

A PROPERTY RIGHTS PERSPECTIVE ON THE EMERGENCE OF PUBLICLY OWNED TRANSIT SYSTEMS IN THE UNITED STATES

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ABSTRACT

This paper adopts a property rights approach to ask why privately owned (but regulated) transit systems in the United States came to be displaced by publicly owned enterprises during the 1960s and 1970s. After considering the economic consequences of the change in property rights regimes and the subsequent impact of public subsidies on operating performance, the paper suggests that the shift from private to public ownership was designed to facilitate transfers of wealth to certain identifiable special-interest groups (most importantly, transit system employees) that benefit from inefficiently supplied urban mass transportation.

INTRODUCTION

U.S. public policy toward public transit has come almost full circle during the past thirty years. Although subject to state or local regulation of fares and routes, urban mass transportation systems in the United States were largely in private hands prior to 1960. Transit operating expenses in those days were wholly defrayed by the revenues generated from farebox collections, and capital projects were financed through the issue of general obligation bonds. Government played a minimal part in financing the provision of public mass transit services.²

Beginning in the early 1960s, however, this situation changed dramatically: Public rather than private ownership became the norm. Between 1960 and 1969, 31 of the transit systems operating in the 117 largest U.S. cities came to be publicly owned; 15 more systems were added to the public enterprise rolls from 1970 to 1971.³ By the early 1980s, only 15 of the 159 U.S. transit systems that operated 50 or more vehicles in maximum service--and only one of the 45 largest systems (those operating 250 or more vehicles)--remained privately owned.⁴

This shift toward public ownership was accompanied by a rapid deterioration in their financial condition of urban mass transit systems. Passenger fares covered less than 42 percent of transit operating costs by 1980, compared with 99 percent in 1965 and 86 percent in 1970.⁵ By 1984, the share of transit operating costs covered by passenger fares had fallen to 37.1 percent.⁶

To help cover these revenue shortfalls, public financial assistance to public transit increased markedly. In 1970, total public operating subsidies amounted to \$318 million, none of which was contributed by the federal government. In 1980, this figure was nearly \$4.4 billion, representing a 13-fold increase (a 6-fold increase calculated in constant 1982 dollars) in just ten years. Operating subsidies from federal sources exceeded \$1.3 billion in 1980. Moreover, because passenger fares now cover less than 38 percent of the typical transit system's operating expenses, they do not contribute at all toward financing transit capital projects. Just as obviously, transit systems are denied access to private capital markets because of their chronic operating deficits.⁷ Government's role in financing transit capital has grown accordingly. Total public capital subsidies were \$200 million in 1970; they were \$3.4 billion (\$2.8 billion from federal sources) in 1980. All told, public transit systems in the United States received over \$7.8 billion in public operating and capital assistance in 1980, a 640 percent (constant-dollar) increase over the comparable figure for 1970.⁸

As a result of the increasing burden of public transit subsidies--and as growth in the federal budget deficit has caused subsidies from that sector to decline lately--private alternatives to public ownership have begun to re-emerge. Experiments with competitive tendering are on the rise. Public transit agencies have begun contracting with private operators to supply "demand responsive" and other auxiliary passenger transport services such as commuter buses and buses operating between downtown locations and airport terminals. While contemporary experience with such alternatives has been limited, the experiments conducted thus far have been sufficiently successful that private contracting is now seen as a potentially fruitful solution to the fiscal crisis in urban mass transportation.

Reform of existing institutional arrangements does not take place in a vacuum, however. In order to appraise the relative merits of competing proposals for dealing with the severe financial problems confronting virtually all public mass transportation systems across the nation, the purposes and effects of existing public transportation policies must be understood.

This paper takes a property rights perspective in analyzing public ownership of public subsidy of public transit. In particular, while previous research has documented the rapid escalation in operating costs that follows predictably from combining public ownership arrangements with publicly financed operating and capital

subsidies, no one has stepped back to ask the more basic question of why privately owned (but regulated) transit systems came to be displaced by publicly owned enterprises.

