

# Emerging Trends in Transportation Finance

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## FINANCING INNOVATION: THE KEY TO SURFACE TRANSPORTATION PROGRESS

*Steve Lockwood*

**B**efore starting on my prepared remarks I would like to announce the development of a Web-based innovative clearinghouse under the auspices of NCHRP. This clearinghouse is highly relevant to our purposes here in Phoenix, because the genesis of the clearinghouse dates back to the first national conference on transportation finance, held in Dallas in 1997. Clearly there is a growing body of concepts, experience, projects, and players in innovative finance. I have three major points to make concerning the clearinghouse.

- Three years ago, at the first of these conferences, the state departments of transportation (DOTs), through AASHTO, recognized the need for a convenient, centralized clearinghouse to provide access to the best available information on various aspects of innovative finance. Last month, an NCHRP panel selected my firm to develop the clearinghouse.

- This one-stop shop will provide an array of information, including basic background, descriptions of innovative financing techniques, relevant government programs, project descriptions and their status, and some document downloads as well.

- The current plans are for the clearinghouse to be available on the Internet in spring 2001, and we are beginning the task of identifying the relevant user groups

and the kind of information and services that would be useful to you. We still have to develop a marketing plan and the site architecture and content.

I am now going to turn to my main presentation. Today I am focusing on some high-level, but I believe important, issues about the relationship between innovative finance on the one hand and project development methods on the other. Innovative finance cannot be effectively applied without some adjustments in the project development process, including changes in public-private roles and how the public sector procures services. Furthermore, as these innovations become more widespread, they are likely to induce a whole new set of players. This will not happen overnight, because we face significant barriers to the development of projects that can really capitalize on the kind of innovative financial tools that the rest of this conference is talking about.

As background, it is good to remember how different the transportation sector is from other infrastructure sectors, like power, water, and telecommunications, in its basic ingredients. Transportation is perhaps the last of the great public monopolies in terms of service provision. The roles of public and private entities and the processes used to pay for and produce improvements are quite different from those of the more deregulated infrastructure sectors. In transportation, we are on the edge, if not outside, the mainstream, although we may be moving closer to that mainstream.

Figure 1 shows the range of options in financing and project development. There are various financing approaches, project development techniques, and sector

impacts associated with conventional nonrevenue projects, public-private partnerships that support the revenue projects, and fully privatized (or "market") revenue projects. To truly capitalize on the innovative financing techniques shown on the second line of the figure, we have to use them in combination with a set of project development tools and methods such as design/build, best-value procurement, guarantees and warranties, performance specifications, more transparent risk allocation, and program management. Items in Figure 1 synergize both horizontally and vertically. For example, in reading across, you see that it is very difficult to do life-cycle costing without a best-value procurement or guarantees and warranties. There are also important vertical synergies that illustrate how certain project development techniques make some of the innovative financing approaches work especially well. Without design/build, for example, it is very hard to do project finance. If you think in terms of guarantees and warranties, you add another whole dimension to the ease with which you can finance projects.

The bottom line of Figure 1 provides, in fact, the figurative bottom line of my message. The point is that with the right combinations of innovative financing and project development techniques, we begin to affect the fundamental nature of the surface transportation sector in several important ways. First, we make it possible for new players to enter the transportation infrastructure sector, including new private players such as the devel-

opers of new products and services who heretofore had no reason to invest their resources or entrepreneurial energies in this area. New opportunities in the form of risks and rewards can exercise a powerful magnetic force. Second, there are new institutional roles for the public and private sectors. I am sure you will be hearing a lot about that at this conference. Third, new user-oriented services can emerge by virtue of these combinations, like high-occupancy toll (HOT) lanes or the more effective operations and management. Also, new products can emerge. If the private sector sees an opportunity to capitalize on new products and services thanks to arrangements like performance payments, you are sure to see more innovation.

If we are to transform this fairly stodgy transportation infrastructure sector into something with a more aggressive, free-enterprise flavor, we need to talk about the barriers we face, as well as the tools at our disposal. First, we have some inherited models of contracts and relationships from stakeholders who feel that their interests are best served by the status quo. It is essential to change peoples' sense of the possible. Second, we have highly politicized legal and administrative structures and processes. We have legislative restrictions, for example, relating to everything from procurement to pricing. We have to work on the legislative front as well if we are going to open up the options that are potentially there. Third, we have inherited business models that are designed, in effect, to minimize the risks and rewards

