

PUBLIC TRANSPORTATION FOR HANDICAPPED PERSONS:  
AN ANALYSIS OF PROPOSED LEGISLATION

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## SUMMARY

The Congress is considering several proposals to make public transportation available to handicapped persons. The Rehabilitation Act of 1973 made it unlawful to exclude handicapped persons from public services financed by the federal government. To conform with this law, the Department of Transportation (DOT) issued regulations in 1979 requiring that subway stations be equipped with elevators, that rail cars be rebuilt to accommodate wheelchairs, and that transit buses be supplied with lifts. This led to much controversy and discussion. Three alternative proposals are now before the Congress that would offer localities wider discretion in meeting the needs of handicapped persons. All three would permit a locality to apply the DOT regulations if it chooses, but each allows alternative approaches--for example, door-to-door van service for handicapped persons.

The three proposals examined here are a bill passed by the Senate (S. 2720), a bill reported by the House Committee on Public Works and Transportation (H.R. 6417), and a possible compromise bill drawn from the first two.

## MAJOR PROVISIONS AND IMPACTS OF THE THREE BILLS

The three bills differ in the extent to which they would grant exemption from the DOT regulations, in the processes they would set up for granting exemptions, and in their guarantees of service standards. These differences lead to substantial differences in cost, cost-effectiveness, and the numbers of handicapped persons who would be served under each of the three proposals.

### The Senate Bill

Under the Senate bill, small cities (50,000 persons or fewer) would be permitted to provide specialized taxi or van services for handicapped persons instead of equipping buses with lifts. This would not apply to large urban areas (above 750,000 persons), which would be required to equip all of their buses with lifts, or to medium-sized areas (50,000 to 750,000 persons), which would be required to equip at least half of their buses, using

specialized services as a substitute for lifts on the rest of their buses. Because most of the nation's buses operate in large cities, 84 percent or more of the country's transit buses would have to be equipped with lifts under the Senate bill. Specialized services could be used as a substitute for lifts on only 16 percent of the buses.

The Senate bill also contains two features that would likely discourage urban areas from using the little flexibility that is granted. First, in order to be approved as an alternative to lift-equipped buses, a specialized service must meet various criteria, one of which is that no preregistration be required. This criterion, while intended to grant handicapped persons using specialized services the same privacy and convenience enjoyed by transit users generally, nonetheless creates serious practical problems. In particular, it makes it difficult to restrict the provision of such services to the severely disabled persons who need them, thereby greatly increasing the costs of offering them. The Senate bill also grants broad discretion jointly to the Department of Transportation and the Architectural and Transportation Compliance Board to assess the adequacy of specialized services, a procedure that appears time-consuming and cumbersome. Some localities might prefer to comply with the relatively well-defined criteria for lift-equipped buses under the existing DOT regulations rather than risk higher costs, protracted deliberations, and uncertainty of approval under the alternative approach.

#### The House Bill as Reported

The House bill as reported grants more flexibility. All urban areas would be allowed to provide specialized services rather than adapt their mass transit facilities, and no minimum fraction of lift-equipped buses would be mandated. Localities electing to provide specialized services would have to meet specific quality standards. Also, users would have to give an advance notice of up to 24 hours. So long an advance notice, while suitable for many scheduled activities such as going to medical appointments or to work, would restrict spontaneous travel. The bill would, however, encourage a large number of localities to introduce specialized services. Such services generally serve more persons, and cost less both per trip and in total, than the alternative of adapting fixed-route services to carry wheelchairs. As a result, the House bill is projected to cost the least of the three proposals examined here--about \$4 billion over the next 30 years. It would cost about \$8.00 per trip, well under both other options. It would serve about 20 percent of all severely disabled persons.

### The Compromise Proposal

The compromise proposal offers less flexibility than the House bill. It would permit localities to supply special services in lieu of equipping a portion of their buses with lifts. However, 50 percent of a locality's bus fleet would have to be lift-equipped unless the local community of handicapped persons agreed otherwise. The compromise proposal could cost between \$6.1 billion and \$6.8 billion over 30 years. It would serve about 15 percent of all severely disabled persons, expanding travel opportunities for more of them than would the Senate bill, but for fewer than the 20 percent estimated under the House bill.