The answer offered here is that by fundamentally changing the external constraints facing the managers of public transit systems, the shift from private to public ownership facilitated a transfer of wealth to politically powerful special-interest groups that benefit from inefficiently supplied urban mass transportation. The paper thus suggest that interest-group politics plays an important role in explaining the origins of publicly owned urban mass transit systems in the United States. The attenuated property rights associated with public ownership provided greater benefits to the relevant interest groups than were available to them under more traditional forms of regulation. That is to say, by weakening the incentives of transit system managers to use the resources under their control efficiently, the shift from private to public ownership gave freer rein to the rent-seeking activities of transit system employees and, to a lesser extent, riders, thereby allowing these groups to secure larger wealth transfers in their own favor.

The paper is organized as follows. Theory and evidence on the relative performance of public and private enterprises is summarized in the next section. The part played by public operating subsidies in promoting wealth transfers to the favored constituencies of public transit is then discussed. Questions concerning how interest-group politics and property rights combined to shape public policies toward public transit are addressed in the paper's penultimate section. The paper ends with some concluding comments.

PUBLIC VERSUS PRIVATE OWNERSHIP

Public ownership of industry is a policy option not chosen frequently in the United States. The majority of the enterprises that are fully owned and operated by the U.S. public sector exist at the state and local levels of government. Examples of these public enterprises include municipal water, gas, and electric companies, garbage collection services, public housing projects, hospitals, schools--and urban mass transit systems.

Urban mass transit systems were added to the public ownership rolls quite recently. The shift from private to public ownership arrangements took place during the 1960s and 1970s as local public transit authorities bought out private suppliers, often with the assistance of grants provided for this purpose by the federal government.⁹ This change in ownership arrangements had important--and predictable--consequences for the subsequent economic performance and financial well-being of public transit systems nationwide. In what follows, the expected effects of public ownership are described in order to make a basic point, namely that because public provision of a good or service like public transit does not require public ownership of the means of producing these services, public ownership of public transit can best be understood in terms of its facility for redistributing wealth in favor of certain well-organized interest groups within the polity.

On theoretical grounds, publicly owned firms are predicted to compare unfavorably with privately owned enterprises.¹⁰ Experience is consistent with this expectation: Publicly owned firms have higher costs, are less attuned to their customers' wants, are less able to adapt to changing market conditions, in short, are less efficient than private firms. The reason for this inferior performance is that publicly owned enterprises, by definition, lack well-defined and saleable ownership rights. There is no residual claimant in place--no individual (or group of individuals) with a property right in the profits of the firm. In consequence, no one directly bears the costs of error or garners the profits of success, and no one is able to capture (through sale of the residual claim) the market value of any efficiency-enhancing improvements made. Moreover, the "owners" of public enterprises (the taxpayers) are numerous and dispersed--no one of them has sufficient wealth at stake to make it worth taking an interest in the day-to-day operations of the firm.¹¹ The managers and employees of public enterprises accordingly have a great deal of discretion that they may use to further their own private interests rather than those of the public at large.

For example, because the salaries and other pecuniary rewards of government employees are typically subject to statutory ceilings and because it will be more difficult (costlier) for the owner-taxpayers to monitor consumption of the nonpecuniary benefits of public office, the managers of publicly owned firms will have increased incentives to take advantage of job-related rewards derived from nonmonetary sources.¹² Such behavior includes allocating resources to enhance job security, and adopting policies that will ease workloads and make jobs more pleasant.¹³ Among other things, we expect the managers of public enterprises to consume more on-the-job amenities, to discriminate more in hiring so that their subordinates have more of the personal characteristics they prefer, and to work to reduce job-related frictions by appeasing vocal employees and customers. Publicly owned firms will tend to have higher production costs and will be less efficient by market standards as a result of these activities.

There is a substantial amount of empirical evidence supporting this conclusion. Publicly owned enterprises have been found to compare unfavorably on efficiency grounds in supplying a variety of goods and

services, including electricity, water, banking, air transportation, fire fighting, garbage collection, and hospital care.¹⁴ Similar findings have been reported in a recent study comparing the performances of private, "mixed" (public-private), and state-owned enterprises outside the United States.¹⁵ Publicly owned firms seem to be less efficient by market standards than comparable privately owned firms even where they face competition from rival suppliers.¹⁶ Studies reaching the opposite conclusion are in a distinct minority.

