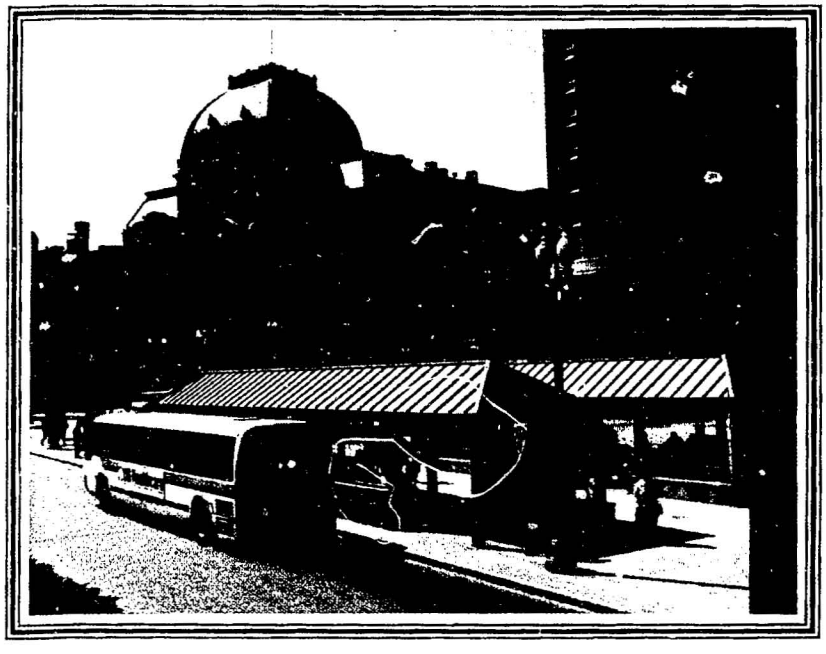
INNOVATIVE FINANCING TECHNIQUES

for

America's Transit Systems



Federal Transit Administration

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Paul L. Marx
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U.S. Department
of Transportation
**Federal Transit
Administration**

Administrator

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C-98-06

Dear Transit Colleague:

I am pleased to present "Innovative Financing Techniques for America's Transit Systems." This handbook summarizes much of FTA's experience in implementing its Innovative Financing Initiative. This initiative was undertaken in response to the President's Executive Order 12893 on Infrastructure Investment. The Executive Order stated, in part, that :

> *"Our Nation will achieve the greatest benefits from its infrastructure facilities if it invests wisely and continually improves the quality and performance of its infrastructure programs."* (William J. Clinton, January 26, 1994)

To implement the Executive Order in times of increasing budget austerity required that innovative financing techniques be developed and tested, to allow as much leverage of local public and private funds as possible. This handbook presents the most widely used techniques, in some detail, and addresses some of the issues that transit operators should consider when applying these techniques to their own transit operations.

As we prepare for the next transportation reauthorization, which will take us well into the next century, we must use every means at our disposal to stretch every dollar -- make it do as much as possible -- to ensure the continued vitality of our transit systems. This handbook may help us to do just that.

Sincerely,

Gordon J. Linton

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Introduction

The Federal Transit Administration has approved a broad spectrum of innovative financing techniques for use by transit systems in managing their capital and operating programs. Transit systems nationwide have realized significant benefits from these techniques, but this experience has been neither uniform nor widespread. Some of the techniques may have application limited by transit system size, by State law, or a specific aspect of the technique. External factors (such as interest rates) may enhance or reduce the usefulness of some techniques. Some innovative methods may only be in their infancy. This handbook is intended to provide a snapshot of the innovative financing techniques that are available to transit systems today, as well as a prospective look at techniques that may become increasingly important over the next five years. The handbook will summarize FTA's experience to date and provide detailed examples of the more complex transactions.

The purpose of this handbook is to encourage transit systems to examine innovative financing methods in support of their capital and operating programs. The techniques included in this handbook only represent the transactions that FTA has reviewed and approved. Future tax law changes, the general business environment, or unique local conditions may create additional opportunities for new financing mechanisms. FTA will review any innovative financing techniques proposed by grantees, whether they match the ones in this handbook or not.

Innovative Financing in Transit

Public investment in urban mass transportation is not new in America. State and local governments began such programs in the late nineteenth century. Passage of the Urban Mass Transportation Assistance Act of 1964 made the Federal government a major partner in the overall effort. From the late 1970's onward, various forms of innovative financing have been available that promise to leverage these public resources and help bring the Nation's urban and rural mass transportation systems up to a common standard of public service.

Innovative financing techniques first developed around efforts to use provisions of the tax code to save money in fleet acquisitions. These provisions allowed transit systems to establish "safe harbor" leases with private investors. Until they were effectively outlawed by the Tax Simplification Act of 1986, Safe Harbor leases allowed tax-exempt municipal entities to transfer depreciation on their capital assets to a taxable entity, through a lease structure. The assets would then be leased back from the investor at a rate that reflected the investor's tax benefit from depreciation on the rolling stock--a cost saving to the transit system of between 5% and 10% of the equipment's value. The cost savings allowed the transit systems to purchase additional rolling stock, thus helping to modernize their fleets, while making regular and predictable payments for their rolling stock purchases.

Another area that was explored was Joint Development. Large transit systems sometimes held land adjacent to passenger facilities that could be used to build shopping centers or office buildings; they were encouraged to sell or lease such properties to generate revenue for the transit system. While this was essentially limited to the largest, rail-based transit systems serving dense urbanized areas (such as New York, Philadelphia, or Washington, D.C.), it also proved to be effective in new "Edge Cities" like Rosslyn, Virginia, and Bethesda, Maryland. In exchange for a cash payment,

the transit system either provided direct access to a development for its patrons, or sold or leased the property required to make a development possible. A sharp downturn in land values in the 1980's severely limited joint development activities. However, FTA has revised its Joint Development Policy to encourage such developments and to minimize Federal barriers to the process. FTA's new policy will be discussed in Chapter 3 of this handbook.

Changes in U.S. tax laws and cycles in the general economy coincided with increasing pressures on the Federal budget. By extension, this pressure was reflected in reduced transit capital programs during most of the 1980's, reviving interest in the concept of Innovative Finance. By the end of the 1980's, transit systems had begun to experiment with cross-border leases--a form of safe-harbor lease, but one involving foreign investors. Because the depreciation rights were being exercised under the tax codes of other countries, while remaining tax-neutral in the U.S., FTA was able to approve these transactions. Cross-border leases and other lease structures will be explained in greater detail below.

The President's Infrastructure Investment Initiative of 1992 pressed for the development and dissemination of even more innovations in infrastructure finance. The Secretary of Transportation, therefore, initiated the Partnership for Transportation Infrastructure, a national program to develop and demonstrate public/private partnerships in the design, construction and financing of transportation projects of all kinds. Under this initiative, FTA issued a Federal Register Notice in May of 1995, seeking proposals for innovations in transit finance. Over 72 proposals were received in reply to the Notice. FTA funded eight of these projects with a total of $2.6 million in Federal funds. That funding was leveraged three times over through matching funds, borrowing, and project revenues, resulting in non-Federal investment of over $7.3 million. These projects are summarized in Chapter 6.

The latest innovation in transportation investment was made possible through the National Highway System Designation Act of 1995. That Act authorized the State Infrastructure Bank (SIB) pilot program. It created a new entity that would be allowed to receive Federal grant funds and use them to make loans and loan guarantees for transportation projects. The entity would function at the State level, and would be allowed to support both publicly and privately managed highway and transit projects. This program was opened up to all fifty states and Puerto Rico in the FY 1997 Appropriations Act. SIBs will be discussed in detail in Chapter 5.

Bi-State Development Agency, St. Louis, MO

Over the years, Innovative Financing in transit has grown as a concept from simply taking advantage of opportunities presented by others to actively seeking new partners and methods for structuring long-term capital programs. Thus major investments are being planned today with the use of Grant Anticipation Notes, Foreign Exchange Arbitrage, Lease-backed Bonds, and other mechanisms that were barely on the transit horizon just ten years ago. This handbook will conclude with brief descriptions of transactions that were under way as it went to print. While not yet common, these transactions are examples of the degree of sophistication that is rapidly becoming the norm in transit finance. They may point the way to a lasting, mutually beneficial relationship between the private capital markets and cities and their public transit authorities across our Nation.

Chapter 1

COPs and Lease-backed Bonds

Many innovative financing techniques do not generate new revenue, per se, but provide a better match between income and outlay, and thus generate benefits by more effective management of a transaction's cash flow. By filling gaps between revenues and expenses, and allowing more, or larger projects to be undertaken sooner, financing decisions can influence project costs and the timing of benefit streams from capital investments.

Certificates of Participation (COPs) are one mechanism for better matching the flow of revenues and outlays. If an agency must replace 50 buses in its fleet, but only has adequate revenue streams to purchase ten in a year, issuing COPs backed by future flows of Federal and local funds could permit the full replacement acquisition to be undertaken at one time.

The benefits of completing the project on an accelerated basis would be realized in the form of:

- potentially lower unit costs from a larger order size;
- reduced risk of higher future prices due to inflation or changes in environmental or other laws;
- lower operating costs from accelerated retirement of older vehicles and maintaining a more standardized fleet;
- higher quality of service to the public and potentially increased patronage;
- better conformance with mandates for air quality, or service to persons with disabilities;
- net cost savings from interest earned on cash balances.

COPs have been used by municipalities to pay for prisons, office buildings, vehicles, and even parks. Transit agencies in Los Angeles, New York and Denver have issued locally-funded Equipment Trust Certificates, COPs, and Beneficial Interest Certificates

to finance buses. These securities are very similar in type, differing mostly in the specifics of their implementation and documentation.

One of the most recent developments in transit finance is the ability to promise the use of future Federal transit formula grants as partial security for the leases underlying COPs. While it is not possible to pledge such funds formally (doing so would compromise the tax-exempt status of the debt), providers of commercial credit have viewed such promises as enhancing the creditworthiness of the overall transaction, primarily based on the transit system's record of grant receipts over the years. It is now possible for the interest expense associated with lease payments to be reimbursed by federal grants at the 80 percent matching level. The framework for implementing federally-funded COPs transactions flows from FTA's Final Rule on Capital Leases (49 CFR 639, October 15, 1991).

Thus far, all COPs transactions involving FTA grants have funded bus acquisitions and have been issued with maturities of up to 12 years. However, long term, locally-funded COPs have also been used to finance an entire segment of a light rail system.[1] Given the historical experience in applying the COPs structure to finance a wide range of public investments, it is likely that future transactions supported with grant funds will encompass a broader array of capital projects and exhibit variation in maturities.

The following table summarizes a sample of lease-backed COPs undertaken since 1990. The majority of transactions were reviewed by FTA because they involved FTA-funded equipment. Two of the transactions involved locally-funded buses and a maintenance facility, and thus required no FTA approval.

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[1] In 1985, the City of Sacramento issued $29.4 million of COPs to fund the additional costs required to complete the Sacramento Regional Transit District's light rail system. The original project budget was $131.2 million, of which 75 percent was federally-funded. When the cost to complete the system rose to $157 million, the City's share of the total project budget increased from 5.1 percent to 19 percent. The COPs were issued to cover the over-runs.

Certificate of Participation Transactions Since 1990 (Representative sample)				
	Transit System	**Transaction Total**	**Assets**	**Net Benefit**
Oct. 1990	Tri-Met, Portland	$4,500,000	22 Buses	$112,500
April 1992	SRTD, Sacramento	$27,400,000	75 Buses	$685,000
Oct. 1990	MTDB, San Diego	$33,350,000	130 Buses	$833,750
Oct. 1991	LACTC**, Los Angeles	$1,620,000	6 Buses	$40,500
June, 1992	LACTC/SCRTD	$93,450,000	333 Buses	$2,336,250
Dec. 1992	Pierce Co., Tacoma	$6,225,000	27 Buses	$155,625
Dec. 1992	LACTC/Torrance	$2,900,000	14 Buses	$72,500
June 1993*	OCTA	$21,100,000	90 Buses	$615,011
June 1996*	Culver City	$9,660,000	Maint. Fac.	$181,100
Dec. 1996	Caltrain/NSDCTC	$144,000,000	Railcars	$4,900,000
Total Transactions		$344,205,000		$9,982,236
* - Not reviewed by FTA. ** - Now LAMTA				

How do they work?

Thus far, COPs have been issued by state-authorized, tax-exempt entities. Such entities, often called finance corporations, issue bonds to the public, the proceeds of which are used to acquire transit assets. The public is offered three levels of security on these bonds: 1) a lease with the transit system sufficient to redeem the bonds as they mature; 2) a reserve fund sufficient to make at least one scheduled payment; and 3) a promise by the transit system to use subsequent years' grant funds to make the lease payments.[2] The vehicles are leased to the transit system, which makes semi-annual lease payments from a combination of local funds and Federal grant funds. By structuring the debt

[2] The promise to use future years' grant funds carries weight with finance rating agencies largely because of the longevity of the Federal transit assistance program. Many transit systems have received Federal capital grant funding for 20 years or more. While this is no indicator of continued grant receipts, it implies that many economic and governmental processes would have to be in disarray to disrupt the appropriation process.

with a sliding scale of maturities, the Finance Corporation reduces the overall interest cost of the transaction. (That is, each year 1/12th of the bonds mature. The nearest-term bonds have very low interest rates when compared with the longer-term bonds.)

The process usually begins when the transit system has ordered vehicles, or contracted for a facility, which the Finance Corporation undertakes to complete and to pay for. The asset is then leased to the transit provider at terms sufficient to repay the bondholders. The Federal grants that were committed to the original purchase are thus no longer needed for that purchase. The transit system can therefore reprogram the funds for other projects, accelerating their completion by a year or more.

The transit system does need some additional local capital to make this structure work, as the reserve fund (which is deposited in an interest bearing account) usually comes from the local match for the original Federal grant[3]. To reprogram the Federal grant funds, the transit system must provide additional local match. Part of the original grant is used to make the first lease payments, and subsequent years' grant funds are used to make those years' lease payments. The local match in the reserve fund is drawn down over the life of the bonds, providing part of each lease payment.

If Federal grant funds are not available in time to make a lease payment, the transit system must make the payment from its own resources. Thus, it is common for COPs transactions to be based on a December/June or January/July payment schedule, which minimizes the negative impact of possible delayed appropriation of Federal funds.

Direct, Local Impact

A simple calculation can demonstrate the most direct benefits of a lease-backed COPs transaction. Suppose a transit system (or several transit systems) needs to replace 100 buses. At a cost of $300,000 each, that is a $30 million expenditure. But the locality only

[3] Only local funds may be used, because of the restriction on depositing Federal funds in an interest-bearing account. The Treasury considers this arbitrage, and would require revenues thus generated to be turned over to the U.S. Government.

receives about $15 million in Federal grant funds each year. Combined with local matching funds, this amounts to a maximum of $18 million available for the purchase. Issuing $32 million in COPs to finance the vehicle purchase would reduce the immediate impact on the transit system's capital budget, and spread the cost over the useful life of the buses.

COPs Project - Example Cash Flow - the first year

Cost of New Buses	$30.0 million
COPs Issued	$32.0 million
Debt Service Per Year	$ 2.85 million
Local Share of Debt Service	$ 0.57 million
Reserve Fund Required (From local match)	$ 3 million
Annual Federal Funds received	$15.0 million
Annual Federal Funds remaining	$12.72 million
Additional Local Match required	$ 2.54 million
Investable Capital remaining	**$15.26 million**

Thus, after issuance of the COPS, the transit system has all the new buses it needs and it retains a significant proportion of its current and future capital funding for other projects.

Cost savings also result from a larger vehicle purchase at one time, as well as from purchasing the vehicles sooner rather than later. Assuming a mere 5 percent cost advantage from purchasing the buses all at one time, the transit system realizes a benefit of $1.5 million. In addition, if the transit system decided to purchase these buses 10 at a time, it would face a "real" inflation cost of at least $150,000 each year. Thus, the total benefits from this structure sum to over $3 million.

Other Considerations

How are benefits being counted?

The benefits arising from the application of COPs will be more intangible than those attributed to other kinds of leases. How can the value of accelerating capital projects be fully quantified?

Anticipated inflation savings, for example, appear to be subject to interpretation. It is possible that year-to-year cost fluctuations may be more influenced by the level of factory capacity being utilized, ancillary equipment required by mandates (pollution control equipment, and whether or not the vehicles have alternative fuel power plants) than by order size or general inflation. In instances where cost savings from reduced maintenance and parts inventories are indicated, have before-and-after calculations been made to quantify the differences experienced once the new equipment is placed in service?

If COPs are applied to fixed facilities, is the same form of analysis appropriate to apply? Unfortunately, in many cases the issue may not be accelerating a capital project, but whether or not the project is undertaken at all. The benefits to the public from new or improved service are difficult to quantify objectively and are reviewed on a case-by-case basis by FTA.

Working through a methodology to assess objectively the benefits of adjusting capital program outlays by employing COPs should be just one element of a much broader effort to make capital investment decisions in the transit industry on a more business-like, quantitative basis. It is not a matter of FTA approving individual projects, but for the transit industry to have reasonably sophisticated capital budgeting tools for making informed investment decisions at the local level.

How significant is a dedicated revenue source in successfully executing a COPs transaction?

All of the COPs transactions to date have involved agencies with dedicated sales tax revenues. Similarly, most, if not all, of the non-federally supported COPs transactions by transit issuers were undertaken by agencies who have access to dedicated sources of revenue. In one instance, Philadelphia's SEPTA leased commuter rail maintenance facilities at a time when it did not have access to dedicated revenues (which are now provided under Pennsylvania's recent Act 26 legislation). SEPTA's financing had back-up credit support from the City of Philadelphia.

It is likely that an agency without dedicated revenues can meet FTA's financial capacity criteria as well as pass muster with the credit agencies, if it obtains a credit back-up from its principal state and local funding sources. The COPs issue would then be rated primarily as an appropriations risk of the supporting local or state entity providing capital and operating subsidies.

Are grant-related COPS of greater value to large or small transit agencies?

Based upon the transactions closed thus far, it appears that smaller agencies may be deriving proportionately greater benefits from the ability to increase bus order sizes than the bigger agencies. The absolute level of dollars flowing to the smallest transit systems is often insufficient to support economic levels of investment and purchase order quantities. The alternatives for the smaller transit systems are to spread out purchases, undertake joint procurements with other agencies, or wait until adequate funds are "saved-up" to initiate needed projects. All of these options carry with them significant economic disadvantages.

What are the barriers to broader applications of COPs to assets other than buses?

Given the costs, benefits, and procedures already in place for applying COPs to bus purchases, what obstacles exist for the application of this concept to facilities, other

equipment, and more sophisticated rolling stock such as LRVs, locomotives, heavy rail cars, and commuter rail coaches?

The precedents for application of leasing to assets other than buses are well established in both public transit and municipal finance practices in general. For facilities and rail-related assets, the lease term is likely to extend beyond 12 years. For example, Sacramento's COPs for its light rail segment had a maturity of 27.5 years, with two-thirds of the certificates maturing in the last year. This compares to the structure of the FTA-supported COPs transactions closed thus far, with maturities of 12 years and level annual principal payments.

The primary consideration in applying FTA-related COPs to longer term assets is the value added by the formula grant funds. If the financial markets perceive the reliability of formula grants to be limited, and FTA's financial capacity criteria are taken seriously, then higher interest expenses and lower credit ratings may result, diminishing the amount of up-front capital which can be derived by leveraging future formula funding.

Therefore, seeking to finance assets with lives beyond 12 years becomes less of a grant-related consideration and more of a local finance question: is the agency better off issuing lease-type debt on a subordinated basis, or using its senior debt[4] capacity to achieve the most favorable interest rates? The answer will vary depending on the agency's available debt capacity, its credit rating, the nature of its capital investment needs in relation to its anticipated revenues, and market conditions at any point in time. For an agency without a dedicated revenue source, the same questions must be answered by the state, county, city or regional governmental unit that is appropriating the underlying funding.

At the other end of the spectrum, for short-lived assets, it is possible that the format of the "lease vs. buy" cost effectiveness calculation tends to favor purchases. The period

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[4] Senior debt is the first to be repaid in a bankruptcy situation, and is usually rated more highly by financial rating services. However, these services also establish stringent security and earning requirements on the transit agency, to protect the integrity of the debt.

over which interest can be earned on invested balances is reduced, short-term interest rates tend to be lower, and the net present value calculations may not prove to be as attractive. Given the increasingly high technology content of transit equipment, it is important that this potential area of analytical bias be evaluated. Financial structures which encourage rapid deployment of new technologies and system up-grades will become increasingly essential to controlling the costs of transit services, as well as offering improved services to the community. The differences in cost on a net present value basis must be balanced against the high risk of rapid obsolescence associated with new technologies (either as a result of system upgrades, or the exit of a vendor from the marketplace leaving "orphan" equipment behind). Properly factoring the risks of asset ownership into the financing equation may encourage broader use of FTA-supported leases for shorter-lived assets.

Chapter 2

Cross-Border & Domestic Leases

Cross-border and Domestic leases have been undertaken more frequently than COPs, as the following table illustrates. The reason for this may be simply that sale/leaseback structures can be entered into without the assistance of a purpose-designed state entity. The common factor behind most of the transactions in this chapter is a sale and leaseback of significant assets with straight-line depreciation by the investor/lessor, and level lease payments.

