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ABSTRACT:

This paper describes briefly the historical events that led to the almost total shift of the ownership of urban mass transportation in the United States from the private sector to the public sector between the period prior to World War I and the end of World War II The reasons for the gradual public takeover of ailing mass transportation undertakings are explored. The paper then describes the process currently underway in the United States to turn over portions of the mass transportation system to private enterprise, the organizational and procedural aspects, and the rationale for the privatization of urban mass transportation. The primary rationale of saving money while maintaining service levels is discussed.

The paper then describes some of the outcomes desired of privatization and discusses the extent to which these are likely to be realized from the long-term and short-term effects of privatization. In particular, it examines the potential fragmentation of service within an urban area and recalls the historic perspective of the evolution of public transportation from private ownership to public ownership in the first half of this century. The paper concludes with a look to the longer term future with respect to privatization, acknowledging that privatization is likely to gain in popularity and extent of application over the next several uears The extent to which the benefits of privatization are likely to accrue over the long term are discussed and compared to the potential disbenefits The paper concludes that the basis for privatization is at least somewhat mythical and is likely to lead eventually to a return to full public ownership.

1. INTRODUCTION

Urban public transportation developed originally as a thriving private industry, providing transportation to those citizens who were unable to afford their own private transportation. For the first 50 years of the development of public transportation, the private sector was the operator and manager of services, although under the regulation, to greater or lesser extent, of the local government jurisdiction within which service was provided

Gradually, with the emergence of the internal combustion engine, the loss of investment funds for renewing capital stock following the stock market crash of 1929, and the increased burden of regulation, most private operations began to experience major financial difficulties, and government gradually took over the role of operating, managing, and owning public transportation services. During the ensuing thirty years, public transportation shifted its focus from being purely a means of travel for those without the means or ability to provide their own private transportation, and became a means to redistribute wealth and to mitigate a number of urban ills and discriminatory situations. This changing role, together with the problems of a monopoly negotiating with unions under the public eye and for a public service, has caused the costs of providing public transportation to escalate at a rate far in excess of inflation

Increasing costs of service, unwillingness to continue to increase operating subsidies for urban public transportation, the emergence of a political ideology that eschews public ownership on principal, and a growing concern over the responsiveness of large transit operators have combined to bring about pressure to privatize urban public transportation, that is, to define pieces of the service that can be operated more efficiently by private companies than by the public agencies. In general, privatization is accomplished through a bidding process in which private and public operators can bid for the operation of service. As applied in the United States, these operators are not free to set schedules or fares, and must maintain certain standards of service. It is an accepted part of privatization of urban mass transportation that subsidies must generally be paid to these new operators, because farebox revenues are insufficient to pay for the costs of service.

2. A BRIEF HISTORY OF URBAN MASS TRANSPORTATION

Urban mass transportation as we know it began in the early 1800s as a profitable undertaking for various entrepreneurs who invested initially in horse-drawn omnibuses, although the very first beginnings of mass transportation can probably be traced back to Blaise Pascal in 1662 (Jardillier, 1964). Pascal initiated service over five routes in Paris, offering fixed routes, regular schedules, a graduated fare structure based on distance, service available to anyone along the route, and sufficient vehicles to meet demand and schedule requirements. Although Louis XIV gave permission for this service, the French government forbade its use by the common people so that service ceased in 1675. Regular horse-drawn coach service began in New York in 1827 with Abraham Brower's 12-seater horse-drawn coaches (APTA, 1962) and two years later in London with George Shillibeer's 22-seater

coaches (Barker and Robblins, 1963; Joyce, 1967). The horse-car, using tracks laid in the streets, made its appearance in 1832 in New York, and appeared briefly in 1861 in London. In 1863, the first subway line opened as a steam-drawn train in cut-and-cover tunnels operating over what is now the Circle Line in London. Cable cars appeared in San Francisco in 1873, while electric streetcars first began operation in London in 1883 and in Montgomery, Alabama in 1886. The first elevated railway began service in New York in 1868, but was not a conspicuous success, mainly because of falling hot coals that tended to start fires on private property!

