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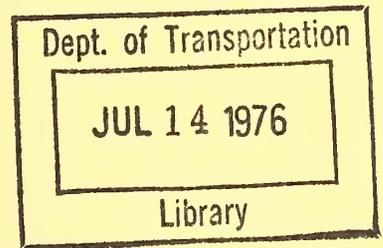
PTB 2-13-572



Small City Transit

SUDBURY,
MASSACHUSETTS:

A Short-Lived
Suburban Transit Service



March 1976
U. S. DEPARTMENT OF TRANSPORTATION,
Urban Mass Transportation Administration
Office of Service and Methods Demonstrations
Washington, D. C. 20590

*Transportation
Systems Center*

Report no. DOT-TSC-UMTA-76-5 no.12

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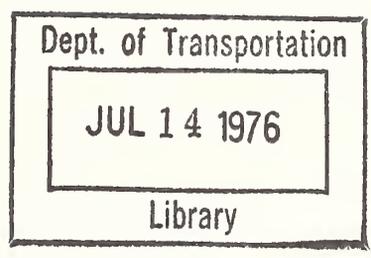
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Preface

This document was prepared by the Transportation Systems Center (TSC) as part of the information dissemination function of the Office of Service and Methods Demonstrations, Urban Mass Transportation Administration. This case study is one of thirteen studies of public transit systems in small communities and is intended to serve as an information resource for other communities in the process of planning or considering public transportation.

The information presented in this document is based on a visit to the site, interviews and phone conversations with the principals involved, and operating records obtained during 1975. The authors gratefully acknowledge the cooperation of local officials and transit operators at all of the sites selected for study, and of the TSC staff in compiling the information gained from these studies and assisting in its interpretation.

SUDBURY, MASSACHUSETTS: A Short-Lived Suburban Transit Service

Sudbury's attempt at establishing a community transit service is of interest not for what was achieved, but rather for what was not achieved and why. This grass-roots-inspired service was aimed at a transit-dependent group in a low density, affluent suburb with no clearly defined major activity centers. The lack of sufficient funding resulted in the implementation of an over-extended fixed-route system, a poor level of service, and a short life for the community's bus service. This brief sketch of the Sudbury experience highlights the problems that may be encountered by advocates of a small community transit system in the absence of "outside" financial and technical assistance.

Sudbury is a low-density, affluent, outer suburb of Boston (see map Figure 1). The town had a population of 15,000 in 1975, with an average population density of 608 persons per square mile. Most of Sudbury is residential in character and is perhaps best described as semi-rural, although there has been some strip-type development, i.e., shopping centers, gas stations, etc., along U.S. Route 20, the Boston Post Road, which traverses the southern edge of the town. About one-fifth of the workers in town are employed by a large electronics firm adjacent to this strip area. Only 8.0% of the resident work force commutes to Boston itself, since many workers are employed in the outer suburban ring.

The median household income was just over \$17,000 per year in 1970. At that time, there was an average auto-ownership level of 1.9 cars per household, with only 2.2% of households not having a car. Over 48% of the population is under 19 years of age, while only 5.5% are 60 years old or older.

Origins and Planning

Sudbury's bus service, to a large extent, owed its existence to one man. Paul Buxbaum, a private citizen with no prior experience in transit planning, perceived the need for an in-town bus service, largely as a result of having heard numerous complaints from parents who spent part of their day acting as chauffeur. From its conception, the Sudbus (the name eventually given to the service) was aimed at the town's youth. It was intended to give them some degree of independence and provide an alternative to cycling, hitchhiking, or asking Mom or Dad for a ride.

