Transportation and poverty
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Widespread concern about the problems of poverty and race has led to a proliferation of schemes for reducing the unemployment, increasing the incomes, and generally improving the well-being of disadvantaged groups in our society. Prominent among these are several that would use transportation to increase the employment opportunities of the poor. The concept that inadequate transportation must be numbered among the disadvantages of the poor and that improved mobility, particularly as it improves access to jobs, could increase their self-sufficiency was publicized widely in the aftermath of the Watts riots in 1965. The Mccone Commission report on the causes of the riots concluded that “the most serious immediate problem [facing] the Negro in our community is employment. . . .” The commission suggested

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that, although a serious lack of skill and overt discrimination are major causes of high Negro unemployment, inadequate and costly public transportation also limit Negro employment opportunities:

Our investigation has brought into clear focus the fact that the inadequate and costly public transportation currently existing throughout the Los Angeles area seriously restricts the residents of the disadvantaged areas such as south central Los Angeles. This lack of adequate transportation handicaps them in seeking and holding jobs, attending schools, shopping and fulfilling other needs.¹

The McCone Commission, therefore, recommended that public transit services in Los Angeles be expanded and subsidized. (Its report was strangely silent about the possibility of improving access to jobs by reducing segregation in the housing market.) This recommendation attracted considerable public attention, and the federal government, through the Department of Housing and Urban Development, has sponsored some demonstration projects designed to ascertain if better and more extensive transit services between ghettos and employment centers would yield additional jobs for ghetto residents. The entire subject is very fashionable. But it is astonishing how little knowledge lies behind the popular political opinions it provokes.

**A new problem?**

In light of the new public awareness of the relation between poverty and transportation, it is appropriate to ask whether the problem itself is new. Obviously, poverty is no new problem; nor is it a growing problem. But when the relation between transportation and poverty is examined, it becomes apparent that something is new. Post-war changes in urban ecology and transportation systems, while conferring significant improvements on the majority, have almost certainly caused a relative deterioration in the access to job opportunities enjoyed by a significant fraction of the poor.

To be sure, many, if not most, poor continue to live in centrally located residential areas; and these are reasonably well served by public transit to the central business district, where one usually finds the highest density of job opportunities. But in the past two decades, new job opportunities have grown more swiftly outside this central business district. It is estimated that there may be 100,000 fewer low-income jobs in New York City than there are low-income workers [7]. A similar pattern has apparently emerged in several other American cities [4]. Living in a neighborhood well served by public transit to the central business district is therefore less of an advantage for lower-income groups today than it once was.

¹ California Governor's Commission on the Los Angeles Riots, *Violence in the City—An End or a Beginning?* (Los Angeles, 1965), p. 65.
The automobile and the poor

Reflecting these and other changes in the post-war pattern of American urban living, the total number of passenger trips by mass transit has declined in every year since World War II. Much of the early post-war decline must be viewed against the abnormal conditions of wartime, when transit use was artificially swollen by restrictions on automobile use; transit patronage in 1953 was almost the same as in 1940 or 1941. But the decline in transit use has continued well past 1953, and today transit patronage is about two-thirds of what it was in 1940 or 1953, in spite of a considerable growth in urban population during the past decade.

This can be explained by the fact that a growing proportion of the urban population chooses to travel by automobile. To a considerable extent this results from steadily expanding auto ownership. In 1950, 6 out of every 10 United States households owned one or more private automobiles. By 1967, the figure was nearly 8 out of every 10. But of family units with incomes between $2,000 and $2,999 before taxes, only 53 per cent owned an automobile in 1967. The percentage of those with autos in the below-$2,000 bracket is, of course, much lower still.

The low levels of auto ownership among the poor reflect the fact that the automobile, though a near necessity in much of urban America, is a very expensive one. The high initial capital outlay and operating costs of a private automobile are a heavy strain on the budgets of low-income households. In general, then, when adequate transit services are available, low-income households can and do obtain substantial savings by foregoing auto ownership.

