Transit Agency Use of Private-Sector Strategies for Commuter Transportation

ROGER F. TEAL, GENEVIEVE GIULIANO, AND MARY E. BRENNER

Demand for public transit services in most urban areas is concentrated in the peak period. However, peak-period service is significantly more expensive to the transit agency than its other services and usually produces larger deficits. Faced with pressures to maintain or increase commuter services, yet also control rapidly escalating deficits, transit agencies are in need of strategies that improve the cost-effectiveness of commuter transportation. Several innovative service strategies, which make use of the private sector (service contracting, service turnovers, vanpooling), have considerable potential to achieve this objective and are alternatives to traditional transit agency approaches to problem solving. Transit agency use of innovative private-sector strategies is examined based on a study of eight transit agencies in eight diverse metropolitan areas, all with some significant private-sector activity in commuter transportation. The reasons these agencies have or have not adopted these strategies are identified, and the major barriers to their more widespread use are specified. The initial incentive to consider nontraditional approaches comes from fiscal and service pressures that require some change in the status quo, but whether private-sector strategies are actually used depend largely on four factors: (a) management interest in nontraditional approaches, (b) analyses that demonstrate the utility of innovative approaches, (c) discretionary rather than dedicated local subsidies, and (d) the ability of local government officials to influence the transit agency's service and budget decisions. The main barriers to innovation are traditional management orientation, labor constraints posed by federal legislation or local union contracts, and subsidy and decision-making arrangements that give the agency no strong incentive to improve the cost-effectiveness of its different types of services.

The provision of peak-period transportation services has historically been a major focus of U.S. urban transit operators. Over the past two decades, as the transit market share has declined, the peak-period orientation of urban transit has increased. Choice riders have all but abandoned transit for off-peak travel and, consequently, peak service has become the most important source of ridership for most urban transit systems.

In addition to the relatively high use of peak-period transit services, changing conditions in many urban areas throughout the country (particularly the West and South) have generated more demand for all collective forms of commuter services. The inability of street and highway capacity to keep pace with increasing traffic has resulted in rising levels of congestion on major commuter routes, particularly in areas of rapid growth. Rapidly increasing energy costs (which affect the purchase price of automobiles as well as gasoline prices) have made the private automobile an increasingly expensive means of commuting to work. Moreover, the growth of employment in many central city areas has created parking shortages as well as local congestion problems. Because of these conditions, public demand for additional commuter services is being expressed to many public institutions, particularly public transit agencies.

Unfortunately, peak-period transportation poses as much of a problem for public transit providers as it does for commuters. Although the peak period is the key source of transit ridership, it is also the greatest source of transit deficits. Thus, as the peak orientation of public transit has increased, so has the need for subsidies. The nature of the peak problem has been described elsewhere (1,2), and thus is only briefly reviewed here.

Basically, the peak-period problem results from two factors. First, the size of the transit organization is determined by maximum service requirements. As the peak-to-base ratio increases, a relatively higher percentage of labor and vehicle stock is underused for most of the service day. Although administrative staff, maintenance and garage facilities, vehicles, and drivers are determined by the volume of peak service provided, the revenue-generating potential of these inputs exists for only a few hours per day. Thus the peak orientation leads to a low level of productivity in public transit service.

The second problem is that existing transit union work rules add to the expense of providing peak service through spread time limitations, overtime provisions, and minimum pay time requirements. These work rules result in drivers being paid for many more hours than actually worked in peak service. Thus the labor cost per unit of service is higher in the peak than in the off-peak period.

These two factors are further complicated by the more general cost and efficiency problems of the urban transit industry. The monopolistic structure of transit providers and the lack of efficiency incentives generated by formula-based subsidy mechanisms have allowed a rapid escalation in transit service costs. At the same time, fare revenues have not kept pace with these costs. Consequently, transit deficits have reached a critical magnitude. Available subsidies are no longer sufficient to cover the deficit for many transit operators; as federal operating subsidies are reduced, this problem will become both more serious and widespread.

The transit industry is faced with a difficult challenge because of the conflicting pressures of supply and demand. On the one hand, peak-period transit in its current form is inefficient and too costly. On the other hand, the demand for peak services is increasing, particularly in high-growth areas. If this demand is to be met in a cost-effective fashion, alternatives to traditional peak transit services must be developed.

The primary focus of this paper is on innovative peak-period service delivery strategies that use the private sector in some way. These innovative alternatives are examined in terms of the conditions necessary for their success, the motivations for promoting them, and the obstacles that may prevent their implementation.

Research results presented here are based on case studies of eight public transit agencies located in eight metropolitan areas around the country. The research took place in spring and summer 1982 as part of an UMTA-sponsored project on the evaluation of private-sector-provided services. The eight areas were selected on the basis of the extent and variety of private-sector activity in commuter service.