To submit a plan providing for lifts on less than 50 percent of the bus fleet, a transit operator would have to demonstrate that the majority of severely disabled residents supported such a plan. This could prove to be very difficult, particularly in medium-sized and large urban areas, leading to lengthy and costly disputes in the courts. Thus substantial savings might not be possible under this proposal, even though it would permit some reduction in specialized services as lift-equipped buses are phased in. Some operators would be led to implement the existing DOT regulations, while those equipping half their buses with lifts would still need to make substantial outlays on specialized services.

In leading a number of cities to apply the DOT regulations, and others to implement specialized services or a mix of the two, cost per trip under the compromise proposal would reflect both the high cost per trip of adapted transit and the relatively low cost per trip of specialized services, and would total about \$18.

### Conclusion

A choice among the three proposals will hinge not only on concern for the civil rights of the handicapped, but also on considerations of cost and effectiveness. The Senate bill would probably cost more than either of the other two proposals. It would also serve the smallest number of handicapped persons.

The House bill would serve the greatest number of severely disabled persons and would result in the least amount of public expenditure. Specialized services offered under this approach would require a day's notice for service, and could cease by early evening and on weekends. Removing these limitations would add to total costs, but they would still be lower than under the other proposals.

The compromise proposal would serve more handicapped persons than the Senate bill but fewer than the House bill. Its cost is difficult to estimate, but is probably almost as high as that of the Senate bill.

## I. INTRODUCTION

Section 504 of the Rehabilitation Act of 1973 made it unlawful to exclude disabled persons from federally financed public services solely because of their handicaps. 1/ Department of Transportation (DOT) regulations were issued in July 1979 to bring transit systems into compliance with Section 504. 2/ These regulations require transit operators to equip buses with lifts for wheelchairs, to install elevators in many rail stations, and to modify rail cars to accommodate wheelchairs.

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1/ Public Law 93-112, 93 Cong. 1 sess. (September 26, 1973), as amended in Section 794 of 29 U.S.C.. Section 504, as amended, states that:

794. Nondiscrimination under Federal grants and programs. No otherwise qualified handicapped individual in the United States, as defined in section 706(6) of this title, shall, solely by reason of his handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance or under any program or activity conducted by any Executive agency or by the United States Postal Service. The head of each such agency shall promulgate such regulations as may be necessary to carry out the amendments to this section made by the Rehabilitation, Comprehensive Services, and Developmental Disabilities Act of 1978. Copies of any proposed regulation shall be submitted to appropriate authorizing committees of the Congress, and such regulation may take effect no earlier than the thirtieth day after the date on which such regulation is so submitted to such committees.

Other Acts of the Congress that concern transportation for handicapped persons include the Urban Mass Transportation Act of 1964, as amended in 1970, and the Architectural Barriers Act of 1968, as amended.

2/ Federal Register, vol. 44, no. 106 (May 31, 1979).



A principal objective of Section 504 is the integration of handicapped persons into the day-to-day activities of American life. The DOT regulations have been the subject of considerable controversy, notably because they emphasize almost exclusively the adaptation of existing transit systems for use by disabled persons--which would result in serving a relatively small number of such persons at a very high cost.

While the DOT regulations permit localities to provide some special services instead of adapting their rail systems, they allow no such exceptions for bus systems, which are required to equip every new vehicle purchased with a lift. Because of the disadvantages of this approach it has given rise to several proposals to grant localities greater flexibility in implementing special services. Three such proposals are discussed here. These are a bill passed by the Senate (S. 2720), a bill reported by the House Public Works and Transportation Committee (H.R. 6417), and a compromise proposal that combines features of both bills. These proposals differ in several major respects (see Table 1):

- o The extent to which they would offer localities potential exemption from the existing DOT regulations;
- o The workability of the process they would establish for achieving the legislated exemption; and
- o The quality standards they would require for specialized services.