The first trolley line opened in New York in 1891, followed in the same year by conduit-system streetcars in Washington, D.C. These same technologies began operation in London in 1901 and 1903, while the first electric subway began operation in London in 1898. Boston opened an electric subway in 1900, and New York followed in 1904. The electric elevated railway began in Chicago in 1898, using the same technology as the London subway. The real grandfather of the electric railway, however, was Ernst Werner von Siemens' electric railway in Lichterfelde, Germany, opened in 1881, which proved that the technology would work. While ownership has changed, most of these systems are still operating in some form today.

Each of the new technologies and the expansion of public mass transportation occurred because individual businessmen and entrepreneurs saw the potential for profit in operating such systems. While there were many failures as new technologies were introduced and the machinery was found not to be able to withstand the stresses of service, or other problems arose, such as the burning of private property from hot coals on elevated railroads, individual entrepreneurs persisted and the systems developed, evolved and eventually made a permanent mark on the fabric of the city. Much of the initial development of services came about as experimentation with new forms of motive power and control. Among the many famous names associated with mass transportation are Thomas Edison, Stephen Field, Leo Daft, Charles van Depoele, Charles Harvey, and Charles Tyson Yerkes. As recently as 1910, virtually all urban mass transportation systems were still in private ownership, although some companies had grown to be very large, while others were unable to compete and went out of business.

Beginning in about 1912, some cities began forming municipally-owned transit companies, with San Francisco (1912), Seattle (1919), and Detroit (1922) being among the first municipal companies. Two factors accelerated this trend. The first of these was the depression which robbed many companies of the needed funds for modernization of their facilities in order to maintain ridership, and the second was the burgeoning use of the motor car. During most of the 1930s, transit ridership declined as a market share, giving ground gradually to the motor car, while many transit companies operated with aging fleets of vehicles that caused further losses in patronage. The Second World War, with gasoline rationing and less availability of private autos, caused a brief upsurge in ridership, but the decline resumed as

gasoline became cheaper and more available and auto production surged in the late 1940s and into the 1950s. During the pre-War period, New York City took over operation of many of the transit operations in the city, while several more large cities took over transit operations in the 1940s, including, Cleveland, Chicago, and Boston. The earliest involvement of government in public transit operations was generally in the licensing of routes and operators, although much early licensing failed to generate the order and service spread that one might have expected from such regulatory intervention. Indeed, the picture for mass transit in much of the late nineteenth and early twentieth century was of many competing routes on some streets, with competition even involving violence between both vehicle operators and passengers on rival lines, and a lack of service on other streets and neighborhoods, altogether.

Governmental takeover of operations of transit companies sought to achieve several goals:

- Preservation of transit service as an alternative to the auto, when private companies could no longer operate at a profit;
- o Introduction of some rationality to the route structures in many cities where transit was operating;
- Reduction of the cut-throat competition among operating companies, that was increasingly responsible for degradation of service;
- Provision of service that met social rather than commercial criteria, such as service to low income areas; and
- Reluctance to allow the loss of the infrastructure represented by the rights of way, vehicles, and fixed facilities of many of the private companies

In many cases, take-over did not affect all companies operating in the city: frequently, there was a mix of both publicly-owned transit vehicles and routes with private companies, although regulation of the private companies became more strict to avoid competition and to assure service coverage. In most cases, however, the private companies were absorbed, piece-by-piece into the public ownership operation. Through most of the 1950s, 1960s, and 1970s, governmental ownership of transit operations expanded so that, by the beginning of the 1980s, almost all transit operations in the United States and much of Western Europe, Australia, New Zealand, and elsewhere in the Western world was publicly owned and operated Private companies were responsible for a dwindling percentage of operations in these countries, down to less than ten percent in the 1970s.

3. THE CHANGING ROLE OF PUBLIC TRANSPORTATION

During the twenty to thirty years of public operation and management of many public transportation systems, the role of public transportation has undergone a

number of significant changes Originally, public transportation, as described in the preceding section, was developed and operated as a commercially profitable undertaking, catering to a demand for movement within the urban area, at a time when the technology did not exist for any but the wealthy to provide their own transportation at any speed above 6-10 miles per hour, and without considerable expenditure of energy and effort (e.g., a bicycle was within the reach of many, but requires considerable effort, particularly with the technology of the bicycle and the technology of road surfaces that existed in the 1800s). The advent of the internal combustion engine and the production of a vehicle cheap enough for many below the wealthiest classes to own and operate, changed the profitability of providing public transportation