STRATEGIES FOR REDUCING THE PEAK SERVICE PROBLEM FOR TRANSIT PROVIDERS

There are several alternative strategies available to transit providers that can reduce the peak service problem. Of primary interest are service contracts with private bus companies, turnovers of commuter service on an unsubsidized basis, transit agency actions that facilitate the provision of unsubsidized private commuter bus services, and

transit agency vanpooling programs. Each of these strategies requires the transit agency to adopt a nontraditional approach to peak-period service organization and provision, and some entail substantial institutional changes in the service delivery system. Transit agencies also can respond to the peak-period problem by using more traditional strategies that, although typically easier to implement, also have less potential to provide a viable long-term solution to the problem, because they cannot simultaneously improve service and increase cost-effectiveness.

Traditional Strategies

Traditional solutions consist of strategies that reduce the deficit of peak services but do not change the institutional structure of service provision. This means that the public transit provider remains the sole provider of peak services within its service area and reduces the deficit either by decreasing service costs or increasing fare revenues.

One method of achieving reductions in service costs is through more efficient use of labor in the peak period; e.g., by using a higher proportion of part-time drivers or by negotiating work rule changes. The potential cost savings of work rule changes and the use of part-time labor are sensitive to the peak-to-base ratio and length of time between the morning and evening peak periods (3). On average, such strategies can reduce labor cost up to 8 percent, provided that changes in work rules are not compensated with higher wage rates.

A less-traditional strategy is that of load shedding, or simply reducing the volume of peak service. Resulting cost savings can be significant, particularly if the most costly peak services--those runs for which drivers are paid the largest spread time or overtime penalties--are eliminated. Because of the public support of peak services, however, such service cutbacks are frequently a political impossibility.

Another relatively novel strategy, ableit still within the traditional framework, is to target fare increases at peak-period users. Such fare increases are appropriate for equity as well as efficiency reasons, because recent studies indicate that long-distance peak users are subsidized by short distance central city off-peak users (4). However this approach fails to address the problem of escalating service costs. Relying on fare increases over the long term would require repeated fare hikes in order to keep pace with rising service costs. Moreover, the range of fares over which demand is inelastic is unknown. Large fare increases could lead to revenue losses if demand becomes elastic at higher fare levels.

Innovative Strategies

The use of part-time drivers, peak-period service reductions, and selective fare increases all hold some potential for alleviating the peak-period problem. However, they do not attack the root cause of the problem, namely, that most transit agencies have excessively high cost structures for peak service, which even the use of part-time drivers will not completely overcome. In the current economic climate, it is difficult to expand commuter services even when demand is present.

Contracting with Private Providers

Perhaps the most radical innovative strategy is for the transit agency to contract with a private provider for fixed-route or subscription bus service. The motivation for doing so is to take advantage of the lower costs of privately provided service. The practice of contracting is well established in the public transit field. Demand-responsive services are provided by private contractors in many areas of the country, and many transit agencies have maintenance or management contracts with the private sector as well. Private operators have lower labor costs than public operators: wage rates are lower and work rule restrictions such as spread time penalties are minimal. Moreover, private operators are frequently able to interline commuter service with their charter business, thereby using labor and vehicles throughout the day and reducing the unit cost of service. A study done in southern California indicated that current subsidies for 22 peak-period-only bus routes could be reduced by 90 percent by contracting the services to private bus companies (5).

The most problematic issue associated with private contracting is that of labor protection. Any attempt to turn existing transit agency service over to a private contractor will involve Section 13(c) of the Urban Mass Transportation Act of 1964, as amended, if federal subsidies are involved. If a transit agency contracts a route to a private provider, it would not be able to eliminate employees as a direct result of this change because Section 13(c) protects public transit workers from such eventualities unless they receive compensation.

A much less problematic strategy is to use private providers for subsidized service expansions, although fiscal constraints severely limit service increases for most transit operators. In this case, Section 13(c) labor-protection provisions do not apply because service increases would not adversely affect existing transit employees. However, some transit union contracts have limitations on the amount of contracting permitted.

Turning Service Over to Private Providers

A second strategy transit agencies can use for involving private bus companies in commuter transportation is to turn over some commuter routes to the private sector that would be operated without subsidy. In a number of metropolitan areas private bus operators are still active in the commuter field, which suggests that there is an interest in providing this type of service. However, despite the lower costs of private operators, there often would be a need for fare increases to ensure profitability, and the fare elasticities of commuters are uncertain. Only certain routes would be suitable for this strategy, most likely the long-distance express routes that already have a relatively stable revenue return. The Section 13(c) issue would be less relevant for this strategy because no subsidies are involved, but some union contracts have clauses mandating that the size of the bargaining unit cannot be decreased. In this case, the strategy becomes somewhat less attractive, as labor inputs removed from peak-period operations must be deployed during the off peak, thereby reducing the subsidy savings.

Facilitating Private-Sector Services

The transit agency can also strengthen the private sector so that it is then capable of meeting demands for peak service expansion or demands for new kinds of services. For example, the transit agency can act as a broker and pass along requests for work-site service to a private bus company that is willing to provide subscription service. The emphasis

is on meeting the needs of particular market segments rather than maintaining transit agency control.

