

Within the past few years, increasing attention has been given to public transportation in all urban areas. Financial resources have also increased; money is now available for planning and for capital improvements. Although many argue that the amount of money available is not nearly enough, it is, nevertheless, substantially more than what has been available for many years.

Many factors have contributed to this increased interest in public transportation. In most large urban areas, traffic congestion has nearly immobilized travelers and created heavy air pollution concentrations. Recently, the shortage of fuel has created another crisis.

The new interest in public transportation must be directed toward achieving real gains. Interest in a particular subject or area does not necessarily in and of itself lead to real gains. Consumer acceptance and utilization of public transportation are indications that significant progress has been made.

The role of public transportation has changed little during the past 50 years. The role has almost always been that of serving only those people who have no other way to travel. This is especially true in small- and medium-sized urban areas. The role of public transportation and the requirements for maintaining that role must be well defined if there is to be a meaningful evaluation of public transportation services.

THE EMERGING ROLE OF PUBLIC TRANSPORTATION

In large urban areas, public transportation generally contributes to the reduction of traffic congestion, strengthens the central business district, and carries a small number of captive riders. Large cities such as Chicago would have difficulty functioning without their public transportation systems. The level-of-service ratio between automobile transportation and public transportation in Chicago, for example, is good. Automobile traffic is heavily congested, travel times are long, parking is inadequate and expensive, and driving creates maximum stress and strain. At the same time, headways on the rail rapid transit system and the public bus system are short, sometimes as low as 3 minutes in the peak periods and only 5 or 7 minutes in the off-peak periods.

The role of public transportation in Chicago is certainly different from that in many other urban areas. It provides good service to and from the Loop area, although service for cross-flow traffic is not nearly so good. Thus, the major role of public transportation in large cities seems to be to strengthen the central business district and to maintain its prominence in the urban area; providing general travel seems to be a minor role.

In small urban areas, public transportation is used quite differently. It has

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Kenneth W. Heathington and James A. Scott

only a slight effect on traffic congestion or the strength of the central business district. Because almost all riders are captive (60 to 80 percent of the total ridership), the public transportation systems become a social responsibility rather than a transportation requirement.

The level-of-service ratio between public transportation and automobile travel is not nearly so good in small urban areas as in large urban areas. In the small urban areas, trip lengths are shorter, traffic congestion is low, travel time is short, and parking is adequate and at a low cost. At the same time, headways on transit vehicles are quite long, and many portions of the urban area are not served at all.

Whether traditional public transportation systems in small- and medium-sized urban areas can ever be designed to compete effectively with the automobile is questionable. Most of the small urban areas have low densities that permit the effective use of the automobile as long as air quality standards are met and fuel is available.

The geographic location of an urban area influences the dependency on public transportation. Older cities that developed in the north and northeast long before the advent of the automobile have high densities and street patterns that are not conducive to automobile movement. Car ownership is lower in these areas than in other parts of the country. Cities in the south and southwest, in general, expanded after the advent of the automobile and have lower population densities. Thus, these cities are more automobile oriented and dependent and generally have no single prominent area such as a central business district.

The objectives for public transportation will clearly vary depending on the size of the area and the geographical location. A system providing transportation to a highly oriented CBD may not provide service for the old, young, and handicapped who have no other way to travel. At the same time, a socially successful system operating in a small urban area may not contribute to the reduction of traffic congestion or aid development. Objectives must be defined for the specific area if public transportation is to have a significant role in improving the form and operation of urban activities.

MARKETABILITY OF PUBLIC TRANSPORTATION

In defining the role that public transportation should play in an urban area, one may usefully look at roles that other businesses play. Generally, businesses can be classified as being either product or consumer oriented. A product-oriented firm is one that attempts to sell a product or service even though it may be totally unrelated to consumer needs or desires. A consumer-oriented firm is one that attempts to determine what the consumer desires and needs and then to develop a product or service that meets those desires and needs. A review of historical economic data in the United States reveals that most product-oriented firms have not been able to remain economically viable for very many years but that consumer-oriented firms have continued to prosper for long periods of time (1, 2, 3, 4).