Of these transactions, the cross-border lease has been the more frequent--possibly because of its early start. Cross-border leases, including Japanese Leveraged Leases, totalled $1.23 billion in asset value in 19 transactions, and generated $66.9 million in net benefit for transit systems between 1988 and 1996. Pickle, or Domestic sale/leasebacks[5], totalled $1.24 billion on just five transactions since 1994, generating $55.3 million in net benefits. Since over $5 billion in capital expenditures take place each year, FTA expects continued interest in domestic leasing and cross-border leasing over the next few years.

Cross-Border Leases

A cross-border lease is a mechanism which permits investors in a foreign country to own assets used in the United States, lease them to an American entity, and receive tax benefits under the laws of their home country. This mechanism is allowed in the home country because it usually involves assets purchased from that country. Thus, Swedish cross-border leases were done with rail vehicles bought from ABB-Sweden, and German leases were done with rolling stock purchased there. [In both cases, the equipment complied with FTA Buy America content requirements.]

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[5] A new domestic transaction, the Lease/Leaseback or leasehold, is increasing in popularity, and may become more common as cross-border interest rate differentials narrow. See chapter 7 for a brief discussion of this new transaction type.

Cross-border leasing is a financing mechanism that offers an "up-front" cost savings to a public agency acquiring rolling stock or other assets. The level of cash benefit will vary as a result of many factors such as interest rates, duration of the lease, asset type, tax laws faced by the foreign investor/lessor involved, and initial transaction costs.

Table 2

Cross-Border & Pickle Leases Reviewed by FTA					
	Transit System	**Total Value**	**Type[1]**	**Assets**	**Net Benefit**
June 1992	NJT, Newark	$20,000,000	CBL-D	Rebuilt CR	$700,000
Nov. 1991	MDOT, Baltimore	$45,000,000	CBL-D	LRT's	$1,400,000
July 1990	NJT, Newark	$66,000,000	CBL-D	Locomotives	$2,700,000
Jan. 1991	BART, San Fran.	$180,000,000	CBL-F	Pax Railcars	$6,300,000
Dec. 1988	MBTA, Boston	$28,500,000	CBL-G	Pax Railcars	$1,000,000
Dec. 1990	MTDB, San Diego	$53,000,000	CBL-G	LRT's	$1,700,000
June 1991	SRTD, Sacramento	$17,000,000	CBL-G	LRT's	$400,000
June 1988	MBTA, Boston	$28,000,000	CBL-G	Pax Railcars	$1,000,000
Mar. 1990	LACTC, Los Angeles	$28,500,000	CBL-J	LRT's	$1,000,000
May 1989	MTA, New York	$216,000,000	CBL-J	LRT's	$11,900,000
Sept. 1992	SCRTD, Los Angeles	$70,000,000	CBL-J	Meth. Bus	$1,900,000
May 1991	Metro, Seattle	$38,000,000	CBL-J	Dual-Bus	$1,100,000
Jan. 1990	BART, San Francisco	$30,000,000	CBL-S	Pax Railcars	$1,800,000
June, 1995	NYMTA/ConnDOT	118,600,000	CBL-G	Pax Railcars	$4,200,000
Aug. 1994	RTD, San Jose	$19,685,575	JLL	Buses	$580,532
May, 1995	MTDB	$28,000,000	JLL	Buses	$980,000
June, 1995	RTA, New Orleans	$17,000,000	JLL	Buses	$816,000
Sept. 1995	MBTA, Boston	$34,100,000	JLL	Buses	$852,500
Oct. 1995	NJT, New Jersey	$200,000,000	Pickle	Railcars	$10,200,000
Aug. 1995	CTA, Chicago	$831,000,000	Pickle	Railcars	$47,000,000
Sept. 1994	NICTD, Indiana[2]	$23,500,000	Pickle	Pax railcars	$500,000
Sept. 1995	Bi-State, St. Louis	$59,000,000	Pickle	LRT's	$3,835,000
Oct. 1996	MBTA, Boston	$117,000,000	Pickle	Railcars/loc	$5,300,000

[1] JLL is a Japanese Leveraged Lease, CBL is a Cross-border lease, with the following letter indicating Japan, Germany, Sweden, Denmark, or France.

[2] This transaction was not completed.

The foreign owners (lessor) share their tax benefits with the transit agency (lessee) by means of lower lease payments. The transit agency generally will receive the benefit in the form of an up-front cash surplus. After transaction expenses, the net benefit can range from 1.5 - 5.0 percent of the cost of the assets being leased.

There is no cost to the United States Treasury for the tax benefits received by the foreign investors -- the tax revenue loss is absorbed by the government of the lessor's home country. FTA has endorsed cross-border leasing and has issued guidelines which address considerations such as continuing control over federally-funded assets and third party competition (FTA Circular C 7020.1, April 26, 1990). Since 1988, more than $1 billion of transit rail cars, buses and locomotives in the United States have been placed under cross-border leases involving owners in Germany, Japan, France, Sweden and Denmark.

To date, cross-border transactions involving the transit industry have financed new and used locomotives, rail cars and buses. It is possible that in the future assets such as telecommunications, signal and fare collection systems may be financed through cross-border leases.

Due to the complexity and transaction costs associated with cross-border leases, purchases of at least $20 million are generally required. Attempts to standardize documentation, arrange leases through manufacturers, and simplify transaction structures may permit this threshold to decline in the years ahead. The possibility for pooling arrangements that aggregate smaller equipment acquisitions will increase as transactions become more standard.

The latest development in cross-border leasing activity, while of relatively short duration, provides an indication of where the transaction may be going. From 1991 to late in 1996, there was a significant imbalance in interest rates and rates of (nearly) risk-free return for comparable investments between Japan and the U.S. This led some Japanese investors to seek cross-border leases of buses through U.S. subsidiaries of

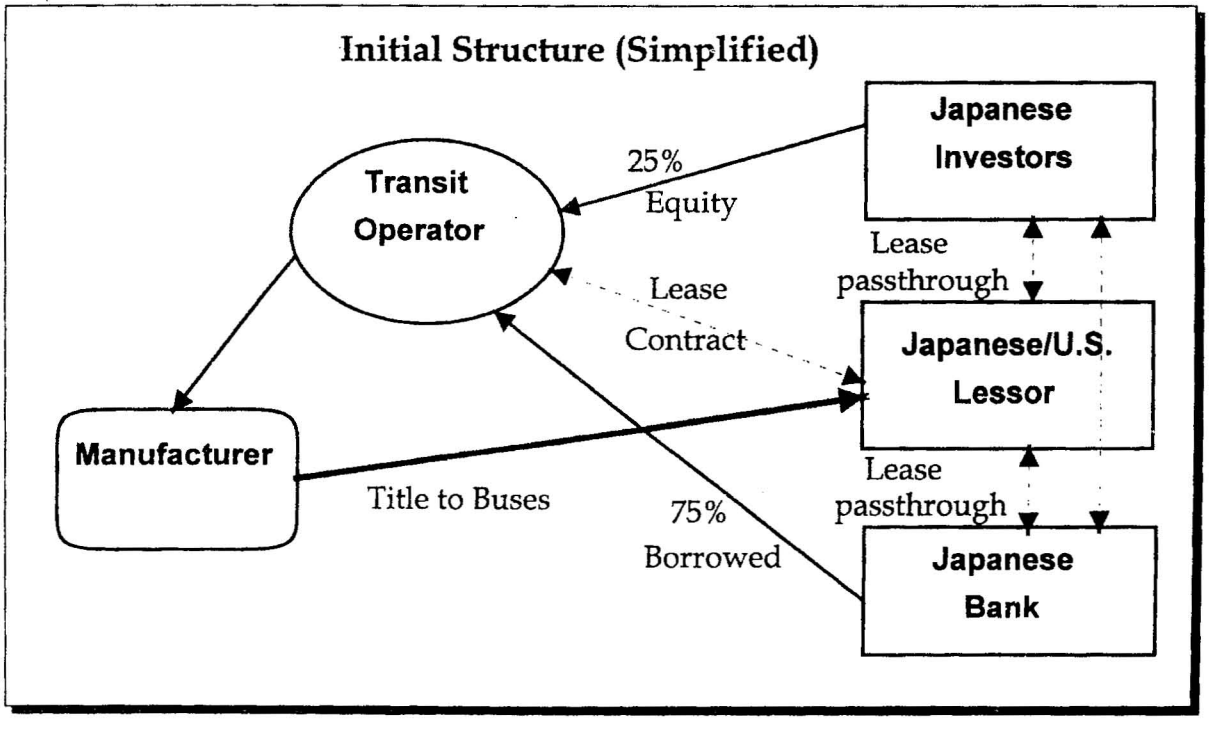
Japanese banks. The relatively short term of these leases, the nearly risk-free nature of the structure, and depreciation capabilities under the Japanese tax code made these transactions attractive for a time. Recently, however, land and development assets in Japan have devalued, leading to a reduction in investable capital. We do not expect many more Japanese Leveraged Leases in the next few years.

In other words, the major factor underlying cross-border leases now, rather than the origin of the asset, is interest rate differentials. In Europe, the other major market for cross-border leases, the approach of a single European currency is narrowing interest rate differentials with the U.S. Thus, we also do not expect many cross-border leases from this area either, unless they are linked directly with an export item.

How Do They Work?

When the new assets are delivered, the transit agency uses its local funds and federal grants to pay the manufacturer.

Chart 1



The transit agency then sells the assets to the foreign owner (lessor) in exchange for an amount equal to the value of the equipment (arrows from investor and bank). The manufacturer actually delivers the assets to the transit system in the name of the lessor. As the transit operator (lessee) makes the lease payments, the lessor passes through the revenue to the investors and the investor bank. At the end of the lease a purchase option permits the lessee to acquire title to the asset for a nominal payment.

The value of the underlying assets is determined by appraisal or manufacturer's invoice, and may, in some cases, include "buyer-furnished" equipment, such as radios, fare boxes and Automatic Vehicle Locator equipment, and additional agency costs incurred for conducting the procurement, monitoring manufacture and completing the acceptance process.

The foreign investors capitalize the lease through investor equity and borrowing. About 20 - 25 percent is derived from equity and the balance is borrowed. The return on the equity invested is primarily from the tax benefits arising from depreciation of the assets and interest paid on the lessor's debt. Other sources of return include the cash flow derived from ongoing lease payments and the eventual purchase option payment, as well as any up-front fees received. Lease payments are used to retire the debt portion of the lessor's capital contribution.

The up-front benefit is retained by the transit system and the balance typically is deposited in interest-bearing bank accounts to legally or economically "defease[6]" future lease obligations. Currency swap arrangements are made at the time of closing to protect the lessee from foreign currency fluctuations. In defeased transactions, the "spread" between the cost of funds borrowed by the lessor and interest earned by the deposit made by the lessee is "locked-in" through investment agreements. The investment agreements protect the lessee from the risk of interest rate fluctuations over the term of the lease. However, this protection comes at the cost of a reduction in

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[6] "Defease" means to bank sufficient proceeds from the transaction to cover lease and loan requirements. This may also be accomplished through the purchase of an annuity.

benefit levels. The higher interest cost paid for the borrowed funds compared to the interest earnings on the defeasance deposit produces negative arbitrage (also referred to as "defeasance drag") which reduces up-front benefit levels. Lease structures where interest rate risks are not defeased are called "true-funded."

Under a defeased structure, lease payments are then disbursed from the bank accounts holding the balance of the funds initially paid by the lessor.

"Defeasance" of the lease payments through the deposit arrangements permits the transit system to minimize its currency and interest rate risk exposure, as well as provide evidence to FTA of continuing control over the federally-funded assets even though title is held by a foreign lessor.

Japanese transactions are most sensitive to title issues and require that the lessee (transit agency) not have assumed formal title to the property prior to execution of the transaction. This consideration may result in transit lessees having to establish temporary title "warehousing" arrangements through either the manufacturer, a trustee, or a related public agency. The "warehousing" simply refers to having title to equipment received from the manufacturer and entering revenue service held temporarily by a third party until the lease transaction is ready to close. This mechanism protects the tax benefits of a Japanese lessor, while allowing lessees to place needed equipment in service prior to the closing.

It is important to note that cross-border lease requirements will vary from country to country. These differences between jurisdictions affect the nature of the assets likely to be financed, as well as the terms and conditions involved. For example, the following table shows several current differences between Japanese and German leases.

Cross-Border Lease Comparison

Factor	Germany	Japan
"Country of Origin" Requirement	Typical	None
Defeasance	Typical	Economic Only[7]
Equipment Already in Service	Possible	Not Possible
Likely Type of Asset	Rail Car	Bus

The participants, structure, economic assumptions and risk-sharing arrangements for cross-border leases are described in a "term sheet." In addition to outlining the features of the lease, the term sheet also defines the terms of the loan used to capitalize the financing.

As noted earlier, there is no "free lunch" in finance and there are risks, under certain circumstances, that can cause lessees to lose their up-front benefits and incur additional costs, even under defeased transaction structures. Developments that would cause a lease to terminate prematurely are called "unwind events." Many unwind events are extremely rare, such as a finding that the transaction was illegal, a retroactive change in law, or bankruptcy of the defeasance bank. In other cases, such as casualty loss of the equipment, the risks can be mitigated through insurance coverage. Appendix A includes a discussion of risk allocation for Japanese leveraged leases, a table of "unwind events" and the costs they would trigger, as well as a graph portraying the rapid decline in risk exposure for premature termination as the transaction moves closer to expiration. It is interesting to note that there does not appear to be an instance of early termination of a Japanese leveraged lease for factors other than those related to the lessee (lessee bankruptcy or casualty loss of the equipment, for example).

[7] "Economic Defeasance" is the arrangement entered into by the lessee, to ensure that adequate financial means are available to meet lease payments (and thus Lessor's loan requirements). "Legal Defeasance" is a pledge or other contractual promise to meet the lease payments, usually from an identified source of revenue. Each form of defeasance has particular significance in the tax laws of the Lessor's country.

Not all attempts to arrange cross-border lease financings are successful and there may be a significant amount of time expended in exploring possibilities. For example, Washington, D.C.'s Washington Metropolitan Area Transit Authority (WMATA) spent the latter portion of 1992 and early 1993 attempting to arrange a German cross-border lease for new rail cars. After considerable study and negotiation, it was decided that the terms offered shifted more risk to the transit agency than it was prepared to accept, that some of the lessors' requirements for security exceeded WMATA's legal authority, and that the benefit levels were not adequate to compensate for these down-side considerations.

In another instance, in the fall of 1993 San Diego Transit explored a German cross-border lease to cover new light rail vehicles. These discussions eventually included the potential for parallel transactions covering similar light rail equipment being supplied by the same manufacturer to new systems in St. Louis and Denver. Although the combined transaction would have totalled well over $70 million, it could not be structured to provide an adequate return for the transit systems at reasonable cost.

Practical Considerations for Cross-Border Leases

Initial reactions to the idea of undertaking a cross-border lease transaction often arise from the novelty of the concept to persons whose day-to-day work is outside the finance world. It is likely that managers and board members will find colleagues at the transit systems listed earlier in TABLE 2 that already have undertaken transactions who can provide advice on how to proceed.

Since cross-border leases are relatively novel, the decision to proceed tends to involve consideration of both political and practical questions.

Potential Political Considerations

A decision to pursue a cross-border lease can raise political issues. During the course of research for this guidebook, some jurisdictions were reluctant to bring proposals for

cross-border leases up for public scrutiny because of factors unrelated to the dollars and cents fundamentals of the transaction. For example:

- There is general resistance to transactions which necessitate establishing entities in offshore locations to act as lessors. The public image of offshore tax havens, and their potential linkage to local public agencies and elected officials appears to be a disincentive to consider a cross-border lease, regardless of the economics. However, it is not necessary for cross-border transaction structures to involve offshore entities and other, more conventional arrangements can yield comparable economic benefits.

The use of tax haven-based entities has provided two primary advantages in cross-border transactions: 1) in a Japanese leveraged lease (JLL), withholding tax liabilities were avoided, and 2) a special purpose entity was able to issue securities without being subject to Japanese security laws (which would otherwise require the issuer to have been in existence for several years prior to the transaction).

However, withholding tax liability can be avoided under U.S./Japanese agreements simply by placing the borrowing required for the debt portion of the lease with a U.S. branch of a Japanese bank, or a Japanese branch of a U.S. bank. Similarly, defeasance structures can be created through banks which eliminate the need to issue securities for JLLs. European cross-border leases have tended to be self-defeased, thereby avoiding withholding issues entirely. Under trade agreements, most European countries enjoy greater flexibility regarding withholding tax constraints, also inherently reducing the need for special entities domiciled in tax havens. Therefore, the involvement of offshore, tax-haven entities is by no means a requirement for a cross-border lease.

Procurement Questions and How to Proceed

Once a transit agency decides to explore cross-border leasing, what are the next steps to be taken?

Identifying a lessor for a cross-border lease is very different from the experience in conventional municipal finance transactions. Unlike the capital markets in the United States which are extraordinarily deep, cross-border transactions may involve

jurisdictions like Sweden or Denmark, which have very modest levels of equity available at any given time. Germany and Japan have larger equity markets, but tax laws and defeasance requirements, desire for manufacturing content from the lessor's country, overall economic conditions, and the appetite for tax-oriented transactions at a specific time can constrain opportunities to close cross-border leases or generate multiple, highly-competitive proposals for a given transaction.

Market participants in each country are unique and typically unrelated to the cast of players in U.S. municipal finance markets. Perhaps most importantly, the terms and conditions and transaction structures are very different from those of municipal finance. Deals may get "hung-up" on concerns which are not normally considered in domestic financings, involving such areas as defeasance arrangements or title issues.

Therefore, the first requirement is for a transit agency to work with either a financial advisor, legal counsel or placement agent who is experienced in the cross-border leasing field.

There are two general options for a public transit agency to pursue in holding a competitive procurement for a cross-border lease:

- Have staff, the agency's municipal finance advisor, and/or a specialist law firm develop a bid specification for cross-border lease proposals and make a selection based upon the highest net benefit and best risk sharing arrangements offered, or
- Hold a competitive procurement for a placement agent, who will then act on the transit agency's behalf to solicit competitive bids from equity sources in targeted countries, as well as conduct a competition for defeasance arrangements among banks or investment bankers. The placement agent will work with the transit agency's municipal financial advisor and staff to evaluate the various bids received, select the best equity terms, select the best defeasance terms, and then negotiate the best overall deal structure.

To help evaluate which approach works best for a given transit authority or for a specific transaction, it is usually helpful to understand "how the deal works" and how market participants are compensated, both of which are briefly described below. It is

also important to evaluate the state, federal or local procurement regulations governing the transaction. For example, some jurisdictions can select financial advisors and underwriters based upon negotiations, while in other cases competitive bidding is required. Since a single cross-border lease can theoretically involve multiple procurements (for placement agent, equity, debt, deposits, lessee counsel, appraisers, currency-related financial products and so forth), some agencies may wish to receive proposals in the form of a complete package. In other cases, lessees may have more flexibility to work with a placement agent to "shop" for the very best deal in each, individual element of the overall transaction and maximize net benefit levels.

Evaluation Factors

Cross-border leasing is a highly specialized field and there are relatively few firms that have regular practices confined to this niche. However, as the technique has become more standardized, some transit systems have undertaken cross-border leases on their own. The Florida Transit Association Finance Corporation (see Chapter 6) is planning to act as the intermediary for the smaller transit systems in structuring cross-border leases. Nevertheless, using an experienced firm to complete at least the first cross-border transaction may be useful. Some of the considerations in selecting a financial advisor are:

- Volume and history of successfully completed cross-border lease transactions.
- Continuous history of involvement in the cross-border field. Many firms, particularly large banks and investment banking firms, enter and exit the business depending upon market conditions or the presence of a key individual on the staff.
- Ongoing presence in overseas markets and familiarity with the countries that are the most likely sources of equity for the assets to be leased.
- Recent track record in identifying equity and closing transactions when serving as financial advisor in comparably-scaled deals covering similar types of assets.

Unique timing and market factors, as well as the experience level of individual agencies, will often dictate whether it is more advantageous to address competitive procurement issues by soliciting offers with specific lease terms, or retaining a

placement agent to generate and negotiate proposals. However, some observations are possible:

- Cross-border leases are highly time sensitive. Market conditions, interest rates, the financial circumstances of a handful of possible equity sources at any moment in time, and tax law environments are all changing constantly. As a result, the time to begin seeking leasing proposals is within three to six months prior to taking delivery of rail assets, or once an order has been placed for buses. Japanese leveraged leases tend to be more restrictive regarding title issues and it is suggested that these issues be clearly set out prior to making domestic financing arrangements for the acquisition, particularly when a COPs structure is contemplated.

- Differing types of assets and legal title situations tend to point lessees toward particular countries for cross-border lease financing.

  - For example, the inability to legally defease Japanese leveraged leases makes them more attractive for shorter-lived assets, such as buses, telecommunications equipment, or possibly computerized signal and fare collection systems.

  - On the other hand, Japan does not require that the assets being financed have Japanese manufacturing content. Longer-lived assets, such as rail vehicles, are better suited to the European lease markets because of greater availability of defeasance options.

  - However, German lessors tend to require that the assets have German manufacturing content. Equipment for which title has passed to the lessee is not suited to Japanese leasing guidelines, and is more favorably viewed under the European tax environments.