Project Type		Nonrevenue Project			Public-Private Revenue Project			Market Revenue Project		
Financing Method	Grants management	Credit enhancement	Revolving loans	Shadow tolls	Priced options	User/beneficiary fees	Project finance	Joint development	Tax strategy	Securitization
Project Development Technique	Life-cycle costing	Time/cost certainty (DBOM)	Best-value procurement	Guarantees and warranties	Performance specifications	Transparent risk allocation	ETC/B	Cost-sharing	Asset management	Program management
Sector Impacts		New players (product and service providers)		New institutional roles	New services (HOT, O&M)			New products (performance payments, ETC, ATIS)		New rate of completion

FIGURE 1 Web of finance-related innovations.

available to the private sector and that therefore, in my judgment, also reduce the potential for investment in innovation. Fourth, it is essential to create incentives for greater investment in new technology. And finally, we must confront public perceptions that nothing better is possible. I think that those of us who come to this kind of conference are not among those with reduced expectations, but we have to recognize the degree to which we must serve as the standard-bearers of change.

Let me end with a little call for action. First, there is a federal role to demonstrate how some of the combinations of finance tools and project development tools are more powerful than single-focus approaches. This kind of demonstration could be achieved, for example, through an experimental program like TE-045. Second, I think we need to continue to encourage variety and experimentation rather than uniformity. In this vein I think it is important to provide some kind of official protection to help overcome resistance to change and allow some selective risk-taking to move ahead. Third, there clearly are opportunities to change tax law in some very productive ways. Finally, we need to keep championing the need to overcome inhibitions, to call for change, and to demonstrate uncommon leadership. I look forward to working with you in this exciting endeavor.

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## PENSION FUNDS: A POTENTIAL NEW FINANCE OPTION

*Daniel Flanagan*

On the surface, the thought that our nation's institutional investors, led by pension funds, could be prospective investors in infrastructure is simple, straightforward, and often misunderstood. This forum represents an excellent opportunity to review this proposition on its merits.

First of all, a key reason for our gathering here is to explore strategies for solving continuing national, state, and local transportation capital budget shortfalls. We should not lose sight of the fact that prodigious sums are already expended each year. In 1997, for example, more than \$100 billion was spent by all levels of government on capital outlays. Eight percent of that total was raised through the sale of bonds. Thirty years earlier, the corresponding figure was \$9 billion, 13 percent of which came from bond proceeds. On the average, the nation's states and local governments issue about \$8 billion of highway bonds each year. User fees, including fuel taxes, historically support about 60 percent of the highway program. And of course, the Transportation

Equity Act for the 21st Century set records in 1998 with a 6-year, \$200 billion federal commitment.

Let's also take a look at the innovative finance side. In Fiscal Year 1999, the U.S. Department of Transportation, in the first round of TIFIA credit deals, selected five projects to receive \$1.6 billion in credit assistance to help finance \$6.5 billion in total project costs. As of March 2000, three states had issued GARVEE bonds totaling \$365 million. And 31 SIBs had entered into 117 loan agreements, valued at \$525 million, for projects totaling \$2.9 billion. Despite these expenditures and financing advances, every planner, elected official, and soccer mom knows that we have not done enough; reams of congressional testimony put this widely shared view on the record.

So the hypothesis I would like to suggest is simply that if billions more are needed for transportation infrastructure finance purposes, and if pension funds have billions of dollars in their portfolios waiting to be invested in suitable market instruments, then pension funds should invest accordingly. This simple if-then statement sounds appealing, but one key ingredient is lacking: suitable market instruments.

The objective here is to create a new market instrument that will attract professional institutional investors on its own merits. I would like to provide some historical context to illuminate the emerging path before us. In 1993 the congressionally chartered Infrastructure Investment Commission highlighted the potential value for credit enhancement as a federal leveraging tool to support public-private partnerships. But we had to wait until 1998 for legislation authorizing the TIFIA credit program. Other agencies, including the Department of Energy and the North American Development Bank, are now exploring TIFIA-type credit enhancements and subordinated loan concepts for their own activities.

As to pension fund products, the \$2.35 billion Alameda Corridor financing was completed in 1997 and included a \$400 million TIFIA-type loan from the U.S. Department of Transportation, as many of you know. In addition, some \$650 million in taxable bonds was issued along with \$515 million in tax-exempt securities. The taxable bonds were purchased primarily by institutional investors, including pension funds. This is the type of project that can be repeated in other metropolitan centers, with TIFIA serving as an important financial enabler.

Another key opportunity is available through tax credit bonds as mentioned by Rick Ballard in a previous presentation. Current congressional proposals include \$10 billion in tax credit bonds for Amtrak. Wall Street can easily adapt this kind of instrument for institutional investors, with taxables targeted to tax-exempt pension fund portfolios.

