA Board of Directors, the General Manager reported that fact to the Board. At the same time, the General Manager advised the Board that there was no longer time to pursue the inclined elevator concept and that it would be necessary to utilize vertical elevators to provide vertical transportation for handicapped persons within the METRO System.

In order for the Authority to meet its objective of complying with the requirements of Public Law 91-205 without delay, on May 18, 1972 the Board of Directors of the Authority adopted a resolution designed to assure provision for access of the handicapped to METRO stations. With your permission, Mr. Chairman, I offer a copy of that resolution for the record. The resolution clearly reflects the Authority's commitment to provide vertical transportation for the handicapped, subject only to the availability of Federal funds to cover the additional installation of construction costs. The Authority estimates that \$65 million in capital costs will be required to provide accessibility to METRO for those handicapped persons who are unable to use escalators.

Procedures have been established to carry out the resolution. Under those procedures alternative plans and specifications will be drawn to permit construction of only those provisions which are necessary so as not to preclude the future installation of elevators, if Federal funds are not yet available, and construction of all the provisions for the installation of elevators, if Federal funds are available. These procedures will be followed for all stations except where a change in existing plans would cause a delay in construction. In those situations, the alternative design modifications will be made after award of the construction contract and a change order thereafter will be issued.

WMATA's policy and these procedures accomplish these objectives :

1. No station under construction will proceed to completion in such a manner as to preclude the installation of elevators ;
2. Subject to the availability of Federal funds for construction, vertical transportation for the handicapped will be provided in METRO stations ;
3. Costly delays will be avoided.

Every one of the 86 stations of the system has been carefully examined by our architects and engineers, and a decision made with regard to the nature and location of the elevator facilities to be provided in each. In only one station will it be necessary to modify construction already completed.

This leaves us then at the critical point. The Authority lacks funds for the addition of these special facilities for the handicapped required by the terms of Public Law 91-205, enacted March 5, 1970. In the earlier period it was impossible to estimate the cost of these facilities. Consequently, it was impossible to include a financial requirement for them in the contracts which were entered into with local jurisdictions. Subsequently, the effort to design the agreed upon facilities (the inclined elevators) was frustrated. Even before this occurred, in testimony before this Committee on December 9, 1969, the Authority representative stated :

"We have received a report from the project committee which presents a design concept of a proposed inclined elevator which appears to meet our criteria. The precise engineering design for production must now be accomplished by a competent engineering organization or by manufacturers of such devices. The transportation committee of the President's Committee has indicated it will seek special funding for this and future installations. The Authority is presently exploring the possibility of Federal financial assistance through the Department of Transportation."

This word of caution expresses the sense of active conversation between Congressional personnel, representatives of the Authority, and Mr. William P. McCahill, Executive Secretary of the President's Committee on Employment of the Handicapped. In a letter dated June 13, 1969, directed to Mr. Richard J. Sullivan, Chief Counsel of the Public Works Committee, Mr. McCahill commented concerning a meeting which had been held that day in the offices of the Authority and stated among other things :

"5. At the necessary point in time, WMATA will work with this Committee in requesting from the Congress the necessary funds for the funicular lifts for the D.C. system. The Committee's role will be supportive."

[NOTE.—The reference to committee in this letter quite clearly is to the President's Committee on Employment of the Handicapped.]

In a letter dated December 10, 1969, directed to the Authority, Mr. McCahill commented concerning the same item :

"As to item 5 we are ready any time you give the word to support the WMATA request for necessary funds at the White House, Bureau of the Budget, and the Congress."

This statement of support is consistent with the records of the Authority wherein an interoffice memorandum appears concerning a meeting on October 20, 1966 between representatives of the Authority and the Ad Hoc Committee on Transportation of the President's Committee on Employment of the Handicapped, in which the statement appears :

"The Committee feels that they can get the necessary additional funds from the Congress, if no more than a few million dollars are needed."

The foregoing summarizes the consistency of proffered assistance through the years that we have been working on this difficult problem with those who are directly concerned with the welfare of the handicapped. The elevators can be provided. We emphasize, however, that financial support from the Congress is essential. The fact that financial assistance would be required has been made known from time to time to many members of both Houses of Congress who have expressed an interest in this subject over the years.

In a hearing on October 21, 1971, before the Special Committee on Aging of the United States Senate, 92nd Congress, 1st Session, a representative of the Authority testified :

"The Congress has been informed that it will be necessary for the Authority to seek additional funds for these facilities inasmuch as the financial plan on which present activities are being carried forward makes no provision for the cost of special facilities for the handicapped. As we went forward with planning, provision for this cost was impossible because the facilities had not been designed and this cost could not be determined.

"The paramount consideration was the necessity to enter into contracts with the local jurisdiction responsible for the local share of system cost, which could only be done on the basis of known costs. Representatives of the handicapped group have been fully advised of the need for this course and have expressed their willingness to support this organization in its effort to have such funds appropriated."

On December 21, 1971, a representative of the Authority discussed the possibility of legislation with Mr. Sullivan, and upon request furnished on January 11, 1972 a draft of a bill designed to meet this financial problem. As stated at the outset of this hearing, it is our understanding that we are gathered today for the purpose of determining the situation which confronts the Authority so that the Committee will be fully informed as it considers necessary legislative action.

I have attempted to trace the main course of events relating to this problem. With regard to the Authority's resolution on August 27, 1970, I mentioned that the Board directed that a market survey be conducted to ascertain the extent to which special transportation service for the handicapped might be utilized in this region. Copies of the reports on the subject have been supplied to the Committee. I might comment briefly on the salient points. Inasmuch as the METRO System relies heavily on escalators for vertical transportation, though now proposing vertical elevators to meet specialized needs, the study investigated the incidence of disabilities among the population of the Washington metropolitan area and the effect of those disabilities on the use of escalators. Telephone interviews were conducted with a sample of 4,414 households in the area, and home interviews with 101 disabled persons. For the purpose of this research, a person was classified as disabled if he considered himself physically disabled, and was over five years of age, able to get around outside the home, but unable by his own account to use an escalator. The study yielded an estimate of 9,600 disabled persons presently in the metropolitan area out of the 1970 population of 2,712,871 persons in the area.

Assuming a constant ratio of disabled persons to total population, a 1990 forecast of 14,011 disabled persons was developed. This, then, was converted into total number of trips made in 1990 by these disabled persons and the number of these trips which would use METRO if elevators were available.

In tabulated form, the range of results of this estimate of probable use is as follows:

ESTIMATED AVERAGE 1990 DAILY METRO RAIL TRIPS BY DISABLED PERSONS UNABLE TO USE AN ESCALATOR

	Number of disabled persons	Trip rate—	
		Rail trips per person per day	Average daily rail trips
Low rate.....	14,011	0.1233	1,727
Most likely rate.....	14,011	.3503	4,908
High rate.....	14,011	.6381	8,940

The "most likely" figure would represent about 0.5% of the total 1990 daily ridership.

I trust, Mr. Chairman, that this background statement explaining the situation will provide you with sufficient information and an adequate basis upon which to go forward with legislation to finance the provision of vertical elevators so that those handicapped persons who are unable to use the escalators will be able to ride Metro.

MR. FISHER. First, I think the point should be noted that almost at the outset of planning, METRO officials voluntarily determined to adhere to the "American Standard Specifications for Making Buildings and Facilities Accessible to, and Usable by, the Physically Handicapped."

This decision assured features in the METRO System which met or exceeded the requirements for the accommodation of all but the non-ambulatory handicapped.

There are many others who are handicapped in other ways.

Escalators from platform to street were proposed. Under the METRO design, all but a fraction of the handicapped, primarily those confined to wheelchairs, will be able to use the system as it is.

Our discussions with the handicapped community and with others who share their concerns date back to the early 1960's, but our own decision concerning "American Standard Specifications" produced many design features besides escalators which would make travel a more pleasant experience for the disabled.

For example, there will be acoustical refinement of both trains and stations. There will be a top quality audio system to help those with hearing problems travel confidently and knowledgeably throughout the METRO network.

We are specifically providing two textures of paving at the station platforms, a rougher granite finish being used to warn passengers with poor vision as they approach the edge.

Another visual aid will be lights flashing on and off at the platform edge as trains approach.

Also, the stations will be built with a slight rise toward the platform edge as an additional precaution to those with sight impairments.

Nonslip floors, without abrupt change of level, doorways and entrances of proper width, walkways with gentle slopes, all are requirements of the "American Standard Specifications" which the METRO System meets or exceeds.

But, the main question before us here today is what new legislation, if any, is necessary to help METRO meet the requirements of Public Law 91-205, the statute passed in 1970, the only unusual requirement of which is the installation of elevators.

METRO's board of directors has adopted policies and the staff has been pursuing a course of action that clearly demonstrates the desire of our Authority to provide service to all of the handicapped. The problem is money. That is our problem, not lack of desire to make this system usable by the handicapped.

For vertical elevators, the capital cost would amount to about \$65 million. This has been estimated rather carefully, and we are prepared to talk about that.

Mr. GRAY. May I interrupt you there a minute, Mr. Chairman. You state that to put in vertical elevators in the 85 stations would cost \$65 million?

Mr. FISHER. Yes. That is our estimate.

Mr. GRAY. Is this an official estimate derived after consultation with the elevator companies? We had testimony just previous to your coming that Otis, as an example, was never further contacted concerning inclined elevators. Where did you get these figures?

Mr. FISHER. Perhaps I could refer your question to Mr. Dodge, our chief of engineering and operations.

Mr. GRAY. Yes, Mr. Dodge, we will be happy to have you answer that.

Mr. DODGE. Mr. Chairman, this estimate was provided by our general engineering consultants and reviewed by our own staff. The \$65 million covers the entire cost of providing the facilities for the handicapped, which would include the construction of the shaft, the procurement of the elevators, and the installation of the elevators. So, it is the entire cost.

Mr. GRAY. For all 85 stations?

Mr. DODGE. All 85 stations. This would be an elevator from the surface to the mezzanine and from the mezzanine to the platform to board the trains.

Mr. GRAY. Are you referring to vertical elevators now?

Mr. DODGE. That is correct, the \$65 million for vertical elevator access.

Mr. GRAY. In coming to this estimate of \$65 million, did you at any time talk to Otis or Westinghouse, or any other manufacturer, concerning the possibility of inclined elevators in the way of maybe reducing that figure?

Mr. DODGE. Yes, sir. We have been in contact with all the escalator or elevator manufacturers in developing this. We had previously prepared an estimate of the cost of the inclined elevators from the surface to the mezzanine, and even with these inclined elevators it is still necessary to have a vertical elevator from the mezzanine to the platform. So, we have talked to them about both.

The cost of the elevator we can get fairly accurately because they have been built and installed throughout the country. On the inclined elevator, it is a rough approximation since these have not been produced nor do we have any cost figures on them. But it was based on our appraisal and their information to us.

Mr. GRAY. In other words, you are telling this committee your feeling at this point at least is that the inclined elevator would cost more than \$65 million if they were installed in the same number of stations?

Mr. DODGE. Had we the leadtime and had we started at the beginning with an inclined elevator system, developed and ready to go at the same time our construction was, our figures indicate it would have been somewhat less than a vertical installation.

We are at a point now, however, with so many stations underway that it would probably cost more, and actually we do not have the leadtime either to return to the concept of the inclined elevator.

Mr. GRAY. I want to explore that a little further. I apologize to you, Mr. Chairman, for interrupting you, but I did want to get into the record at this point the exact costs of what we are talking about.

Mr. FISHER. Certainly. In any event, the \$65 million is, frankly, money that we do not have, and we are conscious of the cost of this whole system.

No part of the \$65 million cost of vertical elevators was contemplated by Congress or by the eight local political jurisdictions contributing to the METRO program when these entities agree to provide financial support for the construction of the system.

That does not mean that we are at odds with the objectives of the law or that we are unsympathetic with the goals of the handicapped. Far from it.

We have made this problem known. Our files are replete with exchanges of correspondence on the matter with representatives of the handicapped and Members of Congress.

We have met in company with Mr. McCahill, who was here earlier, and with Mr. Richard Sullivan, your counsel.

At Mr. Sullivan's request, on January 11, 1972, we furnished him with a draft of a bill designed to meet this financial problem. Here is the draft for the record.

Mr. GRAY. Without objection, it will be submitted at this point.
(The document referred to follows:)

A BILL To authorize the appropriation of funds to the Secretary of Transportation for the use of the Washington Metropolitan Area Transit Authority in providing facilities in the Metro Rapid Transit System assuring accessibility to the Metro System to the physically handicapped, and for related purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. This Act may be cited as the Metro Accessibility to the Handicapped Act.

SECTION 2.

1. Findings and Purposes. The Congress finds—

(a) that the implementation of the Public Buildings Act of 1968, as amended, affecting the design, construction and operation of a complete subway and rapid rail transit system in the Washington Metropolitan Area will require the installation of elevators to render such system fully accessible to the maximum numbers of the physically handicapped;

(b) that funds sufficient to provide for such elevator facilities are not available to the Washington Metropolitan Area Transit Authority under its approved Financial Plan.

2. The Congress declares it to be its purpose and policy to assure full accessibility by the physically handicapped to the WMATA rapid rail transit system by authorizing an appropriation to provide suitable elevators for installation as necessary and appropriate in the System.

AUTHORIZATION OF FEDERAL FUNDS

SECTION 3.

1. The Secretary of Transportation is authorized to make annual payments to the Washington Metropolitan Area Transit Authority in amounts sufficient to finance the cost of procurement and installation of elevators in the rapid rail transit system authorized by the Congress in the National Capital Transportation Act of 1969 (83 Stat. 320).

