Transit Fare Issues in the 1990s—Where Are We, and How Did We Get Here?

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Déjà Vu All Over Again

It's almost 13 years since 64 people gathered here, at the Erik Jonsson Woods Hole Center in September 1980, to discuss "Future Directions for Transit Pricing" *(1)*. Just like this one, that conference was under the auspices of the Transportation Research Board and the U.S. Department of Transportation, and in fact it marked the culmination, in some ways, of several years of UMTA activism on the subject of transit pricing. Since the mid-1970s, fare policies had been an important theme in the agency's Service and Methods Demonstration program, which had funded a wide range of demonstrations and research projects concerning (for instance) fare prepayment, promotional fare incentives, user-side subsidies, service-based pricing, time-of-day pricing, transfer policies, and fare collection techniques. During this era, UMTA was also far-sighted enough to realize that better pricing of *private vehicle* use in congested conditions had potential transportation and revenue impacts that are orders of magnitude larger than any conceivable implications of fancy *transit* pricing, and so some efforts had also been devoted, somewhat fruitlessly, to promoting road-pricing demonstrations.

A much larger conference at Virginia Beach in 1979 *(2)* had, in fact, provided a "show-and-tell" opportunity for the various transit pricing projects catalyzed by UMTA's R&D funding. The smaller select group invited to assemble at Woods Hole in 1980 were asked to be the forward thinkers, identifying directions and priorities both for industry practice and for UMTA involvement. However, shortly thereafter the federal R&D budgets were curtailed, and correspondingly UMTA's influence on pricing innovations waned throughout the 1980s. Now, with an increased emphasis on research and planning activities created by the funding mechanisms established by ISTEA, it is quite appropriate that we should be picking up where we left off, in this building, 13 years ago.

As I understand it, it's my job in this first resource paper to sketch out a road map of the territory we should try to cover: to review where we are now and how we got here, to point out what has changed and what may be on the horizon, and generally to set the *policy* context for the more detailed resource papers and working sessions that are to follow. In doing so, I will draw on both objective fact and subjective opinion in the hope that such a mix will better help to stimulate our subsequent discussions.

The year of the last Woods Hole conference, 1980, provides a good base year for me to use in talking about recent trends. One of my central contentions is that while in several ways quite a lot has changed or is in the process of changing, in other more fundamental ways *c'est* very much *la même chose.*

How little further we have come in some key ways over the last 13 years can be seen very clearly from the abstract of 1980 report *(1):*

> Despite the diversity of perspectives represented, there was unanimous agreement that current transit pricing practices are in need of much improvement. Largely due to social welfare concerns, it has been general policy and practice to keep transit fares low and to rely increasingly on sources of funding other than the farebox to cover the rapidly escalating costs of service provision. However, empirical evidence . . . indicates that low fares are inefficient income transfer measures, since they give an unnecessary subsidy to more affluent transit riders and result in relatively small mobility gains for low-income and carless individuals. Moreover, prevalent policies favoring low fares and reduced service levels tend to penalize not only transit riders (who might prefer better service at higher fares) but also transit operators (who could be recovering more revenues out of the farebox).
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> Acknowledging the likelihood of dwindling subsidy funds, conference attendees concurred in the need for a more businesslike approach to transit pricing, encompassing: (1) a shift towards more cost-based pricing, which would mean substantial fare increases for most transit services; (2) increased attention to the quality of the transit product and its efficient production; and (3) greater separation of transit and welfare system functions. The following were identified as critical to the implementation of improved pricing practices: a workable mechanism for mitigating the adverse impacts of fare increases on low-income persons; improved transit cost information on which to base fare policy; improved fare collection methods to permit more complex fare structures; and improved procedures for fare policy formulation and analysis.

All of this is pretty much stuff that we could (and probably will) say again this week.

U.S. Transit Industry Since 1980

Table 1 summarizes key financial and productivity statistics for the U.S. national transit industry in 1970, 1980, and 1991, the latest year for which (preliminary) data have been published. Comparisons between 1980 and 1991 are muddied by major changes in statistical practices in 1984, when (among other things) data for commuter rail, urban ferryboats, and rural and small urban systems were added into the national totals. For this reason, separate growth rates are shown in the table for the pre- and post-1984 data.

The table shows that the level of transit service provided since 1980, measured in vehicle miles, has increased substantially. In the 1970s operating costs (in real terms) had increased almost five times as rapidly as output, but in the latter half of the 1980s the transit agencies proved to be better able to control the costs. Unfortunately, however, despite the expansion in service the total ridership appears to have declined slowly, and as a result, the mean operating cost per unlinked trip (in constant dollars) has trended upwards (see Figure 1).