Once this change in profitability began a shift from private to public operation and management of public transportation systems, these same systems began to change in nature. Some of this change in nature also grew out of the reaction to the proliferation of duplicative services that had been seen in the hey-day of the private operator. This latter situation gave rise to increasing attempts to regulate the public transportation environment, a trend that possibly accelerated the conversion from private to public operation and management. At the same time, the interpretation of government of some of its responsibility in providing subsidies to operate public transportation that could no longer be operated without subsidies from public funds, was to impose a variety of requirements and regulations concerning how the public money was to be spent.

In the United States in particular, this has manifested itself in several different forms. First, public transportation has been seen to be a way to begin to redress certain social problems within urban areas. As a result, the notion of socially desirable routes has emerged, which are routes that an operator is required to provide, irrespective of whether there is sufficient demand to justify service at all. In many cases, these services are provided in an effort to provide mobility to segments of the population that cannot afford their own private transportation, or are provided to segments of the population that are considered to be discriminated against in other ways, and where increased accessibility to jobs and markets is considered to be a mitigating procedure. Service standards have also been developed that may require the public operator to provide service at no greater than a certain maximum headway, again irrespective of whether there is demand to justify such a level of service.

Second, there have been increasing pressures on the public operator to provide service that is accessible to the elderly and disabled. While this is certainly a laudable goal of government, it is also an expensive burden. Currently, in the United States, many operators have buses with wheelchair lifts and kneeling buses. However, the technology and the situational constraints for both of these ideas have lagged significantly behind the adoption. Wheelchair lifts on buses have become notorious for malfunctioning and requiring buses to be withdrawn from service. Wheelchair lift maintenance is required at a far more frequent service interval than

any other component of most buses and adds considerably tot he expense of the maintenance operation of most bus systems. Similar problems arise with kneeling buses. It is not unusual to find that the only way that a kneeling bus can return to normal operation is to require all passengers to disembark, because the hydraulics of the system cannot lift the weight of a loaded bus. This obviously causes significant problems in service delivery, as well as adding to the costs of operation and reducing the productivity of the vehicles and operators.

Spivack (1986) points out that the requirement in the United States of the adoption of the Advanced Design Bus caused a further drop of productivity. In the U.S., most buses prior to the Advanced Design Bus had passenger capacities, depending on manufacturer and seating design, of 47 to 51 seats, with space for as many standees (more, if crush loading is accepted). In contrast, the Advanced Design Bus seats only 43 passengers, with a capacity for about the same number of standees. Thus, the productivity of each bus and operator was cut by 20 percent simply by the adoption of this standard bus design. A private (unregulated) operator would hardly have considered the adoption of such a vehicle to be a cost-effective move.

Other regulations and requirements, many, but not all of which represent responsible application of government, have also resulted in increasing demands on public transportation operators to compile statistics, monitor service, and complete various elements of paperwork, thereby increasing considerably the overheads of providing transit service (Spivack, 1986). In considering where publicly operated and managed public transportation is in the late 1980s, it is important to recognize the costs that much of the regulatory and service standards environment has imposed on the transit industry.

4. THE QUEST FOR PRIVATIZATION

In contrast to the trends of the past four or five decades, the 1980s has seen the emergence of the notion of privatization, or turning over public ownership and operation of urban public transportation to the private sector. In the U.S., this notion has largely meant selecting routes and service areas and offering the service to bidders from the private and public sector. This paper examines first the rationale that lies behind privatization and then considers the specifics of how privatization is being implemented in the United States.