2. There is authorized to be appropriated to the Secretary of Transportation, without fiscal year limitation, not to exceed \$65,000,000 to carry out the purposes of this Act. The appropriations authorized by this subsection shall be in addition to appropriations authorized under any other Act.

Mr. FISHER. Encouraged by METRO officials as early as August 1967, the Potomac Valley Chapter of the American Institute of Architects in September 1969, unveiled an inclinor concept in a report called "Barrier-Free Rapid Transit."

It was recognized, of course, this was strictly a conceptual approach, and it would be necessary to develop an industrial design and industrial technology before a manufacturer could produce the finished item.

METRO officials were in the forefront of efforts to develop the prototype device. On August 27, 1970, our board of directors, acting on the recommendation of the general manager, directed the staff to apply to the Department of Transportation for a grant to finance research and development aimed at industrial design and commercial production of the inclinor.

For the record, Mr. Chairman, I offer a copy of the general manager's memorandum of August 27.

Mr. QUENSTEDT. May we be off the record?

Mr. GRAY. Off the record.

(Discussion off the record.)

Mr. GRAY. Back on the record.

Without objection, the minutes of the meeting will be submitted at this point.

(The material referred to follows:)

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY,
Washington, D.C., August 27, 1970.

MINUTES OF 197TH MEETING OF BOARD OF DIRECTORS IN OPEN SESSION

The meeting was called to order at 9:38 a.m. Present were:

Directors.—Mr. Joseph P. Yeldell, Mr. Carlton R. Sickles, Mr. A. Leslie Phillips, Mr. Graham W. Watt, and Mr. James P. Gleason.

Alternate Directors.—Mrs. Gladys Noon Spellman, Mr. Charles E. Beatley, Jr., Mr. Lee M. Rhoads.

Staff.—Mr. Jackson Graham, Mr. Warren Quenstedt, Mr. Schuyler Lowe, Mr. Roy T. Dodge, Mrs. Pat Sestito, Mr. Sprague Thresher, Mr. John A. Robertie, Mr. E. R. Baughman, Mr. Howard Lyon, Mr. William Herman, Mr. Ellis Perlman, Mr. Joseph Muldoon, Mr. G. Richard Raville, Mr. W. Donald Dewey, Mr. Joseph Garbacz, Mr. J. F. Elward, Mr. Ralph Wood, Mr. John Warrington, Mr. Charles Clark, Mr. Homer B. Pettit, Mr. John Brill, Mr. Gerald Gough, Mrs. Paula Kal, Mr. Donald Staver, Miss Tillye Ehrlich, Mr. Allen Long, Mr. John Druckenbrod, Mr. William Alldredge, and Mrs. Chris Simerman.

Others.—Mrs. Gladys Nelson, Mrs. Grace Ward, Miss Kaye Fossett, Mr. Robert Jacobi, Mrs. Athena Hedding, Mr. Richard Hedding, Miss Margaret Cauffield, Mrs. Michael Shapiro, Mrs. Mary Stewart, Mrs. Dora Lee Haynes, Mrs. Kathleen Arneson, Mr. Nicholas A. Colasanto, Mr. Stanley Allan, Mr. James A. Caywood, Mr. George Howie, Mr. Jack Crawford, Mrs. Bettie Randall, Mr. David Erion, Miss Dee Allison, Mr. Stephen Green, and Mrs. Marilyn McGinty.

Approval of Minutes.—The Minutes of August 20, 1970 were approved as submitted.

Report by District of Columbia, WSTC and NVTC.—Mr. Yeldell reported on an August 26 meeting he had attended with the Tenley Citizens Defenders in connection with their opposition to parking facilities which may be needed in connection with the construction of METRO in the vicinity of the 4600 block of Wisconsin Avenue.

Mr. Phillips reported on the progress of NVTC's application to the Department of Transportation for the I-95 express-bus-on-freeway demonstration project.

Quarterly Report of Director of Planning.—Mr. Herman summarized Report No. 66 of the Office of Planning, a copy of which was furnished the Board and made a part of the official files of the Authority.

Quarterly Report of Government Relations Officer.—Mr. Perlman summarized Report No. 8 of the Office of Government Relations, a copy of which was furnished the Board and made a part of the official files of the Authority.

Premier Showing of METRO Film.—Mr. Long presented the initial showing of the ten-minute motion picture "Go" on METRO's plan, program and user benefits. Mr. Long noted that the film was an updated version of the 1968 film—"The Coming Way to Go" and that beginning September 1, the film would be publicized throughout the nation.

Provisions for Use of METRO by Handicapped.—Mr. Quenstedt referred the Board to a furnished copy of the General Manager's August 27 memorandum to the Board and attached report on the subject of access to the METRO stations by the handicapped, copies of which have been made a part of the official files of the Authority.

Mr. Quenstedt presented a discussion on background matters related to the effort to provide access to METRO for the handicapped; presented information resulting from the general architectural consultant's examination of the 86 stations of the system; discussed the desirability of inquiring into alternative means of providing transportation to the handicapped; and repeated the recommendations made in the covering memorandum.

Following lengthy discussion, Mr. Gleason moved that the Authority proceed to: Prepare an application to the Department of Transportation for 100% financial support of a research and development effort to develop and test a prototype device (inclined elevator) for vertical transportation of persons unable or unwilling to use escalators; investigate the progress and status of the Dial-A-Bus research conducted under auspices of the Department of Transportation to inform the Board concerning the possibility of establishing similar service in the Washington area; procure a market survey to ascertain the extent of need for and preferences concerning special transportation; and explore the concept of Mobility Training as METRO operation approaches.

The motion included a provision that investigation be conducted into alternative mechanical devices for vertical transportation in the event the de-

velopment of the inclined elevator is not successful. The motion was seconded by Mr. Phillips and unanimously passed.

Ayes: 6—Mr. Yeldell, Mr. Sickles, Mr. Phillips, Mr. Watt, Mr. Gleason and Mr. Rhoads.

Noes: None.

Renewal of General Engineering Consultant Services Contract for Fiscal Year 1971.—Mr. Dodge referred the Board to a furnished copy of Procurement Action No. 2, Contract No. 3Z60051, requesting extension of interim authority previously granted to De Leuw, Cather & Company, until a definitive cost-plus-fixed-fee contract has been negotiated for general engineering consultant services for Fiscal Year 1971.

Upon motion by Mr. Phillips, seconded by Mr. Watt and unanimously passed, Action No. 2 was approved accordingly.

Ayes: 6—Mr. Yeldell, Mr. Sickles, Mr. Phillips, Mr. Watt, Mr. Gleason and Mr. Rhoads.

Noes: None.

The meeting adjourned at 11:15 A.M.

DELMER ISON, *Secretary.*

Mr. FISHER. At this time, the board ordered a market survey of the region to determine the demand for special transportation services to accommodate the severely handicapped, and instructed the staff to investigate alternative means of transporting such persons in the event the inclinator effort failed.

On October 8, 1970, an appropriate preliminary application for a research grant was filed with DOT, and later a formal application was submitted. A copy of this is available, if you wish.

Mr. GRAY. Yes. It will be received at this point and retained in the subcommittee file.

Mr. FISHER. This, of course, proved unsuccessful, as you heard, and it was necessary for us to turn our attention to the more conventional vertical elevator.

By then, of course, a certain amount of time had been used up in an effort to go in this direction and, as I understand it, this was the solution and direction preferred by the representatives of the handicapped.

Accordingly, by resolution on May 18, 1972, a copy of which is available for the record, in a new action on the handicapped front, again responding to the recommendation of the general manager, the board committed itself to include elevators in the system provided Congress votes the necessary financing.

Mr. GRAY. Without objection, that resolution will be put in the record at this point.

(The resolution referred to follows:)

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY,
Washington, D.C., May 18, 1972.

RESOLUTION OF THE BOARD OF DIRECTORS OF THE WASHINGTON METROPOLITAN
AREA TRANSIT AUTHORITY

Be it Resolved that

1. With respect to METRO stations for which final design contracts have not been let, such contracts will include plans and specifications for elevators in the final design.

2. With respect to METRO stations for which final designs are under way, which designs do not include provisions for elevators, and with respect to which station contracts for construction have not been let:

(a) Such final designs will be modified to provide for elevators.

(b) Contracts will be let on the basis of final designs that do not provide for elevators if WMATA determines that the construction cost will be less if

WMATA proceeds rather than awaiting redesign to provide for elevators, and in that event WMATA will thereafter modify the design to provide for elevators.

3. With respect to METRO stations for which contracts for construction have been let:

(a) The designs will be modified to provide for elevators.

(b) If continuation of construction of such stations will make the eventual installation of elevators more expensive because it will then be necessary to alter some of the construction that has then been completed, WMATA will nonetheless continue with such construction if the cost of the station will be less than if such construction were halted until its design is modified to provide for elevators.

4. Subject to availability of funds, upon completion of designs referred to above, existing construction contracts will be modified and new construction contracts awarded to include the installation of elevators in station construction.

Mr. FISHER. Under the terms of that resolution, final design plans still on the drawing board will specifically provide for the addition of vertical elevators for the handicapped. The installation, of course, would be subject to availability of Federal funds.

Should this change in design come at such an advanced stage as to threaten costly delay in construction time, modifications in design and a change order to the contractor would be effected after award of the construction contract, again, of course, subject to the necessary financial backing.

Under this policy and these procedures, no station under construction will proceed to completion in such manner as to preclude the installation of elevators at a future date. Vertical transportation for the severely handicapped will be a distinguishing feature of the METRO System, assuming the availability of Federal funds. Costly delays will be avoided.

We always come back to the financial problem, you see.

After careful review of the present construction picture, we find there is only one station out of 85 in which it will be necessary to modify work already completed.

As to the stations not yet in the design stage, a great many of them, provision will be made for elevators to be included systemwide. Every one of the METRO's 85 stations has been carefully examined by our architects and engineers, and in each instance, a decision has been made with regard to the proposed nature and location of elevator facilities.

That leads us back to the crux of the situation that confronts us all. We need the money, \$65 million, to finance this elevator project.

We urge the handicapped community, the President's Committee on Employment of the Handicapped, other administration sources, your committee, Mr. Chairman, and all others interested in improving public transportation for the handicapped in our society to join us in recommending that Congress provide the necessary funds.

Earlier I made reference to a study METRO had commissioned—

Mr. CLEVELAND. May I inquire?

Mr. GRAY. The gentleman from New Hampshire.

Mr. CLEVELAND. I am just a little curious here.

In view of the law that we passed a year or so ago, I am just wondering why we have to have this sort of separate effort to get separate funds for this.

I am just wondering why, when you people went up to the appropriations for your other request, this was not included there. Why does it have to be a separate effort to get separate funds for this when,

as far as we are concerned, after what we did a year ago, we consider this to be just as much a part of the system as a track or the cars, or anything else.

Mr. FISHER. Well, however it is handled, it would have to be an additional amount because the system was designed sometime before the law was passed and simply did not contemplate this.

You want to add to this, Mr. Quenstedt?

Mr. GRAY. If you complete your statement chronologically, we can come back to what has transpired with the hearings and the law, if that is all right with the gentleman from New Hampshire.

Mr. FISHER. Earlier, to repeat this part, I made reference to a study METRO had commissioned to explore the need for special transportation facilities for the handicapped. That study, of which copies have been made available to the committee, defined a physically disabled person as an individual considering himself physically disabled, over 5 years of age, able to get around outside the house, but, by his own account, unable to use an escalator.

Our report placed the number of disabled persons unable to use an escalator at METRO stations by the year 1990 at 14,011. The study predicted these persons would account for an average of between 1,727 and 8,940 METRO trips a day, with the most probable rate set at 4,908, provided METRO stations were equipped with the necessary elevator units.

That probable rate of 4,908 trips by disabled riders every 24 hours compares with the total estimated METRO ridership of 888,126 daily by 1990, about half of 1 percent.

Mr. GRAY. You were referring to everyday commuters in the Washington area, but I do not think you are taking into account the millions of visitors who come here every year.

Are you?

Mr. FISHER. I think this tries to account for all people who would be using the METRO whether they are residents of this area or visitors from elsewhere.

Mr. GRAY. How do you derive one-half of 1 percent figure when approximately 10 percent of the population has some form of handicap?

Mr. FISHER. They do not all ride METRO, or would not all ride METRO even with elevators.

Mr. GRAY. It is no more real to assume that all able-bodied people would ride and all handicapped would stay off.

Mr. FISHER. That is true. And I believe the estimates make proper assumptions on that account.

Am I right in this?

Mr. HERMAN Yes, sir.

Mr. GRAY. You may proceed.

Mr. FISHER. This has been done in quite a sophisticated way, and I believe that it is accurate.

Then, on an annual basis, these daily figures would come out at 1,432,000 trips by handicapped, and 258,800,000 rides by others.

This may seem like a small number relatively, perhaps, but there are human values involved as well and no dollar value can really be placed on those.

We completely agree with the testimony you have heard in that respect.

Again, let me express my appreciation for the opportunity to be present here today.

With this background statement, the detailed portion of which appears in my formal statement and the results of our survey, we have endeavored to provide you with material designed to assist you in your deliberations.

I hope I have made clear the extent, the vigor, and the sincerity of our efforts. We had a false start toward the inclinator, and we simply did not get anywhere along that line. Now, we are back again, determined to design in vertical elevators for this purpose.

Our only problem, really, is that of finding the funds to do this with. There is no problem of lack of desire or lack of recognition of the importance of this kind of service.