The available evidence regarding the comparative performances of public and private urban mass transit systems tells a similar story. Based on a sample of 70 transit systems that reported data in both 1960 and 1970, for example, Pashigian found that privately owned systems tended to outperform their publicly owned counterparts in terms of the percentage of workers in an urban area commuting via mass transit. Moreover, Pashigian rejected the hypothesis that publicly owned systems improved their performance relative to privately owned systems between 1960 and 1970. He concluded that "if the goal of public ownership is to increase ridership by improving service frequency and, indirectly, reducing trip cost by reducing waiting time, the goal was not realized from 1960 to 1970".¹⁷ More recently, Cox has calculated that the average hourly wage of public transit bus operators is more than 63 percent higher than the average hourly wage of private bus operators. Indeed, when fringe benefits are taken into account, the hourly compensation of public transit employees exceeds the average hourly compensation of all U.S. workers by 70 percent.¹⁸

The general cost-inflation that followed the shift from private to public ownership of public transit is fairly well documented. Indeed, the property rights perspective suggests that cost escalation was a predictable consequence of the change in the ownership of urban mass transit systems. The natural question is: Why did public ownership become the norm in the provision of public transit? Before this issue is addressed, the role of publicly financed transit operating subsidies is discussed.

THE ROLE OF PUBLIC OPERATING SUBSIDIES

There is a fairly large body of evidence suggesting that public operating subsidies have led to substantially higher operating costs for the typical public transit system. For example, using a sample of 77 transit systems in 1979 and 135 systems in 1980, and holding constant such factors as fleet size, average vehicle age, labor productivity, and type of contract management (public or private), one study found that bus operating costs were significantly higher the larger the operating subsidy received from federal, state, and local sources. Specifically, it was estimated that every federal operating subsidy dollar was associated with a 62-cent increase in per-hour operating costs. A 34-cent-per-hour operating cost increase for every additional state and local operating subsidy dollar was also reported and, furthermore, systems receiving more than half of their state and local subsidies from tax sources specifically earmarked for public transit had costs that were \$2.38 higher per hour. The study concluded that "Federal subsidies and dedicated state and local subsidies are cost-inflationary."¹⁹

One explanation for this empirical finding is that public subsidies introduce a distortion into the cost-benefit calculus facing the transit agency decision maker. This distortion causes the transit manager to rationally choose to supply any given level of public transportation services at a higher total cost than would be incurred in the absence of the subsidy.

As a first approximation to the problem, assume that vehicles and bus operators are the only inputs employed in the production of mass transit services. Various combinations of these two inputs can be employed to generate any desired level of transit system output. In the absence of any public operating subsidy, costs will be minimized at given market-determined prices by selecting the particular combination of vehicles and operators at which the marginal productivity per dollar spent on each input is the same.

Now suppose that a public subsidy program is introduced that defrays some fraction of the transit agency's operating costs, but not its capital or other indirect (overhead) costs. Such a program obviously reduces, in the eyes of the agency's decision makers, the relative price of the inputs to which the subsidy is paid. This reduction in the relative price of one input (here assumed to be labor) changes the combination of inputs that is optimal for producing any particular level of output. In response to the subsidy, the transit agency rationally expands the passenger service it supplies and produces this higher level of output with an input combination at which transit operations are more labor-intensive than before.

The operating subsidy program thus has two effects. On the one hand, it creates an incentive for the transit agency to expand service.²⁰ On the other hand, the subsidy induces the agency to alter the combination of inputs it uses to produce any given level of output, employing relatively more of the inputs to which the subsidy is paid than it would otherwise.

While an expansion of transit service is undoubtedly one of the primary goals of public transportation policy, it is important to emphasize that less costly means of reaching this same objective are available. Consider an unrestricted cash grant of equal dollar value to the operating subsidy. If the transit manager were free to

employ vehicles and operators in any combination--that is, if the subsidy was structured in such a way that it had no impact on the relative prices of the two inputs--the cost-minimizing input combination dictated by market-determined prices would be selected rather than the comparatively inefficient labor-intensive one chosen when only certain inputs are paid a subsidy. Employing the cost-efficient input combination would allow the level of service provided to be expanded even further. That is to say, with an unrestricted cash grant, additional revenue passenger miles of service would be supplied at no greater public cost by avoiding the distortion in factor proportions caused by a policy of subsidizing transit operating inputs.

