PROBLEMS AND POTENTIALS OF FEDERAL TRANSIT OPERATING SUBSIDIES

William B. Tye, Charles River Associates Inc.

This paper addresses the problems caused by increasing escalation of transit subsidies in the face of long-term trends that are worsening transit finances and focuses attention on two issues: (a) the relationship between changes in the level of federal subsidy funding and the financial condition of the transit industry and (b) the question of why the transit industry is incurring deficits. It is emphasized that a long-run federal operating subsidy program should concentrate on understanding and controlling the transit deficit. Possible solutions to the industry's problems are offered. At the federal level the alternatives available are to (a) move the power to determine the level of deficit from local authorities to the federal government by having national fare and service standards; (b) determine precisely what the federal subsidy is supposed to accomplish and focus the money directly toward these objectives rather than subsidize all transit service; (c) design the federal subsidy mechanism to encourage innovation and increased productivity; and (d) structure federal subsidy programs to increase fare box potential rather than penalize the fare box as a revenue source. Alternatives open at the state and local levels are to (a) penalize competitors to transit through taxes and controls; (b) encourage improvements in the productivity of transit in the off peak; (c) encourage more diversion of peak-hour transit demand to alternative modes; and (d) improve competitive advantage of transit through exclusive busways and lanes, priority in traffic, and so forth.

•INAUGURATION of transit operating subsidies by the federal government has provided the occasion to reassess the entire transit program at all levels of government. On the one hand, the fact that federal money can be invested in more than just equipment is commended. Subsidy recipients no longer must overcommit for subsidized capital items and neglect unsubsidized operating expenses, a bias in the capital grant program that would ultimately lead to a very inefficient industry. Another beneficial effect of this new legislation is that the myth of temporary aid is now abandoned; the federal government is committed to a long-term program of across-the-board aid to the industry. The assumption that a cycle of fare increases and service reductions could be reversed by temporary aid is hardly a sound basis for planning the transit aid program. On the other hand, the large escalation of the federal-aid program raises questions on where the new phase may lead.

Increasing federal aid to transit will evoke increasing opposition by those who do not accept the goals of the program or who do not believe the promises of benefits. Because of the financial standards that have been applied to the transit industry, proponents of the federal-aid program take this criticism very seriously. Chronologically, the following standards have governed federal support, but all (except the last) were eclipsed by debilitating economic trends in the transit industry:

- 1. Levels of service are dictated by what the passenger will pay for;
- 2. Required subsidies are borne by state and local government;
- Federal subsidies are limited to a subsidy to interest costs (this was the brief period of the subsidized loan program under the Housing and Home Finance Agency);
 - 4. Federal subsidies are extended to capital expenses, but operating expenses are

borne by the transit rider or the state and local taxpayer; and

5. Federal subsidies are extended to operating expenses.

Each of these phases was an attempt to hold the line on the decline in transit ridership. Revising funding standards to reverse the decline in ridership raises a number of questions: Has the decline in ridership reached an equilibrium (1), or is the continual need to increase the level of support a symptom of a long-term trend? Will the revision of standards continue beyond the operating subsidy phase? Do increases in federal subsidies help solve the problem or merely postpone the day of reckoning?

These disturbing questions have prompted a fear expressed by U.S. Department of Transportation staff and others that an operating subsidy will get out of hand and become a bottomless pit. Fear of the bottomless pit at the federal level is enhanced by the fact that the magnitude of transit operating deficits is affected by local operating decisions on fare and service and competitive conditions in the market for travel services. None of these is under direct control of the federal government.

Attitudes toward the deteriorating financial condition of the transit industry are generally represented by two opposing viewpoints.

- 1. Subsidies to transit are needed because the industry is inherently unprofitable. Although considerable benefits would accrue to the local community from supporting transit through local tax revenues, those benefits cannot be realized because of inadequate local tax resources. Hence, federal support is required.
- 2. The need for subsidy is not inevitable but is determined by local transit operating and fare decisions and the response of consumers to competitive market conditions determined by public policy. Instead of an open-ended commitment to continuing subsidies that fail to attack the cause of the problem, the causes of transit financial problems should be determined, and policy should be directed toward solving the problems that generate a need for subsidy. Conditions should be created whereby the need for subsidy is reduced or eliminated, either through improved service advantages for transit (the carrot approach), penalties to the use of alternative modes (the stick approach), or the use of alternatives to federal transit subsidies. This approach stresses that federal subsidies merely attack the symptoms, which will progressively deteriorate if the causes are left unchecked (2).