I hope also that Congress will vote the necessary \$65 million to finance these elevators, not as a convenience, but as the necessity they are for so many of our handicapped.

For our part, we pledge to continue to provide for them in our plans, as I have outlined, and to be prepared to add them to our stations once the funds become available.

That completes my statement, Mr. Chairman.

Mr. GRAY. Thank you, Mr. Chairman, and all of your associates.

Mr. FISHER. I have great sympathy for your problems. I know with a project of this magnitude, there are many, many problems that the general public does not see, and everyone is prone to criticize.

I certainly do not want to leave that impression, that that is the purpose of this hearing, but I think I would be derelict in my duty after having sponsored, along with others, legislation back in 1970 to make sure that the METRO System did have facilities to accommodate the handicapped, if I did not say very frankly I feel that the METRO officials have completely ignored the law.

In fact, very recently, the brief that you filed in answer to the suit here in the district court stated :

As set forth above, the financial plan does not include funds for elevators and there are not commitments at the present time for any funds, Federal or local, to cover these additional costs.

And you also state :

The reference of the 1970 amendment clearly indicates that WMATA stations were treated as Federal buildings. They are not, however, in any sense Federal buildings under section 4 of the Compact. WMATA has been designated as a body corporate in politic and as an instrumentality and agency of each of the signatory parties—these parties are Maryland, Virginia, and the District of Columbia—but not the United States.

So, very clearly in your answer, which is an official document filed in the Federal court, you are abrogating any responsibility whatsoever to install elevators.

Now, you come before the committee this morning and say that if we can get the money, we do plan to put them in.

Are you not really, in essence, saying, "We have flouted the 1970 act"?

You have been designing and now constructing this facility for a number of years. Yet you have made no provision to put the first elevator into this system.

Is this not an accurate statement?

Mr. FISHER. We have taken steps to assure that all our stations will be designed for elevators, as I reviewed.

Mr. GRAY. But, Mr. Chairman, we go back to 1965 where we have assurances to this committee in official public hearings. We go back to 1968, and we had further assurances to this committee in public hearings that the handicapped would be taken care of.

I have before me here public hearings of 1969. We have assurances to this committee, and I quote :

From the outset, our organization has been most seriously interested in this problem of the handicapped, and the specific record of our interest goes back to the Senate report in 1965 concerning the legislation which authorized the construction of the basic system that grew out of the testimony of our concern with regard to this matter.

Our hearings are absolutely replete with not ambiguous promises, but precise commitments to this committee and to this Congress that the handicapped would be taken care of.

Now, after we have gone through all the planning stages, after millions have been spent for architectural and engineering work, after we have actually dug the first tunnel for the METRO System and now have gone on with several others, we are told that if you give us some money, then we will accommodate the handicapped.

I have seen needs being unmet, but this is absolutely incredible. Five years later we are told, "Well, we have a great sympathy for these people, but you are going to have to give us some money if you want us to take care of them."

As a nine-term Member of Congress, when I voted—and I have been a strong supporter of the system and I voted last week to authorize another billion-dollar guarantee on your bonds because I want to see this system built. I have supported this system, feeling that the handicapped would be provided for.

There has never been a dollars-and-cents tag placed on this. This is something brand new, this 11th-hour deathbed rattle, which we are now being told that in order to accommodate the handicapped, we must have \$65 million.

You can read these hearings. They are as thick as the Sears, Roebuck catalog, and not one contingency has ever been placed on dollars and cents to aid the handicapped.

Now, why, when it is going to be tremendously costly to revise the plans, are we told that more money is going to be needed? This is something brand new.

I certainly am put out that your counsel would go down to the district court and say :

We are a body corporate in politic and are not a Federal agency and not part of the U.S. Government. Therefore, we do not have to comply with the 1970 act.

The report accompanying the act stated—and I am sure all of your counsel down there can read the English language—that Congress has authorized a complete subway system for Washington and the metropolitan area.

The question arose, meaning prior to the time of this enactment, 1970, as to whether the provisions of Public Law 90-480 were applicable to the construction of this particular public facility, meaning the METRO System.

By virtue of the unique Federal-State relationship that you are talking about here in your brief, because of this unique Federal-State relationship created through the compact and otherwise in this instance:

Doubt has been cast as to whether this METRO facility was, in fact, subject to this law. This legislation will resolve that doubt to make it clear that the construction of the subway stations, entrances, exits thereto, and all other related facilities necessary for this METRO System will, in fact, be subject to the requirements of this law.

Now, how much clearer could you be in writing a report accompanying a bill that passed the Congress and was signed by the President, saying we did have some doubt prior to 1968 when you were planning this system, but now we want to eliminate any doubt whatsoever, we want to make it absolutely and abundantly clear, and this was back in 1969.

Then again in 1970 you state that you are going to accommodate the handicapped, and then here in this late hour, as the sun goes down on the construction of this system, you say to the court that Congress has no control over this matter since we are not part of the U.S. Government.

Can you reconcile these two differences?

Mr. FISHER. Well, I would like to make several points in response.

Mr. GRAY. Yes; I would be delighted to hear them.

Mr. FISHER. One is that there are many more handicapped persons than the ones who would require an elevator or an inclinator, and the design of the system has, from the beginning, gone very far in trying to accommodate and allow for their problems.

I have touched upon this briefly by way of example in the earlier part of my statement.

From the law passed in 1970, it became clear that more would have to be done; and although I was not associated with METRO at that time, this is the way it looks to me in summary; that the first effort was made in the direction of providing inclinators, inclined elevators, and this led to the preliminary application to DOT and the invitation from the Secretary to submit a final application which ultimately was turned down.

It is my understanding this is the direction the representatives of the handicapped wished to have us go, but that would involve the designing of the equipment.

So we, in a sense, it seems to me, used up quite a lot of time trying to pursue that solution to the problem, and it did not work out.

Thereafter, we turned our attention to the more conventional vertical elevators, and this is the direction we are moving on now.

Mr. GRAY. But with the contingency of more money, and that is a contingency Congress never wrote in the law in any way, shape, form, or fashion. Your agency never testified before this committee or the Senate committee that money was the criterion to aid the handicapped in accessibility to the subway system.

Mr. FISHER. In the effort to go to the inclinator route, it was clear, I believe, that it would cost quite a bit of money to add that, to change the design, to create the apparatus, buy it, and install it, that this would be an expense.

We wanted to get a clearer view of what be involved before we requested the funds.

Mr. GRAY. While we are on the subject of cost, if my mathematics are correct, even at the highest escalator prices, this \$65 million is only 2½ percent of the total cost of the system to accommodate 10 percent of the public that would have this problem.

So I do not think that is out of balance at all. If it had been designed back in 1965, when we first started talking about this, I am sure that the costs of accommodating the handicapped would have been less than the 2½ percent; but even at today's prices and today's estimate at this date of 1972, we are only talking about 2½ percent to accommodate 10 percent of the public.

So, I fail to see how we can segregate these people or delineate their problem from the general public's problem because they are a part of the public that needs to use the system, and I think it is not out of balance to say that 2½ percent of the total cost of the system is justified.

Mr. QUENSTEDT. Mr. Chairman, may I address myself to a remark you made a moment ago, because I was the one who testified here on December 9, 1969.

Mr. GRAY. Yes sir.

Mr. QUENSTEDT. In the statement which has been submitted for the record, there is a quotation from the December 9, 1969, hearings in which I stated:

We have received a report from the Project Committee which presents a design concept of a proposed inclined elevator which appears to meet our criteria. The precise engineering design or production must now be accomplished by a competent engineering organization or by manufacturers of such devices. The Transportation Committee of the President's Committee has indicated it will seek special funding for this and future installations. The authority is presently exploring the possibility of Federal financial assistance through the Department of Transportation.

This particular summary paragraph reflected conversations that I had with many people among the handicapped over many years' time, and there are some other quotes which show it was known that the addition of this facility would add an additional element of cost to this undertaking.

On this particular legislation—Public Law 91-205—there was no hearing in the Senate. It went through without that formality.

At the first opportunity that I ever had to testify before the Senate with regard to the subject itself, on October 21, 1971, before the Special Committee on Aging of the U.S. Senate, I brought out very strongly that the Congress had been informed it would be necessary for the Authority to seek additional funds for the facilities inasmuch as the financial plan on which present activities are being carried forward makes no provision for the costs of special facilities for the handicapped.

As we went forward with planning, provision for this cost was impossible, because the facilities had not been designed, and the cost could not be determined.

Our problem is this, that before the passage of the 1970 law, there was a financial plan and a physical plan presented to the Congress and approved. That financial plan involved a cost which had been apportioned among all of the eight jurisdictions participating in this, and no

one of those jurisdictions was taxed any fraction to pay for special facilities to accommodate the handicapped.

Under the terms of the law as it was passed in 1970, we went forward with a sincere effort to pursue this inclinator, and that was in pursuit of an agreed position that dates all the way back to 1966.

I acknowledge there was administrative lag in connection with this, and on the record itself it appears like an awful lot of time went by. But we took it through to the December 1971 rejection of the proposal for the inclinator, and immediately thereafter we moved into the field of the vertical elevator, and we still have time. That is the one thing that is overlooked. We still have time. Nobody has been precluded from this situation.

We can put these vertical elevators into this transit system, but we get all the way back to the proposition that at the beginning we did not tax the local communities for the facilities, and the facilities have now been required by reason of the act of 1970, which neither authorized nor appropriated funds.

We can do the job, sir. We have made no provision for the money.

We are asking you for help, and we have, over a long period of time, had conversations outside of your knowledge seeking legislation to that effect.

Mr. GRAY. Mr. Quenstedt, can you tell us how much money has been spent on architectural and engineering fees for this \$3 billion system up to this date?

Mr. QUENSTEDT. It may be that Mr. Dodge knows.

Mr. GRAY. Mr. Dodge, would you have just a ballpark estimate of what you have spent for outside consultants and architectural and engineering work up to this point?

Mr. DODGE. In the overall program the design and the inspection of construction will run about 10 percent of the construction costs.

Mr. GRAY. So you have been out between \$200 and \$300 million so far?

Mr. DODGE. Not that much up to this point.

Mr. GRAY. How much up to this point?

Would \$100 million be a good ballpark estimate?

Mr. DODGE. In final design we have had \$39 million. These are round numbers. Stage contracts, \$6 million; general engineering, a million and a half; and general soils, \$2.1 million, a total of \$49 million—\$49.5 million.

Mr. GRAY. Up to this point, you had approximatey \$50 million?

Mr. DODGE. That is correct.

Mr. GRAY. What I am trying to get at here is much emphasis has been made on the fact that DOT turned down a request for \$1 million and, for that reason, we have had to forget about the inclinators and start talking about vertical elevators.

Would it not be reasonable to assume that if the METRO System has spent \$50 million for architectural and engineering work, that with this vast army of people, that certainly we should not be dependent upon one additional million dollars in order to aid the handicapped?

I just cannot conceive, if I am engaging an architectural or engineering firm to design a \$3 billion system, with this vast array of people costing the taxpayers \$50 million to date, and eventually up to \$300 million, that we have got to win or lose or stand or fall on a

million dollars from another governmental agency to study this problem.

Any sophisticated set of plans by these large firms that are giving you advice on architectural and engineering work ought to be able to determine what is going to be required in a subway station for the physically handicapped, and we had testimony, if anyone had read this—and I am sure it would have been available to these architectural and engineering firms—we had testimony way back in 1965 that escalators would not accommodate these seriously handicapped.

Why is it required to go over to DOT and get another million dollars for them to study a certain mode or method of getting these people out of the ground?

You mean to tell me these large firms designing this system do not know what it takes to get a wheelchair 50 or 100 feet from down in the ground up to the surface?

This just really amazes me, to think we have spent \$50 million of the taxpayers' money, collected here in the District and in the environs of Maryland and Virginia, and from the Federal taxpayers in Illinois that is helping subsidize this system here in the Nation's Capital, which we are willing to do, but with all that expertise and know-how, we are being told here today, because we did not get another separate grant from DOT to study one mode of travel, these brain trusters down in the architectural and engineering office could not figure out some method of incorporating a system that would bring these people up to the surface.

I am just absolutely amazed.

Mr. DODGE. I would like to respond for that area for which I am responsible, and then the general manager may wish to go further.

There is no question but what the firms we have under contract can design and construct the system.

Mr. GRAY. Why were they not instructed to do this, Mr. Dodge?

Why did you wait 14 months, to be exact, for DOT to determine they were not going to give you any money?

I am sure one architect and one engineer sitting there, drawing all this vast system, could have figured out some way of getting on the plane and going to Sweden to look at their system, or doing something that would have given you the information so that in case DOT turned you down, which they did, you would be able to then pick up the pieces and go on with the alternatives.

Mr. DODGE. Mr. Chairman, whether it is 1 or 2½ or 50 percent, I cannot issue instructions to design something that is not in the approved system which has been authorized by our Board of Directors representing the jurisdictions who, in accordance with the compact, are funding the system. This is outside the authorization.

Mr. GRAY. The Congress of the United States stated in a mandate specifically on this specific issue that it directed METRO to design the system to be accessible to all the handicapped—not part of the handicapped, all of them. That was the purpose of the legislation.

It is very seldom that Congress takes specific action on a specific matter such as this. But, when it was called to our attention that it was a gray area, that it was not absolutely clear, we then held extensive hearings, and we did pass out legislation back in 1969, giving a mandate to METRO to do that.

