NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM

NCHRP **SYNTHESIS 395**

Debt Finance Practices for Surface Transportation

A Synthesis of Highway Practice

CONSULTANT
TAMAR HENKIN
TransTech Management, Inc.
Washington, D.C.

SUBJECT AREAS
Planning and Administration

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in Cooperation with the Federal Highway Administration

TRANSPORTATION RESEARCH BOARD

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NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM

Systematic, well-designed research provides the most effective approach to the solution of many problems facing highway administrators and engineers. Often, highway problems are of local interest and can best be studied by highway departments individually or in cooperation with their state universities and others. However, the accelerating growth of highway transportation develops increasingly complex problems of wide interest to highway authorities. These problems are best studied through a coordinated program of cooperative research.

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The program is developed on the basis of research needs identified by chief administrators of the highway and transportation departments and by committees of AASHTO. Each year, specific areas of research needs to be included in the program are proposed to the National Research Council and the Board by the American Association of State Highway and Transportation Officials. Research projects to fulfill these needs are defined by the Board, and qualified research agencies are selected from those that have submitted proposals. Administration and surveillance of research contracts are the responsibilities of the National Research Council and the Transportation Research Board.

The needs for highway research are many, and the National Cooperative Highway Research Program can make significant contributions to the solution of highway transportation problems of mutual concern to many responsible groups. The program, however, is intended to complement rather than to substitute for or duplicate other highway research programs.

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NOTICE

The project that is the subject of this report was a part of the National Cooperative Highway Research Program conducted by the Transportation Research Board with the approval of the Governing Board of the National Research Council. Such approval reflects the Governing Board's judgment that the program concerned is of national importance and appropriate with respect to both the purposes and resources of the National Research Council.

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

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FOREWORD

Highway administrators, engineers, and researchers often face problems for which information already exists, either in documented form or as undocumented experience and practice. This information may be fragmented, scattered, and unevaluated. As a consequence, full knowledge of what has been learned about a problem may not be brought to bear on its solution. Costly research findings may go unused, valuable experience may be overlooked, and due consideration may not be given to recommended practices for solving or alleviating the problem.

There is information on nearly every subject of concern to highway administrators and engineers. Much of it derives from research or from the work of practitioners faced with problems in their day-to-day work. To provide a systematic means for assembling and evaluating such useful information and to make it available to the entire highway community, the American Association of State Highway and Transportation Officials—through the mechanism of the National Cooperative Highway Research Program—authorized the Transportation Research Board to undertake a continuing study. This study, NCHRP Project 20-5, "Synthesis of Information Related to Highway Problems," searches out and synthesizes useful knowledge from all available sources and prepares concise, documented reports on specific topics. Reports from this endeavor constitute an NCHRP report series, *Synthesis of Highway Practice.*

This synthesis series reports on current knowledge and practice, in a compact format, without the detailed directions usually found in handbooks or design manuals. Each report in the series provides a compendium of the best knowledge available on those measures found to be the most successful in resolving specific problems.

PREFACE

By Jon Williams
Program Director
Transportation Research Board

This report presents basic principles of debt issuance for public agencies. The primary focus is on the current practices of state agencies with responsibilities for surface transportation investment. The report may be useful in assisting in the decision on when and how to best use debt financing techniques to fund investments in transportation infrastructure. Anticipated audiences include those with financial oversight responsibilities for state departments of transportation (DOTs), public authorities, and local governments. Others who may benefit include legislative oversight committees and the media.

Information for this report was gathered through a literature review, a comprehensive survey of state DOTs, selected interviews, and a study of selected state policies, guidelines, and documentation.

Tamar Henkin, on behalf of TransTech Management, Inc., Washington, D.C., collected and synthesized the information and wrote the report. The members of the topic panel are acknowledged on the preceding page. This synthesis is an immediately useful document that records the practices that were acceptable within the limitations of the knowledge available at the time of its preparation. As progress in research and practice continues, new knowledge will be added to that now at hand.

CONTENTS

DEBT FINANCE PRACTICES FOR SURFACE TRANSPORTATION

SUMMARY

Transportation investment represents the largest category of capital spending at the state level, accounting for 63% of all state capital expenditures in fiscal year 2006 (National Association of State Budget Officers). Many state and local governments have a long history of issuing debt to help finance infrastructure improvements. Ninety-one percent (40 of 44 of states responding to a survey conducted as part of this synthesis project) reported having current outstanding debt obligations issued for surface transportation purposes. Yet, among those states, there is a wide variance in the amount and types of debt issued. Four states reported having no debt outstanding and instead have adopted pay-as-you-go practices (i.e., funding investment only from currently generated and available revenue sources) for both operating and capital expenditures.