## II. KEY FEATURES OF THE THREE PENDING PROPOSALS

### Extent of Exemption from DOT Regulations

The House and Senate bills and the compromise proposal differ in the extent to which they would relieve localities of the need to equip transit buses with lifts and to adapt rail systems with elevators.

Buses. The Senate bill would relieve urban areas of 50,000 or fewer persons of the requirement to equip buses with lifts. In urban areas of 50,000 to 750,000 persons, it would require that at least half of all new transit buses purchased be lift-equipped, and in areas of more than 750,000 persons that all new buses be lift-equipped, although the Secretary of

TABLE 1. KEY DIFFERENCES BETWEEN THE SENATE BILL, THE HOUSE BILL, AND A COMPROMISE PROPOSAL

Provision	Senate Bill	House Bill	Compromise Proposal
Bus Adaptation for Wheelchairs	Mandatory for 84 percent of all new buses. <u>a/</u>	Not mandatory.	Mandatory for 50 percent of all new buses. <u>b/</u>
Adaptations to Rail Systems	Bill does not specifically address this aspect (apparently, DOT regulations continue to apply).	Mandatory for future systems only.	Mandatory for all future systems. Also for extensions and major reconstruction subject to tests of economic reasonableness.
Specialized Service Quality Standards <u>c/</u>			
Door-to-door service level requirements	Very general—service must be "no less beneficial" than transit.	Specific service quality standards only.	Specific service quality standards only.
Advance request time	Requires "reasonable minimum waiting periods."	Less than 24 hours.	3 hours unless passenger requests more time. <u>d/</u>
Restrictions on trip purposes	Banned.	May be banned according to report of bill only.	Banned.
Hours of service comparable to local transit	Must be comparable.	Only report of bill permits DOT to require comparable service hours.	Must be comparable.
ω Trip time and transfer frequency comparable to local transit	No provision.	No provision.	Must be reasonably comparable to local transit.
Preregistration for service	Banned.	Not banned.	Not banned.
Waiting lists	Banned.	Not banned.	Not banned. <u>e/</u>
Door-to-door service spending requirements	Minimum of 5 percent of federal capital and operating aid.	Minimum of 3 percent of federal operating aid.	No minimum requirement.
Approval of plan	DOT and Architectural and Transportation Barriers Compliance Board.	DOT.	DOT (and also local disabled residents where fewer than 50 percent of transit buses are to be lift-equipped).

a/ Department of Transportation may approve a different level of lift purchases if it determines that the level is consistent with the locality's overall plan.

b/ A city may obtain permission from the Department of Transportation to equip fewer buses or no buses with lifts, if it demonstrates that a majority of the disabled residents favor such a plan.

c/ Specialized service fare levels and geographic range of service must be comparable to transit fares and geographic range of transit service under the Senate bill, the House bill, and the compromise proposal.

d/ Localities would have four years to achieve this standard.

e/ Compromise proposal would, however, require that capacity exist so that no person who is eligible for a service would be excluded from using that service.

Transportation would have authority to alter these minimum requirements. Most of the nation's buses operate in large cities, so that the exemptions contained in the Senate bill would have limited application (Table 2). For example, to meet the minimum requirements of the Senate bill, at least 84 percent of all the nation's buses would have to be lift-equipped.

TABLE 2. PROPORTIONS OF PUBLICLY OPERATED BUS FLEETS TO BE EQUIPPED WITH LIFTS UNDER THE SENATE BILL

	Areas with Populations of			Total
	Less Than 50,000	50,000 - 750,000	More Than 750,000	
1. Minimum Percentage of New Buses to Be Equipped with Lifts	—	50	100	—
2. Transit Buses in Each Area Population Group as a Percentage of All Buses <u>a/</u>	3	26	71	100
3. Minimum Percentage of All Buses to Be Equipped with Lifts (Row 1 x Row 2)	0	13	71	84

a/ Based on Department of Transportation, A Directory of Regularly Scheduled, Fixed Route, Local Rural Public Transportation Service (February 1980), and Department of Transportation, A Directory of Regularly Scheduled, Fixed Route, Local Public Transportation Service, Parts I and II (July 1979).

