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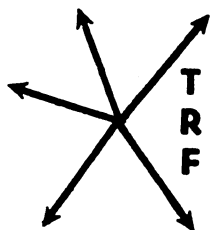
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The Problem of Free Mass Transportation

by Lewis M. Schneider*

Introduction

The current turmoil in our nation's cities has been attributed to a variety of factors: lack of jobs for the urban poor, racial discrimination, sub-standard housing, archaic school systems, the breakdown of family life, etc. Recently, attention has been focused on the quantity and quality of urban transportation as a contributing factor to our urban problems.

The argument is simple and straightforward. Ghetto residents who do not own automobiles are unable to reach suburban workplaces within reasonable periods of time, because the public transportation system is designed primarily to carry traffic to the central business district. This lack of urban mobility intensifies the frustrations of the urban poor. Witness the comment of Mr. Bayard Rustin, a prominent civil rights leader, on the failure of the National Advisory Commission on Civil Disorders to focus on the problem of ghetto transportation:

The Government spends billions for highways to get suburban white workers home from the city, but no money on mass transit to take poor people in the city ghettos to where the job market is opening up in the suburbs.^{1**}

Even when the public transportation system links ghettos and suburban workplaces, the cost for long trips is often high.² Therefore, some have proposed not only extensive public transportation systems providing coverage throughout a given metropolitan area, but free transportation to insure mobility for the poor. In addition, proponents of free public transportation claim a variety of additional benefits for the general population.

The purpose of this paper is to analyze some of the arguments for free mass transportation. During the drafting of this paper, the preliminary results of a study made by Charles River Associates (hereafter referred to as CRA) for the Department of Transportation became available. Several of the ideas in my paper coincide with those put forth by CRA; therefore, instead of repeating the same arguments at length, frequent references will be made to relevant sections of the CRA report.

After a brief discussion of the cost aspects of free transportation, this paper will concentrate on the following questions:

1. What market segments really need free public transportation? Should our traditional system of user charges be abandoned, because of the needs of particular segments of the urban traveling public?

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**Footnotes will be found at the conclusion of this article.

2. Does the "systems approach" to transportation planning justify free transportation?

3. What are the managerial implications of free public transportation?

The paper will conclude with recommendations directed toward the industry and public officials.

The Cost of Free Transportation

Obviously free transportation is not truly "free." The costs of operating transit systems will simply be transferred from the user to a combination of users and non-users via taxation.

These costs are not insignificant. We tend to ignore the aggregate cost of transit operations, perhaps because the cost of an individual ride is low. It is tempting to think: "A transit ride only costs 25c. It shouldn't make too much difference if transit charges are eliminated."

The transit industry in 1966 grossed \$1.4785 billion and had an operating deficit of \$37 million.³ In addition, commuter railroad revenue for 1966 was \$139.7 million.⁴ It seems reasonable to assume that the nation's commuter railroad service also produced an operating deficit, even though published data are not readily available. Thus, it would appear that the implementation of free transportation to mass transit and the commuter railroads would require at least \$1.6 billion a year in taxes to cover operating expenses. CRA has estimated that the cost of supplying free transit service would approximate \$2 billion per year.⁵

Should the general taxpayer assume this burden? Some maintain that free public transportation is an urban necessity and should be accepted in the same manner as the police and fire departments, schools, parks, and other public facilities. Yet, housing, food, and clothing are certainly urban necessities, and in general we expect these commodities and services to be financed by user charges. Perhaps the answer to this question of welfare economics hinges on the market segments who would be most affected by free transportation.

The Demand for Free Transportation

Free transportation would appear to have the greatest positive impact on two groups: (1) those riding transit now, and (2) the immobile poor who cannot use transit and do not have ready access to an automobile. On the other hand, it is not likely that free transportation in and of itself will induce substantial numbers of persons to switch from automobiles to public transportation. The CRA study found that free transit might divert 13.8% of the auto work trips, but little or no auto shopping trips.⁶

This finding is not surprising, because persons making urban trips in their own automobiles prefer to spend substantially more on transportation than those using mass transit.