The mean passenger revenue per unlinked trip has stayed relatively constant in real terms since at least 1984, at about 65 to 70 cents in 1991 prices. The ratio between passenger revenues and operating costs—frequently referred to as the "farebox recovery ratio"—has as a result continued to trend downwards, to about 31 percent by 1991 (see Figure 2). The average transit ride in 1991 cost $2.27 in operating costs, disregarding all of the capital costs, and the rider paid a fare averaging 70 cents, about 5 percent cheaper in real terms than in 1970 but perhaps as much as 40 percent more expensive in real terms than in 1980.

Of course, there's a great deal more to be said about transit policy in the 1980s than just these sterile statistics show. The federal government placed a strong emphasis throughout the decade on *private sector participation*, both in service provision and in funding. As we know, this didn't mean that formerly public agencies were sold off and turned overnight into private companies, *à la* Thatcher. Rather, the public agencies typically began to seek private providers for portions of their operations. In 1980, the so-called "purchased transportation" category in the national transit statistics was probably something less than $100 million in value, or less than 1½ percent of the industry's total operating costs. (In fact, "purchased transportation" was separately identified in the accounts only from 1984 onwards. In 1984, roughly $450 million was spent on purchased transportation). By 1991, the value had grown to almost $1.7 billion, or nearly 10 percent of the total operating costs.

Another major theme in the 1980s was the growth of interest in *"demand management"* policies in the face of rapidly increasing traffic congestion in some cities, particularly the largest sunbelt cities. The most innovative programs and public regulations—spurred by the mandates of the Clean Air Act amendments and the need for cities to come into compliance regarding air quality—began to look to medium- and large-sized companies to cajole or coerce their employees to abandon commuting in single-occupant vehicles (SOVs). This seems an eminently sensible idea, although objective evidence of its efficacy and relative cost-effectiveness is still rather sketchy and anecdotal. Such approaches have recently been given national impetus as a required response to air quality problems in "non-attainment areas."

Because carpooling is a closer substitute to SOV commuting than are typical transit services (despite the schedule inflexibility that is a big deterrent to pooling), there's little evidence that transit generically is a major beneficiary of employer-based trip reduction programs. As we think of transit pricing issues, it's worth noting that a two- or three-person carpool may well be cheaper per capita than taking the bus or subway, depending critically on the parking cost (if any) at the destination. The employer is often as much in a position to affect the end price of various mode choices as is the transit operator. Subsidization of transit passes may appear to be a relatively easy response (administratively speaking) to the employer's new responsibilities. However, trip reduction programs often place the burden of efficacy on the employer, and subsidizing transit won't be seen as an easy option for long if few people opt to use the transit services. Cheaper fares alone are likely to be an inadequate lure if the transit services fail to meet minimum acceptable travel time requirements for the complete, door-to-door commute.

A third major theme comes to my mind when I think about transit in the mid-1980s: the phrase *"customer driven,"* which came into vogue following the popular success of Tom Peters' *In Search of Excellence* and other similar books. It appeared to become obligatory for transit systems to testify to their customer-drivenness, but often the rhetoric seemed a little in advance of practice and it was difficult to see what change the adoption of this gospel made in the lives of the man or woman on the bus. Nevertheless, I think that all of the talk about customer-driven values did get transit systems thinking about *market segmentation*, among other things, and this has had some spillover into fare policy in the form of a greater interest in fare differentiation, both as a marketing device and a revenue-increasing device. I'll come back to this point later.

TABLE 1 Summary Statistics for U.S. National Transit Industry, 1970 to 1991

				Average annual rate of change		
	1970	1980	1991[1]	1970 to 1980	1980 to 1983 [2]	1984 [2] to 1991
Supply and costs						
Vehicle miles operated (billions)	1.88	2.09	3.35	1.1%	0.4%	2.9%
Total operating costs including taxes and depreciation[3] (billions of 1991 dollars)	$6.57	$10.83	$19.62	5.1%	2.4%	2.4%
Average cost per vehicle mile (in 1991 dollars)	$3.49	$5.18	$5.86	4.0%	2.0%	-0.5%
Average annual payroll costs per full-time employee (thousands of 1991 dollars)	$30.39	$28.31	$26.58	-0.7% [4]	-1.8%	-0.1%
Demand and financial results						
Unlinked trips carried (billions)	7.33	8.22	8.64	1.1% [4]	-1.4%	-0.3%
Passenger revenues (billions of 1991 dollars)	$5.40	$4.13	$6.06	-2.6%	0.8%	0.9%
Average fare per unlinked trip (in 1991 dollars)	$0.74	$0.50	$0.70	-3.8%	2.2%	1.2%
Net operating deficits (billions of 1991 dollars)	$0.95	$6.30	$12.60	20.8%	3.4%	3.5%
Average net deficit per unlinked trip						
— in 1991 dollars	$0.13	$0.77	$1.46	19.5% [4]	4.8%	3.8%
— in current year dollars	$0.04	$0.48	$1.46	28.3% [4]	11.8%	7.6%
Passenger revenue per dollar of operating cost	82.1%	38.1%	30.9%	-7.4%	-1.6%	-1.5%
Productivity measures						
Vehicle miles operated (thousands) per full-time employee	13.6	11.2	11.9	-2.0% [4]	-1.0%	1.9%
Unlinked trips per vehicle mile	3.89	3.93	2.58	0.1% [4]	-1.7%	-3.1%
Unlinked trips (thousands) per full-time employee	53.1	44.0	30.7	-1.9% [4]	-2.7%	-1.3%
Passenger revenue (in 1991 dollars) per vehicle mile	$2.87	$1.97	$1.81	-3.7%	0.4%	-1.9%
Passenger revenue (thousands of 1991 dollars) per full-time employee	$39.10	$22.06	$21.52	-5.6% [4]	-0.6%	-0.1%