4.1 The Rationale for Privatization

Privatization has emerged not as a national phenomenon, restricted to one nation or continent, but seems to have arisen as an international phenomenon, embraced by most of the nations and continents of the Western world. In part, it has arisen as a tenet of political ideology that rejects extensive government intervention in the market place and that also considers competitive markets to be likely to provide the most efficient operation of many services and industries. This author is not taking issue with this ideology, nor with the broad concept of competitive markets. The evidence is clear that, in many situations, competitive markets do indeed provide the most efficient delivery of services and products. The problem that arises in the

case of urban public transportation most markedly is the extent to which this service has been used and reshaped to provide redistribution of wealth and partial solutions to other urban/social ills. This use of public transportation is incompatible with the free-market mechanism

Second, privatization has emerged as a reaction to demands for increasingly large subsidies to operate and maintain public transportation services. The public has become appropriately alarmed at the increasing costs of providing this service and has begun to question the value of continuing subsidies. There are also some ideological objections to operating subsidies (which have been available in the United States from the federal government for a relatively short time), although capital subsidies have been accepted more readily. This, however, is simply another example of a rather pervasive problem in the United States. Federal government particularly, and state and local government to a lesser degree, has been very willing to expend significant sums on the purchase of capital equipment and the creation of extensive infrastructure, but has found it unglamorous to provide for the maintenance of these capital expenditures. Thus, the United States is facing a crisis in the maintenance of the interstate highway system, resulting from the provision of capital for construction from federal funds, without maintenance funding; the provision of amounts of interstate highways in many localities far beyond the resources of local government to maintain; and increasingly heavy loads being carried on the system by trucks, contributing to accelerated wear and breakdown of the system.

The Advanced Design Bus is a suitable example of this problem for the public transportation industry. As noted earlier, the bus has a smaller capacity than previous buses, thereby reducing the productivity of the transit operator. In addition, the bus has many new features on it, such as kneeling capabilities, wheelchair lifts, etc. that require increased maintenance and that may also result in buses being taken out of service more frequently, further reducing productivity.

Third, public transportation is operated generally as a monopoly in most urban areas of the United States, albeit a government-controlled, public-sector monopoly. As a result of this lack of competition, there has certainly been an increase in the costs of operation that is greater than might be expected in a competitive industry, and that is greater than the inflationary effects in the economy. In particular, in the United States, unions have been able to negotiate labor contracts with the public transportation industry that provide for better working conditions, rates of pay, and fringe benefits than would have been likely in a private, competitive industry. The extent to which public operators and managers can tolerate a strike by drivers or mechanics is limited, and the tendency has clearly been to accede to union demands more readily than might have occurred in private industry. This has contributed to higher costs in the transit industry.

Finally, with the emergence of large transit operations in many urban areas, there has arisen a parallel concern about the willingness of these large operators to listen

to the smallest municipalities or citizen groups within their service areas (Spivack, 1986). There is a sentiment that clearly says that smaller operators, organized at a more local level, will be more responsive to local citizen inputs than the large, regional operators that have arisen. At the same time, there is conflicting evidence (Berechman and Giuiliano, 1984; Berechman and Giuiliano, 1985) on the question of scale economies for the large transit operators.

4.2 Implementation of Privatization in the United States

To a large extent, privatization of urban public transportation in the United States is being implemented through competitive bidding for specific services and contracting out the operation of other services. In this process, certain routes or service areas are defined for potential private operation. The private operators bid to provide the service under scheduling and service standards criteria specified by local government agencies. In most cases, the private operator, whose bid is accepted, does not have the right or responsibility to define schedules, locations of bus stops, vehicle capacities, etc. Government grants are available for the purchase of vehicles that must generally meet the same criteria as those being purchased and operated by the public agency. The responsibilities of the private operator are generally to provide the vehicles and operators to operate the required service, to maintain vehicles in a safe operating condition, and to provide garaging for the vehicles. The private operator also collects fares and enters into agreements with respect to transfers between the private buses and both other private operations and the public agency.

In the bidding for service, both public and private operators can bid and there are a number of instances in which the winning bid has been by a public agency, which might or might not be the one that has previously offered the service. For example, in downtown Los Angeles, the City of Los Angeles bid for operation of a downtown circulator bus and is the current operator.

One of the original concerns that lead to the move to privatize operation of public transportation has clearly not been resolved. The private operators are eligible to receive, and most do receive, operating subsidies to cover the shortfall between farebox revenue and operating costs. Indeed, UMTA policy states clearly that consideration will be given to private operation without subsidy, but generally accepts the expectation that subsidies will be required.