In addition to traditional debt issuance, a variety of federal, state, and local debt issuance and related policy tools have been introduced since the early 1990s to help finance surface transportation projects. These include the following:

- **Grant Anticipation Borrowing [commonly referred to as GARVEE (Grant Anticipation Revenue Vehicles) bonds for highways and GANs (Grant Anticipation Notes) for transit]**—the ability to securitize anticipated federal or state grant proceeds to generate funds for capital outlays.
- **State Infrastructure Banks (SIBs) and other Revolving Loan Funds (RLFs)**—lending organizations initially funded, or capitalized, with federal grants and state funds. SIB and RLF loans can be lent to projects at low interest rates and favorable terms, with repayments being recycled into subsequent rounds of loans.
- **Federal Credit Assistance**—federal credit, provided through the Transportation Infrastructure Financing and Innovation Act (TIFIA) program and the Railroad Rehabilitation Infrastructure Financing (RRIF) program, provides direct loans (often on a subordinate basis with flexible repayment terms) and other credit assistance to large-scale transportation projects with identified revenue streams.
- **Private Activity Bonds (PABs)**—including the expansion of private activity bond eligibility to highways and a specific allocation for this purpose. PABs allow private parties to take advantage of the ability to issue tax-exempt debt based on the investment purpose of the bond proceeds and subject to a series of limitations.
- **State and Local Finance Mechanisms**—state and local governments have developed a wide range of programs to facilitate capital investment. Among the tools employed are long-term asset leases, guarantees of debt service, availability payments (i.e., guaranteed or lease-like payment to a private operator, sometimes supported by but not dependent on toll or other facility revenues), and the assumption of project operating and maintenance costs.

These financing programs have facilitated debt issuance and expanded the range of options for a select subset of transportation infrastructure investments. The term "innovative finance" has been used broadly to describe an array of policy initiatives and finance programs designed to enhance the flexibility of federal-aid funding, facilitate access to the capital markets, and encourage increased private sector participation in project delivery.

These programs should not be viewed as replacements to traditional finance approaches but rather as viable alternatives in special circumstances. These tools coincide with emerging project delivery trends in the industry, including the following:

- The increased utilization of user fee-backed and project financing approaches;
- New institutions such as regional transportation authorities and financing entities; and
- The increased role of public-private partnerships and concession agreements to provide transportation infrastructure.

These trends provide new opportunities for financing transportation infrastructure but also add new complexities for states to grapple with when formulating their debt management programs and policies.

Basic principles of debt issuance for surface transportation projects have not yet been compiled into a single source of information. The goal of this synthesis report is to document current practices and identify principles commonly used by financial and programming managers and debt-issuing authorities in deciding when and how to best utilize debt-financing techniques to fund investments in transportation infrastructure.

The primary focus of the report is on the practices of state agencies with responsibility for surface transportation investments. Within that broad category, the report focuses closely on state departments of transportation (DOTs) that are responsible for highway and other transportation infrastructure. Except where specified, the report does not include statistical information on local debt issuance. Anticipated audiences for this synthesis report include the staffs of state transportation agencies and public authorities, local governments, legislative oversight committees, relevant commissions, and the media, with a focus on senior state DOT managers who have financial oversight responsibility.

Although 46 states (88.5% of those surveyed, including the District of Columbia and Puerto Rico) provided responses to some of the survey questions, most of the individual questions were answered by fewer states. Throughout this report, care is taken to report the number of respondents to *each* question referenced. Respondents were invited to include information for the DOT as well as for other relevant state agencies, to the extent feasible. Although this approach succeeded in gathering information from beyond only the state DOTs, it makes some of the synthesis of the data more complicated in that some but not all states have reported information for non-DOT state transportation entities.

In combination with information available in the literature, the survey conducted as part of this synthesis study offers several key findings relating to the current practices of states in issuing and managing transportation-related debt. These findings include the following:

- The vast majority of states have some amount of debt outstanding for transportation purposes (see Figure 1). The amount of debt, however, varies substantially from state to state and among local jurisdictions.

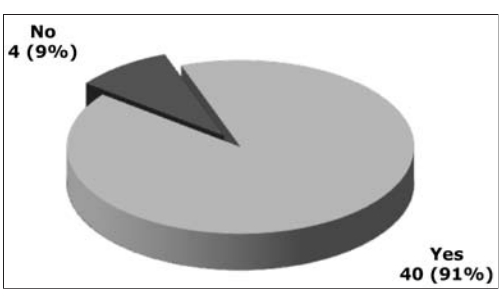

FIGURE 1 Does your state have debt outstanding for surface transportation? (n = 44).

