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The Federal Transit Administration

TCRP Report 31

Funding Strategies for Public Transportation

Volume 2

Casebook

Transportation Research Board

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TRANSIT COOPERATIVE RESEARCH PROGRAM

Report 31

Funding Strategies for Public Transportation

Volume 2

Casebook

PRICE WATERHOUSE LLP
Arlington, VA

Subject Areas

Planning and Administration
Public Transit

Research Sponsored by the Federal Transit Administration in
Cooperation with the Transit Development Corporation

TRANSPORTATION RESEARCH BOARD
NATIONAL RESEARCH COUNCIL

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TRANSIT COOPERATIVE RESEARCH PROGRAM

The nation's growth and the need to meet mobility, environmental, and energy objectives place demands on public transit systems. Current systems, some of which are old and in need of upgrading, must expand service area, increase service frequency, and improve efficiency to serve these demands. Research is necessary to solve operating problems, to adapt appropriate new technologies from other industries, and to introduce innovations into the transit industry. The Transit Cooperative Research Program (TCRP) serves as one of the principal means by which the transit industry can develop innovative near-term solutions to meet demands placed on it.

The need for TCRP was originally identified in *TRB Special Report 213—Research for Public Transit: New Directions*, published in 1987 and based on a study sponsored by the Urban Mass Transportation Administration—now the Federal Transit Administration (FTA). A report by the American Public Transit Association (APTA), *Transportation 2000*, also recognized the need for local, problem-solving research. TCRP, modeled after the longstanding and successful National Cooperative Highway Research Program, undertakes research and other technical activities in response to the needs of transit service providers. The scope of TCRP includes a variety of transit research fields including planning, service configuration, equipment, facilities, operations, human resources, maintenance, policy, and administrative practices.

TCRP was established under FTA sponsorship in July 1992. Proposed by the U.S. Department of Transportation, TCRP was authorized as part of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). On May 13, 1992, a memorandum agreement outlining TCRP operating procedures was executed by the three cooperating organizations: FTA; the National Academy of Sciences, acting through the Transportation Research Board (TRB); and the Transit Development Corporation, Inc. (TDC), a nonprofit educational and research organization established by APTA. TDC is responsible for forming the independent governing board, designated as the TCRP Oversight and Project Selection (TOPS) Committee.

Research problem statements for TCRP are solicited periodically but may be submitted to TRB by anyone at any time. It is the responsibility of the TOPS Committee to formulate the research program by identifying the highest priority projects. As part of the evaluation, the TOPS Committee defines funding levels and expected products.

Once selected, each project is assigned to an expert panel, appointed by the Transportation Research Board. The panels prepare project statements (requests for proposals), select contractors, and provide technical guidance and counsel throughout the life of the project. The process for developing research problem statements and selecting research agencies has been used by TRB in managing cooperative research programs since 1962. As in other TRB activities, TCRP project panels serve voluntarily without compensation.

Because research cannot have the desired impact if products fail to reach the intended audience, special emphasis is placed on disseminating TCRP results to the intended end users of the research: transit agencies, service providers, and suppliers. TRB provides a series of research reports, syntheses of transit practice, and other supporting material developed by TCRP research. APTA will arrange for workshops, training aids, field visits, and other activities to ensure that results are implemented by urban and rural transit industry practitioners.

The TCRP provides a forum where transit agencies can cooperatively address common operational problems. The TCRP results support and complement other ongoing transit research and training programs.

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NOTICE

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The members of the technical advisory panel selected to monitor this project and to review this report were chosen for recognized scholarly competence and with due consideration for the balance of disciplines appropriate to the project. The opinions and conclusions expressed or implied are those of the research agency that performed the research, and while they have been accepted as appropriate by the technical panel, they are not necessarily those of the Transportation Research Board, the National Research Council, the Transit Development Corporation, or the Federal Transit Administration of the U.S. Department of Transportation.

Each report is reviewed and accepted for publication by the technical panel according to procedures established and monitored by the Transportation Research Board Executive Committee and the Governing Board of the National Research Council.

Special Notice

The Transportation Research Board, the National Research Council, the Transit Development Corporation, and the Federal Transit Administration (sponsor of the Transit Cooperative Research Program) do not endorse products or manufacturers. Trade or manufacturers' names appear herein solely because they are considered essential to the clarity and completeness of the project reporting.

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FOREWORD

By Staff
Transportation Research
Board

This report addresses the current state of funding for public transportation in the United States, the various circumstances that have contributed to today's funding environment, and specific strategies that transit agencies are pursuing to identify new sources of funding. The report is presented in two parts—a final report and a casebook. The former provides a national perspective on public transportation funding while the latter presents case-level information on innovative methods for generating revenue for public transportation capital and operating costs. The report will be of interest to federal, state, and local transportation officials, policy makers, and professionals concerned with funding for local public transportation services during the past decade and in the near future.

This report is the culmination of the work performed under TCRP Project H-7, *Funding Strategies for Public Transportation*. The project was initiated to examine and summarize trends in public transportation revenue, expenditures, and funding. The objectives of this project were to (1) define and assess the current state of funding, in particular operating funding, for public transportation in the United States; (2) examine the performance of public transportation systems in the United States in light of expanding goals, expressed through recent federal mandates (e.g., the Americans with Disabilities Act of 1990, the Clean Air Act Amendments of 1990, Buy America requirements, and welfare to work legislation) coupled with declining federal assistance for transit operations; and (3) identify strategies transit agencies have been pursuing that address the need to identify new sources of funding for operating and capital expenses.

The findings of this project indicate that, between 1989 and 1994, total operating and capital funding levels for public transportation kept pace with inflation and overall service levels increased. This occurred despite a virtual freeze in federal operating assistance at about \$800 million during a period with 18.8 percent inflation. Many transit agencies in the United States have found alternatives to federal operating funding and have reduced costs. Agencies have turned largely to the farebox and to dedicated funding sources at the state, local, and jurisdictional levels. It is unclear what effect the most recent decreases in federal operating assistance (which are not reflected in the data used for this analysis) will have and whether or not alternative funding sources can continue to make up for a declining federal share. Transit agencies that have increased service levels during the past decade have generally expanded mandated or newer services (e.g., demand response and light rail) at the expense of more traditional modes (e.g., commuter rail, heavy rail, and bus).

The casebook presents 17 case studies of financing techniques used successfully by U.S. transit systems to improve their financial conditions. The cases, which address both capital and operating needs, are presented in two main categories: funds generated through external funding sources and transit-agency-generated funds. The case studies of funds generated through external sources include examples of dedicated local taxes, transit impact fees, creative use of federal funds, state infrastructure banks, and revolving loan funds. The case studies on transit-agency-generated funds address capital expenditures, fare revenue enhancement, and creative use of transit assets and describe successful experiences with 12 different strategies (e.g., advance construction authority, cross border leasing, partnerships with the community, and leasing right-of-way).

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A grayscale photograph of a city skyline, likely New York City, featuring several tall skyscrapers. A dark rectangular box is overlaid on the right side of the image, containing the word "Introduction" in a bold, white, sans-serif font.

Introduction

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Introduction

The transit industry in the United States has faced a number of significant challenges in recent years including new federal mandates, changing demographics, and decreasing real levels of federal funding. These issues have raised concerns about the ability of transit to finance itself now and in the future. While we have a basic understanding of specific shifts that have occurred in the transit operating and financial picture, we still lack clarity regarding the impact of general trends. This research project was initiated to provide a more comprehensive analysis to answer the outstanding questions regarding the trends dominating the United States transit industry.

The Current Public Transportation Funding Environment

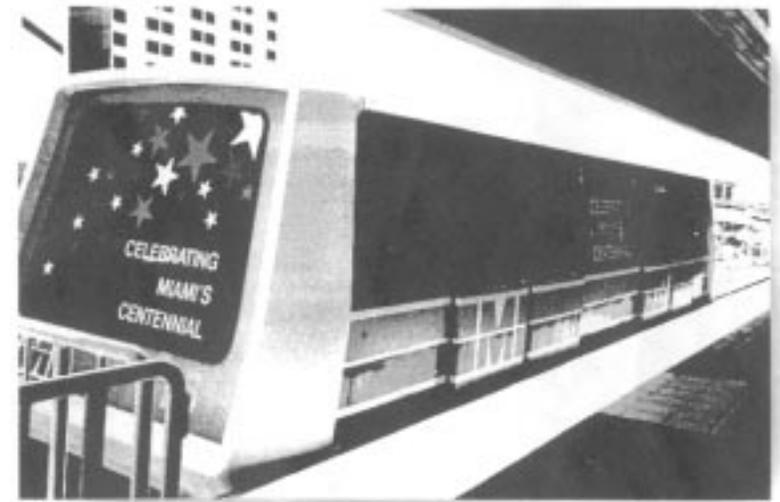
Over the past 30 years, transit agencies have been supported mainly by federal, state, and local funds, combined with fare revenues. As operating and capital costs have risen, farebox revenues and public funding — especially federal funding — have not kept pace.

"Since 1988 total transit operating obligations have remained between \$800 and \$900 million. In other words, real federal operating funding has declined each year at the rate of inflation."

The Decline of Federal Transit Funding

New policy goals in federal legislation have placed financial pressures on transit systems. At the same time, total non-farebox transit funding has grown faster than inflation, but federal funding has not kept pace. In fiscal year (FY) 1995 total Federal Transit Act appropriations were just over \$4.5 billion; for FY 1996, levels were reduced to \$4.1 billion.

The true level of funding provided can be assessed more easily by examining Federal Transit Administration (FTA) obligations. Congress has not adjusted operating funding for inflation; since 1988 total transit operating obligations have remained between \$800 and \$900 million. In other words, real federal operating funding has declined each year at the rate of inflation (which averaged 3.5% per year). The balance of the obligations each year is dedicated to the capital programs. This capital funding has increased steadily since the early 1990s, although the discretionary portion fluctuates each year as a function of the needs of specific capital projects. Capital funding has also benefited from the flexible funding provisions contained in the Intermodal Surface Transportation Efficiency Act (ISTEA). For example, in FY 1995, flexible funding accounted for \$907 million, or 14% of the total capital funding.



Cost Trends

As transit agencies struggle with decreases in federal funding they must also comply with a series of unfunded federal mandates. The most commonly cited mandates include the Americans with Disabilities Act (ADA) and the Clean Air Act Amendments (CAAA). Other mandates are ISTEA-related transit management systems, reduced fares for elderly patrons and patrons with disabilities, labor protections, emission reductions, drug and alcohol testing, procurement provisions, and rural intercity bus services.

Transit is becoming increasingly expensive to provide. The labor-intensive nature of the industry, maintenance needs of older systems, government mandates, and suburbanization have combined to increase costs and decrease ridership. New markets such as suburb-to-suburb commuting have lower cost recovery than traditional transit services. This change



has resulted in a growing gap between operating expenses and revenues. There are long-term financial impacts of trying to serve suburban development, and already indications show that ADA compliance is causing severe hardship for some systems. For example, funds may be diverted from existing transit services to pay for new rail lines or complementary paratransit services.

The Industry Response

Many transit agencies have adjusted their funding by increasing state and local shares, looking to non-traditional revenue sources, and turning to financing instruments and structures less common in the transit industry. These non-federal sources have been used by agencies to fill the funding gap resulting from rising costs and decreasing federal funds.

- **Fares.** On average, transit fares have grown faster than inflation. However, fare increases are often counter-productive in an era when transit continues to struggle to maintain market share and serve the transportation disadvantaged. Larger fare increases have occurred at medium and small-sized agencies where federal funding comprises a larger proportion of the operating budget.
- **Dedicated state and local funding.** This

category includes dedicated taxes and other funds at the state and local levels. Between 1989 and 1994 dedicated state and local funding increased by 50%, making this the second largest component of operating funding in 1994 behind farebox revenue. In addition, the dedicated revenue available for capital expenditures has grown ahead of both federal funding and inflation.

While historically transit costs have been financed by users and taxpayers, these sources have failed to keep pace with funding needs. As a result, transit systems and government agencies are looking to alternative sources of funding. Innovative funding practices have included non-traditional revenue sources (*e.g.*, non-farebox revenue from concessions), private sector financing methods

(*e.g.*, turnkey development), benefit sharing/value capture strategies, use of property rights, privatizing or contracting out services, new fare structures or payment mechanisms, subsidies, cross-border and other leasing techniques, and greater use of debt financing. These techniques have been used to finance capital projects and operating expenses.

Rationale for Casebook

This study's goal was to identify and quantify the

"Many agencies have adjusted their funding levels by increasing state and local shares, looking to non-traditional revenue sources, and turning to financing instruments and structures less common in the transit industry."

current financial environment in transit operating funding as well as provide examples of how successful agencies have been dealing with their funding needs. In this volatile funding environment, transit agencies must have access to information on proven, innovative financing techniques. Thus we provide 17 case studies of financing techniques that have successfully been used across the United States. We include cases which address capital as well as operating needs because

- by reducing capital costs, fungible money is freed for operating expenditures;
- some of the cases addressing capital needs relate to agency responses to federal mandates; and
- during our survey to find innovative procedures, agencies identified more capital than operating strategies which had been successfully implemented.

Some cases present innovative approaches, while others illustrate more traditional techniques that can be used more widely. We have included agencies from a range of sizes, modes, locations, and ages.

We provide 17 case studies of financing techniques that have successfully been used across the United States.

Casebook Organization

This casebook is divided into two main sections to illustrate funds generated through external funding sources and funds generated by the agency itself.

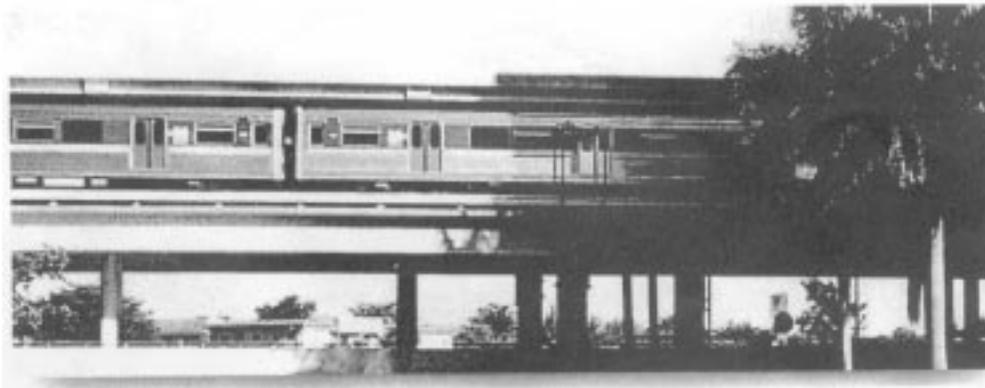
In the section on external funding sources, we include five types of case studies:

- dedicated local taxes,
- transit impact fees,
- creative use of federal funds,
- state infrastructure banks, and
- revolving loan funds.

While dedicated local taxes are not generally thought of as innovative, we include them to provide guidance on implementation to the many transit agencies currently trying to utilize them. The other four types of cases in this section describe less traditional ways for local, state, and federal governments to provide a transit system with funds.

The section on agency-generated funds is divided into three subsections:

- **Capital Expenditures.** How can a transit agency leverage funds to pay for facility development or

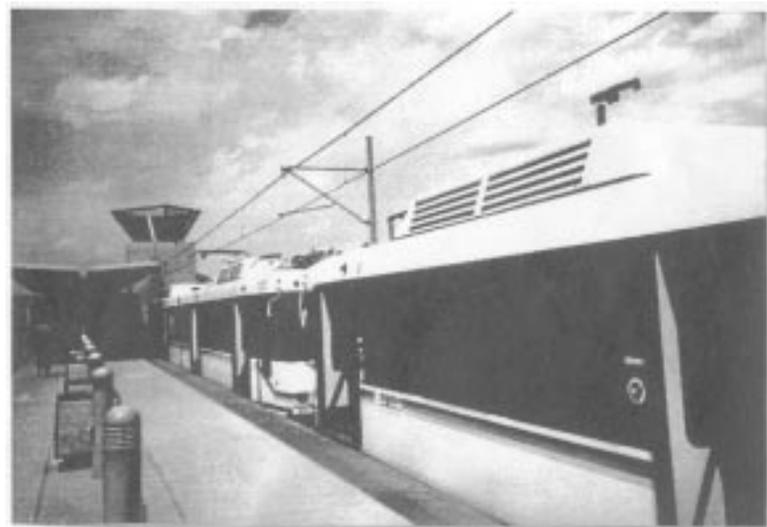


Cases on External Funding Sources	
Local	
Dedicated Local Taxes	
Transit Impact Fee	
State and Federal	
Creative Use of Federal Funds	
State Infrastructure Banks	
Revolving Loan Fund	
Cases on Revenue Generated by Transit Agencies	
Capital Expenditures	
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Station Concessions	
Advertising	
Leasing Right-of-Way	
Joint Development	

vehicle purchases? The cases in this section demonstrate creative ways to finance vehicle purchases and the construction and rehabilitation of operation and maintenance facilities, administrative headquarters, or other physical structures.

- **Fare Revenue Enhancement.** How can a transit agency increase its fare revenue? In this section, we discuss three cases which highlight the experience of five transit agencies in enhancing farebox revenue; smaller agencies may be most interested in this section as the programs are inexpensive to implement.
- **Creative Use of Transit Assets.** What can a transit agency do to realize the greatest return on its land, structures, and vehicles? These four cases illustrate how six agencies have leveraged funds by marketing assets that are attractive to the private sector; the assets showcased include land, vehicles, right-of-way, and location.

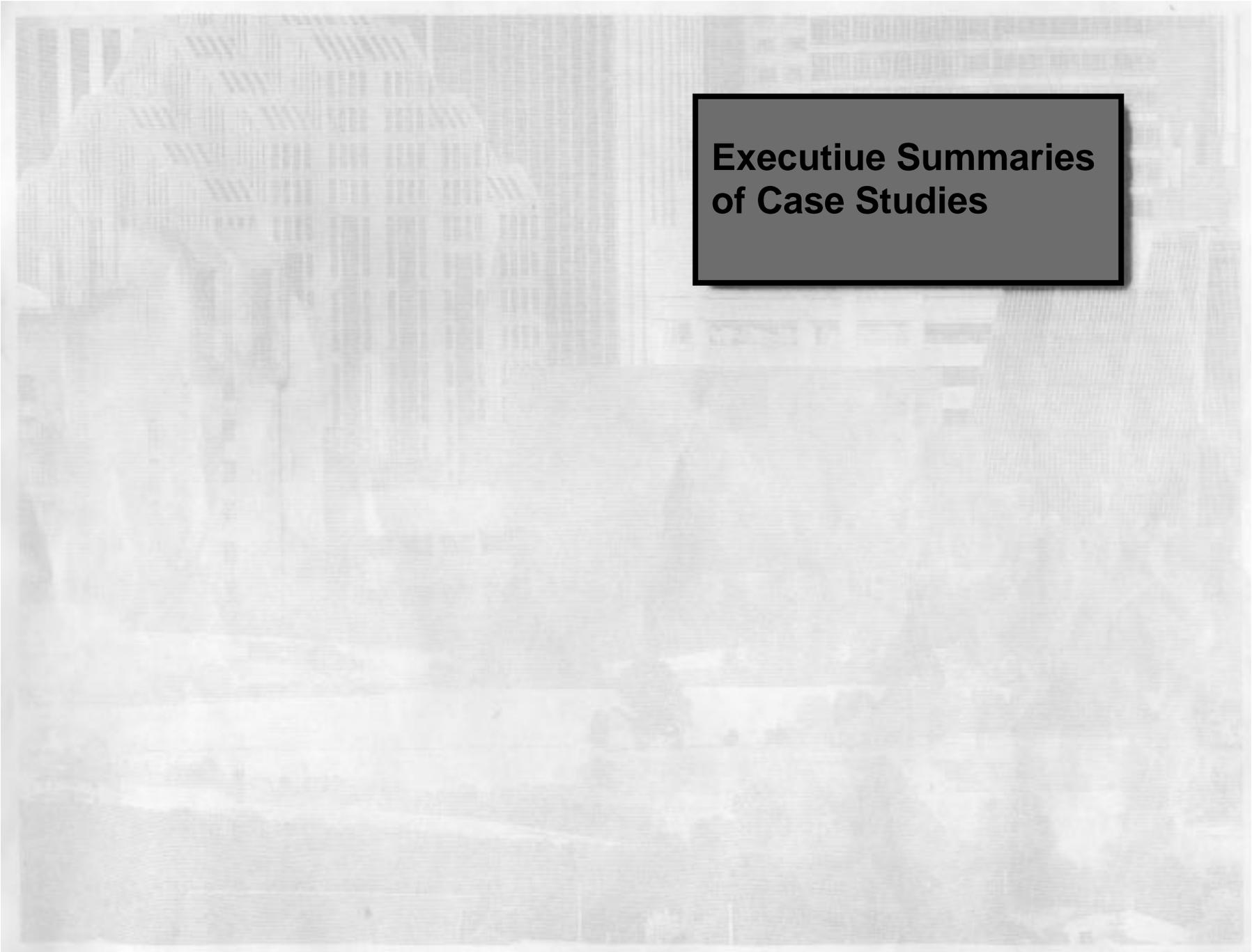
Each case follows a similar structure. The case opens with some background information on the strategy and the particular agency or agencies being highlighted.





Then the implementation and structure of each program is described in detail. Finally, we conclude with a section that highlights the lessons learned.





**Executive Summaries
of Case Studies**

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Dedicated Local Taxes

Regional Transportation Commission, Reno, Nevada
Fort Worth Transportation Authority, Fort Worth, Texas
Metropolitan Atlanta Rapid Transit Authority, Atlanta, Georgia
Pullman Transit, Pullman, Washington

Local taxes can provide a dedicated funding source for a transit agency, and through their implementation, agencies can collect a substantial amount of revenue for system operating and capital costs. Transit agencies often use these taxes to replace decreasing federal funding, build significant capital projects, or supplement operating revenue. Revenue from these taxes is typically stable and can be counted on from year to year, unlike an annually appropriated source.

A sales tax is the most common locally dedicated revenue source for transit systems in the United States. In this case study, we discuss sales taxes at three different locations: Reno, Nevada; Fort Worth, Texas; Atlanta, Georgia; and Pullman, Washington.

Even in locations where retail sales are not strong, there are other dedicated taxes that can help a transit system raise money. In the State of Washington, a number of transit systems, including Pullman Transit, tax utilities for revenue.

Implementation

While a local tax can prove to be a significant dedicated source of revenue, implementation may be a significant challenge to any transit agency. In today's climate of "no new taxes," putting a new sales tax in

place is a formidable task. In almost all cases, a new tax must go through the state legislature or a local ballot measure.

Tax Structure

There are two major issues to be considered when designing a tax.

- Typically, merchants or service providers collect the tax revenues. The money is sent to the State which passes it on to the locality or transit agency. This method of collection can reduce the proceeds available to the agency because each handler of the money charges an administrative fee.
- When designing a tax, transit agencies need to consider the potential impacts of specific restrictions in the tax structure because they limit flexibility in use of the tax revenues.

Lessons Learned

While local taxes provide a dedicated income source, voters' approval can be difficult to obtain and revenue often depends on external factors (*e.g.*, economic health).





Transit Impact Fee

San Francisco Municipal Railway, San Francisco, California

Growing localities continually struggle to pay for the infrastructure required by new developments. Current residents typically do not want to subsidize it. As a result, many cities now charge developers to compensate for the impacts of their developments. These fees have survived court challenges in numerous states as long as the improvement for which the fee pays directly benefits the development. For example, an impact fee might be implemented when a new residential development requires connection to sewer lines. The impact fee would require the developer to pay for the additional sewer lines and capacity. Without an impact fee, the financial burden would fall on the current taxpayers.

In San Francisco, California, substantial downtown development in the late 1970s led the city to pass an ordinance to require the collection of a one-time Transit Impact Development Fee (TIDF) from developers of office space to pay for the burden this development would place on the transit system.

Program Structure

San Francisco structured its ordinance to withstand court challenges as well as guide implementation. The ordinance comprises of the following key features:

- justification,
- a clear definition of the area in which property is to be assessed the fee,
- method used to calculate the fee,
- the manner in which proceeds will be used to serve the developments that pay the fee,
- payment timing and method, and
- provisions for lack of payment.

Lessons Learned

Development assessments can be unpopular with developers whether they are for sewers, water, schools, or transit. Thus, any jurisdiction implementing an impact fee needs to be aware of legal challenges. Therefore when designing an impact fee, a city needs to use appropriate language and supporting analyses to stand up to legal challenges.



Creative Use of Federal Funds

Los Angeles County Metropolitan Transportation Authority, Los Angeles, California

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) gives rise to flexible funding opportunities. Surface Transportation Program (STP) funds can be used for transit capital costs, carpools, bicycle and pedestrian facilities, safety, facility enhancement, and research and development. Ten percent of STP funds can be used for transportation system enhancement.

In this case study, we examine how the Los Angeles County Metropolitan Transportation Authority (MTA) used ISTEA enhancement funds to help build the Union Station Gateway Center, a multimodal transfer facility and MTA headquarters. MTA received STP enhancement funds to pay for a total of 13% of the project costs.

The Request for Proposal (RFP) Process

In November 1989, MTA issued an RFP for a new MTA headquarters. Concurrently, MTA was looking for a contractor to rehabilitate the historic Union Station. The winning proposal was selected because its approach combined the MTA headquarters project with the Union Station rehabilitation in a single design-build contract.

Finances

During this time period, MTA was involved in a labor dispute, and FTA refused to make any funds available until the issue was resolved. Since FTA funding was effectively unavailable, MTA applied for grants from a number of other federal, state, and local sources. Project features including restoration of the historic Union Station structure, interior and exterior artwork, floor tiles, clay roof tiles, furniture, landscaping, bus shelters, and street lights were paid for by ISTEA enhancement funds.

Lessons Learned

STP enhancement funds can provide a valuable source of money for transit projects. The money can be used for projects with or without FTA funding and in effect, preserve FTA grants for other uses.



State Infrastructure Banks

U.S. Department of Transportation

The United States Department of Transportation (U.S.DOT) recognizes that capital funding for infrastructure is scarce. As part of their innovative financing initiatives, the Federal Transit Administration (FTA), Federal Highway Administration (FHWA), and Federal Railroad Administration (FRA) asked states and other recipients of federal funding for ideas to stretch scarce capital funds. One popular suggestion was a state or multi-state-level bank that could provide financial assistance.

Implementation

The 1995 National Highway System Designation Act (NHS ACT) authorized U.S.DOT to solicit proposals to create up to 10 State Infrastructure Banks (SIBs). The FY 1997 Appropriations Act for U.S.DOT allowed for the creation of additional banks. All SIBs can use federal and state funds to provide

- loans,
- credit enhancements (*e.g.*, loan guarantees, letters of credit),

- interest rate subsidizes,
- leases,
- debt financing securities, and
- other debt financing mechanisms (when approved by the Secretary of Transportation).

Whatever the form of assistance, the SIB funds are dedicated to transportation infrastructure and will be divided into two separate accounts for highway and transit projects.

Program Structure

States can capitalize the banks either by using up to 10% of their federal-aid highway or transit funding or by requesting a portion of \$150 million allocated for SIBs in the 1997 U.S.DOT budget. States are required to match all federal funds. The funds may be deposited into either the highway or the transit account, but once money is allocated to a specific mode, it cannot be used for the other mode. Any disbursements plus interest must be repaid to the account.



Revolving Loan Fund

Arkansas State Highway and Transportation Department, Arkansas

In the late 1970s and early 1980s, the Arkansas State Highway and Transportation Department (AHTD) participated in an FHWA lease-to-buy vanpool program. At the conclusion of the FHWA vanpool program, AHTD wanted to build on its experience to establish a new revolving loan fund (RLF) for transit vehicle purchases. In November 1994, AHTD submitted the first draft of this program description to the FTA as a response to their request for proposed innovative financing programs. The FTA approved the program, and, in addition to FTA funding, FHWA allowed Arkansas' previously allocated vanpool money to be available for the RLF. This FHWA contribution composes 45% of the total RLF funding.

Program Structure

Under the RLF program, AHTD reviews applications for vehicles and accepts agencies based on their capability to make lease payments. AHTD then purchases a large number of vehicles at a significant discount over the price an agency would pay for a single vehicle. The vehicles are then leased by AHTD to the transportation providers.

AHTD structures the leases to be affordable to the state's transit providers. The leases

- are interest free,
- require no down payment,
- last for the life of the vehicle (usually 4 years or 100,000 miles), and
- have a monthly payment equal to the cost of the vehicle divided by the vehicle lifetime.

In addition, AHTD retains a lien on the vehicle title until the lease is fully paid. As these terms imply, the transit agency owns the vehicle at the end of the lease period.

Lessons Learned

AHTD has learned the following important lessons about its RLF:

- Bulk purchases save \$2,000 to \$5,000 per vehicle,
- Providers that receive funds from the U.S. Department of Health and Human Services can use these funds to lease the vehicles, and
- Defaults can be minimized through careful screening.



Turnkey Procurement

Community Transit, Snohomish County, Washington

Transit agencies continually try to find new ways to fund capital improvements, whether for vehicle purchases or facility development. Traditional design-bid-build procurement involves issuing separate requests for proposals and selecting independent contractors for each stage (design, engineering, construction, and operation) of a project. In a turnkey procurement, contractors are selected as a team with a single request for proposals. The integrated project team then considers all aspects of the project in an independent fashion. In this case study, we examine the turnkey building of a bus operations base in Snohomish County, Washington.

Implementation

Community Transit in Snohomish County, Washington, had outgrown its existing bus operations base and was looking to construct a new facility. A real estate search firm found a potential site for the base which was owned by the Quadrant Corporation. When Community Transit approached Quadrant to purchase the land, Quadrant offered a counter proposal. It would sell Community Transit the land plus design and build the required base, offices, and maintenance facilities. While Community Transit had not originally considered a turnkey approach, Quadrant's proposal convinced it that design-build would be an ideal procurement

method for this base construction. Turnkey addressed all of Community Transit's concerns: fast completion, site selection, and low cost.

Contract Structure

The design plans were examined and then discussed by the designer, builder, and user. This review resulted in changes being made early in the design process, thereby reducing construction time and costs. Even with scope increases, the cooperative process improved the final facility at minimal cost. The total project cost was \$19 million, half of the expected project cost if built through traditional procurement.

Lessons Learned

The key lessons learned include that turnkey can speed up project completion, cut costs, and share risk among the transit agency, general contractor, and subcontractors.



Advance Construction Authority

Massachusetts Bay Transportation Authority, Boston, Massachusetts

As the useful life of facilities comes to an end or as technology changes render facilities obsolete, transit agencies will need to rehabilitate or replace these sites. In the current state of uncertain funding, new approaches need to be designed to finance these major construction projects. In this case study, we examine how the Massachusetts Bay Transportation Authority (MBTA) applied Advance Construction Authority to finance the \$235 million reconstruction of its main commuter rail maintenance facility.

Implementation

MBTA's main commuter rail maintenance facility, the Boston Engine Terminal, has been used since 1929 when it serviced freight steam engines for the Boston and Maine Railroad. Today, the antiquated facility needs to be completely rebuilt to service commuter rail rolling stock more cost-effectively and to benefit from modern technology. Advance Construction Authority allows MBTA to finance the Boston Engine Terminal reconstruction over 19 years, while completing the facility within 6 years.

Program Structure

Under Advance Construction Authority, MBTA incurs expenses for the project and submits receipts to FTA for reimbursement of the federal share. MBTA issues short-term debt to cover expenses not covered by FTA in that year. In order to retire this short-term debt, MBTA issues long-term general obligation bonds. The interest on the debt is covered up to 80% by FTA.

Lessons Learned

MBTA notes several key advantages to Advance Construction Authority over traditional funding methods for large, expensive projects:

- expenses can be incurred immediately,
 - construction can be consolidated into one contract, and
 - 80% of the bond interest for all expenses incurred above the FTA allocation are reimbursable by FTA.
- Thus, there is no financial impediment to completing the project on schedule.



Cross Border Leasing

King County Department of Transportation, Seattle, Washington

Capital purchases place a more significant financial burden on a public transit agency than on a private transportation provider because the private owner can deduct the property's depreciation from its income taxes. Since public transit agencies pay no taxes they cannot realize tax benefits from their assets.

For many years, the United States tax code permitted safe harbor leasing, where a third party purchased transit vehicles and received the tax benefit of depreciation. The third party then leased the vehicles back to the transit agency, passing through some of this tax benefit. The end result was that the agency acquired new vehicles for a cost lower than their anticipated direct purchase price. When, in the mid-1980s, the government changed the tax code and withdrew this form of subsidy for transit agencies, creative agencies continued to use a similar leasing arrangement with foreign third party investors through cross border leases. In this case, we examine the cross border bus lease between a group of Japanese investors and the King County Department of Transportation, the transit provider for metropolitan Seattle, Washington.

Implementation

Because of the complexity of the transaction, King County retained a lease arranger that explained the tax benefits to be realized, developed a lease strategy, and arranged the transaction.

Program Structure

Japanese tax law allows an eight-year lease, and buses are depreciated under the declining balance method over six years. The lessor holds title to the buses, but King County retains use and control of the buses during the eight years. King County funded the bus acquisition through FTA Section 9 capital grant funds and the associated local match. It then deposited the total lease amount into low-risk securities at the beginning of the lease term. Level payments are made out of these deposits every six months. At the end of the lease, King County will pay a final balloon payment equal to 10% of the equipment cost.

Lessons Learned

The obvious advantage from this arrangement is that King County will realize a reduction in the cost of the buses.

Progress Payments

Central New York Regional Transportation Authority, Syracuse, New York



Traditionally, a transit agency pays for buses in a lump sum upon delivery. This arrangement generally forces the manufacturer to obtain short-term loans to pay for bus construction since a bus order can take several years to fill. The Central New York Regional Transportation Authority (CNYRTA) was asked by a bus manufacturer to consider a financing technique called progress payments. Instead of making payment upon completion of buses, CNYRTA pays as specific parts are purchased. Payments are only made after CNYRTA sees proof of the purchase of a part, and, therefore, no advance payments are made.

Implementation

CNYRTA calculated the net present value of the bus purchase using progress payments versus the traditional payment method and found that progress payments would save the transit agency money. CNYRTA then asked the regional FTA office if it would allow progress payments for the bus purchases. FTA agreed to the progress payment structure provided that CNYRTA documented that the payments corresponded to part purchases and were not advance payments. To this end, FTA suggested that CNYRTA receive proof of each component's completion from the bus manufacturer in the form of supply invoices and purchase orders. CNYRTA also required the manufacturer to purchase

performance bonds for 100% of the value of the contract so that if a mistake was made, CNYRTA would receive all its money back.

Program Structure

CNYRTA paid invoices as they were received. The agency was then reimbursed by FTA for 80% of the cost. Upon completion and delivery of the buses, the State of New York reimbursed CNYRTA for its 10% share of the total cost of the bus. In its first procurement using progress payments, CNYRTA saved \$6,500 per bus, or 4% of the purchase price.

Lessons Learned

CNYRTA has three lessons to share with other agencies interested in progress payments:

- the supplier must document costs before payment is released,
- the purchase price discount preserves the FTA grant and associated local match for other uses, and
- the costs for paperwork, administration, and FTA discussions must be included in net present value calculations.

Public-Private Partnership for CNG Fueling Facilities and Bus Purchases

Metropolitan Atlanta Rapid Transit Authority, Atlanta, Georgia
Central New York Regional Transportation Authority, Syracuse, New York



As federal mandates for clean air become more stringent, transit vehicles will increasingly need to convert to alternative fuels. The Clean Air Act Amendments of 1990 (CAAA) pressure transit agencies to convert or purchase new alternatively fueled vehicles in order to reduce air pollution. The Energy Policy Act of 1992 (EP Act) was passed to reduce dependence on foreign fuel. To accomplish its goal, EP Act contains a schedule for conversion of bus fleets to alternative-fuel vehicles.