A recent U.S. Department of Labor study reported that in 1966 the transportation component of the "moderate" metropolitan urban area family

budget totaled \$870 annually for automobile owners and \$184 for non-automobile owners, a ratio of 4.7 - 1.⁷

A more dramatic example of the cost differential between automobile and public transportation utilizes 1968 data published by the Automobile Legal Association pertaining to the cost of automobile operation in Boston and other cities.⁸ If we assume that a Bostonian purchases a small four door, six cylinder, manual shift, sedan primarily for commuting, the annual fixed charges (insurance, taxes, depreciation) would be \$1,116.91. Let us further assume that the automobile owner commutes 3,500 miles a year (250 days \times 14 miles per day) and drives an additional 1,500 miles a year during the evenings, vacations, and weekends. If we allocate the fixed charges to commuting on the basis of mileage, and add an operating cost of 2.428c per mile plus \$1.00 a day for parking, we can calculate the costs of commuting as: allocated fixed costs (including depreciation) \$781.84, gasoline and maintenance \$84.98, and parking \$250.00—a total of \$1,116.82. If local public transportation were used, the commuting cost would be 60c-80c per day or a maximum of \$200.00 per year. Thus, the current ratio between the costs of automobile commuting and public transportation in Boston is about 5.5 - 1. Even car pools of 2-3 persons do not reduce the automobile costs to the level of public transportation.

If urban drivers today willingly pay a significant differential for the privilege of using their automobiles in order to enjoy high quality transportation, it seems reasonable to assume that decreasing transit fares still further will have little impact on automobile travel.

Do those riding transit now need free transportation? At the outset it must be emphasized that substantial numbers of transit rides can afford to pay even higher user charges. A 1963 survey of 22 SMSA's reported that one third of the transit riders had household income in excess of \$7,500, whereas 41% of the total population in the sample cities was in the same income bracket.⁹

A more recent study of "regular transit-user households" in New York City found that 28% had incomes over \$9,000 with the percentage varying from 21% to 37% depending upon the Borough.¹⁰

At the present time, major rapid transit extensions are being built into the suburbs of our largest metropolitan areas with the aid of capital and sometimes operating subsidies. It would be ironic indeed if free transportation were offered to middle and upper income commuters on these lines as a reward for abandoning the central city.¹¹

But, what about those transit riders and persons not making trips who do not have easy access to an automobile? In 1965, approximately 12 million families did not own automobiles, and 8.75 million of these had incomes of less than \$5,000. In 1966, it was estimated that 44% of the residents in our nation's 12 largest SMSA central cities did not own cars.¹² Clearly, free transportation would enable many of these persons to reallocate their transportation expenditures to other goods and services, perhaps to find heretofore inaccessible jobs, and to increase the number of non-work trips.

But, there are other ways of achieving the same ends which might be less expensive and avoid the problem of subsidizing those who do not need

subsidies. The poor could receive direct subsidies for transportation via tax deductions or a negative income tax. Other proposals include greater use of taxicabs and minibuses, and a novel plan to promote automobile ownership.¹³ The taxicab schemes would be particularly appropriate for senior citizens who cannot drive automobiles because of their age or health and find it difficult to board and alight from standard transit vehicles.

In short, free transportation is the ultimate mass transportation subsidy (unless persons are actually paid to ride) and the justifications for and against subsidies have been debated at length in the literature.¹⁴ Although certain segments of the population (primarily those without access to automobiles) could benefit from reduced mass transportation charges, it is not clear that extending free fares to all would be the most efficient nor equitable method of solving the problem.

The System Argument

Another interesting argument in favor of free mass transportation stems from the concept that the city should be regarded as a system. Mobility is vital to the functioning of the system and institutional practices which inhibit mobility (such as user charges) should be eliminated.

For example, we don't pay user charges to ride elevators in office buildings. The elevators are designed to accommodate the expected traffic. The costs are assessed on the tenants of the building, and presumably the tenants recover these costs from the ultimate users of their services.¹⁵

It should be noted that the costs of the elevator are not necessarily borne by the actual users of the elevator. Unless the rider transacts business in the building, he does not contribute revenue which ultimately is returned to the owner of the building. On the other hand, many persons will indirectly pay for the costs of the elevator, yet never set foot in it. The price of the service or product which they purchase contains a sliver of "corporate overhead" which in turn includes rent to cover the capital and operating costs of the elevator.

Is the elevator to be regarded as mass transportation, and the office building a "city"? Two distinctions should be recognized. The first is that the users of the building (customers and employees alike) have no realistic alternative but to use the elevator, unless they are destined for the ground floor, or enjoy climbing steps. Most urban trip takers have the option of using their automobile.¹⁶ Carrying the analogy to the extreme would require that all costs of urban transportation including use of one's automobile be free.

