

MODEL CITIES DIAL-A-RIDE SYSTEM IN COLUMBUS, OHIO

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The model cities transit project, which has been in operation since October 11, 1971, is a part of the Columbus Model Cities Program, which is in its second action year ending June 30, 1972. We serve an area on the near-east side of Columbus that is 2½ square miles in size and has about 37,000 people according to the 1970 Census. Of that total, 85 percent are black. Automobile ownership is very low. There is a high need for mobility, and so it is a natural place to put in a dial-a-ride system to give all residents of the area similar mobility.

Before we started dial-a-ride service, we ran fixed-route service for 7 months from March 1 through September 30, 1971. We had originally proposed dial-a-ride as the transit project for Model Cities, but we were not able to implement it because of institutional problems, which I will not discuss. We started the fixed-route service with 45-passenger GMC coaches. All of the buses were furnished by the Columbus Transit Company (CTC), the regional private operator. In this case, we paid charter rates (\$9.50 an hour) for the bus, driver, and supervision. All we had to do was develop the routes, manage the project, keep track of the ridership, and adjust the service. We had originally hoped to begin dial-a-ride on July 1, 1971, but because of contract delays we lost another 3 months, and it was October 11 when we finally started the new service.

The fixed-route service was provided by 6 buses operating on 4 routes for 102 bus-hours per weekday. These buses were painted a special color, and they carried about 600 persons during peak hours of an average weekday. There were some 50 bus stops marked with the logo "Ride On" and bus route numbers so that people could easily travel throughout the neighborhood. This project is an in-tranighborhood service. It does not go

outside the Model Cities area but does link up with CTC radial routes, 6 of which run east-west through the neighborhood. We designed the fixed-route service to go to many key points within the area. Three senior citizen high-rise buildings in the neighborhood provide our most frequent riders. There are 3 major hospitals, 97 churches (which run us ragged on Sunday), and 5 major supermarkets. There is a well-established route between 1 senior citizen building and this supermarket. A library and a YMCA serve as major recreational facilities in the Model Cities area.

At the outset of the fixed-route system, we found that the 45-passenger bus was not maneuverable on the narrow streets and alleys over which we had to operate. Therefore, we started using a 19-passenger Flxette vehicle not only as a solution to that problem but also as a vehicle that met the requirements of dial-a-ride service.

The dial-a-ride service consists of a basic loop with 21 time checkpoints that our dispatchers and call-takers use to schedule the service. This loop is run both clockwise and counterclockwise. During peak periods, we operate 4 buses, 2 in each direction. The 21 checkpoints are marked on a map, and each tour around the line must pass those points but can deviate from the route anywhere between a pair of them. The checkpoints are marked in the field with the logo and the phone number indicating that this is a dial-a-ride checkpoint and a person may wait for the bus at that location. We encourage people to call, however, so that we can give them an estimated pickup time and keep better track of operations.

CTC bought 3 new air-conditioned Flxette buses at our request, and we have a lease-purchase contract with them. These buses cost about \$16,000 apiece, and at the end of the project the city of

Columbus can purchase them. We also purchased a fourth bus (used) to provide additional service. The buses are radio-equipped, and we now use a handset (initially, we used a loudspeaker on the bus, but that proved too difficult because communications were heard by passengers). CTC stores the buses at its main garage.

Any resident in the area can dial the number of the dispatch center and request service. We operate from 6 a. m. to 10 p. m. weekdays, from 8 a. m. to 8 p. m. on Saturday, and from 8 a. m. to 7:30 p. m. on Sunday, a total of 51 bus-hours per weekday and fewer on weekends. At the dispatch center, located in the center of the neighborhood, there are 4 phone lines on a rotary. The level of work during the peak period requires 3 call-takers and 1 dispatcher; as many as 50 calls per hour have been received during this period. We are on a very limited budget and do not have typewriters or any other kind of equipment.

The clockwise or counterclockwise direction of the bus is indicated on a call card. The call-takers record name of the person, number in the party, pickup and drop-off addresses, phone number, date, and time.

The dispatch board has separate maps for the 2 directions, the maps are divided into 4 segments. The cards are posted on a drop-off or a pickup peg in the 4 segments on each map. The call-takers give the cards to the dispatcher, who puts them on the hooks and then, as the buses operate, traces their paths by the 21 checkpoints on the map with magnetic markers. The dispatcher calls a batch of cards to the driver as a bus approaches a particular sector on the map. We rely on both the dispatcher and the driver to schedule a tour. The driver is required to record a series of drop offs or pickups on his log sheet. (We debated this because of the additional burden it puts

on the driver, but we find that this is the best way we can do it under our circumstances.) The driver records checkpoints at which he received a call, the time, the pickup or drop-off location, and the type of fare paid.