Complying with these requirements can be very expensive. First, alternative-fuel vehicles are more expensive than diesel-fuel buses. Second, in order to fill vehicles with non-diesel fuel, transit agencies will have to build new fueling stations. While a private sector fleet would receive a tax deduction to help it fund the conversion, transit agencies do not pay federal income tax and, therefore, cannot take advantage of the tax benefits such as the tax credits available under EP Act.

In this case study, we examine the experience of two transit agencies in acquiring compressed natural gas (CNG) bus fleets. Both the fueling stations and the CNG-fuel buses were funded in part by private sector partners. These local natural gas companies provided financial help with construction of the fueling stations

and bus purchases. In return, they received tax credits for their investment under EP Act as well as a large new customer for their natural gas.

Program Structure

Transit agencies can often convince the local natural gas company to provide financial assistance. Turnkey contracts are traditionally used, and often the natural gas must be purchased from the local utility.

Lessons Learned

A transit agency needs a long-term commitment to make a project work with a private sector partner. As the project starts, the parties should communicate frequently. These discussions will help the transit agency and the private partner understand the needs of each other's business.

Some private sector partners may require a long-term fuel purchase guarantee. This guarantee can result in higher natural gas prices. If possible, CNG should be purchased on the open market to significantly reduce fuel costs.

Cashless Fare Payment

Virginia Railway Express, Springfield, Virginia



Processing cash from fare payments is one of the largest operating expenses for a transit agency. Convenient as it is for patrons to use cash, the costs for collection, security, and sorting are expensive. For most transit systems, completely eliminating cash transactions would be impossible for a number of reasons. First, completely cashless fare collection would require a large number of layoffs. Second, many riders lack alternative fare payment methods. While most transit agencies cannot completely eliminate cash fare payments, they can overlay non-cash fare payment schemes.

Implementation

Customers of the Virginia Railway Express (VRE), the commuter railroad for the Virginia suburbs of the District of Columbia, purchase tickets at train platforms using automated Ticket Vending Machines that only accept debit and credit cards. The up-front capital investment to equip all 17 VRE stations with Ticket Vending Machines was fairly small: \$1.4 million for the machines and the hardware and software necessary to run them. The Ticket Vending Machines are modified parking payment machines that are run by a 486 IBM-compatible computer using customized software.

Program Structure

Every station has several Ticket Vending Machines, each with its own modem and dedicated phone line. The customer inserts a credit or debit card into the machine, the modem calls the transaction into VRE headquarters where a computer records the transaction data, and the transaction is authorized. The payment is posted almost immediately to VRE's bank account. If the call cannot reach VRE headquarters, the Ticket Vending Machine issues a ticket and stores the information for later transmission. In VRE's experience, only two transactions in 10,000 have been uncollectable.

Lessons Learned

VRE's cashless fare payment can increase transit revenues by decreasing handling costs. The money is available for use by the transit agency almost immediately with no collection or sorting time.



Eco Pass Program

Regional Transportation District, Denver, Colorado

The most direct way for a transit agency to generate revenue is to increase ridership. A transit agency can market itself to attract new riders through television, print media, or even outdoor billboards. One of the less common ways to generate ridership, however, is to enlist the cooperation of the local employers. One way that employers contributed to transit funding is by providing a \$65 per month pretax commuting benefit to employees. The employer can then deduct the cost of this benefit from its income taxes. The Regional Transportation District (RTD), the transit provider in Denver, Colorado, has taken this idea a step farther with the Eco Pass.

Implementation

The Regional Transportation District (RTD) provides transit for the Denver/Boulder metropolitan area. In 1989, the City of Boulder and RTD jointly offered a Mobility Pass which provided unlimited bus rides on local Boulder bus routes. In late 1991, RTD expanded the program to its entire service area and called the new pass the ecological and economical Eco Pass.

Program Structure

Employers in the Denver/Boulder area can purchase the Eco Pass for all their full-time employees

with an option for part-time employees. The cost of the pass is tax deductible for the employers under the federal transit benefit program and can be used as a recruiting and retention tool. Companies can also use their participation in the program and the associated reductions in air pollution, traffic congestion, and parking problems as public relations material. RTD has priced the program based on a business's number of employees and location, similar to the pricing approach used for group insurance coverage.

Lessons Learned

The Eco Pass program has three goals:

1. increase ridership,
2. decrease single occupancy vehicle trips, and
3. improve the region's quality of life.

Studies conducted over the last 7 years have proven that the Eco Pass program has successfully met all its goals. RTD actively promotes its Eco Pass program and has participation by more than 1,100 companies with over 32,000 employees total.

Partnerships with the Community

Pullman Transit, Pullman, Washington

Citibus, Lubbock, Texas

Iowa City Transit, Iowa City, Iowa

Transit adds value to a community by moving people. Often private businesses or public entities will purchase bus or rail services from public transit systems. These partnerships are beneficial both to transit agencies and the population served. In this case study, we present three examples of partnerships between transit agencies and their communities.

Pullman Transit and the Local School District

The Pullman school district issues ID cards to all its students, and Pullman Transit gives the school district stickers to adhere to the IDs of students who ride the buses. The school district tracks how many stickers are issued and pays Pullman Transit a specific amount per sticker in a monthly lump sum. For the 1996-1997 school year, this payment totaled nearly \$40,000 or 3% of the transit system's operating budget.

Citibus and the State University

Texas Tech University's student body pays Citibus for transit service using its activity fees supplemented by revenue from the administration. The payment covers the complete cost of the service provided by Citibus including operations, published schedules, and maps. Students and community residents can ride the campus shuttle buses for free. As an added bonus for Citibus, the \$700,000 payment from the university can be used as a local match for federal assistance.

Iowa City Transit and the Private Sector

In Iowa City, Iowa, downtown businesses participate in a Park and Shop and a Bus and Shop program. With a \$15 qualifying purchase, customers can either receive parking validation or a voucher for a free transit ride that is good at any time. A similar program has been put in place by the Sycamore Mall. This outlying mall offers free parking, but in order to attract university students, it participates in the Bus and Shop program. The vouchers are given to the transit operators and collected by Iowa City Transit's Administration. Iowa City Transit then collects the necessary revenues from the participating merchants. Total receipts equal \$15,000 annually, ½ % of the operating budget. The merchants also pay for the marketing of the program on the buses and other places around town.

Lessons Learned

Partnerships between transit and the community can provide a

- revenue source for a transit agency,
- match for federal grant funds, and
- flexible travel options for the transportation disadvantaged who may otherwise be ignored.



citibus

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IOWA CITY TRANSIT



Station Concessions

Metropolitan Transportation Authority, New York City, New York

For over a century, the transit system in New York City has recognized the value of the premium real estate it holds. The Metropolitan Transportation Authority (MTA) generates revenue from otherwise unused space by licensing this space to concessionaires (individuals, partnerships, or corporations) who occupy space on MTA property.

The RFP Process

Concessionaires are selected through a request for proposal (RFP) process. As licenses expire or MTA opens new concession sites, RFPs are sent to several thousand names on a concessions mailing list and are advertised in local newspapers. The purpose of this process is to select the most viable businesses to provide income to MTA.

Program Structure

There are three key elements to the program's structure:

- **Station improvements.** When a concession contract expires, the site typically requires significant reconstruction or rehabilitation. Although MTA may perform some construction on the concession site during station rehabilitation, in four out of five cases, the cost for the new store infrastructure is borne solely by the

new concessionaire. Title to the improvements is later transferred to MTA.

- **License term.** The license term has historically been five years, but last year MTA instituted new conditions: a five-year license term with a five-year renewal option.
- **Rent levels.** MTA assigns rent based on the rent charged for the previous concession adjusted for inflation. The agency also researches the rent levels for comparable commercial space in the city and contacts brokers for price information. As appropriate, rents may be adjusted to reflect market conditions. In addition to the base rent, a rent premium is charged for busy stations. The old axiom, "location, location, location" holds true: MTA can charge a significant premium for downtown and transfer stations.

Lessons Learned

Licensing retail stores in transit stations provides an attractive way for a transit system to raise additional funds. Location is critical to a concession store's rent. Rent can often be doubled simply by moving a stand twenty feet in the right direction.

Advertising

Chicago Transit Authority, Chicago, Illinois
Sun Tran, Albuquerque, New Mexico



Buses and trains travel through cities and metropolitan areas and serve riders in locations (such as downtowns) where strict sign ordinances may prohibit billboards and other types of advertising. When a company advertises on the outside of a bus, it is essentially using a moving billboard. Transit platforms and bus shelters can also be used to promote products to a community. The advertising industry is just beginning to realize the value of transit. This year in the United States, transit advertising revenues will match billboard advertising revenues.

Implementation

There are several steps involved in the implementation of transit advertising. First, a transit agency needs to decide if it wants to advertise on its transit vehicles and/or in its facilities. This decision can be difficult because many citizens protest advertising because they see it as unattractive. Next the transit agency needs to decide if it will contract out advertising to a specialized vendor firm or handle advertising in house. If a transit agency decides to implement a program through a contractor, it will typically issue a request for proposals for advertising vendors. Some key issues to look for in the responses include

- guaranteed minimum payment amount,
- percentage of the advertising revenues the vendor receives, and
- penalties for untimely replacement of outdated advertising.

Program Structure

Contracts are often structured to provide a transit agency with satisfactory revenues through the aforementioned issues. Other common provisions include explicit statements that the contractor is responsible for the maintenance of the advertising infrastructure and the installation of advertisements.

Lessons Learned

Creative transit advertising can provide a system with a new or expanded revenue source. A transit agency can increase its advertising revenues by

- enlisting an aggressive advertising vendor,
- including penalties in the vendor's contract for unfilled space, and
- referencing the transit system in ads as much as possible.



Leasing Right-Of-Way

Bi-State Development Agency, St. Louis, Missouri

Right-of-way (ROW) is a transit resource that is very valuable to telecommunications, utility and other companies with linear networks. Transit agencies can take advantage of this value through leasing ROW to interested companies.

Companies in the telecommunications industry are expanding voice, data, internet, and video services over fiber-optic networks. Entry into new local markets is accomplished through expanding a company's own cable network, forming agreements with companies which already own an existing local network, or acquiring companies which cover the interested area. In this case study, we examine Bi-State Development Agency (BSDA)'s leasing of ROW for use by a telecommunications company interested in expanding its local cable network.

Implementation

During construction of St. Louis's light rail system, BSDA requested proposals for a 20-fiber command and control system. Several telephone/data service companies saw this request for proposals (RFP) and contacted BSDA to discuss the possibility of mutual use of BSDA's right-of-way. In response to the level of interest, BSDA canceled the original RFP and issued a

new one for a telecommunications company to lease ROW space for fiber-optic cable.

Program Structure

BSDA cut system construction costs because it was able to use the fiber-optic cable for its own command and control system. In addition, the transit agency gained a new annual revenue source. BSDA receives the use of the 20 fibers that its command and control system requires for \$1 per year for the lifetime of the agreement. The transit agency controls the contractor's access and details how and where the cable is to be installed and enclosed. The agreement will last 25 years with three renewal options for a total of 100 years.

This public-private partnership has enabled BSDA to save \$206,000 of the FTA capital grants as well as the associated 20% local match. This grant money can be used for other capital expenses.

Lessons Learned

BSDA has proven that a transit agency can find a private company to purchase, install, and maintain fiber-optic cable and lease ROW in which to lay the cable.

Joint Development

Washington Metropolitan Area Transit Authority, District of Columbia Metro-Dade Transit Agency, Miami, Florida

Transit agencies often have significant holdings of property in high-rent, downtown areas which can be used in joint property development as an additional revenue source. Developers will pay transit agencies for permission to build retail, commercial, and residential structures on transit land. Up until 1997, transit property bought with federal dollars could only be used for transit purposes (otherwise the federal funds reverted back to the United States Treasury). Recent policy changes by FTA have made joint development more feasible. FTA now considers revenue from joint development as income that transit agencies can keep without jeopardizing the revenue stream generated.

In this case study, we examine two joint development programs. The Washington Metropolitan Area Transit Authority (WMATA), which serves the Washington, DC metropolitan area, has been undertaking joint development projects since the 1970s. We also look at the Metro-Dade Transit Agency's Pullman Transit, Pullman, Washington (MTDA's) program (MTDA provides transit service to the Miami metropolitan area). The joint development program in Metropolitan Dade County is much smaller and provides insight for transit agencies that want to establish a joint development program.

Program Structure

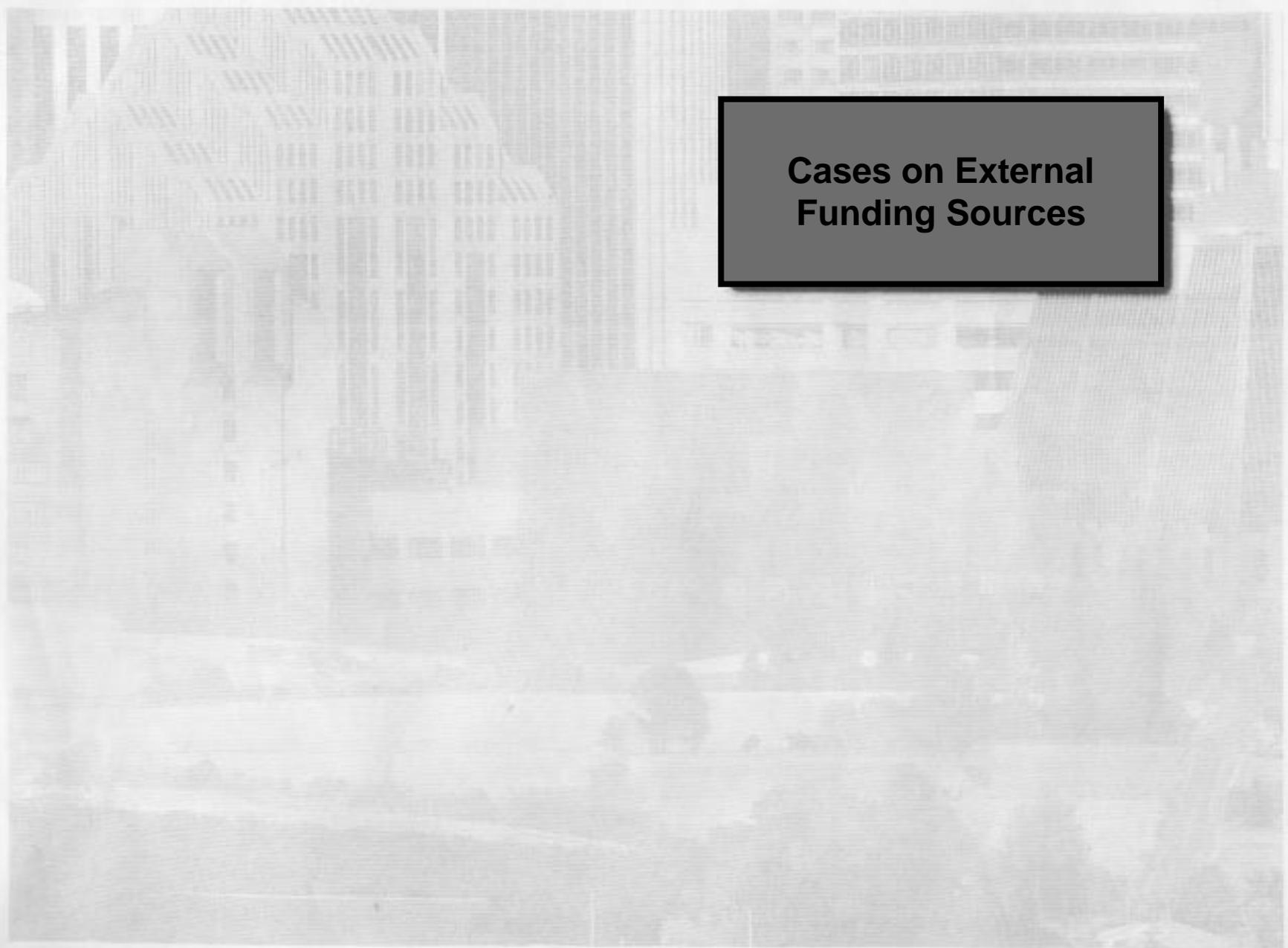
Once an agency has decided to pursue joint development, it typically will issue requests for proposals, evaluate the proposals, and select the proposal of most benefit to the agency.

Lessons Learned

One of the most significant benefits of joint development is often underrated: tax revenue from the development goes to the local jurisdictions which subsidize the transit system. This revenue is then recycled into the transit system in the form of subsidy payments. Thus, the transit system helps to generate its local subsidy.



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**Cases on External
Funding Sources**

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Dedicated Local Taxes

**Regional Transportation Commission
Reno, Nevada**

**Fort Worth Transportation Authority
Fort Worth, Texas**

**Metropolitan Atlanta Rapid Transit Authority
Atlanta, Georgia**

**Pullman Transit
Pullman, Washington**

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Dedicated Local Taxes

Local taxes provide a relatively stable, dedicated funding source for transit system operating and capital costs. These taxes are often used to replace decreasing federal funding, build significant capital projects such as the BART and MARTA rail systems, or supplement operating revenue. Revenue from these taxes is typically stable and can be counted on from year to year, unlike an annually appropriated source.

Transit agencies are becoming more aware of the usefulness of local funding sources: between 1989 and 1994, the number of transit systems that implemented local taxes dedicated to transit increased by 34%.¹ However, 50% of American transit systems still do not receive local tax revenue.²

Local taxes can take many forms, including sales and use taxes, utility taxes, property taxes, or gasoline taxes. In this case study, we highlight two types of local taxes: sales and use tax and utility tax.

Sales and use taxes, commonly called sales taxes, are applied to goods and services sold in a specific area. This tax is the most common locally dedicated revenue source for transit systems in the United States. In Atlanta, Georgia, the transit system receives tax revenue

from the sale of goods (*e.g.*, clothing, books, office supplies) and the use of services (*e.g.*, dry cleaning, house painting). In many locations, a small sales tax of one-half percent, can generate a substantial portion of the funds needed for an agency's operation. Given that there are many types of transit agencies with different modes, locations, and circumstances, in this case study, we discuss three examples of sales taxes for: a large, multi-modal system in Atlanta, Georgia; a medium-sized system in Fort Worth, Texas; and a small system in Reno, Nevada.

Sales taxes require a strong local retail base to be an effective funding source. However, even in locations where retail sales are not strong, there are other dedicated taxes that can help a transit system raise money. In the State of Washington, there are a number of transit systems without a strong retail base that tax utilities. In this case study we include a section which examines the two percent tax on utility use that provides the majority of the funding for the Pullman, Washington transit system.

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RTC
Regional Transportation Commission

The Experience in Washoe County, Nevada

Background

Transit in Washoe County, Nevada, serves the Reno/Sparks metropolitan area. Reno, a major tourist area, has a vibrant downtown populated with many hotels and casinos. In 1978, the transit system began operating five buses to serve the transportation needs of the local residents. In 1979, the Regional Transportation Commission (RTC) took charge of long-range planning, transit operations, and construction of major arterial highways.

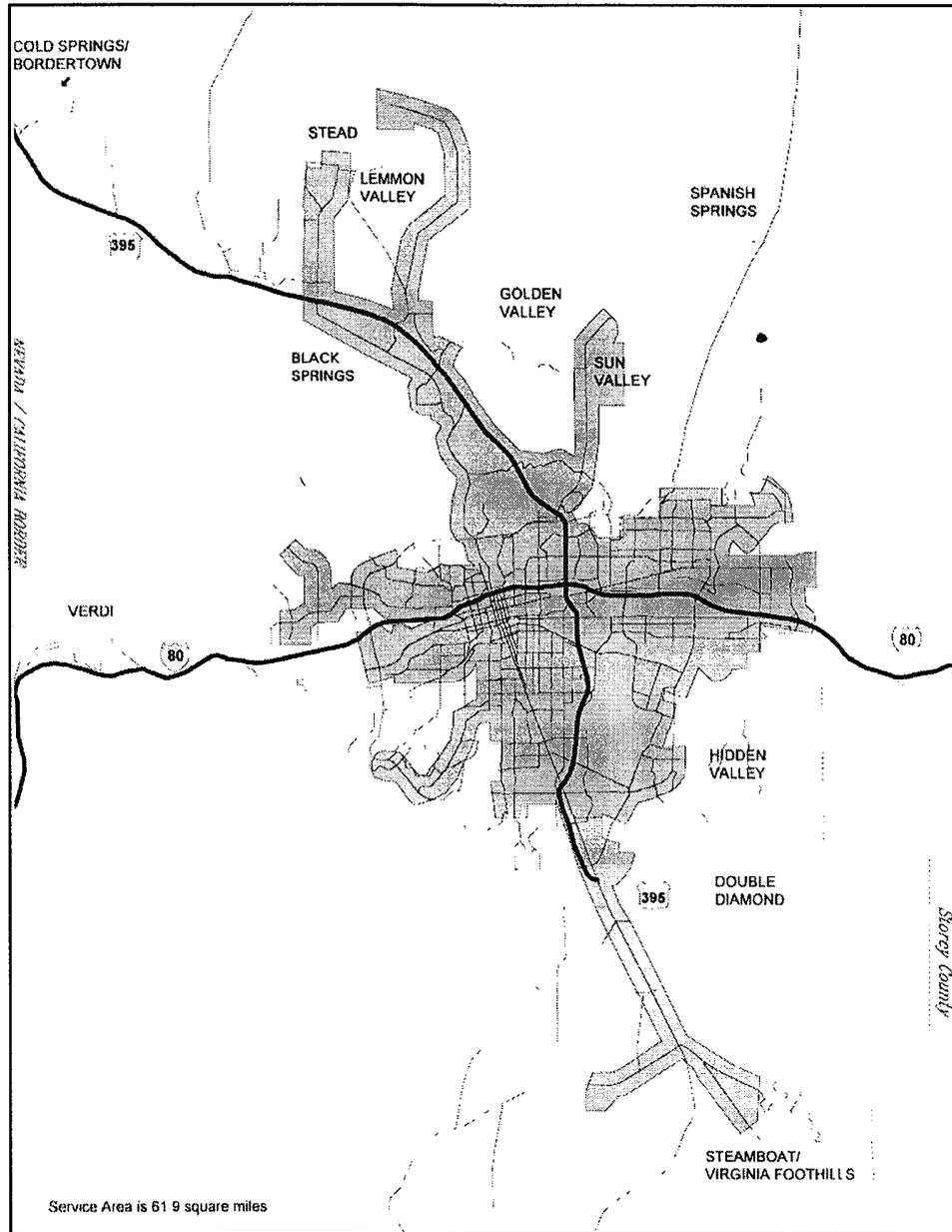
Today RTC's transit service moves residents through its 58-square-mile service area with 24 fixed bus routes and 33 paratransit service vehicles. Citifare, the fixed-route service, is structured to include four types of routes:

- **radial routes** from downtown Reno to specific destinations, including Meadowood Mall, downtown Sparks, and Reno-Cannon International Airport;
- **collector routes** which connect outlying areas to specific destinations in the cities without going through downtown Reno (for example from dense residential areas to the Sparks hospital);

Agency Profile

Service Area	Reno, Sparks, Washoe County, Nevada
Modes	Bus, Demand Response
FY96 Operating Budget	\$16.3 million
FY96 Capital Budget	\$4.2 million
Annual Ridership	
Bus	8.1 million
Demand Response	187,000
Revenue Vehicle Miles	
Bus	3.2 million
Demand Response	993,000
Fares	
Bus	\$1.00
Demand Response	\$1.00

- **crosstown routes** which travel from one end of the service area to the other; and
- **special temporary service** which serves special and seasonal activities, for which outside sponsors support the transit service financially.



Service area

Implementation

When the Citifare transit system was started in 1978, the system had two revenue sources: fares and subsidies from the cities of Reno and Sparks and Washoe County. In 1982, the cities and county began to have monetary problems. In order to continue transit service, Citifare's executive director realized that a new revenue source was needed. A sales tax would provide the necessary revenue source and could be used to match federal funds (Citifare could therefore receive federal assistance).

In Nevada, the state legislature must authorize all tax proposals. Following discussions with the Nevada legislature, the state agreed to allow a sales tax in Washoe County for transit and roads, subject to voter approval. In response, a county-wide ballot measure was prepared. The measure proposed sales tax funding for transit for the community in general and targeted services for elderly passengers and passengers with disabilities.

"In 1987, RTC received \$5.8 million, and in 1997, the receipts are expected to be over \$10 million."

Several key actions were necessary to successfully pass the sales tax ballot measure. First, tying transit to the concern about mobility of elderly passengers and passengers with disabilities on the ballot measure was a significant selling point to the community. Second, realizing the need for strong community support, the transit system's executive director implemented a proactive community outreach program where transit

representatives spoke to service clubs, businesses, and other members of the community about the benefits of the transit system.

As a result of these efforts, seventy percent of citizens of Washoe County approved a one-quarter percent sales tax for general transit and for transportation for passengers who are elderly or have disabilities in 1982. RTC now had a dedicated revenue source which replaced the local general fund allocations.

By 1994, RTC was again experiencing a revenue shortage for both roads and transit. To address the increasing transportation costs and decreasing revenues, RTC formed a blue ribbon committee to discuss highway and transit issues. This committee consisted of 30 members that represented casinos, banks, developers, citizens, and small businesses. The committee's recommendations were an additional one-quarter percent sales tax of which three-fourths would be used for highways and one-fourth for transit. The poor condition of local roads, growth of congestion

RTC Funding for FY 1997

Funding Source	Amount (in thousands of dollars)
Sales tax	10,000
Fares	5,000
Federal Grants	400
Advertising	225
Total	15,625

problems, and support of the business community led officials to believe that the tax referendum would be accepted by the voters. However, only 35% of the voters voted for the sales tax increase. This exercise proved that RTC had to tie concrete problems to the need for sales tax; the voting public would not accept esoteric reasons for an increased tax.

Tax Structure

Merchants in Reno, Sparks, and Washoe County send the sales tax collections to the State of Nevada. The state then sends the proceeds to Washoe County.³ The county places the money into an account for RTC, and RTC gives the county treasurer permission to invest it (the same as with unused county funds). When RTC wants to use the sales tax revenue, it draws the money from its account with the county and deposits it into its own transit account.⁴

The sales tax provides nearly two-thirds of the funding for RTC. Over the years, it has enabled RTC's fleet to grow from 5 to 64 buses. Sales tax receipts continue to grow with further economic development in Washoe County. In 1987, RTC received \$5.8 million, and in 1997, the receipts are expected to be over \$10 million.

RTC Revenue by Source



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The Experience in Fort Worth, Texas

Background

The Fort Worth Transportation Authority (The T) provides transportation to the City of Fort Worth and surrounding areas. The T specifically provides bus, paratransit, and vanpool service. The bus service includes shuttle service for the Dallas-Fort Worth International Airport. In 1997, the T will operate over 320 thousand hours of bus service to move over 5 million passengers.

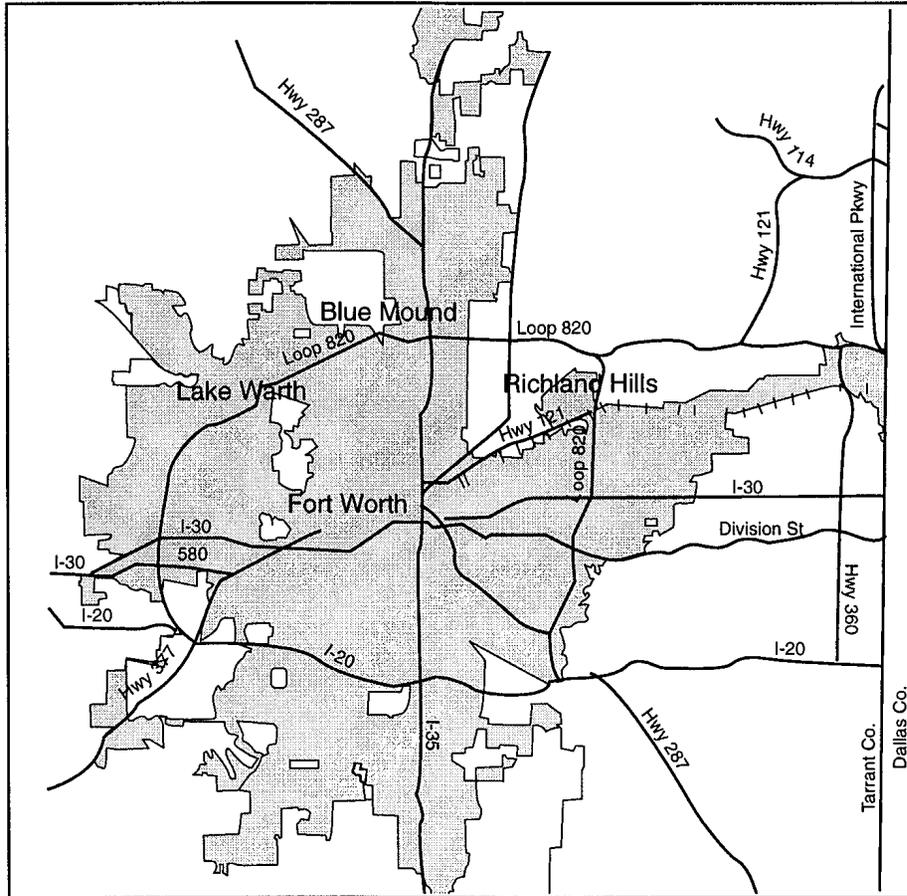
Implementation

In Fort Worth, Texas, transit was originally funded by property tax monies. In 1979 and 1980, the Texas legislature passed enabling legislation which allowed cities in the state to individually vote on referenda regarding the implementation of a transit sales tax. In 1980, Dallas and Fort Worth put forward a joint referendum for a one cent transit sales tax. In addition to funding bus transit services, the tax would have been used to build a 100-mile rail network that connected the two cities. The voters of the Dallas/Fort Worth area did not believe that the rail network was necessary nor feasible and defeated the proposal.

Agency Profile

Service Area	Fort Worth, Lake Worth, Richland Hill, Blue Mound
Modes	Bus, Demand Response
FY97 Operating Budget	\$24.1 million
FY97 Capital Budget	\$17.8 million
Annual Ridership	
Bus	5.3 million
Demand Response	264,098
Vehicle Revenue Miles	
Bus	5.3 million
Demand Response	1.2 million
Fares	
Bus	\$0.80
Demand Response	\$1.60

Following this defeat, the City of Fort Worth studied a range of approaches to fund a public transportation system. After this review, it decided to pursue a sales tax, even though it had been defeated previously. Fort Worth asked other nearby jurisdictions if they wanted to join the referendum effort, but none elected to participate.



Service area

In order to pass the sales tax in Fort Worth, local transit advocates had to run a political campaign. First, they established a blue ribbon committee of business leaders. The committee raised money to hire a political strategy consultant to run the sales tax campaign. The consultant recommended a low-key campaign which stressed market segmentation. Telephone calls were made to voters in transit-dependent precincts to rally them to come out and vote in favor of the tax.

Two more issues helped the transit advocates convince people to vote for the transit sales tax. One was that the people in Fort Worth wanted to discontinue supporting transit through property tax funds. The other was that the City Council retained control over the new transit authority board (the City Council and the old transit board were one in the same). This oversight of transit by the city council was important to the voters because they wanted to be assured that tax money was being spent responsibly.

In 1983, Fort Worth successfully passed the one-fourth cent sales tax which was to increase to one-half cent after five years. This referendum passed by 55% of the voters and enabled the continuation of transit service in Fort Worth. The political consultant's campaign was successful: in the election, individuals in the most transit-dependent precincts voted in large numbers for the referendum. The transit-dependent turnout was higher than usual and exceeded the turnout from the "no new taxes" precincts. Since 1991, two other communities have voluntarily passed sales tax referenda and joined the transit system.

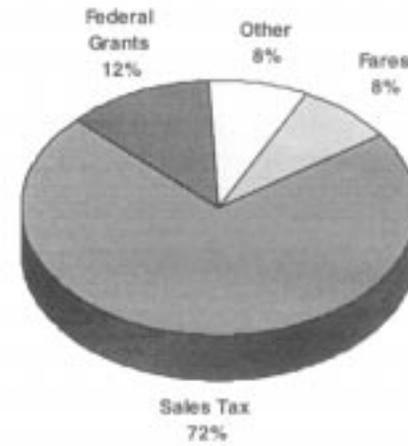
Tax Structure

The T receives its tax in a manner similar to the RTC. The state comptroller collects the tax from merchants and passes it on to the transit agency. Sales tax receipts total nearly \$25 million a year and provide the majority of funds for the T. Federal operating assistance is the next largest subsidy source, accounting for about \$4.5 million per year. Without the sales tax revenues, the T would not be able to provide the level of service that it does today.

T Funding for FY 1996

Funding Source	Amount (in thousands of dollars)
Sales tax	\$25,849,000
Fares	\$2,804,000
Federal Grants	\$4,192,000
Other	\$2,889,000
Total	35,734,000

T Revenue by Source



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The Experience in Atlanta, Georgia

Background

In 1965, the State of Georgia created a transit authority to serve metropolitan Atlanta, the Metropolitan Atlanta Rapid Transit Authority (MARTA). In 1972, MARTA acquired the Atlanta Transit System (a private company) and began operating bus services. Today MARTA operates an extensive bus and rail network. The 29 million annual vehicle miles provide service to all corners of MARTA's service area, the City of Atlanta and Dekalb and Fulton Counties.

MARTA operates a 45-mile rapid transit system. This system provides rapid transportation to major activity centers in the area. MARTA also provides local, express, and rail station feeder bus service. MARTA is especially proud of its service to the spectators of the 1996 Olympic games. The Olympics helped showcase MARTA's speed, cleanliness, safety, and customer service to the world.

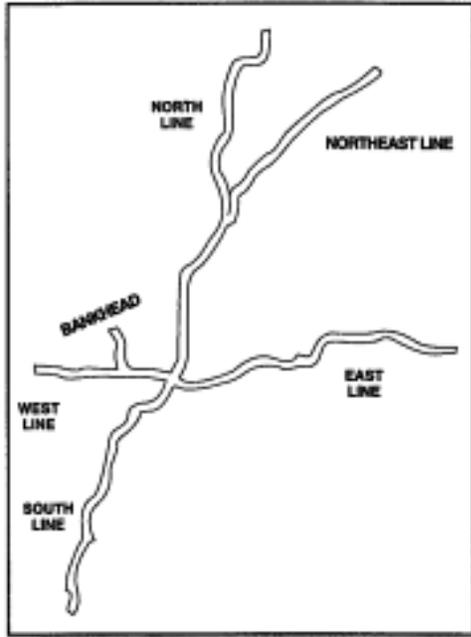
Implementation

In 1965, the State of Georgia passed legislation creating MARTA to serve metropolitan Atlanta. In the

Agency Profile

Service Area	Fulton and Dekalb Counties
Modes	Bus, Heavy Rail, Demand Response
FY96 Operating Budget	\$232 million
FY96 Capital Budget	\$441 million
Annual Ridership	
Bus	37 million
Heavy Rail	30.3 million
Demand Response	75,000
Vehicle Revenue Miles	
Bus	31.9 million
Heavy Rail	23 million
Demand Response	1.5 million
Fares (FY97)	
Bus	\$1.50
Heavy Rail	\$1.50
Demand Response	\$3.00

same legislation (the MARTA Act), the state also put in place the framework for the agency's primary funding source, a one percent sales tax. The planned purpose of this tax was to plan, construct, finance, and operate a rapid rail system in Atlanta. However, the tax had to be



Rail system map

approved by each locality before implementation.

Each locality that was interested in being served by transit put a referendum to the voters asking if they wished to join the transit district and levy a one percent sales tax to fund the transit system construction and operation. The referendum took place in 1971 and passed in Atlanta by less than one percent.