It should be stressed that the increase in costs just attributed to public operating subsidies is independent of--and therefore must be added to--the general cost escalation expected that followed the shift from private to public ownership arrangements. Indeed, a policy of subsidizing the operating inputs of privately owned transit systems would have the same effect.²¹ The important point is that operating subsidies tend to shift these cost increases in favor of a subset of the inputs used in the production of urban mass transit. This distortion in factor proportions translates into more employment opportunities and higher incomes for vehicle operators, maintenance personnel, and other inputs whose varies directly with the level of transit services supplied.

INTEREST GROUPS, PUBLIC OWNERSHIP, AND PUBLIC SUBSIDIES

As described at the outset, the costs of operating public transit systems in the United States have exploded since 1970. From 1970 to 1985, public transit operating costs per vehicle mile increased at an inflation-adjusted (constant dollar) rate of 64 percent, which translates into a real growth rate of about 3.3 percent per year. The rate of growth in mass transit operating costs have exceeded the rate of increase in every component of the Consumer Price Index over the same period, including fuel and medical care costs.²² Operating cost increases have been particularly striking for motor bus and streetcar service. Between 1970 and 1980, operating costs per vehicle mile for these modes rose at a real rate of 73 percent, while the corresponding figure for rail rapid transit service was 29 percent.²³

Declining labor productivity represents one of the critical factors underlying the rapid escalation in public transit operating costs. Expressed in terms of vehicle miles per transit employee, labor productivity fell by 10 percent between 1975 and 1980 (it had fallen by 9 percent between 1970 and 1975). Over the 15-year period, 1965 to 1980, vehicle miles per employee declined from 13,800 to 11,200, a reduction of nearly 19 percent. And, measured in terms of revenue vehicle hours per full-time-equivalent employee, transit labor productivity fell by another 8 percent between 1980 and 1983.²⁴

Hence, as a result of the public transit policies pursued over the past two decades, transit system employees have been paid more to do less. Riders have also benefitted from public policies toward public transit, but to a much more modest extent. In 1970, the average public transit passenger fare per unlinked trip was 23 cents (55 cents in inflation-adjusted 1982 dollars). By 1985, the average public transit passenger fare was 48 cents (43 cents in constant dollars). Thus, in constant-dollar terms, the average public transit passenger fare in 1985 stood at about 78 percent of its 1970 level. By way of comparison, the average inflation-adjusted fare per unlinked trip on privately owned bus systems was about 81 percent of its 1970 level in 1985.²⁵

The traditional justification for building and subsidizing public transit systems arises from environmental concerns and arguments that congestion-free highways have the character of a public good. However, there is now a fairly large literature suggesting that the environmental and secondary economic benefits of public transit are nil.²⁶ Automobile commuters may have hoped that the shift from private to public ownership of urban mass transit facilities (and the subsequent expansion of public subsidies), events which occurred at a time of increasing congestion in many cities, would lure their neighbors into taking the bus. But these hoped-for benefits have never materialized: Transit ridership nationwide (excluding commuter rail) was essentially the same in 1985 as it was in 1965--about 8 billion unlinked passenger trips annually.²⁷

While a plausible argument can be made that transit ridership would have actually declined in the absence of public ownership and public subsidies, it is nevertheless true that the traditional justifications for public policies toward public transit are weakened by evidence that it is the employees of public transit systems who appear to have garnered the lion's share of the benefits of those policies. The task of explaining public ownership of public transit is further complicated by the fact that government has the option of contracting with private enterprises to supply these services, and then inducing the firms to provide the desired level of output by adopting appropriate fiscal or regulatory policies. In this way, government can maintain control over the production of urban mass transit while at the same time avoiding the well documented inefficiencies associated with public ownership arrangements.

An alternative hypothesis about the emergence of government ownership involves wealth redistribution.²⁸ There are actually two aspects to this argument. The first draws an analogy to the interest-group theory of

government and suggests that like other forms of government intervention into the private economy, public enterprises are acquired by well-organized pressure groups and are designed and operated primarily for those groups' benefit.²⁹ That is to say, when we seek to explain why a particular policy (or form of policy intervention) has been adopted, the interest-group theory "tells us to look, as precisely and carefully as we can, at who gains and who loses, and how much. . ."³⁰ Noting, for example, that publicly owned mass transit systems have conferred large benefits on the employees of those organizations and, to a lesser extent, their customers, while at the same time imposing large costs on the public at large, the conclusion can be drawn that such factors represent the motivating force behind public ownership of public transit. Rhetoric aside, "the truly intended effects [of a policy] should be deduced from the actual effects."³¹