Notes: [1] The 1991 figures are APTA's preliminary estimates.

[2] Before 1984, the data exclude commuter railroad, cable car, inclined plane, automated guideway, urban ferryboat, and rural and small urban systems. The pre- and post-1984 series are not strictly comparable.

[3] The depreciation included here is calculated solely for accounting purposes, and is not an adequate representation of the annualized capital consumption by the industry.

[4] Interim changes in definitions or statistical method make these rates suspect. The changes make the rates of increase in both employees and unlinked trips appear larger than they probably were.

Source: Derived from *(3)*.

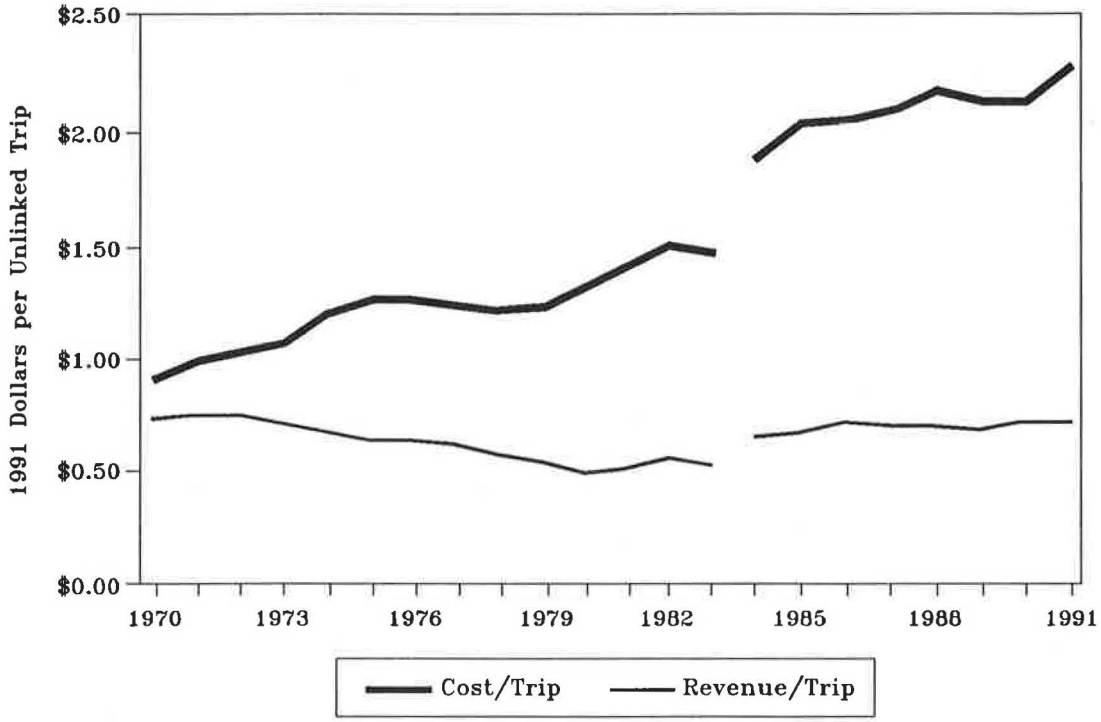

FIGURE 1 Cost and revenue per trip.