At least to some extent, the opponent of privatization can argue that the private sector is being invited to come in and operate transit service without any of the headaches and administrative overheads, such as

"... route planning and scheduling,..., the setting of a unified fare structure,..., service marketing, addressing complaints, responding to service requests, responding to politicians, policing, and monitoring..." (Spivack, 1986)

required of the larger public operator. Furthermore, the private sector is given a guarantee that it will make a profit through the provision of sufficient subsidy to create the profitability of the undertaking. As Spivack (1986) goes on to point out:

"In what other industrial setting does someone pick markets that you have developed and say that you should divest yourself of these product lines so that another company can have a chance to operate for you and at your expense? And, in what other industrial setting does the private for-profit entrepreneur get an invitation that guarantees his success through public subsidy?"

What, then, is the expectation of the results of privatization? Principally, there is the expectation that it will lead to a significant lowering of costs, a greater responsiveness to local residents, and maintenance of a better quality of service without the continuing requests for fare increases or cuts in service.

5. THE OUTCOME OF PRIVATIZATION

In many respects, it is too early yet to be able to draw conclusive inferences from privatization. In most cases, privatization has had little more than two or three years of experience and clearly more time is needed to determine the extent to which the gains hoped for from privatization will really be achieved in the long run. Hensher (1987) points out that the economics of public transportation are indicative of short-run gains, but he is much more hesitant about claiming long-term gains. In this section of the paper, the basis for expecting some of the gains is examined and some indications are reported that not all of these gains may be realized, while others may disappear after a while

5.1 Cost Savings

Probably this is the single most significant motivator for privatization. If privatization does not lead to a lowering of costs of providing public transportation, it is unlikely to enjoy significant support in the future. Because of the fragmentation implicit in the privatization in the United States, considerable care is going to be required to determine if privatization really produces cost savings. As noted earlier, many of the traditional functions of the public operator are not being transferred to the private sector with the operation of service. What this will do in the long run is to increase the overhead of the public operator, as these services must be spread over a smaller and smaller operating base. Therefore, we can obviously expect to see the public operator's per kilometer, per hour, and per passenger costs increasing as more and more service is privatized. This will lead some to propose disbanding the public operator, at which point these costs must be assumed by some other entity.

Many smaller municipal operators cover such costs within other parts of their budgets, so that a true accounting is more difficult. For example, in several small

municipal operations in Los Angeles, costs of vehicle maintenance are covered under general vehicle maintenance of the municipality (such as for street-cleaning equipment, trucks, police and fire vehicles, etc.). Similarly, insurance costs, policing costs, fuel and tires, are often combined into the general accounts of the municipality. If, however, the private operator is required to assume these functions, one can expect to see dramatic increases in costs, sufficient to erode most of the savings that might have been realized previously

A major source of savings in the United States stems from the ability of private operators to use non-union labor. Union labor rates and rules are certainly a major source of the high costs of urban public transportation. Whether these costs are warranted, given the stresses of the job, the hours of work, and other aspects is not debated in this paper. However, the use of non-union labor is very clearly one reason why private operators can initially offer to provide service at a significantly lower cost. In due course, one can expect either that private operator drivers will unionize, or that they will demand an equality of rates and fringe benefits with their unionized counterparts. Once this happens, a large portion of the savings of privatization will disappear. Anecdotal evidence appears to indicate that in Houston, Texas, an initial private operation offered public transportation services at less than half of the costs of the public operator. After three years, however, costs had escalated to about 10 percent above the costs of the public operator. This may be an isolated case, but privatization generally will need to be watched carefully to see if such occurrences are more frequent.

A major difficulty in assessing the cost consequences of privatization is the absence of good cost models for transit operations (Berechman and Giuiliano, 1984 and 1985). Using somewhat different models of costs, quite different conclusions can be drawn on the likelihood of either short-term or long-term savings. At the same time, one must make an accurate cost accounting of those costs that remain with the public operator and those that are assumed by the private operator. This raises a further difficulty. Most transit operations are organized in such a way that it is usually not possible to define a route as a cost center. Vehicles are not dedicated to operation of a single route day after day throughout a year. Therefore, maintenance costs that are vehicle-specific are difficult to allocate to a specific route. In the same way, operators may work one shift on one route and another shift on a different route. If one shift also involves some overtime pay, it becomes even more difficult to attribute costs specifically to a route Finally, if the operation is designed to use extensive interlining of buses, the entire allocation problem becomes more complex. If privatization were to involve taking all of the routes operated by a single division or garage and put them up for private operation, it would be more likely that an estimate of actual costs could be made, because a garage or division is more likely to be definable as a cost center, at least for most operating and maintenance functions that occur on a daily basis. More often, in multi-division operations, routes selected for privatization will be drawn from several divisions, and there may be sufficiently little service drawn from some divisions that no savings in manpower can be achieved in a number of labor categories.

