

Is Transit the Most Cost Effective Way of Serving the Transportation Disadvantaged?

Introduction

The transportation disadvantaged (TD) are considered the elderly, the poor, and persons with physical and mental disabilities. Compromising a significant portion of U.S. population many of these people live in suburban, rural, and small town areas that are not well served by transit. This report explores the best way to serve people in these areas, as well as in the city, in the most cost-effective manner.

Background

The number of transportation disadvantaged in the United States is large. While demographic breakdowns of TD are not cross-inclusive, i.e., the disabled are not necessarily separated from the elderly and vice versa, it can safely be said that one-fifth of the American population are transportation disadvantaged.

Three main groups compose the TD. People over 65 make up 12 percent of the population. This proportion is expected to grow to 17-20 percent of the population in 2020. Incidentally, those 85 plus are to be the fastest growing segment of this population and are the least likely to have automobile access. Currently 75 percent of the 65 and older group do not live in areas well served by transit (USNSTC 1999).

The second main group of TD is the disabled and they make up the largest subset of TD. 40 million plus US residents are physically disabled, many of whom do not live in areas well served by transit (USNSTC 1999). No estimates could be found on the number of mentally disabled that are unfit or incapable of driving.

The third group of TD is the poor. Only 6 percent of approximately one million "welfare to work designees" reported owning a car in 1995. Cervero (1996) summarized an investigation in the San Francisco Bay area on jobs-housing balance by

saying that qualitative mismatches of housing types and jobs are more important than quantitative mismatches in changing transportation behavior. This "spatial mismatch" is magnified in the poorest demographic cohorts of whom 80 percent live in central cities while 70% of the jobs are in the suburbs (USNSTC 1999).

Ninety percent of the individuals required to start work under new welfare to work programs are single mothers requiring the ability to trip-train before and after work for day care and family maintenance activities. This requirement must be considered when planning transportation options for this demographic (USNSTC 1999).

Comparing Transit versus Automobile Travel Costs

Comparing transit costs to automobile costs is a difficult and inexact science. To do a fair comparison, all costs, both explicit and hidden, must be considered. Those hidden costs are often in the form of externalities that individuals do not realize when they choose a transportation option, but are paid for by society as a whole. (The economic term for this incremental unit is called the Marginal Social Cost, or MSC.) Such externalities include environmental pollution from exhaust, road congestion, noise pollution, under- or un-priced parking, and so on.

Several studies attempt to uncover the true costs of both automobile and transit transportation. One comparison by Delucchi found that transit is slightly more expensive than travel by automobile, even using the Marginal Social Cost pricing method. He found that riding the bus costs 10-15 cents more per vehicle mile traveled than driving a car. However, he fully admitted that many of the externalities he gave values for still need much investigation into how to correctly price them. Furthermore, he gave wide ranges to the costs of these externalities and estimated, in my opinion, conservatively in his final calculations on the full price of a transportation option, i.e., he gave almost no weight to under- and un-priced parking because he felt that even in a perfect market there would be a plentitude of free parking. (I disagree, and this is an area well researched by Don Shoup of the University of California – Los Angeles. See Shoup 1997.)

However, there were two very important areas that he did not consider in his calculations that figure very prominently in transportation choice when dealing with the transportation disadvantaged. The factors that should be further considered in a true assessment of the costs of the automobile versus transit are time and accessibility. People value their time spent traveling and generally prefer the quickest way from point A to B when going to work or running errands for maintenance needs. Automobile transit is perceived as the most efficient way of achieving this, except perhaps in the central city, and especially when waiting times for transit are considered. This factor was not in Delucchi's calculations. Furthermore, accessibility to boarding a transportation option is a significant consideration for the TD. The largest portion of the TD is the disabled with the next largest group being the elderly. Traveling the quarter mile that is typically considered accessible to transit is not a realistic option for these people, especially unassisted.

It should be noted that the true MSC of light-rail was significantly higher than either automobile or bus ridership. Hence, for the purposes of this report transit refers to bus ridership only.

Current Approaches to TD Policy

There are national policy initiatives to consider the TD and local policies. Here we shall consider each in brief.

The federal policy for the TD as stated in the National Science and Technology Councils's (NSTC's) Transportation Technology Plan is to achieve "a transportation system that meets the mobility and accessibility needs of the elderly, the poor, persons with disabilities, and all other Americans without access to a private automobile." This initiative has five specific goals:

- Create transportation systems that serve the TD while utilizing existing services, resources, and development patterns,
- Optimizing existing transit and paratransit services,
- Incorporate state, local, and private efforts to develop innovative transportation alternatives,

- Promote transit oriented design,
- And, preserving communities.

Means to achieve this end include new technologies, improved effectiveness of services by integrating critical services, and the initiation of new research, development, and technology programs. Some of the specific goals of this policy are to increase transit services and ADA compliant transit, and increase the percentage of urban population living within a quarter mile of transit stops.

Local policy initiatives are varied but can be well represented by looking at the San Joaquin Council of Regional Government's position on TD. They begin by defining what the unmet transit needs of the TD are and further go on to define what are reasonable terms to meet those needs:

"Unmet transit needs are the trips required, but unprovided, for those persons recognized as transportation disadvantaged so as to provide themselves with the essentials necessary to maintain a minimum standard of living. This includes trips necessary for medical and dental services, shopping, employment, personal business, education, social services, and recreation."

"Reasonableness to meet unmet transit needs is defined in economic feasibility terms as average cost per unit, by type of service. If the average cost per ride, by type of service, can be provided at, or below the area wide cost per ride by type of service, with an allowance of 10% variance of the average cost, meeting that unmet need will be deemed reasonable to meet." (San Joaquin Council of Governments Website 02-17-03.)

These definitions were first developed by persons representing various social service agencies, surveys of the local public, and from input by public officials and transit operators evaluating existing public transportation systems.

Recommendations and Conclusions

Transit is possibly the best option for only the economically poor subset of the TD since they are able to reach transit easily by walking. However, this is currently only the best option for central city-to-central city trips. The time factor in pricing the true cost of transit becomes too much of a burden on society (using the MSC method) when considering trips of any distance on transit. This may change as more information becomes available on how to accurately price congestion, pollution, and other often ignored externalities. Also, another factor to watch is as transit service increases, time spent traveling decreases, as does the cost associated with traveling on that mode.

Furthermore, the disabled and most elderly individuals do not have reasonable accessibility to most transit options (due to physical and geographical considerations), even if they were to be expanded widely. A great number of these populations live in the suburbs, small towns, and rural areas where mass transit is inefficient or nonexistent. Even in central cities distances to transit stops can be overwhelming to the physically disabled.

For the above reasons I recommend that transit at its current or near foreseeable service levels not be considered a viable, cost-effective manner for serving TD populations. Instead I recommend a broad partnership among government agencies, industry, universities, and not-for-profit organizations much like takes place in the state of Florida to efficiently serve TD populations. Here, one state coordinator oversees the efforts of regional partnerships and hundreds of carriers of different modes of transportation. This system helps determine which combinations of different providers and modes will provide for the most efficient movement of the TD. This method spans public and private providers and modes such as buses, vanpools, paratransit, car-pooling, and taxis. Florida saves hundreds of thousands of dollars through this system (FACTS Website) and should serve as a model for other areas.

Works Cited

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