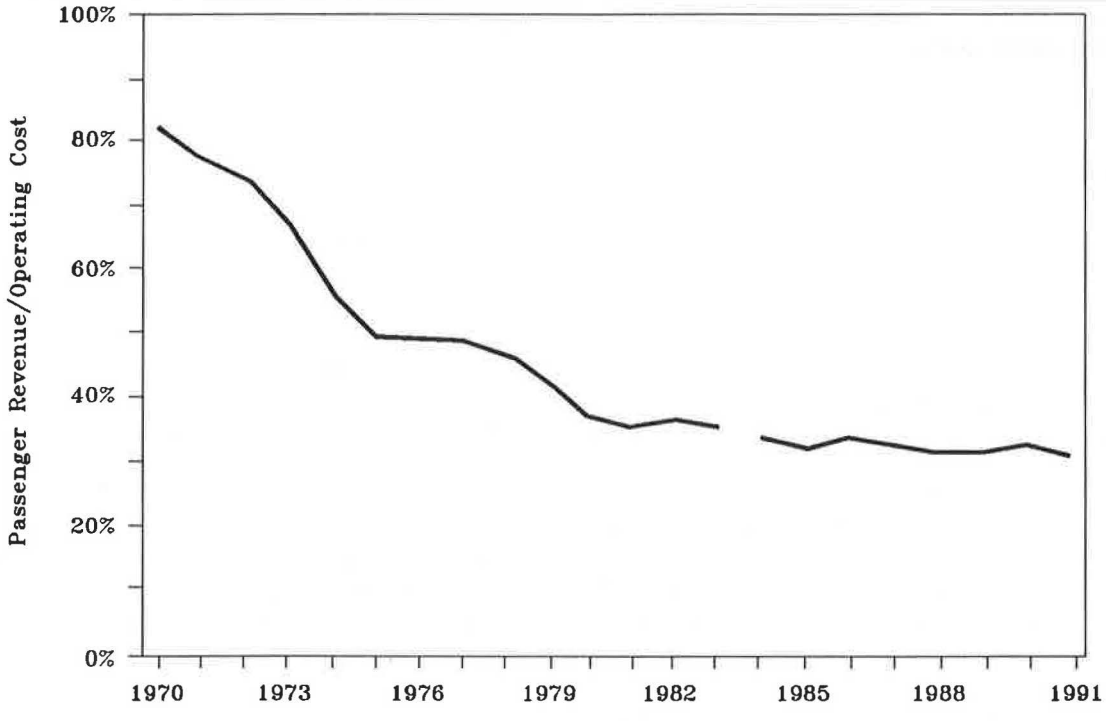

FIGURE 2 Farebox recovery ratio.

Returning more closely to recent trends in fare policy, I should note that since the mid-1970s the American Public Transit Association has been monitoring fares for fixed-route services by using a sample of about 300 transit systems drawn from the information compiled in its (now) annual *Transit Fare Summary* report *(4)*. Figure 3 shows the range of base adult cash fares reported by systems for each year since 1977, with the horizontal mark in each year indicating the mean such fare (per transit system, not per passenger). Figure 4 shows trends in the proportions of systems reporting zone-based fares, transfer charges, and peak-period surcharges, aspects to which I will return later in the paper. I suspect that some of the apparent volatility in these statistics from year to year is the result of data gaps and changes in the composition of the sample.

The 1993 APTA fare summary report includes a much more copious set of summary tables than hitherto. They describe the frequency distributions of fare levels and fare structure features, and this summary provides a convenient picture of what transit systems are currently doing. In the following sections, I will address in turn a range of fare policy issues, and draw liberally on the APTA data to indicate the current situation.

Fare Levels

As we have seen, the boards of transit agencies did a much better job in the 1980s than they had in the 1970s in increasing fares to match the general inflation, but they still didn't keep pace with transit operating costs. The primary influencing factor here presumably was the cutback in federal operating assistance: between 1980 and 1991 that declined by 46 percent in real terms. In response, the states and localities increased their assistance markedly (by 110 percent in real terms over those 11 years), and as a result the farebox recovery ratio could continue to decline slightly from year to year despite the federal cutbacks.

So while the 1970s' rapid fall in reliance on farebox revenue has been halted, we haven't seen anything remotely fitting the 1980 conference's prescription of ". . . a shift towards cost-based pricing, which would mean substantial fare increases for most transit services." What *is* this obviously very strong attraction of low fares? It's pretty much the same now as it was in 1980, 1975, or 1970, I would contend. It's an amalgam of three important considerations:

- The general nervousness of elected officials of being associated with very visible price increases;
- Social welfare concerns about the effect of fare increases on low-income segments of the population, linked with a strong reluctance to try user-side subsidy mechanisms to address that problem; and
- The fear of losing passengers to lower occupancy vehicles more rapidly than at the moment.

Transportation policy analysts have been commenting on these concerns for a long time, for at least the last 30 years. We have said that low fares for *everyone* is a very inefficient way of ensuring mobility for the less well-to-do, and that it should be a relatively easy matter to target the subsidies so as to separate the efficiency and social welfare objectives of transit pricing. We have pointed out that, notwithstanding the underpricing of congested road space and the unequal tax treatment of transit and private vehicle commuting costs, the cross-elasticity of auto use with respect to transit fares is very low in most situations. We have said that ridership defections to private vehicles are much more likely to be linked to dissatisfactions with *service* levels than with *fare* levels. The transportation system efficiency argument for low fares is a very shaky one.