Some limited evidence exists to support the interest-group hypothesis in the case of public transit. Pashigian, for example, found that public ownership of urban mass transit systems tended to occur earlier where users had greater voting strength. Specifically, he found that the mean proportion of all workers commuting via mass transit in 1960 was 0.28 for systems publicly owned before 1960 but only 0.16 for systems privately owned in that year.³²

This finding does not by itself explain why public ownership was chosen over alternative forms of government intervention, however. After all, privately owned transit systems were generally subject to public regulation of fares and routes prior to 1960. The second aspect of the wealth redistribution hypothesis must therefore be that public ownership of mass transit systems provided benefits to the relevant interest groups that were not available under more traditional forms of regulation. In other words, employees and riders expected to gain more in terms of higher average wage rates and lower average fares under public ownership of public transit systems than under regulated private ownership arrangements. Even when subject to regulation of fares and routes, with well-defined property rights in place, the owners of private enterprises have an incentive to see that the managers and employees of the firm use resources efficiently. Among other things, efficient resource use implies holding employee compensation rates to a level that maximizes profits, subject to any price and output constraints imposed by the public regulators.

By contrast, the managers and employees of public enterprises have weaker incentives to use the firm's resources efficiently because the absence of alienable ownership rights weakens "owners'" incentives to monitor resource use. In addition, maximum profit is not a goal of public enterprise because profit is typically not a basis for judging the performance of public organizations. Instead, public enterprises are normally evaluated on the basis of other, more "visible" criteria.³³ In the case of public transit systems, ridership statistics are often a key performance measure. To the extent that increasing ridership thereby becomes a fundamental organizational goal, transit agency decision makers have a clear incentive to adopt low-fare policies in order to achieve that objective. Such incentives are magnified in the presence of well-organized coalitions of riders, who also benefit from low fares, and weak opposition from the (non-riding) taxpayers who are harmed by non-profit-maximizing pricing policies.³⁴ The absence of a profit motive also means that the managers of publicly owned transit systems will be more likely to succumb to the wage demands of organized employee coalitions than the managers of private transit enterprises. The cost of doing so is lower because the increase in operating expenses resulting from wage hikes not justified by productivity increases is simply absorbed by the public treasury rather than borne by a cohesive group of private owners having a direct financial stake in the profits of the firm.

This is not to say that self-interest-seeking behavior on the part of these groups who benefit from inefficiently supplied public transit services is entirely unconstrained. The managers of public enterprises are subject to the discipline of the managerial labor market.³⁵ "Better" managers of publicly owned firms will in the long run be promoted more rapidly, have more employment opportunities, and command higher salaries. Such margins of external control limit managers use of the discretion available to them to direct the resources of the firm in ways that consistently work against the interests of the public at large. The point is not that the managers and employees of public organizations have no incentives to use resources efficiently, but rather that these incentives are weaker than they would be with private ownership.

In sum, the behavior of public enterprises differs systematically and predictably from that of private enterprises as a result of fundamental differences in ownership rights. As the evidence summarized above indicates, the identifiable interest groups who benefit from urban mass transit--the riders and transit system employees--appear to benefit more in terms of lower average fares and higher average wages under public ownership arrangements than they would with public regulation of privately owned transit firms, and the underlying motive behind the shift from private to public ownership can be therefore thought of in terms of these effects, which served to redistribute wealth from the owners of private transit systems (and the non-riding taxpayers) to the employees and customers of these public enterprises. The prospect of receiving these additional benefits provided an incentive for transit riders and employees to seek public policies designed to replace

privately owned transit systems with public enterprises, and pressure from these groups may have played a role in the public ownership initiatives of the late 1960s and early 1970s. The transit policy initiatives of that era were certainly consistent with the long-term self-interests of riders and employees, though perhaps more so with those of the latter.