Crucial to the success of this referendum was the support of most of the elected officials and the community outreach completed by MARTA's supporters. Political consultants put together a strategy

similar to that used in a presidential campaign. Telephone, direct mail, and television were all used to get the message to the voters. There was significant press coverage of all activities as well as a number of neighborhood meetings. Much of this work was funded by a group of local businesspeople who raised the funds necessary for the outreach. The local business community supported MARTA because it wanted to improve Atlanta's image as a world-class city.

Tax Structure

The MARTA Act allows the State of Georgia to collect a one percent sales tax from items sold in MARTA's service area. Currently the City of Atlanta and Fulton and DeKalb Counties levy the tax. The tax is collected by merchants and sent to Georgia's State Revenue Commissioner monthly. The State Revenue Commissioner withholds MARTA's monthly debt service payments and turns over the remaining money to MARTA. To cover its costs of collection, the State of Georgia charges MARTA a handling fee of one-half percent of its total sales tax receipts; merchants also keep a portion of the tax. The handling fees charged by the state and the merchants detract from MARTA's potential receipts.

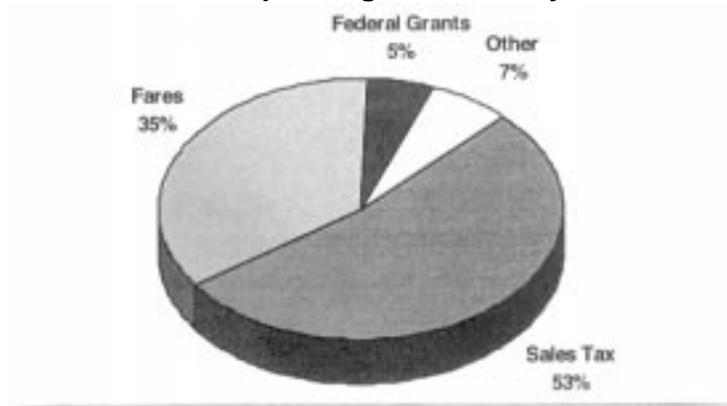
The sales tax provides the majority of MARTA's funding and has allowed MARTA to develop an extensive heavy rail system. If more than 50% of the sales tax receipts are required for a operating subsidy in a given year, MARTA has three years to "repay" that money into capital uses. If operating costs require the use of less than 50% of the sales tax proceeds, MARTA may put aside the unused operating portion for use in future years. The sales tax revenue generated by the transit system has historically provided over half the operating funds with just under two-fifths coming from passenger fares.

This tax structure causes some problems for MARTA. As its federal operating assistance has declined (by 55% between 1994 and 1996) MARTA has leveraged other sources of federal funds (*e.g.* Congestion Mitigation and Air Quality grants). However, if federal funds

MARTA Operating Revenues (in millions of dollars)

Funding Source	FY 1994	FY 1995	FY 1996
50% of Sales and Use Tax	99.2	111.2	125.8
Fares	75.0	75.2	84.3
FTA Section 9	5.6	4.9	2.5
Other Federal Grants	4.6	7.2	9.8
Other Revenue	11.8	11.3	15.9
Total	196.2	209.8	232.3

FY 1996 MARTA Operating Revenues by Source



continue to decline, MARTA may be unable to cover operating costs using sales tax revenues due to the limitation imposed in the enabling legislation.

In 2032, the sales tax rate will fall from one to one-half percent. By this time, MARTA expects to have completed the construction (as planned in the 1970s) of its system and paid off all the associated bonds. In addition, the operating subsidy limitation will change. At most 60% of the tax revenue collected can be used for the operating budget. However, that revenue can only be used to pay for at most half of the system's operating costs. For example, if in 2033 MARTA were to collect \$100 million, at most \$60 million could be used for the operating budget. As long as MARTA's operating budget is at least \$120 million, all of the \$60 million available could be used for the operating subsidy. However, if the transit operating budget were only \$110 million, MARTA could only use \$55 million of sales tax revenue for operations.

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The Experience in Pullman, Washington

Background

In the 1970s, with the gas shortage in full swing, there was no transit system in Pullman, Washington, and the citizens became concerned with mobility. At the same time, there was a parking shortage, especially in the Washington State University area. In response to these issues, the City of Pullman started a transit system in March 1979.

Pullman Transit, a department of the City of Pullman, Washington, operates a 14-vehicle, fixed-route and paratransit service which accommodates school trips for university, high school, and junior high school students in addition to work and other trips.

Implementation

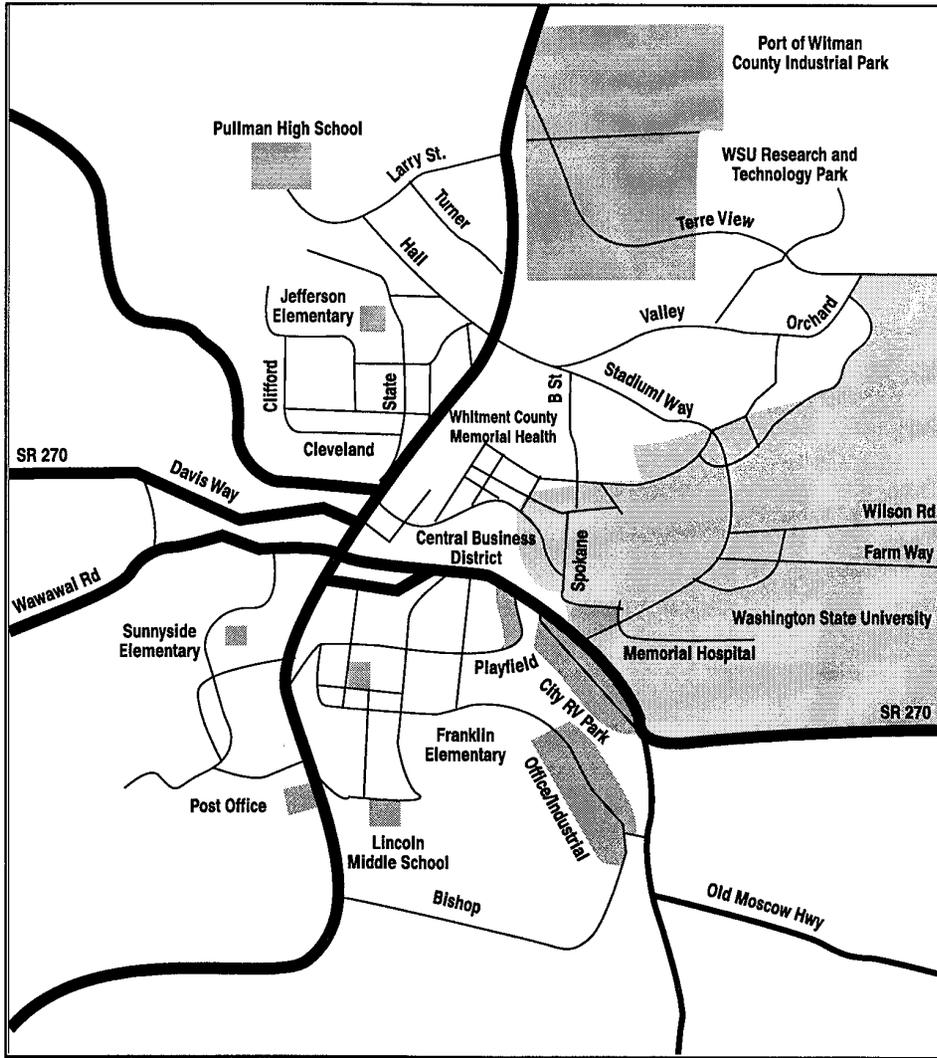
The State of Washington allows local taxes to be levied as dedicated revenue sources for transit support. Normally, transit systems in the State of Washington levy a two-tenths to three-tenths percent sales tax. However, because Pullman is located 7 miles from Moscow, Idaho, which has lower state sales tax, property tax, and wages, the retail sector that formed in Pullman

Agency Profile

Service Area	Pullman, Washington
Modes	Bus, Demand Response
FY96 Operating Budget	\$1.4 million
FY96 Capital Budget	\$729,000
Annual Ridership	
Bus	1 million
Demand Response	11,090
Revenue Vehicle Miles	
Bus	155,505
Demand Response	34,192
Fares	
Bus	\$0.35
Demand Response	\$0.40

cannot generate enough sales tax revenue to sustain Pullman Transit's financial needs. Due to the scarcity of retail establishments in Pullman, a sales tax would not generate enough revenue to run a transit system.

By working with the State legislature, Pullman received the authority to present a ballot measure to tax the use of utilities at a rate up to two percent. Before the ballot measure was put in place, transit supporters



Service area

completed significant community outreach to raise support for the utility tax. In November 1978, the ballot issue was approved by voters of Pullman. Since the State of Washington matches dedicated funding sources 1:1 with revenues from the State's Motor Vehicle Excise Tax (MVET), Pullman Transit collects twice the revenue generated by the utility tax.

The tax was first levied in January 1979 and the transit system began operation in March 1979. When operations began, Pullman Transit borrowed nearly \$150 thousand from the city street department to purchase equipment and pay salaries. The utility tax and other revenues were then used to pay back the loan.

In the mid-1980s, the telephone company began charging everyone with certain phone prefixes the utility tax, even if the people lived outside the City of Pullman. The transit system ultimately had to pay back the revenue collected from non-residents and the State of Washington's associated MVET funds. Thus, in order for a transit agency to avoid paying the consequences for a



utility company's mistake, it is important to make sure the utility company fully understands the tax regulations before tax is implemented.

Tax Structure

Pullman Transit's utility tax is levied on the use of telephone, water and sewer (owned by the city), electric, gas, and garbage utilities. While cable TV was recently classified as a utility, the tax is not yet levied on its use.

The utility companies collect and remit the taxes to the City of Pullman which transfers the funds to transit department. The utilities collect and pay the tax to the city based on collections from the previous month. For example, on February 28, a payment is made for the taxes collected in January. The city only collects money on a cash basis (money actually received), not an accrual basis (amount for which customers are billed). Any uncollectible utility fees (for example, fees paid with bad checks) are not taxed. To ensure the correct amount of the tax is being paid, Pullman can audit the financial records of the utility companies.

The tax collected provides 40% of the operating revenues for Pullman Transit and is matched 1:1 by the State MVET. In 1996, the transit revenues totaled \$1.4 million, \$454 thousand of which was generated by the Utility Tax, another \$454 thousand from the MVET state match, and the balance from other sources. Interestingly, Pullman Transit receives no federal operating assistance.

In 1984, Pullman's city council lowered the utility tax rate to one and one-half percent in response to pressure from citizens. This act decreased both the tax revenue received and the state matching funds. The City was proud of its transit system's service, which was highlighted in a *USA Today* article (Tuesday, April 17, 1990 by William Dunn) calling Pullman Transit the "#1 small transit system in the United States." The City Council did not want the service cuts which were necessary when the tax was lowered. As a result, the City Council raised the utility tax back to two percent in 1989. It took until 1992 the transit system to recover financially from the tax cut and return to pre-1984 service levels.

Utility Tax Receipts (in thousands)

Year	Revenues
1990	349
1991	368
1992	366
1993	403
1994	435
1995	469

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Lessons Learned

When implementing local taxes transit agencies must keep three things in mind:

- realize the influence of external factors such as economic conditions and social trends on tax receipts;
- sell the tax to the community through outreach, agency reputation, and realistic service promises; and
- do not limit the uses for sales tax funds.

Influence of External Factors

Tax receipts are influenced by external factors. For example, sales tax receipts are related to the local cost of living. During the recession in the early 1990s, RTC lost significant local sales tax revenue which meant it also lost the matched federal assistance. As a result, service had to be cut.

Atlanta experienced similar circumstances. Between 1989 and 1992, MARTA's sales tax receipts grew more slowly than expected due to the recession. To counter the slow growth in operating funds, MARTA raised fares by 25% from \$1.00 to \$1.25 in 1993. Many workers were also laid off to cut operating costs. In

addition, this stagnation of sales tax revenues devastated MARTA's capital budget, nearly 40% of which comes from the sales tax funds. Originally, the entire rail system was to be opened in 1996, but the slow growth in sales tax receipts cut a significant portion of MARTA's anticipated funding and delayed rail station openings. MARTA was forced to change its rail system construction plans to include two phases: construct the stations closer to downtown first with the farther out stations to be built later.

MARTA Sales Tax over the Last 10 Years

Fiscal Year	Tax Collections (in millions of dollars)	Percent Growth from Previous Year
1987	150.1	—
1988	159.5	6.26
1989	162.7	2.01
1990	165.4	1.66
1991	167.7	1.39
1992	168.3	0.36
1993	185.1	9.98
1994	200.6	8.37
1995	229.6	14.46
1996	260.2	13.33

Taxes on utilities are also constrained by factors external to a transit agency. First of all, the utility rates themselves determine the revenue received. Second, because the use of utilities is fairly constant, if the rates are not raised to keep pace with inflation, tax revenue will stagnate. Another factor is energy conservation: utilities such as gas, electricity, and water are used less under more aggressive conservation programs and, thus, generate less revenue.

Selling the Tax to the Community

Transit agencies must sell the need for dedicated taxes to the community. In Reno, Nevada, RTC found it hard to sell the idea of sales tax to the community because a sales tax is not a user fee.

To successfully pass a dedicated local tax for transit, the community outreach must directly tie the benefits of the transit system to the lives of the individuals in the community. Even though eighty-five percent of the population does not use transit, the community realizes better air quality and less congestion.

However, people do not generally connect these intangible benefits to transit. Both Atlanta and Fort Worth enlisted the help of political consultants to run campaigns to reach the public.

Along the same lines, a government entity needs a reputation for accountability in order for a tax to be passed. Transit providers need to develop good public relations with the community and gain their trust before trying to pass a ballot measure. To accomplish this point, substantial community outreach is needed to gain business and citizen support. Local business support is important because the business community may be willing to help a transit agency raise the money necessary to pass ballot measures.

In the outreach efforts, it is important not to overstate the transit services which will be provided. For example, during the failed 1980 referendum in Dallas/Fort Worth, Texas, the voters were promised a 100-mile rail network that linked the two counties; the public did not believe the network was needed, nor feasible. In the 1983 referendum, the T only promised realistic transit services.

"To successfully pass a local tax for transit, the community outreach must directly tie the benefits of the transit system to the lives of the individuals in the community."

MARTA Capital Funding Sources (in millions)

Funding Source	1997	1998
Sales and Use Tax	126.7	137.3
Reserve Balance	97.1	79.9
Federal Capital Grants	95.9	96.3
Bonds	-	94.0
Other	5.1	5.6
Total	324.8	413.1

Effects of Limitations

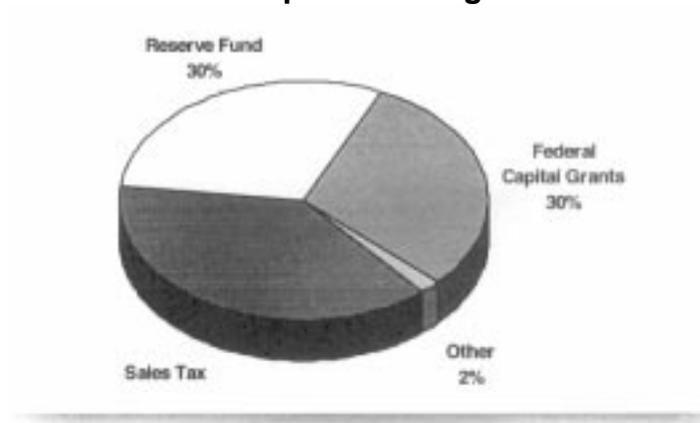
Limiting the use of the funds can create difficulties for an agency in the long term. MARTA's operations are constrained by the operating revenue limitation in its sales tax legislation. MARTA will have to persuade the state legislature to change the legislation, which will likely meet with significant resistance.

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FY1997 Capital Funding Sources

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Endnotes

- 1 Based on Price Waterhouse analysis of the National Transit Database documented in the Final H7 report. (See Volume 1 of TCRP Report.)
- 2 *Ibid.*
- 3 The state transfers the revenues to the county as required by state statutes.
- 4 RTC also performs highway planning and building; the sales tax money is only for transit planning and operations.

Transit Impact Fee

**San Francisco Municipal Railway
San Francisco, California**

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San Francisco Municipal Railway

Background

Growing localities continually struggle to pay for the infrastructure required by new developments. Current residents typically do not want to subsidize it. As a result, many cities now charge developers exactions to compensate for the impacts of these developments. Exaction is the legal term for charges to developers (either money or in-kind contributions) for the effects of their development on the local community. These exactions have survived court challenges in numerous states as long as the improvement for which the fee pays directly benefits the development. Transit systems can benefit from exactions where development stresses a transit system's ability to provide service. For example, assume a new office complex generates additional commuter ridership in an area. Rather than charge all residents in the municipality, a locality can enact one type of exaction, an impact fee, to assess each developer for his/her development's **incremental** impacts.

In this case study, we examine the impact fee ordinance in San Francisco, California. Substantial downtown development in the late 1970s led the City and County of San Francisco (referred to as San

Agency Profile

Service Area	San Francisco
Modes	Bus, Light Rail, Trolley Coach, Cable Car
FY96 Operating Budget	\$288 million
FY96 Capital Budget	\$47.7 million
Annual Ridership	
Bus	89.9 million
Light Rail	36.7 million
Trolley Coach	77.8 million
Cable Car	9.6 million
Revenue Vehicle Miles	
Bus	12.1 million
Light Rail	3.7 million
Trolley Coach	7.1 million
Cable Car	500,000
Fares	
Bus	\$1.00
Light Rail	\$1.00
Trolley Coach	\$1.00
Cable Car	\$2.00

Francisco) to enact an ordinance to collect a Transit Impact Development Fee (TIDF). The impact fee was designed to recover the operating subsidy and capital expansion costs of the San Francisco Municipal Railway, (Muni), the local transit provider. Eligible costs include additional rolling stock, services, personnel, fuel, electricity, facilities, and the maintenance, repair, replacement, and operation of the vehicles and facilities.

Implementation

In the late 1970s, residents of San Francisco



Significant development in downtown San Francisco led to development of the TIDF ordinance.

were concerned that the continuing downtown development was likely to require substantial investment in transit. While the city had historically funded transit out of general revenues, it did not anticipate having

sufficient general revenue funds for the required investment. Residents and political leaders feared that they would bear the burden of these costs through increased taxes, so in response to these concerns, the city began to consider financing the transit system through alternative methods.

At a meeting of the San Francisco Public

Utility Commission (PUC) in December 1978,² it was suggested that the City establish a downtown assessment district to fund Muni's downtown services. The following year, the Planning Department began a review of the legal aspects of funding mechanisms to improve transit service in downtown San Francisco. After the community reviewed the alternatives, it decided on an impact fee to pay for developments' effect on transit. The city subsequently hired a number of private consultants to determine

- the marginal effect on transit ridership of new downtown office space and
- the marginal cost to the transit agency per square foot of development to serve this ridership.

"The developer has created a new, and cumulatively overwhelming, burden on local government facilities, and therefore he should offset the additional responsibilities required on the public agency."¹

Finally, in April 1981, the San Francisco Board of Supervisors passed the TIDF ordinance.

Program Structure

Because impact fees and other development exactions have often been subject to court challenges, San Francisco structured its ordinance to withstand court challenges as well as guide implementation. The ordinance is composed of the following key features:

- justification,
- a clear definition of the area in which property is to be assessed the fee,
- method used to calculate the fee,
- the manner in which proceeds will be used to serve the developments that pay the fee,
- payment timing and methodology, and
- provisions for lack of payment.

Justification

San Francisco applied the fee to office development in order to offset the cost of increased ridership during peak periods. Office space was the only type of development to be assessed the TIDF because of the transit expansion necessary to serve the expected ridership. Uses which complement the office space by providing shopping, lunching, or other attractions for the workers are exempt from the TIDF because they result in minimal transit use. By charging a fee exclusively for office space, San Francisco encourages mixed use developments (residential, retail, and office mix) which require less travel and, therefore, put less stress on the entire transportation system.

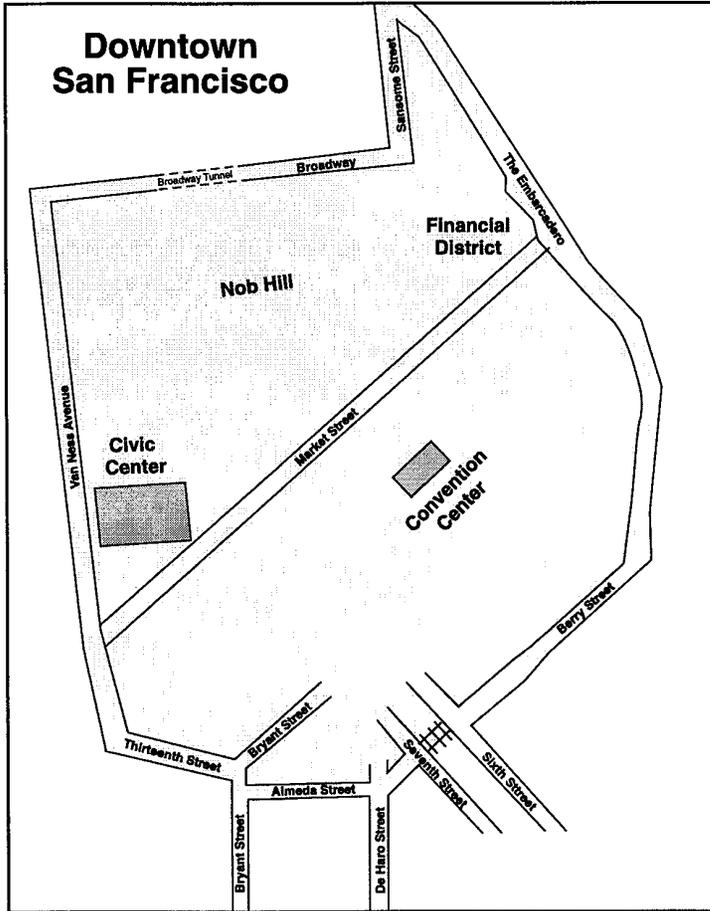


Since the existing transit service was expected to be adversely affected by the crowding conditions on vehicles and at shelters, additional service or shelter expansion might be necessary. The more office buildings constructed, the more peak period demand is generated as office workers travel to and from work. The sheer number of new commuters (over 70% of all work trips into downtown use transit³) strains the ability of the transit system to provide comfortable and convenient service. As a result, transit capacity would have to be expanded on existing lines to address the increasing demand, and new service would have to be added in areas where the development was occurring. Therefore, the new commuters stress both Muni's operating and capital funding.

Increased ridership requires Muni to expand both operations and capital facilities. Traditionally, federal funding for Muni has only been applied to subsidize existing service and replace or rehabilitate structures and vehicles, not for expansion. Therefore, expanding service for the influx of new office workers would be both an operating and capital burden on Muni. To alleviate this

funding burden, San Francisco designed the TIDF ordinance so that what a developer must pay depends on how much new office space her/his site will include.

Area Defined



San Francisco's TIDF assessment district

The ordinance clearly defines the area to which it applies (see map below). The clear identification of the downtown prevents problems such as property owners contesting whether or not their property is located in the assessment district. In addition, the city's permit issuers can clearly determine which properties must pay the fee; consequently no property is overlooked. This lack of confusion leads to maximum revenue collection.

Calculation of the Fee

The TIDF is a one-time fee charged to cover the cost of providing transit services over the 45-year useful life of an office building, with the maximum fee per gross square foot set at five dollars. Each year the impact fee is recalculated based on new development, but the fee has remained at the five dollar maximum since the program's inception. The following chart illustrates that the actual incremental cost is not covered by the fee.

The TIDF is supposed to recover **all** incremental costs to Muni from each office development, yet in

Calculation of Impact Fee for FY 1986

PV of Operating Expenses	\$16.30 (a)
PV of Operating Revenue	\$10.12 (b)
NPV of Operating Costs	\$ 6.18 (c) (a)-(b)
PV of Capital Expenses	\$ 6.50 (d)
PV Total Cost	\$12.68 (e) (c)+(d)
PV Cost per square foot	\$11.68 (f) (e)*(1.39)*(0.64) [†]

[†] 1.39 converts unlinked trips to linked trips
 0.64 linked trips per square foot of office space

reality, it does not. As illustrated above, the actual cost of the subsidy attributable to the office development has

been greater than the five dollar maximum which has been charged.

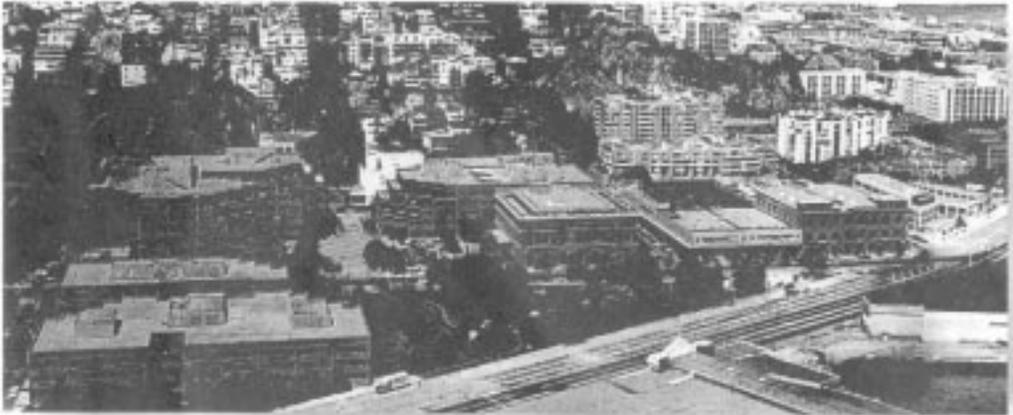
Financial Effects

The City of San Francisco TIDF account currently has a balance of \$55 million dollars. Since 1981, money has been transferred each year from this fund to Muni's operating revenue fund (\$4.5 million⁴ in 1996) to cover the incremental operating costs attributable to the downtown office development. The transit agency can withdraw money to pay the salary of the staff who administer the impact fee program or to pay for the incremental capital costs generated by the ridership. For example, transit impact fee money may be used to expand a bus shelter that has been overcrowded by people commuting to the new office space; or if more buses are required to serve capacity on downtown routes, the impact fee funds can be used to purchase the buses and pay for the salaries of the operators and bus maintenance.

Payment

Payment of the fee is due upon 50% occupancy of the net rentable area or issuance of the first temporary permit or the final certificate of occupancy, whichever comes first. The developer may elect to pay in installments, in which case interest is charged on the unpaid amount of the TIDF. While at the beginning of the program a number of developers chose to pay in installments, currently, developers tend to pay the entire impact fee up-front.

If the TIDF is not paid on time, Muni receives a lien on the property for the amount of the fee



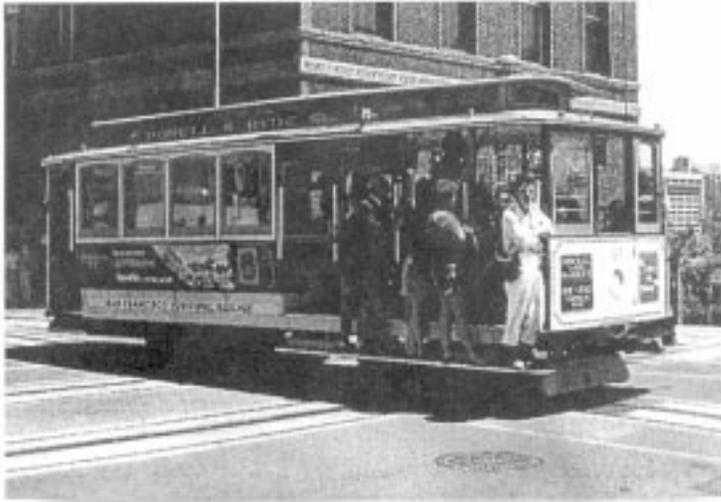
Over its 45-year useful life, this development, Levi's Plaza, is expected to generate more than \$3.1 million in incremental operating and capital costs for Muni.

outstanding, plus interest and penalties. If this lien is not paid in 30 days (60 days for a missed installment), a special assessment lien is then placed on the property. This lien is on parity with all other state, county, and municipal taxes, and the amount is included in the property tax bill (and can therefore be recovered under foreclosure of the property).

An interesting condition in this ordinance is that if a building or portion of the building is no longer used

Examples of Impact Fees Paid

Address	Square Footage	Amount
100-110 First Street	402,135	\$2,010,675
353 Second Street	662,193	3,310,968
241 Battery Street	374,000	1,870,000
333 Bush Street	511,279	2,556,395
66 Howard Street	196,284	981,420
235 Pine Street	140,989	704,948
1355 Sansome (Levi's Plaza)	620,481	3,102,409



for office space, a pro-rated portion of the TIDF must be returned. As far as Muni knows, no impact fee has been refunded to date, and the amount currently in the fund (\$55 million) can cover the refund for any specific property.

Legal Challenges

Development assessments are generally unpopular with developers whether they are for sewers, schools, or transit. Thus any jurisdiction implementing an impact fee needs to be aware of legal challenges. San Francisco's impact fee has withstood several important legal challenges. Readers should note that these cases against San Francisco's TIDF ordinance were argued in the California court system, and the court's decisions only validate TIDFs in California. Nonetheless, due to the lack

of other case law surrounding transit impact fees, other courts may look to these cases for guidance.

In *Russ Building Partnership v. City and County of San Francisco* (1987)⁵ (hereafter *Russ I*), the Russ Building Partnership filed a class action suit on behalf of all the property owners affected by the TIDF. The suit challenged the validity of the ordinance on the basis of violation of equal protection, due process, double taxation, and level of the fee.

Equal Protection Claim

Under the equal protection claim, the developers charged that the impact fee discriminates as applied to them because office space built before the impact fee ordinance and retail space did not have to pay the TIDF, even though both groups would benefit from the additional service which new office development funds through the TIDF.

In California, developers are not considered a suspect class and development is not a fundamental right (guaranteed by the constitution), but rather a privilege. Therefore the court tests for equal protection by determining if a rational relationship exists between the imposition of the impact fee for only **new office**

Summary of the California Court Decisions

- A one-time fee is not a tax.
- The public must be involved in ordinance creation to avoid a procedural due process violation.
- Defensible calculations are necessary to survive claims against equal protection and the level of the fee.

developers and the local government's interests. Thus, the city must show that the distinctions drawn between new and existing office development and new office and new retail development are rationally related to a legitimate government interest.⁶

The first part of the challenge deals with **existing** versus **new** office space. The stated purpose of the ordinance is for a developer of new office space to pay for the incremental financial burden that this specific development imposes on Muni's ability to provide transit to serve the building during peak travel periods. The court found that the indirect benefits of increased service to existing buildings was not significant.

Secondly, under the ordinance, San Francisco will only recover transit costs for additional service to the downtown **office** buildings. Before the ordinance was approved, the city performed studies to demonstrate that the transit burden resulted from new office space. A report which examined the effect of the city's downtown development plans showed 110% more office space than retail space. With 70% of peak period trips into downtown San Francisco being on transit, Muni was concerned by the extra ridership which resulted from people commuting to work in the new office buildings. Uses which complement the office space by providing shopping, lunching, or other attractions for the workers are exempt from the TIDF because they result in minimal

transit use.

As a result of this evidence, the court found the city's conclusion, that the office space is the primary generator of transit trips, to be rational. Having the office developers pay for the burden they impose on Muni to provide the additional service, therefore, advances the city's goal of providing transit service to

commuters without adversely affecting current service levels. Thus the ordinance does not violate equal protection.

"We are mindful of the local government's need to generate revenue to maintain the quality of life the residents have come to expect."⁸

Due Process Claim

Russ Building Partnership charged that the TIDF ordinance violates substantive due

process because it is unreasonable to pay for transit costs for 45 years (the lifetime of the office space) as transit costs cannot be calculated that far into the future. The city had to prove that transit costs and ridership could be projected 45 years into the future and that charging impact fees up-front in a "lump-sum" is legitimate. The City of San Francisco employed expert witnesses to show that long-term cost projections are used throughout the world of finance even though inflation and other assumptions are subject to uncertainties. The consultants also examined the effects of new office space on transit use. Based on this evidence, the court upheld the ordinance.



Double Taxation Claim

The court found that the TIDF fee was not a tax, but a development fee because the fee "is charged at one time, at the completion of construction of the new office space, and does not recur as does a property tax. Furthermore, the transit fee is designed *specifically* to fund Muni maintenance and development, whereas a property tax provides general revenue to cover a wide range of municipal services...Regardless of the method of calculation, the transit fee is not imposed by virtue of property ownership, but is a fee for the privilege of developing real property and to defer increased costs of transit services."⁷

Level of Impact Fee Claim

The developers also claimed that the impact fee amount was too high. The court felt that the impact fee was not unreasonable because consultants hired by the city performed studies to accurately determine the long term impacts of development on transit. The consulting method, drivers, and the outcomes of the city's own modeling efforts satisfied the court. During

implementation, the city also held a number of public hearings to receive public input on these calculations.

Lessons Learned

The main lesson a transit system can learn from this experience is that while an impact fee can deliver substantial funds for transit support, the impact fee will probably be challenged in court. The City of San Francisco's planning department recommends that any impact fee ordinance be airtight: perform plenty of studies before adopting legislation, involve the public in hearings, and write the language of the ordinance to stand up against class action suits. San Francisco spent six years in court before it could begin to collect funds.⁸ It is paramount that localities consider possible court challenges when designing an impact fee ordinance.

San Francisco's TIDF ordinance can be enforced through denial of permits and liens on the property and foreclose. When designing an ordinance, localities should be aware that developers will try to refuse to pay impact fees, and a mechanism needs to be built into the ordinance to collect them forcibly, if necessary.

Contact Information

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Endnotes

- 1 *Russ Building Partnership v. City and County of San Francisco* (1987) 199 Cal.App.3d 1496 quoting *Trent Meredith, Inc. v. City of Oxnard* (1981) 114 Cal.App.3d 317
- 2 At this point in time Muni was considered a utility and fell under the City Public Utilities Commission. Transit Commission has since become its own department, the San Francisco Department of Public Transportation.
- 3 City and County of San Francisco planning staff.
- 4 Muni's operating budget in 1995 was \$281 million.
- 5 199 Cal.App.3d 1496.
- 6 The interest being providing transit service to customers at the level to which they are accustomed.
- 7 *Russ I* 1510-1520.
- 8 The impact fee money collected during this time was deposited into escrow accounts



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Creative Use of Federal Funds

**Los Angeles County Metropolitan Transportation Authority
Los Angeles, California**

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Los Angeles County Metropolitan Transportation Authority

Background

As Federal Transit Administration funds shrink, transit agencies have looked to increase funding from other federal funding sources. A number of flexible funding opportunities are available through the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). This act instituted two key programs with funds available to transit: Congestion Mitigation and Air Quality (CMAQ) and Surface Transportation Program (STP) funds.

CMAQ funds may be used for projects listed in state transportation planning documents which will help an area reach air quality attainment. Almost any transit-related project falls into this category. In its first four years, CMAQ has provided \$1.3 billion in highway

CMAQ Funded Projects

Description	Location	Amount	Percent of Total Funds
Walkway	Cleveland, Ohio	\$7.3 million	53%
Busway	Dade County, FL	\$14.8 million	40%
CNG Bus Purchase	Boise, Idaho	\$3.8 million	64%

Agency Profile

Service Area	Los Angeles County
Modes	Bus, Heavy and Light Rail
FY97 Operating Budget	\$1.2 billion
FY97 Capital Budget	\$1.1 billion
Annual Ridership	
Bus	334 million
Heavy Rail	7.7 million
Light Rail	15 million
Revenue Vehicle Miles	
Bus	74.8 million
Heavy Rail	278,388
Light Rail	2.8 million
Fares	
Bus	\$1.35
Heavy and Light Rail	\$1.35

funding to transit projects. Three sample projects are described in the chart to the left.