- Financial advisors tend to specialize in cross-border leases involving particular countries and Requests for Qualifications or Proposals should emphasize experience with transactions that are related to the assets involved. For example, hiring a firm with U.S. or European leasing experience to identify equity for a Japanese leveraged lease may not result in as favorable an outcome as retaining a firm with on-going presence in the Japanese market.

When competitive proposals are sought for leases with specific terms and conditions, it is difficult to "lock-in" the final benefit levels and risk-sharing arrangements at the time a selection must be made. Typically, the procurement occurs sufficiently in advance of closing to allow many issues to remain open to negotiation, or subject to changing market conditions. Similarly, in other cases the leases may be executed in series, or

"tranches" that involve separate closings. During the time between closings changes in tax laws and market conditions can affect the benefit levels realized on each tranche.

As a result, there is an unfortunate probability that the advantages of the selected proposal over its competitors may not be realized, or that the transaction may arrive at the decision-making stage with fewer benefits, or higher retained risks than originally envisioned. The outcome may be a decision to forgo the cross-border leasing option entirely. Since the likelihood of an extended negotiation period is greater in the absence of a financial advisor, the risk of changes in terms and benefit may be relatively high under a procurement structure where formal lease proposals are solicited.

Therefore, when a transit lessee intends to make an award based upon a "net benefit" calculation, the proposals solicited should be underwritten by credible sources of debt and equity in order to: minimize the potential for "blue sky" propositions, assure that all assumptions and risk factors are fully disclosed, and to "lock-in" the terms being offered as much as possible prior to making an award when the lessee has the greatest negotiating leverage.

Although in municipal finance underwritten bids are solicited on a competitive basis which permit no changes, in cross-border leasing it is possible for a transit authority to prepare a specification for "net benefit" cross-border lease proposals which are underwritten for the purpose of providing down-side risk protection (and screening-out unsophisticated and unrealistic offers), but retain the potential to improve the deal during subsequent negotiations with the winning bidder and benefit from positive changes in market conditions. An underwritten "net benefit" leasing proposal will be most sensitive to changes in loan interest rates and dollar and Yen[8] deposit rates. In a well-structured solicitation, the impact of positive and negative changes in interest rates can be requested and calculated in advance by the proposers as part of their bid.

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[8] The foreign deposit rate could be for German Marks or Dutch Gilder, for cross-border leases in those countries.

Calculating Benefits and Fees

As the preceding discussion illustrates, the benefits to be derived from a cross-border lease depend to a great extent on other countries' tax laws, the participants' income, and interest rate differentials between the two countries. Exchange rate fluctuations also affect the equation. However, the transit operator is most often not privy to much of the information concerning the foreign investors' benefits. The only basis for assessing the relative merits of a cross-border lease, therefore, is the amount of net present benefit to the transit system and the cost to the transit system of achieving that benefit.

The gross benefit to the transit system comes from the difference between the cash received for the assets, and the defeased lease payments. The costs to achieve that benefit are the appraisal, legal, financial advisor, and other fees paid by the transit system to undertake the transaction. The remainder is the transit system's Net Benefit. Fees paid by the investors are assumed to be contained within the lease terms. That is, the lease payments reflect the costs of the investors' participation.

FTA has adopted the policy that transaction costs under cross-border leases and other tax-advantaged leases should not exceed 50% of the gross benefit. The reason for this policy, quite simply, is to ensure that the transit system derived the maximum benefit possible from the use of its assets in these transactions.

There is an area of argument in the calculation of gross benefit and project costs, resulting in part from FTA's expressed policy. Some financial advisors have made the case that if a fee is not directly borne by the grantee, but rather included in the basis of the transaction, then it should be applied in the derivation of gross benefit rather than net benefit. However, FTA has taken the position that if the financial advisor is paid

from transaction proceeds for services rendered to the transit system, then the payment is a cost, however it is derived. To illustrate:

➢ In the following summation, the gross benefit is the cash remaining to the transit system after all defeasance, interest rate swaps, and other arrangements have been executed. The transaction costs include a $1 million arranger's fee, paid by the transit system. Once the costs are subtracted, the transit system is retaining only 38.7 percent of its anticipated Gross Benefit.

1. As Reported to FTA:

		Percentage
Gross Benefit	$2,812,847	7.33%
Less: Transaction Costs	$1,724,258	4.49%
Net Benefit	$1,088,589	2.84%
% of Benefits Realized	38.7%	

➢ In the second summation, the arranger's fee is removed from the Gross Benefit and from costs, as though it had been incurred by the investors. The Net Benefit calculated is the same as above, but it now appears to be 60 percent of the Gross Benefit. In effect, the arranger's fee "disappears" from the calculation. FTA has not accepted this rationale in its assessment of cross-border leases.

2. Adjusted to place the arranger's fee "above the line":

		Percentage
Gross Benefit	$1,812,847	4.73%
Less: Transaction Costs	$ 724,258	1.89%
Net Benefit	$1,088,589	2.84%
% of Benefits Realized	60.1%	

As noted previously, the number of these transactions is increasing. As more transactions are completed successfully, and the capital markets become familiar with them, extraordinary costs tend to decline. In the last few years, FTA has seen the per-transaction costs decline to less than 30 percent of the gross benefit on a regular basis. This trend is expected to continue as more financial advisors and arrangers enter this area of business.

Domestic Leases

The Tax Simplification Act of 1986 eliminated the Safe Harbor lease, but it replaced it with a municipal lease that had far fewer benefits for the private investor. The new lease structure, named after its sponsors, Senators J. J. Pickle and Robert Dole, is commonly referred to as a "Pickle" lease. It involves the sale and leaseback of assets belonging to tax-exempt entities that cannot, in ordinary circumstances, benefit from depreciation on their capital assets. Its primary characterics are that

1. The initial lease term must be for at most 80 percent of the asset's useful life (there may be an optional second term)
2. Lease payments must be level from year to year (they may be inflation-adjusted, but they may not be accelerated), and depreciation must be straight line
3. It must be a "true" lease, that is, the asset being leased must be salable at the end of the lease, at a market price, to any willing buyer[9].

Since the purpose of this structure is to produce a transaction that is ultimately tax positive to the U.S. Treasury, FTA has reviewed these transactions to assure itself that the sum of tax benefits and tax payments of the lessor are positive. Transit systems have recently secured the opinion of a tax counsel to that effect as routine documentation for Pickle leases.

The very first Pickle lease that FTA reviewed was proposed by the Northern Indiana Commuter Transit District, on $20 million in passenger rail cars. The transit authority sought to execute a lease for an initial term of 17.5 years, from which it was to realize a net present benefit of $500,000. Unfortunately, the transaction had not closed as of July 1, 1997. Since that sale/leaseback was first proposed, transaction sizes have grown, as has the percentage benefit to the transit systems.

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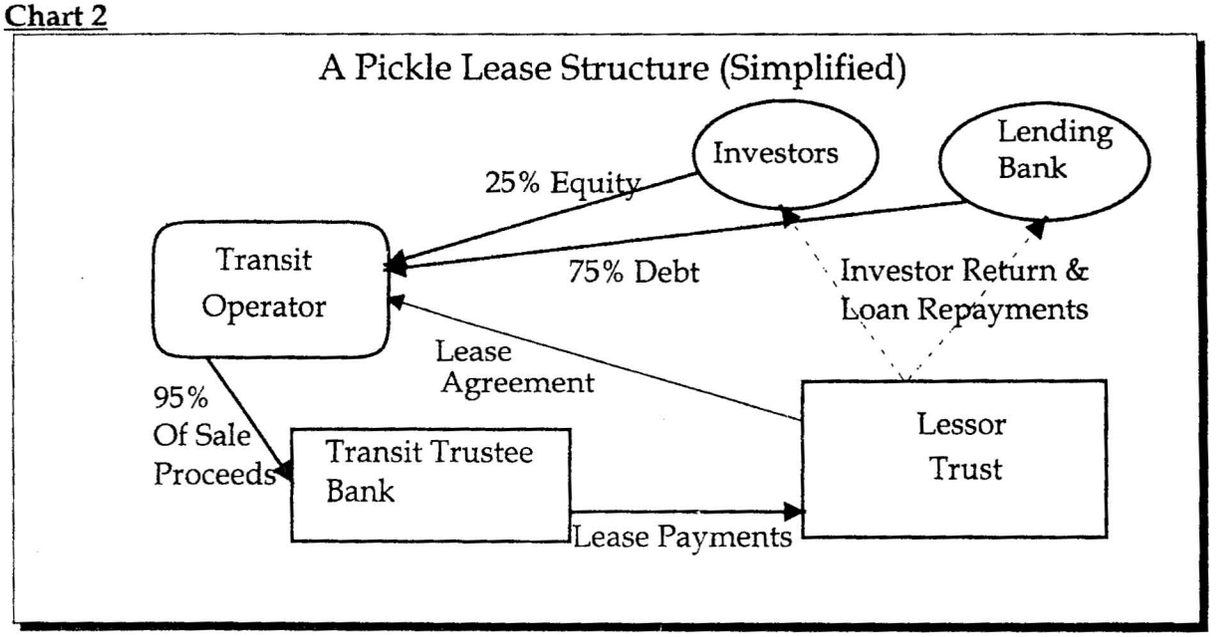
[9] Actually, most such leases are structured with an "early buyout" option that precedes the lease termination by up to 10 months. Deposits made to satisfy the lease usually are more than adequate to exercise this option, avoiding the open market offer of the assets.

How They Work

As with the cross-border leases, Pickle leases are leveraged. The equity participation is about 25 percent. Equity participants have included foreign investor consortia, U.S. banks, and U.S. subsidiaries of foreign banks. The primary reasons for investors to seek Pickle leases are low risk, stability of payments over the long term, and a near-term, taxable income that must be sheltered. The transit system participates in these transactions because it has the assets and because it can realize a net present value benefit of between 2.5% and 4.5% of the transaction size. To date FTA has reviewed Pickle leases for buses, rail equipment, and transit facilities

Chart 2



In the preceding diagram, the transaction takes place in three parts:

1. The Investors secure a loan for 75% of the assessed equipment value, then combine this with their own funds to purchase the equipment from the transit operator. They assign the title for the equipment to a Lessor Trust.
2. The transit operator deposits sufficient funds into a defeasance account in a secure institution (usually referred to as Trustee Bank) to make the required lease payments, as well as the early buyout payment--this is usually about 95% of the proceeds of the sale of the equipment. At the same time, the transit operator enters into a lease agreement with the Lessor Trust.

3. The Trustee Bank makes periodic lease payments to the Lessor Trust, which then passes the funds through to investors and the lending bank. This structure may be slightly different if the investor is itself a financial institution. It may borrow the funds from the Lessor Trust. The overall effect is, however, the same.

Due to the straight line depreciation required for these leases, the assets tend to be of longer life and include rail rolling stock (25-30 years) and buildings (40+ years). As with cross-border leases, there are potential "unwind" conditions that must be addressed. Most of these center on fact and would require bankruptcy, fraud or a change in law to be invoked. The most likely unwind condition is a total loss of the asset.

Additional Considerations

FTA has reviewed all of the lease-based transactions for three basic reasons: 1) to ascertain that the transit system would retain effective control of the leased asset for ongoing transit service; 2) to ensure that the transaction did not unduly increase the transit system's current debt and thus hinder its ability to continue transit service; and 3) to ensure that the transit system derives more benefit than its financial advisors from the lease transactions undertaken.

Effective Continuing Control

FTA makes capital grants to transit operators on a very specific basis--to reimburse the transit operators for the expense of capital acquisitions in the provision of transit service. There is also a legal requirement that FTA seek a proportional return of the value on disposal of transit assets. This would appear to present a substantial hurdle to sale /leaseback transactions. However, since the transit system retains "effective continuing control" of the assets for transit service, FTA regards this situation as meeting the requirements of the law and the mission of the FTA grant program. Thus, the transit system may transfer title to vehicles or facilities in a sale/leaseback transaction as long as it covenants to retain physical control of the assets for ongoing

transit service. The revenue thus generated is considered "program income," for which FTA has authority to specify the use.

To date, every sale/leaseback transaction has included the requirement that the transit system retain effective continuing control of the asset. The investors have interpreted this to mean (and sometimes have specifically stated) that the transit system must "be assured of quiet enjoyment" of the leased asset, until such time as the lease terminates under pre-agreed conditions. In other words, the requirement for effective continuing control does not require more than physical possession and the unquestioned right to use the asset in transit service, as agreed in the grant documents that enabled the asset's initial purchase. The clause does not appear to have diminished the expected return from sale/leaseback transactions.

Financial Capacity

To qualify as grant recipients, transit systems must demonstrate an ongoing capability to offer transit service with the Federal funds provided. This capability is reviewed by FTA every three years. When examining the cost-effectiveness of sale/leaseback transactions, FTA examines the impacts of a catastrophic event or an unwind condition on the transit system's annual cash flows. If the transit system has unusually high levels of debt, or significant lease obligations, entering into yet another long-term lease obligation may not be wise. This is a significant issue because it lies at the root of the transaction. If the transit system defaults, then the lessor or owner of the assets has the right to take possession and resell the assets. However, the transit system has signed an agreement with FTA, pledging to maintain effective continuing control of the assets. The lessor would thus be in direct competition with the U.S. Government for control of the transit assets involved.

However, the defeasance features of these leases tend to mitigate the risk associated with such defaults. Because the transit authority banks most of the proceeds of the sale of the assets, there is ample cushion from which to make the lease payments. And,

since the unwind costs are specified in the terms sheet, these can be compared with the transit system's quarterly or annual cash flows to establish a likely impact scenario. Also, most such transactions include ample time for the transit system to repair a default condition (either by substitution of an identical asset or rebuilding of a facility). Finally, the unwind risk for most rolling stock sale/leasebacks has a finite term--usually less than half the term of the lease. Thus, the risk is limited in time as well as in effect.

Transit System Benefit

There are two forms of cash benefit generated by these transactions. For the investor, the benefits accrue from lease revenues and depreciation of the leased assets. For the transit system, the benefit derives from the net present value of the sale versus the lease payments. Most often this benefit is somewhat less than 5 percent of the total transaction value. From that amount the transit system pays its financial and legal advisors. By policy and in practice, FTA has required that transit systems realize net benefits of at least 50 percent of gross benefits in sale/leasebacks and other facilitated transactions. This was in reaction to efforts by some financial advisors to define their fees as a percentage of the transaction. As the number of sale/leaseback transactions has grown, the actual ratio of advisor fees to gross benefit has fallen significantly. This is due to increasing competition in the market, and to the greater familiarity of the market with this type of transaction. Thus, we find that financial advisor fees in recent Pickle lease and Cross-border lease transactions rarely exceed 20 percent of gross benefits.

The net present value benefit is considered by FTA to be Program Income, as defined in the Common Grant Rule. The Secretary may specify the conditions for use of program income, under the Rule. To date, FTA has not imposed significant restrictions on the use of program income resulting from sale/leaseback and similar transactions, other than that such proceeds be used for transit capital and operating needs. Of the more

than $2 billion in sale/leaseback and cross-border lease transactions to date, the transit systems have uniformly used the proceeds for their ongoing capital programs.

Chapter 3
Joint Development

Background

Urban Mass Transit program authority was expanded significantly in 1974, by passage of the "Young Amendment," Section 3(a)(1)(D) of the Urban Mass Transportation Act. This section made joint development projects eligible for grant support. It took some time for the agency to incorporate this potential into its overall mission through what was called the Urban Initiatives Program, and it took even longer for transit systems to begin proposing joint development in conjunction with their planned rail transit projects. Nevertheless, by March of 1978, then-UMTA was reviewing joint development proposals from over 20 cities. The focus of this effort was a region's central business district and, with few exceptions, development around rapid rail stations. Some of the major projects included:

- Miami's Civic Center rail station
- Portland, Oregon's Banfield line
- Cleveland, Ohio, use of air rights near existing stations
- Baltimore, Maryland, around several planned Metro stations
- Washington, D.C. - several Metro stations along the Red Line

During the 1980's, to prevent transit systems from "double-dipping" on their Federal subsidies, it was decided that Federal transit dollars could be used to defray the "net" costs of a joint development project on the same ratio as an otherwise eligible transit project. The term "net" referred to costs remaining after any economic or other return from the project's private partner. The effect of this interpretation on joint developments was to halt many of them in their tracks. There was very little incentive for transit systems to undertake joint development projects, if the Federal interpretation

of "value capture" was going to create a direct substitution effect between private and Federal dollars.

In very short order, the concept of joint development switched from incorporating development plans at the design or preliminary engineering stages, to taking advantage of "discovered" uses of existing property--particularly air rights that had no direct Federal cost component. UMTA viewed leases of air rights for 50 years or less as not being dispositions under the Common Grant Rule and its predecessors, and thus not restricted by the new interpretation of the Young Amendment.

Through most of the 1980's, transit systems undertook joint development projects on a limited basis, rarely planning these within the context of new transit stations. If a joint development opportunity arose once the station was complete, then the transit system could negotiate a revenue from that opportunity. The transit system still had to request UMTA approval of the development, and request specific permission to retain the income from the development, but some transactions were completed. One such project was the Air Rights Building, which, as its name indicates, used the air rights above the Metro station in downtown Bethesda. While the Metro system has not received large revenues from the site (less than $200,000 per year), since the completion of the station the entire surrounding area has been developed as high-density office and retail space of between 10 and 14 stories in height. This has generated many new riders for the Metro system and contributed to the economic growth of Bethesda.

Notwithstanding these few successes, however, most transit systems ceased to look for joint development opportunities. Then, in the late 1980's, a broad-based decline in land values made joint developments even less attractive. Without a secure land value to mitigate some of the risk of joint development, the cost of private capital for these transactions increased sharply. A surplus of commercial real estate made economic returns from joint developments even less likely, and slow economic growth generally extended the hiatus in joint developments.

A New Policy

Another change in administration was marked by a steady, long-term economic growth cycle that increased commercial real estate values. At the same time, the Federal Transit Administration revisited its joint development policy in the context of the Livable Communities Initiative. This new effort was targeted specifically at demonstrating and reinforcing the link between transit and the community that it serves. The concept of joint development, therefore, was reexamined in the context of land use planning and community-building.

On March 14, 1997, FTA issued a revised "Policy on Transit Joint Development." The purpose of this policy was to

> "clarify the relationship between transit laws and regulations and FTA policy regarding property disposition, leases of property, and sale of property for joint development. This FTA policy statement affects primarily the treatment of program income with regard to joint development and the definition of "highest and best transit use" in joint development."

The policy statement announced to all transit grantees that real property acquired with Federal grant funds could be used to support a transit-oriented joint development. Further, if the joint development project produced income for the transit system, this was considered to be "program income" as defined in the Common Grant Rule, and freely usable by the transit system for eligible transit purposes. The only restriction placed on such transactions was that the transit system must retain effective continuing control of the joint development for transit purposes. I.e., the property being used for joint development could be sold for this purpose to the developer, but the transit grantee must retain some assurance that the joint development will remain accessible to the transit system during the life of the project.

How Does It Work?

Transit projects of all kinds have been funded with Federal grants since the late 1960's. This has, of necessity, included the acquisition of real property. The new FTA policy is intended to make it easier for transit systems to "capitalize" on the increased value of property acquired for their transit service. The increased value comes from two factors--the basic function of transit as a collector and mover of people, and the ongoing economic growth of communities served by transit.[10]

Transit systems are permitted in 49 U.S.C. 5309 (a)(1) - (5)[former Section 3 (a)(1)(D) of the Federal Transit Act] to use grant funds to also support

> "*transportation projects which enhance the effectiveness of any mass transportation project and are physically or functionally related to such mass transportation project or which create new or enhanced coordination between public transportation and other forms of transportation, either of which enhance urban economic development or incorporate private investment including commercial and residential development.*"

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) added Section 3 (a)(1)(F), now codified at 49 U.S.C. 5309(a)(7), to the Federal transit laws. This section allows FTA grant funds to support any "*other nonvehicular capital improvements that the Secretary may decide would result in increased mass transportation usage in the corridor.*"

FTA is encouraging transit systems to undertake transit-oriented Joint Development projects either under new grants or with property acquired under previous grants, whether the property is associated with a rail, bus or other transit facility. The purpose of this Joint Development should be both to secure a revenue stream for the transit system and to help shape the community that is being served by the transit system. Where the grantee retains effective continuing control over the joint development for

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[10] There has been a long-running debate on which comes first--the transit service or the urban density that requires transit service. However, the more appropriate debate may center on how transit service relates to local density and community structure. Recent studies indicate that transit service enhances the value of residential and office space, thus making increased density in the area around the transit service economically viable.

mass transportation purposes (such as an easement, or a contractual arrangement), all proceeds of sale, lease or other incumbrance of the property will be treated as program income for use by the transit system to meet capital and operating needs, for as long as the joint development lasts.

This is a departure from previous policy in two areas. First, FTA will now define all revenue derived from such joint development to be program income as defined in the Common Grant Rule at 49 CFR, Subtitle A, § 18.25. Second, grantees may use the new concept of "highest and best transit use," as an alternate to "highest and best use," in valuing real property for transit-oriented joint development. To accomplish this change, the FTA Master Agreement has been expressly modified to include joint development as an eligible activity in all capital grants to which it applies. Further, grantees may request amendment of grants issued prior to FY 1997, as desired, to expressly include joint development within the scope of such grants.