CONCLUDING REMARKS

All of the ills now plaguing urban mass transportation were predictable given the public transit policies pursued over the past three decades. Public ownership of public transit led to cost inflation, which led to public subsidies, which led to further cost increases. This paper has argued that public ownership of public transit became the norm precisely because these outcomes were desired politically. Public ownership weakens the incentives of owner-taxpayers to become informed about and to monitor the transit agency performance. Because less monitoring by local taxpayers loosens the constraints facing transit agency decision makers, reducing their incentives to operate efficiently, interest groups having a stake in inefficiently supplied public transit services have greater influence on transit system policymaking. In particular, riders are more likely to influence the adoption of policies that keep fares low and, hence, shift a greater share of the burden of financing transit operations to nonriders. Similarly, transit system employees are more likely to obtain wage increases and more liberal work rules that increase their own wealth at the expense of the general public.

Thus, if it is proper to deduce the truly intended effects of a policy from the actual effects, the standard justifications for current transit policy lose their credibility. Private interests and not the public interest drive public policy toward urban mass transit as they do in most other areas where government intervenes in the private economy.

NOTES

1. Department of Economics and Finance, University of Mississippi, University, MS 38677. Helpful comments were provided by Wendell Cox, Jean Love, other participants at the Second International Conference on Privatization and Deregulation in Passenger Transportation, and an anonymous referee. Any remaining errors are the author's responsibility.
2. C.K. Orski, "New Solutions to Old Problems in Public Transit." In J.C. Weicher, ed., *Private Innovations in Public Transit*. American Enterprise Institute, Washington, D.C., 1988, 3-7.
3. B.P. Pashigian, "Consequences and Causes of Public Ownership of Urban Transit Systems." *Journal of Political Economy* 84, 1239-1259 (1976).
4. U.S. Department of Transportation, Urban Mass Transportation Administration, National Urban Mass Transportation Statistics: 1984 Section 15 Annual Report. Urban Mass Transportation Administration, Washington, D.C., 1986.
5. J. Pucher, A. Markstedt, and I. Hirschman, "Impacts of Subsidies on the Costs of Urban Public Transport." *Journal of Transport Economics and Policy* 17, 155-76 (1983).
6. U.S. Department of Transportation, Urban Mass Transportation Administration, 1984 Section 15 Annual Report.
7. An exception is the New York Metropolitan Transit Authority (MTA), which has financed capital projects by issuing bonds secured by farebox receipts. MTA's ability to issue debt is based on the premise that public transit service in New York City is so vital that fares can be raised to extremely high levels if necessary to meet debt service requirements. See J.A. Parker, "Private Financing of Mass Transit." In Weicher, ed., *Private Innovations in Public Transit*, 29-37.
8. Pucher, Markstedt, and Hirschman, "Impacts of Subsidies."
9. U.S. Department of Transportation, Urban Mass Transportation Administration, *The Status of the Nation's Local Mass Transportation: Performance and Conditions*. Urban Mass Transportation Administration, Washington, D.C., 1988.
10. See, for example, A.A. Alchian and H. Demsetz, "Production, Information Costs, and Economic Organization." *American Economic Review* 62, 777-795 (1972); and L. De Alessi, "On the Nature and Consequences of Public and Private Enterprises." *Minnesota Law Review* 67, 191-209 (1982).
11. M. Olson, *The Logic of Collective Action: Public Goods and the Theory of Groups*. Harvard University Press, Cambridge, Mass., 1971.
12. A.A. Alchian and R.A. Kessel, "Competition, Monopoly and the Pursuit of Pecuniary Gain." In *Aspects of Labor Economics*. Universities-National Bureau of Economic Research Conference Series No. 14. Arno Press, New York, 1962, 157-175.