- Although the total amount of debt for highway investment has increased over time, a large portion of the additional indebtedness—more than 50% of state-issued debt outstanding between 1994 and 2004, for instance—can be attributed to a handful of large states and generally associated with new transportation funding streams.
- Figure 2 provides a snapshot of the total annual disbursements by states for highways from 1950 to 2005. Figure 3 shows these data as a percent of total disbursements. As shown, although total debt obligations have increased substantially over time, in aggregate, the percentage of available resources applied to debt service ("Interest and Bond Retirement" in the charts) has been remarkably stable over the 50-plus year time horizon. Figure 4 focuses on debt service alone and shows the trend line in debt service as a percent of all disbursements as well as debt service as a percent of combined capital outlays (debt service and direct pay-as-you-go capital expenditures). As Figure 4 demonstrates, there has been somewhat greater volatility in more recent years (some incidentally could reflect reporting differences), but the overall level of debt obligations relative to all financial obligations has remained fairly stable over a long period of time. Exceptions can be found in a small number of states.

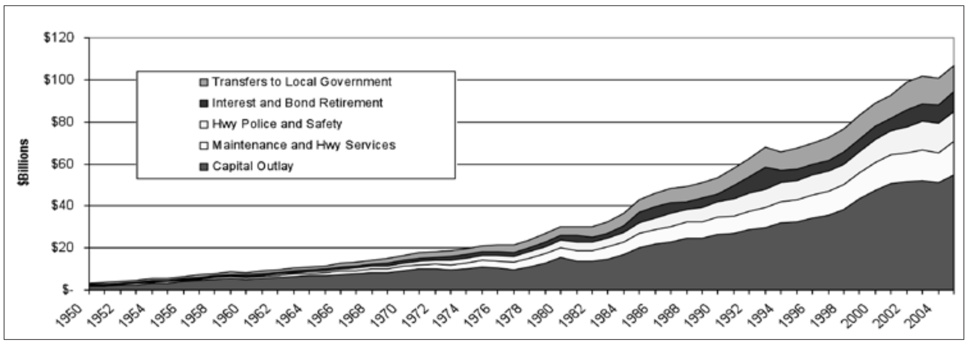

FIGURE 2 Total annual disbursements by states for highways from 1950 to 2005 (*Source:* FHWA Highway Statistics, Series SB-2).
Note: Excludes Refunding Issues.

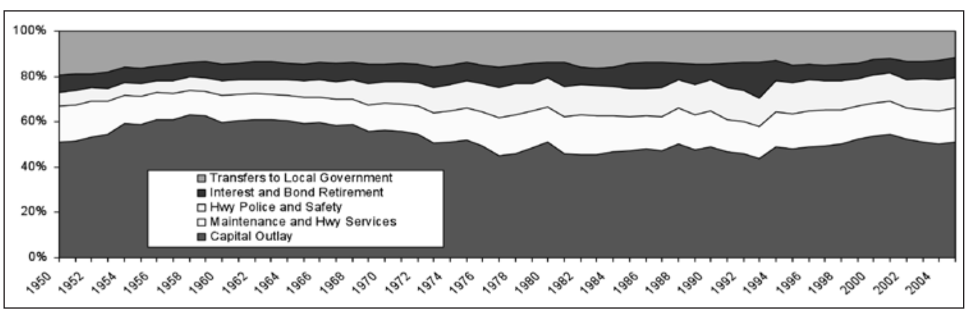

FIGURE 3 State funding for highways; data as a percent of total disbursements (*Source:* FHWA Highway Statistics, Series SF-21).

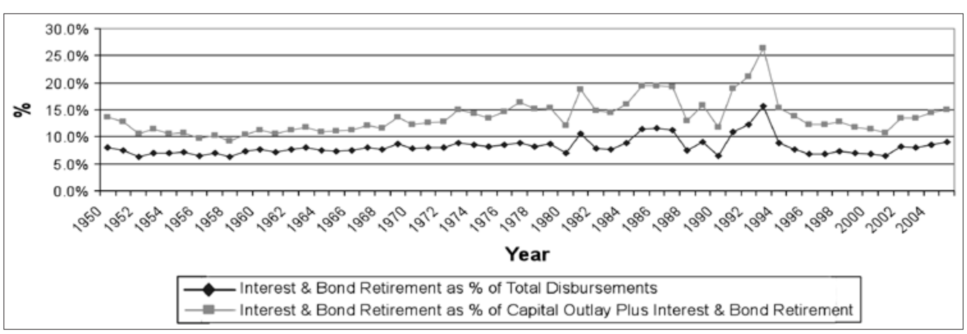

FIGURE 4 Debt service relative to all disbursements (*Source:* FHWA Highway Statistics, Series SF-21).
Note: Excludes Refunding Issues.