Well, somehow we must have been saying these things in the wrong places, or to the wrong people, or perhaps more likely, in the wrong language. Transit managers and board members have been notably underwhelmed by the idea of user-ride subsidies, and perhaps at this meeting we should spend some time asking ourselves why. My guess is that transit professionals may feel that to establish more formal links with the human service networks regarding the *mainstream* transit services—as distinct from services to special user groups—is for various reasons an unattractive proposition. It may be seen as likely to diffuse the already diverse and often unarticulated goals of the publicly-owned transit system even more.

Returning to the subject of general fare levels, I note from the 1993 APTA fare summary that:

- About 31 percent of systems now have base adult cash fares that are at or above the dreaded $1 "barrier" level. Over 36 percent of the reporting systems have a base fare in the 75 to 95 cents range.
- Of 282 systems, only one had reduced its base fare between 1991 and 1993; 65 (23 percent) had made increases over those two years, but 216 (77 percent) had not had increases. Fare increases were more common for heavy or light rail services than for bus services (see Table 2).

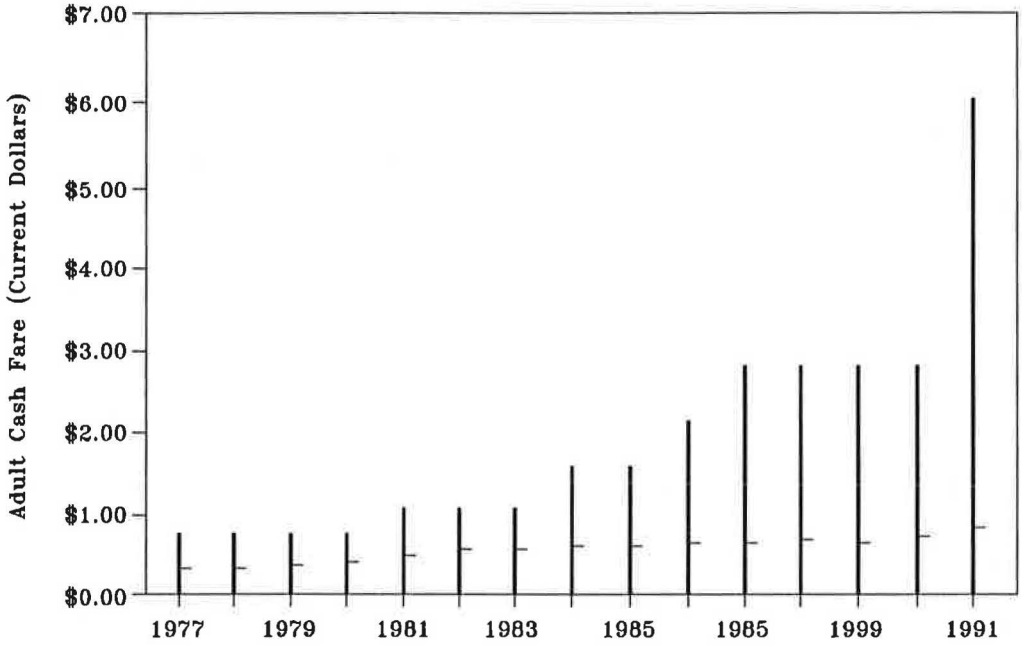

FIGURE 3 Adult cash fares.