In accordance with this new policy, transit agencies have three options, as outlined in the chart on the next page: they can sell property as excess for non-transit use; they can lease the property for incidental, non-interfering use by others while the property is held for a future identified transit use; or they can undertake a transit-oriented joint development on the property. In the case of a sale without a continuing transit use, property disposition rules under the Common Grant Rule at 49 CFR, Subtitle A, § 18.31 apply. That is, the pro-rata Federal share of the net proceeds of a sale at fair market value are returned to the U.S. Treasury.

Transit-oriented joint development[11] can be accomplished through a sale or lease of federally funded property, or through direct participation of the transit agency in the development e.g., as a general partner, depending upon the needs of the project. To qualify as a "transportation project," the transit agency must retain sufficient

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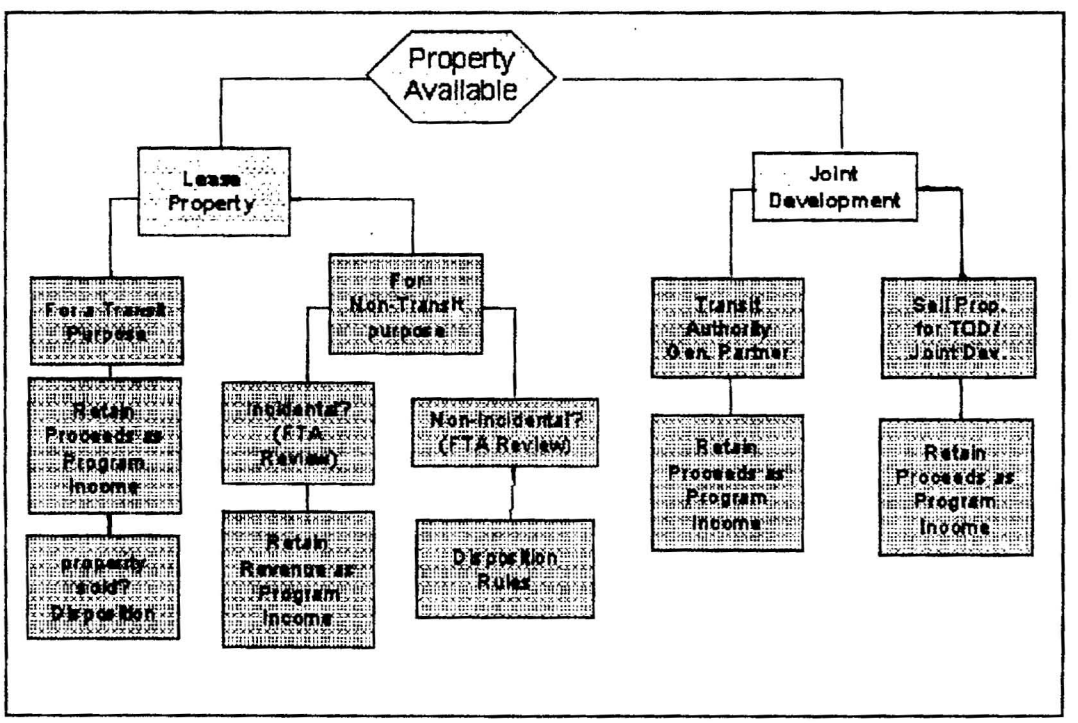
[11] The term "Transit-oriented joint development" refers to a joint development project undertaken in concert with an existing or new transit facility. A discussion of how this concept fits with the global concepts of Joint Development or Livable Communities is contained in Appendix B.

continuing control over the property to ensure its continued physical or functional relationship to transit.[12] This control may be exerted through any number of legally enforceable contractual arrangements, ranging from a simple easement to ensure unimpeded access between the development and the transit facility by transit patrons, to a covenant, or perhaps some form of reverter clause to take effect in the event access becomes unreasonably curtailed. Any legally enforceable arrangement between the transit system and the developer which preserves the defined physical or functional relationship between the development and the transit facility should satisfy this requirement. As long as such control is maintained, the transit agency may retain all revenues from such joint development as program income.

JOINT DEVELOPMENT DECISION TREE



Until this year, a strict interpretation of the Common Grant Rule would have required transit systems that "disposed" of land in support of a joint development to return a pro-rata share of the cash price of the land to the U.S. Treasury. In many cases, a

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[12] Effective, continuing control of the property for transit purposes does not substitute for the grantee's obligation to ensure ongoing access by the general public to the transit facility.

developer may not be able to secure financing at reasonable cost unless a mortgage can be granted on the land involved. This requires a sale, rather than a lease or other form of interest in the property. However, since the Federal transit laws recognize joint development as an eligible grant purpose, FTA has interpreted the sale of land to facilitate a joint development as being an eligible activity under most transit grants, and therefore, not a disposition.

Issues

Cross-cutting Requirements - Federally-supported projects generally must meet requirements such as environmental protection, labor protection, and domestic content. These are called cross-cutting requirements. Since joint development is likely to involve a Federal decision (in the form of an approval), this invokes many of the cross-cutting requirements that affect grant activities. If Federal dollars are used, for example, to build a parking lot or common foundation for the development, the Davis-Bacon and related labor laws apply. If the use of the land changes significantly from what was proposed when the grant was first made, then an environmental review may need to take place. These requirements must be addressed clearly and directly with any potential developer. The most feared requirement, from the developer's standpoint, is probably the environmental impact analysis--primarily because of its potential to slow the project and increase its costs.

FTA will review new joint development proposals on a case-by-case basis, to determine what level of environmental review will be needed. In some cases, the joint development will have been planned with the transit project, and a "finding of no significant impact" may be issued. In other cases, the joint development will result in an increase in activity on the property (as from an office tower), but the environmental impact will not increase significantly. In some instances, however, the proposed new use of the property will have significant new environmental impacts--e.g., if the

property was acquired over 10 or 15 years ago, and the environmental impact statement (EIS) only addressed transit use of the property.

The uncertainties surrounding environmental impact and other cross-cutting requirements will be minimized if the transit system plans for joint development potential as it plans and designs its transit system. Then, even if there is a ten-year lag before the land becomes developable, many of the environmental issues will have already been addressed.

Santa Clara County Light Rail / elopment

Effective Continuing Control - For many legal and practical reasons, FTA cannot allow the transit systems to freely dispose of property acquired with Federal funds. However, as stated above, FTA has determined that joint development is an eligible project activity in a transit grant. Therefore, transit grantees are allowed to transfer title to land purchased with Federal grant funds, to support a joint development. The title may be transferred free and clear of any incumbrances--allowing the buyer to then mortgage the land at favorable interest rates if necessary--as long as the transit system retains some assurance that the development will remain transit-oriented. That is what FTA means by "effective, continuing control."

The assurance may take the form of an easement, or it may be evidenced by a physical connection between the transit facility and the development. This may be a covered sidewalk, an ornamented walkway, a tunnel, an escalator, or any kind of architectural feature. Effective continuing control may also be evidenced by clauses in a contract that

is totally separate from the land transaction. For example, the transit system may be given an equity position in the development, as payment for the land. As part of that documentation, the transit system would expect a clause assuring it that the "physical or functional relationship" to the transit system would be maintained for the life of the project.

To state this issue in a different way, FTA must approve a joint development under this policy, finding that it is physically or functionally related to transit and that it is likely to increase transit use. Effective continuing control in this context would be evidenced by a contractual agreement between the developer and the transit grantee that the developer would actually proceed with the development as approved by FTA.

This policy has led some transit systems and developers to raise the issue of how long the grantee must retain effective continuing control over the project. For the purposes of this policy, and to satisfy the Common Grant Rule, the control should be retained indefinitely. It is not FTA's intention to anticipate or forecast economic or development market conditions. During the life of a development, real estate values, land use policies, transit system service levels, and many other circumstances may change significantly. Such changes would affect the potential next use of the joint development property. Without knowing how these changes will occur, FTA will not attempt to formulate a "reuse" policy at this time. However, current laws and regulations affecting property bought with Federal grant funds are quite clear--a grantee is allowed to dispose of the property (cede effective continuing control) only if it returns the pro-rata share of the net sales proceeds of the property to the U.S. Treasury.

This means, practically, that the transit system is expected to maintain its assurance of the transit-oriented nature of the project in perpetuity. If an unforeseen event occurs, such as a bankruptcy of the development, forced sale, seizing by eminent domain, etc., the joint development agreement would be expected to lapse, and the transit system would be expected to re-establish its legal claim to the property involved. FTA

recognizes that this requirement is in conflict with some types of joint developments, and it will seek to address this in future authorizing legislation.

Timing - Transit systems and developers have widely differing timeframes with regard to developments. The transit system must identify an opportunity, propose the concept internally, seek approval of its board to proceed with exploration of the concept, then begin to seek a partner to undertake the development. Once it decides to go forward with a particular developer, the transit system must initiate an environmental review and seek approval of its board once more. The whole process may take a year-and-a-half to complete.

The developer, on the other hand, looks for opportunities that are "ready" in the economic sense. This may involve land owned by the transit system, but more often it involves any land in places where economic development is anticipated soon. The developer "pencils out" a development of the kind necessary to fit the current economic requirements, then seeks to acquire the land necessary to make the development happen. The transit system may own or control one of the potential parcels. The following scenarios may be encountered:

- The transit system may like the development plan, but its original environmental impact statements did not include development impacts--the developer must wait six months or more for a new EIS.
- The transit system may have plans for the land that differ from the developer's, and has sought the necessary zoning to fulfill its plans. A compromise between the two will likely take time to negotiate, and will reduce the market value of the land.[13]
- The developer may bring a proposal to the transit system, which must then explore the concept, seek local and Federal approvals, and present the proposal to its board for ratification. All of this, not including a new environmental review, may take several months to complete.

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[13] By definition, if the developer is identifying the highest possible return on the land, any variation proposed by the transit system is likely to be less than the highest possible return.

In each of these cases, the developer has ample time to seek other, less problematic land. Even when it has brought a proposal to the transit system, interest rates and economic factors may change sufficiently over three or six months to make another property more remunerative for the developer. It will have no incentive to wait for the transit system.

However, proximity to a passenger facility provides significant advantages to property that may be a candidate for development. Transit systems may overcome many of the circumstances in the preceding scenarios by planning ahead to capitalize on these advantages. This may require expanding the basis for an environmental assessment, or "pre-qualifying" a joint development opportunity with the transit system's board of directors, so that when an offer is presented it can be acted upon expeditiously. In this way, transit systems may plan to preserve (and capture) the enhanced value of the property around their facilities.

Differing Goals - Transit providers will plan joint developments to help shape land use around their transit systems, to make it easier for the surrounding communities to use the transit system, and to serve a greater number of passengers at lower cost. The developer wants to build the optimal development for the property at the least risk. The developer may recognize that the transit system's goals will eventually enhance the value of the development--through integration of economic activities, residential use, and transportation--but its immediate goal is profit. Thus, if the developer calculates that the lowest-risk development is a strip shopping center, but the transit system insists on medium-density housing instead, the developer will seek mitigation for the increased risk of the development. If the financial risk appears too great after mitigation, the developer will look elsewhere for opportunities.

Once again, the transit system may mitigate the perceived risks to the developer by advance planning. Since the developer's risk is quantifiable, the transit system may increase the certainty of profit by postponing its required financial return for a time, or by taking an equity position in the development, or even by providing subordinated

debt (if this is allowed in its local laws). Each of these steps will either reduce or delay the developer's cash outlays and project costs, thus reducing its financial risks.

Highest and Best Transit Use - FTA originated this concept in its policy statement. It is defined as that combination of residential, retail, commercial and parking space that results in the highest level of transit support from a combination of project revenues and increased use of the transit system. The term is intended to combine the concepts of highest and best use in real estate assessment with transit-oriented development.

In some circumstances, the highest and best use for a property, i.e., that use resulting in the greatest cash price for the property, may not be transit-oriented. Secure storage for construction equipment, or a coin-operated car wash would be examples of non-transit-oriented developments. Fences, heavy machinery, multiple car lanes, all act as barriers to access for people who walk to the transit system. And, the people who would bring their cars to the car wash may be less likely to use the transit system. FTA does not intend to limit the local community's ability to define social or other benefits that it wishes to achieve through a transit-oriented development. Thus, locally preferred plans for "highest and best transit use" may be acceptable even if they do not generate the highest possible level of financial return, although the transit system is expected to realize some financial return (i.e., not transfer the property for $1) in a development.

This issue has been explored particularly in Portland, Oregon, where the local planning agency (Portland Metro) has implemented an urban growth boundary. Part of this plan involves fostering joint developments around several light rail stations. Because it has significant zoning authority, Portland Metro has been able to influence the zoning of specific parcels of land in ways that increase their density of use, and provide synergies with other nearby activity centers (offices, banking, restaurants, etc.). However, the zoning anticipates by several years the tradition[redacted]rns of density growth that are necessary to ensure financial success of a new[redacted]ial project. Thus, the developers

who may be involved in these projects devalue the land based on the increased risk of project failure. For example:

> In one property, the highest and best use was considered to be a 9-unit, median income townhouse condominium, with built-in parking for all units. The metropolitan planning organization, Metro, had calculated that social, economic and environmental benefits in that area would be maximized by a rental apartment development, for low-to-moderate income residents, with structured parking for 40 percent of units. Developers maintained that, while the Metro plan could eventually prove economically viable, the current market would not support the higher density plan. The risk of substantial non-payments of rent, and resulting default on project financing, was considered too high. Thus, the value of the land would have to be reduced to reflect this risk. In discussions with Metro, FTA indicated that while the price of the land was to some degree negotiable, FTA would not accept a zero or negative valuation of property to make the project feasible. Portland Metro is working with the developers to achieve property prices that reflect the true value of the real estate to the overall joint development projects.

By allowing the application of this concept of highest and best transit use, FTA is hoping to help bridge the gap between developers' and transit systems' goals. The transit system can negotiate the final value of the land contributed to the development, and the developer can mitigate some of the development risk through reduced land cost. There may be instances where the transit system will undertake most of the development risk, i.e., act as the developer, because of a lack of interest from the development market, but FTA has not reviewed such projects as yet.

Time Value of Money - Transit systems can offer developers a significant benefit, in the form of delayed repayment. Since the transit system owns the land, and has already paid for it, it is not under as much pressure as the developer to realize immediate cash benefit from the sale of the land. In a situation where the desired development anticipates the market by several years, the transit system can mitigate the developer's risk by allowing the postponement of proceeds from the sale of the land. This postponement is a form of credit enhancement, as far as the developer's bankers are concerned.

Suppose that the transit system sells a $1 million parcel of land for joint development. The developer seeks a mortgage on the land to help finance the development. If the transit system postpones receipt of its land sale proceeds for just 5 years, this is equivalent to providing $500,000 in additional credit to the project. This credit enhancement may reduce the developer's borrowing costs by as much as 100 basis points. On a $25 million project this is worth $250,000 per year.

Risks - From the transit system's perspective the risks are significant. They include local political risk, risk of failure, project delays, and unmet expectations.

- There is political risk in the relationship between the transit system and the community that it serves. Some communities may oppose any kind of "Transit Oriented Development." Some transit systems seek to generate revenues by proposing tax-increment financing. This has often been an unpopular method. The transit board may not feel that it is appropriate for the transit system to be involved in local land use issues. Or, there may be a strong local planning organization that will view transit joint development as an intrusion on its own areas of responsibility. Any of these factors may delay or defeat a planned joint development program.

- The joint development project may fail financially, even though it produces some or many of the desired social or economic benefits along the way. This may take the development out of the hands of the transit system, through a foreclosure sale, or it may force the transit system to buy out the development. This would require entirely local funds, and likely would be viewed by the local community as a failure for many years afterward.

- Project delays, particularly from environmental reviews and labor negotiations, or disagreements with other local jurisdictions, may reduce projected returns to the developer. This, if it persists, may cause the project to fail before it is even completed. The developer will preserve its ability to withdraw from the development if certain financial milestones are not met.

- The transit system must avoid the temptation to "oversell" a joint development as it seeks to build local consensus. If the project fails to meet expectations, it threatens future joint development opportunities, which may have even greater potential benefits.

Conclusion

FTA believes that with this clarified joint development policy, more transit operators will be willing to examine the possibility of initiating joint development projects around

their transit facilities. This opportunity exists particularly with regard to facilities that provide a logical activity center, such as a tourist information kiosk, multi-mode transfer center, or bus system transfer center. Such facilities often provide substantial traffic flow for potential businesses in the surrounding areas. If properly planned and integrated in the local land use plan, such transit facilities and their joint developments may act as catalysts to ongoing economic development in their surrounding communities.

However, the greatest benefits will be generated from those joint development projects that are planned (at least at the conceptual stage) when the transit facility is first being designed. This allows a more detailed environmental impact analysis as well as better site design and utilities location in anticipation of the potential development. Better planning will eliminate many uncertainties that might otherwise drive away potential private partners. Joint developments take long enough to negotiate and implement without having to address planning, environmental and zoning issues.

Chapter 4
Turnkey

Turnkey contracting is being used to an increasing degree for public works projects in the United States and abroad. FTA has supported attempts by transit systems to undertake major transit investment projects through a Turnkey procurement process whenever possible. However, the nature of the Federal grant program, combined with the needs of turnkey managers, made this project management approach difficult, at best. A confirmed use of the Full Funding Grant Agreement (FFGA) approach, may result in greater usability of the turnkey process.

Turnkey in Transit

The first application of turnkey[1] procurement probably dates back to the first fixed price construction contract in ancient Greece or Rome. In transit, the practice originated overseas, in such far-flung places as the Philippines, Hong Kong, and Greece. The common factor in turnkey contracts of all kinds is a more or less independent contractor, who is responsible for delivering a product (usually a building or other construction project) at a certain time at a negotiated price. If the project is delayed, the price paid by the owner usually declines. If the project is early, or under budget, the contractor's profit increases. Acts of God and other unforeseen circumstances (how these will be handled financially) are negotiated as part of the turnkey contract.

There are many types of turnkey contract in use today, but the underlying rationale in each type is to allocate risk to that party in the transaction more able to manage the risk. The simplest contract is called "Build/ Transfer." As the name implies, the contractor builds a facility, then transfers it to the owner. The reason for an organization, such as a transit authority, to use this mechanism is that it may be unfamiliar with all of the

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[1] The term "turnkey" refers to the delivery of a building in finished condition, so that the owner may take possession by turning the key (as in a lock or control panel).

technical requirements of the project, or it may not have sufficient staff to effectively manage the project. The contractor is usually in charge of scheduling, equipment, construction and assembly, hiring of sub-contractors, and securing of necessary permits and inspections. The transit authority undertakes to review and approve architecture and engineering plans, to make regular payments on time, and to assist the contractor in acquiring the necessary permits and inspections. The contract specifies the total dollar cost of the project, as well as the settlement of delays, change orders[2], and early completion. Once the project is completed, the owner inspects and accepts it. This usually ends the relationship between owner and turnkey manager.

A "Build/Operate/Transfer" contract is somewhat more complex. The builder is contracted to operate the facility for a time after construction, then to transfer it to its owner. This mechanism has been used particularly with new light rail and rapid rail transit system construction. New rail transit systems tend to be unique, and they may take a decade or more to complete the first operable portion. The turnkey manager is most often the designer of the transit equipment (vehicles, control systems, etc.). By agreeing to operate the system for a time after its completion, the turnkey manager demonstrates that the system can operate within the parameters specified in the turnkey contract. Usually, the operation portion of the contract is relatively brief--not exceeding five years.

Beyond this level are contracts known as "Super Turnkey." They involve the initial design, construction, operation, and transfer, but they may also include maintenance, financing, or a lease. In a structure known as DBOM (Design/Build/Operate/ Maintain) the turnkey manager will in fact become a permanent contractor to the transit operator, undertaking to operate and maintain the new transit system, possibly for all of its useful life. In a super turnkey project, the manager may:

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[2] A change order is most often a request by the owner to modify some aspect of the project after the contract has been signed. Such changes usually increase the cost of the project by a set amount. Some times the change order arises from unforeseen circumstances, such as a change in local zoning or building codes or geologic anomalies.

- Maintain the equipment for a specific time. This is often because the equipment or project is state-of-the-art, and requires significant time for the owner's maintenance and operations staff to learn how to properly maintain the equipment or system.

- Finance. The project owner may not be able to finance the project with its own resources. Most transit providers are in this position, as they must depend upon annual appropriations to buy rolling stock, facilities, and whole new systems. In such a case, the turnkey manager may be able to use its own credit rating to seek financing for the project. The transit operator may defray the cost of financing in part through progress payments (as it is able to obligate grant funds or other funds year by year), or through a bond issue of its city or State. The local bond issue acts as "take-out" financing.

- Lease. This variant on vendor financing provides a mechanism for the turnkey manager to lease the completed facility to its eventual owner. Generally, the turnkey manager is granted a nontransferable ownership interest in the project, once it is completed. The cost of construction may have been met with a combination of vendor debt and owner capital. The turnkey manager then leases the new system to the transit operator for a time, and at a cost, sufficient to cover the financing cost and provide a profit. This is a very flexible mechanism, which allows other factors to be addressed such as ongoing maintenance, fleet replacements, and system expansions. At the end of the lease term, the turnkey manager is "bought out" by the transit operator, which then takes full possession of the system. This may take 10, 20 or even 30 years from beginning to end.

Why a Turnkey?