STP funds can be used for transit capital costs, carpools, bicycle and pedestrian facilities, safety, facility enhancement, and research and development.



Union Station

Ten percent of STP funds can be utilized for transportation system enhancements. Transportation enhancement funds can be used for the "provision of facilities for pedestrians and bicycles, acquisition of

scenic easements...and sites,...landscaping and other scenic beautification, historic preservation, rehabilitation, and operation of historic transportation buildings, structures, or facilities,...preservation of abandoned railway corridors, ...[and] control and removal of outdoor advertising."¹ Transit agencies request STP funds from their state departments of transportation.

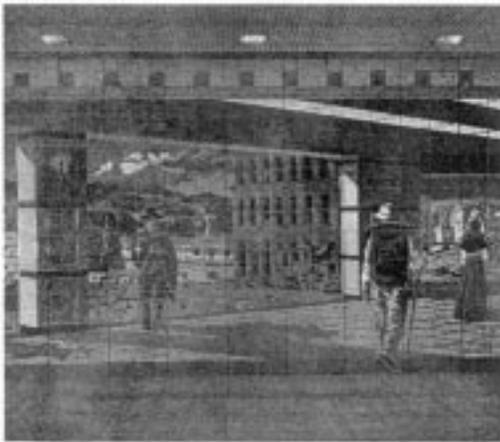
In this case study, we will examine how the Los Angeles County Metropolitan Transportation

Authority (MTA) used ISTEA enhancement funds to help build the Union Station Gateway Center, a multimodal transfer facility and MTA headquarters. MTA received STP enhancement funds for the project to pay for amenities such as landscaping and artwork.

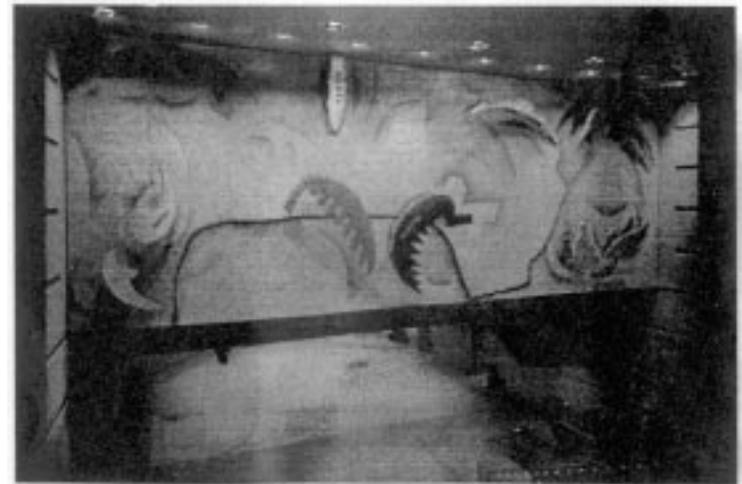
In the 1980s MTA was concurrently looking for a site to build its new headquarters and a design for the rehabilitation of Union Station into a multimodal transportation center with intercity, commuter, heavy rail, and bus service converging at a major park and ride lot. In addition to construction, the Union Station site needed landscaping, new traffic signals, utility relocation, and environmental mitigation.

The Request for Proposal Process

MTA was interested in the time and cost savings shown by turnkey projects in other industries and thus



This mural in Union Station was funded through ISTEA flexible funding.



Mural in Union Station



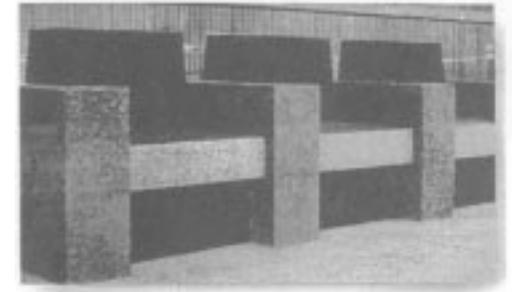
Pedestrian walkway from Union Station to bus transfer facility and MTA headquarters

asked for a turnkey approach in its request for proposals (RFP) to build the new MTA headquarters.² MTA received 70 bids for the headquarters that met the selection criterion of the site's location near a rail or bus facility. In order to ensure that the selected project design could be constructed on time, in budget, and without major changes, MTA employed a nationally known transportation construction firm to review the proposals. Concurrently, MTA was looking for a contractor to rehabilitate Los Angeles's historic Union Station, built in 1939 in a combination of architectural styles including Art Deco, Mission, Modern, Moorish, and Southwestern. The winning proposal, from the consortium led by the Catellus Corporation, was selected because its approach combined both the MTA headquarters project and the Union Station rehabilitation in a single design-build contract. Additionally, Catellus

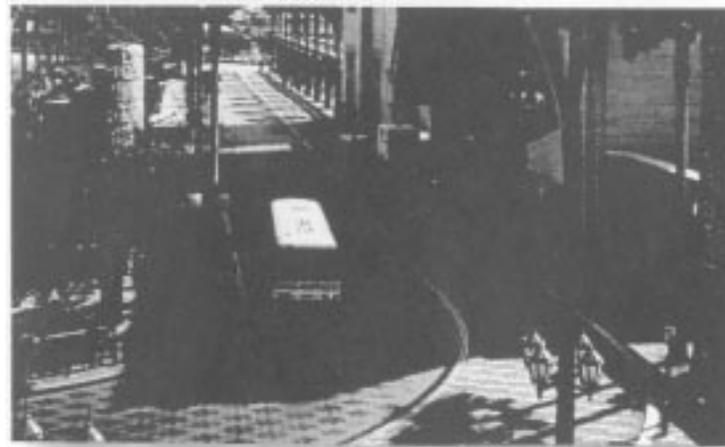
owned land near the site that could be swapped for a more profitable configuration for MTA's transit facility.

Finances

The Union Station Gateway Center project was constructed during a period of turmoil for the transit agency. MTA was created by combining two other transit organizations, the Los Angeles Transportation Commission and the Southern California Rapid Transit District. The merger, which was actually completed during this project, led to a number of labor disputes. FTA required that MTA resolve the labor disputes before it would sign a full funding grant agreement for the project.



Enhancement funds paid for the restoration of these historic concrete



Union Station's bus transfer facility

Since FTA funding was unavailable, MTA applied for grants from a number of other federal, state, and local sources. MTA was one of the first transit providers in California to apply for enhancement funds. In order to increase its chances of receiving the \$19 million of ISTEA enhancement funds, MTA characterized the Union Station Gateway Center as a pedestrian facility (which also happened to serve buses and trains) in its grant applications.

Of the total project cost of \$150 million, 13% was paid by enhancement funds. The enhancement money funded project beautification such as artwork (for example, restoration of the historic structure, interior artwork, ceramic tiles, and furniture), landscaping, bus shelters, walkways, brick paving, street lights, and staircases.

Lessons Learned

Enhancement funds provide a valuable source of money for transit projects. While in this example no FTA funding was used, for other projects, transit agencies can employ enhancement funds in conjunction with FTA funds. By using enhancement funds for artwork or functional structures for pedestrians, FTA capital grants can be used for other purposes, thus stretching federal transit grant money to its fullest potential.

Endnotes

- 1 23 U.S.C. §101(a)
- 2 For information on turnkey projects, see Turnkey Procurement Case Study.

State Infrastructure Banks

U.S. Department of Transportation

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U.S. Department of Transportation

Background

The United States Department of Transportation (U.S.DOT) recognizes that capital funding for infrastructure is scarce. As part of their innovative financing initiatives, the Federal Transit Administration (FTA), Federal Highway Administration (FHWA), and Federal Railroad Administration (FRA) asked states and other recipients of federal funds for ideas to stretch scarce capital funds. One popular suggestion was a state or multi-state-level bank that could provide financial assistance.

Under the current federal transportation funding programs, projects are not required to repay the capital grants. Consequently, these funds are used up permanently and no longer available for other projects. The idea behind state infrastructure banks (SIBs) is that by using debt

financing, federal funds are recycled at the state and local level for use by future projects. While grants can only be used to finance purely public projects, SIB loans may be used for projects with both public and private purposes.

SIBs were created to complement the traditional funding available to highways and transit. They are intended to provide a mechanism to leverage funds for projects that require additional funding, but might be delayed or unfeasible using traditional financing mechanisms alone. States can tailor the structure of their SIBs to meet their

individual transportation needs by establishing highway and/or transit accounts and choosing which funding mechanisms the SIB will provide.

"The 1995 National Highway System Designation Act [NHS Act] authorized DOT to solicit proposals to create up to 10 State Infrastructure Banks [SIBs]."

Implementation

The 1995 National Highway System Designation Act (NHS Act) authorized U.S.DOT to solicit proposals to create up to 10 State Infrastructure Banks (SIBs), and the FY 1997 Appropriations Act for U.S.DOT allowed for additional banks and designated \$150 million to be used for their capitalization. All SIBs can use federal and state funds to provide

- loans,
- credit enhancements (e.g. loan guarantees, letters of credit),
- interest rate subsidization,
- leases,
- debt financing securities, and
- other debt financing mechanisms (as approved by the Secretary of Transportation).

Whatever the form of assistance, the SIB funds are dedicated to transportation infrastructure and divided into two separate accounts for highway and transit projects.

In January 1996, DOT issued application instructions. Each application was to include the proposed SIB structure, identify current legislation in the state which might restrict SIB assistance, discuss the status of enabling legislation for the SIB, show a detailed SIB financial plan, and provide an outline of the projects proposed for the first use of the funds.

Program Structure

The NHS Act allows banks to establish two accounts: a transit account and a highway account. The act also requires that any disbursements plus interest must be repaid to the bank. States can capitalize the banks either by using up to 10% of their federal-aid highway or transit funding¹ or by requesting a portion of \$150 million allocated for SIBs in the FY 1997 DOT Appropriations Act. States are

required to match all federal funds. The funds may be deposited into either a highway or transit account, but once money is allocated to a specific mode, it cannot be used for the other mode. Two percent of

this money may be used for administrative expenses.

The first ten states approved were Arizona, California, Florida, Missouri, Ohio, Oklahoma, Oregon, South Carolina, Texas, and Virginia. As of June 1, 1997, these states had deposited a total of \$122 million (\$80 million of federal money) into the highway accounts of their SIBs.

Of these first ten states, only Oklahoma does not plan to establish a transit account. The case study that we present of the revolving loan fund in Arkansas is an example of a similar program which could be set up under a SIB transit account.

"Any disbursements plus interest must be repaid to the bank."

On June 19, 1997, the White House announced that 29 additional States would be designated to establish 23 new SIBs — two of which would be multi-modal SIBs. At the same time, the \$150 million in FY 1997 capitalization funding was allocated to all of the existing and newly-designated SIBs. The largest allocation was for \$12 million, and the smallest was for \$1.5 million.

Contact Information

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Endnotes

- 1 Use of capital funds from urbanized areas of over 200,000 in population require the cooperation of the local metropolitan planning organization.

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Revolving Loan Fund

**Arkansas State Highway and Transportation Department
Arkansas**

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Arkansas State Highway and Transportation Department

Background

The Arkansas State Highway and Transportation Department (AHTD) runs the highway and transit programs for the State of Arkansas. In the late 1970s and early 1980s, AHTD participated in a FHWA lease-to-buy vanpool program and received a 75% federal grant for the cost of starting the program. This program continued for 15 years by recycling the money numerous times; there was never a default on the leases. Under this program, AHTD purchased vans and leased these vehicles to vanpools around the state. AHTD structured the lease payments to ensure that each lessee had purchased its vehicle at the end of each vehicle's official useful life. To assure loan repayment, AHTD required each lessee to insure its vehicle for the full replacement value and retained a lien on the vehicles until the end of the lease period.

In the early 1990s, new priorities for transportation in Arkansas emerged. Smaller lift-equipped vehicles were available for purchase, but not through leases. Although AHTD did not have available capital to purchase vehicles, it wanted to provide an affordable capital lease option for Arkansas transit providers (including public entities, private nonprofit corporations, vanpools, and any contracted service providers).

Implementation

Building on their experience during the previous vanpool program, AHTD decided to establish a new \$1 million revolving loan fund (RLF), the Arkansas Translease Program. In November 1994, AHTD submitted the

first draft of this program to FTA under its innovative financing initiative. FTA agreed that a RLF was an innovative funding idea and awarded AHTD a grant. In addition to FTA funding, the original vanpool money

"AHTD decided to establish a new \$1 million revolving loan fund, the Arkansas Translease Program."



RLF money purchased this van.

was converted to ISTEA Surface Transportation Program (STP) funds. STP funds can be used for non-highway purposes, and the money was "recycled" through Test and Evaluation 045, FHWA's innovative funding program.

In January 1996, AHTD announced the creation of its RLF and asked interested parties to submit applications; AHTD had received 22 applications by April 1996. As of April 1997, 19 new vehicles had been funded for use by transit providers in the State of Arkansas. Applications continue to be accepted on an ongoing basis, and AHTD is in the process of delivering another 17 vehicles. This second purchase will be partially funded by the portion of the original loan money which has been paid back over the past year.

The AHTD administration and public service organizations in Arkansas have been very supportive of the RLF concept.

Program Structure

Under the RLF program, AHTD reviews applications for vehicles and accepts agencies based on their capability to make lease payments. AHTD then purchases a large number of vehicles at a significant discount over the price an agency would pay for a single vehicle. Finally, AHTD leases the vehicles to the transportation providers.

AHTD structures the leases to be affordable to the state's transit providers. The leases

- are interest free,
- require no down payment,
- last for the life of the vehicle (usually 4 years or 100,000 miles), and
- have a monthly payment equal to the cost of the vehicle divided by the vehicle lifetime.

To assure loan repayment, AHTD requires each lessee to insure its vehicle for the full replacement value and retains a lien on the vehicle title until the lease is fully paid. As these terms imply, the transit agency owns the vehicle at the end of the lease period.

Currently, the fund is composed of money from FTA (\$270,000), FHWA vanpool capital (\$340,000), and a state match (\$152,000) for a total of \$762,000. AHTD's goal is to have \$1 million in the fund. To reach this goal, AHTD will supplement the current fund with FTA Section 3 funds and the required state match. Over the next ten years, AHTD expects to expand the fund to \$3 million, receive \$2.5 million in income, and release 125 vehicles. Because no interest is charged as part of the lease payments, AHTD plans to periodically supplement

Arkansas TransLease Estimated Lease Cost

Standard Passenger Vehicles	Basic Unit Cost	Useful Life Lease Term (months)	Estimated Monthly Lease Payment	ADA Accessible	
				Estimated Additional Cost per Unit	Adjusted Lease Payment
Station wagon - 6 passenger	\$ 16,525	48	\$ 344.37	NA	NA
Small van - 7 passenger	14,947	48	311.40	NA	NA
Standard van - 8 passenger	16,062	48	334.63	\$ 8,993	\$ 521.98
Standard van - 12 passenger	18,349	48	382.27	NA	NA
Standard van - 15 passenger	19,633	48	409.02	NA	NA
Raised roof van - 15 passenger	30,793	48	641.52	1,992	683.02
Small bus - 17 passenger	34,963	60	582.72	4,435	656.63
Small bus - 21 passenger	35,799	60	596.65	4,435	670.57
Small bus - 25 passenger	37,015	60	616.92	4,435	690.83

Lessons Learned

Arkansas has found that this program provides significant help for its transit providers and has been strongly supported by both the state and local community groups. The program has significantly decreased the overall costs of vehicles, since buying the vehicles in volume for the entire state saves \$2,000 to \$5,000 per vehicle. The Arkansas Translease program provides an affordable way for the small operators in Arkansas to purchase ADA-equipped vehicles. Defaults to the state can be minimized through careful screening of applicants

the RLF with FTA section 3 capital funds in order to maintain the fund's purchasing power.

RLF in Conjunction With Other Federal Funds

There are a number of Arkansas transit providers that receive funds from the U.S. Department of Health and Human Services (HHS). The use of these funds is restricted to operating expenditures. Since outright purchase of vehicles is considered a capital expenditure, but leasing is considered an operating expenditure, the RLF is a valuable tool for agencies receiving HHS funds. Under Arkansas' RLF, transit providers that receive HHS funds can effectively use these funds to purchase new vehicles.

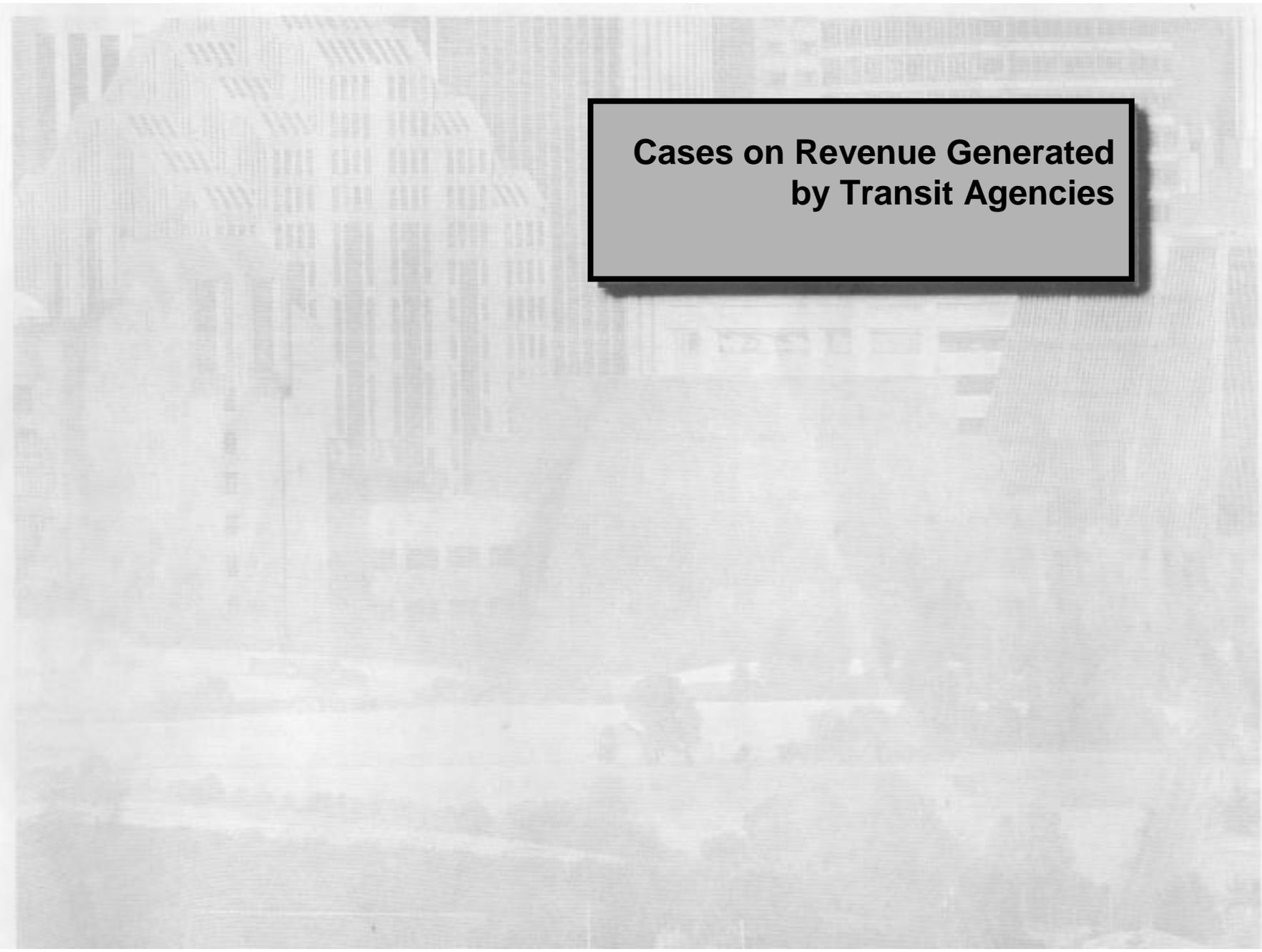
Under the Arkansas Translease program, transit providers that receive HHS funds can effectively use these funds to purchase a vehicle. Thus this program can stretch federal funds from FTA as well as non-FTA sources.

Key Lessons
<ul style="list-style-type: none"> • Buying in bulk saves \$2,000-\$5,000 per vehicle • Providers that receive funds from the U.S. Department of Health and Human Services can use these funds to lease the vehicles • Defaults can be minimized through careful screening

Finally, the State Infrastructure Bank (SIB) legislation considers RLFs allowable programs. The RLF in Arkansas may provide states with a successful working example of how a SIB could fund transit programs.

Contact Information

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An aerial, black and white photograph of a city, likely New York City, showing a dense grid of buildings and streets. A prominent, large, classical-style building with a dome is visible on the left side. The image is slightly faded and has a grainy texture. A semi-transparent grey rectangular box with a black border is overlaid on the right side of the image, containing the title text.

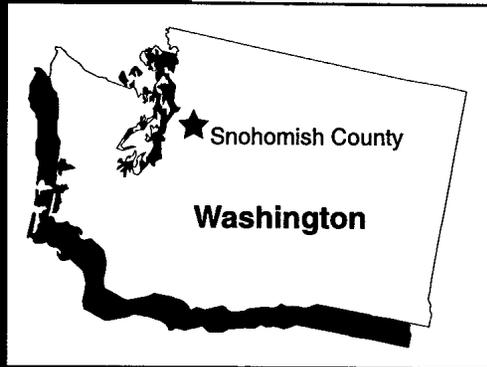
**Cases on Revenue Generated
by Transit Agencies**

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Turnkey Procurement

**Community Transit
Snohomish County, Washington**

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Community Transit

Background

Transit agencies are continually seeking new funding sources for capital improvements, whether for vehicle purchases or facility development. One approach often used by other industries to develop facilities both domestically and internationally is the turnkey or superturnkey method of procurement. The superturnkey method is very similar to the turnkey but includes operation and maintenance of the facility in addition to design and construction. This method is common because it saves time and costs.

Traditional design-bid-build procurement involves issuing separate requests for proposals and selecting independent contractors for each stage of a project. For example, to build an operations base using traditional procurement, a transit agency must procure a designer and a construction company in two separate steps.

The communication between the designer and the builder in traditional procurements is very limited. In design-bid-build procurement, the entire design must be completed before the builder is selected and construction can begin. This timing leads to a lack of

Agency Profile

Service Area	Snohomish County, WA
Modes	Bus, Demand Response
FY96 Operating Budget	\$38 million
FY96 Capital Budget	\$19.2 million
Annual Ridership	
Bus	6.8 million
Demand Response	146,092
Revenue Vehicle Miles	
Bus	6 million
Demand Response	1.3 million
Fares	
Bus	\$.80
Demand Response	\$.80

communication between the designer and the builder, which results in frequent change orders during construction.

In a design-build procurement for a similar project, the designer and builder propose as a team and there is one proposal selection process. After choosing a project team, the architect begins the design process. With the construction company involved in the design process,



input, comments, and changes to the design occur early in the design phase, thus reducing the number of expensive change orders necessary once construction begins. In addition to improvements in communication among the project team, the construction process is sped up because there is no second proposal selection process. Once designs for early components of the facility are completed, construction can begin while later components are being designed.

In this case study, we examine the turnkey construction of a bus operations base in Snohomish County, Washington. Included in other sections of this casebook are one other turnkey project and two superturnkey projects. Information on where to find these cases is in the last section of this case entitled "Contact Information."

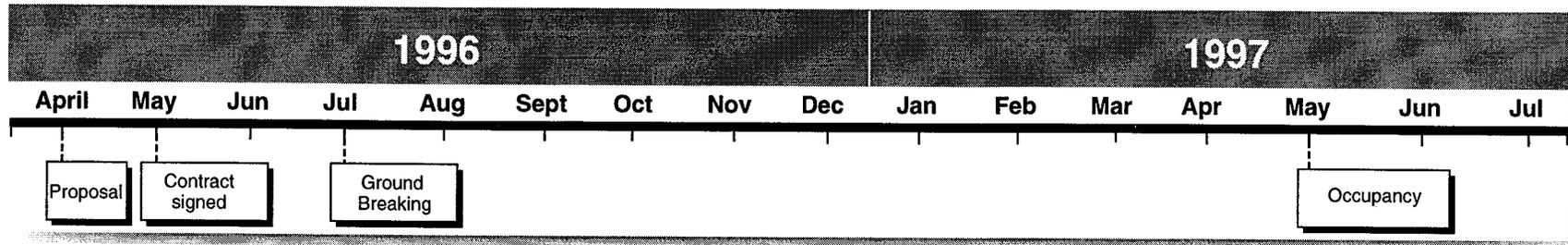
Case Background

Community Transit owns 239 buses, 43 paratransit vehicles, and 173 vanpool vans which provide local, paratransit, and ridesharing services within Snohomish County, Washington, and express bus service to Seattle, Washington. All these services together transport 39% of the commuters in Snohomish County into Seattle.

Community Transit is a fast-growing transit organization. In 1996, Community Transit increased local bus service in Snohomish County by 12%; this new service led to a 30% growth in ridership. In 1997, Community Transit plans to continue to expand local bus service by 16%. In order to provide this new service, Community Transit has purchased many new buses.

Community Transit's other locally operated modes have also grown. For example, vanpooling is very prevalent in Snohomish County. In the last year, Community Transit purchased 86 new vanpool vehicles, almost doubling the number of vehicles owned. In the same period, vanpool ridership increased by over 75%. The new buses, vans, and paratransit vehicles necessary to provide these expanded services have caused Community Transit to outgrow its current bus operations base.

Community Transit's express commuter service from Snohomish County to Seattle is provided by a private contractor. In June 1997 the lease expired for the contractor's rented operations base. Since the rented express bus base was unavailable for future commuter bus service, Community Transit also needed room to house and maintain the commuter bus fleet.



Implementation

To house the buses required by its growing local service and meet the needs of its commuter service contractor, Community Transit first thought to expand its current operations base. In 1995, Community Transit tried to buy land adjacent to this base but was unsuccessful. After this setback, the agency decided to



Ground Breaking in July 1996

purchase land to build a new bus base for the local services and convert the existing base to house the express commuter service. Building a new bus operations base required a land search, design, construction, and related equipment procurements (*e.g.*, paintbooth, bus lifts). This process would take between three and five years. Community Transit became concerned with this time frame because the commuter service needed to move out of the rented bus base within a year and a half (by June 1997).

Community Transit hired a real estate firm to search for a site for the new base. A suitable site would be 15 to 20 acres with the correct zoning. The site must be located near freeways and/or major arterials. The most appropriate site that the firm found was owned by the Quadrant Corporation. When Community Transit approached Quadrant to discuss the purchase of the land, Quadrant proposed to sell Community Transit the land plus design and build the required base, offices, and maintenance facilities. While Community Transit had not originally considered a turnkey approach, Quadrant's proposal convinced it that design-build would be an ideal procurement method for this base construction. Turnkey addressed all of Community Transit's concerns: fast completion, site selection, and low cost.

Community Transit's Board proceeded to amend its procurement regulations to allow for design-build contracts.

In April 1996, Quadrant submitted a proposal for the base, offices, and maintenance facilities based on a further 32% service expansion. Before Community Transit agreed to close the deal, it required Quadrant to obtain all necessary building permits so that construction could begin as soon as the property was purchased. By May 1996, Community Transit had signed a contract with the Quadrant Corporation for the land purchase, base design, and project construction; ground was broken on July 1. The completion phases overlapped: early phases of work were designed, and during their construction, later phases were designed. Community Transit occupied the base one month ahead of schedule on May 1, 1997.

Program Structure

This design-build project was funded by a local sales tax and matching Motor Vehicle Excise Tax from the State of Washington (no federal funds were used). The contract guaranteed that the maximum amount charged for the entire project would be \$19 million. In the recent past, Community Transit collected more in



The Merrill Creek Operating Base is 22.5 acres with an 87,000 square foot maintenance facility; human resources, safety and training offices; and dispatch facility. There is parking for 400 buses, a bus wash building, and a bus fueling facility.

total revenues than it experienced in operating costs. This surplus was used to build a reserve fund for vehicle replacement and facility expansion.

Quadrant's design plans were examined and discussed by both Community Transit and the construction firm on Quadrant's team. As a result of this review, changes were made early in the design process which reduced construction time and costs. Even with minor scope increases, the cooperative process improved the final facility at minimal cost. The total project cost was \$19 million including the land purchase price of \$5 million, half of the estimated project cost if built through traditional procurement.

Concerns with Turnkey

Community Transit had three main concerns with the design-build contract:

- how to adhere to federal regulations such as minimum wage rates in a contract that was entirely locally funded,
- how to monitor costs incurred by the prime contractor and any subcontractors, and
- how to manage risk to the transit agency.

All these issues were addressed successfully. First, Quadrant willingly agreed to include wage and other

federal minimums in the contract terms. Second, Community Transit hired an independent third party consultant to monitor the costs of the design-build project. Third, unlike traditional procurement where most of the project risk falls on the transit agency, in this project risk was shared by all parties. Community Transit, the contractor, and all the subcontractors had an equal stake in getting the job done well because they were all part of the same project team.

The turnkey cost savings were significant. In addition, because Community Transit had not selected Quadrant based on a low-bid cost-plus procurement there was less pressure to maximize Quadrant's profit. The result was a very friendly builder-owner relationship in which Quadrant worked hard to negotiate the best deals from the subcontractors, since it benefited from the cost savings through increased profits.

Commuter Express Bus Service Effects

Soon after the commuter base lease terminates, the express bus service contract will expire. The original RFP for commuter service required the contractor to provide its own bus operations base. This requirement limited the competition to one bidder who won the contract. In the upcoming RFP, contractors will be allowed to use Community Transit's old bus operations facility. In addition to housing the commuter service, the old base will also provide storage for gasoline powered nonrevenue service vehicles and vanpool vehicles. The new base will only be used by diesel powered vehicles. By being able to supply a base for the contractor, Community Transit has lowered costs in two ways. First, the private contractor no longer has to pay rent on its own operation and maintenance facility, and this cost savings is passed through to Community Transit. Second, a significant increase has occurred in the number of bids received for the provision of express service: five bids as opposed to the one last time.

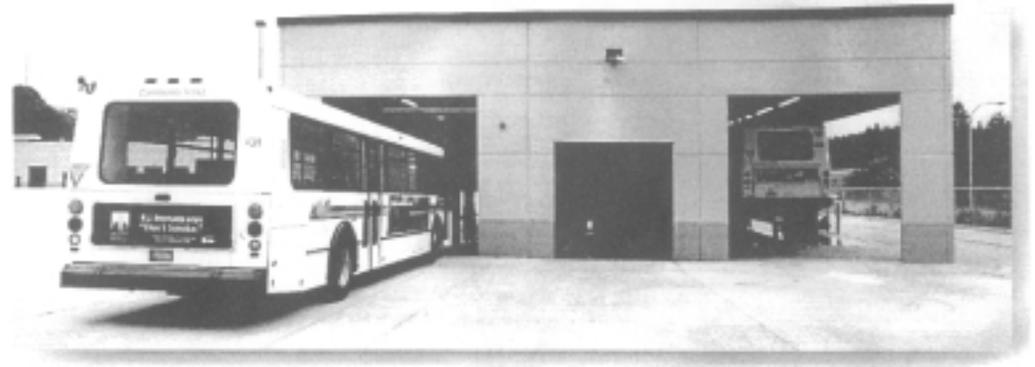
Lessons Learned

Community Transit is pleased with the project results and plans to use the design-build process in future procurements. There are three important savings which result from a turnkey project: time, cost, and risk.

- **Time.** A single procurement for simultaneous design and construction reduced the expected product completion time from the 3 to 5 years typical of traditional procurement to 18 months.
- **Cost.** Money and time were saved because of fewer construction claims and change orders (there were none). Even with scope increases, the cooperative process improved the final facility at a

minimal cost. The total project cost was \$19 million, half of the cost of a similar base built through traditional procurement.

- **Risk.** Unlike traditional procurement where most of the project risk falls on the transit agency, in this project, risk was shared by all parties.



Suggestions for Future Turnkey Projects

When Community Transit originally negotiated the project price with Quadrant, the base design was only 10% completed. At this time, Quadrant gave Community Transit a preliminary project budget of \$14 million. The Community Transit Board subsequently gave the transit agency permission to negotiate for the project up to this maximum. However, because of the changes necessary during the turnkey discussions among Community Transit, the designer, and the builder, Quadrant revised its contract price proposal when the design was 30%

complete and set the final project budget at \$19 million. Since Community Transit had already asked its board for a maximum amount of \$14 million, it was hard to justify asking for an additional \$5 million. Although it was ultimately able to obtain approval for the additional funds, Community Transit felt that it could have avoided this problem by waiting to negotiate the project budget until later in the design phase.

Finally, while design-build allows for greater flexibility and communication, a transit agency needs to realize that it cannot spend infinite amounts of time designing and redesigning the project. Good input and information are essential, but a transit agency must realize that it cannot spend much time deliberating; design-build necessitates making decisions more quickly than usual.



Inside the bus maintenance facility

Contact Information

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Case: "Public Private Partnership For CNG Fueling
Station and Bus Purchases"
Metropolitan Atlanta Rapid Transit Authority
Perry Boulevard Base CNG Refueling Facility
Peter Bruno and Charles McAllister
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Case: "Public Private Partnership For CNG Fueling
Station and Bus Purchases"
Central New York Regional Transportation Authority
CNG Refueling Facility
Steve Share and John Clare
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Case: "Creative Use of Federal Funds"
Los Angeles County Metropolitan Transportation
Authority
Union Station Gateway Center
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Advance Construction Authority

**Massachusetts Bay Transportation Authority
Boston, Massachusetts**

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Massachusetts Bay Transportation Authority

Background

As the useful life of facilities comes to an end or as technological changes render facilities obsolete, transit agencies will need to rehabilitate or replace these sites. In the current state of uncertain funding, new approaches need to be designed to finance these major construction projects. In this case study, we examine how the Massachusetts Bay Transportation Authority (MBTA) applied Advance Construction Authority to finance the rebuilding of its main commuter rail maintenance facility.¹

MBTA provides transit service to metropolitan Boston, Massachusetts. The agency operates bus, paratransit, light rail, heavy rail, and commuter rail service for residents. As with most large, northeastern cities, the transit system in Boston is very old, dating back to the 19th century, when it was run by private companies. The MBTA's main commuter rail maintenance facility, the Boston Engine Terminal, is on a site that has

Agency Profile

Service Area	Greater Boston and Providence, RI
Modes	Bus, Trolley Bus, Heavy, Light, and Commuter Rail, Ferry, Demand Response
FY96 Operating Budget	\$753.2 million
FY96 Capital Budget	\$589.2 million
Annual Ridership	
Bus and Trolley Bus	102.3 million
Heavy Rail	192.8 million
Light Rail	69 million
Commuter Rail	27 million
Ferry	68,000
Demand Response	93,000
Revenue Vehicle Miles	
Bus and Trolley Bus	26.1 million
Heavy Rail	25.7 million
Light Rail	4.1 million
Commuter Rail	16.2 million
Ferry	not available
Demand Response	6.4 million
Fares	
Bus and Trolley Bus	\$1.00
Heavy Rail	\$2.00
Light Rail	\$0.85
Commuter Rail	\$1.00
Ferry	\$4.00
Demand Response	\$1.00

been used for rail operations since the 1870s. The current facilities have been in use since 1929 when they serviced freight steam engines for the Boston and Maine Railroad. Today, the antiquated facility needs to be completely rebuilt to service commuter rail rolling stock more cost-effectively and to benefit from modern technology.

