Efficiency in Mass Transit: An Inquiry into the Effects of Regulation

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Mass transit is generally considered an exclusive responsibility of the public sector in America. The widespread acceptance of this prevailing view is reflected in extensive state and local regulation that greatly limits private transit initiative in our major metropolitan areas. This regulation not only requires transit entrepreneurs to conduct expensive public hearings before initiating service and to comply with unfavorable pricing and scheduling guidelines, but also requires them to obtain legal permission to operate in the form of certificates of public convenience and necessity. These certificates are typically denied or delayed in the bureaucratic process because of bitter opposition from established operators.

Potential of the Private Sector in Mass Transit

A growing number of scholars are presenting evidence that the private sector can help reverse the falling productivity, rising deficits, and disappointing ridership levels of our urban transit systems, however, and this evidence is bolstering popular support for regulatory reform. The changing political climate, together with the industry’s growing financial crisis, has encouraged policy makers to consider dismantling the restrictive route and price regulation that, in many states, has protected the status quo for over fifty years.

Nevertheless, because it has been necessary to rely heavily on the experiences of foreign countries with vastly different socioeconomic factors (such as Great Britain, Singapore, and Thailand) to demonstrate the economic and marketing advantages of the private sector, policy makers have received much of this research with quiet skepticism. Progress has been limited to a few progressive cities and
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States, and little action has been taken in most major transit-dependent cities. In sharp contrast to other sectors of the transportation industry where America has assumed a leadership role in regulatory reform, the United States has taken comparatively little action to reintroduce the element of competition into the ailing transit industry.

At the center of the prevailing skepticism toward deregulation lies the belief that transit firms enjoy declining marginal costs that can best be exploited under conditions of monopoly. Under this view, private firms are often considered to be little more than costly disruptions in the efforts of public operators to provide cost-effective service, and many are accused of unfairly "skimming the cream" by providing service only during the peak business period.

This skepticism toward the role of the private sector is voiced most vehemently when the public sector has invested heavily in a rail transit system. Fixed-guideway transit systems are characterized by large amounts of immobile assets such as right of way, station facilities, and specialized equipment, and these factors render private sector competition on parallel routes an extremely controversial issue. Many argue that rail transit systems enjoy powerful "economies of density" that can best be exploited through monopolistic protection. This suggests, for example, that a 5 percent ridership loss to private operators will increase per passenger cost of handling the remaining 95 percent, even if appropriate service cutbacks are made.

Furthermore, private sector competition is highly controversial once the public has invested in a rail transit system because public rail operators are often believed to be unable to eliminate the excess capacity in response to ridership shifts to the private sector. Railroad service can be efficiently adjusted only in train-sized increments (simply shortening trains saves little), and this can limit management's ability to respond to small, less-than-train-sized losses in ridership. Many claim that this inevitably leads to increased deficits that ultimately must be financed by taxpayers.

These arguments against private sector participation in transit are questionable at best, as we are learning from a unique sequence of events leading to a dramatic return of the private sector into Chicago's transit market. The Chicago experience solidly demonstrates the growing interest of American entrepreneurs in entering many important but long-monopolized transit markets and provides unprecedented opportunity to challenge the prevailing view that transit is most effectively operated as a government monopoly.

Today, over a hundred privately operated subscription buses, handling nearly 5,000 passengers and operated by a dozen indepen-
dent charter firms, provide express bus services between central Chicago and its suburbs. Offering monthly “subscriptions” at less than half the price of public rail service, the private operators have quickly established themselves as an important transportation alternative to public rail services for dozens of suburban communities. School bus equipment, part-time labor, and neighborhood bus stops are used to provide consumers with a convenient no-frills service to the city's Loop district. Service can be provided for as little as $.043 per seat mile—a full $.07 less than comparable public rail service.

In sharp contrast to privately operated services in other cities, which appeal primarily to markets poorly served or unserved by public carriers, Chicago’s subscription buses are boldly entering into direct competition with heavily subsidized rail carriers. The controversial new service mode is concentrated almost exclusively in the dense Illinois Central Gulf (ICG) rail transit corridor, operates parallel to these heavily subsidized Regional Transportation Authority (RTA) services, and is patronized almost exclusively by former commuter railroad passengers. Not surprisingly, the buses have become the focus of substantial criticism from public transit unions and management.