The House bill as reported would not require any lift-equipped bus purchases if specialized services meeting the legislated standards were provided. It offers localities the greatest potential relief from requirements for lift-equipped buses.

Under the compromise proposal, localities would have to equip half the new buses they purchase with lifts unless severely disabled residents demonstrated substantial support for fewer lift-equipped buses, in which case the Secretary of Transportation would exempt the locality from this requirement.

Rail Systems. Under all three proposals, existing rail stations and rail cars would not need to be adapted for wheelchairs if an alternative service was supplied that was consistent with the legislated standards. <sup>3/</sup> The compromise proposal would, however, permit the Secretary of Transportation to require the construction of elevators at the time systems were extended or when stations underwent major reconstruction, but only if he determined that it was cost-effective to do so. This appears to mean that before making a station modernization grant contingent upon the construction of elevators, the Secretary would have to establish that enough other boarding and destination stations would have elevators so as to make the system generally usable by wheelchair users, that the available elevator technology would make their construction economically reasonable, and that substitute forms of public transportation would be less cost-effective in serving wheelchair users. These tests would likely lead to very little elevator construction in the short to medium term, although technological breakthroughs in elevator technology could change this in the long term. <sup>4/</sup>

#### Extent to Which the Approval Process Facilitates Local Plans

Under the Senate bill, judgments as to whether plans submitted by localities would "provide service no less beneficial for handicapped persons" than those which would have been implemented under the DOT regulations are to be made by DOT and the Architectural and Transportation Barriers

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<sup>3/</sup> One interpretation of the wording of the Senate bill is that such systems can offer special services, as delineated in the bill, instead of both bus and rail services. Another interpretation is that local option applies to bus systems only, leaving the DOT regulations to govern the rail services.

<sup>4/</sup> Department of Transportation, Transit Station Use by the Handicapped: Vertical Movement Technology, April 1980. See also U.S. Department of Transportation, The UMTA Rail Modernization Program: The Distribution of Capital Grant Funds for Rail Rehabilitation and Modernization, 1965-1977, July 1978.

Compliance Board.<sup>5/</sup> In the absence of any consensus on values such as convenience, flexibility, privacy, and timeliness, the bill provides no objective standard against which to decide the merits of individual applications. For example, is a trip by bus, which might require half an hour aboard the vehicle as well as additional time spent waiting outdoors, more or less beneficial than a trip by taxi, which may require a reservation far in advance of service but involves less travel time and no outdoor waiting? While the Senate bill offers a checklist of service criteria (Table 1), such questions could still lead to prolonged deliberations over each application and possibly protracted struggles in the courts. Ultimately, the Congress might find itself compelled to clarify its intent further.

In addition, the requirement that local plans receive the approval of two independent bodies--the Department of Transportation and the Architectural and Transportation Barriers Compliance Board--seems cumbersome. The double-approval process might lead some localities into costly and time-consuming judicial review.

The House bill differs from the Senate bill in offering a checklist of specific criteria by which the Secretary of Transportation, in consultation with the Architectural and Transportation Barriers Compliance Board, would judge the admissibility of local plans. It does not require any additional independent assessment of whether or not a special service is more beneficial, thereby avoiding one of the procedural difficulties of the Senate bill.

The compromise proposal requires consultation with the Architectural and Transportation Barriers Compliance Board but leaves the final decision with the Secretary of Transportation, thereby streamlining the approval process. The compromise proposal makes it relatively easy for a locality to gain approval for a plan that involves equipping 50 percent of its buses with lifts, although it is considerably more difficult to gain approval if a plan involves equipping less than 50 percent. In that instance, the locality is required to establish a process through which disabled persons can express their views, and to demonstrate that a majority of disabled residents who participate in the process support a level of lift-equipped bus service below

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<sup>5/</sup> The Architectural and Transportation Barriers Compliance Board was established by the Congress to ensure that federally funded programs were brought into compliance with the Architectural Barriers Act of 1968, as amended.

the 50 percent generally required. There is no established method for polling handicapped persons on such matters, and whatever process was adopted would likely be open to persuasion and procedural objections from competing interest groups.