So, I do not understand your statement saying that unless you have authority—we are paying the bill. We certainly have a right to make limitations or give directions as to how we want the taxpayers' money to be spent, and I do not know of a more precise or clear report that any lawyer could write than the one I read a moment ago concerning this specific issue.

I am saying if the Board did not give you those instructions, they are flaunting the will of the Congress which passed specific legislation directing that this be done.

Could you address yourself, Mr. Chairman, to that issue?

Mr. FISHER. Yes, I would like to.

The Board of Directors has issued, passed a resolution, issued the directions that these elevators are to be designed, provided for by design in all of the stations.

Mr. GRAY. What date was that, Mr. Chairman?

Mr. FISHER. That was 2 or 3 months ago.

Mr. GRAY. That is what I said, in 1972.

Where were we in 1969 and where were we in 1970 and where were we in 1971?

Mr. FISHER. Let me finish, if I could.

We are not hurting anything because of this. They will be designed in. We are not having to undo anything we did.

These facilities will be designed for, and although I think you are quite right, in looking back, that it should have been done earlier, it has been done and will go forward and at no great penalty to the schedule of completion or to the budget of the authority.

But I do, looking back, agree with you it would have been better if we had taken that step earlier.

Frankly, we pursued this other route. Obvious, we were interested in this.

We felt the handicapped were interested, and since there was a good prospect that the DOT grant to do the design creative work was possible, we naturally chose to go that route.

I wish now, looking back, we had made our decision earlier.

Could Mr. Quenstedt amplify on this?

Mr. GRAY. Yes.

Mr. Quenstedt, would you care to make comment?

Mr. QUENSTEDT. Yes, sir, Mr. Chairman.

Three months, or roughly that, before we appeared here concerning this particular legislation, the Congress had approved a system in which there was a specific plan, specific mechanism was proposed, and in which expressly in the report the language "escalators will transport passengers from surface to mezzanine and then to the platforms for boarding" was included.

Over a long period of time there have been what I would call healthy disagreements between the persons representing the handicapped and all persons in the transit industry. I may appear to be the spokesman on occasion because I happen to be the individual in town, but the transit industry, as a whole, has resisted the idea of the wheelchair in a transit system.

Insofar as METRO is concerned, that has been decided. I no longer argue the point.

Mr. Hedding will confirm that I told him he would never again hear the argument from me because Congress had expressed itself.

But, during that long period of time, I felt free to argue what I thought was a valid point of view, and in the course of designing the system there was no provision made for the wheelchair, and we made no special reference to the cost of all these other provisions in the system for many, many other types of handicapped persons.

We consciously left the wheelchair out of it until we were the subject of this legislation.

But, only 3 months before that legislation, Congress had approved the system, specific in its nature, with escalators only. Your law imposes another substantial physical requirement for which we had made no provision, and for which we had made no financial arrangements under our contracts with the local jurisdictions.

You neither authorized nor appropriated money to do it, but we were convinced that we had to go ahead. We went ahead in good faith.

We followed the course of undertaking to get it from DOT. I agree with Mr. Fisher that wound up wasting time, but at least it was an effort to get it done in that way, to get the inclinator which was desired.

Mr. GRAY. I appreciate those delays, Mr. Quenstedt, but the fact remains on December 12, 1969, 2½ years ago, I propounded these questions to you right here in this committee room:

Mr. GRAY. Then I take it you would not have any serious objections to the legislation?

Mr. QUENSTEDT. No, sir, I do not. It is only to discuss some of the use of these practical problems that may arise in the application. We would not object to the legislation.

Mr. QUENSTEDT. I remember it vividly, sir.

Mr. GRAY. The point I am getting at is why were not these questions raised subsequent to the time after this legislation was enacted, so that consideration could have been given to increased costs, and so it could have been incorporated into the planning all along?

I cannot understand now why at the 11th hour we have decided to aid the handicapped, but we have got to come up with another \$65 million. This is all I am trying to ascertain, as to why now a dollar and cent value is placed on the handicapped.

There is one other question I wanted to ask, Mr. Quenstedt, while we are on this subject.

Is it not against the District of Columbia Code for wheelchairs to ride on escalators?

I know in department stores they are banned, and in other places.

I know it is actually against the law to put a wheelchair on an escalator. So we have been planning escalators for years, knowing that would exclude all the wheelchair patrons.

Is it not against the District of Columbia Code?

Mr. QUENSTEDT. I do not know the code, but I acknowledge we were planning a system which as far as I was concerned, would effectively preclude wheelchairs because, as I said, there was a disagreement as to whether or not it should be done.

But I again say two things: One, that argument I no longer use. I have never raised it since passage of the 1970 law.

The other point is, sir, I would like to emphasize this is not the 11th hour so far as the accomplishing of the objective is concerned.

The problem is still the same as it was in 1969, namely, the cost of doing it.

Mr. GRAY. Well, I think we have to be honest with each other and say it is the 11th hour by virtue of the fact that contracts have been awarded for the construction of a facility down here at Judiciary Square, and other places; and if you put the elevator in, you are going to have to have a change order. Change orders mean more money.

Mr. QUENSTEDT. There is only one place we have to tear out any concrete, sir.

Mr. GRAY. You may not have to tear out concrete, but you know where you award a contract, if you change that in any sense, that is called a change order; and if you would like me to cite some precedents, I will give you the FBI Building down here where we said originally \$60 million.

We now are faced with the new authorization before our committee of \$128 million, primarily because of change orders. So these things are very expensive.

Let me ask you this. You stated on August 27, 1970, several months after Congress had spoken about this matter in legislation specifically:

While it may be the function of this authority to provide public transportation to the community, it does not necessarily follow it must be provided to all persons by the same mode.

Mr. Quenstedt, is it not reasonable to assume that all along you felt that a surface transportation method could be arrived at for the seriously handicapped people, and really until these people went to court, and until Congress really started pushing, and public opinion got to be what it is today, that really in the thinking of the management down there you knew this was going to be an expensive item, and that you felt really we ought to segregate the ambulatory people that were going to be riding escalators, and worry later, as it were, about those that are seriously handicapped by providing surface transportation?

This is in your statement made to Chairman Fisher and the other members of the Board, that you felt it is not the responsibility of METRO to provide all persons with the same mode of transportation, which certainly figures in your thinking very heavily.

Mr. QUENSTEDT. Right. There are three or four points involved in this, Mr. Chairman.

One of these is the METRO ultimately, I am sure, will have the buses. METRO will not provide the same mode of transportation to all persons.

To begin with, METRO would not be available to all persons, because some of them live in places where it does not even reach, but some persons will travel by bus rather than by our transit system.

We were studying alternative possibilities here, the Dial-A-Bus proposition, a type of surface transportation on which the Department of Transportation has spent a great deal of money and effort in an effort to find out whether or not personalized transportation can be provided, and it was the basis of our belief that there should be a look at that alternative, sir, that we might find that this was a

better mode than putting people into the subway, because the subway is not a total device of transportation for anybody.

Seventy percent of the people who will ride our subway will use some other form of transportation to or from the system.

Now, if the person who is handicapped could be provided service by Dial-A-Bus or another type of specialized transportation that would obviate the need of transfer, and provide him with better transportation, I felt that we had a duty to look into that, and offer it as an alternative, even as we were diligently pursuing the idea of the inclinator.

Mr. GRAY. Let me make the record perfectly clear.

I applaud the METRO officials for looking at various alternatives.

What I am saying here is, in your own statement, I think it is more than a coincidence you wed together this language of not providing all persons the same mode of travel with the paragraph preceding it, in which you go into detail about transporting the handicapped.

So I think this is more than just considering alternative methods of transportation for all the traveling public. I think what you are really saying here, in effect, if I read this correctly, is that we do have a serious problem with the seriously handicapped, and we ought to consider maybe surface transportation for them, and this may be one of the reasons why you waited so long to take a look at installing elevators, figuring there might be some other more economical method which would come along.

Mr. QUENSTEDT. And we would never be permitted, never under any circumstances could we do it without coming in to you.

Assuming we found this magic alternative, we could never do it without coming to you for approval.

But at the same time, in coming to you with that, it would be presented in the alternative.

Mr. GRAY. I appreciate your statement. I think you ought to talk to your general counsel who filed his brief. He acts like we have nothing to do with this.

Can you tell me who wrote this brief that was filed in answer to the suit in a district court?

Mr. QUENSTEDT. Yes, sir. The special counsel who wrote that is here, and he has commented to me that you have an early copy. There are some modifications in the document that was actually filed in the court.

Mr. GRAY. He has been on the mourner's bench, and got religion since he wrote this. Since we socked in another \$1 billion worth of bonds and appropriated something like \$38 million in the last appropriations bill that passed the Congress, he feels now maybe the elephant's nose is under the tent a little. Very gratuitous.

Mr. QUENSTEDT. Whatever our shortcomings are, our sincerity is genuine.

Mr. GRAY. I notice that.

I am talking about the fellow that wrote this brief. Whatever the reason, the fact is, he states, "Until Congress gives the necessary funds, the 1970 amendment discriminates"—discriminates, it says—"against the residents of the transit zone, since the residence of no other area in the country, which has or is planning a transit system, is required by

Federal law to fund the heavy cost of providing elevators for the physically handicapped."

Is that not incredible? There he is comparing the Nation's Capital, which receives something like 30 million visitors a year from all over the United States, with San Francisco, or some other community that may be building a transit system and may have 1 million visitors, or maybe 2 million visitors a year, and he says we are discriminating because we want to put in a system that will provide access to the physically handicapped.

I would go home and hang my head in shame if I had to write that kind of language and present it to a Federal court.

Mr. QUENSTEDT. Mr. Chairman, may I have the same privilege as Mr. Hedding, of not commenting on the court case?

Mr. GRAY. Sure. I think it speaks for itself. I do not think we need much comment on that.

It is a callous attitude toward the physically handicapped as far as I am concerned.

Mr. QUENSTEDT. I want to get back to defend myself on one other point when we were talking about the business of looking into alternative methods, and so forth.

Remember, the 1970 law did not tell us the specific physical method by which we would make the system accessible. That is one of the reasons for looking around at different alternatives, because what you really wanted was transportation for these people.

Mr. GRAY. Right. This is all we have been asking for since 1965. That is all we can really be asking for.

Let me ask you this, Mr. Chairman.

We do have a quorum call, and we may find ourselves having to recess in a moment.

This system last year was estimated to cost \$2.5 billion. The most recent estimate now is \$3 billion. So we have had an escalation of \$500 million in this system.

Now, why all of a sudden are we told, and the courts told that we cannot do anything for the physically handicapped because it is going to cost \$65 million, unless Congress appropriates \$65 million more, when for factors beyond your control, and I am sure because of inflationary pressures, you are going to have to dig up \$500 million more than you were a year or two ago.

Why is the tail wagging the dog? Why is this whole system designed for the handicapped predicated upon a small amount compared to the \$3 billion cost, when you have got to come up with \$500 million more by your own estimate?

Is this going to be the straw that breaks the camel's back?

If you are going to have to go out and raise \$500 million, can you not say that you are going to have to have \$565 million and put a line item in for the handicapped people, and go ahead and build this system?

Mr. FISHER. Shall I continue?

Mr. GRAY. I think we are going to have a quorum call, and the second bell will be ringing soon.

We will go for another 3 or 4 minutes, and then we will recess and come back at 1:30.

You may continue.

Mr. FISHER. In responding to your question, I was saying that the escalation of construction costs is a sad story for all of us, and that is a part.

We now think we have built into all future estimates an adequate allowance for that, namely, 7 percent a year, but we could be wrong on the high or low side, but we are not overlooking it.

On the other question that really is separate, our arrangements with the local jurisdictions, and everybody else, contemplated a \$2.5 or whatever, billion cost of the project, and it was specified to Congress and to the local jurisdictions what would be included, and these facilities for the seriously handicapped were not included.

Mr. GRAY. Why were they not, Mr. Chairman, when Congress gave you a mandate that they should be included way back in 1970?

Mr. FISHER. Well, I could only repeat what I have been saying, which is the best I can do with it.

We genuinely tried to go the one route. It did not work out.

Very quickly thereafter we helped in preparing a draft of a bill that would provide for the construction of the vertical elevators. That is last January, and we have directed that all our stations be designed to include those features, and this is not setting us back very much.

We may be at the 11th hour, but it was not too late.

Mr. GRAY. I understand, and appreciate that.

Mr. FISHER. \$65 million is a small portion of \$3 billion.

Mr. GRAY. Two and a half percent.

Mr. FISHER. But still it has to be raised and met somehow.

Mr. GRAY. But you are going to raise \$500 million more, and there was not any real outcry of coming back to Congress and saying that we are going to stop in our tracks if we do not get another \$500 million, but you are saying that we are going to stop in our tracks if we do not get \$65 million for the physically handicapped.

Mr. FISHER. The reason is that this is quite outside the original system as originally contemplated, and on which agreements had been made with the various governments.

Mr. GRAY. You recognize Congress authorized the compact and authorized the construction of the system with us as a full partner?

Have you not recognized that from the inception Congress would come up with money, Congress would be a full partner with the States of Maryland, Virginia, and the District of Columbia in the construction?

If you recognized that fact in 1965, why did you not recognize the specific act of Congress signed by the President, so that these features would be written into your plans?

Why do you recognize us a partner on Sunday, but on Monday we are not a partner?

I do not understand that.

Mr. FISHER. I do not want to be a broken record on this. As I see it, looking back, it would have been better, fairly promptly following the 1970 legislation which clarified this, if we had gone the direct route to design in, and ask you for the financial help to build these features.

