support of its brethren, consistent policies and positions, and also some measure of public backing.

Achievement

If education, organization, and coordination are musts, then too is the need for operators to provide efficient, dependable service. Efforts at education and persuasion must be accompanied by performance and productivity in the provision of services. If transit advocates cannot bolster their requests with a public record of improvement and accomplishment, the available resources will be redirected elsewhere where it is perceived the public is being better served.

The legislature can, and has, established some minimum performance requirements. But the uniqueness of the dozens of service providers severely restricts the ability to legislatively decree fair and workable standards or common achievement levels. Productivity cannot be legislated, although it can be encouraged and rewarded. Likewise, performance must come from the service providers; it cannot come from the legislature.

SUMMARY

Transit is alive and growing in California, even with the prevailing affection for the private automobile. Actually, transit is poised on the brink of a modal renaissance with nearly every major urban area of the state about to launch, complete, or extend some type of rail transit system. Once fully in place, these fixed systems can serve as the trunks of expanded multimodal services. For this scenario to work, however, operators need to tend and maintain the systems now operating in addition to finding the resources to operate the larger integrated systems.

As discussed in this paper, transit has been provided many significant tools to do its job. The legislature has provided significant financing, allocation processes, and basic performance criteria. Still, much of the legislature remains a skeptical provider or disinterested overseer willing to pull back from its commitments should transit fail its public responsibilities.

Certainly the legislature could do more for transit. However, the fundamental situation of finite resources and infinite wants and needs weighs heavily on any efforts toward further legislative endowment. The legislature has been a facilitator and architect and can continue to frame certain policies and procedures; still it is the task of transit operators and managers to actually provide the services, accountability, and performance. The legislature has created the opportunity for success; it is the transit industry that must achieve that success.

Publication of this paper sponsored by Committee on Local Transportation Finance.

Maximizing the Use of Private Credit Markets for Transit Investments

JEFFREY A. PARKER

ABSTRACT

The opportunities created by the 1982 Surface Transportation Assistance Act are examined to increase the role of private capital markets in financing transit investments. These opportunities include: the potential for more extensive grant anticipation financing using the Section 9 block grant as a credit source, the potential impact of contract authority flowing from Highway Trust Fund dollars on financing options available to grantees under the Section 3 discretionary program, and the potential impact of federal funding under the 1982 Surface Transportation Assistance Act on the terms and availability of credit for the non-federal portions of transit capital budgets. The impact of these opportunities on future applications of existing financing tools to transit capital projects is examined. Existing credit instruments, such as dedicated tax revenue bonds, transit revenue bonds, service contract bonds, general obligation debt, toll revenue bonds, and grant anticipation notes are described and examples are cited. The conclusions reached indicate that the 1982 Surface Transportation Assistance Act will permit opportunities for longer-term grant anticipation financing and should favorably influence the terms and availability of credit for the non-federal portions of transit capital budgets. Realization of these opportunities can be expected to reduce overall project costs by allowing construction schedules to be optimised and interest costs to be lowered.

Grantees under the 1982 Surface Transportation Assistance Act (STAA) have new opportunities to blend
federal funding commitments and non-federal sources of capital in making transit investments. Program changes will facilitate the assembly of financing packages for major investments and have the potential to reduce project costs. Block grant apportionments under Section 9 and the use of trust fund financing in the Section 3 discretionary program will allow the achievement of these objectives by improving the security of future federal funding commitments.

Greater confidence in federal commitments can lower project costs in the Section 3 program by:
- Using new forms of advance construction financing to optimise contracting and acquisition schedules,
- Reducing interest costs on the non-federal portion of project financing packages due to greater assurance that the project will be completed, and by
- Increasing competition among bidders for potentially larger or more certain contracts.

The private credit markets may also be needed to facilitate the transition to block grant capital programming. The historic reliance of transit agencies on discretionary grants may require development of mechanisms to adjust annualized funding flows to finance investments that require apportionment for more than a single year.