- States and localities grapple with a variety of policy issues as the complexity of debt issuance increases. The most fundamental question is, When is it prudent to issue debt to help pay for infrastructure investment? In answering this question, states and local jurisdictions need to balance the costs of financing against the benefits of project acceleration. More specific examples of issues related to the management of debt programs include such questions as:
  - When is it appropriate to use debt to finance capital (and operating) expenses?
  - What criteria or benchmarks need to be set to guide decisions about how much debt to issue and how bond proceeds could be used?
  - Should debt limits be set on a comprehensive basis (e.g., across all government programs) or for individual funds or programs (e.g., the Road Fund) or some combination of aggregate and individual limits?
  - What institutional constraints exist to the issuance of debt to support transportation investment?
- Limited research has been conducted on these policy issues, particularly relating to transportation program finance as opposed to the general revenue programs of state governments. Despite this lack of supporting research, states increasingly have established or are in the process of setting their own policies.
- In the vast majority of states, provisions included in the state constitution or statute govern the manner in which debt can be issued. These provisions include the dollar amount of debt that can be issued—controlled as a fixed dollar amount, relative to a specified benchmark, or in terms of additional bonds tests (i.e., how much additional debt can be issued against the same repayment stream). They also include controls over allowable debt structures or methods of debt issuance.
- Despite recommendations of organizations such as the Government Finance Officers Association (GFOA), only a minority of states (27% of survey respondents) have written policies that govern their debt issuance practices relating to surface transportation.
- More than one-third (37%) of survey respondents indicated that their state lacks a written financial plan that guides and documents their debt issuance plans.
- One-half of those surveyed indicated that they require additional education and training.
- States responding to the survey offered the following as practices of potential special interest (i.e., Candidate "Best Practices"):
  - Creation of a Bond Team to monitor and manage debt;
  - Establishing adequate debt service coverage ratios (i.e., the multiple of pledged revenues to annual debt service that is considered sound financial management), in some instances exceeding those required by statute;
  - Assessing the impact on future transportation program capacity before any new debt issuance;
  - Use of a long-term financial plan, allowing for better cash flow management and optimization of the timing of future bond sales;
  - Use of a debt service model to project anticipated payments as well as incorporate actual debt service payments for bonds already sold;
  - Strategic use of outside financial advisors to support financial decision making, negotiations, and ongoing monitoring; and
  - Selection of lead bankers for negotiated transactions through a *competitive* negotiated process from a pool of pre-qualified bankers.
- States responding to the survey offered the following as areas of need for improvement for their own programs:
  - More robust and formalized financial planning and debt management policies;
  - New staffing and technical training for existing staffs;
  - Improved technology to support more sophisticated financial management, forecasting, cash management, and related analyses;
  - Better understanding of new and advanced financing methods, including, for example, derivative products (e.g., interest rate swaps);

– More thorough understanding of financial risks and potential negative impacts of debt financing; and
– Greater managerial control over financial programs in relation to state legislatures as well as better communication and training of legislative staff involved in financial oversight.

Over time, states and local governments have become better versed in the role that traditional debt can play in supporting their transportation investment initiatives. Additionally, a number of important federal and state initiatives have facilitated the appropriate use of debt financing in transportation programs, including a host of programs referred to under the rubric of "innovative finance."

In aggregate, the increase in both the number of states with debt programs and in the total level of debt has been substantial. It is important, however, to consider this increase in the context of the overall scale of state transportation programs and, most important, available resources. As shown in this study, when examined in this way, the level of reliance on debt has remained remarkably stable over time, with some exceptions in individual states.

As states and localities face ever-growing investment demands, they likely will continue to leverage their available resources to the greatest extent possible and traditional debt obligations will serve as a cornerstone of their transportation investment programs. This financing will be supported but not supplanted by alternative financing, such as federal and state credit programs and private investment. As state and local governments strive to manage their ever more constrained programs, they also will need to address myriad policy issues and establish prudent debt management practices.

Although substantial research has been conducted over the years on general state and local debt management practices, limited research and guidance has been pursued that relates *specifically* to debt issued for surface transportation purposes. Data collection and reporting methods need to evolve to capture the full range of financial obligations, including not only traditional debt but also alternative financing methods. As the need for this type of information grows and the body of literature expands, states will be well served to take advantage of it. In the meantime, they will need to continue to rely on peer-to-peer information exchanges and more general sources of information on state and local government finance practice that can be extrapolated to the transportation finance arena.