This paper is oriented toward the second view. Transit needs public support at some level, but fundamental economic forces threaten the viability of the federal subsidy program. The following points are advanced.

- 1. To understand the problems and potentials of transit operating subsidies, we must answer the following questions: Why is the transit industry incurring deficits? Why is the transit industry now being subsidized by the federal government? What forces determine changes in the level of federal support over time?
- 2. Although the level of federal funding for transit has increased, the funding program has not accomplished its stated objectives. The deteriorating financial condition of the industry has necessitated increased levels of federal subsidy to transit. The level of federal funding is escalating because increasing subsidies are required as economic trends cause increasing deficits. Local and state governments have succeeded in shifting a large part of the burden of supporting this industry to the federal government, which has implicitly agreed to underwrite the growing losses sustained in the effort to maintain ridership.
- 3. Transit industry deficits are affected by local policy decisions that are not under the control of the federal government.
- 4. The future problems and potential of the federal operating subsidy to transit depend on the factors that determine the future financial condition of the industry and the resulting required level of federal funding. Unless the subsidy mechanism attempts to control factors that increase the size of the industry deficit, the federal government will be underwriting a deficit at a rate that cannot be maintained because program benefits will not rise commensurate with program costs. The result will be widespread

public disaffection with federal transit subsidies.

5. To mitigate this threat to the program requires that more attention be given to enhancing the industry's financial condition by increasing the use of the fare box as a source of revenue. Improving the structure of the federal subsidy mechanism to create incentives for transit efficiency, eliminating penalties in current subsidy mechanisms for using the fare box as a source of transit revenue, and improving the quality of transit service (particularly in the off peak) should be pursued to accomplish this objective.

CHANGES IN THE LEVEL OF FEDERAL SUBSIDIES AND THE FINANCIAL CONDITION OF THE TRANSIT INDUSTRY

Since federal transit operating subsidies were initiated, observers have commented that the capital grant program has not accomplished its objectives during the last decade. Some have even argued that the program has been a failure because steady increases in the subsidy have been accompanied by continuing decline or only very modest increases in transit ridership.

Those who condemn the program on these grounds fail to realize that a given level of federal subsidy can only temporarily save the industry from long-term trends. Surely the decline in ridership would have been substantially greater if there had been no federal program. The federal subsidy is not increasing because of an overwhelming desire to extend the scope of the benefits the federal subsidy program was designed to achieve. Rather it has increased because the industry is operating in an unstable situation in which a revenue and cost squeeze has produced rapidly increasing deficits. As the economic climate has worsened, more subsidy has been required to preserve a given level of transit service and fare. Funding decisions have been made based on the industry's needs. Furthermore, some of the federal money in the past has gone to facilitate take-overs of private companies and has only substituted for private capital rather than to provide additional service.

The goal of reversing the economic trend in any substantial way through subsidies is hopeless as long as the fundamental economic forces affecting that trend are at work. As long as the ground rules for policy making do not change, the only reasonable goal of the federal transit subsidy is to enable transit to lean against the prevailing winds.

These trends should be a source of concern to proponents of ever-increasing federal subsidies because federal subsidies have been initiated under conditions that are virtually certain to create an increasingly costly program without a commensurate increase in the use of transit over time.

- 1. Levels of service, fares, and other aspects of the competitive status of transit vis-à-vis other modes are determined by policy decisions made at the local level and by long-run economic trends that make traditional transit service a less desirable travel alternative to more and more people. Local governments are hesitant to change these policy decisions or to reverse the impact of these long-run economic trends.
- 2. The federal government has agreed to assume much of the increasing requirement for financial support caused by these deteriorating conditions; the federal government has consistently countered the deteriorating financial condition of the industry with more money, and there is little reason to expect this policy to change in the near future.

Because increasing transit deficits require larger federal subsidies to accomplish the same level of service and patronage, the problems and potentials of transit operating subsidies depend on the long-run factors determining the financial condition of the industry. If these long-run trends continue to make traditional transit more costly to preserve, a crisis will be reached in which a political decision will be made that the public can no longer afford the transit industry as it is now organized. On the other hand, if these trends have run their course, this threat is lessened. Understanding why the transit industry is losing more money is therefore crucial to understanding the future of the industry.

WHY IS THE TRANSIT INDUSTRY INCURRING DEFICITS?

The factors contributing to the decline in ridership of transit are well-documented (3). Less clear is the relationship among these factors, the decline in ridership, and the resulting deficit. At one time, the transit industry made profits. Why the decline in ridership should lead to deficits is by no means clear.