Many product-oriented firms believe that, as population grows, demand for their product will grow. This assumption is completely false and has proved to be so many times as the following examples show.

1. The demand in the United States for kerosene lamps ceased almost entirely when electricity became available to light homes, businesses, and other facilities.
2. Recently the dry-cleaning business began to decline not because people do not desire to remain as clean as they once did but because the new fabrics do not need to be dry-cleaned.
3. In the 1930s, some executives of the big chain corner grocery stores thought that the consumer would never drive for miles to shop at supermarkets and sacrifice the personal service of the neighborhood store.

All of the economically failing industries appear to have moved in a self-deceiving cycle of large expansions and unrecognized decay. Four conditions lead to this cycle (3, 4):

1. The belief that growth is assured by an expanding and more affluent population.
2. The belief that there is no competitive substitute for the industry's major product.
3. Too much faith in mass production and in the advantages of rapidly declining unit costs as output rises.
4. Preoccupation with the product that lends itself to carefully controlled scientific experimentation, improvement, and manufacturing cost reduction.

An industry should be concerned that its process remains a consumer-satisfying process and does not become product oriented. A business venture should begin not with a raw material, a product, or a selling skill but with the customer and his needs.

Most public transportation systems are really product oriented. The objective has been to simply produce more of the same in the belief that as the population grows the demand for the product will grow. The few innovations that have been implemented have been oriented toward specific technology or equipment, i.e., the product, and not toward the consumer. The following examples illustrate this point.

1. A very large and expensive public transportation system is being developed in Atlanta (5). To attract new ridership to the system, fares were reduced from 40 to 15 cents and some improvements were made in service. As a result, ridership increased only 23 percent and the deficit increased about 40 percent. (In the field of public transportation, one needs an increase not of 23 percent but of 2,300 percent.)
2. In Rome, free public transportation was provided for a short period of time (6). Ridership increased approximately 23 percent. The number of automobiles in the downtown area remained the same, but those who had previously walked 2 or 3 blocks used transit because it was free. Thus, the average trip time became shorter, but the total amount of traffic congestion remained the same.
3. Free transportation was promoted by the San Antonio Transit System and also had approximately a 23 percent acceptance.

These examples indicate that the reduction of the unit price does not greatly increase the demand for the product. Although a small increase in ridership was attained, one could well argue that simply reducing the fare or reducing the cost of the product that a consumer does not desire will not lead to the purchasing of that product in any great quantities.

The BART system in San Francisco seems to be oriented more toward improving technology than toward satisfying consumers (8). True, the subway stations are more attractive and the ride is more comfortable. However, many question whether BART has determined or will meet specific consumer desires.

The Shirley Freeway project in the Washington, D.C., area is consumer oriented (9). Usage of this public transportation system has substantially increased, and automobile traffic in the peak periods along the same corridor has decreased.

Generally, the total number of passengers carried by traditional public bus systems has substantially decreased. Demand-responsive transportation systems, however, have had increased ridership and continue to have increased demands for service. Systems in Haddonfield and Toronto are examples of this type of transit, which is altogether consumer oriented (10, 11).

TECHNOLOGY AND PUBLIC TRANSPORTATION

Whether technology is the answer to the many problems in public transportation is certainly questionable. The consumer wants and buys service, not equipment. Thus, technology that yields new equipment and, perhaps, lower operating costs does not necessarily ensure an increase in demand for the service. This is not to say that technology is not important. The environment in which a person travels (i.e., the inside of the bus, the subway station) is important, of course, but not of primary importance. Of primary importance is service.

THE FUTURE OF PUBLIC TRANSPORTATION

If the automobile is permitted to continue to freely compete with public transportation, public transportation will continue to lose. The automobile is so consumer oriented and so meets the desires and expectations of motorists that it now has no competition. Regardless of traffic congestion, air pollution, fuel crisis, or whatever, the automobile has the market, not just a share of the market.

Conferences such as this one bring together many professional people who must establish, direct, or redirect, where appropriate, public transportation policy and operations. They must view that task within this context.

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