For one reason or another a different route was taken, and we made our souls bare to you here, and it did not work.

Now, we are determined to proceed along the other routes. But having been sensitized with the Congress about asking for funds, perhaps we overdo it a little bit by pointing out over and over again that we are going to design these features in. We do need the funds actually to build them.

Mr. GRAY. Let me ask a question without being facetious, if I may, that will probably spoil my lunch.

If we do not get an additional line item of \$65 million, can we say now on the record that the vertical elevators, or some other means of conveying the physically handicapped will not be installed if you do not get \$65 million more from Congress as a line item appropriation?

Mr. FISHER. I would prefer you to say that the design is being taken care of and will be done—

Mr. GRAY. Can I say to the people in the wheelchairs and those people coming from Illinois that are handicapped, and we have a lot of them—can I say to them that unless we can scratch up another \$65 million, they are not going to be accommodated in the METRO System?

I think we have had 5 years, Mr. Chairman. We ought to know whether we have reached that juncture or not, or whether you are going to go ahead and put in this system.

What I would like to have here today is whether you are going to proceed with design and installing of vertical elevators, notwithstanding the very fact that Congress may not provide an additional line item request of \$65 million.

Mr. FISHER. I would hope you would say that we are going ahead and design them in with every expectation they will be built, and somehow or other we will get the money.

Mr. GRAY. But you are not going to make a contingency that if Congress does not appropriate \$65 million, these will not be installed?

Mr. FISHER. It is hard for me to see how we would raise the money, but I would rather leave it on a positive note, especially if a good lunch depends on it.

Mr. GRAY. Mr. Quenstedt, I am not trying to put you on the spot, but I think we have gone so far that after 5 years we are entitled to some hard answers: Are we going to build a system in accordance with legislation passed by this Congress, or are we going to put a contingency in some 2½ years after the bill is passed, saying that we are going to abide by Congress if we get \$65 million?

Could you answer that, Mr. Quenstedt?

Mr. QUENSTEDT. Mr. Chairman, I would never tell Congress that. That amounts to an ultimatum to Congress.

Mr. GRAY. I would not say that it is an ultimatum. It is a public law.

Mr. QUENSTEDT. I would have to come back to you and try to persuade you to change your position with regard to it, and I point to Mr. Fisher's statement, in which consistently Mr. McCahill, for example, has stated that "we will work in association with WMATA in requesting from Congress the necessary funds for the funicular lifts for the D.C. System."

In a letter to the Authority, Mr. McCahill said:

As to item 5, we are ready any time you give the word to support the WMATA request for necessary funds at the White House, Bureau of the Budget, and the Congress.

That goes as far back as 1966 in a memorandum from my own office, from one of the persons participating in the meeting.

The committee feels that they can get the necessary additional funds from the Congress, if no more than a few million dollars are needed.

And this goes back to 1966, sir, when we felt these facilities were of a special character.

I would continue in my effort to persuade you that they are. I am not going to give you an ultimatum, sir. I will do my best to persuade you to see it our way.

Mr. GRAY. Conversely, I am not going to give you an ultimatum. I am merely stating to you that the law says the METRO System shall be designed for this purpose. Shall is a pretty strong word, and I am the author of that language, along with several other Members of Congress itself, 435 in the House, and 100 in the Senate.

I do not think we had a dissenting vote on this legislation.

Mr. QUENSTEDT. It so happens that puts us under a conflicting situation under directives from Congress, one in this respect, and one in another.

The conflict exists in the two laws.

Mr. GRAY. I am a little distressed by the fact that we have been able to separate this argument and put a dollar and cents stamp on it, when the \$500 million escalated costs nobody seems to worry about, and they are going right ahead with the system, and find that money; but you say to the handicapped that we are stopped in our tracks unless we can get \$65 million somewhere.

I think this is singling out a segment of our population that should be getting priority, instead of getting the end of the stick.

Mr. FISHER. We are worried about that, and, believe me, the local governments, one of which I represent, are terribly worried. We are finding in our community that on account of METRO we are more than doubling our total debt, and you can imagine what that means.

We are going to have to come up with our share of the one-third/two-thirds for this, and it is going to be tough.

But I thoroughly expect all the localities to shoulder that. I would not want you to think for a minute that this increase in cost due to the construction costs is taken lightly or blinked at, or somehow easily accommodated.

Mr. GRAY. I did not mean that, sir. I just meant that there was no contingency made on stopping or going ahead with the METRO System because of the \$500 million, but there is a contingency based on the \$65 million.

I thought that was a great disparity.

If it is agreeable with everyone concerned, we will recess now and reconvene at 1:30.

Thank all of you for your patience.

(Whereupon, at 12:45 p.m., the subcommittee recessed, to reconvene at 1:30 p.m., the same day.)

AFTERNOON SESSION

(Whereupon the subcommittee reconvened at 1:50 p.m., Hon. Kenneth J. Gray, chairman, presiding.)

Mr. GRAY. The Subcommittee on Public Buildings and Grounds will please come to order.

I want to apologize for our slight tardiness. I got on the floor and ran into some problems I did not anticipate. At the time of our recess for lunch, we were privileged to have Joseph Fisher, chairman of the Board of Directors, Washington Metropolitan Area Transit Authority, accompanied by various officials of the METRO System.

Mr. Chairman, if you would not mind coming forward we will conclude your part of the hearing this afternoon so we can get on with some other witnesses who have been very patient. I might add, in waiting to be heard.

I would not prolong the matter. I think it has been spread on the record very clearly that Congress intended that the METRO System be designed to be accessible to physically handicapped. I think we could talk all afternoon, into tomorrow and next day about why we think this system is going to mean so much to our Nation's Capital and the environment of this area should it be designed and constructed in order to accommodate these people.

I would like to ask you this, Mr. Chairman, in conclusion. You stated earlier in your testimony that we are now pretty well wedded to the idea of vertical elevators in the system and that out of the 85 stops there is only one at Judiciary Square that would have to be changed as far as breaking any concrete, I think is the word. Can we be assured that the other 84 stations are being designed, or will be designed, to accommodate the elevators?

MR. FISHER—Resumed

Mr. FISHER. Yes.

Mr. GRAY. We are talking about actually designing in these 85 stations a verticle elevator. Is this correct.

Mr. FISHER. That is correct.

Mr. GRAY. And regardless of how many more contracts are awarded or how many additional stations we actually physically start construction at any juncture that the Authority saw fit could incorporate elevators in those facilities. Is that correct?

Mr. FISHER. That is correct.

Mr. GRAY. So we can tell the physically handicapped that after 5 years we quit talking about alternatives and have finally decided that the vertical elevator is the most efficient vehicle to accommodate these people? Is that the judgment that has been made by the Authority? Are you pretty much wedded on that or are you still looking at other types?

Mr. FISHER. No, we are committed to designing vertical elevators for all the stations.

Mr. GRAY. You do not plan to go to Sweden and look at the inclines or anything.

Mr. FISHER. All the stations that need it.

Mr. GRAY. But you are not looking, no one in your organization is actively engaged in looking at other methods of elevator construction. You are talking about vertical, and you think this is the most expeditious kind of delivery system, and the most economical?

Mr. FISHER. Yes.

The major alternative as we spoke this morning, we pursued that and for one reason or another it did not work out. We are now committed to designing the vertical elevators in all stations that require them at all, and that is the way we are going to proceed.

Mr. GRAY. I would not ask you to repudiate, because it does not require repudiation, but could we say that the alternative that was advanced here in August 1970 from General Manager Graham to the Board has now been discounted; that is, that alternative of using surface transportation for the physically handicapped? That was one alternative in this memorandum. Is this discounted now as a means of conveying the physically handicapped in connection with the METRO System?

Mr. FISHER. We are committed to designing the other. I suppose if something new comes into view of the committee or us that would merit being considered with the handicapped, we would feel an obligation to bring it up.

Mr. GRAY. But it would be fair to state on the record that you are not envisioning any type of surface transportation versus underground METRO System for the transport of physically handicapped people?

Mr. FISHER. No, we are not, unless your committee or some other committee would ask us for information about that, we would stay with this.

Mr. GRAY. But that is not actively being pursued?

Mr. QUENSTEDT?

Mr. QUENSTEDT. Mr. Chairman, the American standard which you directed us to follow provides that there shall be elevators.

Mr. GRAY. I was referring to the August 27, 1970, memorandum where it said we do not feel as an authority that we have an obligation to transport people—I can cite the exact words—it does not necessarily follow that it must be provided to all persons by the same mode—meaning travel by the same mode. You do not subscribe to this as an alternative way of transporting the physically handicapped by surface transportation?

Mr. QUENSTEDT. Unqualifiedly, I agree with the chairman's statement that we are designing a system to put elevators in.

Mr. GRAY. At what juncture, Mr. Chairman, as we are designing these elevators are we going to make a hard fast judgment as to whether we go or not go because of the \$65 million? Let us say tomorrow, next week or next month you award 10 or 20 contracts for additional stations. Are you going to say to the contractor, "We may later add an elevator in here?" Are you actually going to design in that concept the construction of the elevator at that time? Or are you going to put it off?

Mr. FISHER. Any design contractor on a future station would be

instructed to design into that station the provision for vertical elevators.

Mr. GRAY. But you would not award a contract for actual installation?

Mr. FISHER. We would have to have the financing in sight from some source before we could do that.

Mr. GRAY. Why could it not be taken out of the billion dollars worth of bonds you are going to sell?

Mr. FISHER. As I understand it, Mr. Chairman, the National Capital Transportation Act of 1969 refers to the approved system in its text for the financing and so on of the system, and it refers to a system that does not include elevators for the severely handicapped. So that is an act of Congress.

Mr. GRAY. Mr. Chairman, it does not exclude the installation of elevators. It may not line item authorize, but that is part of the system and Congress said we want this to be part of the system whatever is required to help the handicapped, we want that to be a part of the system. That line item authority is explicit instruction to the system to include provisions is certainly stronger than the lack of the language being in the act to which you referred.

Mr. FISHER. The subsequent act a few months later in a general way directs that this shall be provided for, but it does not indicate precisely how it is to be done, nor does it appropriate money or indicate how it is to be paid for. And I would have to ask our legal counsel whether that kind of general statement in the act of early 1970 would permit what you have mentioned.

Mr. GRAY. As the author of the 1970 act, we purposely did not spell out the vehicle to give you latitude. We did not feel that we should say "vertical" or mention any particular type of conveyance, but Congress said we expect this to be done, and whatever it takes is embodied in the general authority. It is just the same as tracks and everything else. We did not spell out in the act that you shall dig 50 or 100 or 150 feet, or you shall lay track. We authorized a system and in that system we incorporated certain requirements, one of which was to make the system accessible to the physically handicapped. And our interpretation here and legal counsel that this is ample authority for the installation of vertical elevators.

Mr. FISHER. Could I ask Mr. Quenstedt here: There is a legal problem that we should understand and face?

Mr. GRAY. Yes.

Mr. QUENSTEDT. The 1969 act to provide for the Federal share of the cost of the regional system, the Federal contributions for the system shall be subject to the following limitations and conditions:

One, the work for which contributions are authorized shall be subject to the provisions of the compact, and shall be carried out substantially in accordance with the plans and schedules for the adopted regional system. That authorized a system which was described and for which the drawings made provisions for all various kinds of hardware. We were able, for example, to justify \$454 million increase in cost due to escalation because it related to plans which were approved in this 1969 act.

The act of this committee which was enacted actually in May, I believe it was—March 1970, directed that the system shall be accessible to

the handicapped to comply with the provisions of the American standards. But it did not provide for any hardware.

It is not encompassed in the hardware that was already approved by Congress and, consequently, stands alone as something we must find somewhere.

Mr. GRAY. Mr. Quenstedt, I am sure you realize that all legislative authority has a big enough umbrella to take in all the problems inherent in constructing this type of system. For example, when we build a reservoir, or we have a channelization or navigation project, we always put in there "substantially in accordance with the plan of the Chief of the Army Corps of Engineers." We do not say to him that he cannot go out here and make the dam 400 feet longer, put an elevator in it, or have a floodgate in it that would open and close. We allow him to make these plans as long as he is within the overall cost. Here again, in raising this question about the physically handicapped, Gen. Jackson Graham had this to say: This Authority—meaning you people—and its predecessor Federal agency, the National Capital Transportation Agency, have consistently held that the Washington area rapid transit facilities should have no—I repeat—no architectural barriers of any sort which might tend to render the system inaccessible to persons reasonably needing to use it.

Now, I do not see how you can possibly say that an escalator is going to provide access to a wheelchair patient when the standards themselves state that you cannot use a wheelchair on an escalator. And he goes on to say, "As a result of the knowledge we have gained, we feel that the METRO rapid transit system will serve the handicapped in a greater degree than any other system in the Nation"—in the Nation.

Now, we have been laboring under the assumption that your office knew exactly what it took to accommodate the handicapped. We have reams of correspondence from the general manager and from other people telling us that we are going to incorporate, and we will do whatever is necessary. We will build whatever hardware is required. Nowhere have I ever seen anything in the record to state that the overall legislation did not encompass whatever hardware is required to accommodate the physically handicapped. So it goes back to 1969 before you ever turned the first spade of dirt. So now why after we are building the system all of a sudden do we have serious reservations about the legal counsel. If that is the case, certainly Congress has been misled in writing and in personal testimony before this committee on a number of occasions. This is addressed to the full chairman, at that time Hon. George H. Fallon, House Committee on Public Works. It goes on to say, "We are now designing a facility and devices"—talking about hardware—"devices which would contribute significantly to the resolution of this problem." He leaves us to believe that you are designing devices. Now you say you do not think the law even allows you to put the hardware in. Yet we are told back in 1969 that you are designing devices that would accomplish this very purpose, not only here, but it is going to be superior to any other in the Nation, San Francisco notwithstanding where they are building the elevators.