The ICG rail transit corridor extends south from the city’s Loop district to southern suburbs, including Homewood, Flossmoor, and University Park, on a separated, electrified right of way. The financial performance of the service has declined markedly over the past decade, primarily because of rising labor costs. Although train operations regularly broke even only a decade ago, today’s trains cover less than 70 percent of their short-term operating costs.

The ICG rail services experience substantial “diseconomies of peaking”: highly concentrated demand during the peak periods results in higher costs of providing service. This reflects the large number of transit cars, train crews, and rights of way that the railroad must maintain for use during only a few hours of the day. This peaking problem has dire consequences for utilization of labor; nearly 50 percent of the full-time train crew members are idle for over six hours during the off-peak period. More than 80 percent of the ridership in the corridor occurs during weekday peak periods from 6:40 A.M. to 8:00 A.M. and from 4:20 P.M. to 5:40 P.M. It is during these periods—the periods of greatest costs—that the subscription buses have attracted ridership from the public rail system.

Chicago’s subscription buses operate as charter bus services rather than as common carriers, and this arrangement has allowed them to circumvent the complex public transit regulation that, if enforced, would lead to their demise. Lengthy legal processes, cou-
pled with route and price regulation impairing their operational flexibility, would render the services uneconomical in most suburban locations. Because of the dependence of low-income groups on the services, local officials have taken little action except to see that all operators are properly insured.

**Economic Implications**

As more passengers are attracted from public to private transit services, fewer resources will be needed to support the public services. Trains can be eliminated, equipment retired or sold, labor furloughed, and administrative expenses trimmed. Ultimately, the question to be answered is whether this shift in resources from public to private control is in the best interest of the public: will it lead to a more efficient transit system? The outcome depends heavily on the ability and willingness of the public carrier to divest itself of unneeded services.

Opponents of the private sector in Chicago have argued that labor union contracts, constraints on capital divestiture, and powerful economies of scale render it socially inefficient to allow private operators to capture market share from the publicly subsidized rail system. They claim that public rail transit, like other "public utilities," enjoys declining marginal costs that render competition "destructive."

A study that I conducted through Northwestern University's Transportation Center helps refute these claims through an in-depth evaluation of the cost structure of both the private and the public transit modes.¹ By analyzing and categorizing all relevant expense accounts reported to the Interstate Commerce Commission (in total, seventy-five expense accounts were considered), evaluating important constraints on divestiture such as capital replacement costs and labor law, and conducting ridership surveys, the study simulates the long-run economic implications of a shift in market share to the private sector. The study estimates the consequences of trimming down the size of the public operator in proportion to the growth of the private operator.

Because private sector commuter services in Chicago (and most other cities) are limited to the peak period, their impact on the RTA ridership and costs is similarly limited. My study estimates that the elimination of one round trip by an Illinois Central Gulf train would enable car miles to be reduced by 6 percent and peak car need by 8.8 percent. There will be lengthy lags in realizing many of the cost reductions made possible by these reductions in service; the study used a twenty-year planning horizon.
Estimates of the reductions in car miles, peak car need, and system revenue brought about by ridership shifts to the private sector are used to estimate the potential reductions in cost of the public mode.

To reflect uncertainties in the ability and willingness of the public carrier to eliminate unneeded service, the study examines three scenarios. The first, "complete excess capacity elimination," assumes the public carrier is willing and able to reduce service in direct proportion to ridership losses to the private sector. The second scenario, "partial excess capacity elimination," assumes the public carrier can eliminate service at only half the rate at which ridership is lost to private competitors. The third scenario assumes that no excess capacity is eliminated by the public carrier. Under these three scenarios, specific conclusions have emerged regarding the effects of ridership shifts to the private sector and related public sector cutbacks as they bear on the efficiency of service in the corridor.

The study also projects the consequences of competition from the private sector on RTA deficits and finds that these effects as well depend greatly on the ability of the public sector to divest unneeded services. The shift in market share to the private sector affects the operating efficiency of transit in the corridor (measured in cost per seat mile), depending on which excess capacity scenario is used. Consequently, it was necessary to conduct a ridership survey of all rush hour trains to determine which scenario for the elimination of excess capacity is most appropriate. It was found that, despite the claim of many transit officials, the elimination of all excess capacity is both a feasible and an attractive economic option. Our ridership survey illustrates that it is possible for the public transit operator to eliminate as many as three six-car, double-decked electric trains each rush hour because of the ridership loss to private competitors. This constitutes an 18 percent reduction in available seat miles each peak period. (Such calculations were instrumental in refuting claims made by the public transit agency that service cutbacks were operationally infeasible.)