#### Guarantees Afforded that Specialized Services are Adequate

Advance Request Time for Door-to-Door Service. Existing specialized services vary widely--from 2 hours to one week--in terms of the time a passenger must wait to be fetched after making a phone call for service. Spur-of-the-moment decisions to shop or to visit friends become impossible if requests must be made far in advance. While surveys indicate that about 80 percent of handicapped persons find a 24-hour advance reservation to be satisfactory (because it is convenient to plan many trips ahead of time, such as going to work, to school, or to the doctor), surveys also suggest that more use would be made of special transportation if short-notice services were available as well. 6/ The Senate bill requires "reasonable waiting times for specialized services," which could lead to considerable improvement in the current situation. The House bill as reported, calls only for service in "less than 24 hours" from the time a caller requests it. So loose a minimum would not guarantee the type of service necessary for spontaneous travel. The compromise proposal would go much further than the other two, requiring short-notice service for those who want it no more than three hours after phoning, thus making spur-of-the-moment travel opportunities possible.

Preregistration for Specialized Service. The Senate bill would ban any requirement for prior registration or prior approval of handicapped persons wishing to use public transportation. This requirement appears to stem from the desire to make specialized services no more cumbersome and no less convenient than regular transit, particularly for out-of-town patrons. But by prohibiting advance registration, the Senate bill eliminates the most practical way of restricting high-quality and high-cost door-to-door service to severely disabled persons who cannot use transit. Other techniques for controlling eligibility have serious drawbacks. For example, drivers could decide as to each passenger's eligibility, but this might be difficult in the case of many severely disabled persons who do not use wheelchairs.

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6/ U.S. Department of Transportation, The Lift: Special Needs Transportation in Portland, Oregon (June 1978).

Alternatively, eligibility might be based on evidence of registration for other services, such as the presentation of a Medicare card. But handicaps that qualify persons for various medical programs may not limit their ability to use transit. Lacking a mechanism by which to restrict eligibility, door-to-door service would be made available to those who are already capable of using regular transit, and its costs would climb considerably. Localities would then doubtless be led to implement the less costly DOT rules instead.

In contrast to the Senate bill, the House bill as reported would place no ban on prior enrollment. The compromise proposal would require only that enrollment procedures not be inconvenient. On these terms, many cities would probably offer door-to-door service, but with eligibility restricted to those who cannot use regular transit.

Restrictions on Trip Purposes. Many existing specialized services carry handicapped persons only when they wish to go to work, to school, and to the doctor, and not for shopping or other activities unless a vehicle happens to be available when they wish to travel. The Senate proposal would prohibit this practice. The House bill as reported does not address the problem, although the report that accompanies it states that the Secretary of Transportation may develop compliance standards that eliminate restrictions on trip purpose. The compromise proposal would eliminate such restrictions in the legislation itself.

Hours of Service Comparable to Local Transit. While late-night and weekend transit services operate in many cities, specialized services for handicapped persons often cease by early evening and on weekends. The Senate bill would ensure that such services were available during the same hours as regular route transit. The House bill as reported would not set standards as to hours, although the report accompanying it states that the Secretary of Transportation may require comparable service hours. The compromise proposal would require them in the authorizing legislation itself.

Trip Time and Transfer Frequency Comparable to Local Transit. Door-to-door service operators sometimes collect a number of passengers before delivering them to their destinations and require numerous transfers between vehicles so as to reduce the time any single vehicle spends returning empty. Such practices add to passengers' travel time, however, and are particularly onerous for disabled persons.