The second problem concerns who should bear the capital and operating costs of the elevator. The application of the elevator analogy to mass transportation would require that those commercial enterprises which clearly benefit from the facility pay the costs. There is nothing unreasonable with this suggestion. Indeed, several early subways were financed in part by assessments on property abutting the subway. Thus, it would be highly appropriate to operate free minibuses within the central business district to provide comfortable and convenient internal circulation, but one would expect that the cost of the service be borne by the central business district merchants.

The other major "systems" argument supporting free transit assumes that transit operations reflect economies of scale. If free transportation induced more patronage, the costs per ride would be substantially reduced and the society would benefit. But, as several economists have noted, it is not at all clear that the basic objective of our urban decision makers should be to minimize transportation costs. For example, both meat loaf and steak are nourishing, but we do not force consumers to forgo steak in the name of minimizing food costs.

In addition, the low costs per passenger mile characteristic of mass transportation systems (particularly rail rapid transit) pre-suppose heavy traffic which may or may not correspond to the actual demands for trips. If the cross elasticity arguments suggested by CRA are correct, the point is a moot one, for the use of reduced or non-existent fares to generate the ridership to achieve economies of scale may be less successful than many hope.

The Managerial Implications of Free Transit

An important by-product of free transportation will be its effect on transit management and its policies. The transit industry now stands at the "proverbial crossroads." On the one hand, over \$2.25 billion in new transit facilities is under construction or authorized. Yet, public transportation today is still suffering from high costs, poor service, and uncomfortable equipment.

This author has asserted previously that the management variable is equally as important as finances and technology in shaping the future of the industry.¹⁷ How will management function in a world of free public transportation?

In my opinion, free transportation could only result in the further deterioration of transit service. Transit management would be encouraged or forced by the public bodies paying the costs to keep transit expenses as low as possible consistent with adequate service. There would be little support of a policy of providing high quality transit service (at higher costs) to compete with the private automobile.

It might be difficult for transit management to control expenses and motivate the work force. Unlike private transit companies or public systems which possess a strong trust indenture in conjunction with their revenue bonds (e.g., Cleveland), there would be no quantitative measure other than "public benefits" or "last year's budget" to judge the performance of the system. Profit would be a meaningless term and return on investment would have to be calculated on the basis of cost differentials alone. Patterns of inefficiency could easily become routinized and the morale of the management team might well suffer.¹⁸

Free transportation flies in the face of marketing instincts. That transit industry's problem today is to design a variety of products at different prices to appeal to different segments of the traveling public. If one of transit's goals is to relieve automobile congestion and air pollution, automobile riders will have to be diverted. Evidence strongly suggests that improvements in service rather than fares will be controlling.¹⁹ These improvements will depend upon the marketing orientation of transit management and the fiscal environment in which they operate.

Recommendations

Consistent with the above analysis, the author would recommend that:

1. Serious consideration be given to plans which would subsidize low income urban residents directly to insure adequate mobility, rather than rely on across-the-board free transportation.
2. Every effort should be made to have public transportation systems price their service so as to cover at least out-of-pocket costs as contrasted with a policy of partial or complete subsidization. In this regard it should be emphasized that today's automobile drivers willingly pay a substantial differential rather than patronize public transportation.
3. The transit industry must not design and market their product on the assumption that the ridership is a homogenous "mass" (as implied by free transportation). Indeed, the evidence suggests that further experimentation with new kinds of high quality service will be more effective in attracting different ridership segments.
4. In certain special applications, free transit might be appropriate when the collection of fares would seriously disrupt the functioning of the system. For example, free mass transportation vehicles could provide circulation in downtown central business districts. But, in such cases, the subsidy should be financed by the commercial enterprises directly affected, rather than absorbed by the community as a whole.