5.2 Operations

Implicitly tied into the question of cost savings are the operating consequences of privatization. Even though the debate on economies of scale is far from settled, there are some obvious areas in which a larger transit operation makes some savings that cannot be achieved when service is fragmented among a number of operators. For example, some peak period services may be operated intensively in one direction in the peak and require vehicles to deadhead to the other end of the line before being put back into service. In a large operation, there exist opportunities to assign such buses to other routes, so that a significant portion of the deadhead can be absorbed in service. This clearly represents a potential for savings. The argument also applies to the deployment of operators, who may be able to be used more efficiently when a large number of different lines are operated than only a few lines. A good example of the problem is provided by one demonstration project in Los Angeles, where the privatization of a group of bus routes will require 16 more buses to operate the service than under the pre-privatization operating conditions.

One additional element in the United States that seems very much at odds with the entire process of privatization is the 13(c) protections in labor law applied to transit operations. This protection does not permit actions of public agencies to decrease the labor force employed by the public agency, except through natural attrition and retirement. Thus, even when a private operator assumes some significant element of service, the public transit operator will necessarily continue to employ most of the workforce previously required to operate that service, until attrition erodes the number of positions that should have been saved. Depending on average turnover in a specific locality, this could be quite a lengthy period.

5.3 Responsiveness to Local Constituencies

Because most bus routes extend well beyond individual jurisdictions, there will remain the problem of responsiveness to local concerns. If a specific route, operated by one operator, passes through five different jurisdictions, there is little likelihood that a greater responsiveness will result. Indeed, it seems most likely that the exact same situation will occur that occurs with the large metropolitan operators today: responsiveness will be in direct proportion to the control of funding of the operation and will therefore likely be greatest to the largest of those jurisdictions. In most metropolitan areas in the United States, there is a core city administration that may often contain upwards of 25 percent of the population (e.g., the City of Chicago, the City of Los Angeles, etc.). In turn, the metropolitan area will contain a number of smaller cities and other local government units, often running into the hundreds in the large metropolitan areas. The complaint of unresponsiveness is most often heard from these smaller jurisdictions, whose financial contributions to the transit operation are relatively small, compared to the core city jurisdiction. The likelihood that a private operator's route will remain within one small jurisdiction and therefore be likely to be responsive to it

Fragmentation among many operators will also lead to cumbersome administration of the entire service area and require difficult-to-reach consensus in many circumstances, with consensus often overriding responsiveness to individual local concerns

In San Francisco, there has never been a single transit operator, nor even one that operates the majority of service. It is one of the few metropolitan areas in the United States that has retained a number of private operators along with some public operators. The result is 17 operators, with 17 Boards, 17 General Managers, and 17 scheduling organizations. Unified fare structures are used, but require consensus of all 17 operators to change — an extremely cumbersome process. The degree to which fragmentation of a system into a number of private and public operators will result in a greater responsiveness to local constituencies is an element of privatization that has yet to be demonstrated.

Again, there are costs associated with the fragmentation. If multiple systems, multiple boards, and requirements of consensus become the operating mode, there must inevitably be an increase in the administrative costs -- an increase almost certain to be borne by the public rather than from improved farebox revenues.

6. LOOKING TO THE FUTURE

In the past two or three years, a number of experiments in privatization have been initiated in the United States. Among the various examples of privatization of some routes or elements of service are Cambria County, Pennsylvania; the City of Dallas; Tidewater, Virginia; Chicago Transit Authority; Grand Rapids, Michigan; the Metropolitan Transit Authority of Harris County (Houston), Texas; Massachusetts Bay Transportation Authority (Boston); and the Southern California Rapid Transit District (Los Angeles). A more extensive list is to be found in APTA (1986). So far, however, little information has been made available of the cost savings achieved, and even less has been discussed about the achievement of such goals as more efficient management and administration, greater responsiveness, and improved operations. It had been hoped that a number of examples of costs incurred as compared to costs under public operation could be included in this paper, but publication of such information has not been made to date. Therefore, this concluding section must be somewhat speculative in nature.