The federal and non-federal components of transit capital financing packages exert strong influences on one another. Through better understanding of this interaction and conscious efforts to affect it positively, transit and federal officials can increase the impact of existing funding levels in meeting capital investment needs.

PRIVATE CREDIT SOURCES IN TRANSIT FINANCE

The credit instruments described in this section demonstrate the independent capacity transit agencies have to undertake capital investments. These mechanisms have undergone modest evolution in recent years, primarily as a result of innovation by the New York Metropolitan Transportation Authority (MTA) in long-term bonding. Legislative changes, such as safe harbor leasing, have also influenced the range of financing tools available to undertake major capital projects.

In addition, recent studies point to a trend toward incorporating dedicated taxes into transit finance, with 30 positive actions (new taxes, renewals, local options, and other favorable votes) at the local level and 15 at the state level between January 1981 and April 1983, compared with 11 negative actions at the local level and 5 at the state level during the same time period (1). Nonetheless, federal grants remain an essential component of most financing packages. States and localities do not have large enough tax bases to support an adequate level of transit investment without federal assistance.

For example, the New York MTA and San Francisco's Bay Area Rapid Transit (BART) both have been active issuers of long-term debt for transit improvements, yet the MTA's $8.5-billion, 5-year capital program is based on a federal contribution of roughly 35 percent, and the $279 million BART plan to expand service in the San Francisco Bay Area will require a considerable portion of its funding from federal grants.

The examples cited in this section therefore are viewed as potential elements of an overall financing strategy for large capital investment projects.

Other financing devices such as tax benefit transfers, joint development, special benefit assessments, and so forth, also must be considered, but are not discussed directly.

Dedicated Tax Revenue Bonds

An example of this model is the $45 million bond issue by the Regional Transportation District of Colorado (RTD) in October 1977 (2). The stream of revenues securing the bonds is derived from a regional sales tax. The maximum annual principal and interest payment is about $4 million and the bonds have a maximum 25-year life.

Holders of the securities are completely insulated from the fiscal affairs of RTD. The bondholders' only concerns are the ability of RTD to collect sufficient sales tax revenues to repay principal and interest and the security of their claim to the receipts before the funds are used for other purposes. Denver's rapid growth and increasing population offer a high level of confidence that adequate revenues will be generated, while the statutes and covenants surrounding the bonds provide:
- A first lien on sales tax receipts,
- Limitations on additional sales tax bonds that can be issued and the allowable level of amortization payments that can be assumed in relation to the revenues (debt service coverage),
- The assignment of RTD's rights to receive the tax receipts to a trustee who will satisfy the bonding requirements before disbursing the remaining funds to the transit agency, and
- A pledge to continue to levy the sales tax until the bonds are retired.

In October 1982 San Francisco's BART issued $65 million in sales tax revenue bonds to pay for a portion of the costs of 150 rail transit cars (3). Between 1970 and 1981 BART issued $10. million in sales tax revenue bonds to cover initial construction costs; all of these bonds have now been retired. Sales tax revenue bonds were also used to finance the trolley system in San Diego and to provide a large portion of the project costs for the Metropolitan Atlanta Rapid Transit Authority (MARTA) heavy rail system in Atlanta.

Future rail systems in Denver, Santa Clara, Dallas, Houston, Los Angeles, and other new start cities, as well as downtown transit improvements in Seattle, are all candidates for sales tax-backed bonds.

Transit Revenue Bonds

New York's MTA has financed a portion of its capital improvement program with a $250 million bond issue in October 1982, which pledged future revenues of the transit system and all state, city, and other non-federal operating subsidies as security (4). The MTA's ability to issue long-term revenue bonds, notwithstanding that fares and direct income cover 58 percent of its operating and maintenance costs, reflects the unique level of transit dependency in New York City. The bondholders are secured by a rate covenant that requires MTA to automatically raise its fares if a shortfall is projected in meeting operating, maintenance, and debt service costs.