The acquisition of an efficient private automobile (one without exorbitant maintenance costs) requires considerable financing, a chronic difficulty for the poor. Poor people, therefore, even when they own cars, generally own poor cars. Many of these are inadequate for long-distance commutation and expressway operation. Often they are also uninsured. Thus, statistics on car ownership among the poor, as adverse as they are, may paint a more favorable picture than is actually justified.

The dependence on public transit by the urban poor therefore continues to be very great. In the New York region, for example, less than 25 per cent of the households earning under $1,000 per year in 1963 used private automobiles to reach work; over 75 per cent used some form of transit. The proportions using automobiles were 57 per cent for those with incomes between $4,000 and $10,000, and 62 per cent for those with incomes over $10,000 per year [7].

Transit managements have made some effort to offset the steady decline in transit use by developing new markets. They have done this mainly by expanding route miles or services offered. The route miles of rapid and grade-separated rail transit service have increased
about 2 per cent since 1945 and soon will increase further as new rail rapid transit systems under construction are completed. Route miles of all kinds of transit service, bus and rail, have risen nearly 20 per cent since 1955. In the same period, however, transit operators have curtailed the vehicle (revenue) miles of services offered by 20 per cent in response to decreases in ridership. To some extent this decline in vehicle miles of service has been offset by the use of larger vehicles with more seats. Nevertheless, the overall effect has been a reduction in the frequency and, therefore, the basic quality of the service rendered. In general, reductions in service offerings have been most severe on weekends and other off-peak periods (particularly evenings) and for commuter trains.

Transit to suburban jobs

The effectiveness of the additional route miles, moreover, has been less than it might have been because modern bus transit tends to follow the same routes as the old streetcar lines. This means that a high percentage of services in most cities converge on the central business district. For an individual to make a trip from one point at the periphery of a city to another point at the periphery usually requires taking one radial line into the central business district and then transferring to another line to make the trip out to his destination. This arrangement tends to be costly for both operators and users. Bus lines operating through a central business district encounter congestion, with all that entails for increasing operating costs. For the user wanting to make a trip from one peripheral urban location to another, the radial trip to and from the CBD means a much longer and more time-consuming journey than is geographically necessary. Commuters at all income levels, therefore, tend to use automobiles for such trips. Even the poor tend to do so whenever they can make the necessary arrangements, either by owning an inexpensive car or by joining a carpool.

In general, conventional transit is at a performance disadvantage compared to driving or carpooling when serving thinly-traveled, long-distance routes between central city residences and suburban workplaces. Even when available, the transit service is often too little and too slow to compete with the automobile. Moreover, such transit service can impose dollars-and-cents handicaps that go beyond the direct costs in money and time of the commuter's trip itself. For example, conventional transit often adapts to limited demand by providing only peak-hour service between the suburban workplaces and centrally located residential areas. The worker must either catch the bus when it leaves exactly at closing time, or find some other mode of transportation, often at considerable additional expense. This means that the worker who depends on public
transit cannot easily accept overtime employment. The unavailability of a worker for overtime work not only denies him a lucrative opportunity, but can involve costs to his employer as well. Limited public transit scheduling, for example, can make it difficult for the employer to stagger shifts or closing hours. (And staggered closing hours can be helpful in solving such other transportation problems as traffic congestion at peak commuter hours.)

It is therefore not surprising that transit operators serving suburban plants report that low-income workers frequently use transit only when obtaining their jobs and for the first few days or weeks of employment. Once the workers manage to save enough for the down payment on a car, or become acquainted with some fellow workers living near them, they drive to work or join a carpool. If this is a common pattern, existing transit services may indeed be serving a critical function for low-income households, but one whose value is badly gauged by the fare box or by aggregate statistics on transit use.

The basic problem, however, remains: efficient transit requires that large numbers of persons travel between the same two points at approximately the same time. The growing dispersal of workplaces and residences means that this condition is satisfied less frequently than before. As jobs, and particularly blue-collar jobs, have shifted from areas that are relatively well served by public transit to areas that are poorly served, employment opportunities for low-income households dependent on public transit service have been reduced. Increasingly, low-income workers are forced to choose between a higher-paying job that is inaccessible by public transit, and thereby pay more for transportation (e.g., by buying and operating an automobile), or a lower-paying job that is served by transit. To put it in somewhat different terms, low-income households now have at their disposal at most only a bit more, and oftentimes less, transit service than they once did for reaching what is, in effect, a much larger metropolitan region.