We have had problems with people not being available when the bus arrived. Many people will not be waiting outside the building. One woman came out of the house, put her baby on the bus, and went back into the house for awhile. She left the baby to reserve the bus so that it would not go away. Many similar situations have occurred that really hamper the operation. When service was originally designed, we estimated only about $\frac{1}{4}$ - to $\frac{1}{2}$ -minute average wait per pickup; actually, the wait is 1 minute and more in many instances. The driver is instructed to go up to the pickup location, blow his horn once if there is no one outside, wait no more than a minute, and then proceed onward.

The fares were set at 20 cents for adults and 10 cents for children at the request of the Model Cities Agency. We think the fare is far too low and should be 50 cents. However, because Model Cities funds are involved, we follow the agency's request to maintain fares at this level. Because of the low fare, the service is heavily subsidized. The adult fare will be 25 cents in the next year of operation.

The loads on the buses vary—our average load is about 9 passengers for a given tour on a 19-passenger bus. There were constant complaints that the old 45-passenger buses were always empty. The productivity of the buses is about 7.6 paid fares per bus hour. Although there are certain key focal points such as hospitals and supermarkets, there is a many-to-many system in which the buses go from any origin to any destination within the 2.5-square mile neighborhood.

The dial-a-ride system also ties into the main system, which is operated by a private company and is losing riders at the rate of about 17 percent a year. We lost a transit levy in the primary election, so that the outlook for public transit in Columbus is rather dim. Had the levy passed, radios could have been installed in the large buses so that they could be linked up better for transferring. As requested by the Model Cities Agency, anyone using a dial-a-ride bus can purchase a 45-cent ticket and use that to board the large bus without paying any additional fare. So, passengers never pay more than the city fare, and, in effect, we carry them free. Only about 5 percent of our riders transfer, however, because so many routes that they can walk to run through the neighborhood.

One of the conclusions that we have drawn from this project is that the fare is much too low, especially for a system that is to continue beyond the Model Cities Program. It is our feeling that, if we are funded for another year, that year may be the last year of this project. We have, therefore, encouraged the city and the residents to raise the fare substantially and to begin to tailor the service so that it can be continued as a neighborhood service. We have not been able to convince them to do so, and the low-fare service to residents will continue during the next 12 months.

All bus drivers are employed by CTC and are union members. We found that they learned the system very quickly and have assisted us by keeping track of destinations far and above what we expected. Drivers can operate several tours that have regular riders without any guidance at all from the dispatch center. The difficulty, though, is that "extra-board" drivers have to be trained each time they come on the system. Every 4 months

drivers rebid all jobs, and we have a real training problem on our hands when that occurs.

The ridership is now averaging 350 per day on a 7-day basis and about 400 per weekday. It grew steadily until February, leveled off, and then began to decline slightly during the spring period when the weather improved. We feel that the kind of service now provided with 4 buses and the budget constraints make it impossible to build any more ridership because our waiting times are too long to do so.

We are now going into the third year of the Model Cities Program in Columbus, and we are requesting \$300,000 to carry on the dial-a-ride project and to improve the level of service. We have had many breakdowns that have forced us to operate only 2 buses during some of our peak periods, and that has caused problems in rider confidence.

We will continue to have the same set-up with drivers. We are paying \$8 per driver-hour to the bus company, including wages, fringes, overhead, and profit. In addition, we are paying the company lease costs, storage, and maintenance. Our operating cost that we are paying out to the bus company is, therefore, more than \$12 per bus-hour; a normal charter rate that we paid last year was \$9.50. One of the reasons for the high level of subsidy is the high costs that we incur by dealing with a private transit company.

During the next year we plan to do a very expensive evaluation of data. We have the call cards (nearly 400 a day), which we are going to convert so we can more readily process them in the computer. We are getting the first reliable transit origin and destination data for innercity residents in Columbus that have ever existed. We think that the data

are going to be quite valuable not only for travel on the dial-a-bus project but for overall travel in the neighborhood.

INFORMAL DISCUSSION

Question: What has been the response to the dial-a-ride?

Answer: The response from the neighborhood in general has been good. In fact, a private firm queried residents, and our Project rated No. 1 of 33 Model Cities projects that included housing, health care, and everything else. The reason for the good response is that the service is very visible to the residents. We have had some problems with breakdowns, and some waiting times are longer than we like; but, in general, I think the residents view this service very positively.

Question: How large is the service area?

Answer: The population is 37,000.

Question: What is your level of service?

Answer: The scheduled headways were running 4 every 25 minutes. Our average waiting time is about 25 minutes, and our average driving time is about 25 minutes. This is based on preliminary data and would have to be verified.

Question: Might a taxicab company operate the service?

Answer: Well, it might. We are doing it the way we are because of the taxi franchise and the bus company franchise. At one time, we tried to use taxicabs because they have more flexibility, but we got into real tough political and legal problems and wound up with this kind of an operation.