Despite the potential advent of tax credit bonds, tax-exempt bonds will continue to be the mainstay of U.S.

infrastructure financing strategies. In general, pension funds do not invest in tax-exempt municipal bonds, since pension funds are themselves tax exempt. But interestingly, some pension funds indicated in 1992 testimony before the Infrastructure Investment Commission that they do municipal bond trading. In fact, spokesmen from corporate, multiemployer, and public pension funds all indicated significant interest in placing infrastructure securities within certain segments of their portfolios on the basis of yield and low-risk characteristics. Unfortunately, no such infrastructure securities had entered the market at that time.

Now let me throw some numbers on the table to give you a glimpse of the pension fund world. Pension funds began in World War II as an offset to wage controls. Employer tax deductibility ensued in 1948. Today, private pension funds in the United States hold some \$4.7 trillion, and public funds hold another \$3.1 trillion. That total of almost \$8 trillion includes fast-growing 401(k) accounts. In the first quarter of last year, U.S. pension funds owned 24 percent, or \$3.9 trillion, of the total \$16 trillion U.S. equity market.

That gives you a sense of the size; now for the sizzle. Of the \$1.2 trillion in the 100 largest public funds in 1997, the portfolio balances were heavily invested in U.S. and international equities, with 54 percent of the total committed to these investments. But the trustees and investment managers of these funds have called for more investment options, more diversification, and more opportunities to invest in their own communities. Pension funds have considerable resources and will hire the expertise to help analyze what investment strategies can work. I am hopeful that with new strategies for furthering infrastructure finance through tools such as TIFIA, SIBs, and tax credit bonds, we in the transportation community can start to provide those opportunities for institutional investors such as pension funds. Indeed, in 5 years I would hope to see that 1 percent of the holdings of the top 100 public funds, or \$10 billion in today's dollars, could be invested in U.S. infrastructure bonds or equity positions yielding good returns and investment grade ratings.

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## THE TRANSPORTATION SYSTEM AS A REVENUE-PRODUCING ASSET

*William Ankner*

**T**hese days much of our transportation system is financed through motor vehicle use in the form of the fuel tax. Increasingly, however, we will have to look at ways to finance transportation differently. One thing I would like to suggest is that we need

to start having the system pay for itself and for DOTs to enter into "equity" partnership agreements with the private sector. We in the transportation business own quite a number of assets and quite a bit of real estate, and we need to start looking at ways for these assets to generate revenues for us.

In Rhode Island, we are replacing and relocating a major part of Interstate 195 in the city of Providence. The segment being relocated is right along the waterfront, so when we are finished, we will be giving up about 100 acres of prime waterfront property in a renaissance city. In cooperation with FHWA, we have come to an agreement that permits us to enter into an equity partnership with the developer. As the waterfront is developed, we will be able to share in the revenue stream, which will help us finance the original relocation.

The key point here is that when we talk about public-private partnerships, many of us still think of the state simply turning over its responsibilities to a developer or a contractor. The irony is that very often we cannot get out of the risk. If we cannot shed the risk, then we have to start thinking about how we are going to participate in the rewards and profitability associated with the investment.

The next reauthorization, in my judgment, has to include a full reevaluation of the way we finance transportation. If we continue to rely on the federal gasoline tax, I think we are going to find ourselves very handicapped in our ability to go forward. Thus, we need laws that allow us to better utilize our assets. We must also look at technology and become participants in the profitability associated with those activities as well. Instead of just looking at taxes or charging up-front fees or rents, why not propose to share in the revenues of those companies with which we do business? This would permit us, as states, to recognize a longer-term stream of revenues; it would also allow us to participate in a more meaningful fashion than as a simple landlord.

When we put up variable message signs for intelligent transportation system purposes, why not use those message signs for advertisement? Some people argue that motorists would not read the variable messages if they were accustomed just to seeing ads, but I think this concern could be handled through different color schemes and so forth.

I am not suggesting that we all embrace that idea. But we must start looking at our transportation system as an asset that can help generate new revenues. This will require changes in law as well as changes in philosophy. This is true not only for those of us in the public sector but also in the private sector; when you talk about equity partnerships, the private sector is often at a loss, since the idea of revenue sharing is anathema. So, any movement in these directions will involve some important reeducation and rethinking.

