


Project Bulletin 4160-9B

Project 0-4160: Operating Freeways with Managed Lanes

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The Funding and Financing of Managed Lanes



The managed lane concept is currently being considered on major freeway projects in Texas cities. While the high-occupancy vehicle (HOV) concept is familiar in most urban areas, motorists are less familiar with managed lanes.

The term “managed lanes” encompasses a variety of facility types, including high occupancy vehicle (HOV) lanes, high occupancy toll (HOT) lanes, single occupancy vehicle (SOV) express lanes, special use lanes, and truck lanes. The premise of the managed lanes concept is to increase freeway efficiency and provide free flow operations for certain freeway users by packaging various operational and design strategies. Most of these actions offer the flexibility to be adjusted to match changing corridor and regional goals.

A critical issue facing transportation officials today is the manner in which they can fund and finance these innovative facilities. The unique operating strategies on these facilities offer

opportunities for innovative financing techniques that are new and untried in the transportation arena.

What We Did . . .

Researchers explored funding and financing techniques used to implement current projects that are putting lane management into practice. The intent was to investigate these particular projects along with funding mechanisms that may be available for use in future projects.

The research team highlighted the financial aspects of implementing managed lanes projects and the applicability of innovative financing techniques to various types of projects. The report describes various financing and funding strategies for given managed lane project scenarios in an effort to help answer the following questions:

- What is the purpose of the managed lanes project?

- How is project construction financed?
- How are maintenance and operations funded?
- What is the extent, if any, of private sector involvement?
- What are the financial terms of the project?
- What institutional, legislative, or policy issues needed to be addressed?
- What lessons can be learned from the financing and funding of implemented projects that will assist TxDOT in determining the most effective means of bringing necessary projects to fruition?

What We Found . . .

In addition to the traditional pay-as-you-go method of reimbursement, many new funding and financing techniques exist today. Often managed lanes projects are large, complex projects, requiring the state department of transportation