A major impediment to private-sector expansion is a lack of equipment. Low profit margins make equipment purchasing a risky proposition when entering a new market. The transit agency can alleviate this problem by leasing new or extra equipment to private companies. Leasing can also help support existing services because private operators often lack the capital to update deteriorating bus fleets.

The transit agency can also support private-sector activities within the context of their own programs. Private services can be actively marketed in conjunction with public services. Park-and-ride lots can be built for or opened up to passengers on privately operated express routes.

Although none of these actions has direct cost savings, they increase the peak services available. They are also supportive of some of the other strategies that require a strong private-sector bus industry.

Ridesharing Services

Another strategy that transit agencies can use to increase the total supply of commuter services is to support or sponsor a ridesharing program. This can involve providing a matching service for prospective carpools and vanpools, organizing vanpools through third-party providers, or providing vehicles for vanpools and administering a vanpool program. One significant incentive for providing ridesharing programs is that they can be largely financed from non-transit funding sources. The transit agency thus has the opportunity to expand services without taking subsidy support away from existing services.

Vanpooling is a more cost-effective form of commuter transportation than regular transit service. A vanpool is not initiated until the persons required to fill the van (between 10 and 15) have been brought together. Because vanpool fares are usually set so that all costs (except administrative overhead) are covered, the subsidies involved in vanpooling are small. Vanpooling also provides a means for targeting service to specific markets, and because the only large capital investment (the van) is easily transferred, vanpools can be dissolved or reorganized as members change jobs or move.

Sponsoring a vanpool program can make it possible for transit agencies to provide commuter service in suburban areas where residences and employment centers are spatially dispersed and at the same time avoid the large operating deficits that regular fixed-route service would generate. Vanpooling programs can also provide a means for increasing the overall cost-effectiveness of the transit agency if high deficit express bus services are replaced by vanpools. Again, as with private-provider contracting, transit service replacements may generate Section 13(c) problems if federal subsidies are involved.

Although vanpooling and other ridesharing support services have distinct economic advantages, they can present problems for the transit agency. There is a potential conflict with regular transit service if vanpools are used instead of transit services. As a result, some transit agencies avoid providing ridesharing services to commuters who can be served by transit. In this way service competition is avoided. However, under such conditions, the effectiveness of the ridesharing program may be adversely affected. This also raises the question of whether an institution with a vested interest in one form of commuter service can effectively market other services.

TRANSIT AGENCIES AND THEIR ENVIRONMENT

Environmental Influences on Peak-Period Strategies

The transit agencies' perceptions of the peak-period problem and their response to it must be analyzed in the context of their operating environment. Four environmental factors may be important.

First, the potential demand for peak-period public transportation services is affected by the overall transportation environment. Highway congestion, land use patterns prevailing in the region, and current use of public transit are indicators of whether transit is now, or is likely to be in the future, a central element in commuter transportation.

Second, the characteristics of the transit agency itself affect its response to peak-period problems. These include the peak/base ratio, size of the agency, length of time in the public sector, and extent of institutional autonomy.

A third important factor is the economic environment within which the agency operates. Transit agencies differ widely in their source of funds, the amount of deficits, the availability of funding, and the degree to which they are accountable to funding sources.

Finally, the private-sector service environment determines the potential nontraditional options available to the transit agency. The extent of private bus operations and vanpooling programs, the number of park-and-ride lots available for commuter services, and the involvement of private employers in organizing ridesharing and transit services all influence the ability of the transit agency to be innovative in commuter transportation.

The data in Table 1 and the following section summarize these four factors for the eight transit agencies in the study.

Transportation Environments

The eight transit agencies are located in eight urban areas with distinctive transportation environments. The three largest regions--Los Angeles, Boston, and Houston--all have congestion problems, particularly in the core areas. In the San Francisco Bay area, Golden Gate Transit faces the bottleneck of the Golden Gate Bridge, whereas Santa Clara's congestion problems result from insufficient capacity to serve the rapidly expanding northern industrial areas. In contrast, Pentran and Tidewater Transit serve adjacent areas in Newport News and Norfolk, Virginia, which have few traffic problems. In the Hartford area, only the CBD is a source of congestion.

The relative importance of transit in providing commuter services is indicated by modal split. Golden Gate, MBTA, and ConnDOT all carry a sizable share of work trips in their areas. The remaining transit agencies carry a much smaller share, ranging between 3 and 7 percent.

The peak/base ratio measures the extent of peak service orientation by the agency. Both Golden Gate and Pentran have a strong peak orientation. The other agencies have more moderate peak/base ratios, but only Santa Clara and Tidewater have a ratio less than 2.0.

In terms of organizational growth and longevity, these transit agencies are quite diverse. MBTA is by far the oldest operation, and it has not undergone any significant expansion for several years. SCRTD is a relatively stable system and has been in operation for about 25 years. Boston and Los Angeles both have recently faced fiscal crises as available subsidies were no longer sufficient to cover rapidly increasing deficits. In Boston, the

Table 1. Transit agency characteristics.