CHAPTER ONE

INTRODUCTION

BACKGROUND

Transportation investment represents the largest category of capital spending at the state level, accounting for 63% of all state capital expenditures in fiscal year 2006 (NASBO 2007). Many state and local governments have a long history of issuing debt to help finance infrastructure improvements. Ninety-one percent (40 of 44 states responding to a survey conducted as part of this synthesis project) reported having current outstanding debt obligations issued for surface transportation purposes. Yet, among those states, the amount and types of debt issued vary widely. Four states reported having no debt outstanding and instead have adopted pay-as-you-go practices for both operating and capital expenditures.

In addition to traditional debt issuance, a variety of federal, state, and local debt issuance and related policy tools have been introduced since the early 1990s to help finance surface transportation projects. These include the following:

- **Grant Anticipation Borrowing**—the ability to securitize anticipated federal or state grant proceeds to generate funds for capital outlays. These debt obligations, commonly known as GARVEE bonds for highways and GANS (grant anticipation notes) for transit, allow debt to be issued without necessarily pledging the credit of the issuer itself.
- **State Infrastructure Banks (SIBs) and other Revolving Loan Funds (RLFs)**—an SIB is a lending organization capitalized (funded initially) with federal grants and state matching funds. Loans from contributed funds can be lent to projects at low interest rates and favorable terms, with repayments being recycled into subsequent rounds of loans. RLFs are similar to SIBs and have existed throughout state government to support state and local infrastructure investment for a great many years.
- **Federal Credit Assistance**—federal credit, provided through the Transportation Infrastructure Financing and Innovation Act (TIFIA) program and the Railroad Rehabilitation Infrastructure Financing (RRIF) program, provides direct loans (often on a subordinate basis with flexible repayment terms) and other credit assistance to large-scale transportation projects with identified revenue streams.
- **Private Activity Bonds (PABs)**—including the expansion of private activity bond eligibility to highways and a specific allocation for this purpose. PABs allow private parties to take advantage of the ability to issue tax-exempt debt based on the investment purpose of the bond proceeds and subject to a series of limitations.
- **State and Local Finance Mechanisms**—state and local governments have developed a wide range of programs to facilitate capital investment. Among the tools employed are long-term asset leases, guarantees of debt service, availability payments (i.e., guaranteed or lease-like payment to a private operator, sometimes supported by but not dependent on toll or other facility revenues), and the assumption of project operating and maintenance costs.

These financing programs have facilitated the debt issuance and expanded the range of options for a select subset of transportation infrastructure investments. The term "innovative finance" has been used broadly to describe an array of policy initiatives and finance programs designed to enhance the flexibility of federal-aid funding, facilitate access to the capital markets, and encourage increased private sector participation in project delivery. These programs should not be viewed as replacements to traditional finance approaches but rather as viable alternatives in special circumstances. These tools coincide with emerging project delivery trends in the industry, including the following:

- The increased utilization of user fee-backed and project financing approaches;
- New institutions such as regional transportation authorities and financing entities; and
- The increased role of public-private partnerships and concession agreements to provide transportation infrastructure.

These trends provide new opportunities for financing transportation infrastructure but also add new complexities for states to grapple with when formulating their debt management programs and policies.

PURPOSES OF SYNTHESIS REPORT

Basic principles of debt issuance for surface transportation projects have not yet been compiled into a single source of information. Expertise may exist in states with greater debt issuance experience that could be useful to administrators and elected officials in states and local governments that are less familiar with the nuances of debt financing decisions. All states can benefit from a greater knowledge of the practices of other states in similar circumstances.

The goal of this synthesis report is to document current practices and identify principles commonly used by financial and programming managers and debt-issuing authorities in deciding when and how to best use debt-financing techniques to fund investments in transportation infrastructure. This includes the use of bonds, notes, loans, and other debt instruments from the capital markets, private banks, governmental entities, or any other source. The primary focus of the report is on the practices of state agencies with responsibility for surface transportation investments. Within that broad category, the report focuses closely on state departments of transportation (DOTs) that are responsible for highway and other modal infrastructure. Although not a focus of the study, some general background information is provided regarding local government debt management practices relating to transportation infrastructure for which local entities have primary responsibility. Except where specified, however, the report does not include statistical information on local debt issuance.

Anticipated audiences for this synthesis report include the staffs of state transportation agencies and public authorities, local governments, legislative oversight committees, relevant commissions, and the media, with a focus on senior state DOT managers who have financial oversight responsibility.