Pursuing his idea, Buxbaum suggested an in-town bus service as part of his campaign for election to the town Planning Board. He succeeded in having a series of questions related to the need for a bus service added to the annual questionnaire sent to all households by the Planning Board. The results of this December, 1973, survey indicated that over 60% of the households responding did want an in-town bus service. With the help of an ad hoc committee, Buxbaum started to firm up plans and gather support for the bus system. After serious debate the committee managed to get an article passed at Sudbury's annual town meeting in April, 1974, by a vote of 184 to 164. (It was felt that the vote in favor of the town bus system was due in part to the gasoline shortages of the Fall of 1973.) This article authorized the formation of the Sudbury Bus Transportation Committee to "establish and operate a system of public transportation for the Town of Sudbury" and appropriated \$25,000 as funding for this purpose.*

The system was financed totally with local funds. As part of the MBTA (Massachusetts Bay Transportation Authority) district, Sudbury was not eligible for state or federal funding except through the MBTA. It was decided to fund the service locally, since it was felt a system funded by the MBTA would result in increases in the Town's MBTA assessment with consequent results of greater cost to the Town for a given level of service.

With the passage of the article, unofficial planning for the system began under the auspices of the Citizens Committee for Sudbury Transportation. This voluntary group of about 20 members had to start from scratch in planning a bus system, since Sudbury had no transit service prior to this, other than a stop on a peak-period commuter bus route to Boston. Given a budget constraint of \$25,000 and the political reality of having to provide service in all parts of town, they set to work planning routes and schedules, designing a logo, and developing operating policies for the system. The work of this citizens committee continued until August 1974 when the Sudbury Selectmen finally appointed the three-member Sudbury Bus Transportation Committee, the official municipal body. These appointments had been delayed until this time by the Selectmen primarily because of their opposition to the bus service on budgetary grounds.

*This appropriation was the amount necessary to fund the service from its anticipated beginning which was to be August, 1974, until the next annual town meeting which would be held in April, 1975.

Paul Buxbaum was appointed chairman of the Bus Transportation Committee and "official" planning for the service began. Community meetings were held to get input on the proposed routes, service hours and type of service to be offered. The process of securing State Department of Public Utilities approval for the proposed routes began and specifications were drawn up for the bus service contract and bids advertised. Given the experimental nature of the system, it was decided to have a private operator provide buses and drivers on a contract basis. This long, slow process ultimately ended with the initiation of service on February 22, 1975.

Service Implementation

The Sudbus began operating with two 20-passenger school buses over seven routes (see Figure 2) at two-hour headways. All routes began and ended at one major transfer point. Buses ran from 8:00 a.m. until noon, and from 3:00 p.m. until 7:00 p.m., Monday through Friday. On Saturday, they operated from 10:00 a.m. until 6:00 p.m. The fare was 25¢, with free transfers. Children under the age of five rode free. Discount ticket books were available, offering 24 tickets for \$5.00. Senior citizens and students were able to purchase 24 tickets for \$4.00.

The Sudbury Bus Transportation Committee was officially responsible for the system and for overseeing the operation. However, the actual details of the day-to-day operations were handled by the bus contractor who provided the buses, fuel, maintenance, and drivers.

There were few organizational problems associated with the initiation of service, since in effect, the town had bought vehicle-hours of bus service from the contractor and eliminated the problems of hiring and training drivers, bargaining with unions, or acquiring buses. The delays that did occur were more of an institutional nature. The time required to come to an agreement with the MBTA whereby buses could be operated without the granting of conventional route rights, and the time needed to acquire contractor services through the municipal procurement process, seem to have been underestimated by the Sudbus advocates. They originally estimated that the service would begin 60 days after the Bus Transportation Committee was appointed. The service, however, did not begin until six months after the Committee's appointment. This delay may have been fortunate, because the "marketing" effort relied heavily on local newspaper exposure and the delay helped to contribute to this. The only other overt marketing effort involved a