Item	Connecticut Department of Transportation (ConnDOT)	Peninsula Transportation District (Pentran)	Tidewater Transportation District	Golden Gate Bridge, Highway, and Transportation District	Massachusetts Bay Transportation Authority (MBTA)	Metropolitan Transit Authority (MTA)	Southern California Rapid Transit District (SCRTD)	Santa Clara County Transportation Agency
Urban environment								
Major city	Hartford	Newport News	Norfolk	Northern San Francisco Bay area	Boston	Houston	Los Angeles	San Jose
Population (000,000s)	0.73	0.27	0.80	0.61	2.8	2.5	7.2	1.3
Congestion	Low	Low	Low	High	High	High	High	High
Geographic bottlenecks	No	No	Yes	Yes	Yes	No	No	No
Modal split for work trips (%)								
Transit	31[a]	5.2	5	28[b]	19	3	7	3
Rideshare	21[a]	94.8	95+	34[b]	20	97	17	22
Automobile alone	48[a]			38[b]	61		76	75
Transit agency characteristics								
Date public subsidy began	1972	Mid-1970s	Mid-1970s	1973	1918	1979[c]	1958	1972
No. of buses	234	100	175	230	1,137	400	2,821	346
No. of passengers per year (000,000s)	18.1	NA	14.2	10.1	118.3[d]	39.0	257.0	35
Peak/base ratio	2.4	4.5	2.0	5.3	2.38	2.45	2.0	1.5
Express as percentage of total service	13 percent of passengers	12 percent of miles	5 percent of miles	40 percent of passengers	8 percent of routes	20 percent of passengers	25 percent of miles	14 percent of miles
Economic environment								
Source of revenue (%)								
Fares	46	35	45	50	22[e]	18	39[f]	9
Local	0	30	21	28	28[e]	51	0[f]	55
State	27	3	5	16	41[e]	8	45[f]	30
Federal	27	32	29	5	9[e]	23	16[f]	6
Local funding arrangement	State general funds	General funds	General funds	General and dedicated bridge tolls	Dedicated property tax	Dedicated sales tax as of 7/82	Dedicated sales tax	Dedicated sales tax
Private-sector peak service environment								
Private bus companies								
No. of subsidized operations	6 routes	0	0	27 club buses	0	13 routes	1 route	0
No. of unsubsidized operations	1 route	54 buses	90-100 buses	0	200 buses	0	100 buses	0
Vanpools in metropolitan area	274	200	400	218	225	1,983	733	27

Note: NA = not available.

[a]Central business district (CBD) only. [b]Golden Gate Bridge. [c]Regional. [d]Bus only. [e]All modes. [f]Before sales tax approved.

crisis resulted in fare increases and service cutbacks. In Los Angeles, planned fare and service changes were avoided when a local sales tax was validated by the courts and provided greatly increased subsidy resources.

The remaining agencies are relatively young, and all are characterized by service changes of one sort or another. Those systems that have experienced financial problems (Hartford, Norfolk, Newport News, and Golden Gate) have either stopped expanding or have turned to more cost-effective services. Houston and Santa Clara both receive plentiful local sales tax monies and continue to expand transit services.

These eight transit agencies represent a diversity of funding arrangements and a wide range of economic environments. In Boston, the towns and cities in the transit district provide a major portion of the subsidy money (30 percent), but their share is legislated by the state and entails no direct control over service provision. In Los Angeles, transit funding is channeled through the Los Angeles County Transportation Commission. Although the Commission has little discretionary power over state funding, it has influence on the sales tax subsidies. State transit assistance is Golden Gate's major subsidy source. These funds are channeled through a planning organization, but the transit agency is primarily responsible to its own board of directors. As a state agency, the Hartford division of ConnDOT is accountable to the state legislature for all aspects of its operations. Although this control is not regularly exercised, some funding carries mandated service requirements. Newport News and Norfolk receive a substantial portion of their funding from the towns and cities in their districts, but the contribution is not mandated by law. As a result, the transit agencies are directly accountable to the local entities that receive the service, and thus there is strong local pressure to be efficient and keep costs down.

Although local funding is also a major subsidy source for Santa Clara and Houston (and now Los Angeles), in these cases the funding comes from a dedicated sales tax with few restrictions and little accountability to other government agencies. The large local contributions do create an implicit emphasis on keeping fares low, as reflected in the amount of revenue that comes from fares--10 percent in Santa Clara and less than 20 percent in Houston. Across-the-board fare reductions were required by the sales tax measure in Los Angeles. In addition, all three systems are planning major capital expansion programs.

Innovative Agencies and the Peak Period

The first step toward accepting the innovative approach to problem solving is the recognition that the peak period is a major source of deficits. Having acknowledged this, the agency may then undertake the task of developing innovative alternatives, including tailoring service to particular markets, ending the transit agency monopoly over service provision within its district, and coordinating with the private sector.

Table 2. Peak-period services and plans.