RESEARCH METHODOLOGY

The underlying research for this synthesis report was composed of the following activities:

- Scan of generally available relevant literature;
- A comprehensive survey (including 50 states plus the District of Columbia and Puerto Rico) of state DOTs regarding debt issuance and management practices (the survey was conducted in April–September 2006; results are generally as of each state's response date); and
- Review of selected individual state policies, guidelines, and documentation gathered by the research team.

The survey of state DOTs was conducted by means of a web-based survey, with states invited to participate through an e-mailed letter from TRB. A series of reminder e-mails (and additional response time) was issued throughout the survey period to maximize the response rate. The consultant team was responsible for collecting, tracking, and synthesizing these responses.

The survey resulted in responses from 46 states (see Appendix B for a list of respondents and nonrespondents). Although 46 states (88.5% of those surveyed, including the District of Columbia and Puerto Rico) provided responses to some number of survey questions, many individual questions were answered by fewer states. Throughout this report, care is taken to report the number of respondents to each question referenced.

Respondents were invited to include information for the DOT as well as for other relevant state agencies, to the extent feasible. Although this approach succeeded in gathering information from beyond only the state DOTs, it makes some of the synthesis of the data a bit more complicated—in that some but not all states have reported information for non-DOT state transportation entities.

ORGANIZATION OF SYNTHESIS REPORT

Following this introductory chapter, the synthesis report is organized as follows:

- Chapter two, Debt Issuance for Surface Transportation Purposes—provides summary statistics on the issuance of debt for surface transportation purposes, including a high-level review of sources of transportation-related debt, including issuances by local governments, transit authorities, and toll authorities as well as state transportation agencies. This chapter contains detailed information on the debt issuance practices of state transportation agencies, drawing from the comprehensive survey conducted as part of the research.
- Chapter three, Debt Issuance Policies and Guidelines—reviews findings relating to the policies, principles, and guidelines currently being followed by state transportation agencies (or other state entities with primary responsibility for issuing transportation-related debt). As in the previous chapter, this chapter combines information collected through the literature review with that gathered through the survey of state DOTs.
- Chapter four, Candidate Best Practices and Areas for Improvement—incorporates findings from the literature research and survey relating to potential best practices for decision making about debt issuance and debt management. This focuses on practices specifically applied to surface transportation purposes and also addresses general guidelines and principles applied by state government agencies to manage debt for a variety of public purposes. The term "best practices" is applied with some caution because no analytical assessment of the proposed best practices

is undertaken. Instead, respondents were asked to identify what they generally believe to be potential model practices, with the recognition that these may not necessarily always be best practices for states facing varying circumstances.

- Chapter five, Conclusions—provides a summary of key findings, including the state of current practices, potential best practices, and information on the state of research and opportunities for additional research.
- References and Annotated Bibliography—provide citations for all resource material as well as brief descriptions of the most relevant literature and information resources, including debt issuance guidelines and policies for individual states.
- Glossary of Key Terms—provides definitions of key terms used in this report.
- Appendixes—supporting the body of the report are several appendixes that provide additional information. These include the following:
  - Appendix A, Survey Questionnaire
  - Appendix B, List of Survey Respondents
  - Appendix C, Detailed State Responses to Qualitative Survey Questions
  - Appendix D, Sample Debt Policies and Guidelines
  - Appendix E, State Debt-Related Constitutional and Statutory Citations

CHAPTER TWO

DEBT ISSUANCE FOR SURFACE TRANSPORTATION PURPOSES

INTRODUCTION

Debt is issued for surface transportation by numerous state and local government entities. This chapter focuses on the authority to issue transportation-related debt by state agencies and on the potential (*authorized*) and actual levels and forms of debt issued. This chapter also provides information on where authority to issue debt is derived (e.g., in the constitution or by statute) and how limitations are imposed on states' debt issuance practices (e.g., by statute, written policy, or informal practice). The primary source for information reported in this chapter is the survey conducted as part of the synthesis project, but additional supporting information from generally available literature is reported as appropriate.

AUTHORITY TO ISSUE DEBT

Who Has Authority to Issue?

Of 46 responding states, 41 (89%) have current authority to issue debt for surface transportation purposes (see Figure 5). The five states that reported they do not have existing authority are Alaska, Iowa, Maine, South Dakota, and Utah.