This procurement method has several different benefits, depending upon the owner's situation. For most U.S. transit operators, the benefit comes from executing one contract with one entity at a pre-determined price. The transit operator avoids negotiations with subsidiary contractors, and it avoids the risk of labor and raw materials price changes. Of course, the fee paid to the turnkey manager includes a fair return for assuming these risks. However, the fixed price contract avoids another risk--that of price inflation. Since price increases may result only from agreed-upon changes to the contract, the transit operator has considerable assurance that when it presents a turnkey contract to its board for ratification, the price specified in the contract will be close to the actual price. Thus, as stated in the introduction, the turnkey contract allocates the risks of the project between the turnkey manager and the transit

system, in general accordance with the ability of each to manage its portion of the risk. The transit system manages the institutional and public risks, while the turnkey manager handles project and timing risks, for example.

Most rail transit projects today involve non-U.S. systems and equipment. Some of the major providers in recent years have included Siemens/Duewag of Germany, Breda of Italy, and GEC-Alsthom of France. Thus, project costs may be affected by foreign exchange fluctuations. Few transit operations in the U.S. are adept at managing foreign exchange risk. Using a turnkey manager with the right qualifications may help to mitigate this risk.

Finally, the turnkey manager may help in putting together a financing package for the project. In Hong Kong, a car and light rail tunnel under the harbor cost well over $1 billion. The financing partners were from Japan, Hong Kong, and China. The Hong Kong Government negotiated project timing and cost with the turnkey manager, who in turn negotiated the financing package with its several partners. This was a particularly complex issue, as it involved toll revenues and transit fares that would be set by the Hong Kong Government, as well as residual development opportunities near the tunnel entrance. The financial partners were to be paid from revenues in excess of operating costs, as well as from land made developable by the tunnel. The involvement of the Chinese Government in direct negotiations with Hong Kong would have been problematic, at best.

A Financial Example

The following table[3] summarizes how project acceleration, as through a turnkey process, can reduce the total cost of a project significantly. In this example, a $600 million rail startup takes three years rather than six, due to construction financing provided by the turnkey manager. Inflation is projected at 5% annually, and project

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[3] "Turnkey Financing for Public Transportation Projects," by KPMG Peat Marwick LLP, for the FTA Office of Planning, October 1996, p. 14.

management cost is 30% of construction. In a specific case, the transit system would assess whether it could avoid $65 million in overall project costs by providing its own financing. The difference between the vendor financing and in-house financing should not be able to equal 11 percent of the cost of the project.

	Construction Cost		Project Management		Combined Cost	
YEAR	Standard	Turnkey	Standard	Turnkey	Standard	Turnkey
1	$100.0	$200.0	$30.0	$60.0	$130.0	$260.0
2	$105.0	$210.0	$31.5	$63.0	$136.5	$273.0
3	$110.3	$220.5	$33.1	$66.2	$143.3	$286.7
4	$115.8		$34.7		$150.5	
5	$121.6		$36.5		$158.0	
6	$127.6		$38.3		$165.9	
Total	$680.2	$630.5	$204.1	$189.2	$884.2	$819.7
Saved		$49.7		$14.9		$64.6

The U.S. Environmental Protection Agency has long promoted public/private turnkey arrangements for such projects as solid waste management, waste water treatment plants, and drinking water supplies. Case studies of these projects identify the benefits as follows:

- Lower capital and operating costs
- More rapid project completion
- Better or more comprehensive product performance guarantees (i.e., fewer opportunities for multiple contractors to "pass the buck"
- Access to sophisticated technology and methods
- Flexible financing
- Risk sharing
- Fixed Price contracting

The parallel between EPA and public transit projects is that of the public utility. Water works are often regulated by a local public utility board, which sets rates, geographic boundaries and operating practices. Public transit service is usually governed by a locally elected or appointed board, which sets rates, defines geographic boundaries, and sets operating policies. The biggest difference between EPA and public transit projects is that water works are integrally linked to the land, and to development, which provides a predictable, long-term revenue source through development fees and property taxes. Public transit is usually maintained in operation through grants and local tax initiatives which are rarely long-term. Very few communities link the provision of transit service with the establishment or improvement of local communities. It is this kind of link that will make possible the broader use of turnkey procurement in public transit in the U.S.

A Practical Application

In November, 1990, a study was proposed by the Hennepin County Regional Railroad Transit Authority (Minneapolis, MN) to help determine the relative benefits of turnkey and more traditional procurement methods in the initiation of a new light rail transit project. The study was conducted by Capital Partnerships, Inc., in association with DeLoitte & Touche, L.S. Gallegos & Associates, and Hart, Bruner & O'Brien. The study was to compare various procurement methods on the basis of schedule, cost control, and quality assurance. In addition, the study was intended to develop a project management framework that optimized the trade-off between project control and risk. Case studies were prepared for three traditional and three turnkey projects that were deemed to be most comparable to the Hennepin County situation:

➢ **Traditional**

- San Diego Trolley (South Line)
- Portland Banfield Transitway
- Los Angeles Metro Blue Line

➢ **Turnkey**

- Hong Kong (Tuen Mun)
- London Docklands
- Manchester Metrolink

The case studies showed that the turnkey projects were implemented more quickly than traditional projects -- 40-43 months versus 67-73 months after completion of the preliminary engineering. The greatest schedule risk factors were site access (particularly for right of way), utility relocation, and tunneling.

Difficulties were found in estimating and controlling "soft" costs such as engineering, construction management services, and agency support in traditional procurement. This finding was confirmed in a subsequent FTA-sponsored study of comparative capital costs of constructing light rail transit systems in Portland, Sacramento, San Jose, Pittsburgh, and Los Angeles.[4] The turnkey projects were better able to control soft costs and other project expenses, as a result of incentives implicit in a guaranteed, maximum-price contract. On the other hand, turnkey projects were found to require improved quality assurance efforts for transit station finishes and the reliability of self-service fare collection systems.

Hennepin County's LRT Implementation Alternatives Study concluded that traditional and turnkey projects have several requirements for success in common:

➢ **Well defined project concepts** - What, why, when, and at what cost

➢ **A strong project champion and local public support** - Both public and private sector local support is required, especially by those most directly affected by the project during construction and operation. Strong and effective leadership is required to develop and maintain project consensus.

➢ **Timely implementation of the first operable segment** - This provides a successful startup that helps maintain public support and provides the basis for ongoing financial commitments.

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[4] "Light Rail Transit Capital Cost Study" Booz, Allen, Hamilton, Inc., et. al, Washington, D.C. April, 1991. UMTA-MD-08-7001.

- **A small project management team** - The cost-effective use of consultants permits simple and direct lines of communication, timely and responsive decisionmaking, and minimal interference with contractors.

- **Appropriate risk sharing** - Clearly identify and allocate risks through the owner/sponsor's procurement/contracting policies and procedures.

- **Early right-of-way clearance** - The project sponsor, either directly or through separate contracts, should be responsible for right-of-way acquisition, clearance, and utility relocations prior to the beginning of construction.

Issues in Turnkey Procurement

One of the primary benefits of innovative procurement techniques is the ability to allocate risks between public and private entities. The public sector bears most risks in traditional procurements relating to project implementation and future revenues. The nature of fixed guideway transit projects in the U.S. (they are grant-supported) does not normally permit revenue risks to be shared with a private partner when an entire system acquisition is undertaken. However, there are income-generating elements of transit projects, such as parking garages, which can attract private equity and a willingness to share revenue risks. Despite this limitation, many different types of uncertainties can be allocated, and traditional procurement processes can be adjusted to permit greater optimization of price, risk, and control.

The following sections outline risks normally associated with turnkey procurements, and special considerations related to fixed guideway transit systems.

General Procurement Risks

The private sector operates in a for-profit environment and will seek higher returns as the certainty of future revenues declines. A corollary to this concept is the time value of money -- the longer the period between the outlay of funds and future revenue streams, the lower the "present value" of the anticipated benefits. Fixed guideway projects are high-risk undertakings for either public or private entities, though the types of risk for each may differ. The bases for this risk include:

- There is significant uncertainty that a project will proceed to construction due to nearly uncontrollable factors involving project finance, economic conditions, political dynamics, environmental considerations, and institutional consensus on project leadership.

- Fixed guideway systems have very long development periods. Delays of months, or even years, can occur at any point in the implementation process. Delaying factors have included failure of a referendum, or an adverse vote in a legislative body; inability to avoid condemnation proceedings to acquire the right-of-way; and disagreement among public financing partners over the transportation alternative proposed by the project sponsor.

- Bidding for major projects can be a highly politicized process, with unpredictable outcomes after large front-end expenditures for proposal development.

- Underlying technology risks are high, due to uncoordinated deployment varying advanced technologies; specifications that effectively mandate "one-of-a-kind" systems; the interface of many project components, some of which may incorporate incompatible technologies; requirements for high reliability and safety in exposed weather conditions; the frequent interest of localities in incorporating innovative technologies (such as magnetic levitation) to create a positive community image and attract riders; and the need for design compromises to achieve political consensus, address environmental or alignment constraints, and meet budget limitations.

- Construction risks for fixed guideway transit projects are extensive because of the scale of such projects, the variety of alignment conditions (a single system may include tunnels, bridges, and at-grade operations, and may encounter a wide variety of environmental and sub-soil conditions); the need to perform precise construction in adverse conditions (in the middle of streets, or in residential neighborhoods); and the reliance on numerous subcontractors, each of whom must perform well and on time for the overall project to remain on-schedule and on-budget.

- The likelihood of project sponsor modifications of plans in response to field conditions, political decisions, budget changes, and external mandates is high. Modifications may, unless addressed in negotiations, result in claims that will take years of costly litigation to resolve.

- Warranty, acceptance and performance requirements may be difficult to meet due to problems with initial specifications, the impacts of changes during construction, or unforeseen problems in integrating several technologies. The frequent inability of project partners to pinpoint the causes of problems, and allocate responsibility, extends the risks of future liability until well after the project is completed.

- Although most contracts provide for inflation adjustment, surges in interest rates, fringe benefits, cost-of-living payments, and foreign currencies can vary more quickly than index calculations, or may be outside the scope of the turnkey contract.
- There are also general industry risks that may affect individual projects. If there are many similar projects under way at the same time, bid prices for certain classes of labor or materials may rise significantly. If many of the firms involved are heavily employed, this may raise performance bonding requirements and costs.

Turnkey vendors will tend to increase fixed-price proposals to compensate for the greater uncertainties inherent in transit projects outlined above. The risk premiums should be offset, in many cases, by savings arising from accelerated completion, ability to negotiate (and leverage) subcontracts and material acquisitions, greater control over the implementation process, and stronger project management capabilities. The net benefit to the public sponsor should be a fixed-price, date-certain delivery that, at a minimum, costs no more than the projected cost of a conventional procurement.

At the same time, in order to realize these benefits, the public sponsor must be prepared to accept the terms of the new relationship. For example, changes in design or specifications which had been fixed within the agreed scope, can be expected to result in cost adjustments in a turnkey project that are as great, if not greater, than would be found in a conventional procurement. If the change requested results in an overall project delay, or the inability to meet an agreed performance criterion without additional modifications, there may be a "snowball" effect on the entire project and its costs.

General Financing Risks

The factors identified above do not address project-related financing risks. The most serious concern to a private sector partner is the inability of the public sponsor to meet its financial obligations. Project financing risks are noted below and affect procurements even when the public sector sponsor absorbs the risks of farebox revenues:

- Decline in the anticipated yield of a dedicated revenue source due to economic conditions or over-optimistic growth forecasts
- Failure to appropriate funds conditionally pledged
- Pre-emption or discontinuation of dedicated funding for other purposes by a higher level of government, by legal challenge, or by popular referendum
- Expiration of the legal authority to levy a dedicated tax
- Inadequacy of funding to build and operate the project due to rising costs, poor financial planning, or inadequate contingency reserves

Examples of these risks are not hard to find in the transportation industry in conventional as well as innovative procurements:

- A drop in Portland, Oregon's employment tax receipts in the early 1980's created difficulties in maintaining core transit services and limited funding for planned extensions to the light rail line.
- Overbuilding, lack of demand, and falling property values resulted in a 25 percent decline in property tax receipts in the Route 28 special assessment district in Fairfax County, Virginia. This impaired the ability of State and local project sponsors to meet long-term debt requirements. Shifting market conditions have also slowed transportation projects along the Hudson River waterfront and at Allied Junction in New Jersey.
- The Resolution Trust Corporation was forced to void many letters of credit that supported infrastructure projects as a result of the Savings and Loan crisis in the 1980s.
- Los Angeles' attempts to impose special assessment districts around its rapid rail stations have been thwarted in the courts by property owners. Proposition 'C' sales tax levies are under strong legal challenge throughout California.

These risks are present in any fixed guideway project and can be addressed through well-recognized techniques, such as Full Funding Grant Agreements, Letters of Credit, Board Resolutions from the sponsoring agencies regarding the flow of funds, pledges to maintain certain levels of cash or tax receipts in reserve, and limitations on the use of certain revenues. In addition, more sophisticated risk assessment methods can be applied to forecasts of dedicated tax revenues and project costs.

Innovative Financing Risks

The risk profile of turnkey procurements is magnified when the public sector attempts to shift risks which are not construction/acquisition-related to the private vendor, or when it broadens the project scope to encompass factors that are not directly related to construction, such as financing. It has become a well-established practice to include solicitations of private sector financing and/or joint development in public/private partnership procurements.

An overriding risk in such procurements is that a proposer will win a procurement on the basis of an attractive financing offer which then fails to materialize. Such an outcome inevitably undermines the credibility of the project. Failure to deliver on promised financial support jeopardizes the integrity of the procurement process itself by eliminating bidders whose cost proposals may have been higher, but more feasible. At worst, if the project sponsor is unable to replace the failing bidder or to secure the necessary financing, the entire project may be abandoned. To avoid this outcome requires careful analysis and a sound bid evaluation process.

One of the more dramatic examples of a project vendor becoming unable to deliver on promised financing is the Downtown Las Vegas MagLev Project. The system supplier promised to build and operate a circular system at no cost to the State and local governments. The project was intended by its sponsors to demonstrate an innovative technology, and to generate profits from operating revenues, advertising, and other sources. Construction began, with several vertical support columns in place, before it became clear that the financial exposure of the undertaking was beyond original expectations, that the technology itself was not really ready for a showcase demonstration, and that local support for future expansions at public expense was lacking. The result was termination of the project.[5]

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[5] Most of this chapter derives from "Turnkey Procurement - Opportunities and Issues" - FTA report FTA-MA-08-7001-92-1, June 1992.

While the transit systems resemble public utitlities in many respects, unlike public utilities they operate under no presumption of profitability. Where the local water works or gas distributor may recoup its capital costs by raising fees, the transit system struggles to raise fares on any regular basis. And, where no one expects the local utility to operate at a loss, the local transit system is expected to remain in operation with an average farebox recovery of 40 percent of its operating costs. Thus, any request for proposals that depends entirely upon vendor financing is unlikely to succeed. The more useful alternative will be a clear division of financing risk between the public partner and the private partner, with each contributing what it can to alleviate the risk.

There are two basic sources of risk in a Turnkey transit project--completion, and revenue shortfall. Stated another way, they are capital, and operating cost. The transit system is best positioned to absorb the capital cost of the project, while the turnkey manager is probably in the best position to discount (not absorb) the operating risk. However, the transit operator should be prepared to share some of the operating risk with its turnkey partner.

Capital - The most realistic applications of vendor financing in turnkey projects occur in the area of construction financing. Where the transit system has been able to rely upon grant funding to acquire facilities and rolling stock in the past, this has not added any depth to its credit rating. The turnkey partner, on the other hand, is likely to have developed a history of successful performance under bond, and a correspondingly favorable credit rating. Thus, an agreement can be negotiated between the project sponsor and the turnkey manager that will cover construction period financing. The risk of project delay from reduced or delayed appropriations will be minimized by the vendor financing. But the transit system will benefit from the turnkey manager's credit rating, which will reduce the cost of borrowing for the construction period.

One recent example of this is the New Jersey Transit (NJT) light rail project in Bergen County, along the Hudson River. This project has received a Full Funding Grant

Agreement from FTA, which will provide sufficient funding for the project over a period of about six years. NJT advertised for a turnkey manager able to provide construction period financing, secured in part with the FFGA. The turnkey manager will help NJT "smooth out" a $260 million shortfall during the construction period. The borrowing costs will be reimbursed with subsequent years' grant funds from the FFGA. The only additional security provided by NJT is a standby authority to draw on the New Jersey Transportation Trust Fund. This authority is only invoked if the FFGA fails to be sufficiently funded in a particular year.

Another way in which the vendor financing could be managed is through "take out" financing. The project sponsor (or its State or municipal authority) could issue long-term bonds to repay the turnkey manager at the end of construction. This could substitute long-term, tax-exempt debt for short-term, private debt.

Operating - The operating characteristics and revenue projections developed at the project planning and design stage rarely resemble projections made near the close of construction. If it remains involved in the project after construction, the turnkey manager's profit motive will provide a "real world" test of revenue projections made by the project sponsor. The turnkey manager will discount these projections to ensure an adequate cushion on operating performance--particularly if payments are based on performance measures such as passenger counts.

In all of the major overseas transit turnkey projects, the project sponsor has retained full control of fare policy. This is mostly for reasons of public policy. Without control over fares, the turnkey manager has usually insisted on a minimum guaranteed revenue level, in case passenger counts do not meet expectations. The project sponsor, on the other hand, has sought to introduce an incentive system, to "keep the contractor honest." Both sides meet in the middle by various means, including what has been called "shadow pricing." Under this mechanism, the project sponsor agrees to pay the turnkey manager a fixed cost per trip, within a certain range. Thus, if trips fall below an

agreed level, the payments decline, but if trips rise above an agreed level, the turnkey manager receives a higher increment.

Conclusions

Turnkey procurement appears to be an excellent mechanism for major transit projects, particularly light rail or rapid rail startups. Although it offers many advantages for large, complex projects, it brings with it some risks and complexities that smaller transit systems may not be comfortable with. Also, where the technique is employed, the transit system will have to be proactive in addressing as many issues as possible in contract negotiations. The most successful turnkey projects have been those where most contingencies were resolved in negotiation prior to contract signing. The turnkey projects that failed generally did so as a result of poor planning, exacerbated by a "surprise" that either exploded costs or reduced revenues.

Chapter 5

State Infrastructure Banks

Background

Section 350 of the National Highway System Designation Act of 1995 (Public Law 104-59) established a pilot program to create up to ten State Infrastructure Banks (SIB). Using Federal dollars, pilot States were permitted to establish a leveraging program or create a simple revolving loan fund, to be administered at the State level. The legislation charged USDOT with the implementation of the pilot program by selecting no more than 10 pilot SIBs and developing cooperative agreements with each participating State. The DOT Appropriations Act of 1997 expanded the SIB program to "at least 10 States," and provided $150 million in general funds to help capitalize the original pilot SIBs and any new SIBs approved by the Department.

State Infrastructure Banks (SIBs) are infrastructure investment funds that are created at the State or multi-state level. Designed to provide States with a new financing capability, they are intended to complement other parts of the U.S. Department of Transportation Program. SIBs:

- Are created with Federal seed money (also known as capitalization grants),
- Offer a menu of loan and credit enhancement assistance (such as lines of credit), and
- Give States/locals maximum flexibility regarding project selection and financial management.

Traditional Federal transportation funding programs offer only one form of financial support -- reimbursement grants -- where the Federal share of a project's costs is set, usually at 80 percent. Unlike private sector construction financing, traditional grant programs do not provide a menu of alternative ways to finance those transportation projects. States currently cannot tailor the financial role of Federal funds to project needs even if, over time, an individual project requires less Federal money, or if it needs support in a form other than a grant. The proposals submitted by States in response to

DOT's Innovative Financing Initiative showed that certain projects may only need loans or less direct financial assistance than has been offered traditionally.

States may choose to establish a revolving loan fund ("RLF"), or they may choose to leverage their Federal and local deposits through credit enhancement or bond issuance. An RLF simply converts Federal deposits into direct project loans. While this approach does leverage the Federal funds more effectively than traditional grants, the leveraging is limited by the speed at which loan repayments can be recycled by the RLF into new projects. The nearest model to this is the EPA Revolving Fund program for water and sewer projects. With Federal grants totalling $8 billion by 1994, the RLFs had supported projects valued at $14 billion. This reflects an average leverage ratio of just under two times. The more effective RLF programs achieved a leverage rate of about four times.

The alternative is to use the Federal deposit as a capital reserve as was recommended in the National Performance Review. In this case, the SIB borrows money in the bond market to establish a significantly larger loan fund. Given the magnitude of the infrastructure gap indicated by current needs assessments, DOT believes that leveraged SIBs will better address investment shortfalls than traditional grants or RLFs. However, greater reliance on debt for infrastructure investment is a significant shift in practice for most departments of transportation. It will take time for many of these to become familiar with the risks and benefits of leveraged loan funds.

Arkansas DOT tested the Revolving Loan Fund concept before SIBs were invented (see Chapter 6

Existing federally funded projects have a 1:4 ratio (20% local/80% Federal). That is, one new dollar is invested for every four Federal dollars. Simple RLFs would likely achieve a leverage ratio slightly above 1:1. Leveraged SIBs are projected to achieve ratios in the range of 2:1 to 4:1 recognizing that the ratio should increase over time and that local management decisions will affect the actual leverage ratio that is achieved.