At the Boston Engine Terminal site, all overhaul and heavy repair work for the fleet is performed under contract by AMTRAK. AMTRAK also performs routine maintenance for portions of the northern suburbs' rolling stock. The facilities at the Boston Engine Terminal are badly in need of renovation:

- **Round House.** Light maintenance work is performed in this wood building built in 1929; the equipment is 40 to 50 years old, obsolete, and unreliable.
- **Diesel House.** This facility, built in 1947, has eight locomotive repair bays. It is used for daily service inspection, but with 2 bays per track, only a small part of each train can be inspected at any particular time.
- **Coach House.** Built in 1984, the Coach House is used for daily inspection and cleaning of the coaches. Locomotives are sanded and fueled outside. The structure is not large enough to house an entire MBTA train set (one locomotive and 6 passenger cars).

- **Budd House.** The Budd House, built in 1956, was scheduled to be closed, but because of the shortage of space, the structure has remained open for daily service and inspection.
- **Administrative office.** This building was built in 1929.

The age, technology, and current layout of the facility has lead to some significant problems. Space is a major problem for this site. First, due to the limited repair capabilities, rolling stock must be taken out of service for extended periods of time while waiting for repairs or routine inspections. Second, there is no place on the site, as it is currently designed, to store this equipment once it leaves service. The inefficient design of the yard makes train movement difficult, particularly due to the stub-ended tracks. With commuter rail ridership growing in Boston, taking stock out of service is increasingly problematic.

MBTA also needs to provide a resolution to environmental issues (specifically to address groundwater contamination by engine oil, grease, and other fluids), improve worker safety, and increase security to protect rolling stock.

"Under Advance Construction Authority, MBTA could fund 80% of principal and interest payments out of federal grant funds expected to be received over the next 19 years."

Implementation

Once the Boston Engine Terminal project design was complete, the MBTA staff discussed several alternatives for contracting and financing the project. Traditionally, in large transit projects, each year of construction was contracted separately. However, MBTA's previous experience with large projects and separate annual contracts had resulted in significant quality control problems and cost overruns. As a result, MBTA preferred to establish one large contract for the work.

However, in order to establish one contract for the entire construction project, MBTA needed to be able to identify all of the funds required to complete the project. The total project cost of \$235 million made this impossible without some financing mechanism. MBTA staff explored several possible alternatives:

- **Private construction and ownership, with the facilities leased back to MBTA.** Under this approach, MBTA would contract with a private firm to complete the reconstruction. MBTA would finance construction through lease payments to the firm.
- **Letter of no prejudice from FTA (i.e., preaward authority).** Under this approach, FTA would commit future MBTA funding to repayment of principal on a bond issue.
- **Advance Construction Authority.** This approach is similar to pre-award authority, but would allow repayment of both principal and interest from FTA grant funds.

MBTA did not investigate a full funding grant agreement since it knew that the project's financing term would exceed the five-year duration of FTA's authorizing legislation.

MBTA investigated the private approach and determined that the cost would likely be prohibitive. As a result, they narrowed their options to the two involving federal funding. Because MBTA wished to begin construction as quickly as possible, it requested technical assistance from the FTA Region I office in evaluating the remaining options.

The regional FTA staff and legislative experts in Washington analyzed federal transit policies and programs to help MBTA make a determination of the best approach. MBTA stressed that the priority was to complete the projects in the shortest possible time using federal funds. Because the Advance Construction Authority allowed FTA funds to be used for repayment of interest in addition to principal on a bond issue, FTA recommended this approach.

Under Advance Construction Authority, MBTA could fund 80% of principal and interest payments out of federal grant funds expected to be received over the next 19 years. MBTA felt that this recommendation met the financing and construction needs and began to prepare an Advance Construction Authority request to FTA.

The Advance Construction Authority Proposal

In September 1994, MBTA submitted its proposal to the FTA for Advance Construction Authority to fund the reconstruction of the Boston Engine Terminal. The

proposal included the project description, schedule, financing plan, interim programs, environmental impact, and required paper work for regular grant requests.

In the project description section, MBTA stated that it needed to completely replace its Boston Engine Terminal facility because the age, technology, and layout of the current site had led to some significant problems. The description detailed the technology and efficiency problems described earlier.

Through the Boston Engine Terminal reconstruction, MBTA must also resolve environmental issues, specifically contaminated groundwater remediation necessitated by runoff from engine oil, grease, and other fluids. It also needs to improve worker safety and increase security to protect the rolling stock.

The proposal detailed the project construction schedule. Between April 1994 and November 1997, MBTA expected all construction of the facility to take

place. Another two years will be necessary to complete the groundwater remediation work.

One of the most important parts of the proposal was the description of the financing plan. MBTA expected to finance the project through Section 3 fixed guideway modernization capital funds. MBTA annually receives nearly \$43 million of these funds. For 19 years, MBTA will use \$16 million per year of this money (and the required \$4 million local match) to pay for the Boston Engine Terminal reconstruction project. The remaining \$27 million of the annual grant will be used to maintain the rest of the rail transit system. Even though the entire \$235 million cost will be experienced in the first six years, MBTA will be able to pay for the project over 19 years.

The proposal also discussed the interim measures needed to run the commuter rail system during Boston Engine Terminal reconstruction and the environmental impact of the project and included all necessary grant forms.

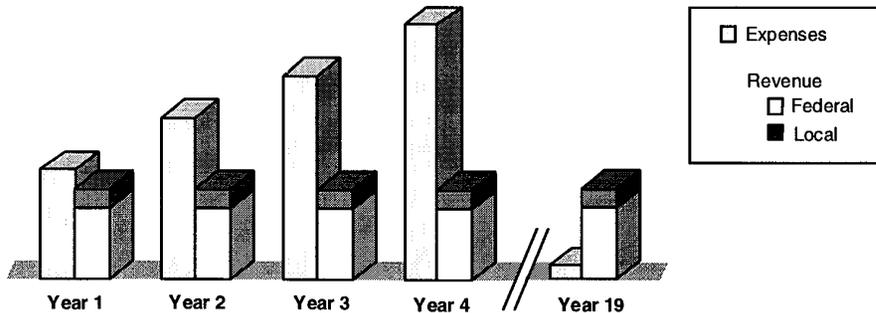
Program Structure

Pursuant to the Federal Transit Act, MBTA must resubmit proposals to FTA for Advance Construction Authority with every subsequent transit authorizing legislation (*i.e.*, ISTEA, NEXTEA, *etc.*). In addition, MBTA must apply each year for Section 3 Fixed Guideway Modernization funds.

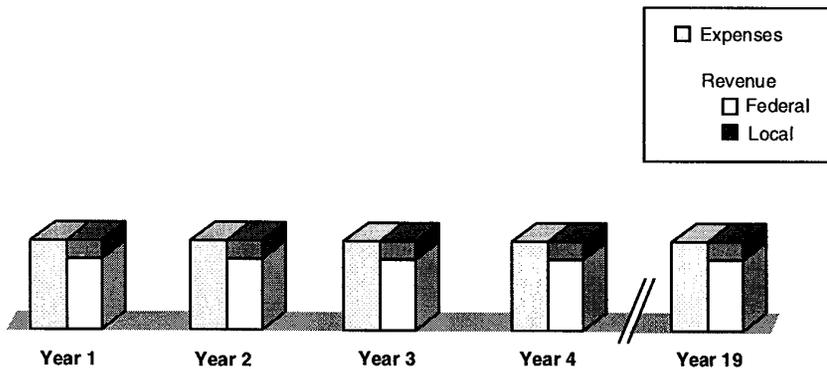
The flow of funds under Advance Construction Authority is quite complex. MBTA is invoiced by the contractor. It pays for the local share and submits receipts for reimbursement of the federal share. Because



Advance Construction Authority



Traditional Financing



Graphical representation of the difference between traditional and Advance Construction Authority financing of the Boston Engine Terminal project.

each year's invoices exceed the total local and federal share, MBTA issues short-term debt to cover the remainder. Twice a year, MBTA issues long-term general obligation bonds to retire this short-term debt. These bonds are not specific to the Boston Engine Terminal project but are for the entire capital program.

Interest Expenses

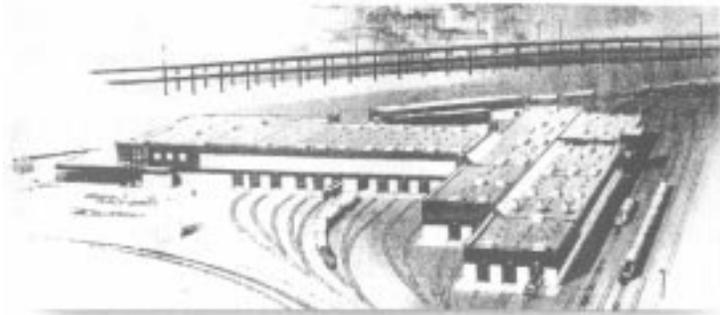
In calculating the federal share of interest expenses, MBTA employs a weighted average. MBTA tracks the progress payments from FTA and ties them to specific bond issues.

Lessons Learned

MBTA notes several key advantages to Advance Construction Authority over traditional funding methods for large, expensive projects:

- expenses can be incurred immediately,
- construction can be consolidated into one contract, and
- 80% of the bond interest for all expenses incurred above the FTA allocation are reimbursable by FTA.

With Advance Construction Authority, a transit agency can spend



Rendering of the future Boston Engine Terminal

the money necessary for a major contract immediately. Thus for projects that exceed an agency's annual FTA capital allocation, a transit agency can build them immediately without having to wait to collect multiple years of allocations and realize the benefits of the project sooner. If MBTA had to wait until it had cash on hand for the \$235 million Boston Engine Terminal renovation, the facility would have been out of service for 19 years. Under Advance Construction Authority, the Boston Engine Terminal is being rebuilt in 6 years, but the financing is accomplished through 19 years of debt service repayment.

Project Financing Timeline

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9
Loan 1	\$11,323,738								
	849,280								
	12,173,018								
Loan 2		\$54,747,233	\$39,127,012	\$22,257,173	\$4,037,747				
		4,379,779	3,130,161	1,780,574	323,020				
		59,127,012	42,257,173	24,037,747	4,360,767				
Loan 3			\$55,960,465	\$60,437,302	\$65,272,286	\$54,854,836	\$39,243,223	\$22,382,681	\$4,173,295
			4,476,837	4,834,964	5,221,783	4,388,387	3,139,458	1,790,614	333,864
			60,437,302	65,272,266	70,494,069	59,243,223	42,382,681	24,173,295	4,507,159
Loan 4				\$55,960,465	\$60,437,302	\$65,272,286	\$70,494,069	\$76,133,595	\$82,224,283
				4,476,837	4,834,964	5,221,783	5,639,526	6,090,688	6,577,943
				60,437,302	65,272,266	70,494,069	76,133,595	82,224,283	88,802,226
Loan 5					\$21,939,453	\$23,694,609	\$25,590,178	\$27,637,392	\$29,848,383
					1,755,156	1,895,569	2,047,214	2,210,991	2,367,671
					23,694,609	25,590,178	27,637,392	29,848,383	32,216,054
Loan 6						\$7,241,665	\$7,820,998	\$8,446,678	\$9,122,412
						579,333	625,680	675,734	729,793
						7,820,998	8,446,678	9,122,412	9,852,205

Legend	
	Principal
	Interest
	Principal and Capitalized Interest

Overall, MBTA is very pleased with its use of the Advance Construction Authority program. FTA has been very cooperative by streamlining the administrative process. The Boston Engine Terminal project will be completed by 2000 and provide safe, efficient, and cost-effective service to a secure commuter rail fleet for the Boston metropolitan area.

Contact information

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Endnotes

- 1 Advance Construction Authority is available for use with funds under Sections 3 and 9 of the Federal Transit Act.

Cross Border Leasing

**King County Department of Transportation
Seattle, Washington**

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King County Department of Transportation

Background

Buses, trains, other vehicles, facilities, and equipment all lose value over time as they become old and obsolete. The United States and other federal governments realize this loss in value of the assets to businesses by allowing an income tax deduction for depreciation. Public transit agencies, which pay no income taxes, cannot directly realize this tax benefit from depreciating assets.

For many years, the United States tax code permitted safe harbor leasing to rectify this inequity between private and public corporations. Through this mechanism, a transit agency arranged for a private-sector third party to purchase transit vehicles and receive the depreciation tax benefit. The third party then leased the vehicles back to the transit agency, passing through some of this tax benefit. The end result was that the agency acquired new vehicles for a cost lower than their anticipated direct purchase price. This lease structure was more prevalent for rail car and locomotive purchases than for buses.

Agency Profile

Service Area	King County, WA
Modes	Bus, Demand Response
FY96 Operating Budget	\$253.1 million
FY96 Capital Budget	\$103.8 million
Annual Ridership	
Bus	76.4 million
Demand Response	686,292
Revenue Vehicle Miles	
Bus	39.4 million
Demand Response	not available
Fares	
Bus	\$0.85
Demand Response	\$0.50

Through safe harbor leasing, the United States tax code provided a type of financial assistance to transit on top of FTA funding. When, in the mid-1980s, the government eliminated this form of subsidy for transit agencies, creative agencies continued to use this leasing arrangement with third-party foreign investors in Denmark, France, Germany, Japan, and Sweden through cross border leases.

Under a cross border lease, foreign investors own the assets and receive the tax benefits for depreciation in their home country. A transit agency benefits from this leasing structure because the foreign investor shares its tax benefit with the transit agency. These complex transactions require knowledgeable legal advisors to guide the transit agency in arranging the most profitable lease. Although the high cost of these complex transactions generally requires a minimum transaction size of \$20 million dollars, smaller agencies can pool assets to make a transaction possible.

Case Background

The transit division of the King County Department of Transportation provides bus services for metropolitan Seattle, Washington. For a 1991 purchase of 80 new buses, the agency's financial advisor recommended a cross border lease to lower the vehicles' cost. The agency was pleased with savings, and the King County Department of Transportation decided to use cross border leasing for subsequent purchases.

In 1996 and 1997, King County will acquire 360 buses for about \$89.7 million. A cross border lease was designed in two phases:

- 124 buses delivered in 1996 with a value of \$32.9 million and

- 232 buses to be delivered in 1997 with a value of \$61.4 million.

Four buses were not included in this transaction because they arrived before the cross border leasing deal was closed.

At the outset, King County expected to save 4.5% (or \$4.24 million) off the original purchase price through this cross border lease.

"Although the high cost of these complex transactions generally allows for a minimum transaction size of \$20 million dollars, smaller agencies can pool assets to make a transaction possible."

Implementation

Since the transit system is part of the county government, county council approval for the transaction was required, and a motion was passed in August 1996. Subsequently, King County discovered that the state statute requires

the county to pass an ordinance in order to complete the dollar investment portion of the lease structure. This ordinance is in the processed of being passed.

The Request for Proposal Process

In February of 1996, the county issued a request for proposals (RFP) to retain a lease arranger. The services provided by the lease arranger included

- explaining to King County the tax benefits to be realized,

- developing a lease strategy,
- developing and executing a marketing plan for the lease,
- preparing the terms and conditions of the lease,
- designing and issuing the cross border lease RFP,
- providing a written evaluation, including financial analysis and suggestions to King County on all proposals received,
- advising King County in negotiations with the lessor, and
- producing all documents to complete the lease.

Lease Arranger Duties

The winning consortium was led by Capstar Partners, Incorporated, and explained the mechanics



One of the buses that participated in the cross border lease.

and risks of a cross border lease to King County. The lease arranger examined the market for cross border bus leases and concluded that the Japanese market was the only viable market for buses. European and North American investors were more interested in longer term assets such as rail cars.

On behalf of King County, Capstar drafted a letter for King County to send to the FTA regional office requesting approval for a cross border lease. After resolving questions through Capstar, the Office of Chief Council at FTA headquarters in Washington, DC, approved the lease. King County feels that as a rule, FTA accepts cross border lease deals as long as the net benefit is greater than the transaction cost.

Program Structure

The King County Department of Transportation purchased 124 buses in 1996 and 232 buses in 1997 using FTA Section 9 funds. In two separate transactions (one for the vehicles received in 1996 and one for the vehicles received in 1997), it sold these buses to Japanese investors. Every month for eleven months, King County closed a tranche, meaning the county accepted delivery of a group of new buses and transferred the title of the buses to the Japanese investors, who then leased the buses back to King County. Finally, King County purchased securities (for example, certificates of deposit [CDs], U.S. treasury notes, or municipal bonds) with the sale proceeds to secure the lease payments. Throughout the lease period, King County will retain use and control of the vehicles.

Japanese Tax Law Requirements

Japanese tax law allows an eight-year lease, and requires the lease to be structured in tranches. Under Japanese tax law the investors can claim tax deductions for

- **Depreciation of the buses.** The buses are depreciated under the declining balance method over six years.
- **Transaction expenses.** Capstar's fee is paid for up-front by the Japanese investors but is actually passed on to the transit agency through lease payments. Advisory services are deductible as part of the transaction expenses.
- **Interest paid by the lessor to borrow funds to purchase the buses.** Japanese investors contribute equity for a specific percentage of the vehicle cost (34.5% for this particular transaction) into a specially created, equity investing corporation. This corporation then secures a loan for the remainder of the vehicle purchase price using the buses as collateral. These lease payments

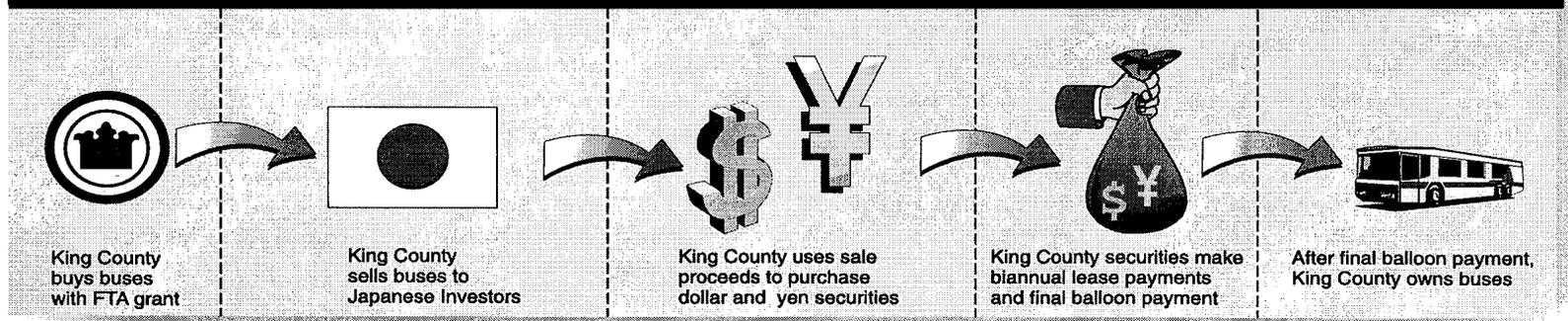
exactly match the debt service on the investors' loan. The interest on this loan is tax deductible for the Japanese investors.

Each of these tax deductions is being taken advantage of in King County's lease arrangement. Through the lease payments, the Japanese investors share the tax benefits with King County.

Washington State Banking Requirements

Normally for this type of lease, the transit agency would purchase the yen securities to guarantee the lease payments in a Japanese bank, however, according to the State of Washington's statute, the county can only deposit money into banks in Washington State. Thus for the yen portion of the transaction, King County deposits dollars in a local bank (Seafirst - a bank with which the county already has a relationship), which Seafirst uses to purchase fixed-rate yen CDs from its parent bank, the Bank of America in Tokyo. While it has not yet bought securities for the dollar portion of the lease, King County expects to use bank notes, U.S. treasury or municipal bonds, or other low-risk paper.

Cross Border Lease Transaction Structure



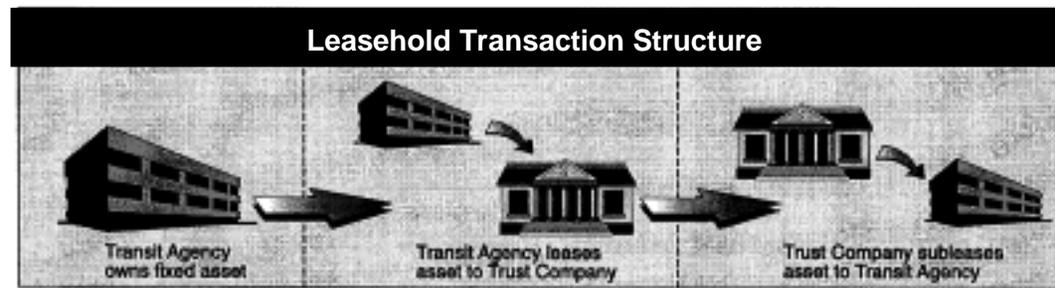
Leasehold Arrangements

Cross border leases work well for rolling stock, but separate transactions called leaseholds exist for facilities. Agencies often own their facilities (buildings, parking lots, etc.) and can realize a 6-10% return on them through a leasehold structure. These leases are for long-lived assets unencumbered by liens with a useful life of 25 years or more.

In a leasehold transaction, the transit agency leases an asset to a trust company lessor for up to 80% of the remaining useful life of the asset. The agency then subleases back the facility from the trust. Depreciation tax deductions are passed through the sublease from the trust company to the transit agency.

Financial Structure

The trust company pays the entire lease up-front to the transit agency through a combination of debt and equity. The transit agency deposits the portion of this payment necessary to cover the entire amount of the sublease by maturity (minus the expected interest to be earned) into low risk investments. The sublease payments are taken from these investments and paid to the lessor. The benefit to the transit agency is the difference in the two lease payments, typically 6-10% of the asset's value.



Financial Structure

The following process is implemented for the vehicles delivered that month. These groups are called tranches. During each month of vehicle delivery, King County purchases yen and dollar securities. Ultimately, the entire amount of the lease (minus the expected interest earned over eight years) is deposited into these securities to create a stable revenue stream for the investors. Securities are purchased in two currencies to minimize exchange rate risk to the investors during the lease period. Interest rate risk to the transit agency is

experienced only before the tranche is closed.

The income stream produced by the securities generates fixed payments to the lessors every six months. In addition to these biannual payments, King County pays a final balloon payment of nearly 10% of the equipment cost at the end of the lease term to purchase the vehicles' title.

Vehicle Cost	\$39,480,000
Gross Benefit	\$2,074,300
Estimated Expenses	
King County	\$100,000
Lease Arranger	\$197,400
Total Estimated Expenses	\$297,400
Net Benefit	\$1,776,600

King County did not include four buses in the cross border lease. If any bus included in the transaction is damaged beyond repair (up to four buses), one of the unincluded buses can be substituted. If more than four buses are damaged beyond repair, the lease contract contains a schedule of termination for the entire lease. The payment King County would owe the Japanese investors is prorated by the number of buses destroyed.

Transaction Risk

Once all the securities have been purchased, the transit agency is not exposed to any risk from fluctuations in interest rates. However, interest rate risk was a problem for King County during the first year as tranches were being closed. At the time the lease was arranged, yen CDs earned 3.5% interest. However, during the first year of King County's lease, the Japanese Central Bank lowered Japanese interest rates significantly. In the spring of 1997, yen CDs earned less than 2.5% interest. As a result, for tranches that closed after spring, King County had to deposit more cash than expected in the CDs in order to secure appropriate biannual and final payments. The entire benefit to King county is now expected to total 1.5%. If the slump in Japanese interest rates continues, the benefits to King County may be reduced so much that King County will not close on the remaining tranches. King County estimated that it will incur transaction expenses (for legal council, an appraiser, and a financial advisor) for the project totaling 23% of the gross benefit. The expenses of the lease arranger were to be paid by the Japanese lessor because of the associated tax deduction and passed through to King County in the lease payments.

If the deal fails to close, King County would be liable for payment of these expenses.

Lessons Learned

The obvious advantage of cross border leasing is monetary: King County expected to realize a 4.5% reduction in the cost of the buses. This \$1.8 million savings allowed King County to preserve the FTA grant and corresponding local match for other projects.

There are some risks which agencies should be aware of which may influence whether the deal closes:

- the benefit to the transit agency is subject to interest rate fluctuations, and
- changes in foreign tax laws can cancel the benefit to the investors.

An example of a risk can be seen with respect to rumors of changes in foreign tax law. In King County's transaction, the first tranche was to close September 3, 1996. The previous weekend, an article was published in Japanese newspapers on potential changes in the tax law. This "scare" delayed the first tranche.

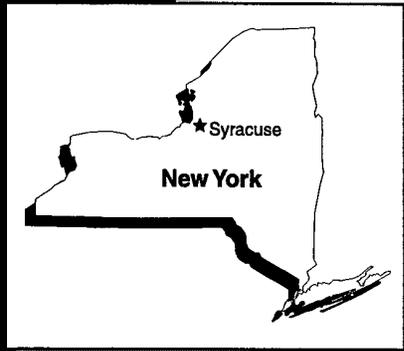
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Progress Payments

**Central New York Regional Transportation Authority
Syracuse, New York**

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Central New York Regional Transportation Authority

Background

With declines in federal capital funding, transit agencies must find new ways to fund bus purchases, whether for fleet expansion or replacement. Traditionally, a transit agency pays for buses in a lump sum upon delivery. This contract structure developed because FTA wanted to ensure that transit systems were purchasing completed products, not financing work in progress.

Because a bus order can take several years to fill, this contract structure generally forces the manufacturer to obtain short-term loans to pay for bus construction. The private sector passes the cost of borrowing money to its customers in the bus purchase price. A transit agency can reduce the manufacturer's cost of borrowing by paying for components as they are completed, and this savings is passed on to the agency by a lower purchase price. The manufacturer may still have to borrow money to pay non-material costs such as labor or administration. Progress payments are often used for rail car purchases because their manufacturing time is even longer than for buses.

Agency Profile

Service Area	Metropolitan Syracuse, NY (Onondaga, Cayuga, and Oswega Counties)
Modes	Bus
FY96 Operating Budget	\$23.8 million
FY96 Capital Budget	\$4.14 million
Annual Ridership	
Bus	13.3 million
Revenue Vehicle Miles	
Bus	4.63 million
Fares	
Bus	\$1.00

As part of its last two bus procurements, Central New York Regional Transportation Authority (CNYRTA), the transit provider in metropolitan Syracuse, New York, employed a financing technique called progress payments. Instead of the traditional method of payment upon delivery of buses, CNYRTA paid the bus manufacturer for specific bus components as they were purchased or completed. Payments were made to the manufacturing company after CNYRTA saw proof of the purchase of the part.

Implementation

CNYRTA has purchased buses using progress payments two times, both with Bus Industries of America (BIA) for Orion buses. After contract negotiations began on a request for proposals (RFP) for 28 buses, BIA asked if CNYRTA would make payments as BIA purchased component parts for a savings of \$6,500 or 4% per bus.

CNYRTA followed several steps to implement this financing strategy. First it calculated the net present value of the bus purchase using progress payments versus the traditional payment method. The transit agency found that progress payments would indeed save money. Next CNYRTA asked permission of the regional FTA office to purchase buses using progress payments. FTA said the mechanism could be used for buses as long as CNYRTA documented that the payments corresponded to part purchases and were not advance payments. To this end, FTA suggested that CNYRTA receive proof of each component's completion from the bus manufacturer in the form of supply invoices and purchase orders. CNYRTA also required the manufacturer to purchase performance bonds for 100% of the value of the contract so that if a mistake was made, CNYRTA would receive all its money back.

"BIA asked if CNYRTA would make payments as BIA purchased component parts for a savings of \$6,500 or 4% per bus."

In addition to the 80% federal payment for the buses, transit systems in New York State receive a 10% state share for capital projects. The New York State DOT agreed that the concept of progress payments was beneficial to transit agencies but refused to participate in the progress payments itself.

Program Structure

CNYRTA paid invoices as they were received. The agency was then reimbursed by FTA for 80% of the costs. Upon delivery of all the buses, the state paid its 10% share of the total cost of the bus.

Finances

The first time CNYRTA participated in progress payments, it ordered 28 buses. BIA reduced the bus purchase price by \$6,500 per bus for a total of \$180,773 (4% of the total contract price) as a result. The second time CNYRTA participated in progress payments, the RFP requested eight CNG buses with an option to finance the buses through progress payments if an additional discount was received. The lowest bidders, BIA, offered an \$8,000 discount per bus for progress payments for a total contract savings of \$64,000.

In its most recent bus procurement RFP, CNYRTA has once again asked the bidders to propose an additional discount for progress payment financing. The

low bidders, Nova BUS, declined the progress payments option. In future RFPs, CNYRTA will continue to include the option of progress payments.

Lessons Learned

There are three lessons for CNYRTA to share with other agencies interested in progress payments:

- the supplier must document costs before payment is made,
- the purchase price discount preserves the FTA grant and associated local match for other uses, and

- costs for administration and discussions with FTA must be included in net present value calculations.

FTA has been very articulate: grant money can only pay for the costs that the manufacturer has already incurred, not for advances. Transit agencies need to receive adequate documentation from manufacturers in order to prove that all costs paid for have already occurred.

Progress payments decrease the purchase price of buses. Because the bus costs less, the federal, state, and local dollars used to purchase buses can be stretched farther. This method can also be used to purchase rail cars.

Progress Payment Schedule

Description	Date	Number of Buses Desivered	Payments
1. Progress payment, 20%*	5/1/91		\$ 1,062,322.00
2. Delivery	5/3/91	1	
3. Release 15% holdback	5/13/91		28,309.35
4. Progress payment, 60%*	6/1/91		3,186,965.00
5. Progress payment, 5%*	9/1/91		265,580.00
6. Delivery	10/4/91	6	
7. Delivery	10/11/91	7	
8. Release 15% holdback	10/14/91		169,856.10
9. Delivery	10/18/91	7	
10. Release 15% holdback	10/21/91		198,165.45
11. Delivery	10/25/91	7 + parts	
12. Final payment	11/4/91		21,471.64
Total		28 + parts	\$ 5,130,834.99

Even though a transit system receives additional savings from progress payments, it must take into account the extra administrative costs associated with progress payments, such as discussions with FTA, administrative oversight of the contract, and draw down of the federal reimbursement after each progress payment.

Contact Information

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Bus bought using progress payments in 1991.

Public Private Partnership For CNG Fueling Facilities and Bus Purchases

**Metropolitan Atlanta Rapid Transit Authority
Atlanta, Georgia**

**Central New York Regional Transportation Authority
Syracuse, New York**

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Public-Private Partnership for CNG Fueling Facilities and Bus Purchases

As federal mandates for clean air become more stringent, transit vehicles will increasingly need to convert to alternative fuels. Both revenue and non-revenue transit vehicles are being converted to alternative fuels such as methanol, ethanol, natural gas, or propane. The benefits of using alternative-fuel vehicles include cleaner air and less dependence on foreign oil, which leads to more stable fuel prices.

Two pieces of federal legislation are responsible for the alternative fuel push: the Clean Air Act Amendments of 1990 (CAAA) and the Energy Policy Act of 1992 (EP Act). CAAA has had significant impacts on transit funding because it was the impetus for the Congestion Mitigation and Air Quality (CMAQ) Program. CMAQ provides funds for transit under the Intermodal Surface Transportation Efficiency Act of 1991.¹ However, CAAA also set standards for engine emissions which put pressure on transit agencies to convert or purchase alternative-fuel vehicles. In addition, EP Act, which was passed to reduce dependence on foreign fuel, contains a schedule for conversion of bus fleets to alternative-fuel vehicles.

The requirement to convert bus fleets to alternative fuels can be very expensive. Alternative-fuel vehicles are more expensive to purchase than diesel-fuel buses. In addition, transit agencies will have to build new fueling stations for these non-diesel vehicles. While the private sector receives tax deductions to help it fund the conversion, transit agencies do not pay federal income tax and therefore cannot take advantage of the tax benefits, such as the tax credits available under EP Act.

In this case study, we examine the experience of two transit agencies in acquiring compressed natural gas (CNG) bus fleets. Both the fueling stations and the CNG-fueled buses were funded in part by private sector partners. These local natural gas companies provided financial help with construction of the fueling stations and bus purchases and, in return, received tax credits for their investment under EP Act as well as a large new customer for their natural gas.

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The Experience of the Metropolitan Atlanta Rapid Transit Authority

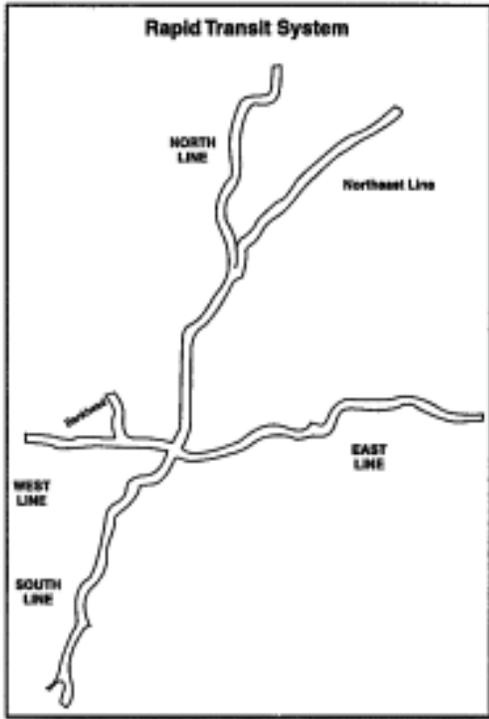
Background

MARTA operates an extensive bus and rail network with over 29 million annual vehicle miles to provide service to all corners of the City of Atlanta and DeKalb and Fulton Counties, including a 45-mile rapid transit system to connect the major activity centers in the area. The transit system also provides local, express, and rail station feeder bus service. MARTA is especially proud of its service to the spectators of the 1996 Olympic games which allowed it to showcase the system's speed, cleanliness, safety, and customer service to the world.

Highlighted at the Olympics was MARTA's new CNG bus fleet. The fleet was recently purchased by MARTA with financial assistance from the local natural gas utility, the Atlanta Gas Light Company. The fueling facility for these buses was developed through a superturnkey contract by Atlanta Gas Light. Atlanta Gas Light helped pay for the fueling facility, administered the design-build contract, and owns, operates, and maintains the facility.

Agency Profile

Service Area	Fulton and DeKalb Counties, Atlanta, GA
Modes	Bus, Heavy Rail, Demand Response
FY96 Operating Budget	\$254 million
FY96 Capital Budget	\$441 million
Annual Ridership	
Bus	37 million
Heavy Rail	30.3 million
Demand Response	75,000
Vehicle Revenue Miles	
Bus	31.9 million
Heavy Rail	23 million
Demand Response	1.5 million
Fares (FY97)	
Bus	\$1.50
Heavy Rail	\$1.50
Demand Response	\$3.00



Rail system map

Implementation

Atlanta Gas Light had been trying to convince MARTA to convert its bus fleet from diesel to natural gas fuel for a decade to showcase CNG technology to businesses in metropolitan Atlanta. The utility chose MARTA because it has a strong community-oriented reputation, a reliable track record, and high visibility vehicles. To convince MARTA that CNG was the right fuel choice, Atlanta Gas Light first built a fueling facility for MARTA's non-revenue vehicles.

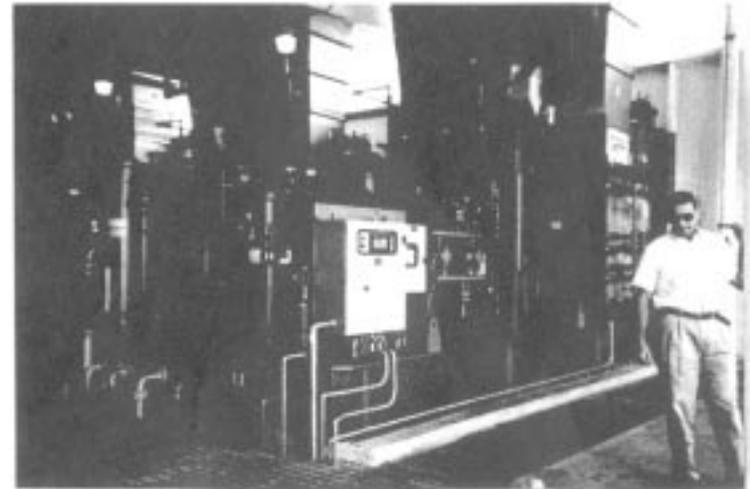
In 1994, MARTA issued an RFP for bus purchases and requested prices for both diesel buses and CNG vehicles. The factors other than purchase price that MARTA considered were

- **Range.** How far would the CNG bus travel between fillings?
- **Fuel pressure.** Because gas pressure builds in the tank faster in the summer heat, the tanks would carry less fuel. How would operations be affected?
- **Bus maintenance costs.** Would the extra weight from 6 CNG fueling cylinders on the bus roof cause extra wear and tear on the brakes and tires?