I just do not feel, and I certainly do not want to seem harsh, but I just do not feel that the Congress has been treated fairly in this matter and I think dollars and cents has been the overriding determination.

I want to nail down once and for all, and we might as well have it now, do you actually feel that the Congress now needs further legislation defining the type of hardware that can be installed in the system?

Mr. QUENSTEDT. Mr. Gray, you draw an analogy to San Francisco. By action of a State legislative committee in a session on the affairs of the BART transit system, BART was directed to make provision for the handicapped and the law was then written with requirements assuring introduction of the handicapped into the transit system, and the sales tax was modified to provide for the handicapped; they were directed by the legislature and provision was made for the financing of it. This particular facility at \$65 million is not substantially in accordance with the originally approved system.

Mr. GRAY. It certainly is in accordance with two laws we have passed on this subject. I do not consider the fact that if you may decide on one type of hardware versus another that that is a substantial change in the original plans. You can go back in the hearings, read the law and everything else and all along Congress said do this.

Mr. QUENSTEDT. Well, our problem, of course, is that we have no place to turn for the \$65 million.

Mr. GRAY. I think this is the whole problem. Let us be honest with each other. I think this is the only problem and we are looking for excuses to say why we cannot put in these elevators. But I want to nail down once and for all with your regional counsel, is there any doubt in your mind that if you had \$65 million today but what you could go ahead and build all of these elevators and stations? Could you if you had the \$65 million?

Mr. QUENSTEDT. Yes.

Mr. FISHER. No doubt.

Mr. GRAY. I took it awhile ago that you meant that you did not feel the legislation was broad enough for the hardware.

Mr. QUENSTEDT. I feel that I have been clumsy.

Mr. GRAY. That is all right. I just want to get an understanding.

Mr. QUENSTEDT. We are committed to do it. We are limited in our ability to do it and we are casting about for \$65 million. We are under the inhibition that we cannot turn to the local jurisdictions because we have a contract with regard to this. We also have a policy within the organization that has been in existence and faithfully followed for a long, long time, if any jurisdiction should request the addition of any facility, they must pay for that. The District of Columbia, for example, asked for and it was agreed that we would add what we call the midcity line, and the District of Columbia itself put up \$3 million for that purpose very recently. In Mr. Fisher's own jurisdiction we had strong differences about a \$500,000 item for an escalator landing. The Board policy was if Arlington wanted the escalator landing they would put up the \$500,000.

If I may be so bold, sir, the policy also says if the Federal Government asks that anything be added, then we expect the Federal Government to pay for it.

Mr. GRAY. Well, I agree if we had added something. I thought this was part of the original design. The record is absolutely replete with statements from this committee and all the Congress that we want any system designed to be accessible, and I do not consider that an add on.

Chairman Fisher, would you have any idea what the other jurisdictions would say about the possibility of raising their share in order to accommodate these elevators? Has that been brought up at any of your board meetings?

Mr. FISHER. No, it has not. You and I know you cannot really predict what they will say. As I indicated earlier, those local jurisdictions by a kind of modern day miracle agreed simultaneously to bond themselves to this system. In my jurisdiction and in most others this meant adding more bond indebtedness—schools and everything else—so it will come hard. The local jurisdictions are going to have to locate \$150 million for the cost increases. So it will come hard with all these jurisdictions. Just as it would with the Congress, of course, to find an additional sum.

I would like to comment, if we absorb the \$65 million, as possibly you had in mind awhile back, that would mean—if our calculations are as accurate as we think they are—that would mean that something else would have to be dropped out or some quality would have to be foregone. In this case we might have a problem with your committee for dropping out something we have already committed ourselves to do, or we would have to charge higher fares, in which case we might lose riders and be worse off, or we would have to go to the localities. It is just a hard problem and we wanted to be perfectly level about it and point to the problem as we see it. We want to have these elevators, but it took us awhile to realize that we should do it after that inclinator bit. We are committed to the design. We do not question that in the slightest. We do not look to any other solution to the problem, but we do want to share with you our difficulty.

We do not want to design them and indicate to the handicapped and everybody that we are going to go right ahead and have this without notifying everybody that we simply do not have the money now. That is really where we are.

Mr. GRAY. So after all this talk we are really right back to a \$65-million problem?

Mr. FISHER. From some source, that is right.

Mr. GRAY. Mr. Dodge, for 85 stations, do you not believe that this \$65 million figure is rather exorbitant? Does that not sound high? I know in many high rise, low-rent housing projects at home, we only estimate in an 8- or 9-story building something like \$50,000 to \$100,000 for installation of an elevator. It sounds awfully high, almost a million for each station.

Mr. DODGE. This has been very carefully studied. For the cost of the elevator itself, we have allowed from \$70,000 to \$100,000 each. The

major problem will be the shafts from the surface down. In many cases we have to construct a shaft in solid rock.

Mr. GRAY. Can you not dig in the same area you are placing the escalator?

Mr. DODGE. No, the escalator is at a 30° angle.

Mr. GRAY. I am talking about when you dig out. You have got to dig out for the escalator. Would it not be easier just to dig a little bigger hole?

Mr. DODGE. There will be some cases where the station excavation will open the way for the elevator.

Mr. GRAY. That sounds awfully high to me, \$700,000 to a million just for an elevator.

Mr. FISHER. It does sound high, but in my community we just went through the experience of finding out that just to put a mezzanine in would cost \$500,000, and that is the sad fact of construction costs.

Mr. GRAY. How many contracts have been awarded for construction out of the 85?

Mr. DODGE. We have 15, I believe it is, under construction now.

Mr. GRAY. Fifteen.

Mr. DODGE. I might say I think \$65 million is a prudent number. We have not designed in detail these facilities yet. They are based on a preliminary plan and we are in the process of doing the detailed design. I do feel it is a prudent number. As far as our absorbing it, an indication of how large an amount it is, is the fact that it represents some four to perhaps 15 stations in total value, depending on whether they are surface stations or underground stations. It is a lot to absorb.

Mr. FISHER. Perhaps I should add in this estimate of \$65 million is included the construction cost increase factor, the inflation factor at 7 percent a year. So if you actually build and pay for the station 5 years from now, the total cost would come down a little bit over what it is. If you did it now, it is nearly 50 percent—5 times 7 is 35.

Mr. GRAY. That has been wrapped into the \$65 million?

Mr. FISHER. It has been wrapped in. This makes all the figures seem so big, but we had quite a to do about this and we decided the only honest and fair way to present this to you would be with such an allowance built in, but it sure is a frightening thing to see these high figures.

Mr. GRAY. This points out the need as to why we should really be building these 15 elevators now. We would save money, would we not?

Mr. FISHER. This will not be put back any because they are going to be designed now. There is just this one case where we will have to—

Mr. GRAY. I merely used that as an example that we should really be building these now.

Mr. FISHER. Your characterization of the 11th hour I think is apt. It is not the 12th or 13th, it is the 11th. We still can do it and we plan to and we are going to.

Mr. DODGE. Just one final word on the estimate. The only system which has done this is the San Francisco System. Our information

is that it cost them \$16 million to put the system in where they have a third the number of stations we do. More of their stations are above ground than ours and they are 5 years ahead of us in construction insofar as inflation is concerned. That bears out, I think, our \$65 million estimate.

Mr. GRAY. We all agree though that if we could go ahead with construction now, we could save money. This could be done for less than \$65 million.

Mr. DODGE. While we have the excavation for a station open, it is easier to do all of the construction at one time.

Mr. GRAY. If we have to raise, Mr. Chairman, another \$120 million in the various jurisdictions and come back to Congress for more, why can we not go ahead and go for broke on the elevators and do this now and at the end see what our end gate is. We are going to ask for more money anyway.

Mr. FISHER. That would be one possibility to incorporate this now, assuming we are not doing something that was not specified in the act.

Mr. GRAY. That is why I asked a moment ago whether you and your general counsel believe you need additional authority for this hardware. I think all of us are agreeable that we do not. Our counsel says no. As was said awhile ago, Congress has directed that this be done and this is substantially in accordance with the plans. The plan all along has been that whatever hardware was required, it should be installed. I do not think we need a line item authorization saying we have decided to put an escalator and now we have to come back to Congress for more authority.

Mr. FISHER. If that is the case, and assuming our estimates are good, then the day of reckoning would come later on.

Mr. GRAY. We might save money if we try.

Mr. FISHER. You asked about local governments. I would point this out, the local governments that have stations farther out on lines that will not be built yet get very nervous and upset with the thought that they might not get that station because of the expenditure incurred now that is not made up later on. They begin to get nervous and pull away from the system.

I would like to mention again what I called awhile ago a minor miracle. Getting all these governments to commit themselves so heavily on a project, and as chairman of the thing and concerned with the morale of the whole business, a Federal-State cooperative venture, I do not like the prospect of somehow doing things that one or another of these governments would interpret to mean that you are not going to finish this project.

Mr. GRAY. I agree with that, Mr. Chairman. That is why I asked if you had any idea what the jurisdictions would say about the Authority going ahead and incorporating these improvements into your contracts now and see what the end of the tunnel looks like then and come back.

Mr. QUENSTEDT. I have one personal reservation, sir, and I would ask your indulgence. I would like a legal memorandum as to the propriety of our doing this, because this plan that we are working under was set forth in an amazing degree of detail. We would be in a dreadful position if GAO on an audit ruled that the elevators were not embraced within the terms of the original authorization. And that is why I said personally, and I would ask your indulgence that we might seek a memorandum.

Mr. GRAY. I think that this would be wise, but again I want to reiterate that I think Congress takes precedence over GAO. When we spell it out, and as author of the legislation, we made it clear that the construction of the subway stations, entrances, exits, and all other related facilities, elevators, whatever, for this METRO System will, in fact, be subject to the requirements of this law.

Mr. QUENSTEDT. We are concerned with finding ourselves spending \$65 million for something that is not authorized. Basically our position here is asking authorization of an appropriation to proceed.

Mr. GRAY. I can assure you as subcommittee chairman we intended to fully authorize in this system whatever is required in the way of hardware to accommodate the physically handicapped. That was the purpose of the legislation.

Can I have, Mr. Chairman, a promise that you will seek this advice and upon an affirmative reply from GAO that you will consider in your subsequent contracts going ahead and saving as much cost as we can to accommodate the handicapped. I can assure you of our cooperation in obtaining any additional Federal funds required.

Mr. FISHER. Yes, we will go ahead and seek that opinion and keep you informed of what we find.

Mr. GRAY. I would appreciate it very much. Since I do not have anyone to yield to for questions, let me say that although I vehemently disagree with the Authority's position on this issue, this does not in any way dilute or lessen my deep appreciation for the hard work that the Authority has done in getting this system underway. As I stated earlier, I have been a strong supporter and will continue to be and I hope we can resolve this one particular problem.

Thank you very much.

Mr. QUENSTEDT. Mr. Gray, we appreciate your loyal support and I remember very well that you came over for the ground breaking.

Mr. GRAY. Yes, sir; I was there. Even though you did take my hard hat back.

Mr. QUENSTEDT. Has that not been brought back with your name on it?

Mr. GRAY. No. It is in the same place those elevators are. Thank you very much, gentlemen.

At this time I would like to call Dr. Margaret Kenrick, chairman, Department of Physical Medicine and Rehabilitation, Georgetown

Medical Center, Washington, D.C. Dr. Kenrick, we are delighted to have you appear before the committee today. You may proceed, Doctor, as you see fit.

STATEMENT OF DR. MARGARET KENRICK, CHAIRMAN, DEPARTMENT OF PHYSICAL MEDICINE AND REHABILITATION, GEORGETOWN MEDICAL CENTER, WASHINGTON, D.C.

Dr. KENRICK. Thank you, Mr. Chairman. I am here as a representative of the District of Columbia Medical Society and Regional Medical Program's Rehabilitation Committee.

To enable you to understand my function and why I speak at such a hearing, may I state that, as a physiatrist, I evaluate and treat different types of physical disabilities. We try to cure people, but sometimes a complete resolution of their problems is not possible.

Examples of these disabilities are patients with severe arthritis, multiple sclerosis, muscular dystrophy, strokes, parkinsonism, para and quadriplegia. Many of these conditions are stable. We teach them how to live with their disability. By training they learn how to get about safely. However, transportation is a major problem. Not many can afford to buy their own car, have it equipped with hand controls or other special equipment and be taught how to drive with this special equipment. Even if they can, this comes late in the rehabilitation program.

Prior to that, there is a great need for transportation. This person must get back and forth to the hospital, oftentimes for months before such training with a car is possible or financially feasible. Taxi drivers shy away from anyone on crutches or in a wheelchair. They are afraid they will have to help and they all seem to have "back trouble."

There are only a handful of dedicated taxi drivers who will give the handicapped a break. I have seen patients wait 2 or 3 hours for a taxi, so this is no solution. The taxi companies have no control over this. The drivers merely rent the cabs from the company or pay a fee to have their own cab become a member of the fleet.

There is one company who services the handicapped, called Rehabilitation Transportation Inc. However, the prices are so unrealistic for regular transportation. They charge as much as \$6 for a 2-mile ride.

So, you see how important the subway is for a large group of the population: The handicapped and the aged. Having first met with the National Capital Transit Authority staff back in July 1964 concerning this problem, it is noted that nothing has been done to date to abide by the law.