The prospectus includes a study that demonstrates that even if all state and city operating subsidies were eliminated (federal operating subsidies are assumed to be zero as well) and fares were forced to
increase from the current level of 75 cents to $1.38 and then to $3.04 by 1992, sufficient ridership would be retained to satisfy the bonds and pay for the system's operating and maintenance costs.

This level of transit dependency creates a situation analogous to that of a water or sewer system revenue bond, where the security of the future revenue stream is based largely on the monopoly position enjoyed by the issuing agency and the total dependence of the population on the service provided. However, few transit systems in the nation enjoy such dependency. In almost any other city, a substantial fare increase would lead to a decline in ridership large enough to threaten continued operations.

Toll Revenue Bonds

In 1965 the San Francisco Bay Toll Bridge Authority issued $100 million in revenue bonds to pay for a major part of BayM's Transbay Tube. All of these bonds have been retired with revenues from tolls imposed on vehicles crossing three San Francisco Bay bridges. A similar plan is being considered in the San Francisco Bay Area. Under this plan, an increase in bridge tolls would be dedicated to debt service on a new issue of bonds for further transit capital improvements.

In August 1982 the New York Triborough Bridge and Tunnel Authority (TBTA) issued $205 million in revenue bonds backed by surplus toll revenues from the authority's bridge and tunnel facilities to be used for MTA capital improvement projects. The 30-year bonds will require a maximum annual debt service of $24.6 million and are secured by the virtual monopoly enjoyed by the TBTA in providing highway mobility in New York City.

Service Contract Bonds

In December 1982 the New York MTA became the first transit agency to issue service contract bonds. To date the MTA has issued $515.275 million in service contract bonds and currently has $388 million in outstanding obligations that require an annual debt service of $39 million.

Under the New York State Transportation Systems Assistance and Financing Act of 1981, the State Director or Budget is authorized, on behalf of the state, to enter into service contracts with the MTA for up to 35 years in an aggregate annual amount not to exceed $80 million for the undertaking of mass transportation projects on behalf of the people of New York.

The MTA is paid a fixed sum of money each year by the state to provide transit services for New York residents. The commitment is expressed in the form of a service contract. Funds paid under the service contract can be dedicated to debt service or can be used to pay for capital project costs directly.

The bondholder's security is tied to the state's annual payments. The state is obligated to honor the contract as long as the MTA continues to fulfill its responsibility to undertake transit projects on behalf of New York residents, subject to the following executory clause quoted from the Official Statement:

The obligations of the State or the Director of the Budget to fund or to pay the amounts provided for by the Transit Service Contract and the Commuter Service Contract are subject to and dependent upon annual appropriations being made by the State legislature for such purposes, shall not constitute a debt of the State within the meaning of any Constitutional or statutory provision and shall be deemed executory only to the extent of moneys available to the State therefor, and no liability shall be incurred by the State beyond the moneys made available for the purposes thereof. The State legislature is not obligated to make appropriations to satisfy its obligations under the service contracts and there can be no assurance that the State legislature will make any such appropriations.

Although the preceding paragraph might give pause to many investors, the bonds received an AA rating, which is the same as the TBTA toll revenue bonds and close to the ratings given obligations bearing the full faith and credit of the state of New York. The securities are viewed as moral obligations of the state and failure to meet service contract payments would result in its exclusion from the debt markets. Therefore, the payment stream is secured by the state's economy (its ability to raise sufficient tax revenues to meet its obligations) and the threat that it would be denied access to the credit markets by failing to meet its commitments—even though they are not a state liability.

Because the service contracts are technically not a debt of the state, no referendum was required. Although currently unique in the transit field, service contract-backed bonds are being considered as part of a proposal for a state infrastructure bank in New Jersey and have a relatively long history in housing and electrical power, where guarantees of future funds for debt service payments have been used as credit for capital investments.