The interaction of adverse trends in the demand for transit, the costs of providing service, and the willingness of local governments to accept deficits rather than increase fares and cut services is complicated and deserves much study. For example, consider the following suggestion (4):

Many transit planners begin with the assumption that public transportation can never pay for itself and will always be supported by public subsidies. That assumption can and must be rejected. In fact, if we could only attract to the MBTA the same number of people who used the old Boston EI in 1946, there would be no MBTA deficit at all.

Clearly, increased demand for transit service at present fares and costs per passenger will not solve the transit industry's financial problem. If the transit industry carried twice as many passengers, it would lose twice as much money, or maybe even more, because even more riders would vote against fare increases. The conclusion that the industry would lose twice as much is based on the assumptions that the system operates at capacity in the peak and that an increase in demand would not change the peakbase ratio. In some rail systems the deficit might be less than twice as much because of economies of scale in the rail technology, i.e., twice as much volume would not necessarily cost twice as much.

Explanations that have been offered for the transit industry's inability to cover its expenses include demand factors, cost factors, and public policy factors.

Demand Factors

The chief competitor to transit, the automobile, has been subsidized through uneconomic highway facilities for the peak-hour user and through reductions in parking charges. This subsidy has narrowed the difference in price of the two modes so that an attempt to cover transit costs by fare increases would divert so many patrons to the automobile that a break-even level of service could not be achieved. In the views of some (4),

Every highway we build in the metropolitan area competes directly with public transportation by taking riders away from transit and into their private automobiles. So not only are we spending ridiculous sums of money to build these roads, but we are at the same time progressively adding to the MBTA deficit by building them.

Although this argument has gained widespread support, the actual effects of increased highway capacity on transit finances have been inadequately studied. An alleged subsidy to automobile users that is possibly relevant to transit finance is the high-cost highway capacity built to meet the peak-hour automobile user's needs. For the purpose of illustration, we assume that such a subsidy exists.

Whether an increase in peak-hour highway capacity would harm the financial condition of transit is not obvious. An increase in highway capacity affects peak-hour service differentials between modes more than off-peak service differentials, and it is likely that the choice of mode in the off peak will not be significantly changed. If peak-hour rail transit users shift to automobile when a new highway is built, the financial picture for transit may be improved because the peak-base ratio will be lower, and the transit losses due to the high cost of capacity that serves only the peak traveler may

be avoided. Where transit and automobile share the same right-of-way, it is not clear why the automobile peak-hour line-haul time should improve relative to that of transit. (When a limited-access highway diverts automobile but not bus traffic from local streets, the effect on transit should be to reduce the peak-base ratio, which is similar to the rail transit case.) Even if automobile line-haul time did increase, the impact of the service differential should be to lessen the number of peak-hour transit users and improve transit finance. An alternative explanation is that improved traffic flow affects line-haul time of both modes equally, but travelers respond to the bigger percentage reduction of the line-haul time of the automobile. However, studies have indicated that demand for transit is much more sensitive to time spent walking, waiting, and transferring than line-haul time. Obviously this explanation of the transit financial picture needs more study.

Increases in income have provided travelers with the means to satisfy their demand for high-quality transportation. The traditional service provided by transit has little appeal to the traveler who prefers door-to-door service, privacy, convenience of scheduling, ubiquity, low travel time, image, and comfort of the private automobile. This trend in tastes and income has encouraged metropolitan residential decentralization (as have subsidies to single-family housing), which has created large markets for urban travel in which transit has suffered a cost disadvantage.

Although these trends are certainly valid explanations of why the transit market is shrinking, it hardly explains why the industry cannot simply cover its costs at a lower volume. Some of the largest operating losses are incurred in the highest density metropolitan areas; transit operations were once profitable even in the medium-density cities. Clearly there must be something more than merely declining demand for transit.

Cost Factors

One view is that the shift from transit to automobile has reduced transit productivity because more cars mean more congestion and slower bus speeds. This view is, of course, directly contrary to the view that highway construction and reduced congestion cause peak-hour transit service to deteriorate relative to that of the automobile.

More research is needed to evaluate the importance of increased congestion. Whether congestion has in fact increased is debatable. When congestion increases, does it affect transit service more adversely than the automobile mode? If so, why? Intuition would suggest that congestion has probably hurt transit operations the most where the demand is most highly peaked. However, it is doubtful that adverse changes in congestion are adequate to explain the rate of deterioration of transit finances. Certainly the biggest losses are being incurred in rail systems for which street congestion is not directly relevant to costs.