These service reductions can be translated into cost savings, even considering the highly liberal provisions for severance pay to all furloughed employees (six full years for many unionized rail workers) and costly time lags in realizing savings from capital divestiture (depreciation schedules were consulted to make these calculations). If the public transit operator eliminates excess capacity during the peak period in response to the expansion of the competition (as private businesses unquestionably would), the study reveals that the average cost of transit service, public and private combined, would decline by
more than 5 percent in the corridor. An improvement in operating efficiency of this magnitude equates to a reduction in cost of approximately $1.5 million per year. In sharp contrast to the predictions of the anticompetition lobby, deficits would also be lower under this scenario. Currently, subscription buses are costing the public carrier roughly $2.1 million per year in revenue. If the carrier completely eliminates excess capacity, long-run costs could be reduced by roughly $2.5 million per year. Hence annual deficits could be trimmed by $400,000, or 2 percent.

It is important to note that the efficiency of the public carrier declines slightly under this scenario. This confirms the fact that public railroad systems enjoy economies of density—a factor that must be considered when evaluating the potential role of the private sector. Like other public utilities, the efficiency of RTA services appears to be greatest in the absence of competition. But the expansion of the lower-cost private sector more than offsets this efficiency loss. The overall efficiency of transit in the corridor (both modes combined) improves significantly. This is the relevant measure of the effects of competition on social welfare.

Chicago’s RTA has, thus far, not eliminated excess capacity in the corridor in response to subscription bus competition. In the long run, if no service is reduced, the average cost per passenger mile will rise from 11.995 cents to 12.82 cents, and the annual deficit, as noted, will rise by $2.1 million; in the long run, if the RTA continues to resist the elimination of excess capacity this raises serious questions regarding the agency’s ability to serve the public.

Some have argued that public rail services are of higher quality than those of private subscription bus services, making cost comparisons unfair. When I make a quality adjustment, however, I find quality differences to be without much analytical significance, and even in the most extreme scenario (weighed heavily in favor of the public transit monopoly), the private sector has a positive effect on net marketplace efficiency.

Conclusions

These are significant findings. They suggest that the “natural monopoly” argument (the public is best served by a single government-regulated transit carrier) is highly dubious in the case of Chicago’s transit system. Similarly, accusations that private operators destructively “skim the cream” are not supported.

The Chicago experience, though only one example, is an important case that deregulation advocates can use in demonstrating the
THE EFFECTS OF REGULATION

favorable dynamics of a competitive marketplace. It demonstrates that flexible, private transit systems provide a favorable alternative to those operated by regulated government agencies, even when subsidies permit public transit fares to be held artificially low.

Another important implication of the Chicago subscription bus phenomenon is that government should use the presence of the private sector as a basis for strengthening its bargaining position with organized labor and contract carriers. Efforts to modernize work rules, eliminate featherbedding, allow split-shifts, and implement other cost-containment measures should be intensified. Unlike past efforts to attain such reforms (when publicly subsidized rail carriers and organized labor enjoyed a virtual monopoly in the transit marketplace), today's policy makers are in a comparatively stronger position to effect such changes.

Publicly subsidized operators, having a vested interest in maintaining a powerful market position, are likely to oppose these recommendations. The evidence suggests, however, that the most common arguments against private competition are not supported. The conclusion seems clear: dismantling the complex web of transit regulation in our major cities will help improve the operating efficiency of the transit industry by stimulating entrepreneurial initiative and create important opportunities for slimming down our financially ailing public transit systems.

Note

1. The study uses the Simpson and Curtin peak-base cost allocation model to calculate commuter costs during the peak period. This model uses data that are readily available in the Illinois Central Gulf R-1 Annual Report to the Interstate Commerce Commission. For further details on the study, see Joseph R. Schwieterman, "Competition in Mass Transit: A Case Study of the Chicago Subscription Bus Phenomenon" (M.S. thesis, Northwestern University, 1983) or the September 1984 issue of Reason magazine.