Item	Hartford	Newport News	Norfolk	Northern Bay Area	Boston	Houston	Los Angeles	San Jose
Transit agency	ConnDOT	Pentran	Tidewater	Golden Gate	MBTA	MTA	SCRTD	Santa Clara
Perceives peak problem	Yes	Yes	Yes	Yes	No	No	No	No
Cost allocation study	Yes	IP	Yes	Yes	Partial	No	Partial	IP
Vanpool program	Yes	Yes	Yes	Yes	No	Yes	No	No[a]
Contract with private sector	Yes	Yes	Yes[b]	Yes	Yes[b]	Yes	No	No
Facilitate private bus	Yes	Yes	Yes	No	No[c]	No	No	No
Turn routes over to private sector without subsidy	IP	Yes	No	No	—[d]	No	No	No
Plans for peak service	Cut peak; eliminate express	Contract services; turn over services to private sector	Maintain low peak/base ratio	Reduce or eliminate club bus subsides	General service cuts; part-time labor; fare increases; union restrictions	Expand peak and express lines; end contracting; rail system	Rail system; part-time labor	Expand peak service; highway construction; light rail

Note: IP = in planning stages or in progress.

[a]Participates in area's vanpool program but does not use it to increase peak-period supply of transit services.
[b]Not for commuter services but others.
[c]State DOT leases buses to private carriers.
[d]One route.

The eight transit agencies divide into two groups on the basis of whether the transit agency recognized the peak-period problem or not. Although the use of innovative strategies by the transit agency does not always directly correspond to peak-period perceptions, the overall approach to transit management does. The data in Table 2 summarize each agency's perception of the peak problem and the types of innovative services it provides or otherwise encourages.

Hartford, Norfolk, Newport News, and Golden Gate all perceive the peak period as a major source of deficits. A crucial feature of this perception has been detailed studies of costs allocated to time periods (peak and nonpeak), routes, and different types of service. Such studies can provide evidence that can sway fiscally conservative managers who may otherwise be reluctant to support nontraditional approaches to service delivery.

The most common innovative addition to the transit agency's service has been ridesharing (particularly vanpools). All of the innovative agencies sponsor vanpools, although not all sponsor carpools. These agencies do not fear ridesharing as competition, but see it as a supplement to current service.

Innovative agencies are willing to coordinate with the private sector. In their ridesharing programs they organize or promote employer-sponsored vanpools. Hartford and Golden Gate contract with private bus companies, recognizing that these companies can more efficiently provide certain services, such as express service. In Hartford six different companies are paid guaranteed hourly rates for their express service. ConnDOT has also built park-and-ride lots for these routes. Golden Gate Transit began subsidizing a club bus (subscription bus service) program in the early 1970s, and currently contracts with four bus companies for 27 bus runs daily. Innovative agencies also facilitate the involvement of private bus companies in commuter transportation even when the agency does not retain control over service decisions, as it does when contracting. For example, ConnDOT has built park-and-ride lots for nonsubsidized commuter routes, and Tidewater and Pentran lease buses to private bus operators.

All four agencies anticipate that additional services can be turned over to the private sector without subsidies. Pentran was encouraged by the willingness of a private provider to pick up a service to a neighboring county that the transit agency decided to terminate. ConnDOT anticipates that where express routes are terminated, unsubsidized vanpools and private bus operations will step in to serve the market. Golden Gate Transit wants to eliminate subsidies altogether from the club bus program and reconstitute it as an owner-operator service (with the clubs owning the buses), which would be similar to vanpooling.

Traditional Agencies and the Peak Period

The four traditional transit agencies--Boston, Houston, Los Angeles, and Santa Clara--do not perceive the peak period as a major economic problem. In Boston there is some recognition that the peak period probably costs more, but the spiraling costs are blamed more on labor problems than on service organization factors. During its recent fiscal crisis, SCRTD proposed higher fares for peak service but resisted efforts to turn over certain peak-period-only routes to private operators. Both Houston and Santa Clara plan to increase peak services. None of these transit agencies has conducted a full cost study (to date) by route and time period. At Santa Clara and Houston MTA, costs have not been an important issue because of the ample availability of local subsidies. In Los Angeles and Boston it is recognized that reducing certain peak services may reduce the overall deficit, but there is a reluctance to cut back services that serve many riders and are politically visible.

Only Houston has a ridesharing program, but it is small; it currently consists of 19 vans. There are no plans for vanpools to become a major service offered by the Houston MTA; the program was initiated only because of political pressures from areas that do not currently receive MTA bus service. Houston is also the only one of the traditional transit agencies to contract with private carriers for commuter service. But rather than being a strategy for ameliorating peak costs, contracting is a limited-term measure for expanding peak service until MTA can increase its own stock of equipment.

The issue of turning over some routes to private carriers without subsidies has been discussed in both Los Angeles and Boston. Within the transit agencies there is considerable resistance to the

concept. Although it is conceded that there would be some cost savings, there is a general belief that express routes produce relatively more revenue than other services. It is believed that giving viable routes to private carriers would cause a deterioration in overall performance. In both cities the idea was given serious consideration during times of fiscal crisis. However, the idea was dropped by SCRTD as soon as the transit sales tax was validated by the courts; and in Boston the outcome of the most recent crisis was general service cutbacks and increased local subsidies from the towns and cities in the service district, despite discussion regarding service turnovers.

