PROVIDING TRANSPORTATION FOR PERSONS WITH LIMITED MOBILITY IN SUBURBAN AREAS

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ABRIDGMENT

•RECENT federal transportation policy has specified a commitment to providing public transportation for persons who do not own or cannot drive an automobile. The special needs of the elderly, the handicapped, persons from low-income households, and other limited-mobility groups in an urban environment have received considerable attention. However, the travel characteristics and transportation requirements of persons with limited mobility situated in automobile-dominated suburban areas have not been well treated. This paper reviews some findings about the travel patterns of limited-mobility in Contra Costa County, California, a suburban area soon to be served by Bay Area Rapid Transit (BART). Key findings pointed to the feasibility of a limited-service, dial-a-bus system to complement the high-speed BART corridor system for those without access to an automobile.

Travel data from the 1965 home interview survey of the Bay Area Transportation Study Commission was classified by time of day, trip purpose, household car ownership, age of traveler, and household income for Contra Costa County households. These tabulations together with further analysis of the commute-to-work patterns of Contra Costa residents led to 3 principal conclusions:

1. There are only a small number of low-income persons and in-commuters with a significant need for peak-hour service to employment centers;
2. The elderly, low-income, and zero-automobile groups travel to a large degree during the midday (9:00 a.m. to 5:00 p.m.) for a variety of shopping, medical, and personal business purposes; and
3. More than half of all trips made by persons under 16 years of age are to and from school (in general, this need is satisfied by school busing service).

The predominant need for public transportation by limited-mobility groups in Contra Costa County was identified to be occasional shopping and personal business trips during the midday. To meet this demand, transportation service would only be required from 9:00 a.m. to 5 p.m.—a feature that would eliminate some of the penalty conditions of standard public transportation labor agreements.

The total coverage and doorstep service afforded by dial-a-bus made it an attractive alternative a priori in view of the nature of travel market being served. Further analysis showed that many-to-one dial-a-bus service focused on the major downtown nodes in the county and with 50 small buses could reasonably be done with manual dispatching. Patronage estimates were based on rates observed for conventional fixed-route bus service because of the captive nature of the potential users. A computer simulation model was programmed to evaluate optimum vehicle size, vehicle productivity (calls per hour), and costs for various service levels. Other simulation results (1) consider much higher levels of service (e.g., maximum waiting times of less than 10 min versus a maximum waiting time of 40 to 50 min in this case) and were not applicable. The dial-a-bus service alternative appears feasible for a limited role in providing transportation for limited-mobility groups in the suburban setting of Contra

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Costa County. Its suitability depends on the availability of corridor transportation service and the predominance of midday demand in the study area. Similar conditions in other suburban communities should point to further adaptation of the dial-a-bus system for providing special transportation for persons with limited mobility (2).

REFERENCES

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