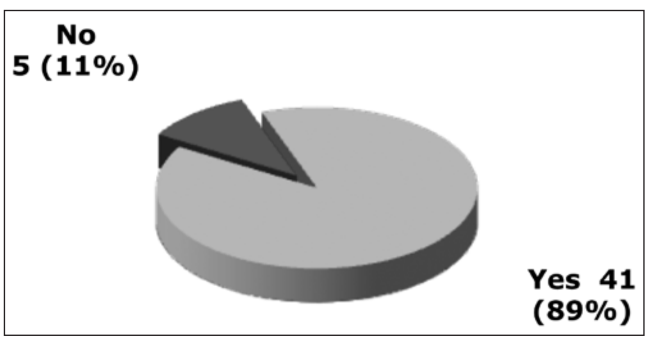

FIGURE 5 Who has authority to issue debt for surface transportation? (n = 46).

Of this handful of states that do not report *current authority*, the majority have issued debt in the past for specifically authorized surface transportation purposes. Additionally, although Nebraska has the authority to issue up to $50 million in highway-related debt, the last time debt was issued was in 1969 to complete the Interstate Highway System.

Where Is Authority Derived?

As reported by the states, the authority to issue debt is derived primarily from a combination of state constitution and statute (see Figure 6). Other sources of issuing authority—beyond state constitutions and statute—noted by survey respondents include the following:

- Specific vote of citizens/referendum (e.g., Colorado);
- Annual legislative action for specific amounts each fiscal year (e.g., Pennsylvania and Tennessee); and
- A Bond Review Board (Texas).

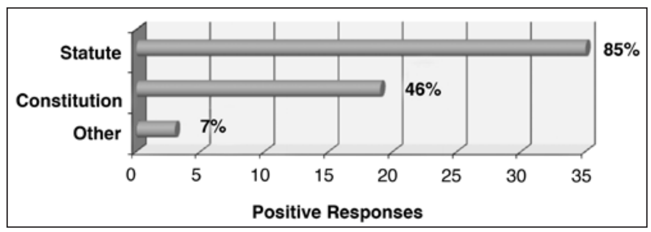

FIGURE 6 From where is the authority to issue debt derived? (n = 41).

These results can be compared with another national survey that found that 24 states have constitutional debt limitations; five states have statutory limitations; three states have other formal limitations; and three other states have more informal limits (Robbins and Dungan 2002). This study addresses general state debt programs rather than surface transportation-related debt specifically. Some states have established overarching limitations, whereas others have established debt limits that cap debt outstanding or new debt issuance by source of debt service (e.g., General Fund or Road Fund).

Which Types of Debt Are Authorized?

For states with current standing authority to issue debt for surface transportation, sources of repayment for that debt vary widely (see Table 1). A good reference document on alternative revenue sources and evaluation is TRB's *Future Financing Options to Meet Highway and Transit Needs* (Cambridge Systematics et al. 2007).

TABLE 1
TYPES OF DEBT AND SOURCES OF REPAYMENT

Type of Debt	Primary Repayment Examples
General Obligation	• Full faith and credit of issuing jurisdiction repaid with general revenues (sometimes issued as "double barreled" with first source of repayment a specific revenue source and only secondarily general fund revenues of the issuing entity)
Highway/Transportation Revenue Bonds	• Gasoline and other fuel taxes • Motor vehicle registration and drivers' license fees • Automotive-related sales taxes (e.g., on automobiles and automobile parts) • Personal property taxes (e.g., on automobiles) • Other transportation-related fees, fines, and miscellaneous receipts
Toll Revenue Bonds	• Toll receipts (e.g., on tolled highways, bridges, and tunnels)
Sales Tax Revenue Bonds	• General sales taxes dedicated at least in part to surface transportation purposes, such as transit or highway investment
Personal Income Tax Bonds	• Personal income tax collections
Grant Anticipation Notes/Bonds (GARVEE, GAN)	• Future federal and/or state formula or grant funding
Bond Anticipation Notes	• Anticipated bond proceeds
Lease Revenue Bonds (including Certificates of Participation)	• Revenues from leases of capital assets (lease revenue bonds generally do not require voter approval because the transaction is set up to mirror a typical financing lease such that lease payments are due on a year-to-year basis; despite their treatment in state law, the rating agencies often include lease-revenue payment obligations in calculations of states' indebtedness burden)
Borrowing from Federal Government (e.g., Transportation Infrastructure Finance and Innovation Act and Railroad Rehabilitation and Improvement Financing Credit Programs)	• Repayment streams vary and can include most of the above repayment sources, with the exception of federal funds, which are not allowed to be pledged to repay a federal debt

As shown in Table 2, 84% of the states responding to the survey have authority to issue bonds backed by dedicated highway/transportation revenues. Other common types of debt authority for surface transportation include toll revenue bonds, general obligation bonds, and grant anticipation bonds or notes.