WHAT ACCOUNTS FOR TRANSIT AGENCY RESPONSES?

Five of the eight transit agencies--Tidewater, Golden Gate, Pentran, ConnDOT, and Houston MTA--have made at least a moderate commitment to innovative responses to the commuter transportation situation. Although the use of innovative strategies does not necessarily imply an innovative orientation on the part of these transit agencies (Houston MTA being the prime example), it does distinguish them from the transit agencies in Boston, Los Angeles, and Santa Clara, which have not demonstrated any serious interest in the use of nontraditional strategies.

What accounts for these different degrees of willingness and ability to use innovative strategies for providing commuter transportation? Although many factors affect the use of innovative strategies by transit agencies, five factors appear to be most influential:

1. Political pressures to expand commuter services or to constrain overall transit costs,
2. Constraints on the use of traditional strategies,
3. Nontraditional management orientation,
4. Nondedicated subsidy arrangements, and
5. Fiscal control by local elected officials.

Fiscal and service pressures are invariably the prerequisites to innovative approaches to problem solving, although it must be emphasized that they do not guarantee a nontraditional response. Rather, pressures to expand peak service or, more typically, to reduce projected deficits (and hence the needed subsidy) require an agency to consider how it will achieve these objectives. Without such pressures, the organization will almost inevitably maintain the status quo for its service delivery system. When such pressures are present, however, an opportunity is created to examine alternatives to traditional problem-solving responses. Whether this opportunity will in fact lead to an innovative approach that uses the private sector appears to be a function of the other four factors.

Top management of a transit agency need not be particularly innovative in orientation for an innovative response to occur, but it must be open to nontraditional modes of problem solving. Tidewater Transit is virtually unique among U.S. transit agencies in its unhesitant embrace of innovative problem-solving approaches. On the other hand, Pentran, ConnDOT, and Golden Gate have more traditional top management; yet management at Pentran and Golden Gate was willing to experiment with innovative strategies developed by their ridesharing divisions, whereas at ConnDOT internal cost studies demonstrated the necessity for more cost-effective service alternatives.

Subsidy and decision-making arrangements have a crucial effect on whether transit policymakers will be motivated to investigate and support nontraditional approaches to commuter transportation services. In particular, when nonfederal subsidy sources are discretionary (i.e., are not dedicated exclusively to transit) and when policymakers are members of government units with a direct financial stake in the agency's cost and service performance, the prospects for policy-level support (and even advocacy) of innovative strategies are much greater than when these factors are not present. Under such circumstances, policymakers and their constituents have a direct interest in the most cost-effective forms of service delivery possible because subsidy savings can be diverted to other government services or to lower taxes. Tidewater, Pentran, Golden Gate, and ConnDOT all use discretionary sources of subsidy, and in each case the agency's policymakers must account to their constituents as to how the funds are spent. Therefore, policymakers, and through them management, have a compelling interest in maximizing the cost-effectiveness of the services for which the agency is responsible.

In addition, note that the politics of transit are in part the politics of service delivery. If satisfactory service is good politics, then strategies that reduce service costs and thereby allow additional services to be produced, or at least the current level of service to be maintained, are also politically desirable. Thus the policymakers for Tidewater and Pentran have not had difficulty accepting proposals to provide commuter services, as well as other transit services, through mechanisms other than the transit agency's own vehicles and drivers. With respect to Pentran, the policymakers were the initial advocates of such thinking. It must be emphasized that direct control of local subsidies is the key to the development of such attitudes on the part of policymakers.

In contrast, MBTA and SCRTD have both faced severe fiscal crises, but in neither case did it lead to agency support of nontraditional strategies. Both organizationally and politically, MBTA and SCRTD are shielded against change. Management believes that it should control and provide all transit services in its sphere of influence. Politically, the two agencies derive much of their influence from their contribution to commuter transportation because the peak period is the only time of day when a significant portion of the ridership is composed of middle-class citizens. With dedicated funding sources and a decision-making system in which local policymakers lack the authority to connect service decisions with subsidy allocations, there is little incentive or ability for policymakers to intervene in the agency's internal decision-making process.

Neither Houston MTA nor Santa Clara County Transit is experiencing fiscal pressures. Although Santa Clara's policymakers (the County Board of Supervisors) are in a position to control subsidies by influencing service decisions, the dedicated transit funding gives them no incentive to do so. In fact, current Board policy is aimed at constructing light rail lines and generally expanding transit service, which will result in more transit subsidies in future years.

The policymakers in Houston are equally committed to spending far more money on transit than is now the case, again primarily through the creation of a rail transit system. In the short run, however, the Houston transit agency has been forced to use nontraditional means of providing additional peak services, notably contracting and vanpooling. Nevertheless, the agency adopted these two strategies because it is under intense pressure to increase the amount of peak-period service in order to help cope with Houston's serious traffic congestion problem.

Moreover, the vanpool program is small, and the contracting arrangements are viewed as an interim strategy that will be eliminated as soon as the transit agency can build up its own fleet to take over the service. Thus, with a dedicated and ample funding source, the Houston MTA long-range plan is to reimpose traditional strategies for peak-period transportation.