To establish these funds, Federal monies would be provided up-front to States and deposited in SIBs. States could then lend that money to sponsors of transportation projects. As loans are repaid, the SIB's funds would be replenished, and the SIB could make new loans to other transportation projects. A SIB is like a private bank, which needs equity capital to get started, and offers customers a range of loan and credit options. SIBs, however, are not "depository institutions" as defined in banking laws.

What types of financial assistance might be available from SIBs?

The NHS legislation allows a broad range of financial assistance to be offered by SIBs, with the exception of grants. From early implementation results, it would appear that State laws will prove more restrictive than the NHS Act in this case. The following are some of the forms of financial assistance that can be offered by SIBs.

- Low interest loans for all or part of a project,
- Loans with interest-only periods in early years,
- Construction period financing,
- Refinancing,
- Extended-term credit,
- Lines of credit to support market studies,
- Credit enhancement to qualify for private market bond insurance,
- Subordinated debt instruments for revenue bonds,
- Pooled credit for small issuers of debt, and
- Equipment leasing pools.

Who might seek loans and credit from SIBs?

The NHS Act allows SIBs to provide assistance to any public or private entity building public transportation infrastructure. A broad range of entities provide transportation facilities in each State, some or all of which have needs that SIBs could meet. Those entities include:

- Transportation districts at the county and local levels,
- Transportation authorities (such as airports, toll road and port authorities),
- Private project sponsors, and
- State DOTs and Highway Departments

How do SIBs Relate to Transit?

SIBs were intended to support transportation infrastructure projects that had a strong income base from which to repay loans. At first it appeared that toll roads and bridges, and possibly ferry boats, would be the primary clients of SIBs. However, as implementation of the SIBs progressed, it became evident that potential benefits were sufficient to attract other projects, including transit rolling stock and facilities acquisitions or reconstructions. While transit systems do not charge fares sufficient to cover all operating expenses, much less contribute toward capital costs, they may have access to other sources of funding. These may include benefit assessment districts, special appropriations, dedicated tax increments of various kinds, and joint development revenues. Real cost savings from project acceleration and project finance will justify the use of these sources of funding to repay SIB support. The following case study provides an example of a SIB-supported transit project.

Gateway Multimodal Transportation Center - The financing strategy for this multimodal project in St. Louis, Missouri, illustrates how two SIB loans can be sequenced to achieve substantial project acceleration and interest cost savings for a debt-financed project. The projects are being sponsored by the City of St. Louis. The

overall project comprises eight related component projects to serve customers accessing urban buses, intercity buses, light rail, intercity rail, and an international airport, as well as to provide parking and commercial space. The projects consist of: the addition of a light rail platform and pocket track for the Metrolink line; a street extension to serve the project; land acquisition for and development of a 600-space parking lot; a concourse building with amenities for intermodal customers; an Amtrak/Greyhound Bus terminal; a Greyhound Bus deck; Amtrak commuter trackwork; and pedestrian linkages.

The combined cost of this project will be $31.4 million. The City was able to secure $22.2 million in project financing from three sources: $6.4 million from an ISTEA demonstration project; $7 million from the state highway fund; and $8.8 million from a local sales tax. The Missouri SIB (known officially as the Missouri Transportation Finance Corporation, or MTFC) will provide two loans to the City: construction period financing to bridge the project funding gap; and a debt service reserve upon issuance of local bonds.

The first loan, for $18 million, will be made prior to the issuance of bonds. The City will use this loan as project construction capital. The loan will be repaid in four annual payments from the $8.8 million in local sales tax. Additionally, the net project income during years one through six will be applied toward MTFC principal repayment. The parking operations and the terminal building/concourse will be refinanced by the City in year six. The remaining $7.5 million loan will be repaid in a lump sum (a "take out") once the City sells bonds for the projects.

As the first loan is being retired, the Missouri SIB will provide the City with a second loan, this time for approximately $750,000. This will be used as a debt service reserve, to secure payment of principal and interest on the bonds to be issued by the City, thus avoiding the need to use some of the bond proceeds for the purpose.[6] The presence of this reserve fund will also help reduce the interest rate on the bonds.

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[6] With many bond issues, the issuer is required to retain some portion of the proceeds

The benefits of SIB assistance to the City, and to the residents of Missouri are two-fold. First, use of a SIB loan to cover construction costs means that the project can be undertaken right away, with up-front capital. Secondly, the construction period financing is being provided interest-free, thus reducing the average cost of capital for the entire project significantly, as follows.

Interest on the debt service reserve loan is expected to be set at 75% of market rates for tax-exempt, AA rated bonds of comparable term. In today's market this translates into a SIB interest rate of about 4.5%, versus 6%. Because SIB assistance is, in effect, substituting for external debt financing, savings of about 25% in the later years of the project will be realized for the interest component of the debt service reserve. Assuming a $7.5 million, 15-year bond issue with a $750,000 SIB debt service reserve, the SIB would reduce financing costs by over $1.687 million. This is in addition to cost avoidance from project acceleration.

Looking Ahead

The SIB program is very much in its infancy. The DOT Appropriations Act for 1997 provided $150 million in capitalization funding for the ten pilot SIBs, as well as for any additional SIBs the Secretary may designate. DOT received 26 new SIB proposals from 29 States. These included a Tennessee/Arkansas multi-state SIB and a Northern Plains (ND, SD, NE, WY) multi-state SIB. The Secretary designated all of the applicants as SIBs, with the proviso that seven of these--Illinois, Vermont, Minnesota, Rhode Island, Georgia, Massachusetts and Louisiana--would receive only provisional designation until they secure the necessary State-level authority to function as SIBs. With these designations, it is safe to say that the SIB concept itself is now a factor in transportation planning and financing.

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from sale of the bonds, sometimes as much as 10%, as a reserve fund. This increases significantly the imputed interest cost of the bonds. A 5% face value issue might actually cost the issuer 5.5% apr due to the cost of the reserve.

The Administration NEXTEA surface transportation reauthorization proposal contains a request for $150 million per year for six years in continuing capitalization for SIBs, and it would expand the SIB program to all States of the Union, provided they have the requisite local authority to use the mechanism. If the funding level is authorized and SIBs achieve an average leverage ratio of three or more through loans, credit enhancement and other mechanisms comparable to the Missouri SIB, this could result in over $2.7 billion in new transportation infrastructure projects during the next 10 years.

How will States manage this new capability? Under whose jurisdiction will SIBs reside? These are thorny issues for some States. If, as has happened with some of the pilot SIBs, the new entity is formed under the State DOT, then financial expertise will have to be contracted for or employed. If the SIB is formed under the State Treasurer, then transportation expertise will have to be brought in. And, if the new SIB is formed independently from either, then both financial and transportation expertise will have to be arranged. This may be more easily decided than implemented.

At first, the SIB will be highly dependent upon existing administrative and regulatory institutions. It will have insufficient capital and revenue sources to act without direct and substantial cooperation from the State Treasurer and DOT. However, as it accumulates experience and capital, the SIB may (will) become increasingly independent. The State Treasurer will observe a new entity able to maintain a distinct credit rating, potentially able to issue its own bonds, and possibly even enjoying its own dedicated source of tax or other revenue. The State DOT will also note a new funding source in transportation infrastructure--one that can advance projects in accordance with, or even against the wishes of, the DOT. As the SIB accrues ever greater funding capabilities, it will become an alternate resource to the tax-funded State DOT.

What does this mean to transportation planning in a fiscally constrained Transportation Improvement Plan? As capital in the SIB increases, the SIB is able to make loans and

loan guarantees to more and larger projects. However, as the projects mature, they must begin to repay the SIB loans--presumably this will require the use of toll revenues and user charges, or dedicated local funding streams. This is a radically different process than simple grant reimbursement. It will force a State-level reassessment at some point in the next few years, to determine whether the SIB is to be a short-term tool or a long-term institutional shift in transportation planning and implementation.

The Short Term - Those States and transit systems believing that Federal grant support will decline only for a short time will most likely implement SIBs as a stop-gap measure to address a one-time capital shortfall. Once Federal grant funding returns to ISTEA levels (or higher) these States will quietly phase out their SIBs and return (or so they believe) to direct grant reimbursement of infrastructure investment. To keep this process as simple and reversible as possible, their SIBs are unlikely to engage in more than the simplest revolving loans or interest subsidies, generating less than a 2-to-1 leverage ratio.

The Long Term - Many States have recognized that any reduction in Federal grant funding must be viewed as a permanent reduction, for the following reason. There is already an annual investment shortfall of $5 billion per year in transit, and a $20 billion shortfall in highways. Thus, any reduction in Federal investment simply adds to this annual shortfall. States and localities have already boosted their levels of investment to make up for prior reductions in Federal investment, so that in 1991, for the first time, the State and local share of transit investment exceeded the Federal share.

In such an environment, many states will treat their SIBs as long-term additions to the funding mix. For those projects with both public and private benefits, the SIB may be reimbursed from user fees or other non-tax revenues. For projects with entirely public benefits, the funding source may be a dedicated local tax, an addition to property taxes, or some other appropriated revenue. The assistance provided by the SIBs is likely to include the full range of capabilities, such as subordinated debt, loan guarantees,

SIB-issued bonds, or lease-backed securities. In this instance, the State will have every incentive to leverage its capitalization, achieving ratios of 4-to-1 or higher.

Continuation

The SIB program is too new to write a "conclusion" for it. As NEXTEA progresses through the rauthorization process and is ultimately implemented, the SIB concept will be fully tested. Based on current restrictions in some State constitutions and other laws, there may only be 40 or so SIBs formed in the first few years. However, the capability of SIBs to fundamentally alter the way States and communities think of transportation, and how it is funded, may ultimately result in the establishment of SIBs in every State, including Puerto Rico and the Virgin Islands. This will not create success--it will merely provide a promising environment for it. The actual success will depend entirely on the interaction between the newly-formed SIBs, their State governments, municipalities and their transit systems.

Chapter 6
FTA's Innovative Financing Initiative

In support of the Presidents Infrastructure Investment Initiative, FTA published a notice in the Federal Register on May 9, 1995, requesting proposals for innovative financing projects. The notice was aimed at transit systems, planning agencies, and municipalities, in the hope of discovering and demonstrating innovative financing techniques that originated in the local communities rather than in the big financial centers or in Washington, D.C. FTA thought it might get a handful of proposals from some of the more aggressive, mid-size transit operations.

Actually, over the next few months FTA received 72 proposals from transit systems, large and small, requesting nearly $1 billion in Federal assistance. Had the funding been available, it would have advanced well over $4 billion in transit projects of all kinds. Proposals ranged from the very small (a few rural bus shelters) to the very large (a rapid rail connection to an international airport). After much winnowing down of projects to fit the funding that was actually available, FTA settled on eight proposals to be funded with a total of $2.68 million. The following are preliminary results of the eight projects, together with some details of difficulties they faced. The projects demonstrated a wide variety of financing techniques from soft match (in-kind contributions) to pooled procurement and turnkey (Build/Operate/Lease).

Arkansas TransLease

The Arkansas Department of Transportation saw an opportunity to address a growing need in its rural counties for dependable, accessible transportation. It decided to use its existing State authority to provide van pool vehicles under lease to establish a van leasing program for public and human services transportation. Would the FTA grant program be flexible enough to allow this? FTA had allowed vehicles purchased with Federal grant funds to be used in lease transactions after their purchase, so it was determined to allow Arkansas to buy vehicles in anticipation of a pooled lease.

The Arkansas TransLease program was developed to improve community access for the transportation disadvantaged, and to provide an alternative approach to rolling stock acquisition in State programs. By providing low-cost leases, Arkansas DOT hoped to address increasing capital needs at a time when Federal grant funding appeared to be on the decline. The program would buy all new vans, made accessible for persons with disabilities, then lease them without interest to the transportation providers to the clients of various human services agencies. Ultimately, FTA provided $270,000 in discretionary funds, which Arkansas DOT matched with $330,000 from its FHWA Vanpool program funds, and $150,000 in local funds. All of the funds were used for vehicle purchases, as overhead was covered from the DOT administrative budget.

The following table outlines the first year's cash flows for the revolving loan fund, based on 26 vans at an average van cost of $28,845, and therefore an average monthly lease payment of $600.94. The revolving loan fund is estimated to buy additional buses on an annual cycle, as the funds accumulate. This accrues an average monthly balance of $93,746 which, if invested at 6 percent, yields $5,025 per year.

Arkansas TransLease Summary of Cash Flows			
Beginning Capital	$750,000	First Vans bought	26
Monthly Revenue	$15,624	Annual Revenue	$208,322
Annual Interest	$5,025	# of New Vehicles/yr.	6
Total Cost Savings[1]	$37,500	Additional Vehicles bought over 4 years[2]	24
Savings + Interest	$58,320	Program Savings	7.77%

[1] Cost savings are based on reducing the price of an average van by 5 percent, through pooled purchase.

[2] Each year the cost of a van is assumed to increase by 5%.

The initial vehicles purchased by Arkansas DOT were provided to fifteen human services transportation providers around the State via no-interest leases. Thus, in addition to the cost savings generated by the pooled purchases and interest earned on

the revolving fund, the DOT was able to save the transportation providers more than $330,000 in accumulated interest costs over the terms of the leases. That is, assuming they could have purchased the vans one at a time, borrowing the cost of the van at an 11 percent annual interest rate. Given the small size of their operations, many of these transportation providers would not be able to acquire new vans at all. Many of them have operated for years with donated, used vans, modified as required for their service. Mr. Gilbert is awaiting the obligation of State funds to purchase an additional 18 vans to be allocated to 15 transportation providers.

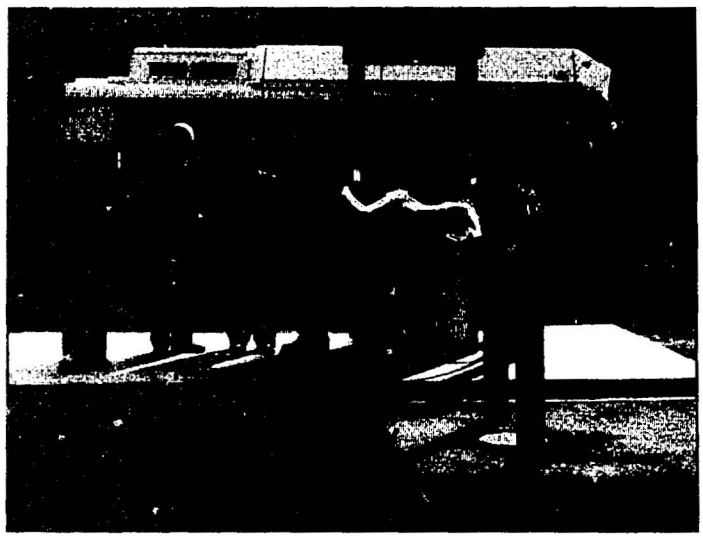
> "The effort has been a tremendous success. We are looking forward to the allocation of additional funds so that we can expand our program."
>
> **Jim Gilbert, Public Transit Administrator**
> **Arkansas Department of Transportation**

Blue Water Area Transportation Commission

This transit system serves the town of Port Huron, Michigan, a gateway city to the Province of Ontario, Canada. It is one of the many portals for trade that we share with Canada, but the trade brings with it two significant problems--congestion and pollution. Port Huron is in an air quality nonattainment area, and as such has received some Congestion Mitigation and Air Quality (CMAQ) funding. For the transit system to assist with the region's air quality goals required the purchase and use of alternatively fueled buses, which would be purchased with these funds. After internal and public dialogue, BWATC decided its preferred alternate fuel was Compressed Natural Gas (CNG).

However, the funding available was not sufficient in a critical way. BWATC could buy the buses, or the fueling system, but not both. If it sought to buy some of the buses, the fueling system would be too large, and if it did not buy the fueling system, it would be

unable to refuel the buses in time to meet daily service schedules.[7] To implement its plan, BWATC needed at least nine buses at nearly $206,000 each. In addition, it needed to build a rapid fueling facility valued at over $500,000. It also needed the ability to expand the facility's capacity to accomodate more buses in subsequent years. BWATC's General Manager, Jim Wilson, began discussions with Southeastern Michigan Gas Enterprises, Inc. He also applied for a grant under FTA's innovative financing initiative. A grant of $335,000 was provided from discretionary funds.



BWATC's CNG Fueling Facility

After months of negotiations, BWATC and Southeastern Michigan Gas agreed on a design/build/transfer arrangement. Blue Water would use its CMAQ grant to buy nine CNG buses for $1,853,037. Then, it would share the cost of the rapid fueling facility with Southeastern Michigan Gas. FTA grant funds would be matched with State funds as well as equity contributed by Southeastern Michigan Gas (about $125,000), who would also provide engineering and construction management to fit the fueling center to Blue Water's operations.

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[7] The buses could be "slow fueled" without the fueling facility, but this would not have been feasible for more than four or five buses in one night.

"We hope the project will encourage natural gas companies across the Nation to contribute private capital to public transit projects. The private-public partnership can produce lower operating costs and promote the use of clean burning fuels in transit vehicles."

Bill Johnson
President & CEO
Southeastern Enterprises

Aside from the boost in the transit system's image from new CNG buses, the project will make it possible for some municipal fleet vehicles to be fueled during non-peak hours at the facility. This will accelerate the conversion of these fleets to alternative fuels and provide an enhanced market base for the gas company. Jim Wilson said: "We are very pleased with the project. Clean burning CNG will help reduce our maintenance costs as it helps reduced air pollution in the region. We plan to replace our entire fleet with CNG buses as warranted. This community is proud to be a National leader in public transit." The ribbon cutting ceremony for the rapid fueling facility was held in June of 1997.

This project has worked out so well that Blue Water is considering other joint ventures. Its next project is a possible co-venture with Sarnia, its sister town in Ontario. The two transit systems would provide coordinated service across the Blue Water River Bridge between Port Huron and Sarnia, thus ensuring that congestion reductions made in Port Huron continue into southern Ontario. This would be the first international venture for the Blue Water Area Transportation Commission.

Florida Transit Association Finance Corporation (FTAFC)

Not all innovative financing projects are successful overnight. The Florida Transit Association proposal to establish a Finance Corporation to pool bus and facilities procurements on behalf of its members was well grounded. It followed the example of the California Transit Finance Corporation, and set definite, conservative goals for itself. Nevertheless, FTAFC found that having a great idea is often far easier than turning the idea into reality.

In response to FTA's request for innovative financing proposals, the Florida Transit Association cooperated with the Florida DOT to submit a proposal for the Finance Corporation. A grant was requested in the amount of $300,000 for startup expenses, which FTA awarded. The FTAFC was formed, with a five-member board of Directors appointed by the Florida Transit Association from among its Executive Directors and General Managers. A representative from Florida DOT's Office of Public Transportation sits on the board as an ex-officio member.

The FTAFC began to develop two pooled financial programs. The first is a leasing program based on Certificates of Participation, much like the California program. Florida brings the additional capability of "soft match" toll credits to this program, which will provide increased flexibility for some of the smaller transit properties. The second program is a tax benefit transfer program, to allow transit systems to unlock additional value from their existing base of capital assets through sale-leaseback, lease-leaseback, and cross-border lease transactions.

> "Florida is pushing the envelope in determining the feasibility of multiple and differently constituted government units, being able to relate to the financial markets sufficiently to complete a transaction. Lessons are being learned as we go. The greatest lesson being that it would be nearly impossible without a high degree of trust and comfort between the transit agencies. Fortunately, we have this in Florida."
>
> **Wes Watson**
> **Executive Director**
> **FTAFC**

The first test of the FTAFC came with the opportunity to assist a transit system with its upcoming purchase of rail rolling stock. Several meetings were held to acquaint the Florida Transit Association members with the financial and legal advisors hired by the FTAFC, and to discuss the methods for pooling procurements and realizing sale-leaseback and other benefits from major capital acquisitions. After several exploratory meetings and discussions of methods, the transit system advertised its

rolling stock purchase independently, without the partnership of the FTAFC. The Association returned to the drawing board.

On January 9, 1997, the FTAFC met with several transit systems to propose a pooled leasing program for new bus purchases, with HARTline Transit, of Tampa, serving as the prime purchaser. Eight agencies met and agreed to participate, and a ninth property was invited to participate as well. The Engineering firm of ICF Kaiser would develop specifications for the buses that would meet the requirements of all participating transit systems. The Florida Transit Association board approved the proposed pooled transaction on January 23, leaving open the decision whether to undertake a COPs-based lease or a cross-border lease.

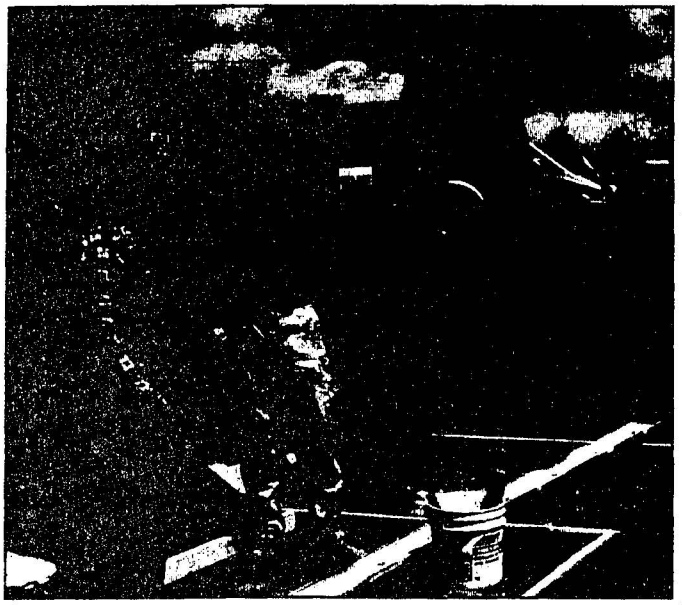
FTAFC is facing all of the economic uncertainties that are present in the domestic and international leasing markets. By using other organizations' prior experience, and by hiring a good mix of financial and legal experts, it is providing a mechanism for its member agencies to participate in transactions that would otherwise have been unattainable to them. With minimum transaction levels of $8 million to $20 million, debt-based or lease-based transactions would otherwise only be available to the major city transit systems in Florida.

