the legislature, the legislation required that two-thirds of the taxes collected within each area (Chicago, suburban Cook County, and each of the five outlying counties) had to be returned to that area. As a result of amendments after the RTA referendum, this provision was further strengthened, and the two-thirds return figure was changed to 100 percent.

In addition to diverted state revenues and those imposed by the board, the RTA has significant power to issue bonds. The enabling legislation permits the board to sell bonds up to a maximum of $500 000 000 outstanding. These bonds are not backed by state revenues, however, but by first lien on RTA revenues. In addition, as a sweetener to the suburban areas, there is a $75 000 000 provision for bonds for facilities outside of the city of Chicago. The latter are backed by state revenues and would be general obligations of the state of Illinois.

Although the RTA is still in its infancy, it has made some dramatic improvements in sustaining, coordinating, and improving transit in the six-county region. Although it is still a subject of considerable controversy, it has instituted purchase-of-service agreements or other arrangements with each of the commuter rail services, standardized local and regional fares, implemented new suburban bus and rail services, and established universal transfer between all bus and rapid transit services. Extension of the transfer privilege to the commuter rail services is currently under study. Marketing has been vastly improved, and ridership has improved as a result of these very positive steps.

Financing continues to be a critical issue, however, as it is with most transit agencies. The RTA, like other U.S. transit agencies, will be concerned, on the one hand, with productivity analyses on the use of funds from present sources and, on the other, with a continued physical improvement of the region's transit system and additional sources of revenue to finance these improvements.

Case Studies on Increasing Transit Revenues: Baltimore

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Baltimore is in a unique situation in the country, because it is probably the only operating transit property that is owned by a state department of transportation. The Maryland Department of Transportation is unique among state departments of transportation in that it is an operating transit agency. It is also an operating agency with regard to the Baltimore-Washington International Airport, the Port of Baltimore, and a number of other things.

Traditionally, departments of transportation are highway departments with a new name on the door; some small subdivisions are created within the department to give financial aid to other modes of transportation. This is not the case in Maryland. The Metropolitan Transit Authority of Baltimore was absorbed into the Maryland Department of Transportation in 1971, the year of the department's creation.

The department's financial structure rests on a consolidated transportation trust fund. These are special funds of the state of Maryland, not the general funds. All transportation taxes and revenues and fees are budgeted into this transportation trust fund. It consists of such varied types of income as fares from the transit system, gas taxes, titling taxes, drivers' license fees, port fees, airport fees, and anything else that is related to transportation by tax or by direct charge.

Against this, of course, are budgeted all of the operating costs of the various modal administrations and the department as a whole. In fiscal year 1977, the transit operations have an operating budget, excluding capital programs, of about $49 million to run the bus system in the Baltimore area. This covers 970 buses, a 2600-km^2 (1000-$mile^2$) service area, and 1428 bus drivers, who carry about 91 to 93 million passengers a year. Revenue from the fare box, advertising, charters, and so forth is about $31 million.

Under the Metropolitan Transit Authority, in 1970 and 1971, operations were making a profit. Somewhere between the first and second quarter of 1972, when the Department of Transportation came into being, transit crossed over from the black to the red, and it has been in the red since. Of course, transit revenue is a component of a larger system. Baltimore does not really have a separate balance sheet for transit but, for housekeeping and management purposes, there is, in effect, an operating balance sheet.

How can revenue be increased in transit operations? One way is to increase ridership. This, of course, is only one side of the coin, and good management practice would dictate keeping an eye on how much costs would go up in the effort to increase ridership; the net effect could be either an increase or decrease in the deficit.

In October 1968, while the Baltimore Transit Company, was under private ownership, there was a 26-day transit strike. Fares were increased after the strike to a base fare of 30 cents, and that fare has been maintained. An increasing deficit led to the determination in late 1975, about the time the section 5 program began to come into effect, that it was time for a fare increase. Certain goals had been set in anticipation of receiving some section 5 money in the form of an allocation that would increase over a period of years. It was hoped that the net deficit to the state could be stabilized without further fare adjustments.

Although the base fare was 30 cents, there were some zone fares, but the system was very ragged and inconsistent. Most transit trips are oriented to the downtown area, and it was basically inequitable for people who lived in one suburban area to pay less than people in another area for a trip downtown of equal distance. A new tariff system was proposed that was based on a concentric-ring zone system. The new zone-fare system is based on distance from the edge of the central business district (CBD), which is fairly square in shape. Zone 1 is within a circle whose radius is 8 km (5 miles) from the periphery of the CBD. There is another zone

circle every 3 km (2 miles) out from the CBD. Zone fares had been 10 cents additional for each zone, and the new system had a maximum of 10 zones. Zone fares are not assessed if the trip lies within not more than 2 zones other than zone 1, so that people who might travel through 2 suburban zones while never going downtown would pay approximately the same fare as if they were traveling an equivalent distance within zone 1.