The problem of race

The dispersal of the job market and the decline of transit systems have created particular difficulties for low-income Negroes. If the job of a low-income white worker shifts to the suburbs, he is usually able to follow it by moving to a new residence. If not, he may be able to relocate his residence to be near a transit line serving his new suburban workplace reasonably well. The low-income Negro worker, however, may not be so fortunate. Regardless of his income or family situation, if his job moves to the suburbs, he may find it difficult to move out of the ghetto. That is, his residence may not easily follow his job to the suburbs. For him, the service characteristics, coverage,
and cost of the transportation system can therefore be especially critical.

Unfortunately, conventional transit systems usually do not provide adequate services between the ghetto and suburban workplaces. The black worker, confined to ghetto housing near but not directly at the urban core, cannot readily reach many new suburban job locations by simple reverse commuting on existing transit systems. Existing public transit tends to connect suburban residential locations with the very core of the central business district; it may not pass through, or even near, new suburban industrial or office parks, just as it may also fail to pass through the ghetto.

If the ghetto resident is able to reach a suburban workplace at all by public transit, the trip may be expensive. If he is lucky, he may be able to join a carpool with a fellow worker and share the considerable expense of a long-distance auto trip from the ghetto. Here, too, the limitations on his residential options and the remoteness of most suburban workplaces from the ghetto reduce the possibilities of him making an advantageous arrangement.

The policy questions

Despite the public discussion and federally financed experiments that followed publication of the McCone Commission report, virtually nothing has been done so far to establish a factual basis for evaluating the utility of improved transportation in reducing urban poverty and unemployment. In particular, answers must be found to a number of questions. What effects do existing transportation policies have on income distribution? Are they the ones that were anticipated? Can transportation policy be an effective tool for expanding the opportunities and increasing the welfare of the disadvantaged? Should transportation be used this way? If so, what specific policies and programs should be adopted for achieving these purposes?

Jobs and transportation.

Inferior access to new jobs is by no means the only disadvantage of the ghetto resident. Indeed, in terms of his participation in the labor market, it may be much less important than other factors [1]. Thomas Floyd, who was deeply involved in the administration of demonstration projects in Watts and elsewhere, notes: “There is . . . reason to believe that some employers were using the transportation barrier as a convenient excuse for not hiring for other reasons. In addition to racial bias, there may be presumed or actual inadequate job skills or work habits” [3, p. 17]. When the improved transportation services were provided, he observed, the jobs did not always materialize.
If transportation is but one of many factors influencing job opportunities, provision of more or cheaper transportation by itself is probably an inefficient method of reducing unemployment or increasing incomes. Effective measures to increase the opportunities, employment, and incomes of the long-term unemployed or underemployed must operate simultaneously on several fronts. Training, education, counseling, placement, and transportation programs complement one another. Most or all of these programs should have a role in any well designed assault on employment problems, and any one of these programs in isolation could well fail because it lacked other essential services. On the other hand, simply putting all these programs into effect simultaneously would not guarantee results either. The different programs must be properly articulated and synthesized.

**Income redistribution and transportation.**

Subsidies for urban transportation have long enjoyed wide support on the ground that such subsidies help the poor. In spite of the fact that the poor generally are more reliant on transit than the rich, the truth of this proposition is less than self-evident [11].

Advocates of public transit subsidies need to be discriminating if the subsidies they support are actually to aid the poor. Many proposed new systems, such as the BART system in San Francisco and the transit extensions in Boston, will provide only nominal benefits for the poor. In fact, it is probable that both systems will have a highly regressive impact. They are to be subsidized out of the property tax, which is heavily regressive; and virtually all of the benefits will accrue to high-income, long-distance commuters traveling between high-income suburbs and central employment centers. They will do practically nothing to improve accessibility between centrally located ghettos and suburban employment centers.