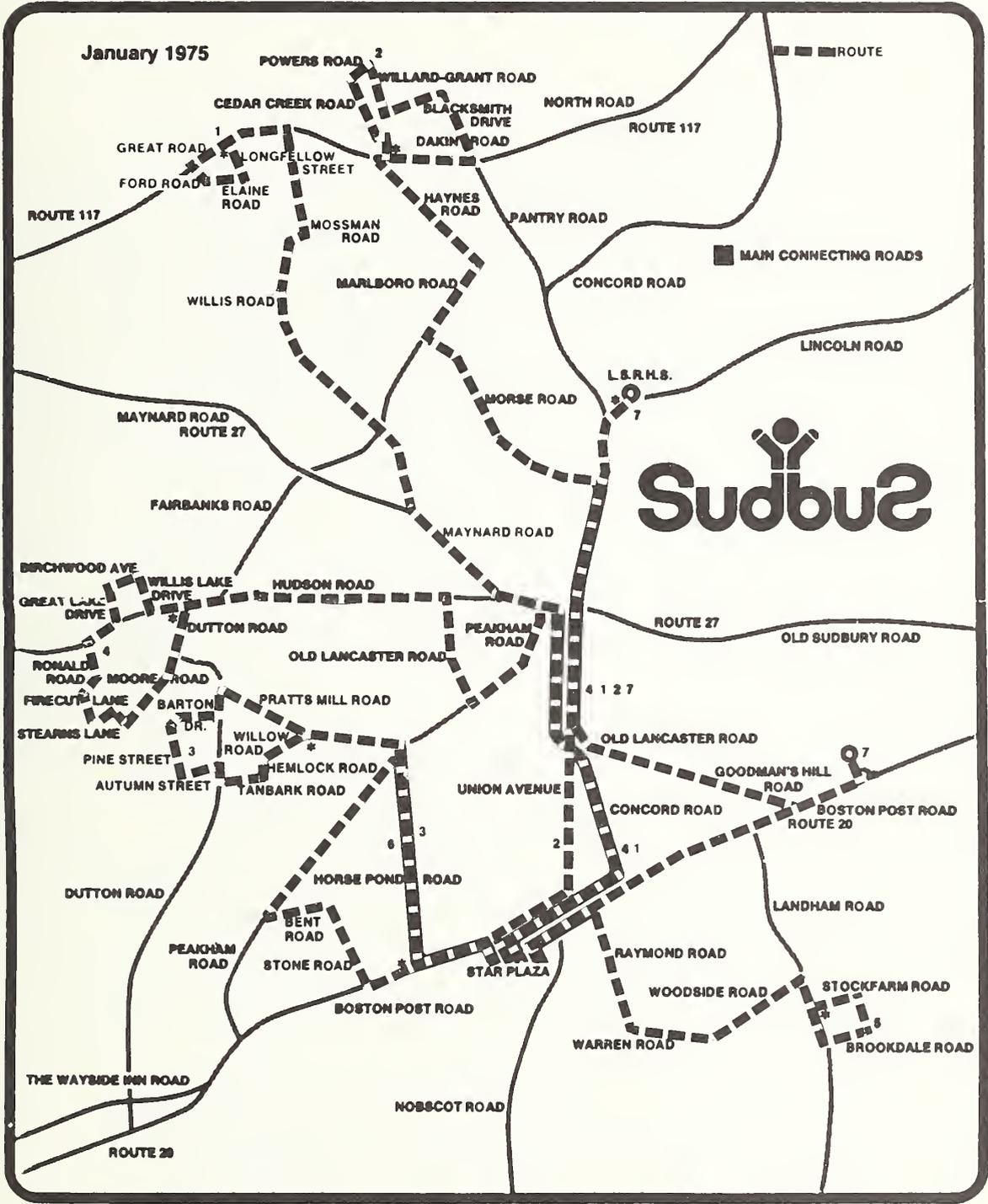


Figure 2. Sudbus Routes

mailing of the route map and schedule, along with a free pass, to every household in Sudbury.

Results of the Sudbus Experiment

Results and transit system characteristics are summarized at the end of this report. By late April, 1975, ridership had leveled off at 1,000 per week (average daily ridership of 167). The ridership in the first few weeks of operation had been 1,200 and 1,400 persons per week. Roughly, 80% of the ridership was under 19 years of age. The system planners had estimated that they would need a ridership level of at least 160 per day (based on costs, revenues, and the funds available to the Bus Transportation Committee) in order to carry the system through to the town meeting of April, 1975, and, hopefully a new appropriation.