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## NEW PUBLIC-PRIVATE PARTNERSHIPS: THE ROUTE 3 STORY

*Edward J. Corcoran II*

Today I would like to look at innovative finance through the lens of a specific project: the reconstruction of Route 3 North in Massachusetts. It is a 34-km (21-mi) limited-access highway built in the 1940s to standards of the day. As a result, it falls far short of today's standards in terms of lane widths, and its bridges and breakdown lanes are so narrow that the breakdown lanes cannot be used safely to handle excess traffic. There is extraordinary traffic demand, and with the exception of I-93 (the Central Artery) through downtown Boston, Route 3 North is the most heavily congested highway in Massachusetts. But given the way that things were going with the Central Artery project and the demand for projects elsewhere in Massachusetts, Route 3 probably was not going to get improved for a while.

About 6 years ago, when I was chief counsel at the highway department, my colleagues and I met with representatives of the boards of selectmen in the seven high-tech communities through which Route 3 passes. My colleagues and I absorbed 10 to 15 minutes of abuse—why had we not done anything to advance this project into construction? We pointed out the need to break the project down into five or six pieces to fit within the available allocations of federal and state dollars over as long as 12 years. Well, this was not acceptable, and we knew we would have to find another way to do it.

I had been looking at some of the toll projects elsewhere in the country, but when I raised that possibility I received an immediate and visceral reaction: no way. In Massachusetts, "toll" is a four-letter word. So instead we came up with an approach that incorporated a design/build procurement, private financing that is backed by public funding sources, and a long-term operations and maintenance component. We also urged that the contracting community and development teams be creative about other sources of revenue that could help bring down the cost to the public sector. We needed legislative approval to use this approach and received it through much hard work and through uniting many of the disparate stakeholders. At the initial hearing, all seven city and town managers testified together and signed one letter, advocating legislation to find a new way to do this project. After addressing contracting concerns and conducting extensive negotiations with the labor community, we finally got a bill passed in 1999 that authorized this public-private approach on a pilot basis for this project.

The procurement process was kicked off in summer 1999, and I am happy to say that a selection was recently made. I am even happier to report that the bond sale closing took place on August 17, 2000.

Let me talk about some of the innovative components of the project. First, it is a design/build project—the first allowed for a transportation project in Massachusetts. The benefit is that we capture cost certainty up front. The procurement was run on a best-value basis—cost was an important, but not the only, component. We also evaluated the project on the basis of schedule, traffic management, quality of design, the quality of the planned approach to environmental permitting issues, and the like. Under the Notice to Proceed, the project will be built under a maximum contract time of 42 months and a \$385 million guaranteed completion price.

Second, an essential feature of this project is its financing by the contracting team. The selected design/build consortium, a team led by Modern Continental, formed a 63-20 nonprofit corporation to issue debt on behalf of the project and on behalf of the state. Again, by virtue of our procurement approach, we were able to evaluate some innovative proposed financing approaches. The fundamental credit for the financing is a 30-year lease whose payments are subject to an annual appropriation rather than general obligation bonds; the state's faith and credit does not stand behind this debt issuance.

The Modern Continental team came up with three innovative approaches to the financing. First, it proposed to invest the state's float on the appropriation in order to use the associated income to help keep down the cost of the annual appropriation. Second, it procured bond insurance to insure over the state's appropriation risk. Third, it insured the project contingency. There was a requirement that the team borrow an additional 10 percent contingency over the cost of the design/build price to fund a contingency. The team proposed that it purchase insurance for this component. In essence, the team provided 1 percent of the contingency in cash and purchased insurance for the final 9 percent. This brought down the size of the total bond sale by about \$30 million, which had a significant benefit in terms of the annual appropriation.

Another innovative feature I want to highlight relates to legislative authorization for the contracting team to use the right-of-way to bring in other revenues. First, the team is installing fiber-optic cable within the corridor as it is tearing up the road. The state gets a piece of every bit of fiber-optic cable that is installed, and that helps bring down the cost of financing. Second, the developer is constructing a service plaza with a gas station and restaurant where now there is simply a rest area. This action will bring about \$0.5 million into the project on an annual basis. Also, the

developer has identified some other development opportunities, pending approval through the zoning and local permitting process. If successful, they will introduce additional revenues into the project. They do not affect the ultimate economics of the deal but still have a significant marginal effect in bringing down some of the costs to the state.

To close, I want to touch on a lingering question: whether Massachusetts will apply for future federal reimbursement on some of the debt in this case. Today, 71 percent of all federal aid to the state goes to the

Central Artery project, and 29 percent is available for the rest of the statewide program. In light of these numbers, it is unlikely that we would apply federal dollars to this project in the near term. As a more far-reaching matter of policy, however, Section 122 of the U.S. Code, which authorizes use of the GARVEE instrument, does not appear to apply to cases in which a 63-20 nonprofit corporation serves as the issuer. The state may apply for relief on this point, possibly by applying through the TE-045 process. After all, it is essentially state debt, just issued through another conduit.