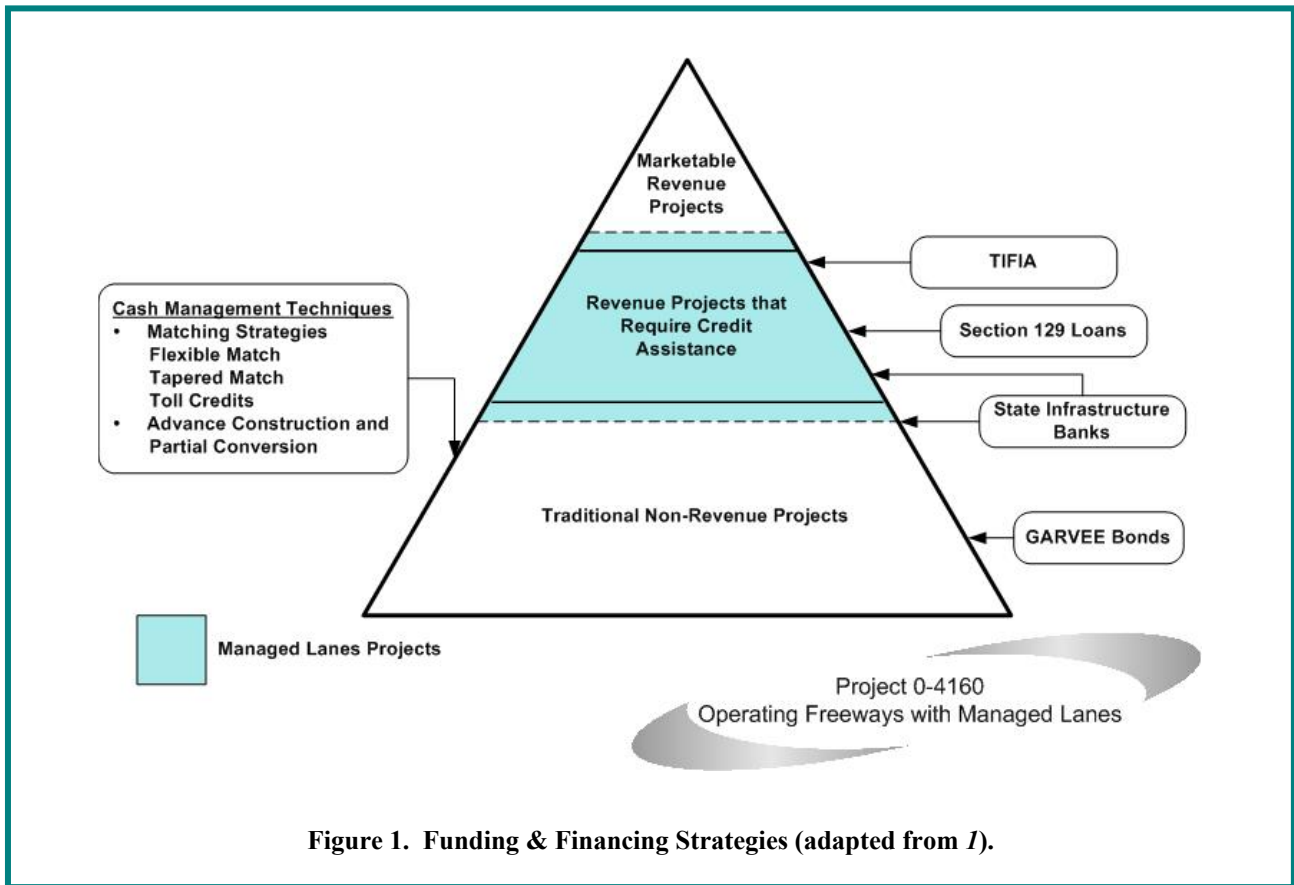


Figure 1. Funding & Financing Strategies (adapted from 1).

(DOT) to obligate funds for several years before a project even begins. As a result other projects may be pushed back even further in the funding pipeline. To help ease this burden on transportation departments, the Federal government has made available many new techniques for financing and funding projects. These new methods can generally be divided into two categories: cash management tools, and credit enhancement and/or investment tools. Figure 1 graphically represents how some of the funding mechanisms may be used for different types of projects. The shaded area indicates that managed lanes projects can encompass each of the three broad categories of marketable revenue projects, revenue projects that require assistance, and traditional non-revenue projects.

As the pyramid indicates, most projects fall into the traditional non-

revenue category, which will require typical grant funding for their implementation. Only a very small percentage of projects can be marketable revenue projects on a stand-alone basis. The middle section of the pyramid is most likely where a managed lanes project would fit. Often these projects are substantial undertakings that will require leveraging monies from every available source and need a tremendous amount of agency cooperation to guide it through the development process. Every effort should be made to include any and all interested parties from the earliest stages of project planning, thereby fostering collaboration and helping identify potential financing sources and investment opportunities.

All of these methods may be used alone or in concert with one another to finance a project. Each is designed to offer more flexibility in an effort to make projects more

feasible and to get them implemented sooner. The effect of these efforts has been the ability to leverage state and federal funds.

Other new options may also be used in combination with other programs to help fund managed lanes projects. For example, a Regional Mobility Authority (RMA) is a new mechanism for implementing transportation projects in Texas. Proposed in the 2001 Texas legislative session and approved by voters, RMAs allow for more flexibility and control by local entities in developing projects that would meet the needs of the region. An RMA can develop, finance, construct, operate and maintain a transportation facility, thereby allowing projects to proceed to implementation faster than through the traditional TxDOT process. With additional legislation providing bonding and eminent domain authority, RMAs would then have the ability to issue bonds

to finance projects. Typically, these projects will be toll projects and thus, have a dedicated revenue stream. Financing of certain projects through an RMA will free resources for TxDOT to devote funds to other needed transportation projects that may not be financially feasible as a toll project or, as in the case of most managed lanes projects, the available resources may be leveraged to enable a project to move forward by enhancing the financial viability of the project.

Public-private partnerships are another potential alternative for funding and an effective means of getting large, necessary projects implemented sooner. The ability to structure a project to obtain financing in the capital market will dictate the ultimate feasibility of a project. With the creation of non-profit corporations that issue debt on behalf of the government sponsor, as the capital markets become more accustomed to highway infrastructure investment, as tax advantages are maximized, and as private sector streamlining practices are utilized, perhaps the United States will see the kinds of private investment in infrastructure that have benefited other countries.

One concept that dovetails with public-private partnerships is the notion of design/build. Though currently not statutorily allowed in Texas, the Texas Turnpike Authority (TTA) has permission to develop four projects using Exclusive Development Agreements (EDAs). These EDAs are very similar to design-build. By employing this strategy, the state hopes to shift more of the project risks to private project developers and, at the same time, make the project more financially feasible by implementing it sooner rather than later. By taking advantage of associated costs in today's dollars as opposed to future dollars, more

private investment is attracted, bringing the project to implementation quickly and reducing overall project costs. The concept works by combining Federal, state, and local investments to encourage a private developer or developers to fill the funding gap.