To encourage MARTA to purchase the CNG vehicles, Atlanta Gas Light offered to cover the entire cost of the fueling facility and provide MARTA with financial assistance to purchase the CNG buses.

Program Structure

Atlanta Gas Light paid the entire cost to build (\$2.5 million) and maintain the fueling facility. The project was built using a design-build contract with construction oversight by Atlanta Gas Light. Atlanta Gas Light also paid half of the price differential (up to \$25,000) for the first 60 buses and 10% of the price differential for the next 140 buses. In return, MARTA committed to purchasing its natural gas from Atlanta Gas Light.



Natural gas compressor pad

In addition to building the fueling facility, Atlanta Gas Light is also training MARTA's employees. The utility created a series of video tapes which demonstrated the use of the facility and its safety features; designed and teaches a week-long training course for facility employees; and pays for MARTA employees to attend training courses on natural gas compressors.



Fueling facility

Costs

Because MARTA's CNG buses are less than a year old and still under warranty, MARTA has not yet determined the difference in maintenance costs of CNG buses versus diesel buses. However, according to Pierce Transit in Tacoma, Washington, which has used CNG buses for a number of years, CNG and diesel bus operating costs are equal.

MARTA has compared fuel costs. Natural gas is bought by the therm (1 therm equals 1.4 gallons). Diesel fuel is bought under a contract which sets a fixed price throughout the year, currently 63 cents. MARTA does not have a similar contract for natural gas, so its price varies from month to month. For example, for a gallon of natural gas, MARTA paid 76 cents in February 1997, but only 42 cents in March 1997. If it can negotiate a fixed price for natural gas, MARTA believes that the natural gas fuel will be cheaper than diesel.



MARTA CNG bus

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The Experience of the Central New York Regional Transportation Authority

Background

The Central New York Regional Transportation Authority (CNYRTA) provides bus service in and around Syracuse, New York, and to two local universities. Its service area also includes some surrounding counties for a total area of 794 square miles.

CNYRTA wanted to replace its diesel buses with vehicles fueled by natural gas because

- natural gas costs are comparable to diesel,
- alternative-fuel buses are environmentally friendly, and
- natural gas is not imported and thus has a more stable price than diesel.

While CNG fuel is desirable, the bus purchase price and necessary infrastructure for operation are more expensive than for traditional diesel buses.

Building a fueling facility to compress the gas would be particularly expensive. Natural gas is available throughout the State of New York, but at its normal flow rate from a pipeline, buses would take 8 hours to refuel. CNYRTA's diesel buses take 5 minutes to refuel. To refuel

Agency Profile	
Service Area	Metropolitan Syracuse, NY (Onondaga, Cayuga, and Oswego Counties)
Modes	Bus
FY96 Operating Budget	\$23.8 million
FY96 Capital Budget	\$4.14 million
Annual Ridership	
Bus	13.3 million
Revenue Vehicle Miles	
Bus	4.63 million
Fares	
Bus	\$1.00

natural gas buses at a speed comparable to diesel, CNYRTA would need to build a special fueling station, at a cost of over \$4 million. To encourage CNYRTA to purchase the alternative-fuel buses, the local natural gas utility, Niagara Mohawk, offered to let CNYRTA use its existing fueling facility, and the company would provide free fuel for two years.

In 1996, Niagara Mohawk decided to close its refueling station. Consequently, CNYRTA had to build its

own CNG fueling facility. The project will cost over \$4 million: 80% will be paid by the federal government, 10% by the State of New York, and the remaining 10% by CNYRTA.

CNYRTA is experiencing a funding crisis. Over the last few years, federal funding for CNYRTA's capital projects has declined 60%. In the 1990s, receipts from the local mortgage recording tax have declined by nearly 50%, from \$4.5 million to \$2.5 million. With all this lost revenue, CNYRTA did not have the \$400,000 to \$500,000 for its share of the CNG fueling facility construction. In

response to these concerns, the CNYRTA board suggested that management create a public-private partnership to cover the incremental costs of CNG.

Implementation

CNYRTA issued an RFP to form a public-private partnership to design and build a fueling station and provide natural gas fuel. Proposers were also required to assist CNYRTA in financing its share of the project. The RFP generated three responses. CNYRTA was looking for

a partner who was not only interested in the fueling portion or a short-term connection to the project, but a partner with a long-term commitment to making the project work. Thus, the local utility company, Niagara Mohawk, was chosen as the private sector partner.

Program Structure

Through a turnkey contract, Niagara Mohawk will provide preliminary design, manage the design-build contract, and pay the entire local share (up to \$500,000) of the cost for the new fueling facility. It will also pay the local share of the cost differential between CNG- and diesel-fuel buses for 18 new vehicles. The federal government will pay 80% and the State of New York will pay 10% of the costs. Finally, Niagara



Mohawk will transport natural gas to the new fueling facility to be built at CNYRTA's operations garage.

Niagara Mohawk organized the design-build consortium to include VIP Structures (a Syracuse-based firm with expertise in design-build contracts and their execution) and IMW/Atlas (a Knoxville, Tennessee, firm which will provide the fueling station infrastructure and compressors). Each firm's responsibility is clearly defined in the contract. At each stage in the design process, CNYRTA will approve the work, and the final cost estimate for construction will be adjusted. The facility will be operated and maintained by CNYRTA.

The new fueling facility will also include a fueling site for the public (the second public CNG fueling site in the Syracuse area). The profits from any fuel sold to the public (*e.g.*, taxis, UPS trucks, school bus fleets) will be split 50/50 between the utility company and the transit agency.

The contract originally required the purchase of natural gas from Niagara Mohawk but has since been changed. CNYRTA may purchase natural gas from any provider it wants, but Niagara Mohawk receives fees to transport the gas from the seller to CNYRTA through Niagara Mohawk's pipelines. By allowing the local public utility to profit from the gas transport fees, CNYRTA was able to avoid committing to purchase fuel from a single provider. As a result, the transit agency is able to purchase fuel at more favorable prices.

Mobility Emission Credits in New York State

The State of New York is considering establishing a program for the sale of mobility emission credits. Under this program, transportation providers with emissions less than statutory requirements, can sell these "credits" to providers who cannot meet the emissions requirements. The profits from any emission credit sales from CNYRTA CNG buses would be shared 50/50 between Niagara Mohawk and CNYRTA.

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Lessons Learned

This case demonstrates that transit agencies need long-term commitments from private sector partners to make projects work. As the project starts, the parties should communicate frequently. These discussions will help the transit agency and the private partner understand the needs of each other's business.

Some private sector partners may require a long-term fuel purchase guarantee. This can result in higher natural gas prices. If possible, CNG should be purchased on the open market to significantly reduce fuel costs.

Turnkey Procurement Benefits

The specialized facility could not be built without design-build because

1. a limited number of people know how to build a CNG fueling facility,
2. design-build is faster than design-bid-build, and
3. participation of the fuel provider in building the facility helps ensure that the provider's needs are included.

Contact Information

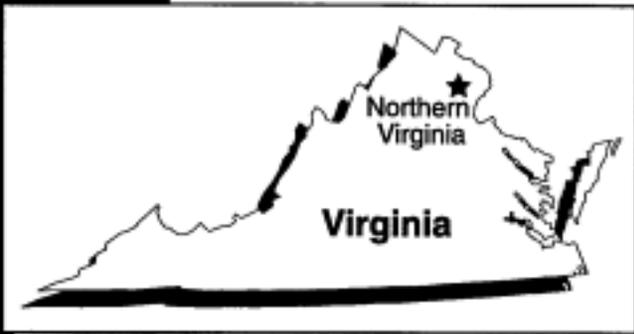
John Clare and Steve Share
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Peter Bruno and Charles McAllister
Metropolitan Atlanta Rapid Transit Authority
404-8148-5050

Cashless Fare Payment

**Virginia Railway Express
Springfield, Virginia**

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Virginia Railway Express

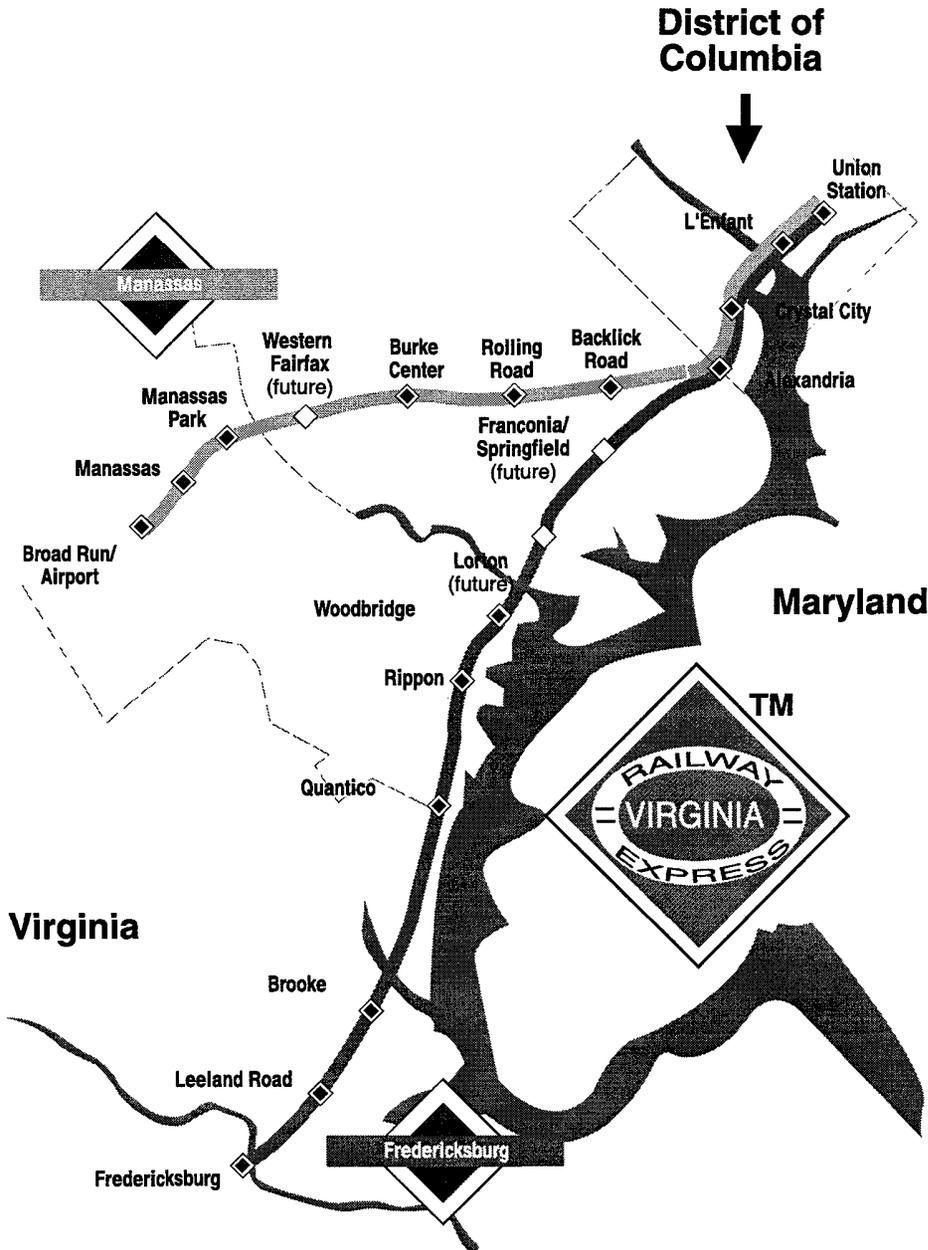
Background

Processing cash from fare payments is one of the largest operating expenses for a transit agency. Convenient as it is for patrons to use cash, the costs for collection, security, and sorting are expensive. Agencies must sort the bills, purchase machinery to roll the coins, hire armored cars to transport the cash, and pay banks deposit fees for the large amounts of cash. By cutting down the use of cash for fares, payroll and other costs can be reduced. While for most transit systems, completely eliminating cash transactions would be impossible due the number of layoffs required and the fact that many riders lack an alternative method of fare payment, a transit agency can overlay non-cash fare payment schemes.

When the Virginia Railway Express (VRE), the commuter rail system serving the Virginia suburbs of the District of Columbia, began operation in 1991, management decided that it would not offer its customers the option of using cash to purchase farecards at the station. Customers can purchase tickets with credit or debit cards at the stations, by check through the mail, at merchants around the area¹, or with credit cards by

Agency Profile	
Service Area	Northern Virginia jurisdictions, including Arlington, Alexandria, Fairfax, Prince William, Stafford, and Fredericksburg
Modes	Commuter Rail
FY96 Operating Budget	\$17.7 million
FY96 Capital Budget	\$17 million
Annual Ridership	
Commuter Rail	1.9 million
Revenue Vehicle Miles	
Commuter Rail	1.5 million
Fares	
Commuter Rail	\$6.70 (average)

phone. While this cashless system has worked well for the commuter railroad whose customers have a median income of \$70,000 and which has an average ticket purchase of \$40, the philosophy is not practical for most transit systems. Nevertheless, transit agencies can learn from VRE's example and may be able to implement parts of the program.



Service area

Implementation

When VRE was created in 1991, its administrative staff decided to avoid cash fare payments and station attendants as a mechanism to decrease operating costs. Cash payment was expensive for the agency because the salaries of the personnel needed for secure transport and counting were too expensive. Collection of the cash would also have been unsafe because most of the stations are in relatively uninhabited, wooded areas.

Through marketing surveys, the railroad determined that most of its customers would be from families with incomes greater than \$70,000. Most would have credit cards or checking accounts with automated teller machine access (ATM). The average fare would be rather large because customers would commute from outlying areas to Washington, DC, and its inner suburbs. Thus eliminating cash as a payment option would not significantly burden potential customers.

VRE customers can purchase tickets in two primary ways:

- Automated Ticket Vending Machines on platforms that only accept debit and credit cards and
- Ticket Issuing Machines throughout the service area operated by vendors.

The Ticket Vending Machines are actually modified parking payment machines run by a 486 IBM-compatible computer using customized software. The up-front capital cost to equip all 17 stations with Ticket Vending Machines was fairly small: \$1.4 million for the machines and the hardware and software necessary to run them. The Ticket Issuing Machines cost \$3,500 per machine, with a total cost to VRE of \$500,000.

VRE issued one request for proposals to purchase the equipment and design software for the Ticket Vending Machine computer and another for a bank and Acquirers to perform the transaction for each type of credit card. MasterCard International helped VRE market the debit/credit payment option to VRE customers.

Program Structure

Each station has several Ticket Vending Machines with one "talking" machine per station for the convenience of vision-impaired customers. The machines accept Visa, MasterCard, American Express, and Discover credit cards and Most, Plus, Honor, and Cirrus debit cards. Each machine has its own modem and dedicated phone line.

To purchase a ticket, a customer inserts a credit or debit card into the Ticket Vending Machine, the modem calls the transaction into VRE's administrative offices, and the Acquirer performs the credit card transaction (the customer's own bank performs the debit card transaction). At VRE headquarters, a 486 IBM-compatible computer enters the transaction data (card number, amount, time, ticket type, and denial reason if any) into a database from which VRE can generate future reports. If the call cannot reach VRE headquarters, the Ticket Vending Machine issues a ticket and stores the information for later transmission. To date,



out of every 10,000 transactions, only two have not been collected.

Because the Acquirer posts the sales into VRE's bank account the next day, for credit cards there is

essentially no float between the transaction and payment. For debit cards, the money is transferred from the customer's account to VRE's account as the transaction is processed. Because electronic transactions cannot be miscounted like cash

VRE's accounting department has no problem reconciling the finances.

"The Only Way to go is debit/credit - everything is posted tomorrow; everything is trackable."

— Dale Zehner, VRE

Credit Cards 101

Four groups comprise the credit card industry:

- **Bankcard associations.** The two bankcard associations are MasterCard International and Visa International. For each of these two credit card brands, the associations administer the rules and regulations, advertise the bankcards, and run the settlement and authorization computer systems.
- **Issuers.** Issuers distribute credit cards to consumers, approve or decline transaction requests from merchants, and collect monthly payments from cardholders. For credit cards other than MasterCard and Visa, such as the Discover Card or Diner's Club, the Issuer is not a member of a bankcard association.
- **Acquirers.** Acquirers handle the communication between merchants and the credit card computer networks and reimburse merchants for credit card purchases. For credit cards other than MasterCard and Visa, the Acquirer is not a member of a bankcard association.
- **Member service providers.** These companies offer support to Acquirers through authorization, accounting, marketing acquirer services to merchants, customer service to merchants, and selling or leasing the hardware necessary for merchants to access the credit card networks.

Authorization

In order to *authorize* a transaction, a merchant submits the customer's credit card number to its Issuer (via the merchant's acquirer) and the credit card brand's settlement and authorization system. The computer system then passes the authorization approval or denial from the customer's card's issuer to the merchant via the Acquirer.

Clearing and Settlement

Merchants are reimbursed through a process called *clearing and settlement*. In *draft capture*, a merchant sends copies of its credit card transactions to its Acquirer. The Acquirer credits the merchant's account for the purchases and then forwards the

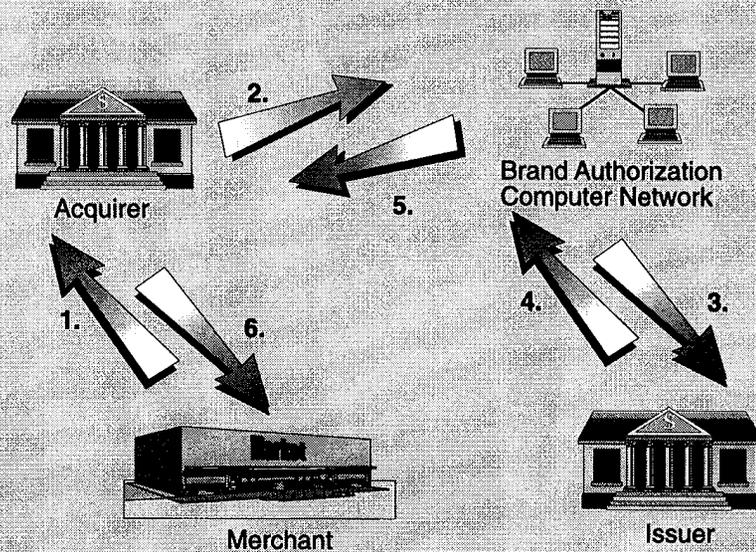


transactions to the brand's computerized settlement and authorization system. The system bills all the customers' Issuers and transfers this payment to the Acquirer. Finally, the Issuers bill their cardholders.

Discount Rate

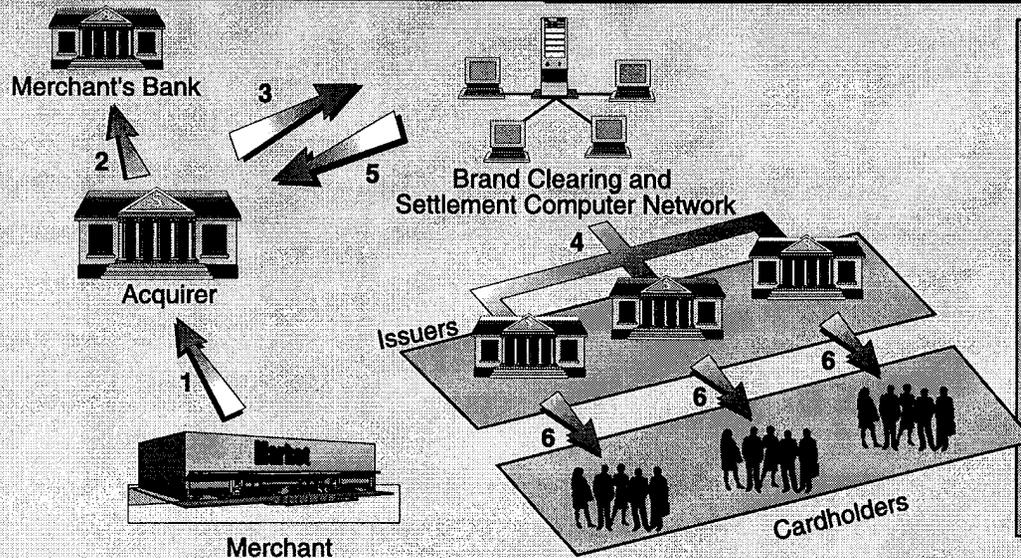
The Acquirer charges merchants a fee (called the *discount rate*) for its services for authorization, draft capture, settlement, administrative and operating expenses, and *interchange*. The interchange fee is paid to Issuers to cover the costs of operations, fraudulent card use, and carrying of cardholders charges from the purchase date until the cardholder's monthly bill is paid.

The Authorization Process



1. Merchant provides customer's card number to Acquirer.
2. Customer's card number and other transaction data are transmitted through the Acquirer to Brand Computer Network.
3. Brand Computer Network transmits authorization request to Issuer.
4. Issuer approves the transaction and transmits approval message back to Brand Computer Network.
5. Brand Computer Network transmits approval message and authorization code to Acquirer.
6. Acquirer transmits approval message and authorization code to Merchant.

The Settlement Process



1. Transaction data is transmitted to Acquirer.
2. Acquirer credits Merchant's bank account.
3. Acquirer sends transaction data to Brand Computer Network.
4. Brand Computer Network debits Issuers.
5. Brand Computer Network credits Acquirer.
6. Issuers charge individual cardholders.

For VRE tickets, 75% of the transactions are credit and 25% are debit. The standard for the credit/debit split in the sales industry is 95/5. VRE survey results show that the significant debit share results from the fact that transportation is a fixed cost for customers each month and most customers keep the money in their checking accounts to cover these fixed costs. Customers do not want to pay their credit card the interest on their rail fare.

Financial Analysis

VRE allocates fixed costs of administration, monthly machine maintenance, software maintenance, debt service on the equipment, and the phone bill for local calls from machines to track transaction costs. Variable costs include ticket stock, an access fee to the financial network for debit cards, credit card fees, variable equipment maintenance, and long-distance calls from machines. Of the ticket price, 7.1% goes to fixed-price expenses. For debit card transactions, 1.1% pays for the variable costs; for credit card transactions, 2.8% of the ticket price is attributable to variable costs.

Lessons Learned

Cashless fare payment can increase transit revenues by decreasing handling costs. Also, the money is available for use by the transit agency immediately with no collection or sorting time. The key benefits to cashless fare payment include

- reduced labor costs,
- low float, and
- improved customer service.

VRE suggests that if a transit agency is interested in setting up a pilot credit card program, it should install machines in one or two stations to monitor their use by patrons, operating costs, and potential value to the transit agency.



Ticket vending machines on VRE train platform

Contact Information

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Margaret Toscano
MasterCard International
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Endnotes

- 1 At local stores, customers purchase the fare cards using whatever mechanism the merchant allows for payment. The store transfers the proceeds from the ticket sales to VRE electronically.

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Eco Pass Program

**Regional Transportation District
Denver, Colorado**

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Denver ★
Colorado

Regional Transportation District

Background

The most direct way for a transit agency to generate revenue is to increase ridership. A transit agency can market itself to attract new riders through television, print media, or even outdoor billboards. One of the less common ways to generate ridership, is to enlist the cooperation of local employers. One way that employers contribute to transit funding is by providing a \$65 per month pretax commuting benefit to employees. The employer can then deduct the cost of this benefit from its income taxes. The Regional Transportation District (RTD), the transit provider for the Denver/Boulder metropolitan area, has taken this idea a step farther with the Eco Pass.

RTD was established in 1969 to provide transit to the Denver/Boulder metropolitan area. The 2,046-square-mile service area contains 2 million potential riders. With 828 buses and 17 light rail vehicles, RTD operates local, regional, express, and airport shuttle bus service and light rail. In addition to utilizing the usual tax-free employee transit benefit, RTD's transit benefit program includes the innovative Eco Pass. Employers that participate in this program annually purchase photo-ID

Agency Profile

Service Area	Metropolitan Denver
Modes	Bus, Light Rail
FY96 Operating Budget	\$183.3 million
FY96 Capital Budget	\$116.7 million
Annual Ridership	
Bus	52.3 million
Light Rail	4.1 million
Revenue Vehicle Miles	
Bus	23 million
Light Rail	525,452
Fares	
Bus	\$.75
Light Rail	\$.75

passes for every employee in the company. The passes are good for "free" travel anywhere in the system.

Implementation

In August 1989, RTD and the City of Boulder, Colorado, jointly implemented the predecessor to the Eco Pass, the Mobility Pass program, to encourage commuters

to use alternatives to single-occupancy vehicle travel. The program was originally started to meet the requirements of Boulder's trip reduction ordinance. Employees in Boulder liked the employer-provided pass and discussed this new benefit with friends and colleagues. By 1991, at the urging of employees, businesses outside downtown Boulder began to request expansion of the Mobility Pass program.

In response to these increased requests for Mobility Passes by businesses located outside of Boulder, RTD realized that it needed to design a new program and pricing scheme. Prices were to be based on the level of service that each business location received from RTD and number of employees who were likely to use the pass.

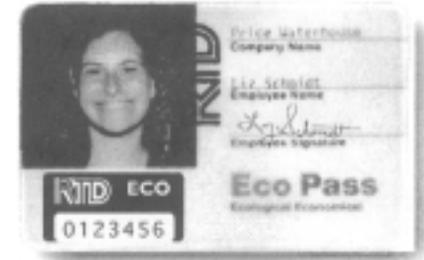
To develop the pricing plan, RTD surveyed employees to determine the transit ridership levels for businesses in the City of Boulder, Boulder County, City of Denver, and other counties in RTD's service area. RTD changed the pass name to Eco Pass and modeled the pricing policy on group insurance: any employer who participates in the program must purchase the Eco Pass for every employee, regardless of whether or not the employee will use the pass.

RTD's projections for ridership generated by the Eco Pass were quickly exceeded. The response was so overwhelming that the pricing had to be recalculated in order to recover revenue and cover the costs of serving this latent demand. For example, in companies in downtown Denver that have purchased Eco Passes, 9.4% of employees became new regular transit riders, 10% of previous transit riders increased the frequency of their transit commute trips each week, and 20% of

all employees with Eco Passes make non-commuting transit trips.¹

RTD also learned that in order to avoid excessive costs of administering the program, a minimum contract size had to be established. The costs to administer the program, take pictures of employees at work, and process the monthly payments became prohibitively expensive for small contracts. The current minimum contract size is \$200, but RTD hopes to raise it in the future.

Once companies sign up for the program, they rarely drop out, even after cost increases. Employers sign up because of environmental concerns, savings for employees, and parking shortages. Examples of some current participants include Amoco, Burger King, Manning-Berthold Architects, Norwest Banks, and the U.S. Department of Energy.



Program Structure

Employers in the Denver area purchase the Eco Pass for all their full-time employees (an option exists for part-time employees too), regardless of the number of employees that actually use the pass. Under the federal transit benefit program, the cost of the pass is tax deductible for the employers and the passes are a pre-tax benefit for the employees. Companies use their participation in the program as a recruiting and

retention tool, as well as for public relations because of the reductions in air pollution, traffic congestion, and parking resulting from Eco Pass use.

Program Goals

The program has three goals: increase transit ridership, decrease regional vehicle miles traveled (by reducing single-occupancy vehicle trips), and improve the quality of life in metropolitan Denver by improving air quality. The program has measured up to these goals better than RTD ever expected.

Transit ridership has grown. A survey of companies offering the Eco Pass in downtown Denver has shown that 52% of employees at Eco Pass companies commuted on transit prior to the Eco Pass program; 62% currently travel to work via transit.²

In 1993, the Eco Pass program resulted in 17,440 fewer vehicle miles of auto commute trips per day into downtown Denver. By reducing the number of commute trips in single-occupancy vehicles, Eco Pass improves Denver's air quality. "One person using mass transit for a year instead of driving to work saves our environment 18 pounds of hydrocarbons, 153 pounds of carbon monoxide, and 79 pounds of nitrous oxides." With over 35 thousand workers in the Eco Pass Program in 1997, Denver's air becomes cleaner every year.³

Benefits to Employees

Employees like the Eco Pass because it provides a tax-free benefit and is good for unlimited rides on transit. The annually issued Eco Pass can also be used



as an alternative form of identification because the laminated pass includes a picture of the rider and a signature. In addition, the Eco Pass program enrolls each passholder in the guaranteed-ride-home program administered by Ride Arrangers, part of the Denver Regional Council of Governments. The guaranteed-ride-home program provides a taxi ride whenever a transit user needs to travel from work for a personal emergency or unexpectedly work late. The Eco Pass user just shows his/her Eco Pass to cover the taxi fare. The taxi company then charges Ride Arrangers for the price of the taxi ride.

Pricing

RTD priced the program based on a business's number of employees and location. The pricing scheme works as follows. An average annual pass for unlimited ridership on RTD's transit system costs \$406. If the Eco Pass price were set at this level, purchased for each transit user in the company, and multiplied by the number of employees that currently commute on transit, the result would be RTD's total revenue for annual passes



per pass in the example) would then be added to the base price.

Next RTD adds 15% of the base price to Eco Pass cost to pay operating costs associated with the service expansion needed for the new riders. Another 10% of the base price is added to the Eco Pass cost to pay for the costs associated with the capital expansion necessary as a result of the increased ridership. RTD charges \$1.50 per pass for program administration and marketing and \$2 for the guaranteed-ride-home program. Thus, the sample company would pay \$174 per pass or \$8,700 for all 50 passes. A sample calculation appears below.

bought by workers in that company. For example, if a company has 50 employees of which 14 use transit, the revenue generated by their purchasing an annual pass would be 14 workers times \$406, or \$5,684. This calculation provides the base price per employee for an Eco Pass of \$114.

RTD wanted to capture half the cost of an annual pass for new riders. The transit agency estimated that for each company, the Eco Pass would increase the number of employees which commute on transit by 50%. For the company in the previous example, RTD would expect 7 new transit riders. To recover half the revenue that would be generated if these riders bought annual passes, multiply the company's base Eco Pass price (\$114) by 25%. The result (\$28

Cost of an RTD Annual Unlimited Ride Pass	\$406	(a)
% of all employees in company using transit before Eco Pass introduction	28%	(b)
Base price per Eco Pass to employer	\$114	(a)•(b)=(c)
Revenue to be captured from ridership increase	\$28	(c)•25%=(d)
Operating expansion costs	\$17	(c)•15%=(e)
Capital expansion costs	\$11	(c)•10%=(f)
Marketing/administrative costs	\$1.50	(g)
Guaranteed Ride Home Program	\$2.00	(h)
Total cost per pass	\$174	(c)+(d)+(e)+(f)+(g)+(h)

Lessons Learned

RTD actively promotes its Eco Pass program, and more than 1,100 companies with over 35,000 employees participate in the Eco Pass program. Over the last 6 years, studies have shown that this program has successfully met its three goals:

- **Increase Ridership.** More people ride transit for work and non-work trips.
- **Decrease Single-Occupancy Vehicle Trips.** In 1993, the total vehicle miles of auto commute trips decreased by 17,440 miles per day into the Denver downtown area.
- **Improve Air Quality.** Fewer trip miles mean cleaner air.

RTD's pricing scheme is a key factor in the program's success. For instance, RTD performed surveys and commissioned studies to determine the current bus and rail usage by residents in the different service areas. This step was necessary because the transit agency did not want to lose revenue from people who converted from passes or fares to the Eco Pass. RTD also made sure that the pass price recovered all administrative and marketing costs and provided for future expansion necessitated by the increased ridership from the program.

Contact Information

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303-628-9000

"More than 1,100 companies with over 35,000 employees participate in the Eco Pass program."

Endnotes

- 1 "Eco Pass Effectiveness Study" for the Regional Air Quality Council, prepared by the Howell Research Group in November 1993.
- 2 *Ibid.*
- 3 *Ibid.*

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Partnerships with the Community

**Pullman Transit
Pullman, Washington**

**Citibus
Lubbock, Texas**

**Iowa City Transit
Iowa City, Iowa**

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Partnerships with the Community

Transit adds value to a community by moving people. Often private business or public entities will purchase bus or rail services from public transit systems. These partnerships are beneficial both to transit agencies and the population served, but the Federal Transit Act prohibits transit agencies that receive federal subsidies from competing with private transportation providers. Thus, public transit agencies must give first priority to any non-subsidized operator who wishes to provide service.

In this case study, we examine three examples of partnerships between transit operators

and their communities. In Pullman, Washington, the school district pays Pullman Transit to provide service for children traveling to school. In Lubbock, Texas, Texas Tech's student body pays Citibus to transport students around the campus. In Iowa City, Iowa, the downtown businesses pay for customers' bus trips home because they recognize the value that transit brings to the community in

dealing with the downtown parking problem. In addition, a mall on the outskirts of the city pays for customers to ride home free in order to attract students from The University of Iowa.

"Often private businesses or other public entities will purchase bus or rail services from transit systems."

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Pullman Transit and the Local School District

Background

In the 1970s, with the gas shortage in full swing, there was no transit system in Pullman, Washington, and the citizens became concerned with mobility. At the same time, there was a parking shortage, especially in the Washington State University area. In response to these issues, the City of Pullman started a transit system in March 1979.

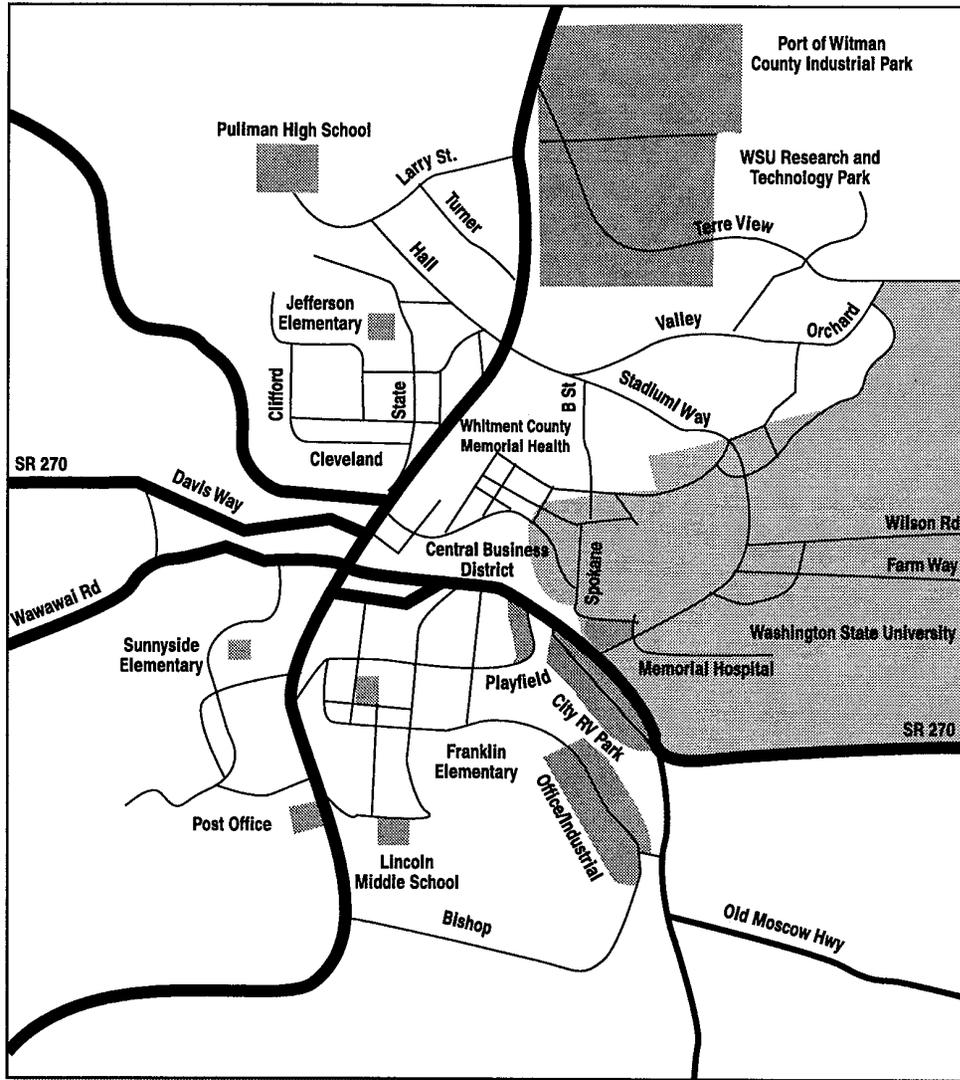
Pullman Transit, a department of the City of Pullman, Washington, operates a 14-vehicle, fixed-route and paratransit service which accommodates school trips for university, high school, and junior high school students in addition to work and other trips.