FOOTNOTES

1. *New York Times*, April 28, 1968, p. 36.
2. In many cities, free transfers between transit vehicles have been eliminated as a means of increasing revenue. Persons traveling from ghettos to the suburbs often must transfer, thus incurring both high costs and lengthy travel times.
3. American Transit Association, *Transit Fact Book 1967 Edition* (Washington: By the Association, 1967), p. 4. The ATA represents approximately 85% of the transit companies in the transit industry. The transit industry includes all organized local passenger transportation agencies, both private and public, except taxicab and suburban railroads, sight-seeing buses, and school buses.
4. Association of American Railroads, *Statistics of the Railroads of Class I in the United States, 1956-1966* (Washington: By the Association, 1967), p. 7.
5. Gerald Kraft and Thomas A. Domencich, Charles River Associates, *Free Transit*, Presented at the Transportation and Poverty Conference, American Academy of Arts and Sciences, Brookline, Massachusetts (Brookline, Mass.: By the Academy, 1968), p. 16. The \$2 billion includes the \$1.75 billion cost of providing existing service plus the additional amount needed to handle the expected increase in riders.
6. *Ibid.*, p. 10.
7. U.S. Department of Labor, Bureau of Labor Statistics, *City Worker's Family Budget for a Moderate Living Standard—Bulletin 1570-1* (Washington: GPO, 1967), p. 9. The level of the "moderate" standard was estimated to be at least 16 and more likely 20% below the average level of living for families of this type (p. 4).
8. See: Sidney von Loesecke, "Cost of Car Operation," *The Automoblist* (Automobile Legal Association, March 1968), p. 13. Cost data with the exception of the assumed \$1.00 per day parking fee used in the determination of automobile commuting costs in Boston were taken from this source.

9. *The Transit Millions*, Prepared by Sindlinger & Company, Inc., for the Transit Advertising Association, Inc. (New York: By the Association, 1964). The use of the telephone as the survey vehicle may have introduced bias toward persons with relatively higher income.
10. New York City Transit Authority, *The Effect of the 1966 Transit Strike on the Travel Behavior of Regular Transit Users*, Prepared from a Survey Made by Barrington and Company Division of Day and Zimmermann, Inc. (New York: New York City Transit Authority, 1967), p. 20. The 1960 census found that 24% of the households in the four major boroughs had incomes over \$9,000.
11. For example, a 1960 study of Boston's subsidized Highland Branch found that 45% of the riders had family incomes greater than \$10,000. Greater Boston Economic Study Committee, *A Study of Commuters on the Highland Branch* (Boston: By the Committee, 1960). Similarly, 32.4% of a group of commuter train riders surveyed in conjunction with the \$5.4 million Massachusetts Mass Transportation Demonstration Project reported income in excess of \$10,000. *Mass Transportation in Massachusetts* (Boston: Mass Transportation Commission, Commonwealth of Massachusetts, 1964), p. 110. For further data see Martin Wohl, *Users of Urban Transportation and Their Income Circumstances*, Presented at the Transportation and Poverty Conference, American Academy of Arts and Sciences, Brookline, Massachusetts (Brookline, Mass. By the Academy, 1968).
12. The statistics on automobile ownership can be found or calculated from data contained in George Katona et al., 1966 *Survey of Consumer Finances* (Ann Arbor: University of Michigan, Survey Research Center, 1967), pp. 15, 94, and 96.
13. See: Sumner Myers, *Personal Transportation for the Poor*, Presented at the Transportation and Poverty Conference, American Academy of Arts and Sciences, Brookline, Massachusetts (Brookline, Mass.: By the Academy, 1968).
14. For a comprehensive discussion of transit subsidies which includes consideration of: economies of scale, needed service, income redistribution, one-shot start-up service, the unused option, reduced pollution benefits, preserving the central business district, access to the CBD, access to culture, promoting optimum land use, and preserving the tax base, see: John R. Meyer, John F. Kain, and Martin Wohl, *The Urban Transportation Problem* (Cambridge: Harvard University Press, 1965), pp. 341-353.
15. See, for example, the statement of Luther Gulick, president of the Institute of Public Administration in U.S. Congress, Senate, Committee on Banking and Currency, *Hearings, Urban Mass Transportation*, 87th Cong., 1st Sess., 1961, p. 256.
16. Note *City Worker's Family Budget . . .*, p. 7. Automobile ownership as a component of the moderate family budget has increased significantly in importance during the past decade. "In the 1959 budget, New York, Philadelphia and Boston were specified as low (48 percent) ownership cities. In the new budget for these cities, and also for Chicago, auto ownership is specified for 80 percent of the families. For other areas in the 1959 budget, 76 percent of the families were assumed to own cars, but auto ownership is specified for 95 to 100 percent of the families in these areas in 1966."
17. Lewis M. Schneider, "A Marketing Strategy for Transit Management," *Traffic Quarterly*, XXII (April 1968), pp. 283-294.
18. See: Kraft and Domencich, *Free Transit*, pp. 32-34.
19. *Ibid.*, p. 4. The authors also suggest, however, that "even substantial improvements in transit services are not likely to reduce greatly the demand for automobile travel."