The system had fulfilled its purpose, in that it did provide an alternative form of transportation for children and granted them and their parents some degree of independence. However, the system's experimental status, coupled with the need to win annual town meeting approval to continue operations, had a negative effect on the system's potential impact.

In April, 1975, at the annual town meeting, the Bus Transportation Committee requested \$45,000 to carry the service through for another year. This request was defeated on a close vote (157 to 148). However, \$25,000 was appropriated for partial continuation of the present service. The prevailing opinion seems to have been that the system had not operated long enough to determine its success or failure, but that it might have potential and should be given more time to prove itself. Much of the debate at the meeting centered on specific complaints regarding the level of service, vandalism at the central transfer point, and whether or not the system was providing or could provide an acceptable level of service given its budgetary constraints.

With the onset of summer, ridership had fallen to 500 persons per week. In response to this and in an effort to stretch their appropriation as far as possible, the Bus Transportation Committee had introduced a number of summer service modifications. Two routes were eliminated and frequency was doubled on another route. Saturday service was eliminated, and on weekdays, the hours of operation were changed to 10:00 a.m. to 4:00 p.m. These modifications failed to have the desired effect, and the Committee terminated operations in July.

Resumption of service is dependent on a decision on Sudbury's pending application for a state demonstration grant, and the establishment of a privately run shoppers' shuttle to the adjacent town of Framingham. Planners feel that the shuttle would help increase demand for an in-town feeder service.

The Sudbury bus service provides a good illustration of the difficulty involved in attempting to provide a reasonably attractive level of transit service within severe budgetary and political constraints. The system had a tenuous existence from its inception, even though it did service an identifiable transportation need. Given the socio-economic situation of Sudbury residents, a high-quality service would seem to be a prerequisite to the success of any public transportation system in Sudbury. Yet a tight budget constraint and the need to satisfy all the parochial interests in town led to the provision of very infrequent service in all areas of town. This, coupled with a minimal marketing effort (due to budgetary limitations), resulted in ridership levels which were less than satisfactory, and ultimately led to the cessation of service.

SUMMARY OF SUDBURY TRANSIT SYSTEM CHARACTERISTICS

DEMOGRAPHICS

Population in service area: 13,500 (1970 Census)
Population density: 550 persons per square mile
Median household income: \$17,200 (1970 Census)
Cars owned per household: 1.9
Percent carless households: 2.2%
Percent transit dependent: n/a
Average distance to service: n/a

COVERAGE AND SERVICE

Number of routes: 7 (5 in Summer)
Average route length (one-way): 5 mi.
Average route time (one-way): 15 min.
Time of service:
 Original service -
 Monday - Friday 8 am - noon, 3 pm - 7 pm
 Saturday 10 am - 6 pm
 Summer -
 Monday - Friday 10 am - 4 pm
Average headways: 2 hr
Number, types, and average capacity of vehicles:
 2 buses - 20 seats
Number of vehicles in service: 2

COST AND PRODUCTIVITY

Operating cost per month: n/a
Vehicle miles per day: n/a
Vehicle hours per day: 20 (12 in summer)
Driver hours per day: n/a
Operating cost per vehicle hour: \$9.85
 (This is the contractor's bid price)
Operating cost per vehicle mile: n/a
Operating cost per passenger trip: \$1.08
 (\$1.17 in summer)
Passengers per vehicle hour: 10.4
Passengers per vehicle mile: n/a
Driver wage rate per hour: n/a

REVENUE AND SUBSIDY

Fares: 25¢ per ride; transfers and children under
 5 free; discount ticket books: \$5.00 for 24
 tickets (\$4.00 for students and elderly)

Revenue per passenger: \$0.20
Subsidy per passenger: \$0.88
Operating ratio (cost/revenue): 5.4
Lease or buy vehicles: Lease
Funding: n/a

RIDERSHIP

Average passengers per weekday: 170
Ridership growth rate: n/a
Ridership composition: 80% under 19 (rough estimate)
Trip purpose: school, recreation

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