Santee Wateree Regional Transportation Authority

It seemed like such a simple concept--build bus shelters for the transit system and more people will use it. But often, even the simplest concepts run into complex roadblocks.

The Santee Wateree RTA serves a four-county area including Sumter, South Carolina. Until this year, the counties had one bus shelter. The transit system estimates that senior citizens account for 40 percent of trips. The predominantly rural transit system responded to FTA's request for innovative financing methods with a proposal to match Federal funds with in-kind services. The transit operator's concept was designed to produce a "win/win" situation for the counties, the transit system, and the transit riders. The city would provide architecture and engineering services, and local

businesses would provide easements for the shelters. A local firm would provide the building materials at cost, and the City of Sumter would waive the building permit fee of $100 per shelter.



Building a shelter in Sumter, SC

FTA's grant rules proved to be the first hurdle, and they could not be overcome. Grants may only be provided to reimburse actual costs. Thus, Santee Wateree could not count any discount provided by the building materials supplier as local match. However, because the city employees and transit operators would share engineering, location and construction of the shelters, grant rules allowed Santee Wateree to recognize nearly $48,000 in soft match for an FTA grant of $50,000. This grant would make possible the construction of 16 bus shelters in the City of Sumter.

The first step, then, was to secure easements for the locations of the bus shelters. That revealed the next, and most significant, hurdles. The State of South Carolina has a rule forbidding encroachment on the State roads by any structure. The City of Sumter requires all structures to be set back from the sidewalk by 30 feet. In order to satisfy these requirements, Santee Wateree would have had to request easements three times larger than necessary to accomodate bus shelters. Few land owners would have agreed. It took nearly eight months for Santee Wateree to arrange for the required permits and variances. However, by January of 1997, construction of the second shelter was under way. Site plans and designs for an additional four shelters were submitted for State approval in January, and four more in February. The 16th shelter was under

construction in December of 1997.

> "First, the transit system benefits, because its service and its image improve; then the community's image is more apparent by the presence of the shelters; and the passengers benefit because they have a place to sit in comfort while waiting for the bus--rain or shine. This is definitely a win for all."
>
> **Joe Embler**
> **Human Resources Director**
> **Bus Shelter Project Manager**

Mr. Joe Embler, Human Resources Director and project manager for the bus shelter grant, has already encountered positive reactions to the project. In measuring the first bus shelter for additional work, he was approached by one of the transit system's patrons. She inquired what he might be doing with "our shelter." She was particularly concerned that it not be moved. She went on to explain that she and her friends depended on the RTA for their daily transportation, and that the shelter made their wait for the bus much nicer, especially during the nasty, winter weather.

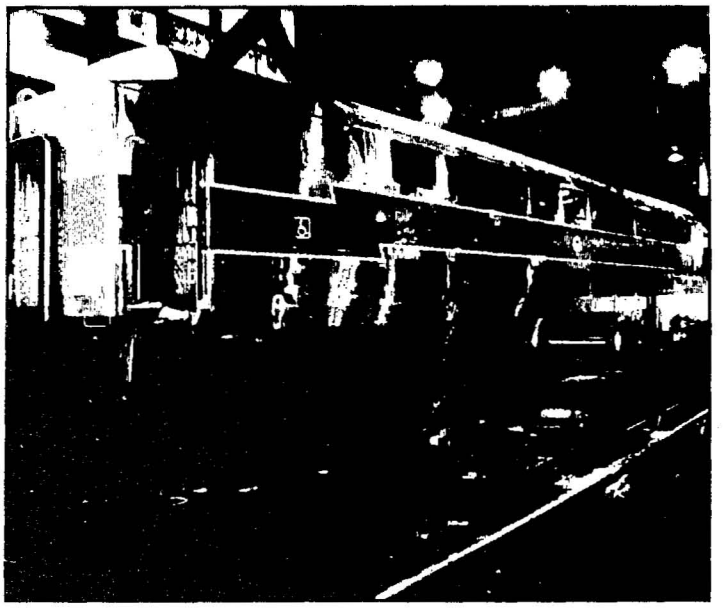
One reason for the immediate and positive response to the bus shelters is that Mr. Embler rode with the bus drivers to ask their opinions of where to place the shelters. Of course, as they heard this conversation in progress, the passengers did not hesitate to make their opinions known as well. The passengers were even instrumental in shifting the planned location of one shelter, to avoid an insurmountable easement problem in the original location.

The Boston Engine Terminal

Some projects are so big, and so time-intensive, that they must have assurance of funding before the first shovel of dirt is turned. The Massachusetts Bay Transportation Authority (MBTA) faced this difficulty in 1995. Its Boston Engine Terminal needed a complete overhaul, but sufficient funding could not be collected at one time to push the project forward. The facility provides repairs and maintenance for the MBTA's 58 locomotives and 345 commuter railcars. Though it requires multiple steps, involving several buildings, to undertake the project "piecemeal" was not an option. FTA

approved MBTA's request for Advance Construction Authority that would make the costs of the project eligible for grant reimbursement in subsequent years.

Once it had the authority, the MBTA was able to issue bonds to raise the funding necessary to proceed with the reconstruction. Under the Advance Construction Authority, the cost of the bonds is reimbursable in the same manner as the cost of the construction. Thus, the MBTA was able to use its bonds as a financing mechanism for the construction project. There was some risk to the MBTA in this method. The Advance Construction Authority cannot last beyond the authorizing legislation that makes it possible, because the section of law under which it was granted might not be reauthorized.[8] If MBTA did not complete the bond issuance process, or the subsequent construction, before September 30, 1997, it might have to repay all of the bonding and project costs from its own resources.



The Boston Engine Terminal

While financing the project with bonds is already somewhat complex, the construction itself added its own complexity. The existing buildings will be either removed or refurbished, resulting in a 380,000 square foot, state-of-the-art maintenance facility that includes a 3-track service and inspection section, a 2-track periodic inspection section, a 10-track intermediate repair section, truck shop, electronics shop, 4 shops for bridges and buildings, stores, administrative spaces, and a wastewater treatment building.

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[8] The section of the FTA laws under which this Advance Construction was approved is very likely to be reauthorized, as it is one of the keystones of the transit capital program.

The project will include an exemplary soil remediation program. Years of deferred maintenance and neglect had allowed the site to become contaminated with oils and sediment. Working with the Environmental Protection Agency and the State's Department of Environmental Protection, the MBTA developed a remediation plan for the site. Every bit of contaminant is being removed, and the collected materials are being separated and cleaned for recycling or disposal, as appropriate. The water used in this process is being filtered and reused.

Once all the oily subsoil is removed, a state-of-the-art remediation system will maintain the site so that not one drop will leak back into the soil. This will improve the environment for the workers who for years worked in dark, poorly ventilated areas of the maintenance terminal. It will also end years of oily runoff into Boston Harbor.

"The MBTA has been environmentally responsible in remediating this site on its own. We look forward to the design and construction of the project. The community and the 'T' alike are definitely winners in this project."

William Quinlan
Deputy Director for Design & Construction, MBTA

Under Massachusetts authority the MBTA, unlike most transit systems, is able to issue General Obligation bonds in support of specific projects. However, the long-term nature of this project was sure to exceed the current (ISTEA) period of authorization. MBTA needed some assurance that costs, (such as interest) incurred with regard to this project would be eligible for grant reimbursement when the transit grant program was reauthorized. The Advance Construction Authority provided this assurance. As a result, most of the facility rehabilitation/reconstruction was completed in the summer of 1997, and the site work--including environmental--was completed by November 30, 1997. The most optimistic previous estimate of project completion was "late in 2001." The practical effect of this project acceleration was significant.

Based on an annual inflation rate of just 5 percent, this project will cost $34 million less than it otherwise might have. In addition, each major repair or maintenance task will take 20 percent less time than it does now, and more tasks will be undertaken concurrently due to the enhancements made to the facility. In the first few years after construction, the MBTA will save additional millions in vehicle maintenance and repair costs.

Delaware Metroform

Not all transportation projects benefit from speed. In the case of new development, excessive speed may actually prove to be a hindrance to progress. New Castle County and Delaware DOT faced this reality in their Metroform project.

This project is an attempt to weave a long-term partnership between Delaware DOT, New Castle County, Amtrak, and the residents surrounding a developable site known as Churchman's Crossing. The hope was to design and implement a "sustainable community" on the land surrounding an existing Amtrak station along the Northeast Corridor, about 10 miles south of Wilmington. This development would be anchored by a multimodal transfer center at the Amtrak station, providing an interface with the local transit system, and would include residential and retail space as well as office space.

The project began with a vision process at Churchman's Crossing. The second phase, which led New Castle County to apply for an innovative financing grant, was begun in the summer of 1995. It followed on from the initial Vision of the community, which guided the effort with the following principles:

- Enhance the area's quality of life
- Plan for sustainable growth and development; and
- Provide opportunities for multiple transportation choices.

Phase II involved technical data collection in support of the vision process, and it led to a second public workshop on February 15, 1996. It was here that land use and transportation options were presented to the public for discussion. This discussion resulted in a draft recommendation for land use and transportation improvements for Churchman's Crossing. The draft plan included project phasing and preliminary cost estimates, which were presented for public discussion once more on November 20, 1996. Without sufficient time, and lacking repeated public input, it would be quite possible for Delaware DOT to produce an entire development plan, then be unable to implement it due to public opposition.

> "This effort to analyze both land use and multi-modal transportation options was one of the first of its type in the country, and the first such comprehensive analysis undertaken in Delaware.
>
> **Paul Welsh**
> Project Manager
> Delaware DOT

Bi-State Development CNG Conversion

The Bi-State Development Agency is the transit provider for the Metropolitan area of St. Louis, Missouri, and its service area extends across the State boundary into St. Clair County, Illinois. In 1991, Bi-State committed itself to a leadership position to improve air quality in the St. Louis region. It, therefore, undertook a test of CNG technology for buses with Laclede Gas Company, the local natural gas supplier. The test was so successful that Bi-State purchased 36 new CNG buses to kick off a conversion to CNG for a third of its bus fleet. To complete this conversion would require the modification of its Brentwood Bus Facility to maintain and fuel CNG buses. Fire prevention, electrical, maintenance and other systems need very specific enhancements to properly manage CNG in daily use.

To complete this project required solving several problems simultaneously: the facility modification would have to be completed; 205 buses would have to be bought over a period of 12 years; and the Brentwood facility would have to be equipped with a rapid fueling unit that could grow over that period of time. Since FTA could not provide grant funding for more fueling capacity than was needed at any point in time, the additional complication of how to pay for the fueling equipment was added. Bi-State decided to try a mechanism promoted by the Natural Gas industry, known as "Vendor Financing."

The ideal solution to its difficulties would have been to have its long-term partner, Laclede Gas Company, provide this financing, but State regulations governing public utilities prevented this. After issuing Requests for Proposal, and discussions with several potential facility builders and fuel suppliers, Bi-State came to realize that its lowest-cost alternative would be to use Federal funding for the facility modification and bus purchases, and to seek financing for the fueling facility itself.[9]

In May of 1995, Bi-State received a $550,000 grant under the Innovative Financing Initiative to test its vendor financing project. This would add to the $2 million grant for the Brentwood Facility modification. However, time was running short. The new CNG buses were scheduled to arrive in spring of 1997. The fueling capability at least would have to be substantially in place by then. After some months of evaluating proposals, Bi-State prepared to issue a final Request for Proposals to Design/Build/ Maintain and Operate a rapid fueling CNG unit. Laclede Venture Corporation, a non-utility subsidiary of Laclede Gas Company, bid on the project, and Bi-State accepted the bid.

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[9] Vendors indicated that the cost of financing the fueling facility by itself would be lower, because it could be differentiated from the realty, whereas modifications to the Brentwood garage could not. That is, the vendor would have a better security in all of the fueling equipment than in part of the garage.

CNG Facility Lease			
Facility Cost	$1,501,998	**Total Interest**	$2,154,683
Annual Lease	$ 243,738	**Less Depreciation =**	$ 653,285
Annual Maint.	$ 130,507	**Annual Tax Avoided**	$ 31,029
Annual Total	$ 374,245	**Imputed Interest Rate**	13.9425%
Lease Term	15 Years		

The preceding table summarizes the basics of Bi-State's arrangement with Laclede Venture Corporation. To meet all of Bi-State's requirements, Laclede Venture proposed to install and maintain the fueling facility in four stages, over a 7-year period. Thus, as Bi-State purchased additional buses, there would be adequate fueling ability to keep them on the road. To pay for the fueling equipment service, Bi-State and Laclede agreed to a service fee structure over 15 years. The payments under the lease are based on an imputed interest rate of just under 14 percent. The lease payments are eligible for grant reimbursement as capital expenditures. None of the figures in this table include possible revenues to Bi-State or Laclede from selling incidental quantities of natural gas to other municipal fleets.

> "Bi-State successfully tested the viability of vendor financing and the FTA innovative finance concept of lease payment through its Lease/Service agreement with Laclede. Laclede was responsible for financing, design, construction and maintenance of the CNG fueling equipment.
>
> **Mr. Dudley Willis**
> **Project Manager**

The rapid fueling facility was brough online in July of 1997, and went into immediate service to fuel the first 36 CNG buses delivered. The remaining replacement buses will be delivered over the next year-and-a-half.

Mississippi Regional Transportation Centers

In many areas of our States there are small communities doing the best they can with limited resources. Mississippi DOT tried to help two multi-county areas better meet the transportation needs of their citizens. While Federal and local transit dollars were forecasted to decline, these counties were expecting a significant increase in demand for transit due, in part, to significant growth in the number of persons commuting to job sites, as well as a growing population of elderly residents. Mississippi DOT wanted to implement best practices identified in FTA research and demonstration results with Regional Transit Centers, allowing transportation providers to offer more service without increasing costs. This might be done by coordinating services for multi-county areas in "one-stop shopping" Regional Transportation Centers.

Madison County Regional Transportation Center

The grant application requested $1.5 million, which would have been sufficient to rebuild two buildings that were deemed appropriate for the project. However, FTA was only able to approve $781,000--just over half the amount needed. This forced a revision in plans and schedules, and it initiated a search for additional funding. Mississippi DOT enlisted the aid of the Community Transportation Association of America (CTAA) to assess the feasibility of completing the project with a reduced budget. CTAA determined that, with some modifications, both regional centers could proceed.

The original proposal was for two Regional Transportation Centers, the Aaron E. Henry Center and the Madison County facility, to be created from existing properties owned by the respective counties. These centers would allow the coordination of dispatching, vehicle storage and maintenance for rural and specialized transit providers in eight counties. These transportation providers each had separate contracts with fuel suppliers, maintenance garages and service organizations; and they often would provide service in overlapping areas. The new transportation coordination centers would allow these transit providers to increase daily service by up to 20 percent with their existing staff and equipment, and within their existing levels of funding.

> "The development and implementation of these Regional Transit Centers illustrate the true essence of coordination and collaboration, to serve more transit patrons at reduced cost.
>
> **Charles Carr**
> Manager, Public Transit Division

The Madison County facility design and funding proceeded through 1996, while it seemed that the Aaron E. Henry center might not have sufficient funding. However, by aggressively pursuing other funding sources such as a grant from the USDA, and a Southern Cooperative Development Loan, Mississippi DOT and the project sponsors were able to free some of the FTA funding for the Aaron E. Henry Center, which is now in the design stage. The Madison County facility will proceed to construction in the spring of 1998.

Ohlone Chynoweth Joint Development - a "Transit Village"

When Santa Clara Valley Transportation Authority (VTA) solicited bids from developers in 1995 for its joint development project near the Ohlone-Chynoweth light rail station in San Jose, its objective was clear: to attract a qualified developer who could plan and construct a new, medium-high density residential neighborhood that met VTA's goals. These goals, adopted in 1993, are straightforward: 1) to enhance the

quality of the station environment; 2) to improve linkages between transit and the community; 3) to improve system patronage; and 4) to generate revenues for the transit system. When Eden Housing, Inc. was selected as the developer, VTA got even more -- a commitment to integrate social service and quality of life amenities into the project in such a way as to maximize the livability of the neighborhood.

Eden Housing, Inc. is a non-profit development corporation, one of only two non-profits to respond to VTA's proposal. Since 1986, Eden Housing has evolved from being primarily a non-profit, affordable-housing developer to managing property and, most recently, to coordinating a variety of social support services for the residents in projects that it manages. According to the developer, Eden takes a "holistic approach to creating affordable residential communities."

The Ohlone-Chynoweth joint development project is taking place on a parcel of 11.6 acres on the west side of the station. At present, only 20-25 percent of the existing 1,166 park-and-ride spaces are being used regularly, and the transit agency has projected the maximum demand for future spaces to be between 500 and 600 spaces. The joint development project will be designed to accomodate at least 200 park-and-ride spaces (to supplement 300 spaces on the east side of the station), as well as 3 bus bays and a spur track for Light Rail. The development site is not presently constrained by roadway capacity, nor is it expected to be constrained in the medium term. However, it will have to accomodate transit parking, bus circulation to and from the station, and access to the land parcel next to the station which is owned by the Cilker family. This 10.6-acre lot will, by agreement with the Cilker family, be developed in the same way as the Ohlone-Chynoweth Station.

The transit authority will maintain ownership of the transit land used for the development, leasing it out to the developer for between $200,000 and $300,000 per year in ground rent. At current discount rates, this will produce an aggregate income for the transit system of more than $3 million over the next 20 years. However, it is anticipated

that the term of the lease will be for 99 years. The development will include 195 units of townhouse and apartment dwellings, over 4,000 square feet of retail space, a child care center for use by residents and non-resident transit riders, a spacious community building, and a variety of recreational amenities, including a swimming pool, basketball court, tot lots, and a bicycle/walking path. The likely benefits of this project are many.

Access to Jobs - The Guadalupe Line, which runs by this station, connects the residential areas of South San Jose to the large and growing employment centers to the north. The development of housing, particularly affordable housing, adjacent to this and other stations will significantly improve the jobs-housing linkage and provide a real commuting alternative for moderate-income workers.

Access to Services - Joint development at this and other stations in the system will strongly encourage the inclusion of both convenience retail and day care in the projects. This will also indirectly enhance access to jobs by saving time and eliminating vehicle trips for increasingly time-constrained workers.

Transit Experience - A major goal of joint development is to enhance the quality of the transit experience and thus to promote ridership. One of the greatest benefits of well-planned joint development is the improvement in real and perceived security for transit patrons. Not only can new lighting and other security features be incorporated into the project, but the on-site presence of residents and economic activity around the station will be significant deterrents to crime.

> "This integration of transportation and land use is another example of Valley Transit Authority moving into the future to enhance the environment and add another element to customer service.
>
> **Peter M. Cipolla**
> General Manager

In order to assess the development potential of the joint development site, three alternative scenarios were developed for analysis and critique. As a result of this

process, the transit agency produced a "Framework Plan" that includes both the transit site as well as the Cilker family site. The plan defines the general organization of land use on the two sites; a system of access and internal circulation to serve both sites; and a new layout for the transit operations. It also includes a site development plan, with specifics on roadway widths and curbs, rail lines and platforms, bus stops, a general pattern for public landscaping, and building setbacks for the residential parcels.

The intended outcome is an architectural concept that emphasizes pedestrian-friendly character, an active and secure public realm, and a sense of community. Residential units face, and have direct access to, streets and courtyards. The retail area faces the station and creates an active interface for residents and transit patrons. The clubhouse and recreational facility will be located at the center of the housing complex. The plan will ensure a mutually-beneficial relationship between the transit system and the community it will help to create.

Conclusions

These projects clearly demonstrate that financing is not the greatest obstacle to building or rebuilding infrastructure--at least at the local level. However, even at the local level financing remains one of a handful of impediments. These innovative proposals adapted available methods within the Federal grant program to overcome local difficulties ranging from insufficient local funding to operating inefficiencies. They also, however, addressed some difficulties related to the Federal grant process itself, as with the Bi-State CNG Facility lease.

The two projects that appear to make the greatest strides in reshaping the way in which America plans and finances public transit are the Ohlone-Chynoweth and Delaware Metroform joint development projects. They will provide an opportunity to demonstrate how the transit system helps to shape land use and "livability" at the neighborhood level. These projects will also make the direct financial link between the transit facility and the community that it serves. In an age of increased local public

involvement in transportation, zoning, economic development and other municipal issues, this link must be recognized and addressed at the local level.

In many communities the voters have spoken clearly and concisely--in state after state, referenda to increase rates of taxation or to expand the basis for taxation for general expenditures have been roundly defeated. Yet, in the same elections, targeted tax increases for specific purposes, such as a new school, police station, or transit service, have been passed with 60/40 majorities. This includes bond provisions to finance some of these capital investments. It is a message that States and localities cannot ignore.