WHAT ARE THE BARRIERS TO INNOVATION?

Considering the fiscal problems that are besetting more and more transit agencies, even as demands for peak services continue to increase, it is pertinent to ask why so few agencies have chosen to adopt the commuter transportation innovations that are the focus of this study. What are the primary barriers to more widespread use of these strategies?

Perhaps the most important barrier is that many transit agencies lack the incentive or motivation to adopt nontraditional responses to peak-period problems. Although private-sector strategies are one way of dealing with the fiscal problems they confront, transit agencies can also cope through more traditional responses. Service cutbacks (usually concentrated in off-peak periods), fare increases, and the use of part-time drivers are all means of addressing fiscal problems that are compatible with the traditional transit agency orientation. An agency with traditional management will usually look first to such strategies; if such strategies promise to solve the immediate problem, management will look no more until the next crisis occurs.

This response leaves largely intact the structural conditions that underlie the peak-period problem because it does little or nothing to enable the agency to better match supply and demand characteristics. Nonetheless, it has some major advantages from the standpoint of a traditionally oriented management. Why go through the organizational and political trauma, however mild (and it may not be mild), of altering the institutional structure for service delivery in order to solve a problem when a response that is thoroughly compatible with existing institutional mechanisms is available? Moreover, it is by no means proven that an innovative strategy will result in major subsidy savings when compared to traditional responses, at least in the short run, and the short run is usually the relevant decision frame. Unless there is simply no other feasible option (as in the case of Houston MTA) or the costs of conventional strategies are so high as to be unacceptable (as in the case of Golden Gate Transit), a traditionally oriented transit agency can usually find a conventional response to deal with the immediate problem.

Even when a transit agency is motivated to use an innovative commuter transportation strategy, there often remain significant barriers to its implementation. Labor issues are one major constraint. Some labor contracts prohibit or severely restrict subcontracting of services; unless the transit union can be persuaded or compelled to eliminate these provisions, an important option is unavailable. For example, SCRTD is prohibited from service contracting. Transit unions may also attempt to use the leverage given them by Section 13(c) to forestall innovative options if they require the use of federal funds. Golden Gate Transit's union delayed the implementation of the vanpool program for a year by not signing a Section 13(c) agreement needed to purchase the vans. The union relented only when the agency agreed not to reduce the size of the bargaining unit as the result of the vanpool program. Similarly, Tidewater Transit had to agree to have all van maintenance done by transit workers.

One of the cornerstones of the innovative approach to commuter transportation problem solving is the matching of supply (e.g., types and costs of services) to demand characteristics. This assumes, however, that the appropriate types of supply services can be created. Of greatest concern is whether the commuter market can support profitable unsubsidized private bus service. If it cannot, then the service turnover strategy is infeasible, as are attempts to facilitate new private commuter bus services. Private operators in Houston, San Francisco, and Hartford all believe that subsidies are essential for additional commuter services. Hartford area bus operators are apparently uninterested in taking over routes the transit operator may decide to abandon; Boston area operators, although interested in MBTA routes, are somewhat skeptical about their profitability based on the one experience to date. On the other hand, a planning study has indicated that 13 of 17 SCRTD express routes could be turned over to the private commuter bus companies in Los Angeles on a profit-making basis (at current or slightly higher fares).

Another supply constraint is that private bus companies may lack the equipment to handle a major expansion of their commuter services, such as would have been required in Los Angeles if a proposal to turn over nearly 100 bus runs/day to the private sector had been adopted. The needed equipment could be purchased by the transit agency, but the use of Section 3 funds (of the Urban Mass Transportation Act of 1964, as amended) would probably create serious Section 13(c) problems. Both Houston MTA and Golden Gate Transit require their bus contractors to provide all of the equipment used in the service. If the company does not already own the vehicles, this can represent a large initial capital outlay. New buses cost as much as $150,000, and although used buses are less expensive, they are increasingly difficult to locate. One consequence is that several companies must be involved in the Houston and Golden Gate programs, as none owns enough equipment to provide all of the services or can afford to acquire an additional bus for only two commuter runs a day.

Transit agency leasing of the needed equipment, as is done by Tidewater Transit and Pentran, can minimize the capital outlay. However, if the equipment is expensive, the bus operator is still faced with high leasing costs, which push up the necessary fares or contract price. It is significant that the private-sector supply has been forthcoming in all five areas where contracting or service turnovers have occurred, but the potential problem remains.

POLICY IMPLICATIONS: CAN COMMUTER TRANSPORTATION INNOVATION BY TRANSIT AGENCIES BE ENCOURAGED?

The rationale for encouraging transit agencies to adopt private-sector commuter transportation strategies is that such strategies provide a way out of the current fiscal and service dilemmas. Their key advantage, when compared with traditional responses to fiscal problems and service pressures, is that they reduce the level of public transportation costs while allowing service levels to be maintained or increased. Traditional strategies such as fare increases or service reductions either require users to pay more or decrease service availability, yet they do not attack the underlying problem of escalating production costs. The use of part-time drivers can reduce production costs, but as such drivers are typically compensated at approximately the same wage rate as regular drivers, the savings accrue from improved labor use. Private bus companies pay their drivers $2 to $5/hr less than transit agencies

and thus have significantly lower labor costs. Vanpool services have virtually no driver costs. It is apparent that private-sector innovations are potentially powerful tools for improving the cost-effectiveness of transit agency operation.