General Obligation Bonds

In some instances states and localities may issue long-term debt bearing the full faith and credit of the jurisdiction in order to provide funds for transit capital investments. General obligation bond issues often are required by state constitutions to be approved by referendum.

For example, in 1973 Allegheny County, Pennsylvania, issued $62 million in 30-year, general obligation bonds to pay for the acquisition and initial capital investments of Port Authority Transit (PAT), the Pittsburgh area's transit system. Payments on this debt are made by county taxpayers from general fund revenues. PAT's credit and revenues are not involved, and the debt service is a further subsidy provided by Allegheny County. Bondholders are isolated from PAT's finances and are secured completely by county tax revenues.

Many states have issued general obligation transportation bonds over the years, with the proceeds going to highway and transit improvements. For example, New Jersey Transit is undertaking a $1.2 billion capital improvement program, which includes the proceeds of a $150 million general obligation bond issue. New York state voters approved a $1.25 billion general obligation bond issue in November 1983 for infrastructure improvements. Several hundred million dollars from this bond issue will likely be used for transit projects.

In addition, some transit agencies have independent taxing powers and can issue general obligation debt of their own. For example, between 1963 and 1968 voters authorized the San Francisco Bay Area Rapid Transit District to issue $792 million in general obligation bonds for construction of the

Parker
heavy rail system. The bonds are repaid from ad valorem taxes required to be levied on all properties subject to taxation by the district. In addition, in 1966 the district issued $12 million in general obligation debt for capital improvements in Berkeley, California. These bonds are repaid from ad valorem taxes levied on properties subject to taxation by BART within a special service district.

Grant Anticipation and Advance Construction Notes

Most cities and states have experience using short-term financing to match the flow of income and expenditures. Transit agencies, such as St. Louis' Bi-State Development Agency (2), Los Angeles' Southern California Regional Transportation District, and Philadelphia's Southeast Pennsylvania Transit Authority (8), recently have issued grant anticipation notes to advance funds for projects approved for state or federal assistance. These issues generally have lives of less than 1 year and have been associated primarily with operating costs and revenues.

A similar technique has been used to finance longer-term highway capital improvements. Advance construction notes have been issued to initiate major capital projects in advance of anticipated federal highway funding. Two examples are the state of Utah's $40 million, 24-month Federal Highway Reimbursement Anticipation Notes issued in April 1983 (9) and the state of Alabama's $64 million, 30-month Federal Reimbursement Anticipation Bonds issued in July 1981 (10).

The significance of grant anticipation and advance construction financing in transit capital investments has not been great; however, this concept is described because of its future applications under the Surface Transportation Assistance Act of 1982.

THE NEW FEDERAL FINANCING ENVIRONMENT

Section 3 Dedicated Tax Revenues

The sources of private credit for transit investments just described involve long-term commitments of funds. Local revenues often are pledged for 30 years or more to provide the capital for current investments. The long-term commitment is justified by the extended life of the project and because it will continue to generate public benefits for many decades once it is completed.

From the federal standpoint, UMTA has lacked the capacity to make multi-year contractual commitments to its grantees. The federal transit program has been subject to annual appropriations and has lacked a stable funding source. Its authorization often has expired in the midst of funding commitments. Despite these limitations, UMTA has succeeded in helping to build major transit systems in Washington, D.C., Atlanta, Baltimore, Pittsburgh, Buffalo, and Miami and has succeeded in refurbishing several others. Letters of intent, full funding contracts, letters of no prejudice, memoranda of understanding, letters of commitment, and so forth, are used to express multi-year federal commitments.

These instruments are similar to moral obligation debt issued by states. Neither is considered a debt or legal obligation of the governmental body and both are subject to annual appropriations by the legislative branch. The executory clause of the New York MTA service contract bonds quoted earlier is a close analogy to the types of commitments UMTA has made over the years.

The challenge of financing a major rail modernization program or new start is to combine, into a comprehensive package, one or more of the credit instruments previously described with federal aid, joint development, vendor financing, tax benefit transfers, and other revenue sources.