To guard against excessive travel times, the compromise proposal requires that specialized services offer trip times that are reasonably comparable to those of local transit. In practice, it should not prove difficult for localities with bus systems to meet this requirement, since taxis travel over the same roads as buses. But underground trains in the largest cities can make some long journeys in much less time than surface vehicles. This could make compliance difficult in some instances. Neither the House bill as reported nor the Senate bill makes any mention of trip times.

Waiting Lists for Handicapped Persons Eligible to Use Specialized Services. Some specialized transport systems restrict use by requiring eligible persons to register. Even so, they do not have enough vehicles to serve all eligible persons. Some are denied registration credentials and placed on a waiting list. The Senate legislation would require specialized transportation capacity to be such that waiting lists for service do not develop. Neither the House bill as reported nor the compromise proposal specifically exclude waiting lists, although under the compromise proposal other stipulated standards imply that all eligible users should be permitted to request specialized services. (Table 1).

Minimum Expenditure Standards. Both the Senate and the House bills would require localities to spend a minimum amount of the federal transit assistance that they receive to finance door-to-door service plans developed under local option. Under the Senate bill, 5 percent of all federal aid would be designated for this purpose, to be matched by local funds. The House bill as reported sets a minimum expenditure of 3 percent of federal operating assistance, also to be matched by local funds. The compromise proposal makes no minimum spending requirement.

The minimum funding levels set out in the House and Senate bills are not sufficient to assure that reasonable specialized services would be provided. High-quality, convenient door-to-door transportation for severely disabled persons, together with transit improvements for moderately handicapped persons, are estimated to cost two to three times more than the minimum specified in the House bill. The higher level of service required in the Senate bill would also generally require localities to exceed the minimum spending requirement.



### III. NUMBER OF PERSONS SERVED, COSTS, AND COST-EFFECTIVENESS

The three proposals under consideration differ markedly in the number of handicapped persons who would be served by them, in the total cost of implementing the services, and in their cost-effectiveness (cost per trip). These differences are summarized in Table 3.

TABLE 3. BENEFITS, NET COSTS, a/ AND COST-EFFECTIVENESS OF ALTERNATIVE PROPOSALS (In 1979 dollars)

	DOT Regulations	Senate Bill	House Bill	Compromise Proposal
Percent of Severely Disabled Persons Served	7.0	8.0	20.0	15.0
Total Net Public Cost Over 30 Years (billions of dollars)	6.8	6.7	4.3	6.1-6.8
Total Net Public Cost per Trip Made by Severely Disabled Persons (dollars)	38.0	37.0	8.0	17.0-18.0

SOURCE: Based on analysis in previous sections and in Congressional Budget Office, Urban Transportation for Handicapped Persons: Alternative Federal Approaches (November 1979).

a/ Total costs after allowing for additional revenue from fares.

#### Number of Handicapped Persons Served

The Senate bill would serve about 8 percent of all wheelchair users and other persons too severely disabled to use regular transit. This is fewer than the number of severely disabled persons served under either of the other options.

Under the House bill as reported, many cities would be likely to provide specialized services, and as a result the fraction of severely disabled persons served would be high--around 20 percent of all severely disabled persons. 7/ Specialized services offered under the House bill, however, would not extend to trips that cannot be planned a day in advance.

The compromise proposal would serve far fewer severely disabled persons than would the House bill. The exact mix of services that would ultimately emerge would depend on the number of localities in which disabled residents elected not to equip buses with lifts, and on the extent to which spending on specialized services could be reduced by the localities that did introduce lift-equipped buses. Where such savings were difficult to achieve, some localities would follow the existing DOT regulations instead of submitting a local plan, so as to avoid the disadvantages of operating both wide-scale specialized services and large numbers of lift-equipped buses. For example, small communities might find it fairly easy to demonstrate that most disabled residents favored taxi service in lieu of lift-equipped transit buses, but large metropolitan areas might find it very difficult to establish the same fact. Faced with the costs of providing full-scale specialized services on some routes in addition to half a fleet of lift-equipped buses, some transit operators might prefer to implement the current DOT regulations instead. Moreover, withdrawing door-to-door service as the buses became lift-equipped would probably be an unpopular step among those who had come to rely on the service, and could dissuade some localities from embarking on such a plan. It is assumed here that half to three-quarters of the nation's largest transit operators (those serving cities with more than 750,000 persons) would adhere to the existing DOT regulations and equip all of their buses with lifts. Perhaps a quarter of the smaller localities would do likewise rather than face the risk of having to provide full-scale specialized services plus half a fleet of lift-equipped buses. Others would either make exclusive use of wide-scale specialized services, or equip 50 percent of their bus fleets with lifts and make a corresponding reduction in specialized services.