In addition to these potential solutions, other strategies such as shadow tolls, special assessment districts, tax increment financing, development impact fees, road branding, utility franchise agreements, corporate sponsorship, or privatization of rest areas all have potential. However, the legal authority does not exist in Texas to implement some of these strategies

A successful project will match the financial package to the project goals. It is also important to explore every possible source of funding. Managed lanes that include an HOV or BRT component are eligible for funding from the Federal Transit Administration using Section 5309 funds.

The Researchers Recommend . . .

Funding and financing mechanisms available today reflect a shift from the traditional means of grant-based funding and address the realities of certain funding shortfalls. Federal and state governments, as well as state departments of transportation, are working collaboratively with other local entities and the private sector to maximize the effectiveness of every transportation improvement. Managed lanes are an innovative approach that seeks to balance the fiscal constraints of building new infrastructure, the demand for socially responsible development and the gridlock that stifles drivers on the most congested roadways.

The key to developing a successful project is to identify the

project goals and match the financing to the purpose. Managed lanes that involve a toll component are typically using it as a demand management tool, more so than a financing mechanism. Because managed lanes utilize various operating scenarios in a flexible way to maximize the operational efficiency of a facility, they are inherently more risky to investors. As such, tolling exclusively for financing purposes can be a challenge in a managed lane situation, depending upon other goals of the project that may be at odds with generating revenue.

Typically, investors will want to have some assurances that the debt service will be paid and that rate covenants will be maintained. Therefore, the question becomes, "what is being managed?" Again, this relates to the goal of the project. Is the facility being managed to increase high-occupancy vehicle usage? Is the facility being managed to increase transit use? Is the facility being managed to decrease single-occupant vehicle use? Is the facility being managed to provide an incentive to alternate fuel vehicles? Or is the facility being managed to maximize revenue generation?

Each of these questions must be answered when considering the financing for a managed lanes facility. Additionally, the relative importance of each answer must be weighed because the project goals may seek to do all of these things and more. The answers and the weight of each will determine the best route of financing. Each facet must work together to assemble a financing package that will result in a financially feasible project. The goals of the project will determine the type of cost-benefit analysis used in assessing the potential performance of a project.

Each of the financing mechanisms described here

attempts to enhance the financial feasibility of a particular project. They can be combined and structured to receive the most possible benefits in the most cost-effective manner.

The U.S. Department of Transportation has achieved tremendous advances in making large, complex projects, such as managed lanes projects, more feasible. It has developed numerous programs to capitalize on all available resources. It has made leveraging Federal monies more accessible. Now, however, policy makers should make a concerted effort to change or update other laws and regulations that inhibit project development. Specific items to be addressed are:

- allowing for tax-exempt financing for “public good” projects,
- limiting personal liability of board members of “63-20 corporations,”
- modifying the limitations in the management contracts of tax-exempt financing,
- allowing for private equity investments in a project being developed with tax-exempt financing,
- clarifying conflicting rules among agencies on what monies can be used for which types of projects, such as Federal Transit Administration restrictions on tolling SOVs on HOV lanes, and
- passage of tax law that allows for lenders to receive tax credits rather than forcing them to rely on tax-exempt debt.

Implementation Status . . .

While not directly influenced by this research, passage and signing into law of

HB 3588 in the 2003 Texas legislative session will enhance the funding capabilities available to transportation agencies. The scope of projects that may be undertaken by TxDOT or an RMA has been greatly expanded.

TxDOT now has the ability to convert free roads to toll roads under certain circumstances and the ability to use those tolls for other mobility improvements.

Also, the previously imposed limit on exclusive development agreements has been removed, authorizing the state to enter into Comprehensive Development Agreements that will allow for private sector investment in projects.

TxDOT has also been given flexibility in methods to pay for rights-of-way that

may allow projects to be implemented sooner.

Another instrument that will aid the implementation of managed lanes projects is TxDOT’s new authority to issue bonds.

Each of these tools is an effort by the state government to enhance the state’s ability to provide needed transportation infrastructure. Each mechanism will provide more options to the managed lanes projects under development throughout the state and may also provide the incentive to consider the feasibility of other projects as managed lanes.

References . . .

1. Innovative Finance Primer. Report FHWA-AD-02-004. FHWA, U.S. Department of Transportation, 2002.

For More Details . . .

Related Report:

Report 4160-9, *The Funding and Financing of Managed Lanes*.

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