In general, users of high-speed, long-distance rail commuter systems are among the wealthier classes of society. Local bus systems, by contrast, frequently serve large numbers of low-income users. Paradoxically, these local bus services rarely require large public subsidies. In fact, the available evidence suggests that local bus systems serving low-income and dense central city neighborhoods often make a profit, and often subsidize unprofitable long-distance commuter systems serving low-density, high-income neighborhoods [11].

Another anomalous fact is that a disproportionate number of taxi trips are made by poor persons. The explanation apparently is that many locations are simply inaccessible to carless households except by taxi. For many of the poor, occasional use of taxicabs as a supplement to transit and to walking is relatively economical compared with automobile ownership.
New York provides contrasting figures that illustrate this point. In New York, poor households do not make proportionately more taxi trips than middle-income families. The reason is that a smaller proportion of middle- and upper-income families own automobiles in New York than elsewhere. Moreover, the public transit system is much more extensive in New York than in most other cities and is thus a better substitute for taxicabs. In small cities and towns, however, taxicabs are sometimes the only form of public transit available to the poor. In these instances the poor and infirm may be almost the only users of taxicabs—because everyone else drives.

Thus, the apparently simple question of which income groups use which modes of transportation is a good deal more complex than is commonly imagined. Such hasty generalizations as “taxicabs are a luxury used only by the very rich”; “automobile ownership is limited to the well-to-do”; and “transit is used only by the poor” fail to hold up under scrutiny.

The mobility and transport choices of different income groups could be discussed more cogently if we had better measures of urban mobility [5]. Unfortunately, the usual measure of “tripmaking” used in metropolitan transportation studies is poorly suited for defining mobility differences between different income classes. By definition, only vehicle trips (transit, truck, taxi, or automobile) and walk-to-work trips are counted as trips; walking trips other than those made to and from work are omitted. On average, such non-commuter walking trips are probably of far greater importance in low-income than in high-income neighborhoods. Poor people more often than higher-income people live in high-density neighborhoods where shopping, recreation, and employment are located close to home. Many trips that must be made by auto or transit in low density areas can conveniently be made by foot in high-density neighborhoods. Whether this means, as some believe, that the poor should be considered less mobile is not entirely clear.

In general, almost no data exist that describe how persons of different life styles, living at different urban densities and income levels, solve their personal transportation problems. Moreover, there is no hard information to demonstrate the existence of large and unfulfilled latent demands for alternative forms of transportation. Information on such matters is crucial for designing programs to improve the mobility of the poor and for evaluating the benefits of such programs as against their costs. Yet, to date, the information simply has not been gathered.

**Indirect costs.**

Most observers agree that the indirect and secondary costs of major transportation investment, such as urban expressways and
rapid transit, have not been given adequate consideration when choosing locations and alignment, designing facilities, and deciding whether construction is justified at all. At least two major kinds of such costs can be identified.

First, there are uncompensated costs imposed on individuals—residents, property owners, and businessmen—who are forced to move. These uncompensated costs commonly include not only the direct money outlays for moving but also losses engendered by destruction of cherished friendships, familiar environments, business relationships, and other intangibles.

Second, there are collective costs. These consist of adverse changes in the neighborhood or environment and largely affect those who are not required to move. It is sometimes remarked that the owners whose property is taken by eminent domain are often the lucky ones. Those located nearby, but not within, the right-of-way frequently suffer disruption and loss of value for which they receive no compensation. There can be no doubt that the building of a major highway or transit line through a residential area causes fundamental changes to the neighborhood. These changes may be either beneficial or harmful—quite often, they are both.

There is some evidence that the disruption may be greater if the highway or transit line is put through a tightly knit working-class community as opposed to a middle-class area. Some observers have argued that the working-class family is more immobile than the middle-class family, and more tightly linked to an extended family that typically lives within walking distance [2]. If true, when a decision is made to carry out construction in a working-class neighborhood, greater aid may be needed to compensate displaced residents and to assist the reconstruction of their environment.