Under the Section 3 program in the STAA of 1982, the process of blending federal and non-federal sources of capital for transit is made easier and can result in lower project costs. Specific examples of these new benefits follow.

Lower Interest Costs

One of the greatest risks borne by lenders when large investments are undertaken is that the project will not be completed and will fail to generate the benefits expected. The default of the Washington Public Power Supply System is a critical example.

If federal funds are essential to completion of a project and the commitment is perceived to be weak, the non-federal elements of a financing package may become more costly or impossible to arrange. Lenders may seek higher coverage ratios (the level of revenues in excess of debt service), credit enhancements (loan guarantees), or higher interest rates as compensation for the risks of uncertainty. As a result, a stream of dedicated tax revenues or other, non-federal flow of funds will yield a reduced level of investment capital and final project costs will be pushed higher as a result of greater interest expenses.

The increased assurance of future Section 3 funding and the use of contract authority will reduce these risk premiums by strengthening the commitments made in letters of intent and full funding contracts.

Improved Timing

The improved security of Section 3 grant commitments will allow the application of advance construction financing to transit projects. Borrowing to advance federal funds anticipated in future years under letters of intent and full funding contracts offers the flexibility to assemble major financing packages on the best possible terms.

For example, federal funding may be spread over so many years that construction schedules become extended and result in inefficiency and inflation-driven cost overruns. Advance construction financing could overcome this problem and lower project costs by allowing contracts to be bid on an optimal schedule. Similarly, if prevailing market conditions are
unfavorable and financial advisors seek to delay issuing long-term bonds, temporary borrowing using future federal grants as collateral could provide sufficient cash until interest rates become more favorable. In cases where joint development proceeds are expected to provide a large share of project revenues but will not be realized until after the funds are needed for construction, federal dollars anticipated in future years may be advanced to provide temporary cash flow.

Better Terms from Vendors

With greater assurance of federal commitments under Section 3, transit agencies may be able to increase their order sizes for project elements. Bigger orders for buses, rail cars, or other equipment could help to reduce costs through economies of scale in the manufacturing process. In addition, previous year-to-year funding commitments may have resulted in fixed facility projects being bid in smaller segments, inhibiting a contractor's ability to invest in productivity-enhancing capital equipment and potentially resulting in higher costs.

Because contracts previously let under the discretionary program were subject to annual appropriations, second- and third-tier subcontractors may have had to pay higher interest rates, or may have been unable to obtain credit from their banks. Smaller businesses and minority contractors therefore may have been unable to bid on certain transit projects, thereby reducing competition and potentially raising costs.

New Section 9 Financing Requirements

A major shift of transit capital funds from the discretionary grant program to a new block grant has occurred under the STAA of 1982. Although still subject to annual appropriations, the formula under which the Section 9 funds are apportioned is designed in the law and allows for projections of future capital grants over the authorization period.

According to a budget analysis by the U.S. Conference of Mayors (13), the split between discretionary and formula programs was roughly 55 percent discretionary and 45 percent formula between fiscal years (FY) 1980-1982. This split was reversed in FY 1983, and will grow to almost a two-thirds block grant, one-third discretionary mix in FY 1984. Based on authorized funding levels in the STAA of 1982, the formula portion of the capital program will expand to 75 percent by FY 1986.

Although the tilt toward block grant funding may provide transit agencies with sufficient funds to provide for cyclical capital requirements, the stream of revenues will need to be aggregated to pay for projects whose cost exceeds a single year's apportionment.

For example, a transit agency may need to purchase a large number of buses in the first year of the program and none in the next 2 years. Another locality may plan to rebuild a bus maintenance facility that requires a large amount of funds in the third year of the program. In the past these projects were funded with a single grant under the discretionary portion of the program.