13. De Alessi, "Nature and Consequences of Public and Private Enterprises." Also see W.A. Niskanen, *Bureaucracy and Representative Government*. Aldine, Chicago, 1971.
14. The relevant literature is summarized in W.F. Shughart II, *The Organization of Industry*. Richard D. Irwin, Homewood, Ill., 1990, 183-187.
15. A.E. Boardman and A.R. Vining, "The Behavior of Mixed Enterprises." In R.O. Zerbe, Jr. and V.P. Goldberg, ed. *Research in Law and Economics*, vol. 14. Greenwich, Conn., JAI Press, 1991, 223-250; and A.E. Boardman and A.R. Vining, "Ownership and Performance in Competitive Environments: A Comparison of the Performance of Private, Mixed, and State-Owned Enterprises." *Journal of Law and Economics* 32, 1-33 (1989).
16. A.R. Vining and A.E. Boardman, "Ownership versus Competition: Efficiency in Public Enterprise." *Public Choice* 73, 205-239 (1992).
17. Pashigian, "Consequences and Causes of Public Ownership of Urban Transit Systems."
18. W. Cox, "Achieving the Policy Goals of Public Transit Through Competitive Contracting." Unpublished paper presented to the UMTA Transit Policy Boards Workshop, June 9, 1988.
19. Pucher, Markstedt, and Hirschman, "Impacts of Subsidies." Additional evidence on the cost-inflationary effects of public operating subsidies is contained in W.F. Shughart II and M.S. Kimenyi, "A Public Choice Analysis of Public Transit Operating Subsidies." In R.O. Zerbe, Jr. and V.P. Goldberg, ed., *Research in Law and Economics*, vol. 14. JAI Press, Greenwich, Conn., 1991, 251-276; W.F. Shughart II and M.S. Kimenyi, *Public Choice, Public Subsidies, and Public Transit*. Urban Mass Transportation Administration, Report No. UMTA-MS-06-0005, Washington, D.C., 1991; and K. Obeng, W.K. Talley, and C. Colburn, "The Effects of Subsidies on Public Transit Long-Run Costs." Unpublished ms., North Carolina A&T State University (1991).
20. Evidence that public operating subsidies lead to expansions in transit service--and that service expansion is an important reason for the cost-escalation associated with subsidies--is reported in Obeng, Talley, and Colburn, "Effects of Subsidies on Public Transit Long-Run Costs."
21. H. Averch and L.L. Johnson, "Behavior of the Firm under Regulatory Constraint." *American Economic Review* 52, 1052-1069 (1962).
22. Cox, "Achieving the Policy Goals of Public Transit Through Competitive Contracting."
23. Pucher, Markstedt, and Hirschman, "Impacts of Subsidies."
24. U.S. Department of Transportation, Urban Mass Transportation Administration, *Status of the Nation's Local Mass Transportation*, 104.
25. Calculated from information supplied to the author by Wendell Cox in a private communication.
26. A. Altschuler, J.P. Womack, and J. Pucher, *The Urban Transportation System: Politics and Policy Innovation*. MIT Press, Cambridge, Mass., 1981; J. Meter and J. Gomez-Ibanez, *Autos, Transit, and Cities*. Harvard University Press, Cambridge, Mass., 1981; A. Hammer, *The Selling of Rapid Rail Transit*. D.C. Heath, Lexington, Mass., 1976; G.W. Hilton, *Federal Transit Subsidies*. American Enterprise Institute, Washington, D.C., 1974; and M. Webber, "The BART Experience: What Have We Learned?" *The Public Interest* 45, 79-108 (1976).
27. Although national ridership totals have remained stable, transit ridership has increased in areas with populations over 500,000 and decreased in areas with populations between 100,000 and 500,000 (see U.S. Department of Transportation, Urban Mass Transportation Administration, *Status of the Nation's Local Mass Transportation*, 34-36).
28. De Alessi, "Nature and Consequences of Public and Private Enterprises."
29. G.J. Stigler, "The Theory of Economic Regulation." *Bell Journal of Economics* 2, 3-21 (1971). Also see S. Peltzman, "Toward a More General Theory of Regulation." *Journal of Law and Economics* 19, 211-240 (1976).
30. G.J. Stigler, "Supplementary Note on Economic Theories of Regulation." In G.J. Stigler, *The Citizen and the State: Essays on Regulation*. University of Chicago Press, Chicago, 1975, 137-141.
31. *Ibid.*, p. 140. Emphasis in original.
32. Pashigian, "Consequences and Causes of Public Ownership of Urban Transit Systems."
33. C.M. Lindsay, "A Theory of Government Enterprise." *Journal of Political Economy* 84, 1061-1077 (1976).
34. The losers also include the owners, employees, and patrons of competing transport modes--taxis, jitneys, and so on. See G.S. Tolley, "What If Transit Markets Were Freed?" In Weicher, ed., *Private Innovations in Public Transit*, 89-97, who also notes that property owners receive indirect benefits from operating subsidies in the form of higher land values. In addition, one could add suppliers of capital (bus manufacturers, for example) and suppliers of goods and services complementary to bus operations (diesel fuel, repair parts, and

so on) to the list of beneficiaries.

35. E.F. Fama, "Agency Problems and the Theory of the Firm." *Journal of Political Economy* 88, 288-307 (1980).