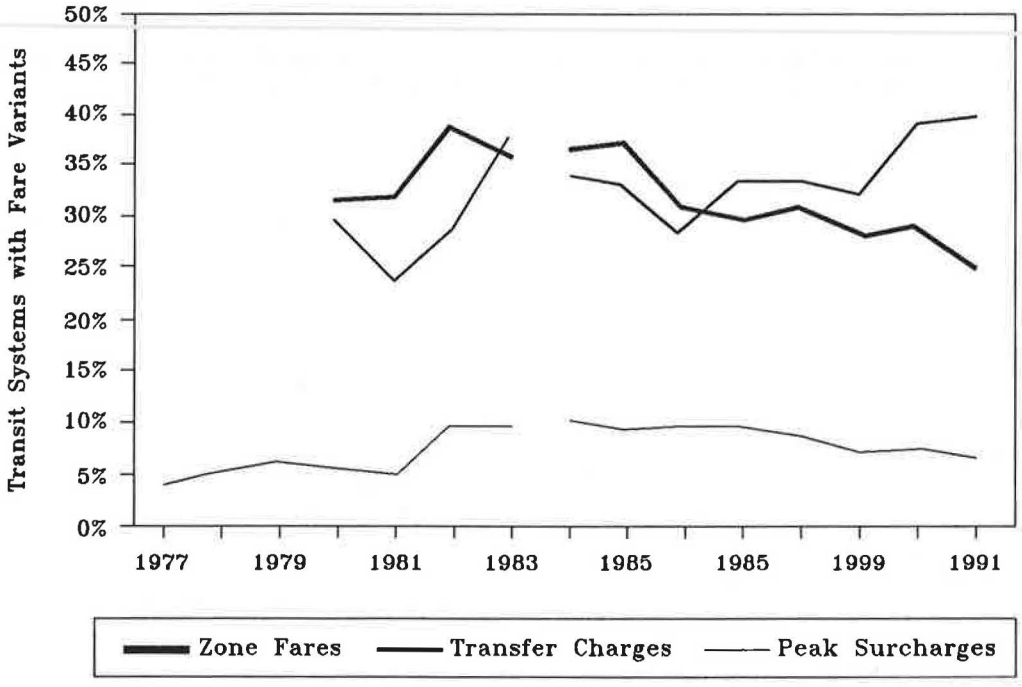

FIGURE 4 Fare structure features.

TABLE 2 Base Adult Cash Fare Levels in 1993

	Median Fare ($)	Mean Fare ($)	Fare Increases, 1991–1993 (%)	
			Reporting	Change in Mean Fare
Motor bus	0.75	0.79	23	3.9
Heavy rail	1.25	1.15	42	6.5
Light rail	1.00	1.07	43	8.1
Commuter rail	2.00	2.48	20	8.3
All transit services	0.75	0.86	23	4.9

Source: *(4)*

Fare Increase Policies

About 94 percent of systems appear to have no formal policy as to when or how frequently fares should be raised; they adjust the fare levels "as necessary." Almost 5 percent of systems do have a formally specified frequency for fare adjustments, be it annually (just less than 2 percent), biannually, or less often. For only about 1 percent are fare increases triggered automatically by some indicator of the system's financial performance.

Although an indicator like the farebox recovery ratio will not automatically trigger increases for most systems, a much larger proportion of operators do have to meet recovery ratio targets for each year, specified either by the agency's board or by the sponsoring governments. About one quarter of the systems have a mandated minimum recovery ratio, and another 11 percent have a specific goal to aim for. Most frequently, it is the state governments that set these thresholds or goals.

I have sometimes been asked whether relatively frequent (say annual) fare increases are "better" than the more customary spasmodic adjustments. The questioner is usually interested in the comparative *revenue* impacts of the two policies, to which I have to answer, "I don't really know, but I suspect that there's not much difference from a long-term revenue point of view." The few systems that have adopted the discipline of a tight ratio recovery target and an annual fare adjustment seem to consider the benefits less in terms of financials but more in terms of system governance and local politics. To be able to point to a law or regulation, imposed possibly by a higher tier of government or by a previous generation of elected officials, can help to distance the current elected officials from the responsibility for this year's fare increase.

Bulk Purchases

Over two-thirds of all systems now have *monthly* unlimited-ride passes, according to the APTA data, and about one in ten systems has a *weekly* pass. The weekly passes are much more common for rail services than for bus services. A weekday pass and a weekend/holiday pass are each offered by about 10 percent of systems. For the median transit system, the monthly pass is priced at about 35 adult cash one-way fares, and the weekly pass at about 10.

Introducing unlimited-ride commutation tickets was pushed in the 1970s as an appropriate fare medium to use in enlisting the employer's help in distributing tickets . . . and perhaps in subsidizing them, too. But except in the relatively rare circumstances conducive to modal shifts, the economics of commutation tickets are not generally good for the transit operator. The introduction of unlimited-ride passes is likely to produce a drop in revenues in most cases *(6)*.

Multiride tickets, good for a specified number of trips, are also used by about two-thirds of all systems. The most popular version is the 10-trip ticket, used by about 40 percent of operators, and the 20-trip ticket, sold by one in six operators. The median savings from purchasing these instruments is around 10 percent.

There is another form of bulk purchase discount—that offered to ticket "wholesalers" to enlarge the range of distribution channels for payment media. These might include large employers, or retail or service establishments. APTA reports that in 1991 over half of the transit agencies sold tickets through retail outlets of some form, but the data do not show what commission arrangements were necessary to encourage such third-party sales.