Another viewpoint is that transit capacity and costs are based on service in the peak hours, but labor costs, the largest part of total costs, must be paid for the entire workday. (Note that the decline in off-peak demand is treated as a cost factor because the problem is not the decline in demand per se, but the inflexibility of costs in the off-peak.) The great decline in off-peak demand has not allowed a proportionate cut in costs, which are primarily determined by peak-hour demand. More revenue must be generated from the peak-hour traveler. However, in most transit systems, the incremental transit rider in the peak is unwilling to cover the incremental cost of expanding capacity to satisfy his demand.

This factor has obviously been important, especially in situations where regulatory restrictions have prevented cutbacks in off-peak service when such cutbacks were feasible. Although transit deficits would be with us even if the decline in demand had been equally borne in peak and off-peak hours, this explanation does point to possible ways to ameliorate the effect of increasing deficits. These will be discussed below.

One very important factor has been inadequately considered under the rubrics of inflation, costly wage settlements, and so forth. A well-known phenomenon of economic development is the Baumol-Bowen effect, which states that in an economy with rising real wages costs of service industries (with a high percentage of labor costs and slow

increases in productivity) rise relative to the costs of other goods and services. The effect is to cause industries such as domestic service to decline over time and for doit-yourself activities to increase.

The Baumol-Bowen effect has caused the cost of transit to rise relative to that of the private automobile. The shift from transit to automobile for the work trip is an economically rational reallocation of time that is comparable to the do-it-yourself phenomenon. The effects of this trend may be seen by observing that wages paid to transit employees must rise over time consistent with higher wages in the economy generally. The driving chore is often perceived to have little cost; converting automobile drivers to transit riders would not free their travel time during the trip for a more preferred leisure or work activity. However, a transit driver employed during the peak frequently is nonproductive during the off peak because of the lack of demand for off-peak transit and work rules against split shifts and part-time labor. The cost of this nonproductive off-peak labor increases over time because of the rise in wages and the increased peaking of demand for transit.

The effects of the shift in modes may be interpreted economically in many ways. As transit users shift to automobile, they unburden themselves of the increasing costs of nonproductive off-peak transit labor (and usually save their own increasingly valuable time as well). Another way to view the problem is to define two labor markets: a peak-hour transportation labor market glutted by the potential entry of do-it-yourself automobile drivers and an off-peak daytime labor market with very high wages due to good employment opportunities in the normal business day. The automobile mode economizes on scarce labor resources by using labor in the glutted peak-hour market only, but transit requires the purchase of labor in both markets. Another interpretation is that transit has locked itself into a joint cost situation: The cost of providing peak-hour service cannot be incurred without also incurring the cost of off-peak service. The automobile driver does not suffer a comparable disadvantage.

It might be noted that the transit mode is more labor-intensive than the automobile mode in almost every respect, especially in passenger travel time and in the production of equipment. Efforts to remedy this, however, confront the problem that an automated transit industry is even more inflexible in the off peak than is the present transit industry.

If the transit industry is characterized by economies of scale, declining volume means increases in per-unit costs. This explanation is similar to that of metropolitan decentralization, which reduces the density of demand along routes.

A number of studies have shown that bus service has little economy of scale beyond the threshold where service is introduced, except for reductions in waiting time due to reduced headways when service is increased (which does not affect transit finances directly). Because many bus systems are incurring large deficits, the presence of economies of scale is probably not an important factor in explaining the increasing deficits.

Public Policy

Adherents of the public policy explanation maintain that a deficit is not inevitable but results from the unwillingness of the community to cause hardship by raising fares and cutting uneconomic service, especially if much of the costs of this decision can be passed on to the federal government. Although this explanation for the escalating deficits is probably the most persuasive, it unfortunately offers little toward resolving the present dilemma other than to suggest that the only way to avoid the next subsidy phase is to go back two phases.

Summary

This sketchy review of possible explanations for the long-run trends in transit finance points to the impossibility of reaching conclusions. Clearly a number of factors are at

work, and more research is needed to establish their relative importance. Many trends, such as urban form, that have adversely affected the transit industry may now be abating. However, it is clear that the most powerful influences are not likely to subside. The current recession and increases in automobile operating costs have not had an appreciable effect on transit finances, for example. Public policy cannot be based on the assumption that a new Golden Age of transit is imminent.