It is equally clear that major cost savings from innovative strategies may also require large institutional changes. The commuter bus study conducted in southern California found that SCRTD could save about $4.6 million annually by contracting or turning over all of its peak-period-only express bus services to the private sector. But this represents only 10 percent of the unfunded deficit the agency recently faced, which it proposed to address with a policy of fare increases and service reductions. To achieve savings comparable with those associated with the proposed SCRTD service reductions (about $20 million), the agency would have had to contract out a significant amount of all of its peak service (not just express service) in excess of base requirements. This would be a radical move, one that is infeasible with the current labor constraints confronting the agency. It should be emphasized that private-sector innovations alone are probably not sufficient to resolve major fiscal problems. Of course, both traditional and nontraditional strategies can be used simultaneously, such as contracting out express routes and raising peak-period fares.

Transit agencies have used innovative private-sector strategies for peak-period transportation service provision when three conditions have been present. First, the agency has been under pressure to reduce subsidies or to improve service. Second, the agency's top management has been persuaded, whether by internal studies and staff advocacy or simply its own orientation to problem solving, that traditional responses are inferior to an innovative approach. Third, the agency's policymakers are local government officials who have fiscal responsibility for decisions by the transit agency.

In identifying these factors, it becomes apparent why private-sector innovations are difficult to encourage with available federal and state policy instruments. Fiscal and service pressures are largely situation specific. Innovative management is in critically short supply within the transit industry. Funding and decision-making arrangements reflect local and, to a lesser extent, state political actions that have already been taken and are difficult to alter. It should be emphasized that the last two factors are especially critical, yet they are the most difficult to influence.

The two policies most likely to encourage transit agency interest in private-sector innovations are cutbacks in federal operating subsidies and a loosening of Section 13(c) constraints. If federal operating assistance is severely reduced or eliminated, many transit agencies will face fiscal pressures, and local subsidies (including state funds) will become much more important. As local governments bear a significantly larger burden of the transit deficit, local officials will become motivated to advocate cost-effective innovations unless dedicated funding sources exist. However, when transit agencies receive funds with no strings attached, they are prone to continue in the traditional service delivery framework, and local governments typically lack the desire or ability to influence the service and subsidy connection. Thus, although one of the transit industry's major objectives is to obtain dedicated formula-based funding sources, it is obvious that this will only perpetuate the traditional orientation by insulating transit agencies from the cost-effectiveness concerns that invariably accompany discretionary funding and control of both subsidy and service decisions by fiscally responsible local officials.

With respect to the labor issue, any administrative or legislative changes in Section 13(c), which clearly indicate that transit workers do not have veto power over service changes that do not lead to the direct elimination or worsening of conditions of current workers' jobs, would probably embolden some transit managers to experiment with new initiatives.

Even if all of the barriers to private-sector innovations were removed, some obstacles to actually implementing the innovations, most notably labor constraints, would remain. The experiences examined in this study suggest, nevertheless, that even the labor barrier is not impossible to overcome if there is a will to use the strategies. Tidewater Transit, ConnDOT, and Houston MTA have each contracted with the private sector; Golden Gate has created a successful vanpool program that has offset additional demand for its own express service (and thereby the need for additional transit workers); and Pentran has turned over transit services to private bus companies, all without making any significant concessions to labor. It is the will to use such strategies that is usually the missing ingredient. Unless that will develops locally, it is unlikely that state and federal policies can create it.

ACKNOWLEDGMENT

This paper is based on work conducted for UMTA under a University Research and Training grant, Evaluation of Options for Private-Sector Provision of Urban Commuter Services. The views expressed here are ours.

REFERENCES

1. R.L. Oram. Peak-Period Supplements: The Contemporary Economics of Urban Bus Transport in the U.K. and U.S.A. Progress in Planning, Vol. 12, No. 2, 1979, pp. 81-154.
2. R.L. Oram. The Role of Subsidy Policies in Modernizing the Structure of the Bus Transit Industry. Transportation, Vol. 9, No. 4, Dec. 1980, pp. 333-353.
3. K. Chomitz and C. Lave. Part-Time Labor, Work Rules, and Transit Costs: Final Report. UMTA, Rept. UMTA-CA-11-0018-1, Jan. 1981.
4. R. Cervero. Flat Versus Differentiated Transit Pricing: What's a Fair Fare? Transportation, Vol. 10, No. 3, Sept. 1981, pp. 211-232.
5. Commuter and Express Bus Service in the SCAG Region: A Policy Analysis of Public and Private Operations. Transit Section, Southern California Association of Governments, Los Angeles, Feb. 1982.

Publication of this paper sponsored by Task Force of Public-Private Cooperation in Providing Urban Transportation.