Fare Differentiation

Differentiating fares between passengers on the basis of their trip characteristics (such as trip length or time of traveling) can be considerably more attractive financially to the transit system than offering bulk discounts. Fare differentiation in various forms—cost-based pricing, service-based pricing, and so on—was much on our minds in 1980 because Bob Cervero and Marty Wachs were here to report on their recently completed research that showed the inefficiency of flat fares in the context of some specific city case studies *(5)*. The economic theory is basically simple: if the fare elasticities and the costs of service provision vary significantly between different segments of the market, then it should prove possible to increase revenues without significantly reducing demand by tailoring fares to the different segments of the market, *if feasible and enforceable ways can be found to do that.* The last proviso is important, because the implementation logistics can significantly constrain what it makes sense to do. The airlines have been very successful with fare differentiation in recent years (for example, in charging low elasticity business travelers higher fares than the people making more price-sensitive discretionary trips), but much of what is feasible in the airline context has no immediate analog in the transit setting.

When I joined CRA in 1984, I inherited a project that was exploring the conditions under which transit fare differentiation (particularly distance-based fares) is likely to have the most favorable financial outcomes. We did this by theoretical analysis and simulation of the situation in some hypothetical, oversimplified contexts. We showed (unsurprisingly) that fare differentiation can indeed make a lot of sense if the relevant fare elasticities and costs are sufficiently diverse, but we also drew some other general conclusions *(7)*:

- Most of the gains came in the *initial* attempt to differentiate fares (for example, in moving from one fare zone to two). Diminishing financial returns can set in rapidly as the number of fare levels is increased (not counting the administrative cost and potential demand-side impacts of having a more complex fare structure). Using eight fare zones on a long route won't achieve much more than using three or four.
- The achievable net gains may be modest. This means that the improvement in (say) user benefits or subsidy reduction need to be compared carefully with the additional continuing administration costs.
- The potential gains from fare differentiation grow larger as
  - The farebox recovery ratio increases;
  - The fare sensitivity increases for the riders in the fare classes that are most costly to serve (note that often the more-costly-to-serve people, in particular the peak-period travelers, are *less* price-sensitive than other riders);
  - The disparity increases in the marginal costs of serving the different fare classes; and
  - The more costly-to-serve fare class constitutes between one third and one half of the total ridership at the flat fare.
- At low operating ratios, the scope for making gains is quite small.
- Minimizing subsidy while holding ridership steady is not a sensible objective. When total ridership is held constant, financial gains to the transit system can only be achieved at the expense of leaving the users (as a whole) substantially less well-off than with flat fares. If the concern is to minimize harmful effects on the existing ridership base, then a preferable objective would be to hold total *user benefits* constant instead of ridership.
- Setting fares to the nearest nickel can have potentially large effects. When one computes the fares that will theoretically produce the largest gains, and then rounds them each to the nearest nickel, the net economic gains to society don't change much from the "optimum" situation. However, how those gains are distributed between the passengers and the subsidizer may change quite markedly. This is obviously important if a major objective is to reduce the subsidy.

The year-to-year volatility in the APTA data on distance-based fares (see Figure 4) makes it difficult to detect any consistent trend. The data for time-of-day pricing (typically peak period surcharges) show greater regularity, however. If we can believe the figures, they suggest that peak surcharges were most popular in the mid-1980s—at the time of UMTA's comprehensive report on the practice *(8)*—and they have declined steadily since then. I've heard of a number of properties that have ceased using peak surcharges, so APTA's picture may be correct. Perhaps we can discuss the reality of, and possible reasons for, this decline in our sessions this week.

Another form of fare differentiation—by trip frequency—arises in the concept of so-called "deep discount" fares *(9)*. Essentially, this uses fare increase situations to increase the level of price differentiation between the media used by frequent travelers (or heavy prepayers) and those used by the infrequent casual riders.

So, for example, the price of monthly passes might remain unchanged as the price of one-way tickets rises. Under favorable conditions, it may be possible for a property to undergo at least one fare restructuring in which revenues are increased with little if any loss in ridership. Chicago *(10)*, Denver, Madison, and other cities purportedly have experienced this magic. Doubtless more will follow. I've yet to see a good comprehensive synthesis of the experience, however, or a strong analysis of the "optimum" level of frequency-based fare differentiation to achieve various desired goals.

Fare Collection Technology

I stressed earlier that logistical feasibility was a *sine qua non* for the worthwhileness of pursuing fare differentiation policies. We've been hampered often by limitations in our fare collection technologies, and slow to grasp and take full advantage of the technology-related advances that have been made since 1970.

But at the moment we're in one of those cycles in transportation where we go on a "technological high." It's not so much the people-moving technology we're entranced by this time—we did that one 25 years ago—it's more the information and microprocessor technology. "Intelligent Vehicle/Highway Systems" are to be our savior now, and indeed—lest you should think my flippant tone too cynical—as a long-time believer in the thesis that many of our *transportation* problems are really *information* and *communications* problems, I do believe strongly that we can make significant improvements in transportation by using smarter systems.