Unfortunately, few operational tools are available for improving route selection decisions by taking such broader social considerations into account. To do so, several hard questions must be faced. How much community-wide benefit from construction of a road should be sacrificed for these neighborhood and individual values? Can cash payments of whatever amount compensate residents for the real character of their loss? If they cannot reconstruct their present environment, would adequate resources allow the displaced to construct a different but equally satisfactory or better environment? Is the problem in question essentially unique, or is it typical of all or most low-income communities? If it is typical, the road builders' options are, of course, limited. Almost any alignment would impose comparable costs on the affected communities. The range of choice is then narrowed to whether the road should be built, which remedial actions should be taken to limit the displacement or damage, and how generously the damaged population should be compensated.
Existing compensation formulas and mechanisms, unfortunately, fail to compensate many losers altogether and provide many others with grossly inadequate compensation. These inadequacies are responsible for much of the current resistance to urban transportation construction. A few individuals are often required to bear a disproportionately large share of the costs of urban transportation improvements in order to provide benefits for all. In these circumstances, spontaneous community action to oppose the new construction is hardly surprising.

**Proposed solutions.**

Perhaps the most ambitious proposal for improving urban transportation services for the poor is to make public transit free, thereby eliminating income as a determinant of transit use. Clearly, though, this is inefficient [8]. A large proportion of transit users are not poor, and free transit would subsidize the affluent as well as the poor. Moreover, the major difficulty facing the poor, and particularly the ghetto poor, is not that transit is too expensive, but that it is all too frequently unavailable in forms and services that are needed. In general, transit use seems far more sensitive to service improvements than to fare reductions, even for the poor. Nor is "free" transit particularly cheap. It has been estimated that, nationwide, the costs of free transit would be approximately $2 billion a year, assuming no increase in service [8].

Boston can be used to illustrate the comparative costs of free transit and service improvements for the poor. Until very recently, access between Boston's Roxbury ghetto and rapidly expanding suburban employment centers has been nonexistent for all practical purposes. The costs of providing transit services between all Boston's poverty areas (i.e., census tracts with median family incomes below $5,500 per year) and low-skill employment centers has been estimated at about $4.3 million annually. This is to be compared with an estimate of $75 million a year for free transit in Boston. The $4.3 million figure is, moreover, a total or gross cost; it would be less if any fare box revenues were realized. Furthermore, the $75 million subsidy for free transit would not provide any significant improvement in transit service between central city poverty areas and suburban employment centers [8].

An increasingly popular view is that public transit systems, as currently constituted, are incapable of increasing the mobility of the poor [4, 5, 9]. The argument is that the transportation demands involved in serving outlying workplaces from central city residences are too complex to be met adequately by any kind of public transit services at costs that are competitive with private automobiles. At two persons per car, for example, the cost of private automobile
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operation often is comparable to or lower than bus transportation in serving dispersed workplaces [9].

If so, it may be cheaper and more effective to provide some form of personal transportation for the poor. One such proposal, which its originator terms "new Volks for poor folks," is to rent, lease, or otherwise finance new or relatively new cars for low-income households [9]. Cheap used cars are seldom low-cost cars. If the cost of automobile use is to be reduced for low-income groups, their cars must be relatively new; if they are to have such new cars, the cost of credit must be lowered. A related proposal is to assist those workers who live in central ghettos and work in the suburbs to sell transportation services to fellow workers [9]. Such sales would help pay the purchase and operating costs of an automobile. In many cities, however, this proposal would encounter a number of institutional and legal barriers.

Of course, new cars for poor people will not help nondrivers, who are now estimated to make up 20 per cent of the population over 17 years of age. In fact, any extension of automobile ownership among the able-bodied poor may only serve to further degrade public transit services for nondrivers. To provide mobility for nondrivers, some have advocated the development of so-called demand actuated systems [3, 9]. Different versions of this concept come under a variety of names or acronyms, including Taxi-bus, Dial-a-bus, DART, GENIE, and CARS. In all cases, however, the idea is to provide something approximating the point-to-point service of taxis, while achieving better utilization levels and load factors than transit vehicles can now achieve on fixed routes and schedules.