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7/ For moderately handicapped persons, localities would be likely to equip buses with a range of more limited improvements, such as a "kneeling" suspension that lowers the front steps of buses to make getting on and off easier for the aged, for arthritic persons, and for other handicapped persons who can use transit only with difficulty. These improvements could expand travel opportunities for moderately handicapped persons--about 80 percent of all handicapped persons--at less than 10 percent of the cost of equipping buses with lifts. (Where a "kneeling" suspension costs about \$150.00, a lift costs about \$10,000.)

Altogether, these assumptions imply that 53 to 62 percent of transit buses nationally might ultimately be lift-equipped under the compromise proposal. Together with the range of specialized services offered, this would expand travel opportunities for about 15 percent of the severely disabled population, as compared with the 23 percent that would be served under the House bill (Table 3).

### Total Cost

The Senate bill would result in spending of about \$6.7 billion over the next 30 years--more than either of the other proposals examined here (Table 3). The House bill would cost about \$4.3 billion over the next 30 years, making it the least expensive of the three options. Part of its lower costs stem from its loose standards for specialized service. If those standards were tightened to the level set in the compromise proposal, costs under the House bill as reported would increase to about \$5 billion, still the lowest total cost of the alternatives considered here.

The potential cost of the compromise proposal is particularly uncertain. It depends upon the extent to which operators would find it possible to reduce the level of specialized services as lift-equipped buses were introduced, and on the number of operators that elected to implement the existing DOT regulations instead of submitting an alternative plan. For example, if operators found it possible to withdraw half of their specialized services when lift-equipped buses were introduced, and if half of all areas of more than 750,000 persons elected to implement fully accessible systems, then costs could total \$6.1 billion over the next 30 years. If, instead, specialized services could be cut back by only 30 percent once half a locality's transit buses were lift-equipped, and if this financial burden led additional operators to adhere to the DOT regulations, then total spending on the compromise proposal could total as much as \$6.8 billion, equal to costs under the DOT regulations and higher than under the other proposals examined here.

### Cost per Trip

The cost-effectiveness of the three alternatives differs sharply. The House proposal would lead to mostly specialized services. Such services cost about \$8 per trip. The Senate and the compromise proposals would lead to relatively more modifications with fixed costs (such as putting lifts on buses) that would make the cost per trip much more dependent on

patronage; as patronage rose, cost per trip would fall. On the basis of CBO's projection, plans developed under the Senate bill would result in a cost per trip of about \$37. The compromise proposal, would lead to more specialized services than the Senate bill but its accent on adaptations to fixed-route services would result in a cost per trip of about \$18.

Much of the difference in the above figures is explained by the duplication of services that would occur under the Senate and compromise proposals. Offered a choice of going by bus or by taxi, most persons, whether handicapped or not, are likely to choose speedier, more convenient door-to-door transportation. <sup>8/</sup> Recent surveys imply that, of the trips that would be made by bus in the absence of door-to-door service, only about two-fifths would still be made by bus once the alternative service was introduced. <sup>9/</sup> The cost per trip of adapted transit under the DOT plan is estimated at about \$38. But if both adapted buses and door-to-door service were available, and if three-fifths of the handicapped passengers switched to door-to-door service, the cost per bus trip would greatly exceed \$38. Under the compromise proposal, the clear intent is to avoid such duplication of service. But by requiring some door-to-door service to supplement bus routes where less than 100 percent of the buses have lifts, the compromise proposal makes some duplication inevitable. Some duplication would also result where operators attempt to offer specialized service under the Senate bill. <sup>10/</sup>