PROBLEMS AND POTENTIALS OF TRANSIT OPERATING SUBSIDIES

The long-term trends that are worsening the financial difficulties of transit suggest that expanding the federal subsidy program merely postpones the day of reckoning. After all, it was the arrival of the day of reckoning at the state and local levels that precipitated federal subsidies. No program can assume that the public will continue to pay more and more to achieve less and less. Will federal transit subsidies ultimately go the way of virtually every other federal-aid program to the cities, such as highway construction, urban renewal, public housing, and new towns (to mention a few programs that have lost their consensus of support)? Proponents of transit must recognize and shape the long-run trends that are the root causes of the problem if they want the program to survive.

The federal maintenance of effort (MOE) requirement may be viewed as one response to the problem. Under this standard, federal moneys may not merely substitute for local funds but are intended to finance additional effort. Unfortunately, MOE, whatever other merits it may have, does not address the issues raised here. In fact, as the financial condition of the transit industry crumbles, local grant recipients must also run faster to stay in place.

If the MOE concept has any impact at all on the level of local support, it will ultimately be self-defeating. Intolerable burdens imposed on the local communities are eventually passed back to the federal government through pressure for more permissive standards for the local funding ratio or for new subsidy programs.

Much more study is needed to point the way. Some possible solutions to the industry's problems can be identified now, but little hope can be offered that they will be acted on. Either they challenge vested interests protected under the present arrangements, or they require hard choices to determine priorities for the transit subsidy program.

Alternatives at the Federal Level

The first alternative is to establish national fare and service standards. The problem with this suggestion is that it nationalizes the transit industry without addressing the causes of the problem. Federal guidelines and standards for recipients may be used to shape these decisions, but it is highly unlikely that a bureaucratic approach will work, especially where Washington has a distaste for it, as in the present case.

Another alternative is to determine precisely what the federal subsidy is to accomplish and focus the money directly toward these objectives rather than subsidize all transit service. One disturbing trend in the federal grant process is that, to expand the political base of support for a program, the objectives are diffused by expanding the program's beneficiaries. It is not entirely incorrect to note that, to save the 35-cent fare to New York, transit subsidies to nonurban areas were recently authorized. The approach suggested is to identify ultimate program objectives and design a grant mechanism to achieve those objectives. Unfortunately, this approach is unworkable because it is inconsistent with the primary reason the operating subsidy was initiated—ballooning deficits. It is likely that more specificity in the grant process will come only as a fall-back position if the entire program has been severely weakened by attack.

Furthermore, this approach will inevitably generate conflicts between different constituencies supporting transit subsidies. Different program objectives imply different transit service configurations and different types of grant programs to achieve those

objectives. Defining objectives and priorities for the program will inevitably require hard choices between competing objectives that will split the consensus of subsidy proponents. No one subsidy mechanism can be expected to accomplish all competing objectives of transit financial support. As such, this solution has little chance of ever being implemented.

Another alternative is to design the federal subsidy mechanism to encourage innovation and increased productivity. Subsidies frequently dull the edge of innovation and efficiency. A desirable solution would be to condition the subsidy on improved performance or to require alternative suppliers to compete for subsidies given directly to consumers (similar to the food stamp program). Alternatively, the federal subsidy program might be designed to encourage any of the local responses discussed below.

The major problem with this solution is how little is known of the effects of alternative incentive schemes. In general, a major problem with all such schemes is that any attempt to design a nonneutral subsidy device invariably runs into undesirable consequences. Research in this area is required to determine whether a workable approach

can be found (7, 8).

Still another alternative is to structure federal subsidy programs to increase fare box potential rather than penalize the fare box as a revenue source. Tying federal aid to a sharing arrangement with local recipients, it was hoped, would induce recipients to spend the funds wisely. A neglected factor in this thinking was that the requirement for local subsidies encouraged larger deficits. These larger deficits in turn increased the pressure on local governments to secure more federal support. Federal policy should at least be neutral toward the support of transit through the fare box. The Urban Mass Transportation Act of 1964 specified that federal funds were to apply to the project costs net of operating income. Naturally no recipient could pass up a fare cut funded two-thirds by the federal government (which was the effect of this provision), and virtually no grant projects contemplated any fare box support for the project.

Similarly, the federal government should not use the grant process to encourage local governments to commit vast sums to inflexible systems that are guaranteed to produce operating deficits if forecasts are unreal. Federal capital grants sometimes became responsible for transit operations that local governments were unable to adequately support. Under the circumstances, operating subsidies became inevitable. Although capital grants were frequently justified because of inadequate local recources and competing pressures on local budgets, the actual effect was often adverse to local government finances because they were not saddled with large operating deficits. Having committed the capital, the federal government locked itself into meeting the operating expenses.