Under the new block grant arrangement, the transit operator purchasing buses may have to arrange to borrow a portion of the second and third year block grants, through bank loans or grant anticipation notes, in order to obtain the funding needed to purchase buses in the initial year of the program. The transit agency needing a bus maintenance facility can accumulate its Section 9 apportionment for 2 or 3 years in order to provide sufficient funds for the project in the later stages of the program cycle.

Under current law, states can assist in this balancing process by performing a clearinghouse role. Governors can channel block grant funds being accumulated by one property to another jurisdiction within the same state to smooth the flow of capital dollars.

CONCLUSION

Better recognition of the influences being exerted by federal commitments on locally supported debt and overall project costs is needed to maximize the impact of the limited dollars available for transit capital investment.

The amendments to transit legislation made under the Surface Transportation Assistance Act of 1982 have increased the strength of existing forms of multi-year commitments, and the potential of these changes to reduce project costs and facilitate the assembly of financing packages remains to be explored.

With transit capital requirements for modernization and expansion projects at extraordinary levels in relation to available resources, stretching every dollar as far as it will go is vital. A stable federal funding environment could help achieve this objective without increasing spending levels. Given current deficits, the limits of federal resources may be visible. Perhaps, as a result, new areas of compromise, involving more or less assurance of funding, should be analyzed in addition to traditional concerns over absolute appropriation levels.

REFERENCES

Alternative Public Financing for Improvement of the Industrial Canal Lock in New Orleans

WALTER C. CARLSON

ABSTRACT

Continued federal leadership in financing the development of the nation's public waterway system is uncertain. If proposed federal cutbacks are approved, and federal cost-recovery and cost-sharing programs are implemented, additional pressure will be placed on state and local governments when selecting a financing structure to provide required front-end funds for public waterway improvements. A method of evaluating available local financing alternatives—to predict expected performance and select best possible options—is necessary if state and local governments are to successfully fulfill their financial obligations with opportunistic financial planning. Such fundamental changes may require unique and innovative organizational arrangements. In any instance, the initiative and organization for such changes should occur at the federal level.

In competing for business, a public waterway improvement project must finance facilities, services, or both, to attract and maintain business. The success of a specific capital improvement program depends on its ability to anticipate and respond to change in the economic cycle and to adapt to the needs of industry and rapidly changing technology in a manner that will meet the demands of potential users at competitive rates.

Current federal cost-recovery and cost-sharing proposals on public waterway development require a unique combination of local public service utility and private enterprise to achieve this goal. State and local governments will have to overcome many obstacles. Many of these obstacles historically have been avoided because of the inherent advantages of traditional funding arrangements based on a system of federal allocation. These issues will assume new meaning when presented to state and local governments, and they can be expected to influence the direction and success of actions to accommodate future growth of this nation's public waterway system.

Proposed capital improvement of the industrial canal lock in New Orleans offers an excellent opportunity to examine an existing situation in which the issues and concerns regarding these non-federal cost-sharing programs are currently being addressed. Because these programs are expected to typically influence similar public waterway improvement projects, it appeared advantageous to incorporate the Industrial Canal Lock project as the focal point of this research on alternative methods of funding local public waterway improvement projects.

THE INDUSTRIAL CANAL LOCK: A NEED FOR CAPITAL IMPROVEMENTS

The existing industrial canal lock facility, which serves the Port of New Orleans Industrial Canal, Tidewater Port Area, the Mississippi River-Gulf Outlet, and the Gulf Intracoastal Waterway, is in urgent need of capital improvement. The Industrial Canal Lock is the only locking facility connecting the lower Mississippi River with these navigable waterways to the east. It is the only existing locally owned and financed facility of its kind on a federally owned and maintained navigable waterway. Capital improvement of this facility is of national importance—it is ranked as the second most important navigation project by the U.S. Army Corps of Engineers' priority listing of required national waterway improvement works as established by the National Waterways Study.

Completed in 1923, this lock is presently overused, too small, and has limited life remaining without considerable renovation or replacement. It is also the critical link between the Port of New