I went on a tour of the subway on June 15 of this year. There is nothing done so far except the architects are "thinking" about where

they might put conventional elevators. Elevators probably would be away from surveillance by the gate.

The law now in effect states that the subway must be made accessible and it does not make any stipulation that it must be specially funded. From what I know, to date, the blueprints will not make this so. Escalators are dangerous and completely inadequate for moving the elderly and handicapped from one level to another.

The elderly who have become a little slow in reaction time cannot—and I stress—cannot safely use regular escalators. We have all read about escalator accidents where there was a pileup at the top or at the bottom because one person fell and everyone behind him had no place to go as the escalator continued to move so they just piled on top. If an elderly person's reaction time is not fast enough, it is quite conceivable that he could lose his balance on stepping off the end of the escalator and fall thus causing such a pileup.

Think of your parents, older relatives or older acquaintances. In the department stores ask them whether they use the escalator or elevator. Should all of these people be eliminated from use of the subway? This geriatric group is often caught up with the fixed-income problem and cannot afford cabs and so are dependent upon cheap public transportation. You cannot ignore this enlarging group. Statistics show that we are living longer. From a previous life expectancy of 41 years when I was born 52 years ago, I can now look forward to an expectancy of 75 years today, and this will still increase. This statistic was obtained on my birthday, June 21, by an insurance actuary.

I was told of an architect who is consultant to the Transit Authority who said to a quadriplegic, "You wouldn't be safe on a subway." In the next breath, he asked the boy whether his wheelchair had any brakes, which, of course, it did. This boy happens to have just acquired his Ph. D. in educational psychology at the University of Illinois. He drives his own car with hand controls back and forth from Urbana, Ill., to Washington, D.C., as he has for the past 8 years.

He is a quadriplegic with a paraplegic wife and a 4-year-old able-bodied son who was conceived after both parents were plegias.

He has worked summers and has taken time off from school to work at IBM as a computer programmer to support his family.

Now, how can a consultant who knows so little about wheelchairs decide that this man is unsafe? Obviously, the gentleman has never seen a game of wheelchair basketball or the wheelchair olympics. You should look at the safety records of handicapped drivers in comparison to the general population. These people have learned from experience the importance of safety. They certainly would use common sense. They have the same innate intelligence as the rest of us. We have no right to make them second-class citizens. They have just as much right to be able to ride the subway as you and I. Moreover, they pay taxes just as you and I.

For these people, the only way it is realistically possible from a physical standpoint, and I am speaking as a physician who treats them every day in the week, who has 3 years' specialty training in this field and 15 years' experience following this, I say the only way it is feasible is for Washington Metropolitan Area Transit Authority to conform to the legislation which has already been passed and put in

elevators or, better yet, install translucent inclined elevators right next to the escalators.

By doing this, these need people who are close to the stream of traffic and are also safe—and I specify safe—from being molested.

The incline elevator would best serve their needs, so I would ask that this be reconsidered.

The law states that the subway should be accessible to the elderly and the handicapped. I stake my reputation on the fact that, with only regular escalators, it is not accessible to the handicapped or the elderly, including the many visitors to this National Capital.

I would like to add that WMATA left wheelchairs out in spite of multiple letters from the D.C. Medical Society advising them otherwise.

We also stated way back in 1964 that escalators were not realistic for a large part of the population. Statistics that they have obtained are completely wrong, as to the number of people who cannot use escalators.

First of all, surveys on people asking people, "Could you use an escalator?" These people think in terms of the subway—the present day subway. They do not know what is being designed here. Their answers I think are far wrong. Certainly the number of elderly, and we speak of the geriatric group as those over 65 years of age, and many of these consider themselves able bodied, but their reactions times are slow. And they pose a real danger insofar as an escalator is concerned. So certainly I think we have no other alternative than to make this a realistic system and so far as Dial-A-Bus is concerned, this might work in Haddonfield, N.J., but such programs are unrealistic for large populations. And to speak in terms of some alternative, there just is not any.

So we strongly, and the Medical Society strongly believe that either inclined elevators or regular upright elevators be included, that they are a very necessary part of the system for a large part of the population.

Thank you.

Mr. GRAY. Thank you, Dr. Kenrick. I want to compliment you on a very fine statement and say that your reputation in this field is certainly well known, not only in Georgetown but throughout the country.

You would disagree that the figures given by the Authority that only one-half of 1 percent of the population that would be visiting here or living in the District fall in this category of physically handicapped. You believe the percentage would be much higher than that?

Dr. KENRICK. Much, much higher. They do not consider the geriatric group at all. When they say handicapped, they look at somebody in a wheelchair. The wheelchair population is very small. The largest group and it is enlarging every day is the geriatric group.

Mr. GRAY. It is estimated that 10 percent of the population would be affected. Do you think that is a more reasonable figure than one-half of 1 percent?

Dr. KENRICK. Very much so.

Mr. GRAY. And you heard testimony here earlier today that the \$65 million is only 2½ percent of the total cost of the system, compared to what you and I believe is at least 10 percent of the population that will be using it. I do not feel that this is an unfair benefit/cost ratio, do you?

Dr. KENRICK. I agree very much so.

Mr. GRAY. Fine, Doctor, I appreciate very much your coming and your patience in waiting. I also want to compliment you. You have established a first before this committee or any committee that I know of in Congress by having a woman admit her age. That will go down in history in this country.

Thank you very much.

Mr. Harry Schweikert, Paralyzed Veterans of America, could not be here this morning. I will leave the record open also for his statement. (Statement referred to follows:)

STATEMENT OF HARRY A. SCHWEIKERT, JR., REPRESENTING THE PARALYZED VETERANS OF AMERICA

Mr. Chairman and members of his committee, my name is Harry A. Schweikert, Jr. I am here today representing the Paralyzed Veterans of America and all citizens who suffer disabilities similar to those of the members of that organization.

I would like, first, to extend the deepest appreciation of our membership to the Chairman for his long espousal of the causes of the disabled. This person also wishes to extend to the Chairman an apology that this problem of such long duration must take up time which he can ill afford at this time in Congressional deliberations, and in an election year at that.

Mr. Chairman, I appear before you today in a state of almost helpless outrage! Helpless because of the number of times representatives of PVA have previously appeared before Committees of the House and Senate on this same seemingly hopeless question without any obvious practical result. Outrage for being a witness to the blatant disregard of the law and to the intent of Congress by a small group of people—or a group of small people.

Early in 1964, organizations of the disabled and other interested groups joined together to form the Architectural Barriers Project of the Metropolitan Washington Area. Representatives of that group maintained constant contact with members of the then National Capital Transportation Agency to inform them of the needs of the elderly and physically handicapped in the projected regional subway system. As it has been throughout the eight years since, all appeals—on the bases of sense, humanity, need or law—have been ignored or argued away.

One of the first arguments was that not enough handicapped persons would use the system to justify the expense. I am not going to take the time of this Committee to point out the many statistics and opposing points of view which proved that statement baseless. They can be found in the reams of printed testimony previously presented. I do not believe that statistics should be a question in point at this time; I do not intend to make them one.

Another argument was the design factor. It was said that there was no experience or technology which would provide the mechanical means of making the system accessible to the nonambulatory. This was proven false. This person has attended meetings where there were representatives of manufacturers ready to offer ideas. He also has corresponded with manufacturers of hydraulic and other variously activated lifts, ramps, and elevators.

Reaching further, the spectre of cost was raised, only to be disproved by the cost analysis of the Bay Area Rapid Transit System (BART). Again, Mr. Chairman, consideration of the cost question seems to be obsolete at this time. It should have been a basic part of the original total cost estimate of the subway system. Yet, should it be a question of importance of this Committee, I feel it necessary to respond in what might be considered an unethical procedure. I submit for the Chairman's information and reference a copy of a statement made regarding the cost factors of the BART system in California.

In testimony before your Committee in December of 1969, the Deputy General Manager of WMATA estimated that the cost of constructing a single station to

meet the needs of the physically disabled “. . . would be something on the order of \$1 million to \$3 million per station. . . .” In his statement of October 20, 1971, before the Senate Committee on Aging, Mr. Wilmot R. McCutchen, Chief of Design, San Francisco Bay Area Rapid Transit District, stated: “The cost estimates for individual stations run as high as \$324,000 for a station essentially complete where extensive remodeling would be required to a cost of approximately \$70,000 for a station where facilities could be provided in the original design.” San Francisco is a saturated metropolitan area as is Washington, D.C. Where is the great discrepancy?

In June of 1971, WMATA started conducting a survey “to determine the transportation needs of the handicapped.” Another survey, Mr. Chairman? The Department of Transportation, since its inception has been spending millions of dollars for research and demonstration grants to make that same determination. Before that, and even after that, the Department of Housing and Urban Development has been doing the same thing. Many surveys are still going on. Why another?

Representatives of the Paralyzed Veterans of America have participated in many conferences and discussions on the needs of our handicapped citizens in public transportation for the last decade. There have been many confrontations—and I can only call them that—with members of WMATA and its predecessor, the National Capital Transportation Agency. It has been a one-way street. The same persons who refused to listen under NCTA are the same persons in WMATA who still refuse to recognize the essential needs of the disabled for accessible transportation in the Washington Metropolitan Area. The attitudes of these persons are not only arbitrary and capricious—it is my emphatic belief that their negative actions are illegal. Let me substantiate that remark.

Public Law 89-173 authorized “the prosecution of a transit development program for the National Capital Region.” As passed, it contained no provisions relating to the handicapped. However, the report of the Senate Committee on the District of Columbia clearly stated the following:

“During the committee hearings, a great deal of interest was expressed in providing a subway system that would meet the needs and convenience of the physically handicapped and our senior citizens. The Administrator of National Capital Transportation Agency, in his testimony, assured the committee that a ramp system would be included in the subway system in order to facilitate its use by handicapped persons. The committee was pleased to receive this assurance.

“In order that this policy can continue to prevail, the committee directs the National Capital Transportation Agency to take whatever action may be needed with regard to the future planning and actual construction of the subway to make the system readily accessible to disabled, elderly, and other handicapped persons.”

The actions and the progress of WMATA were as though that ruling was never made.

Public Law 90-480, enacted by Congress on August 12, 1968, provided that certain facilities constructed with Federal Funds would be required to be both accessible to and usable by the physically disabled. Although it was the belief of the Department of Transportation that the law applied itself to “airports, highway rest stations, and public transportation stations and buildings,” the General Services Administration took exception to the law as it pertained to the local transit system. Consequently, we had to go back to Congress.

In December, 1969, PVA again had the privilege of testifying before your Committee, this time on H.R. 14464, which was drawn to erase some of the apparent deficiencies of Public Law 90-480. Subsequently enacted into Public Law 91-205 on March 5, 1970, the new law specifically directed that facilities constructed under the National Capital Area Transportation Act of 1965 shall be designed and constructed so as to be accessible to and usable by the physically handicapped. Although the original bill would have included “a bus, railway car, train, or similar type of rolling stock,” this section was later stricken. While it was a severe disappointment to us, it was our conclusion that this problem could be technologically corrected later, so long as the subway system was otherwise accessible.

I would refer you to Public Law 91-453, enacted October 15, 1970, which “. . . declared to be the National policy that elderly and handicapped persons have the same right as other persons to utilize mass transportation facilities and services; that special efforts shall be made in the planning and design of mass transportation facilities and services so that the availability to elderly and handicapped persons of mass transportation which they can effectively utilize will be assured; and that all Federal programs offering assistance in the

field of mass transportation (including programs under this Act) should contain provisions implementing this policy."

To this day we can find no printed word from WMATA—or anyplace else—stating unequivocally that the system will be made accessible to and usable by the physically handicapped *as the law requires*. On the contrary, all we can expect are continued diversionary and evasive tactics. Meanwhile, the system is being built.

Mr. Chairman, with your sympathetic interest in the disabled, I know you are aware of the many exciting promises the 92nd Congress holds for the handicapped, both old and young, in the fields of education, vocational rehabilitation, employment, housing, and recreation. Without mobility—without adequate means of public transportation to get from one place to another—how many will be able to enjoy these long-sought benefits?

In the name of my organization and the severely disabled citizens of this country, I not only respectfully urge your Committee to vouchsafe, for once and for all, that the Washington Metropolitan Area Transit System will be constructed so as to be accessible in its entirety to the physically disabled; I also urge that the original context of the bill, which was deleted from Public Law 91-205, be reintroduced and enacted. The part of the bill to which I refer is that section which would require that rolling stock, with whatever safeguards may be necessary for the present, within a limited time shall be required to conform to the specifications of accessibility and usability of the systems by the physically handicapped.

Mr. CHAIRMAN. If this statement seems impatient and rude to you or to any member of your Committee, I apologize for it. But procrastination is a relentless consumer of time. And progress cannot afford the luxury. Neither can the disabled.

I urge the most favorable response of your Committee.

Thank you.

Mr. GRAY. Our concluding witness today is Mr. Barney F. Stanton, Jr., legislative chairman, National Association of the Physically Handicapped, National Congress of Organizations of the Physically Handicapped.

Mr. Stanton, before you proceed, I would like to again apologize for the long delay, but there is one thing politicians are not short of and that is talk, in delaying other witnesses.

We deeply appreciate your coming today, and you may proceed in your own fashion.