#### IV. THE CONGRESSIONAL CHOICE

All three of the proposals discussed here aim to grant more local flexibility in bringing transit systems into compliance with Section 504. Under the Senate bill, however, localities would be unlikely to avail

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<sup>8/</sup> See, for example, experience in San Diego, as reported in Jack Cargill and G. J. (Pete) Fielding, Mobility for the Handicapped Case Study in Public Policy, Institute of Transport Studies, University of California, Berkeley and Irvine (January 1980), and U.S. Department of Transportation, Survey of Attitudes Toward An Accessible Bus Among Transportation Handicapped People in Four Cities (June 1980).

<sup>9/</sup> Ibid, U.S. DOT.

<sup>10/</sup> It is sometimes argued that instead of offering door-to-door service that would compete with lift-equipped buses, localities are more likely to offer specialized service to and from bus stops. This is unlikely,

themselves of the added flexibility for several reasons. First, unless the Secretary waived the requirements, only about 16 percent of all transit buses could avoid the lift requirement imposed by the DOT regulations. Second, specialized door-to-door transportation for severely disabled persons would probably have to be extended to many other persons who could use regular transit systems, because eligible users could not be required to preregister. This would make the cost of specialized services very high, and discourage localities from pursuing them. As a result, under the Senate bill, all but the smallest communities would be led to implement the DOT regulations. This option is probably the most expensive of the three options reviewed here, costing around \$6.7 billion over the next 30 years or around \$37 per trip. It would also serve the smallest number of severely disabled persons of any of the three options--around 8 percent of all severely disabled persons. Finally, the complex approval process and the vague standard of service contained in the Senate bill would discourage applications from localities.

Under the House bill, many localities probably would use the additional flexibility offered them, and provide specialized services. This option is the least expensive of the three reviewed here, and would serve the largest number of handicapped persons. But because it would not guarantee spontaneous travel, and would not ensure availability of the specialized services, those provided might be inadequate for some types of travel. Even so, the House bill could be amended to include improved specialized service standards, while remaining lowest in overall cost of the various alternatives considered here.

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10/ (continued) however, since service to and from bus stops would probably be more expensive than door-to-door service, requiring more special vehicles so as to rendezvous on time with transit buses at the multitude of bus stops in a typical urban environment. (See Jesse Jacobson, Analytical Models for Comparison of Alternative Service Options for the Transportation Handicapped, U.S. Department of Transportation (April 10, 1979), reprinted in Transportation Research, vol. 14A, 1980, pp. 113-118. The paper concludes that, as compared to direct door-to-door service, door-to-bus-stop service would require a larger fleet of special vehicles and represent a more costly way of meeting a given level of travel demand.) Moreover, disabled passengers are unlikely to use such services since they would be required to make a number of transfers per round trip. The \$18 cost per trip associated with the compromise proposal represents, however, a considerable improvement over the Senate bill, because more cities would be led to implement the DOT rules under the Senate approach with its almost exclusive emphasis on fixed-cost, rarely-used modifications.

The compromise proposal would offer significantly less local flexibility than the House bill. A number of localities, particularly smaller cities, would probably introduce specialized services in lieu of equipping all their transit buses with lifts. But if at the same time they had to equip a portion of their transit buses with lifts, the specialized services would be available either on a very limited basis, leaving many disabled persons who are unable to use even lift-equipped buses without any form of public transportation, or as a duplicate service, reducing radically the cost-effectiveness of the overall plan. In consequence, under the compromise proposal many cities would probably choose to implement the current DOT regulations. They would do so in order to avoid the ill feeling that the possible withdrawal of specialized transportation could cause, as well as the wasteful duplication of service that represents the only other alternative under the plan. While the potential cost of the compromise proposal is particularly uncertain, it appears likely to approach that of the Senate bill. The number of handicapped persons served by the compromise proposal would lie between the numbers projected for the other two proposals.