In the fare collection field, our own particular technological *wunderkind* is to be the "smart card," if a few remaining issues of performance and cost can be worked out (as I fully expect them to be). This has the potential to bill or decrement for system usage that could take account of a wide range of travel characteristics, so effectively it may remove the logistical barriers to many different forms of price differentiation.

I think it's a useful exercise to list the ways in which one might conceivably wish to differentiate fares if given half a chance to do so, and the following list provides a start. Any or all of these things could be on our transit fare policy horizon, given the expected favorable technological developments.

Differentiation by type of *traveler*

- Demographic and socioeconomic aspects (e.g., age, financial capacity)
- Affiliation (e.g., transit employee, school, university, employer, social service agency)
- Mobility impairment
- Frequency of use
- Payment method (e.g., standing order, direct debit, credit card)
- Time commitment of purchase (e.g., annual pass, monthly pass)

Differentiation by type of *trip*

- Specific origin or destination points
- Transit trip length
- Transit trip duration
- Quality of service (e.g., speeds, level of crowding) by corridor or line
- Quality or price of competing services (highway congestion, highway/bridge tolls, etc.)
- Timing of trip (peak/offpeak, day of week)
- Routing of trip
- Direction of trip
- Use of complementary modes (e.g., feeder buses to rail)
- Size of travel party

Differentiation for *other reasons*

- Market building fare reductions
- Sales commissions for fare media distribution channels
- Joint promotion with other businesses or uses for the payment media
- "Two-part" fare structures (a time-based subscription and a use-based charge)

But every time I begin to get overly excited about any technological advance, I have to remember how easy it is to get so wrapped up in technological fervor that we neglect to consider the mundane behavioral, economic, or political aspects of the situation. For successful progress, we need the confluence of all of these considerations, not just the technological part. I have to remind myself that while "smart cards" may facilitate all sorts of smart fares, many feasible fare innovations haven't been entirely constrained in the past by the available fare collection technology. For example, while flat fares have been the norm in the United States, British public transport operators have a long tradition of distance-based fares using fairly rudimentary machinery and ticketing systems, while those in continental Europe have a tradition of time-based fares. These methods of charging predate technologically sophisticated methods of fare collection.

In considering the pros and cons of the various possible types of fare differentiation listed previously, attention will shift from the technical constraints to the *political* constraints. The fare differentiation schemes that are financially advantageous to the transit agency and newly feasible with smart card technology will have to pass a *fairness* test to be acceptable to the traveling public. We will need to be able to explain, cogently and convincingly,

to the crowded, strap-hanging peak period subway rider in New York (for example) why it is "fair" to charge him more for his trip than we charge people traveling in more spacious conditions in the offpeak. And our explanation obviously cannot just be, "You're less likely to defect!"

I expect we'll be talking a lot about technology this week, since it's the way in which things have changed the most since 1980. I hope that as we do so we will be keeping clearly in front of us the political and financial forces that surround transit managers and board members.

Fare Integration, Coordination, and the Like

Today's fare collection technology, never mind tomorrow's, is creating opportunities for much greater integration and coordination of fares between operators and systems, consistent with some political forces that have encouraged greater coordination generally among regional providers. I expect we'll be hearing a lot about the progress toward fare coordination in the Bay Area and elsewhere.

Again, this is an area where I feel our enthusiasm for what we are *able* to do should be tempered with some serious assessment of whether it's worth doing. Sir Alan Walters once remarked that the only sensible meaning he can place on the terms "integration" and "coordination" is that which simulates private enterprise market solutions *(11)*. I think there's some truth there. Before we put a lot of effort into fare integration everywhere, let's at least make sure that that feature has some real value to significant numbers of users or potential users.

Fare Policy Climate in 1993

Skeptical as I may appear to be about some of the specific developments, I do want to end on a genuinely positive note. I believe that the fare policy climate *has* changed for the better since 1980, from a combination of many of the reasons and trends I have noted:

- The emphasis on being "consumer-driven," on "Total Quality Management," has helped sensitize transit officials at a minimum to the possibility of market segmentation, to the possible returns to marketing activities, and ultimately to the possible advantages of fare differentiation policies.
- The emphasis on the employer as a potentially powerful shaper of commutation patterns stresses to transit that there is still a lot of potentially fertile ground to be covered in terms of distributing fare media through employers, notwithstanding transit's justifiable chagrin about unequal tax treatment.
- The mounting enthusiasm for smart card technology in fare collection applications, which could facilitate forms of fare differentiation that in the past have been logistically cumbersome.

So today far more transit officials are asking sensible questions about fares. As they begin to consider the possibilities, they are demanding a lot of those of us who are in the analysis business; they often don't understand the complexity of what they ask. "What do you mean, you can't forecast reliably the effects of introducing a new 10-trip peak ticket for students if we also introduce a weekly offpeak pass at the same time?" But that's another paper.

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