STATEMENT OF BARNEY F. STANTON, JR., LEGISLATIVE CHAIRMAN, NATIONAL ASSOCIATION OF THE PHYSICALLY HANDICAPPED, NATIONAL CONGRESS OF ORGANIZATIONS OF THE PHYSICALLY HANDICAPPED

Mr. STANTON. Mr. Chairman, we do not know why we should have to come back to the Hill today to fight for what we have already fought for and which has already become law.

As other witnesses have pointed out, there are specific public laws providing for the transportation of the physically handicapped on the METRO Subway System, Public Law 91-205, and Public Law 91-453.

However, when we inquire as to the status of getting us on the METRO subway, we are told by METRO to "get after the Department of Transportation," who claim they are not in the elevator business. Instead, they indicate an interest in supplying us transportation on an alternate, more costly system—Dial-A-Bus.

When we asked the Department of Transportation what had been provided for the physically handicapped to ride at the Dulles Transpo

1972, which, incidentally, cost \$11 million for a 9-day show that killed three persons, they didn't have anything; or, if they did, they never responded to tell us what was there.

WMATA continues to say, "Mandate us. Mandate us," which in common parlance is, "Make me. Make me."

It seems it is nobody's problem—except the physically handicapped's, the elderly's, the young mothers with baby carriages and strollers, and those persons unable to ride escalators. It is nobody's problem—except the many physically handicapped living in the Metropolitan Washington area and those potential visitors to their Nation's Capital who have mobility problems.

There are 26 million physically handicapped in this Nation, and accidents, birth defects, disease, and war assure us of a "full census" for some time to come. True, not all 26 million physically handicapped or 20 million elderly will try to use the District of Columbia METRO Subway System, but this system should be the pilot project and set the example for all rapid transit systems to be constructed in the future.

It seems to be a question of supplying \$44 to \$60 million in additional appropriations to provide a mode of getting us to the cars. We do not know why WMATA did not include money needed for us in their original budget request. After all, we were promised, along with other handicapped leaders such as Mrs. Jane Fay and Harry Schweikert and others, access to the District of Columbia METRO System nearly 10 years ago, by the previous transit authority. It is not a new or sudden problem.

If they knew enough to ask for the METRO System, why did they not know enough to ask for funds for us? And that brings up another question—are they purchasing cars that we will be able to use? Or will they again say, "You'll have to ask for more money; provisions have not been made to incorporate your needs on our system?"

But with the Congress' will, we will ride on.

Mr. GRAY. Thank you very much. That was a very concise statement and you said here in a few minutes what we have been trying to say for about 4½ hours. I agree with you implicitly. I agree with every single word you have had to say in your statement and particularly where you say that this ought to be a pilot project for the entire country because it is our Nation's Capital.

I would, at the expense of being repetitious, remind you that Jackson Graham, the General Manager, back in 1969 said precisely the same thing. He said, "As a result of the knowledge we have gained, we feel that the METRO Rapid Transit System will serve the handicapped in a greater degree than any other system in the Nation." He said this on paper. But, in fact, we find here in the late hours of 1972 all they are doing is talking about putting a hole in the ground at some future time and installing an elevator in it. I would not say that is leading the way in any sense, would you?

Mr. STANTON. That is not.

Mr. GRAY. I think without a doubt that the people in the system are now convinced that Congress was sincere in passing the original legislation. We are more sincere today and, sir, I agree that as one Member of Congress I shall be vigilant and do everything I possibly can to see that the mandates of Congress are carried out and that people like you and others are provided with access to this \$3 billion

system. And whatever it takes, I can assure you that we will be standing with you in trying to provide the facilities that should have been provided a long time ago.

I thank you very much for coming. We have no further witnesses unless someone else has a question.

Do you have a question or comment?

Mrs. STANTON. Could I make one comment?

Mr. GRAY. Yes, ma'am. Please identify yourself for the record.

Mr. STANTON. This is my wife, Vicky.

Mr. GRAY. Fine, it is nice to see you.

Mrs. STANTON. I attended the lawsuit last Friday and METRO made a great point of saying, "This lawsuit is 1 year too early. You have come down here 1 year too early."

METRO here said, "Yes it is the 11th hour."

I think they thought they were playing with kids or something, and these little kids did not know what they were talking about. We did not get that from the judge's decision.

Mr. GRAY. I agree with you.

Mr. HEDDINGER. I know it is strange—

Mr. GRAY. Please identify yourself. I know who you are but for the record please give us your name again.

MR. HEDDINGER—Resumed

Mr. HEDDINGER. Richard Hedding. I would like to make some additional comments.

You say they understand now, and I wonder whether they do understand now. We have been told today that they've given up this thing about wheelchairs on escalators. A couple weeks ago they showed the movies to the board of directors. Throughout the entire organization there has been infiltrated the idea that we just do not exist.

And this study, the METRO study, that was quoted from in their testimony, the study they conducted, they did not ask the question. To start off with, in the telephone interview—I would like to state some of my background in this area. I am a mathematics statistician with the Bureau of Labor Statistics, and I am quite familiar with the survey procedures.

In this study they conducted, and they spent money on it, money they could have spent on elevators, but the study was to prove that we did not exist.

Mr. Fisher related the definition. He said this defines all people who consider themselves as physically disabled, and then who cannot use escalators. But that was not the question that was asked and responded to. The question that was asked was: "Do you know of anyone who is seriously physically disabled?" Now, this is a distortion right there in itself.

Mr. GRAY. That was repeated by Dr. Kenrick a moment ago.

Mr. HEDDINGER. My point is the precise way they asked the question.

Mr. GRAY. I am just saying you cannot delineate or separate the various degrees of disability. A person who is disabled and cannot ride an escalator has to ride an elevator. And the court is trying to get into

all the different layers of disability, which is not what Congress intended at all.

Mr. HEDDINGER. That is true indeed.

And one other comment that Mr. Dodge made concerning the costs in San Francisco. Mr. McCutcheon here in Washington on October 20, before Senator Church testified that their initial estimates of cost in San Francisco for the elevators were \$10 million and that subsequently those costs were \$8 million. This is probably one of the first times in the transit industry where their estimates are in excess—

Mr. GRAY. More than the cost.

Mr. HEDDINGER. But Mr. Dodge here today told you that in San Francisco it was \$16 million—twice as much.

Mr. GRAY. Yes.

Mr. HEDDINGER. He did say \$16 million.

Mr. GRAY. We can go back and check it. My recollection is that it was more—I am sure it was more, but whether it was double, I do not recall. But I am sure it was not less than the estimate.

Mr. HEDDINGER. The point that I raise, we do not know whether they need \$65 million for elevators or how much they need. And with any kind of dealings—when you look at those plans and they'll issue a contract for a station, and then come along and they will prorate a certain amount for shafts versus the station—this cost of the elevator was stuck in.

Mr. GRAY. There is one thing I am absolutely sure of as chairman of the subcommittee, it is much cheaper to design a facility and construct everything that is going to be put in at the time you award the contract. Anytime you make provisions to put something in later, you have to bring all the crew back, the change order is expensive. That is the point I tried to make with Chairman Fisher a moment ago, that regardless of where this money comes from, we ought to design and award contracts now to install these elevators if they have finally agreed that that is what is needed to provide access to these subways to the physically handicapped. I think we have testimony that they have agreed that the elevator is the only answer. It definitely will save millions of dollars now if they will award these contracts to include the elevators during the construction of each station. I think we all agree on that.

Mr. HEDDINGER. They did not say they would do that.

Mr. GRAY. No. I say that I am sure that is the only prudent, sensible way to do it.

Mr. HEDDINGER. I agree.

Mr. GRAY. There is no other way if you want to save money.

Mr. HEDDINGER. And in their testimony they again related that they have been adhering, that they adhere to the American standards. How can they say this if they do not have elevators? It is double talk.

Mr. GRAY. The standards preclude you from putting a wheelchair on an escalator; does it not?

Mr. HEDDINGER. The standards state in multiple-story buildings elevators are essential for the successful functioning of physically disabled individuals.

Mr. GRAY. I say that precludes you from getting on an escalator with a wheelchair.

Mr. HEDDINGER. The standards have nothing to say concerning the escalator.

Mr. GRAY. I thought they did.

Mr. HEDDINGER. My testimony concerning that was with respect to the District of Columbia Code. This is the American standards we are referring to.

Mr. GRAY. I see.

Well, it is not practical, we know that.

Any other questions or comments at all?

Again I apologize for a long hearing, but I am sure the hearing has been helpful. We spread upon the record what the problem is. It is one of money. I would in the strongest terms urge the Authority to proceed with the construction of these elevators.

With that, the subcommittee stands adjourned.

(Thereupon, at 2:55 p.m. the subcommittee adjourned.)

(The following were received for the record:)

STATEMENT OF MRS. DONALD R. HILL, PRESIDENT OF THE LEAGUE OF WOMEN VOTERS
OF THE NATIONAL CAPITAL AREA

The League of Women Voters of the National Capital Area is an Inter League Organization representing eight local Leagues in the Washington metropolitan area. We would like to submit this statement for the record at hearings on accommodations for the handicapped on the METRO System.

The National Capital Area League of Women Voters has been studying transportation since 1962. We have taken positions of support that include:

A major community need such as transportation cannot be considered as a separate entity, but must be an integral part of the total environment that it services.

It must be public policy to provide some form of transportation for all.

Transportation systems should provide speed, convenience and economy to the user and should benefit the larger community.

Before legislation was approved to create the interstate compact to build METRO our organization supported a rapid rail transit system for the Washington area. We have continued to work actively for the funding and have followed the planning and construction of the subway system in the past years. We are interested in all aspects of METRO facilities, and believe that transportation services must be provided for all citizens.

Therefore, we are disturbed that the present plans for METRO stations include only escalators to carry passengers and do not include elevators. We know that many of the potential riders are elderly and handicapped, and cannot use the subway without elevators. For mothers with young children, particularly if they are using strollers, it is inadvisable and in many cases impossible to use the subway if there are no elevators. Provisions must be made for these groups who are all dependent on public transportation.

The Washington Metropolitan Area Transit Authority must have the funds to provide service for all citizens. We urge that funding be included for the installation of elevators at METRO stations. In relation to the use of elevators, we also note that WMATA's application for a \$1 million grant from the Department of Transportation for research and development of an inclined elevator has been rejected. We feel that it is important for WMATA to receive funds to carry out this research project at this time. We would like to point out that the inclined elevators would meet the security provisions saving on supervision expenses as well as tunneling costs and would be more practical for the elderly and the handicapped.

WMATA and the Public Works Subcommittee should carefully consider the requirements of Public Laws 90-480, 91-205 and 91-453 requiring full accessibility in public buildings and facilities, including public transportation, and do everything possible to comply with these laws.

Providing transportation service to all citizens of the Washington area should be a major concern of the Washington Metropolitan Area Transit Authority and the Subcommittee.

Thank you for the opportunity to include this statement in the record.

LEE & ASSOCIATES, ARCHITECTS,
June 30, 1972.

HON. KENNETH J. GRAY,
Rayburn Building,
Washington, D.C.

DEAR MR. GRAY: I was present yesterday, at your hearing on Barrier Free Rapid Transit and I was pleased to see the METRO officials put into a position of putting results where their mouth is.

I was associate designer, working with Edward H. Noakes, AIA on the concept of the inclined elevator which, as you know, was designed specifically for the D.C. METRO according to criteria established by the METRO officials.

At the time we started the design program they informed us that it was completely impractical to use vertical elevators because, in many cases, this would put the elevator surface entrances quite remote from the main entrances to the stations. They also claimed that they would have to sink expensive shafts that would, very probably, interrupt underground utilities and might require their locations where existing buildings were located, and they might not be able to acquire the right to put the elevator entrances in these buildings. The only design they would accept would be something that would fit into the same slot that would accommodate an escalator in order to incorporate them in the existing station designs.

Much to their surprise we did, indeed, design a solution that could be plugged into the escalator slot; much like you would put an electric plug into an electric socket. The inclined elevator and the escalator can and would be interchangeable!

Inasmuch as the inclined elevator is interchangeable this certainly would preclude the necessity of sinking expensive vertical shafts as well as eliminating the necessity of purchasing the escalator that would have been put in that slot, thereby saving a great deal of money in both instances. Because of this fact alone, I cannot understand how the METRO officials can justify pursuing the concept of the vertical elevator; it does not make good fiscal sense and borders on irresponsibility.

To my knowledge the METRO people have not, ever, done any research into the feasibility of the inclined elevator to determine if this concept can actually be constructed and installed as part of their system.

During the design phase of the inclined elevator, Mr. Noakes and I used the services of one of the foremost elevator consultants in the country, Mr. John A. Miller. With Mr. Miller's assistance we determined that the inclined elevator could be built, for the most part, of existing standard elevator components. The cab would have to be specially constructed, but this presents no problem at all, as most elevator cabs are anyway. This certainly makes this device a very probable and economic solution to Barrier Free Rapid Transit.

If you have not seen the Potomac Valley Chapter AIA report on Barrier Free Rapid Transit, I would endeavor to get you a copy. If we of the American Institute of Architects can be of any assistance in this matter, we stand ready to do so.

I congratulate you on your excellent hearing and the great service you are rendering the handicapped and elderly citizens of this nation.

Sincerely yours,

WM. BALTZER FOX, AIA,
Chairman, Committee on Barrier Free Architecture,
Potomac Valley Chapter, American Institute of Architects.



I am writing to you in the hope that you will find it of interest. I have just received a letter from the Washington, D.C. office of the American Psychological Association and I am sure that you will find it of interest.

The American Psychological Association is a national organization of psychologists and other mental health professionals. It is the largest and most influential of the professional organizations in the field of psychology.

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