As this handbook goes to press, New Orleans Regional Transit Authority (RTA) is putting the finishing touches to a new transaction, allowed in FTA's Final Leasing Regulations -- a "lease with maintenance." RTA needed to replace at least 100 buses in its fleet, but it only had $10 million in grant funds available. A lease would enable it to acquire the needed buses. It seemed possible, however, that RTA might also reduce some of its maintenance costs through a lease/maintenance contract. All RTA needed to do was honor its existing labor agreements, order the buses, and undertake the transaction in conformance with Louisiana laws.

After evaluating responses to its request for proposals, RTA entered into negotiations with a lessor and a lease financing arranger. The lessor would honor existing labor agreements, renegotiating these every three years, and would use one of RTA's bus maintenance facilities. RTA would order up to 175 buses, with a maximum annual lease cost of $3.6 million (an excellent 7% apr). As the buses were delivered to the lessor, the annual lease payment would rise incrementally.

Each year, RTA would also make a maintenance payment to the lessor. This part of the payment would be subject to labor negotiations every three years, rising and falling with wage rates. In the first three years of this transaction, RTA will save over $6 million in maintenance costs. And, while the "up-front" cost of 175 buses would

have represented nearly one-half of RTA's annual cash flow, the annual lease cost is less than 4 percent of RTA's annual cash flow.

The benefits of this transaction for RTA are substantial. Rather than having to wait as long as four years to upgrade a superannuated fleet (average age of 13 years), RTA was able to replace between 100 and 175 buses within two years. RTA's fleet composition will go from over 6 bus types to two, and it will be able to reduce spare parts inventories by over one-third. The available grant funds will make it possible for RTA to make the first four years' payments from available resources. RTA plans to use its local matching funds as a reserve fund to help reduce the interest cost of the bus lease. This will earn the RTA another $500,000 over three years to support the transaction.

FTA is looking forward to widespread implementation of the lease-with-maintenance capability. It may provide significant cost savings for smaller transit operators, particularly if several small operators can agree to combine transactions under one contract of economic size. The major benefit of this transaction comes from being able to replace assets in a similar manner to an installment purchase. For many small transit providers, this is not usually a possibility because they cannot afford the interest cost. However, acting together, several transit operators can reduce the lessor's risk while presenting a transaction of economically efficient size.

Chapter 7
Conclusion

As this report was being drafted, new transaction types were being implemented, or were under consideration. For example, in February of 1996 the first Lease/leaseback of transit rolling stock was undertaken by the San Diego Transit Authority. This complex transaction involved the lease of San Diego's light rail cars to an investor, which created a lease interest that could then be leased back to the transit system. That sub-lease was considered an economic instrument, and could thus be amortized in the same way as an intangible asset. This transaction was adapted from the movie industry, and has subsequently been used with transit rolling stock and facilities valued at more than $2 billion.

The State Infrastructure Bank program is likely to generate more innovations, as States realize its usefulness in completing transportation projects that have more than public benefits. As the SIBs become more mature, and more fully capitalized, they may play a major role in intercity transportation, interstate freight infrastructure, and harbor projects. And, as the SIBs begin to recoup fees and interest on loans and credit enhancements, the range of projects eligible for SIB support will grow. It is quite possible that SIBs could provide interim or construction financing to a major light rail turnkey project, then help to finance joint development projects along the completed light rail system some years later.

The Surface Transportation reauthorization bill, NEXTEA, contains a proposal to establish a "Revenue Enhancement Reserve Fund." This fund, established through a new grant authorization, would allow a major infrastructure project--a project of national significance--to apply for a grant to establish a revenue enhancement reserve. This reserve would be used to make loan repayments if revenue projections of the infrastructure project were not realized. This would be a particularly valuable program

for major light rail turnkey projects which, by their very nature, have significant economic and congestion mitigation impacts as well as uncertain costs and revenue projections. Grant funds would be deposited into the fund, which, if not needed to make loan payments, could be used for any other transportation purpose once the project was completed.

But where is all this going?

The reality is that transit investment each year falls behind the level required to maintain current conditions by as much as $5 billion. The highway investment shortfall is in excess of $20 billion per year. States, Counties and cities will have to use every means at their disposal to even make a dent in this kind of investment shortfall. "Pay-as-you-go" will take on a whole new meaning.

Rather than accumulating funds until the project can be paid for in cash, States and cities will have to calculate how much revenue will be generated by the project and plan to pay for the project on that basis. Pay-as-you-go will mean depreciating assets as they are used, and financing their replacements on that basis. Pay-as-you-go will mean passing public referenda that link transportation improvements with the land and the community that they serve, so that people pay for these improvements on an annual basis (such as a Benefit Assessment) or as they use them (i.e. through user charges).

As demonstrated in the COPs transactions, Grant Anticipation Notes, and the Advance Construction Authority, projects that are "ready" tend to rise in price the longer they are delayed. Stated in the obverse, every year that a needed project can be accelerated will save the public at least inflation costs. If it is a revenue-producing project, such as a joint development, toll-road, or multi-modal center, then every year's delay also postpones potential revenues. On $1 billion of potential investment, a one-year advancement in projects will save $50 million at least. It will also allow the projects to collect revenues that much sooner. This is a capability that States and municipalities can no longer ignore.

APPENDIX A

Sample Term Sheet

The overall transaction structure and risk allocation framework of a cross-border lease is set forth in the term sheet. In effect, the term sheet provides an outline of all the aspects of the transaction discussed thus far. A sample term sheet for a true-funded JLL follows.

JAPANESE LEVERAGED LEASE
SUMMARY OF TERMS AND CONDITIONS[1]
(True-Funded Transaction)

Participants and Structure

1.	**Lessee:**	A public transit authority.
2.	**Equipment:**	Approximately _____ new buses (the "Buses") each bus being an "Item of Equipment".
3.	**Delivery Dates:**	Delivery of the Buses has commenced and is expected to continue through late January 1994. Between the Delivery Date and Closing Date, title to the Equipment will be held by _____ (the "Interim Title Holder") under an interim title holding arrangement (the "Title Holding Arrangement").
4.	**Closing Date(s):**	Assumed to be _____.
5.	**Lessor's Cost:**	Assumed to be approximately $ million. The total transaction size will depend upon (i) how many Items of Equipment have been delivered and placed in service prior to the effective date of the Title Holding Agreement, and (ii) whether the Lessor will agree to finance those Items of Equipment which had been placed in service prior to the effective date of the Title Holding Agreement. The Lessor's Cost will be supported by an invoice from the manufacturer. In addition, the Lessor may obtain an appraisal, at its own cost, to confirm that Lessor's Cost is equal to the fair market value of the Equipment.
6.	**Lessor:**	A special purpose company (the "Lessor") that will be controlled by a major Japanese leasing company selected by the Lessee (the "Parent"), which will support the Lessor's obligations pursuant to a comfort letter (the "Comfort Letter"). Among other things, the Comfort Letter will provide that the Parent will ensure that: (i) The Lessor will be properly managed and not be engaged in any other business;

[1] SOURCE: CAPSTAR PARTNERS & Jeffrey A. Parker

(ii) The Lessor will remain solvent at all times during the Lease Term and perform its obligations in the operative documents;

(iii) The Lessor will not create or cause to be created any liens on the Equipment (other than those contemplated herein);

(iv) The Lessor's interest in the Lease shall not be transferred without the consent of Lessee and the Lender; and

(v) The Parent will not dilute its interest in the Lessor without the consent of Lessee and the Lender.

7. **Equity Participants:** The Parent will arrange the participation of one or more Japanese corporate investors (the "Equity Participants"), each of whom will enter into separate Tokumei Kumiai ("TK") agreements with the Lessor.

8. **Lender:** A Japanese branch of a major non-Japanese bank or a U.S. branch of a major Japanese bank selected by the Lessee. The Lender will be chosen so as to qualify for exemption from U.S. withholding taxes.

9. **Funding:** On the Closing Date, the Lessor will take title to the Equipment from the Interim Title Holder for payment of cash consideration equal to Lessor's Cost, as evidenced by an invoice, a full warranty bill of sale from the Interim Title Holder and such other documentation as may be satisfactory to the Lessor. Upon taking title to the Equipment, the Lessor will immediately enter into a net lease (the "Lease") of the Equipment to the Lessee. The Lessor's Cost will be funded through the Loan and the Lessor's equity capital (the "Equity Portion" of Lessor's Cost), which will be contributed by the Equity Participants.

10. Yen Deposit:

On the Delivery Date, the Lessee will place a Yen Deposit with a bank selected by the Lessee and acceptable to the Lessor (other than the Lender) that will be sufficient to pay the Lessee's future scheduled Yen payments due on each payment date under the Lease. The Yen Deposit will carry a fixed rate of interest determined according to market conditions on the Delivery Date ("Yen Rate") and will be in an amount equal to the present value of the scheduled Yen denominated Rent and Purchase Option Price due under the Lease. The Yen Deposit will be pledged to the Lessor as security.

The Lease

11. Lease Term:

Eight years from the Closing Date.

12. Rent:

Rent will be paid semi-annually in arrears as set forth in an attached schedule. The portion of the Rent used to pay debt service will be paid in U.S. Dollars. The balance will be paid in Yen.

13. Net Lease:

The Lease will be a net lease in which the Lessee will be responsible for all costs and expenses associated with the delivery, use, lease, financing or ownership of the Equipment including maintenance, insurance, and taxes other than Japanese taxes.

14. Quiet Enjoyment:

So long as no Event of Default has occurred and is continuing under the Lease, each of the Lessors, the Equity Participants and the Lender will agree not to interfere with the Lessee's quiet enjoyment of the Equipment.

15. Title/Registration:

The Equipment will either be registered in the name of the Lessor as owner and show the Lessee as operator of the Equipment or will be registered in the name of the Lessee and show the Lessor as legal title holder.

16. Lessee Events of Default:

The Lease will specify such events which, following customary cure periods, will constitute default by the Lessee ("Lessee Events of Default"). Lessee Events of Default will be standard for international lease transactions of this kind.

Upon a Lessee Event of Default, the Lessee will pay Stipulated Loss Value (as defined below), together with all other amounts as may then be due under the Lease, and the Lease will terminate.

17. Lessor Events of Default:

Events of default by the Lessor ("Lessor Events of Default") will be subject to customary cure periods and will include, but not be limited to its failure to:

(i) remove any liens attaching to the Equipment that are attributable to it;

(ii) protect the Lessee's quiet enjoyment rights; and

(iii) convey title to the Equipment to the Lessee upon either (a) the early termination of the Lease or (b) the exercise by the Lessee of its Purchase Option, subject to the conditions set forth below under Transfer of Title.

In the event of a Lessor Event of Default, the Lessee may terminate the Lease upon payment of the Unwind Value.

18. Event of Loss:

In the event of loss of all of the Equipment (an "event of Loss"), the Lease shall terminate and title will be transferred to the Lessee upon payment by the Lessee of the Stipulated Loss Value. The Lessee will retain the proceeds from any insurance after such payment.

19. Purchase Option:

Upon the expiration of the Lease, the Lessee will, upon giving the Lessor not less than 60 and not more than 180 days prior written notice, have an option to purchase the Equipment (the "Purchase Option") for a price equal to 10 percent of Lessor's Cost (the "Purchase Option Price") payable in U.S. Dollars and Japanese Yen.

20. Return of Equipment:

If the Lessee does not exercise its Purchase Option it will:

(i) return the Equipment to a location to be mutually agreed-upon in good operating condition that is as good as when delivered, normal wear and tear excepted; and

(ii) pay the Lessor an amount equal to Stipulated Loss Value.

In such event, the Lessor shall appoint the Lessee as its exclusive agent to sell the Equipment for cash at a public or private sale and shall refund to the Lessee the net sales proceeds up to the amount of the Stipulated Loss Value.

21. Voluntary Termination:

On any Rent payment date on or after four years from the Delivery Date, the Lessee may, upon not less than 180 days prior written notice, voluntarily terminate the Lease and purchase the Equipment upon payment to the Lessor of the Stipulated Loss Value. The Lessee may also terminate the Lease by paying Stipulated Loss Value in the event of the imposition of an onerous U.S. withholding tax.

22. Involuntary Termination:

The Lessee may (and in the case of illegality, will) terminate the Lease and purchase the Equipment by paying Special Termination Value in the event of:

(i) an increase in any cost or tax (other than U.S. withholding taxes) on the payments due under the Lease or the Loan; or

(ii) the illegality of the continued participation in the Lease or the Loan of any of the following: the Lessor, the Lessee or the Lender.

Notwithstanding the above provision, the participants will agree to work in good faith to resolve any circumstances that could give rise to an Involuntary Termination so as to permit the continuation of the Lease or the Loan, as the case may be.

23. Lessor's Unwind:

The Lessor may terminate the Lease and require payment from the Lessee of the Unwind Value in the event of:

(i) any change in, or disallowance of the Assumed Tax Benefits;

(ii) if as a result of any change in law occurring after the Delivery Date, Japanese value-added, sales or consumption tax is imposed upon the Lessor or the Equity Participants; or

(iii) the imposition of Japanese withholding taxes.

24. Transfer of Title:

Upon termination of the Lease and payment by the Lessee of the applicable Stipulated Loss, Termination or Unwind Value, or Purchase Option Price, as the case may be, together with any other amounts then due and payable under the Lease, title to the Equipment will transfer to the Lessee. Lessor will warrant that title will be free and clear of all liens, encumbrances or security interests created or incurred by the Lessor or the Lender.

25. Stipulated Loss Value:

The Stipulated Loss Value will be denominated in U.S. Dollars and Japanese Yen and will consist of:

(i) the outstanding principal balance of the Loan, together with accrued interest; plus

(ii) an additional Yen amount sufficient to maintain the Equity Participants' originally anticipated after-tax yield.

26. Special Termination Value:

The Special Termination Value will be denominated in U.S. Dollars and Yen components and will consist of:

(i) the outstanding principal balance of the Loan, together with accrued interest; plus

(ii) such additional Yen amount as may be required to preserve for the Equity Participants an after-tax yield equal to

one-half of the originally anticipated after-tax yield.

27. Unwind Value: The Unwind Value will be denominated in U.S. Dollars and Yen components and will consist of:

(i) the outstanding principal balance of the Loan, together with accrued interest; and

(ii) an amount in Yen equal to the market value of the Yen Deposit (i.e. net of any breakage costs).

28. Governing Law: Japanese law.

29. Lessee Representations: The Lessee will agree and represent that, during the term of the Lease, (i) the Lessee has not provided and will not provide funding or has not arranged and will not arrange for any other institution to provide funding to the Lender with respect to the Loan and (ii) the Lessee will not provide funding to a third party for the purpose of that third party assuming or guaranteeing the obligations of the Lessee under the Lease.

The Loan

30. Principal Amount: Approximately 75% of Lessor's Cost.

31. Denomination: U.S. Dollars.

32. Final Maturity: Not to exceed 8 years.

33. Amortization: To be optimized according to a schedule provided by the Lessor.

34. Interest Rate: Assumed to be ___%. Interest will be payable semiannually in arrears on a fixed rate basis, computed on the basis of a 360 day year and twelve 30 day months.

35. Security: The Loan will be non-recourse to the Lessor and secured by the following security arrangements (the "Security"):

(i) A first priority lien over the Equipment (the "Lien");

(ii) A security assignment of the Lessor's rights under the Lease for the portions of (a) Rent and (b) Purchase Option Price, Stipulated Loss Value, Special Termination Value or Unwind Value that are payable by the Lessee in U.S. Dollars; and

(iii) A pledge over the Lessor's account into which all U.S. Dollars payments will be made by the Lessee.

Other Conditions to Closing

36. Other Terms & Conditions:

The documentation will contain such other terms and conditions as are customary in transactions of this type, including, but not limited to general indemnification with respect to claims arising out of the ownership, use or operation of the Equipment, maintenance, modifications and improvements, insurance, event of loss, representations and warranties, events of default, the exercise of remedies and standard Eurodollar loan increased cost provisions.

37. Conditions to Closing:

Closing of the Lease will be subject to the satisfaction of the following conditions:

(i) Internal approval by the Lessee, Lessor and Lender;

(ii) Satisfactory documentation;

(iii) Receipt by Lessor of the favorable opinion of its tax advisor and legal counsel; and

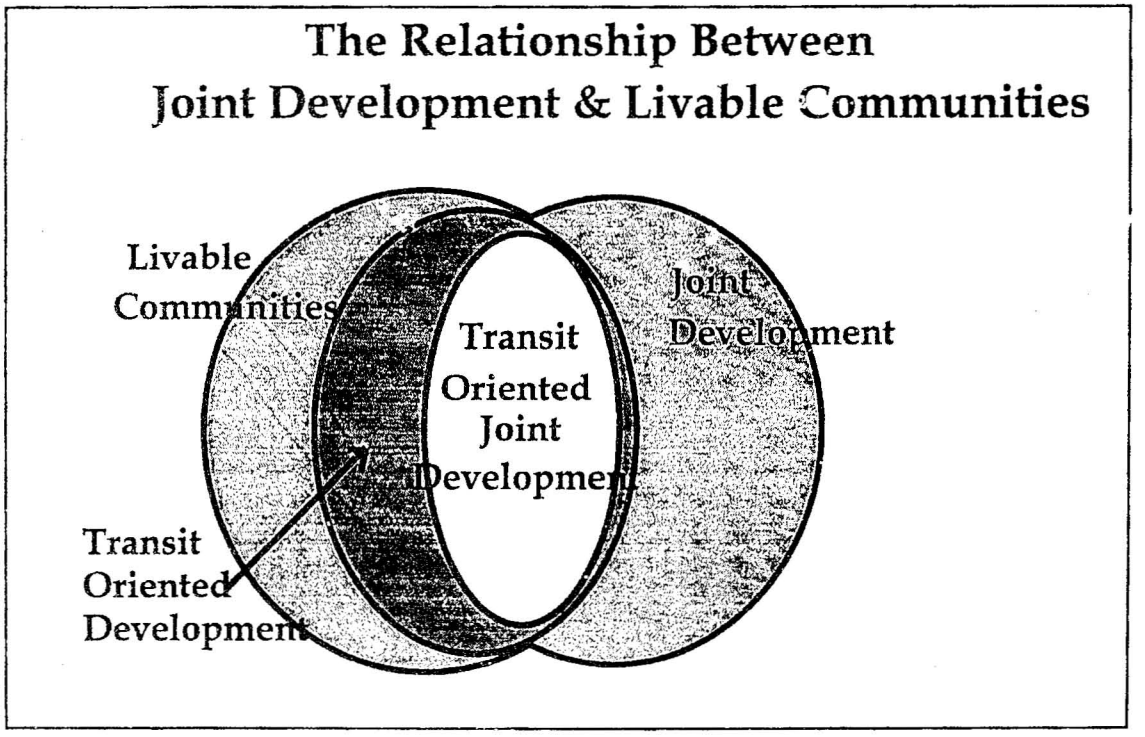
(iv) No adverse change in Japanese leasing rulings such as tax law, regulations, guidelines or self-regulation by the Japan Leasing Association or in the interpretation or application thereof by the Japanese National Tax Administration toward Japanese Leveraged Leasing before closing.

APPENDIX B

The Relationship Between Joint Development and Livable Communities

The following graphic is a Venn diagram showing the relationships between Livable Communities, Joint Development, and subsets of both. In a discussion of Joint Development, it is important to remember that it is a technique with several potential aims. Only some of those aims have anything to do with transit.

Joint Development and Livable Communities are global concepts. Joint Development, by FTA's definition, is development on land around a transit facility that is functionally or physically related to the facility. Livable Communities is a concept of a pedestrian-friendly, clean, safe, and convenient residential neighborhood. Joint Development may lead to a Livable Community, or contribute to it, but neither is a necessary precondition for the other.



Transit Oriented Development is a subset of Livable Communities. It is more under community control than under transit control, though the effective use of transit's

presence may foster its successful implementation. However, in view of the significant influence of transit on livability, most of the Transit Oriented Development set is demonstrated by the intersection of Livable Communities and Joint Development. That is, while the community must design its neighborhoods to take maximum advantage of the presence of transit, it is the transit service that makes transit-oriented development possible.

Transit Oriented Joint Development, then, is the subset comprising joint development projects undertaken on land around the transit facilities with a livable communities goal. In such projects, while the surrounding community cooperates with the transit system, it is the transit system that provides the leadership and means (land) for undertaking the project. This may happen through the transit system directly influencing local zoning and land use debates, or it may happen as the transit system assists a private partner in securing the required local permits and environmental clearances.

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16. Abstract

Transit systems are encouraged to review the innovative financing mechanisms documented in this report. This report is a handbook of the latest innovative financing techniques that can be used by American transit systems in managing their capital and operating programs. It includes a summary of FTA's experience with implementing the Innovative Financing Initiative, a brief history of how innovative financing in transit has grown as a concept, and examples of some of the most widely used financing techniques to date, as well as the issues that transit operators should consider when applying these techniques to their operations. The innovative financing techniques covered in this report include: Certificates of Participation and Lease-Backed Bonds; Cross-Border and Domestic Leases; Joint Development; Turnkey; and State Infrastructure Banks. The handbook concludes with brief descriptions of financial transactions that were underway at the time of its preparation, for example, lease maintenance contract (at the New Orleans Regional Transit Authority) which is allowed in FTA's Final Leasing Regulations. A Japanese Leveraged Lease Sample Terms Sheet is documented in Appendix A, and the relationship between joint development and livable communities is graphically portrayed in Appendix B of this handbook.

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