In the State of Washington, all students who live more than one mile from school must be offered transportation by bus. The school district itself used to provide the transportation because there were no private bus operators in Pullman. Eventually the Pullman School District decided that it was duplicating the efforts of the transit system: both agencies did not need to run buses to the same places, especially since at the time, many transit bus routes had very low ridership. In order to fill

Agency Profile

Service Area	Pullman, Washington
Modes	Bus, Demand Response
FY96 Operating Budget	\$1.4 million
FY96 Capital Budget	\$729,000
Annual Ridership	
Bus	1 million
Demand Response	11,090
Revenue Vehicle Miles	
Bus	155,505
Demand Response	34,192
Fares	
Bus	\$0.35
Demand Response	\$0.40

the transit buses and decrease the capital expenditures of the school district, the two parties reached an agreement in 1982, whereby the school district would pay Pullman Transit to bus all students from sixth grade through high school.



Service area

158

Travel Peaks

Group	AM Peak	PM Peak
Workers	8am	4-6pm
School	8:30am	3-4pm
University	9am	none

Program Structure

The school district issues ID cards to all its students, and Pullman Transit gives the school district stickers to adhere to the IDs of students who ride the buses. For the bus service, the school district pays Pullman Transit a monthly fee that is negotiated each year. For the 1996-1997 school year, this payment totaled nearly \$40,000 or 3% of the transit system's operating budget. The students can use the buses throughout the entire service day (6:50am-6:50pm).

"The students' parents really like the program."

—Rod Thornton, Pullman Transit

Since the school district does not have a great deal of money, it is limited in what it can pay the transit agency for the service. Pullman Transit receives about \$40,000 to provide the students with bus service, but the costs of the program are nearly \$60,000. The program costs include additional scheduling needs, part-time drivers to cover the peak school periods, and administrative work for the program.

Community Effects

The community is extremely pleased with the program. When the school district bused the students itself, the students could only ride buses twice a day: to school in the morning and home in the afternoon. Now students can stay late at school for sports or clubs, but still take the buses home; consequently, parents do not need to shuttle their children back and forth. Another benefit to the parents is that if children want to go out after school, the parents do not have to drive them.

Problems

Serving diverse populations of both workers and school children spreads out Pullman Transit's peak periods. The school peak is slightly later than the commuter peak in the morning and slightly earlier in the afternoon. This peak spread creates logistics difficulties for the small system in coordinating drivers with bus routes. The longer peak also increases costs of transit operation because Pullman Transit needs more equipment and part-time drivers.

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Citibus and the State University

Background

Citibus was created in December 1976 to provide transit service to the City of Lubbock. Today the system, which is operated by a contractor, has 23 local routes and 5 routes to serve the Texas Tech University campus. Citibus also provides paratransit to qualified customers.

In 1968, the Texas Tech Student Association first contracted with Citibus to provide shuttle bus service on campus. Today the university is experiencing significant growth, yet the campus is closed to vehicular traffic, there is limited nearby parking, and the commuter lots for students are full. In order to serve the transit-dependent students and solve the parking problem, the University's student government contracted with Citibus to provide bus service. The service, which operates daily every 5 to 7 minutes until 3pm and every 15 minutes thereafter, is currently provided during fall, spring, and summer semesters. Since 1968, the service has experienced a slow and steady increase in ridership as the University has grown.

Agency Profile

Service Area	Lubbock, TX
Modes	Bus, Demand Response
FY96 Operating Budget	\$4 million
FY96 Capital Budget	\$854,000
Annual Ridership	
Bus	485,361
Demand Response	4,291
Revenue Vehicle Miles	
Bus	1.2 million
Demand Response	296,586
Fares	
Bus	\$1.00
Demand Response	\$2.00

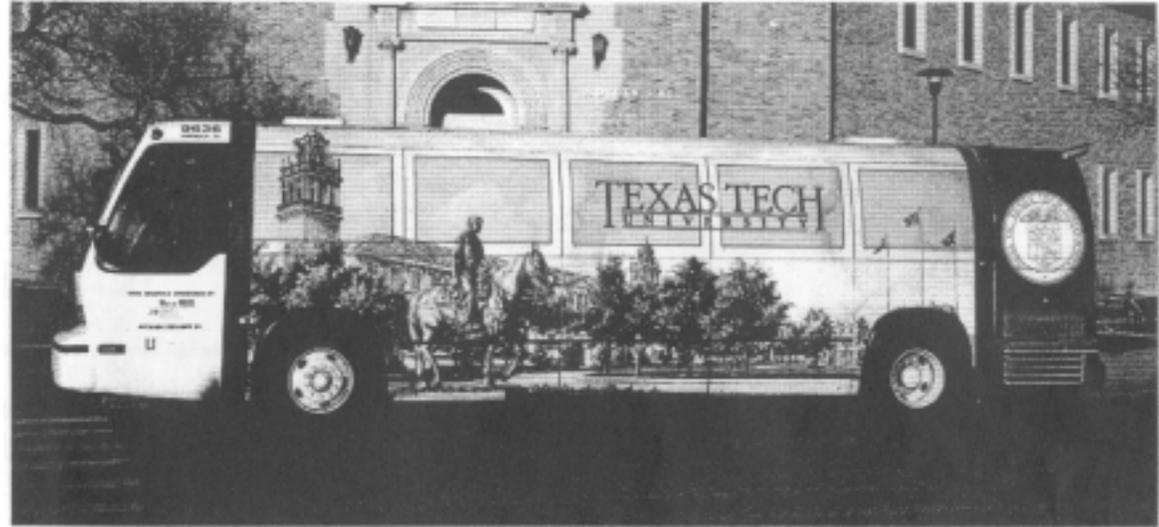
Program Structure

Until 1996, the student body funded the shuttle service which was provided free to students and community residents. Last year, the students paid \$500,000 for the operation of this 13-bus service; the payment covers the complete cost of the service:

operations as well as publishing schedules and maps. No federal, state, or local funds subsidize this service. As an added bonus for Citibus, the \$500,000 payment from the school can be used as a local match for federal assistance.

Over the last year, Citibus has negotiated with the students and the university administration to provide more service to meet the university's 20-year plan for growth. Currently, Texas Tech is the second largest American university by acreage (it covers 1,839 acres). The university's buildings are widely dispersed around the property.

Through conversations with the university, Citibus encouraged the administration to develop the space more densely, that is, fill in the empty space rather than expand to outlying areas. Citibus also offered to provide additional bus routes to transport the growing student body so that new parking lots will not be necessary. As a trial, Citibus is providing additional service with four express buses to serve off-campus housing directly. The University recently tore down a parking lot to build a new stadium, and the shuttle service carries the displaced parkers to campus from off-campus housing and satellite parking lots. Because the construction costs



of the new stadium are partially paid out of student activity fees, the administration has agreed to contribute money for the additional bus service. Citibus now receives \$700,000 to provide bus service for Texas Tech; the service is operated completely with those funds — no subsidy is used.



Iowa City Transit and the Private Sector

Background

Iowa City Transit operates fixed-route and paratransit service to Iowa City, a suburb (University Heights), and outlying university sites. Two other transit systems also operate in the Iowa City metropolitan area: Coralville Transit, which provides service to the suburb of Coralville, and Cambus which provides service to the main campus areas of The University of Iowa.

Iowa City residents have trouble finding parking in the downtown area. Iowa City Transit provides an alternative to driving for shoppers, employees, and university students traveling downtown to shop, work, or attend school. The service also brings transit-dependent residents from the community and university to outlying shopping areas, including Sycamore Mall.

Program Structure

The downtown businesses participate in a Park and Shop and a Bus and Shop program. With a \$15 qualifying purchase, customers either receive parking validation or a voucher for a free transit ride that is good at any time. A similar program has been put into place by Sycamore Mall. While this outlying mall has free

Agency Profile	
Service Area	Iowa City, IA
Modes	Bus
FY96 Operating Budget	\$2.4 million
FY96 Capital Budget	\$1.1 million
Annual Ridership	
Bus	1.5 million
Revenue Vehicle Miles	
Bus	601,871 million
Fares	
Bus	\$0.75

parking, it participates in the Bus and Shop program in order to attract university students.

The Bus and Shop fare is collected in the following manner. Riders give the Bus and Shop passes to the bus drivers who turn them in to Iowa City Transit's Administration. Iowa City Transit then collects the necessary fares from the participating merchants. Total receipts provide \$15,000 annually for the \$2.4 million operating budget. The merchants also pay for the marketing of the program on the buses and other locations around town.

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Lessons Learned

Only in cases where there is no private operator interest can public agencies provide contracted services to other public or private entities. This case study has shown us that contracted partnerships between transit and the community can provide

- a revenue source for transit agency,
- a match for federal grant funds, and
- a flexible transportation option for the transportation disadvantaged.

The revenue the transit agency receives for the service will at most cover the transit agency's cost to provide the service. The service also fosters goodwill between the transit agency, the private sector, and other public sector agencies and the people these agencies serve. This type of partnership gives local businesses and other public agencies and their clients a vested interest in the health and well-being of the local transit system.

Contact Information

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Citibus
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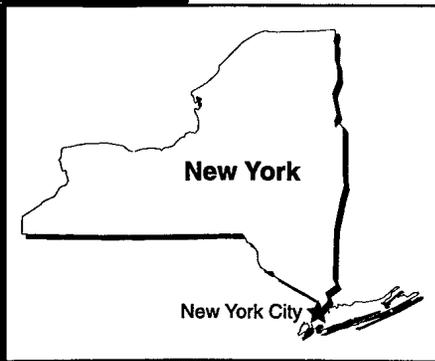
Ron Logsdon
Iowa City Transit
319-356-5151



Station Concessions

**Metropolitan Transportation Authority
New York City, New York**

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Metropolitan Transportation Authority

Background

Transit systems have many assets which provide attractive business opportunities to the private sector. One of these assets, real estate in high-traffic stations, can provide retailers with a steady stream of potential customers. Both large and small systems can benefit from the productive use of excess space in transit stations.

Large transit systems serve thousands of people daily and many small systems have central transfer points through which large numbers of people pass. In high-traffic stations transit agencies can raise funds and provide their riders with conveniences such as food, newspapers, flowers, or dry cleaning through concessions.

Case Background

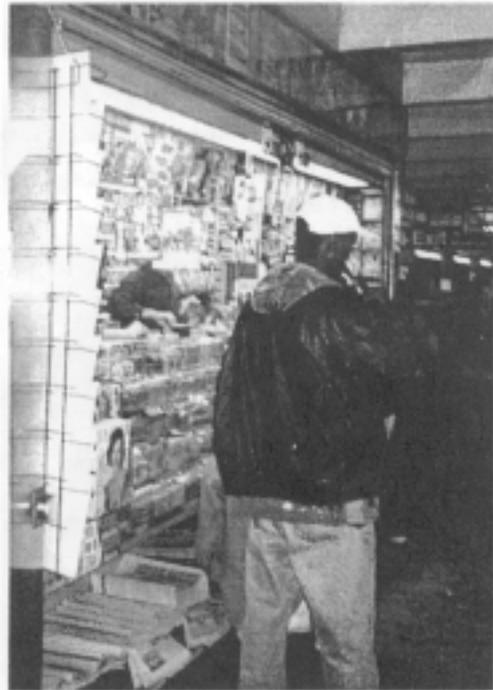
For over a century, the transit system in New York City has recognized the value of the premium real estate it holds. One of the founders of the system, August Belmont, saw concessions as a way to make additional money. When the transit system was purchased by the public sector, the city, and since 1953, the New York City Transit Authority (now part of the Metropolitan

Agency Profile

Service Area	New York City
Modes	Bus, Heavy Rail, Commuter Rail
FY96 Operating Budget	\$5.7 billion
FY96 Capital Budget	\$2.4 billion
Annual Ridership	
Bus	434.7 million
Heavy Rail	1.1 billion
Commuter Rail	Not available
Revenue Vehicle Miles	
Bus	92.5 million
Heavy Rail	309.8 million
Commuter Rail	1.9 million
Fares	
Bus	\$1.50
Heavy Rail	\$1.50
Commuter Rail	\$1.50

Transportation Authority [MTA]), maintained this program to generate revenue from otherwise unused space. This space is licensed to concessionaires — individuals, partnerships, or corporations — who pay rent to occupy space on MTA property.

While concessions can exist at any high-density station, in New York, concessions are concentrated in about one-fourth of the 470 stations of the New York subway system. Concessionaires typically want to rent space in high-capacity stations. In New York, 15 stations carry 25% of the passengers; 56 stations carry 50% of the passengers. The minimum threshold for a station to support at least one store is 5,000 passengers/day. Only the 100 stations with the highest daily ridership have concessions in them.



Newstand

Example of concession businesses include newsstands (90% of MTA concessions), florists, shoe stores, shoe repairs, gift shops, compact disk shops, photo processing stores, and barbers. Up until 10 years ago, MTA also allowed food stands and restaurants, but now prohibits food sales (except packaged foods, *e.g.* potato chips) in subway stations because of the associated trash and vermin. Currently MTA is trying to attract automated teller machines to the stations. Because of the large number of people that pass through the stations, automated teller machine customers would be

safer in subway stations than on the streets of New York City.

The RFP Process

MTA selects concessionaires through a request for proposal (RFP) process. As old rentals expire or MTA permits leasing of new sites, the transit agency sends RFPs to several thousand names on the concessions mailing list, advertises the space in local newspapers, and hangs "For Rent" signs in empty windows. The

purpose of this process is to select the most financially rewarding business to maximize income to MTA.

Proposals must contain the following:

- **Application information statement.** This standard form requests information on the prospective business, including owners and incorporation information; past business experience; other municipal leases or contracts; real estate owned in the state of New York and a history of payment of taxes, assessments, rent, and loans on the aforementioned property; business and bank references; available lines of credit; assets; liabilities; a detailed one-year business plan; and authorization to request a credit report.
- **Proposal compensation form.** This form lists the rent schedule for the five-year period.

"Concessionaires — individuals, partnerships, or corporations — who pay rent to occupy space on MTA property."



Wig store

- **Description of the business.**
- **Description, conceptual drawing (stamped by licensed engineer), and cost estimate for necessary site improvements.**
- **Proposal deposit.** A certified check for the amount of three months of the proposed first year's rent.¹

MTA's real estate department then selects the best proposals based on the following criteria:

- Business experience,
- Financial qualifications,
- Income potential for MTA,
- Wig store
- Operation and management plan, and
- Schematic drawings of required improvements.

Program Structure

Because the primary goal of the MTA is to move people, the real estate department can only use the space in a station for concessions if the use will not interfere with passenger movement. MTA has the usual landlord-tenant problems with maintenance and rent (most stores are "Mom and Pop" operations). As a government agency, MTA finds it hard to rely on the courts to enforce landlord-tenant laws because private individuals often claim oppression by a large, uncaring government agency. Despite these issues, Real Estate is the only revenue positive department in the MTA: annually concessions yield \$2.7 million for the subway system.

There are three key elements to the programs' structure:

- Station improvements,
- Lease term, and
- Rent levels.

Station Improvements

When concession contracts expire, the site typically requires significant reconstruction or rehabilitation. Although MTA may perform some construction on the concession site during station rehabilitation, in four out of five cases, the cost for the new store infrastructure is borne solely by the new concessionaire. Title to the improvements is later transferred to MTA.

MTA informs potential concessionaires that building in subway stations is more expensive than building at street level because material must be brought underground and garbage transported to surface level.

Moreover, construction cannot interfere with passenger movement. For example, an 85-square-foot newspaper stand at the 116th and Columbia Station (on the IRT Broadway/7th Avenue line) cost \$60,000 to build. Part of this cost was a result of the fact that the station is a historical landmark, and no architectural improvements could be made unless they are approved by the local board. In order to recoup the high cost of the stand, the lessee was allowed a longer license term.

License Term

The license term has historically been five years. Last year MTA instituted a new term of five years with a five-year renewal option. This new policy was instituted because often when the lease expired, rental would continue from month to month until the MTA had a chance to remarket the space. A month-to-month lease yields less revenue than a five-year lease because there are no scheduled increases in rent payments.

Rent

MTA assigns rent based on the amount charged to the previous concession adjusted for inflation. The agency also researches the rent levels for comparable commercial space in the city and contacts brokers for price information. As appropriate, rents may be adjusted to reflect market conditions. In addition to the base rent, a rent premium is charged for busy stations. The

old axiom, "location, location, location" holds true: MTA can charge a significant premium for transfer stations and CBD stations.

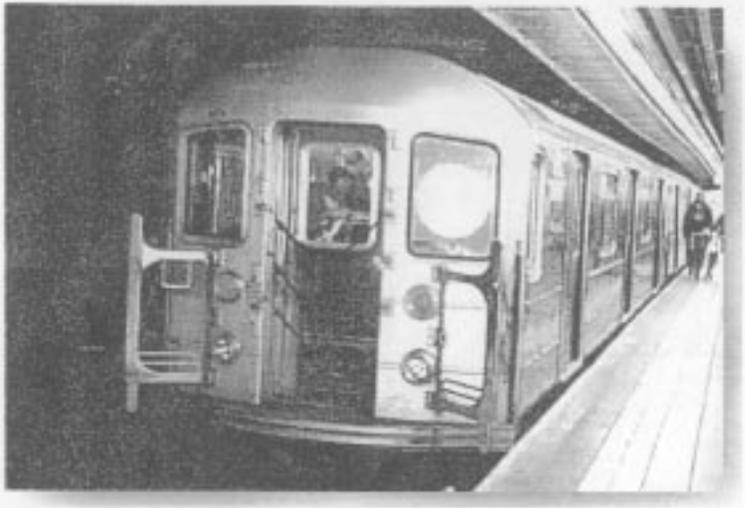
Concessionaires can successfully lower rent payments with adequate justification. For example, a potential concessionaire might agree that a site is worth \$1000 per square foot per month, but might negotiate an escalating schedule of rents due to higher up-front construction costs. The concessionaire might pay \$750 in the first year, \$850 in the second year, \$1,000 in the third year, \$1,150 in the fourth year, and \$1,250 in the fifth year. The total rent paid remains the same, but the cash flow burden on the concessionaire is relieved.

"The old axiom, 'location, location, location' holds true: MTA can charge a significant rent premium for transfer stations and CBD stations."

Lessons Learned

Leasing retail space in transit stations provides an attractive way for a transit system to raise additional funds. The most important lesson an agency can learn is that it is necessary to put concessions where the people are. A transit agency can often double the rent of a stand by moving it 20 feet in the right direction.

It is very difficult for a transit agency to realize the maximum revenue from concessions if they are not a priority. The MTA Real Estate Department could generate more concessions revenue if the success of the program was as high a priority as people movement.



Numerous passenger surveys have shown that concession stands give riders a sense of well-being and security because people are moving and congregating in numbers.

Finally, in order to ensure that a transit system attracts viable retailers who will pay the required rent promptly, it is essential to have a well-controlled RFP process. Proposers must provide a business history and references, bank references, a business plan, and a credit check.

Contact Information

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Barber shop



Barber shop

Endnotes

- 1 Deposits plus interest are returned for the unsuccessful proposals.

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Advertising

**Chicago Transit Authority, Chicago, Illinois
Sun Tran, Albuquerque, New Mexico**

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Advertising

Buses and trains traverse entire cities and metropolitan areas and serve riders in locations (such as downtowns) where strict sign ordinances may prohibit billboards and other types of advertising. When a company advertises on the outside of a bus, it is essentially advertising on a moving billboard. Bus exteriors are the most popular place to advertise in a transit system because of the large number of people who will see the ad. Exterior bus and shelter ads target drivers and pedestrians, rather than transit users.

Advertising on transit platforms and inside transit vehicles targets the transit users.

Since 1989, advertising on transit vehicles and in transit facilities has become more and more acceptable. Transit advertising is significantly cheaper than television advertising and reaches just as many people. Marketing on moving vehicles has three other advantages that transit agencies can sell to potential advertisers:

- moving buses will pass customers, not wait for them to drive by as with a stationary sign;
- transit vehicles can advertise in places where billboards are not allowed, *e.g.* the highly sought-after downtown markets; and
- passengers have no scenery to look at while sitting in subways, so their eyes are inevitably drawn to advertisements inside the rail car.

"Buses only go where people go."

—**John Blunda, TDI**

In Chicago the ads have been so successful in reaching their target markets that 50% — an industry high — of the advertisers advertise again on transit in a twelve-month period. The advertising industry is

starting to realize the potential of transit: this year transit advertising revenues will match billboard advertising revenues nationwide.

Transit revenues from advertising can be attractive, especially in the current funding environment. For example, last year the Chicago Transit Authority (CTA)

received \$7 million in advertising revenue. Out of a total CTA operating budget of \$790 million, advertising pays for about 1% of the operating costs. While this amount may seem small compared to the total CTA operating budget, it pays for service on a number of routes.



Wrapped bus



Ad on back of bus

New revenue sources can be exciting, but some individuals feel that advertising detracts from the attractiveness of transit vehicles or stations. These citizens may object to the use of a public asset to promote private products, especially tobacco and alcohol.

In this case study, we examine the advertising programs of a large, multimodal transit system, the Chicago Transit Authority, and a small transit system run by the Albuquerque Transit and Parking Department, Sun Tran.



The Experience of the Chicago Transit Authority

Background

Transit advertising has existed in Chicago since the 1900s. Streetcars had ads inside (to reach riders) and outside on the front and back (to reach pedestrians and drivers). A company called Chicago Car handled all of the advertising until the 1940s. In the 1950s, Chicago Car introduced the "side ads" that are now so popular.

In the 1960s, the public sector assumed transit responsibilities in Chicago. Today there are ads on and in 2,218 buses, in 1,217 trains, and at all 143 rail stations except those located on expressways.¹ Some El tracks also have billboards on them, but CTA does not allow ads on bus shelters for aesthetic reasons.²

Implementation

CTA outsources its advertising program because it feels that industry specialists can produce more revenue than CTA could itself. Every five years, a competitive bidding process is used to select the contractor that submits the most financially attractive bid. The current advertiser, Transportation Displays, Incorporated (TDI), is a major transit advertising company which handles

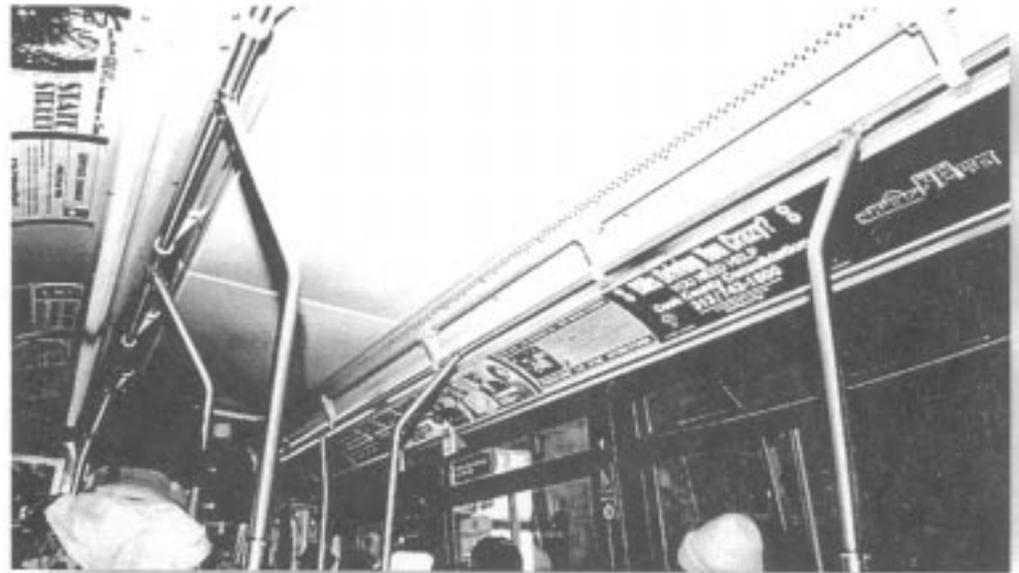
Agency Profile	
Service Area	Chicago and nearby suburbs
Modes	Bus, Heavy Rail
FY96 Operating Budget	\$790.5 million
FY96 Capital Budget	\$290.3 million
Annual Ridership	
Bus	306.1 million
Heavy Rail	135.4 million
Revenue Vehicle Miles	
Bus	76.6 million
Heavy Rail	63.5 million
Fares	
Bus	\$1.25
Heavy Rail	\$1.50

advertising in cities such as Chicago, New York, and London. TDI draws from its 20 years of advertising experience to design and run all aspects of CTA's advertising program. CTA only provides the vehicles and signage space in stations, yet it receives the greater of guaranteed minimum revenue (about \$5 million per year) or 60% of TDI's net billings.

CTA feels that choosing the right contractor is the key to an advertising program. TDI was selected due to its 20 years of experience, dedicated sales force, and global contracts with transit agencies. This global network allows TDI to access national and international marketing campaigns.

Program Structure

TDI and CTA have a five-year contract with a five-year renewal option. TDI is responsible for finding advertisers, installing ads, maintaining the ads and equipment, collecting receipts, and removing outdated ads.



Advertising inside of bus



King size ad on outside of bus

Each month, TDI sends CTA a check for 60% of its net advertising billings (gross billings minus 15% commission minus uncollected accounts). If at the end of the year 60% of the net billings is less than the guaranteed minimum amount specified in TDI's contract, TDI pays CTA the difference.

Annually, CTA receives \$7 million from the program and can use this money for any purpose, including as a local match for federal grant funds. In addition to cash, the contract states that CTA may request



Rail station advertisement

up to \$250,000 in marketing services from TDI. This service utilizes Geographic Information Systems and other computer programs to analyze bus routing, fares, and system ridership. The service can also be used to target CTA's own advertising and promotions to increase ridership.

Key Contractual Language

CTA suggests including language in the contracts between a transit agency and its vendor or the vendor and an advertiser to encourage the promotion of transit in the ads. For example, for a special event, the

advertiser can stress the use of transit: "Take bus route X to the boat show at McCormick Place"; "Airline X to 30 destinations from Chicago — take the El's Blue Line to O'Hare Airport;" or " Bring your transit pass to the opening of Movie X and get \$1 off admission."

Another CTA suggestion is to include in the contract a well-defined schedule for replacement of outdated ads, so as not to lose revenue.

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The Experience of Sun Tran

Background

The City of Albuquerque's Transit and Parking Department operates the local transit system, Sun Tran. Sun Tran's 123 buses provide vehicles for advertising which reach the population of the entire metropolitan area.

The advertising program began a number of years ago when the city council was looking for new ways to raise revenue from the transit system. Sun Tran's current advertising vendor is Templeton Marketing Services. Although the contract is rebid every four years, Templeton Marketing Services has won the contract since 1992.

Program Structure

Templeton Marketing Services sells advertising space on Sun Tran's buses by aggressively calling companies which may be looking for advertising space. Advertisers pay per panel per month according to the fee schedule on the following page. Sun Tran receives a share of Templeton Marketing Services' gross billings (equal to about \$100,000 per year). This revenue equals

Agency Profile	
Service Area	Albuquerque
Modes	Bus, Demand Response
FY96 Operating Budget	\$17.4 million
FY96 Capital Budget	\$1.9 million
Annual Ridership	
Bus	6 million
Demand Response	147,348
Revenue Vehicle Miles	
Bus	3.7 million
Demand Response	1.2 million
Fares	
Bus	\$.75

about 5% of Sun Tran's 1996 capital budget. Templeton Marketing Services also purchases local media time on behalf of the transit agency. Thus advertising revenue is used directly for transit marketing to increase Sun Tran's ridership.

	King Size Displays				Queen Size Displays				Tail Light Displays				New Tail Displays				Interior Displays			
Board Size	30" x 144"				30" x 88"				21" x 72"				17" x 48"				11" x 28"			
1 Month	\$136/month				\$106/month				\$126/month				\$100/month				\$7/month			
3 Month	5% Discount				5% Discount				5% Discount				5% Discount				—			
10+ Boards	10% Discount				10% Discount				10% Discount				10% Discount				—			
Showing	100	75	50	25	100	75	50	25	100	75	50	25	100	75	50	25				
# of Units	45.50	35	25	15	60	20	45	30	60	20	45	30	60	20	45	30				

The Importance of an Aggressive Advertising Vendor

Previous advertising vendors for Sun Tran were not as aggressive sellers nor as innovative as Templeton Marketing Services. Since Templeton Marketing Services took over advertising for Sun Tran, advertising revenues have climbed.

For many years, the system attracted only local advertisers such as stores, seasonal ads for ski equipment, radio stations, and non-profit services. Templeton Marketing Services felt that it could



Advertising Innovations: Wrapped Vehicles

The latest craze in transit advertising is fully wrapped buses and rail vehicles (wraps). These wraps generate revenue above and beyond traditional advertising. Before the introduction of wrapped buses, Citibus in Lubbock, Texas received \$300 annually in advertising revenue. With the introduction of wrapped buses in 1997, the system will generate \$150,000 of advertising revenue, a 50,000% increase! In Chicago, a traditional advertisement on an exterior bus side generates \$3,120 a year or \$260 per month; a wrapped bus generates \$84,000 a year or \$7,000 per month. The Massachusetts Bay Transportation Authority wraps light rail cars for \$10,000 a month.



Cost Reductions

Not only do wrapped buses provide revenue, but they can also lower maintenance costs. The advertiser pays for the cost of the wrap design, application, and maintenance. Since a wrapped bus or rail car does not need to be painted, the associated maintenance costs are avoided. The wrap material also acts as an insulator that keeps the buses cooler in summer and warmer in winter, further reducing operating costs.

Community Feelings

Community residents like the wrapped buses. As the buses take on new and exciting designs of products such as tennis shoes, bread, or houses, residents enjoy spotting the new designs. Some residents have indicated that they specifically wait to take wrapped buses over traditional buses.

The Premium Medium

With all this excitement, transit agencies may find it difficult not to convert too many buses or rail vehicles to wraps. In Mobile, Alabama, the transit agency wrapped too many buses and no longer has the ability to market wraps as different or special. Transit agencies should instead market the wrapped buses as a premium medium and keep a waiting list for advertisers.

increase billings by attracting national advertising campaigns (for example, a Powerade sport drink ad). To interest national advertisers in Albuquerque, Templeton Marketing Services contacted the companies that purchase outdoor advertising for national companies to discuss the consumer market in Albuquerque. The clients of these outdoor advertising companies that have advertised in Albuquerque have been so pleased with the advertising results, that the outdoor advertising buyers now recommend advertising on Sun Tran to other clients. These national advertising campaigns have helped increase advertising revenues.



Sun tran's quality customer service has attracted new advertisers to transit. The personal attention to accounts, creative and quality artwork, and prompt installation of ads by Templeton Marketing Services has increased demand for ad space. Templeton Marketing Services has increased revenues by 10 to 15% annually.



Lessons Learned

The experiences of CTA and Sun Tran have shown that creative transit advertising can provide a system with a new or expanded revenue source. The funds generated may be small, but often cover the costs of service on a few routes in the service area. By following three key points, a transit agency can increase its advertising revenues:

- enlist an aggressive advertising vendor,
- include penalties in the vendor's contract for unfilled space, and
- reference the transit system in ads as much as possible.

Importance of Vendor Selection

Hiring an aggressive company to find customers for transit advertising space is crucial to raising revenue. How aggressively a vendor markets space directly affects the revenue that a transit agency will receive.

To this end, agencies can include an explicit schedule in the vendor contract detailing how long it has to replace outdated ads and establish a penalty schedule for delayed ad replacement to guard against revenue loss.



Useful Contractual Phrases

Many vendors like to advertise using national brands with predesigned print ads for national campaigns. With these advertisers, promoting transit in the ads is not always possible. In a transit agency's contracts with its advertising vendor, try to specify that in the vendor's dealings with advertisers, the vendor should try to structure ads to promote transit ridership. For example, for a special event, the advertiser can stress using transit to travel to the event: "Take bus route X to the boat show at the Convention Center."

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Endnotes

- 1 There are ads in all stations except those located on the expressways because of federal regulations regarding billboards on interstates.
- 2 CTA has considered advertising on bus shelters to pay for their maintenance, but aesthetic arguments have prevailed.

Leasing Right-Of-Way

**Bi-State Development Agency
St. Louis, Missouri**

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Bi-State Development Agency

Background

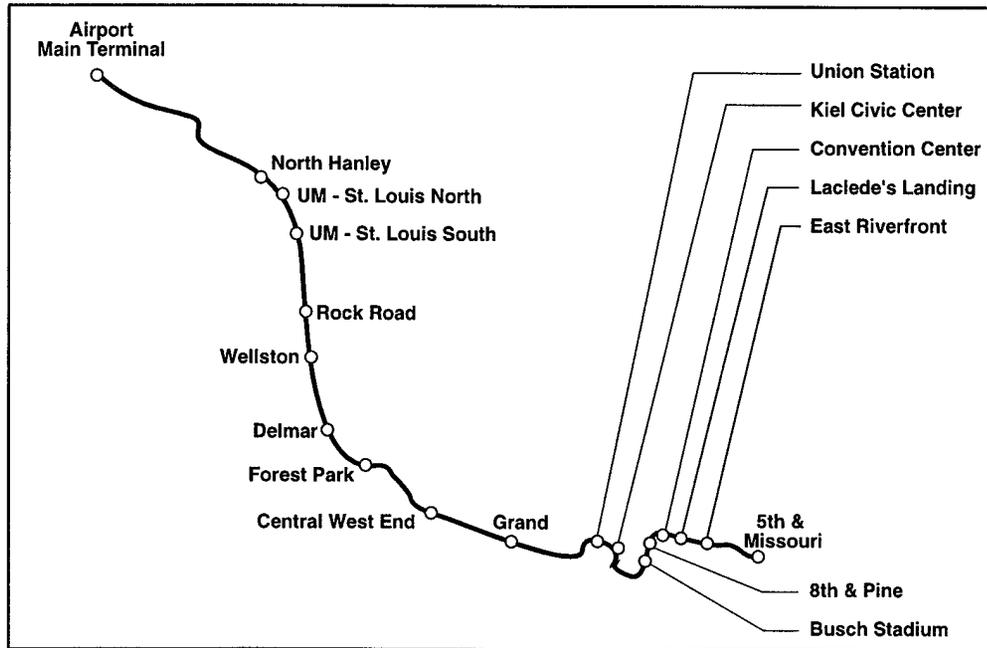
Right-of-way (ROW) is a transit resource that is very valuable to telecommunications, utility, and other companies with linear networks. Companies in the telecommunications industry are expanding voice, data, internet, and video services over fiber-optic networks. Entry into new local markets is accomplished through expanding a company's own cable network, forming agreements with companies which already own an existing local network, or acquiring companies which cover the interested area.