Given the current political groundswell for privatization, there seems little doubt that public transit systems will continue to be the subject of privatization for a number of years. Given also the slowness with which cost data are being made available, it is likely to be some while before a sufficient body of cost information becomes available to make a clear comparison of the costs of public operation and those of partial private operation.

Looking back at the opening section of this paper, however, the author of this paper sees several potential trends for the future. First, continuing pressures for privatization will lead to a significant fragmentation of services in most of the major urban areas in the United States, and also in a number of smaller urban areas. In the short run, it would appear likely that cost savings will be demonstrable, particularly where the private operator can utilize non-union labor, while the public operator has a unionized operating and maintenance workforce. However, the prospect for long-term savings seems much less clear. In all likelihood, there will be an increasing unionization among the private operators that will lead to escalating costs on this side of the equation. Erosion of most of the savings may well occur in this process.

Second, it seems clear from a review of the history of public transportation that it is not, in general, a profitable commercial undertaking. Therefore, operating subsidies are likely to continue as a necessary element of the provision of public transportation. Furthermore, the social role already adopted for public transportation will also mandate the continuation of subsidies. In the long run, the private operator could take over most of the routes that can be justified on current subsidy bases, e.g., cost recovery from the farebox of 40 percent or more, while leaving the public operator with the socially-desirable routes whose farebox recovery is well below 40 percent. A future public operator in the United States may well schedule all service in the region, monitor and complete all required oversight

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Second, it seems clear from a review of the history of public transportation that it is not, in general, a profitable commercial undertaking. Therefore, operating subsidies are likely to continue as a necessary element of the provision of public transportation. Furthermore, the social role already adopted for public transportation will also mandate the continuation of subsidies. In the long run, the private operator could take over most of the routes that can be justified on current subsidy bases, e.g., cost recovery from the farebox of 40 percent or more, while leaving the public operator with the socially-desirable routes whose farebox recovery is well below 40 percent. A future public operator in the United States may well schedule all service in the region, monitor and complete all required oversight

activities, operate a small number of socially-desirable routes, and enjoy little or no farebox income to offset operating costs. Of course, this trend may cause a rethink of the role of urban public transportation as a social service delivery system. The role of mass transit may change once again under these circumstances

Third, the specter of duplication of services, facilities, vehicle fleets, etc. that originally lead to the public takeover of most private public transportation systems seems likely to arise. Apparently, we are not inclined to learn from history, but would rather have history repeat itself. We are now determined to fragment service in major urban areas among a number of different operators, using different vehicle fleets, separate labor pools, and a proliferation of maintenance and garaging facilities. In due course, this fragmentation is liable to lead to duplication of service and facilities and cumbersomeness of multiple operators of public transportation. Eventually, this seems likely to lead to frustration on the part of municipal government, until individual metropolitan areas are again forced to take over all operations within the region, or let individual operators cease service and allow public transportation to decline into a non-service, just as happened in the 1930s through 1960s.

Privatization within an industry that can turn a commercial profit seems to make considerable sense. As discussed in this paper, however, the case of an industry in which commercial profits are unlikely to arise for any but a handful of specific service operations seems to raise some much more difficult questions about privatization. If indeed it can be shown that the private operator can deliver service more efficiently and effectively than the large public operators, then a case can still be made for privatization, even with subsidy payments to the private sector. However, the lack of a profit motive for the private sector would seem to jeopardize the potential that the private operator would continue with the efficiency that might be shown at initiation of service. Privatization that also introduces competition into a marketplace that has previously functioned as a monopoly would also seem likely to be effective in overall price reduction and the creation of entrepreneurial opportunities to improve service delivery productivity. However, the means by which privatization is being implemented in urban public transportation fails to create competitiveness, except in the initial awarding of service packages Thereafter, each operator enjoys a monopoly on the routes being provided, so there is no maintenance of a competitive situation. When service is rebid for limited-life contracts, there will again be some attempt to keep costs down, but it seems likely that the extent of such price competition will become more and more limited as time goes by and private operators begin to realize the true costs of providing the services.

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