This is the coercive deficiency of budgeting.

Alternatives at the State and Local Levels

One alternative is to penalize competitors to transit through taxes and controls. This suggestion is a good example of the impossibility of evaluating a potential solution to transit's financial problems without a firm idea of urban transportation objectives. The objective of raising the cost of automobile use is to divert demand to transit. Assuming this policy is effective, there will be two effects on transit finances, a ridership effect and a fare effect. If transit ridership increases and if fare policy remains the same, the transit industry's losses will increase along with the new ridership (for reasons given above).

The fare effect will also be adverse to transit finance. As the cost of automobile operation increases, lower not higher transit fares would be justified if the objective of transit policy is to hold down fares to captive riders. Higher automobile costs imply greater transit dependency, which implies a greater justification for lower fares and higher deficits according to the captive rider rationale for low fares. Politically speaking, the larger ridership will have greater strength in blocking fare increases. For these reasons, penalties for automobile use will probably be a weak tool for reversing the financial trends in the transit industry.

Alternatively, in the productivity of transit in the off peak could be improved by (a)

combining it with a conjugate industry such as local package delivery; (b) using more part-time transit labor; and (c) changing the structure of service in the off peaks to respond to the more dispersed pattern of origins and destinations.

This solution is based on the Baumol-Bowen effect and its relation to the peaking phenomenon of transit. The labor problems that would arise would be so enormous that it would seriously be considered only if the industry faced a crisis of public support so great that subsidies were threatened.

Another alternative is to encourage more diversion of peak-hour transit demand to alternative modes such as jitneys and fee-paid car pools. Diverting trips and using part-time bus operators will eliminate the costly marginal peak-hour riders who are a financial drain on the transit system. Allowing new modes to compete with transit will allegedly improve the peak-base ratio and curtail money losing service.

As a way of attacking the peaking problem it is much more likely of implementation and success than devising methods for increasing off-peak labor productivity in transit. Two unanswered questions determine the advisability of this approach. First, would peak-base ratio be improved, or would these new modes divert more off-peak demand from transit than peak-hour demand? After all, this was the experience of competition with the automobile mode. Second, diversions from bus transit to the new modes may increase the number of vehicles on the streets whereas diversions from automobile to the new modes may tend to reduce the number of vehicles on the streets. In the peak hours, would the diversion from transit to the new modes be so great that it would swamp the diversion from automobile to the new modes, thereby causing increased street congestion and vehicle emissions? This problem has greatly concerned those who are considering incentives for car pooling. These questions currently cannot be answered and are high priority for future transportation demand research.

Finally, the competitive advantage of transit could be improved through exclusive busways and lanes, priority in traffic, and so forth. The problem with this solution is that it does not address the problem raised here. Improving transit's competitive advantage directly generally requires more outlays to support transit, and, unless fare policy changes, it will produce higher deficits.

CONCLUSIONS

This paper has made three major points: Long-run trends will continue to escalate the cost of merely preventing further transit ridership declines; unless these trends are recognized and dealt with, the federal transit subsidy will do less and less for more and more money, resulting in a substantial public disaffection with federal transit subsidies; conflicts over the subsidy objectives and lack of knowledge of how to use the federal subsidy process to correct the problem are discouraging impediments. Under the circumstances, a long-run federal operating subsidy program should concentrate immediately on understanding and controlling the transit deficit.

REFERENCES

- 1. Transit Fact Book, 1973-1974. American Transit Association, 1974.
- 2. G. W. Hilton. Federal Transit Subsidies. American Enterprise Institute for Public Policy Research, 1974.
- 3. J. R. Meyer et al. The Urban Transportation Problem. Harvard Univ. Press, 1965.
- 4. M. S. Dukakis. How Boston Could Solve Its Transit Woes. Boston Globe Magazine, Oct. 15, 1972, p. 16.
- 5. G. Burk. Transportation's Troubled Abundance. Fortune, July 1971, p. 138.
- 6. H. Mohring. Optimization and Scale Economies in Urban Bus Transportation. American Economic Review, Sept. 1972, pp. 591-604.
- 7. W. Oi. Alternate Formulas for a Federal Operating Subsidy Program for Transit. NTIS, Springfield, Va.
- 8. Feasibility of Federal Assistance for Urban Mass Transportation Operating Costs. U.S. Department of Transportation, 1971.