Transit agencies can take advantage of the potential value of ROW to telecommunications providers and other private sector companies. In this case study, we examine Bi-State Development Agency's (BSDA's) leasing of ROW for use by a telecommunications company interested in expanding its local cable network.

BSDA provides transit to residents of the St. Louis metropolitan area in two states: Missouri and Illinois. The bus and paratransit systems serve over 2.5 million people in metropolitan St. Louis and travel over 27 million vehicle miles in revenue service. In 1993, BSDA

Agency Profile	
Service Area	Metropolitan St. Louis
Modes	Bus, Light Rail, Demand Response
FY96 Operating Budget	\$113.8 million
FY96 Capital Budget	\$108.6 million
Annual Ridership	
Bus	37.6 million
Light Rail	12.9 million
Demand Response	332,312
Revenue Vehicle Miles	
Bus	19 million
Light Rail	1.4 million
Demand Response	2.6 million
Fares	
Bus	\$1.00
Light Rail	\$1.00
Demand Response	\$3.00

began to operate light rail service, called Metrolink, in addition to the bus and van service. The 18-mile-long light rail system has 18 stations which connect the airport, universities, residential areas, and downtown St. Louis. BSDA recently received funding to double the



Service area

length of the light rail system and will add eight new stations to serve Illinois.

During Metrolink construction, BSDA requested proposals for a 20-fiber command and control system for the light rail system. Several telephone/data service companies saw this Request for Proposals (RFP) and contacted BSDA to discuss the possibility of mutual use of BSDA's right-of-way.

Implementation

Given the demonstrated interest of telecommunication companies in expanding their fiber-

optic networks in the area, BSDA decided to pursue sharing its light rail right-of-way with a private sector telecommunications company. Because BSDA was able to use the fiber-optic cable for its own command and control system, it saved the capital which would have otherwise been required. In addition, the transit agency gained a new annual revenue source.

In its search for potential partners, the transit agency first approached Southwestern Bell Telephone, the local telephone company. Unfortunately, Southwestern Bell was uninterested in the proposal. In August 1991, BSDA canceled the original RFP for a 20-fiber command and control system and issued a new RFP soliciting private partners for ROW use. Four telecommunications companies requested the RFP.

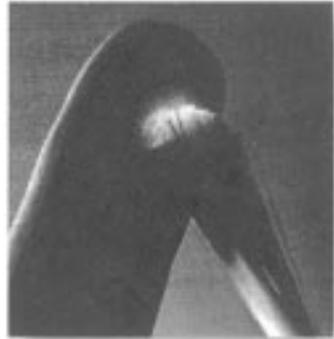
In the RFP, BSDA required that the private partner provide the 20 fibers it would need; Other requirements were that the proposer



A Snapshot of the Telecommunications Industry

Deregulation and recent legislation are accelerating competition to provide new services such as voice, data, internet, and video communications over expanded fiber-optic networks. Companies enter into new local markets by expanding their own cable network, forming agreements with other companies that already own an existing local network, or acquiring companies that cover the expansion area.

In the expansion process, telecommunications companies favor fiber-optic cable over traditional copper-wire lines. Some advantages of fiber-optic cable use include: high capacity; small, light-weight cables; easy installation; immunity to electrical and radio interference; and difficulty in wire tapping. Transit ROW is desirable because it provides long, linear stretches of ROW with a single owner.



- purchase the cable,
- pay any installation costs above \$2.28 per lineal foot (BSDA's expected cost for the installation of a 20-fiber cable to serve the Metrolink system),
- install the cable in accordance with BSDA's construction schedule,
- pay BSDA a ROW rent of at least \$1 per foot of cable along the 90,000-foot light rail system, and

- lease BSDA the 20 fibers necessary for the Metrolink command and control system for \$1 per year.

BSDA received three proposals for the project with options of 72-, 96-, and 144-fiber cables to run the length of the light rail system. BSDA chose the winning proposal based on the construction costs that would be saved, long-term revenue provided, and the earnestness of the proposing company.

Program Structure

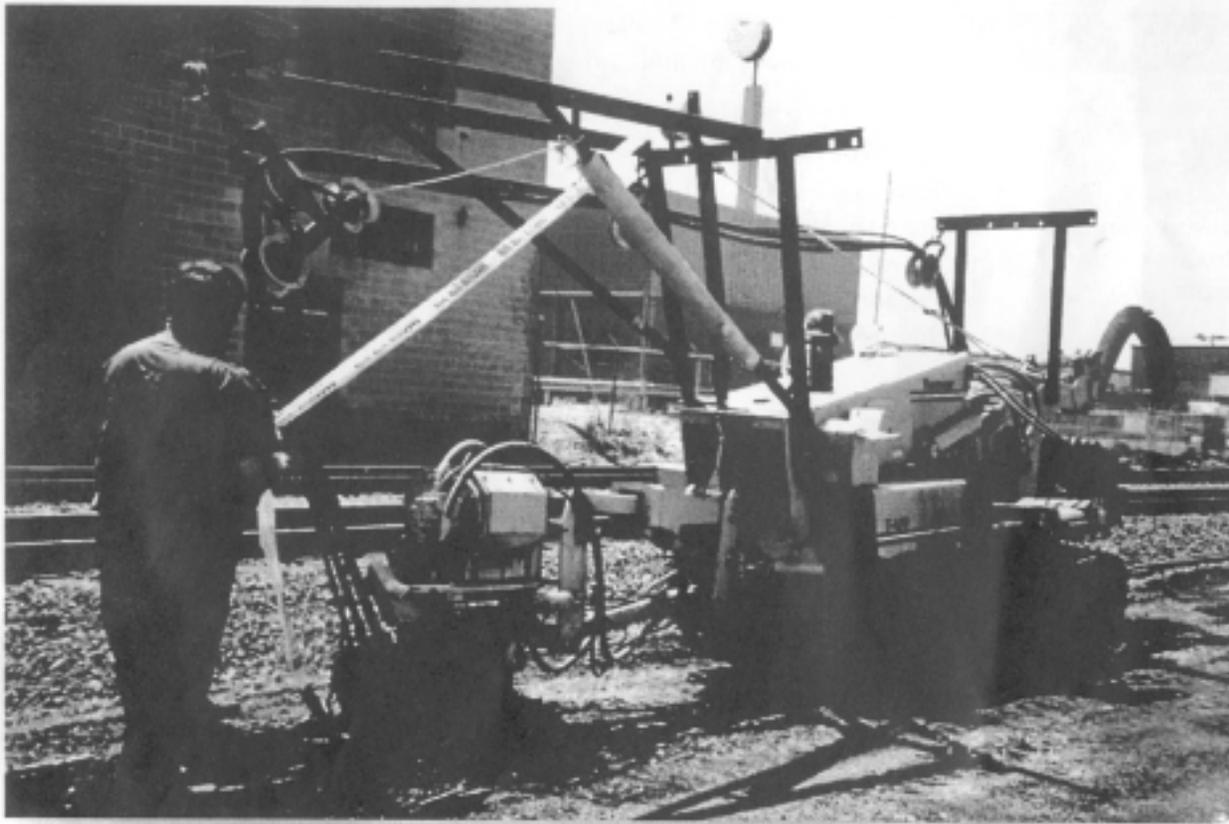
The winning RFP was submitted by WorldCom. Under this agreement, BSDA will receive the use of 20 fibers for a total cost of \$1 a year for the lifetime of the agreement and receives annual lease payments as shown in the table below. The first year's lease payment was expected to total \$90,000. The agreement will last 25 years with three renewal options, and the transit agency controls the access of WorldCom to cable.

Because BSDA is paid by the activated foot, the faster the cable is activated, the more revenue BSDA receives. In future contracts for a ROW lease for the Metrolink expansion, BSDA plans to include an activation schedule, including penalties for slower activation, to protect against revenue loss.

Lease Fees

Year	Payment Per Active Linear Foot
FY 1995	\$1.55
FY 1996	\$1.60
FY 1997	\$1.65
FY 1998	\$1.70
FY 1999	\$1.75
FY 2000	\$1.80
FY 2001	\$1.90
FY 2002	\$2.00
FY 2003	\$2.10
FY 2004	\$2.20

* For succeeding years, the cable rent is tied to the "Consumer Price Index for All Urban Consumers, All Cities, All Items."



Installation of fiber-optic cable

BSDA also receives lease income for the entire year up front. In 1995, the first year of operation, WorldCom activated more cable than expected, and BSDA received \$96,500 (for 62,256 lineal feet of activated cable). By 1997, 10,000 more feet of cable will be activated for a total of \$125,800 in revenue. Over the long term, the ROW lease creates a dedicated revenue stream which BSDA can use for operations or capital expenses or to match future federal grant dollars.

WorldCom's ownership of the cable preserves annual federal operating funds in two ways. BSDA has no cable maintenance costs and does not need to employ any fiber-optics experts since it relies on the MFS WorldCom for the expertise.

Financial Results

The number one goal of BSDA for this lease was to preserve FTA funds during the Metrolink construction. The public-private partnership has enabled BSDA to save \$206,000 of the FTA capital grants and the associated 20% local match because BSDA did not have to purchase the cable itself. This grant money can be used for other essential capital costs that BSDA incurs.

Lessons Learned

The example of BSDA demonstrates how ROW can generate revenue for a transit system from the telecommunications industry during a period of expansion and beyond.

BSDA has proven that a transit agency can find a private company to

- purchase fiber-optic cable,

- install the cable,
 - make lease payments for ROW in which to lay the cable, and
 - maintain the cable
- in connection with a rail transit system.

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Joint Development

**Washington Metropolitan Area Transit Authority
District of Columbia**

**Metro-Dade Transit Agency
Miami, Florida**

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Joint Development

Summary of Federal Register Notice: March 14, 1997 (Volume 62, Number 50)

The policy enacted permits transit agencies to retain all rent from joint development on land acquired with federal funds and applies to all transit property (even land that was acquired prior to its enactment). Each joint development project must create a revenue stream or single payment for which the present value exceeds the fair market value of the property. The transit agency must also retain control over the property and development through easements, contract clauses, deed restrictions, or other methods. The market value of the property is determined via the appraisal method of "highest and best transit use." Highest and best transit use means that the joint development project is the best project for the transit agency in terms of ridership generation, community needs, and revenue.

To be eligible, FTA requires that each project:

- includes a transit element,
- involves development or other private investment, and
- allows individuals using the development to easily access transit.

Transit agencies often have significant holdings of property in high-rent, downtown areas and can use joint property development as an additional revenue source. Developers will pay transit agencies for permission to build retail, commercial, and residential structures on transit land. Up until 1997, transit property bought with federal dollars could only be used for transit purposes (otherwise the federal funds reverted back to the United States Treasury). Recent policy changes by FTA have made joint development more feasible. FTA now considers revenue from joint development as income that transit agencies can keep — without jeopardizing the revenue stream generated.

"Recent policy changes by FTA have made joint development more feasible by changing the rules regarding the use of land purchased with federal funds."

In this case study, we examine two joint development programs. The Washington Metropolitan Area Transit Authority (WMATA), serving the Washington, D.C., metropolitan area, has been undertaking joint development projects since the 1970s. The Metro-Dade Transit Agency (MDTA) provides transit service to the Miami metropolitan area. The joint development program in Metropolitan Dade County (Dade County) is much smaller and provides insight for transit agencies that want to establish a joint development program.



Washington Metropolitan Area Transit Authority

Background

WMATA provides bus, paratransit, and heavy rail service to Washington, D.C., and suburban jurisdictions in the states of Virginia and Maryland. During its heavy rail system (Metrorail) construction in the 1970s, WMATA initiated its joint development program. Since that time, its portfolio of projects has grown significantly to include developments at 15 stations.

WMATA defines joint development as a lease of agency land near rapid transit stations. The transit agency actively solicits joint development projects for its heavy rail stations. These projects encourage joint development through the leasing of land and air rights over stations or connection and cost sharing agreements with properties on non-WMATA owned land surrounding the transit stations. In exchange for building a connection to a WMATA station, property owners grant WMATA easements, contribute to station construction costs, and pay annual connection fees. This development strategy increases ridership and therefore farebox revenue providing WMATA with an income stream through lease payments.

Agency Profile	
Service Area	Washington, D.C. Metropolitan Area
Modes	Bus, Heavy Rail
FY96 Operating Budget	\$654.8 million
FY96 Capital Budget	\$576.6 million
Annual Ridership	
Bus	107.8 million
Heavy Rail	145.7 million
Revenue Vehicle Miles	
Bus	41.2 million
Heavy Rail	43.4 million
Fares	
Bus	\$1.10
Heavy Rail	\$1.10

WMATA's joint development program has three goals:

- increase ridership,
- create new revenue sources, and
- help the localities "recapture a portion of past financial contributions and continue making



subsidy payments by expanding the local property tax base by adding value to local revenue."¹

Implementation

During land acquisition for Washington, D.C.'s heavy rail system, WMATA acquired all property anticipated for future expansion. This policy saved money in the long term because land was steadily increasing. The land purchases were funded from four sources:

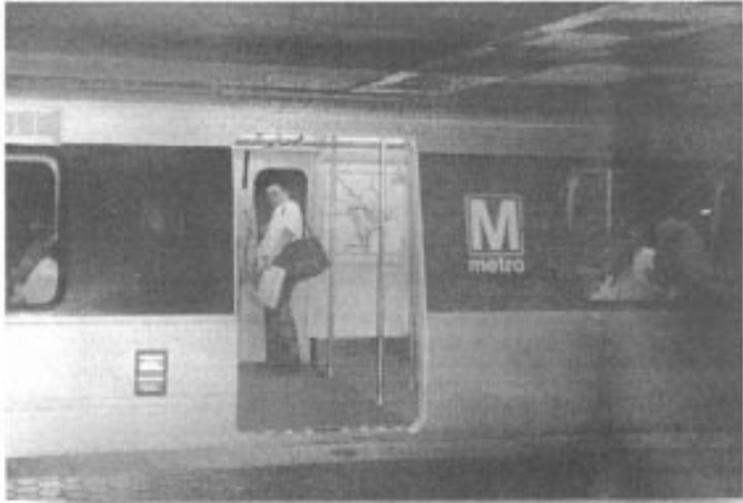
- a direct congressional appropriation (2/3 federal and 1/3 local match),
- bonds,
- Highway Transfer Funds, and
- Stark-Harris Funds.

Unlike the FTA/UMTA funds used to acquire land for most transit systems, none of this money was required to be returned to the U.S. Treasury if the land was not directly used for transit (according to pre-1997 federal transit policy).

During the construction of the Rosslyn Station in Arlington, Virginia, a developer approached WMATA, proposed development over part of the station, and asked for the air rights to land that was being used as a bus turnaround. This agreement became WMATA's first joint development project.

In the mid-1970s, a developer approached WMATA for a land lease to construct a building

Service area



over the Farragut North Station. The developer proposed an office and retail complex with no parking; tenants would need to use the rail system. This lease now generates \$600,000 per year for WMATA, and payments will be increased to \$1 million in 2000. This successful project opened the eyes of Washington developers to the value that proximity to the Metrorail system can bring to a location.

Soon developers were lobbying the WMATA board for joint development at many rail stations, and the board decided to establish formal joint development procedures. In 1994, WMATA made a serious effort to define the future of the joint development program as cuts in federal funding made joint development revenues that much more important. In 1995, a committee decided that the program needed to be more private sector friendly with fewer procedures and shorter project review time.

Program Structure

Four parties are responsible for joint development at WMATA: the WMATA Board of Directors, the general manager and staff, localities, and developers.

The WMATA Board oversees and approves the *Joint Development Work Program* in addition to any other agreements with developers. The WMATA general manager is responsible for the program's management and administration. The local jurisdictions help plan and coordinate the projects, comment on and review the *Joint Development Work Program* and RFPs, and assist WMATA in conducting joint development studies. The developers propose (or respond to an RFP for) a development and help with station area planning.

The Joint Development Work Program

WMATA and the local jurisdictions annually prepare the *Joint Development Work Program* which lists

"During the construction of the Rosslyn Station in Arlington, Virginia, a developer approached WMATA, proposed development over part of the station, and asked for the air rights to land that was being used as a bus turnaround. This became the first joint development project."



This development at the Ballston Station includes condominiums, a Hilton Hotel, retail shops, the heavy rail station, and a bus transfer facility. It generates \$400,000 per year in guaranteed rent.

all joint development sites, their descriptions, and their current status. To gather the necessary information, WMATA performs physical inspections and evaluations

"WMATA collects nearly \$6 million in joint development revenue each year."

of each site. By March 31 of each year, the WMATA Real Estate department writes a draft *Joint Development Work Program*. The localities have 15 days to review the

program and submit comments to WMATA, which incorporates the comments into the document. Finally, the General Manager approves the document by June 1, and the WMATA Board of Directors approves the work program and allocates funding by June 30.

The Request for Proposal Process

WMATA typically issues an Offering Document, or a Request for Proposals, for Development. This document is prepared by WMATA, but also includes comments from local jurisdictions. After being approved by the general manager, the RFP is advertised to the public in local and national newspapers for two weeks. WMATA holds a pre-proposal conference during the preparation period, 30 to 90 days from the date of the initial offering. A contracting officer is assigned and appoints a panel which recommends the best proposal. The criteria examined are



This exit from the Metro Center Station leads to a Hyatt hotel, convention center, and office building.

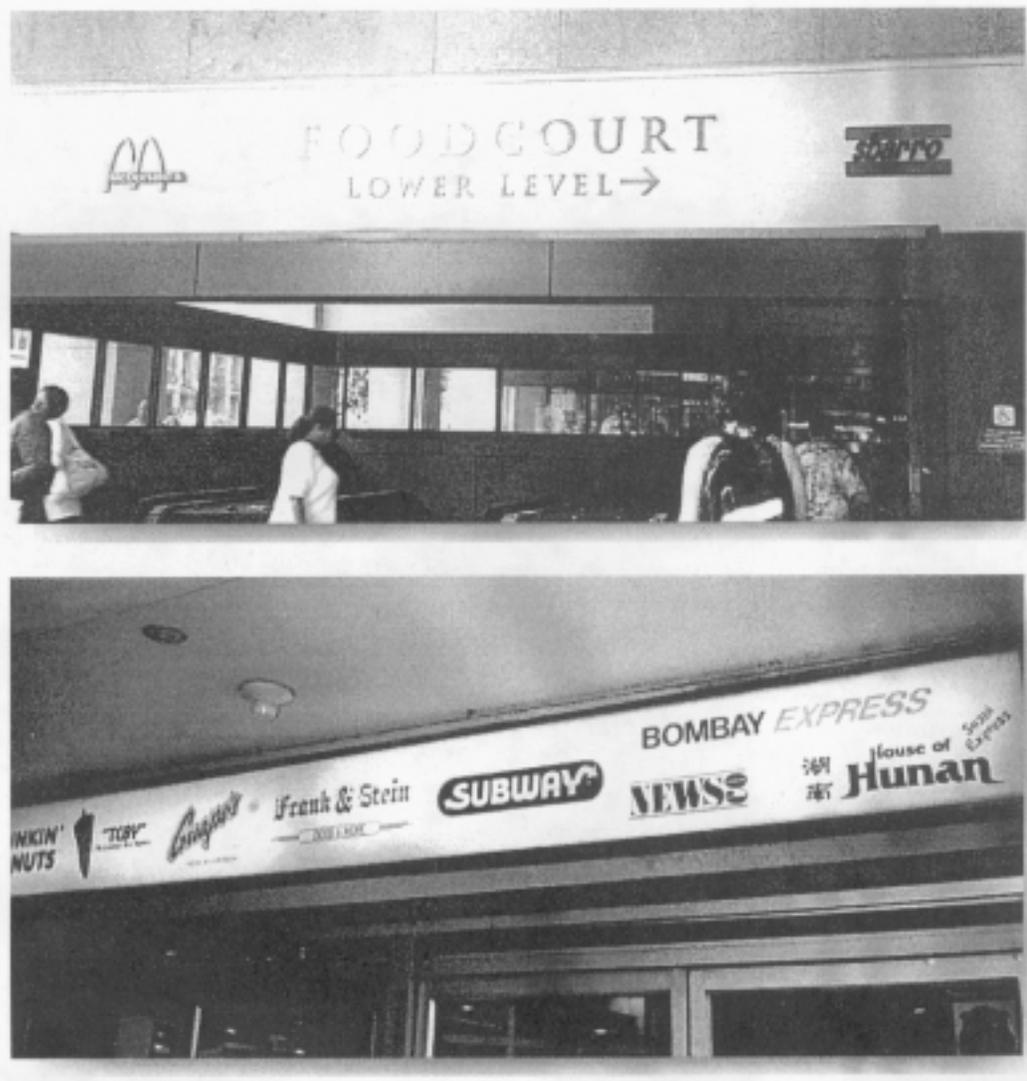
- financial viability of project (based on proposer's financial capability, resources, and experience),
- effect on ridership, and
- amount of revenue generated for WMATA and the local jurisdiction.

The information that WMATA requests is:

- **Business structure of proposer;**
- **Project organization:** organization chart, resumes, and description of the responsibilities of subcontractors;
- **Business experience:** references, material on similar projects undertaken, and major tenants in current projects;
- **Financial capability:** credit references, audited financial statements, and sources of debt and equity raised for earlier projects;
- **Financial proposal:** financing structure, letters of financial support from financial institutions, breakdown of project costs, ten year pro-forma cash flow analysis, planned use schedule, and assumptions;
- **Transportation effects:** ridership forecasts, trip generation, and circulation plans within the development;
- **Local tax base effects:** taxes generated, jobs created, location and description of amenities, and the cost of transit facilities provided by the developer; and
- **Revenue for WMATA:** structure of WMATA's share of the revenue.



This development at the Friendship Heights Station paid 10 years of its rent up-front.



This exit from the Farragut North Station leads to a food court.

WMATA then negotiates with the best offer(s). The board makes the final determination of the winning proposal and contract.

Contract Structure

The initial lease term for most projects varies from 50 to 60 years with an option for renewal to a 99-year term. Rent is structured to include guaranteed revenue and "bump up rent." Because the lease is unsubordinated, the guaranteed portion of this revenue is received by the system, even if the developer declares bankruptcy. The "bump up rent" is paid for premium locations (such as downtown stations) so that WMATA can realize the increased value to its property as the downtown area develops into prime real estate space. Developers can pay rent up front or annually. WMATA invests the up-front rent payments and receives 10-15% interest annually on these holdings.

Financial Effects

WMATA collects nearly \$6 million in joint development revenue each year for a total of \$60 million since the program began. Additional revenues of \$55 million are anticipated through 2002 based on the development of new projects.

In addition, new development at downtown and suburban stations has increased ridership which leads to additional passenger revenue. Downtown developments provide model splits of more than 60 percent transit and 25 percent in the suburbs. Research shows that a 20,000-square-foot downtown office building generates 300,000 trips annually, which provides WMATA with \$500,000 in revenue.

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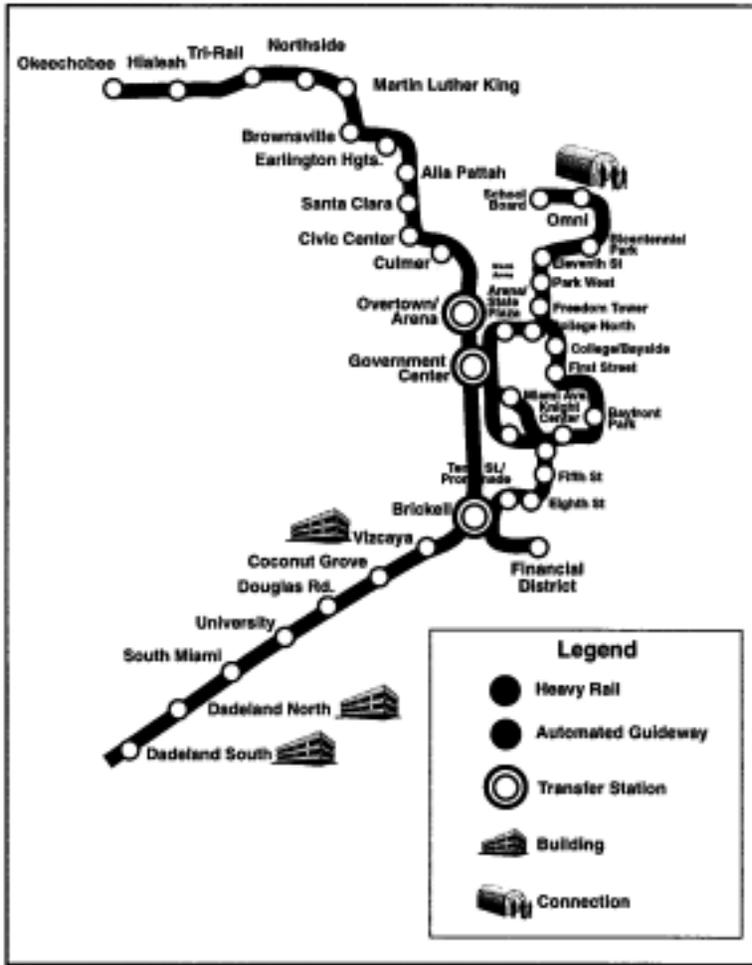
Metro-Dade Transit Agency

Background

MDTA, the local transit provider for the Miami, Florida metropolitan area, is a department within the Dade County government. The agency provides bus, demand response, heavy rail (Metrorail), and automated guideway (Metromover) transit for Dade County. During construction of the Metrorail system, MDTA purchased excess land around many of the stations. When considering development on this land, MDTA works with local municipalities to determine the zoning and building codes. MDTA leases the excess land at these rail stations to private sector developers and uses the revenue generated by the development to support the transit system.

In the past, MDTA's joint development program was reactive. The agency waited until the real estate market in the station's area attracted developers' interest before soliciting joint development projects at a transit station. Only after MDTA was approached by developers would its leasing department request proposals for joint development projects. MDTA currently has three contracts for joint development projects: two with for-profit developers and one with a non-profit entity.

Agency Profile	
Service Area	Metro Dade County
Modes	Bus, Heavy Rail, Automated Guideway, Demand Response
FY96 Operating Budget	\$198.9 million
FY96 Capital Budget	\$43.6 million
Annual Ridership	
Bus	61.4 million
Heavy Rail	14.4 million
Automated Guideway	4 million
Demand Response	850,000
Revenue vehicle miles	
Bus	22.9 million
Heavy Rail	5.9 million
Automated Guideway	844,000
Demand Response	8 million
Fares	
Bus	\$1.25
Heavy Rail	\$1.25
Automated Guideway	\$.25
Demand Response	\$2.50



Service area



Most land surrounding the Dadeland Mall (pictured here) is already built up, with little room for further construction.

Implementation

In 1978, Dade County passed an ordinance which establishes a Rapid Transit Zone along the entire length of the heavy rail system. This zone is controlled by the county, but local jurisdictions are included in development negotiations. The ordinance defines the Dadeland Subzone and discusses the mixed use developments allowed. After this ordinance was passed, MDTA created an Office of Leasing which employs five people who manage and market the joint development sites.

The Dadeland South Site

The first joint development project that MDTA became involved in is located at the Dadeland South

The goal of the joint development program is to increase:

- density around stations,
- system ridership, and
- revenue.

Station. During the construction of the system, MDTA needed to purchase land for this station. A developer, Green Dadeland Station, Limited, owned the land and proposed a "land swap" with MDTA. The developer donated the land to the transit agency in exchange for the right to develop a hotel, office complex, and retail stores on the site. The developer also financed and built a 1,650-space parking garage. MDTA owns 1,000 spaces and the remaining 650 are reserved for the office complex. Because the spaces were financed through the developers issuance of development bonds, the bond issue did not count against MDTA's debt financing limits.

The Dadeland North Site

The Dadeland area is built up with shopping sites, offices, and car dealerships and is convenient to suburban residents. The area's main attraction is the Dadeland Mall, the busiest mall in the southeastern United States. Due to lack of other available space in the area and proximity to Metrorail, MDTA was approached by developers who wanted to build on the station site.

After this show of interest by developers, MDTA issued RFPs for joint development in timed stages: the project has a number of phases, and the developer has a time limit for how long it can take to build each phase.

Program Structure

The Dadeland South Project

The Dadeland South Station development, called the Datran Center, began in the early 1980s and is a four-phase project:

- Phase I — hotel,
- Phase II — retail shopping center,
- Phase III — offices, and
- Phase IV — convention center.

The first three phases are complete. The developer pays the complete costs for the development's construction and maintenance; MDTA receives rent for the property.

The Dadeland North Project

The second project, at the Dadeland North station, is a three-phase project:

- Phase I — retail shopping center,
- Phase II — hotel, and
- Phase III — offices.

In 1994, the developer and MDTA signed a land lease contract for this development. The lease runs from 1994 to 2093. Phase I must be built within 5 years of the contract signing, Phase II within 10 years, and Phase III within 15 years, but each phase will probably be built much sooner due to demand in the area. Phase I opened in Fall 1996.

Financial Structure

In order for the developer to recover cost and profit, these leases are for a 99-year term. For each development, MDTA receives the greater of a guaranteed minimum rent or a percentage of the gross profits, both of which increase over time. The lease payments are unsubordinated. The following examples illustrate the financial arrangement for the Dadeland North development:



The Dadeland South Station development consists of a hotel, two office buildings, and shops on the lower level. A convention center will be built here in the future.

Datran Center generated nearly \$900,000 in property taxes. When all phases of the Dadeland South development are completed, it will generate \$1.3 million in property taxes a year. When the leases expire, Dade County will own all improvements made to the site throughout the lease period.

The developers lease the ground space from MDTA and sublease the retail space to tenants at fair market value. MDTA approves the subtenants to make sure that they comply with all county laws (*e.g.*, equal opportunity laws). The retail stores at Dadeland South include a travel agency, gift shops, and restaurants. The retail mall at Dadeland North is multi-level shopping center with nationally known stores such as Bed, Bath, and Beyond; Sports Authority; Michael's; Best Buy; and Target. Dadeland South has a Marriott Hotel, and a high-end hotel is planned for Dadeland North as well.

- Guaranteed minimum rent: in 1995, \$100,000; in 1998, \$350,000;
- Percentage of the project's gross income: for the first \$7 million, 5%; between \$7 and \$10 million, 5½%; and over \$10 million, 5½%.

In addition to being a source of revenue for MDTA, the developments generate significant tax revenue for Dade County because the developers pay all property taxes associated with the improvements that they build. In 1996, the



The Dadeland North Station development is currently a shopping center. In the future, a high-end hotel and an office building will be built here.

Joint Development with a Non-Profit Organization

Site Background

In December 1996, MDTA signed a contract for a land lease at the Vizcaya Metrorail Station. The station neighborhood is primarily residential, but located in the immediate station vicinity are two museums: the Miami Museum of Science & Space Transit Planetarium and the Vizcaya Mansion Museum (Vizcaya may expand its holdings to build a petting zoo in the area as well). To walk to the museums from the Metrorail station, rail customers must cross a pedestrian bridge over U.S. Highway 1, a main thoroughfare for the Miami area.

The Miami Children's Museum, a non-profit Museum, is currently located in a shopping center but wants to find a permanent site where it can construct its own building. The Museum contacted MDTA to discuss joint development at the Vizcaya Station. Proximity to other museums and the Metrorail stop were factors in Children's Museum's decision to seek this location.

At the station, MDTA currently has a 104-space, 50,000-square-foot parking lot; 4 bus bays; and 30 kiss and ride parking spaces. Since park-and-ride customers only use 30 to 40 spaces of the 104 available during the day, there is currently a parking surplus at the station.

Contract Structure

MDTA is leasing the museum 25,000 square feet of land for 50 years for \$1 per year. The goal of MDTA for this project is not revenue, but increased ridership (*e.g.*, school trips on rail to the museum) and the creation of a museum hub. The Children's Museum is building a 50,000-square-foot facility and must replace any of the parking spaces that are destroyed during construction. The Museum must also build any additional parking for its own needs.

As with the other joint development projects, the Museum will pay all required taxes, and MDTA will own the building at the end of the lease period. The Museum will decide where on the station property to build its structure, but the location and building design are subject to approval by MDTA. MDTA and the Museum will share in the revenues of any for-profit organizations (*e.g.*, fast food restaurants or bookstores) which locate in the Children's Museum building. This entire agreement was reached in under a month from the time the Museum approached MDTA.

The developers want to attract both the rail riders and non-rail customers. Thus the stores have found it profitable to extend their hours to cater to Metrorail passengers. For example, Target, a large, all-purpose, discount department store opens at 8 a.m. and closes late so that rail riders can purchase merchandise either on their way to or from work.

The shopping centers, office buildings, and hotel advertise their proximity to transit. For example, the Dadeland Marriott advertises that customers can easily travel to the Bayside Marketplace, a downtown shopping and entertainment center, from the hotel using Metrorail.



MDTA included transit access to the development in the lease arrangement for Dadeland North. The result is a pedestrian-friendly, covered walkway.

Problems

The process of putting together a standard commercial lease and making sure Disadvantaged Business Enterprise (DBE) requirements are fulfilled is time-consuming. There are also numerous government regulations with which to comply.

Station Access

One of the lessons that MDTA learned from the Dadeland South development is that development at transit stations needs to be user-friendly to attract transit system customers. Unfortunately, the Dadeland South Station development was built without consideration for transit customers. When rail customers exit the transit platform, large walls and escalators discourage entry into the mall, and elevators are needed to access the hotel. To remedy this problem in subsequent development, MDTA will include specifications for transit access in the development contract (as it did for Dadeland North).

When these projects are completed, heavy rail customers will walk out of the station and see the buildings in the development; the environment will be transit-friendly.

In the past, successful joint development projects have required MDTA to be reactive to markets. Developers know the market and approached the transit agency with unsolicited proposals. In the 1990s, MDTA must be proactive in its joint development program. However, before issuing an RFP, any transit agency interested in joint development should obtain the consensus of the development industry as to what type of projects will work.

Maximizing Revenue

In its first agreement, MDTA did not include penalties for finishing phases late. As a result, the developer did not complete construction on schedule. MDTA therefore lost income (through the percentage of gross sales provision). In the subsequent projects, MDTA has included provisions for late construction penalties. At Dadeland North, if any phase is delayed, the developer must pay the transit agency \$20,833 per month (which is equal to \$250,000 for the entire year) until the construction has been completed. MDTA indexed this payment to inflation.

Development Sale Requirements

After an agreement was reached for the Dadeland South site, the developer sold the rights to develop Phases I, II, and III. MDTA received the rent as expected, but did not receive any portion of the developer's profits from the sale. In the Dadeland North project, if the developer sells the development rights, MDTA receives five percent of the payment that the developer receives.

Lessons Learned

The experiences of WMATA and MDTA have demonstrated ways that transit agencies can realize many benefits from a joint development program, including increased

- local tax and transit system revenue,
- density at stations, and
- ridership.

Joint development creates activity centers at transit stations which generate ridership-associated revenue. Another benefit of joint development that is often underrated is that the tax revenue from the development is paid to local jurisdictions. This revenue can then be returned to the transit system in the form of local subsidy payments. The Dadeland North development in Dade County is expected to generate \$1.3 million in local property taxes. Thus this single rail station development will generate over 3% of the local general revenues that support the transit system.

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Endnotes

- 1 *Joint Development Policies and Guidelines*, WMATA.

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Commuter rail train, courtesy of the Virginia Railway Express

Demand response vans, courtesy of the Arkansas Highway and Transportation Department

Local Taxes

RTC service area map, courtesy of the Regional Transportation Commission

The T's service area map, courtesy of the Regional Transportation Commission

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Pullman Transit service area map and bus, courtesy of Pullman Transit

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Station Concessions

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Leasing of Right-of-Way

Cable installation and light rail train, courtesy of Bi-State Development Agency

Joint Development

WMATA service area map and developments, courtesy of Washington Metropolitan Area Transit Authority

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