In these systems, vehicles intermediate in size between a taxicab and a conventional bus would be used to pick up and deliver passengers at specified origins and destinations. By use of electronic control and scheduling, it is claimed, loads could be assembled with a minimum of delay. Proponents believe these systems usually would have cost characteristics intermediate between the conventional bus and the taxicab. By providing more individualistic door-to-door service than public transit, these systems might be of particular use for the elderly and the infirm. Furthermore, if such systems have the advantages suggested, they might be a better and more politically acceptable solution to the problems of ghetto access than subsidies to extend ownership of private automobiles, particularly in older cities with high density central residential neighborhoods.

Indeed, were it not for franchise restrictions and prohibitions on group fares, taxicabs could improve their operating efficiency considerably without any technological improvements. Demand-activated systems are functionally identical with taxis, but have more sophisticated scheduling, control devices, and operating policies.
Indeed, many benefits would accrue to the poor if there were fewer restrictions on the provision of taxi and jitney services [10]. A deregulated taxi industry would provide a considerable number of additional jobs for low-income workers. It has been calculated that removing entry barriers and other controls might expand the number of taxis by as much as two and a half times in most American cities. In Philadelphia, for example, deregulation could create an additional 7,400 jobs for drivers alone; if these jobs went to the poorest 20 per cent of the population, unemployment among these poor would fall by about 3.2 percentage points [10].

Taxi operation can also be an important income supplement for low-income households even where it is not a full-time job. A significant number of Washington's taxi drivers own and operate their own cabs on a part-time basis as a supplement to a regular job. The off-duty cab often doubles as the family car, thus substantially reducing the cost of auto ownership and increasing the mobility of residents of low-income neighborhoods [10].

A much expanded taxi and jitney industry could also provide an appreciable increase in urban mobility, particularly for the poor. Except for restrictive legislation, jitneys and taxicabs might now be providing a significant fraction of passenger service in urban areas. The greater number of taxis per hundred persons in Washington, D.C., an essentially unregulated city, and the sizable capital value of medallions (franchises to operate a cab) in New York, Boston, and several other cities, attest to a substantial latent demand for these services.

In short, simply providing larger subsidies to transit systems is unlikely to be an effective way of increasing the mobility of the poor. New systems seem needed, and there is some agreement on their characteristics. Such systems would normally use a smaller vehicle than conventional transit, would be demand activated rather than on fixed routes and schedules, and would provide point-to-point service or some close approximation of it. Such systems would most likely have somewhat lower passenger mile costs than do taxicabs (even those operating in unrestricted markets like Washington), but unit costs probably would be somewhat above those of current transit systems. In some instances, such services might merely supplement the more heavily used transit services; in others, they might replace such services altogether.

Ownership of these more ubiquitous systems might vary from place to place and from time to time. Where elaborate control and scheduling are required, a fleet might be necessary. In other instances, the services could be provided by large numbers of owner-operators working either independently or in a cooperative. Another possibility is nothing more complicated than organized carpooling, compensated or uncompensated.
Most such systems require very little long-lived investment. The most extensive capital requirements, of course, would be for the more elaborate, electronically controlled, demand activated systems. All would require major changes in institutions and regulatory frameworks. Fortunately, however, most also lend themselves to experimentation on a modest scale. Such experimentation could do much to improve our fund of information, which at this point is simply inadequate to support bolder policy initiatives.

Papers presented at the Conference on Transportation and Poverty, American Academy of Arts and Sciences, June 7, 1968. The papers and a transcript of the conference may be obtained from the American Academy of Arts and Sciences, 280 Newton Street, Brookline, Massachusetts 02146, or from the Clearing House for Federal Scientific and Technical Information, 5285 Port Royal Road, Springfield, Virginia 22151. The report is in two parts: 1. "Summary and Conclusion and Papers Presented" (Clearing House No. Pb-180956) and 2. "Edited Transcript" (Pb-180955).

[1] Peter B. Doeringer, "Ghetto Labor Markets—Problems and Programs."
[5] Phillip B. Herr and Aaron Fleisher, "The Mobility of the Poor."
[9] Sumner Myers, "Personal Transportation for the Poor."