The charges for peak and off-peak service also seemed inequitable. In a sense, transit operates on a demand basis as any utility does, and the amount of investment in plant, equipment, and staff is essentially based on the demand during peak service. Therefore, those who use the service during those high-demand hours should bear the higher burden of fare, just as they do for the telephone or electricity. The original 30-cent flat fare in the rather irregular base zone was raised to a 35-cent off-peak fare and a 40-cent peak fare, with a 10-cent additional fare for each zone. Also, since the base had shrunk, some people who were in zone 1 before were now in zone 2 and would have to pay a zone fare. However, riders were paying approximately the same fare by length of trip and time of day no matter where they lived and no matter how they traveled.

Premium service was also made available. On the standard-route local service, the bus stops at practically every corner inbound and outbound, and it takes a long time to travel. Now there is a limited-service express that picks up in an outlying area and then stops only at major transfer points along the route. There is also an express service that provides local service in the outlying pickup area but does not stop at major transfer points although it follows the same route as the local bus. A premium express service is usually coordinated with a park-and-ride facility; the bus will make some local pickups or will pick up at a parking lot and then travel the most expeditious route, perhaps by freeway to the CBD. Along with this three-level service, there is a three-level premium charge: 5 cents for limited, 10 cents for express, and 15 cents for premium express.

The senior citizens and handicapped, if they can ride the transit system, are issued a plastic identification card that looks something like a credit card. They can buy special 15-cent tokens at banks, department stores, drug stores, and similar outlets. They formerly could only use the tokens during the off-peak hours, but since the fare change they can use them any time.

After public hearings, the fare changes went into effect in March 1976. Revenue increased by about $3 to $4 million/year, but there was some decline in adult ridership. The old formula predicts that every 1 percent increase in fares will be accompanied by a 0.33 percent decrease in patronage; the effect in Baltimore was probably only half of that. The decline in ridership from March 1976 to March 1977 was partly due to resistance to the increased fares but was also affected by unemployment in the Baltimore area and other social and economic issues. Now, ridership is about 6 percent more than that of a year ago.

Another way to increase fare revenue is to assure that the fares are collected. This requires very careful fare-box control. Closed-circuit television was installed in the vault-pulling areas in the various garages to make sure that the vault pullers and their handling of the money between the vaults and the main collection room are watched. A counting machine was developed and built that can handle about $90 000 to $100 000/d in coins; this reduced by half the staff required to count the money. That room is also under very careful closed-circuit television surveillance to make sure that the money that goes in the fare box gets to the counting machine and that it is counted, bagged, and deposited properly in the Federal Reserve Bank. There is probably some small loss during that process, but it is hard to define and may not be worth the effort to counteract.

A bigger problem is whether the money is getting into the fare box in the first place. Without registering fare boxes, it is possible to beat the fare-box system. To control this, an out-of-town group of agents comes into Baltimore on an irregular basis and rides the system in order to check how the driver is handling things. The last report indicated that the agents could not beat the system; the drivers were very careful. So it is probable that a high percentage of fare revenue that is owed is actually collected. The operators and union people know that this checking is done from time to time.

There are some other small opportunities for incidental revenues, such as selling advertising space on the bus. This source brings in $250 000 to $300 000/year, but it damages the brushes of the bus-washing machines and, during election year, selling the space to various campaign groups occasionally causes some political problems. It may not be worth $250 000 to $300 000 out of a $32 million annual income.

Another source of revenue is charter service and special services. The Maryland Department of Transportation does not have interstate rights, and it can only charter buses to travel in Maryland; this obviously limits the marketability of that source. There are no group provisions in the labor contract, so the operators are paid the same rates as for regular service and, in some cases, overtime. Therefore, transit's rates for charter service are not competitive with those of private operators, and this produces only a minimal amount of income.

As to the whole balance of costs and revenues, one of the areas that is most expensive is labor; the work rules and provisions in labor contracts can be extremely costly. Most major properties have their union contracts settled in the mayor's office at midnight of the last night of the contract. That is not the way to negotiate and settle labor contracts that result in minimal cost and maximum productivity, but elected officials dealing with large labor unions do not operate as good managers. Most transit authorities have governing boards whose members are elected officials or are elected to the transit board or represent politically prominent elected officials; under those circumstances, any expectation of a hard line on labor or a rough fare policy is unrealistic.