Of those states that noted authority to issue some other kind of long-term debt (generally greater than 1 year), examples included the following:

- Borrowing from the state treasurer (e.g., Arizona's Board Funding Obligations to capitalize an SIB and supplement state highway funds)
- Annual appropriation, Transportation Revolving Fund, and Communications Revolving Fund bonds (e.g., Kansas)
- State Board of Investments loans (e.g., Montana)
- Special revenue bonds, such as Personal Income Tax bonds (e.g., New York)

What Debt Structures Are Authorized?

States with the authority to issue debt do so in a variety of forms or structures. As shown in Table 3, all states responding to this portion of the survey (41 states) reported the ability to issue long-term debt and 90% (35 states) reported the ability to issue fixed rate debt. For states with the authority to issue long-term debt, some have overall limits on debt terms (i.e., time until maturity), whereas others have limits that are set for specific bond issuances. Some (approximately 13% of those responding to the survey) report no term limits for at least some portion of their debt issuances.

An area of opportunity identified by survey respondents is the potential value to states of being able to issue short-term debt or borrow on a short-term basis from within the state government for cash management purposes. A number of states have some ability to do this, but it is still something that many states currently do not have the authority to do.

TABLE 2
WHICH TYPES OF DEBT ARE CURRENTLY AUTHORIZED FOR SURFACE TRANSPORTATION?

Type of Debt	Yes (*n*)	Yes (%)	No (*n*)	No (%)	Don't Know (*n*)	Don't Know (%)	*N* =
General Obligation	23	58%	17	42%	0	0%	40
Highway/Transportation Revenue Bonds	32	84%	6	16%	0	0%	38
Toll Revenue Bonds	21	62%	11	32%	2	6%	34
Sales Tax Revenue Bonds	5	19%	18	69%	3	12%	26
Grant Anticipation Notes/ Bonds	22	71%	8	26%	1	3%	31
Bond Anticipation Notes	11	37%	13	43%	6	20%	30
Lease Revenue Bonds (incl. Certificates of Participation)	11	38%	15	52%	3	10%	29
Other	11	55%	6	30%	3	15%	20

*Highway/Transportation Revenue Bonds category includes bonds backed by motor fuel taxes, registration fees, and other revenue streams dedicated to transportation investment.

**Sales Tax Revenue Bonds category excludes bonds backed by sales taxes on motor fuels which should be included under Highway/Transportation Revenue Bonds category.

TABLE 3
WHICH DEBT STRUCTURES ARE CURRENTLY AUTHORIZED FOR SURFACE TRANSPORTATION?

Debt Structure	Yes (*n*)	Yes (%)	No (*n*)	No (%)	Don't Know (*n*)	Don't Know (%)	*N* =
Long-term debt (i.e., over 12 months)	41	100%	0	0%	0	0%	41
Short-term debt (i.e., 12 months or less)	25	78%	6	19%	1	3%	32
Commercial paper	17	53%	14	44%	1	3%	32
Fixed rate debt	35	90%	2	5%	2	5%	39
Variable rate debt	32	86%	4	11%	1	3%	37
Borrowing from federal government (e.g., TIFIA, RRIF)	10	33%	13	43%	7	23%	30
Use of derivative products	21	64%	10	30%	2	6%	33

It is notable that seven states reported that they do not know whether they have the authority to borrow from the federal government, such as through the TIFIA program or RRIF program. In some states, specific authorization to borrow from the federal government is required, whereas in other states provisions allowing for general indebtedness are construed to include federal government loans. A formal determination by the state's attorney general or outside bond counsel is called for when the legal authority is uncertain.

Most states (86% of those responding to the survey) have the authority to issue variable rate debt as well as fixed rate debt. Twenty-one of 33 states (64%) have the authority to use derivative debt products (e.g., interest rate swaps). In the "other" category, states reported borrowing from private sources, including, for example, Florida's ability to accept advanced private sector funding (or loans) to fund public-private partnership projects as well as North Dakota's ability to borrow on a short-term basis from commercial banks.

For Which Purposes Is Debt Authorized?

Debt is authorized for a wide variety of surface transportation-related purposes. As shown in Figure 7, all states responding to this portion of the survey (42 states) have the authority to issue debt for nontolled highways and bridges, and 62% of those responding have the authority to issue debt for tolled highways, bridges, and tunnels. Additional authority exists for debt to support investments in rail, ports, transit, airports, and ferry and marine transportation facilities. For those survey respondents noting other purposes, these included the following:

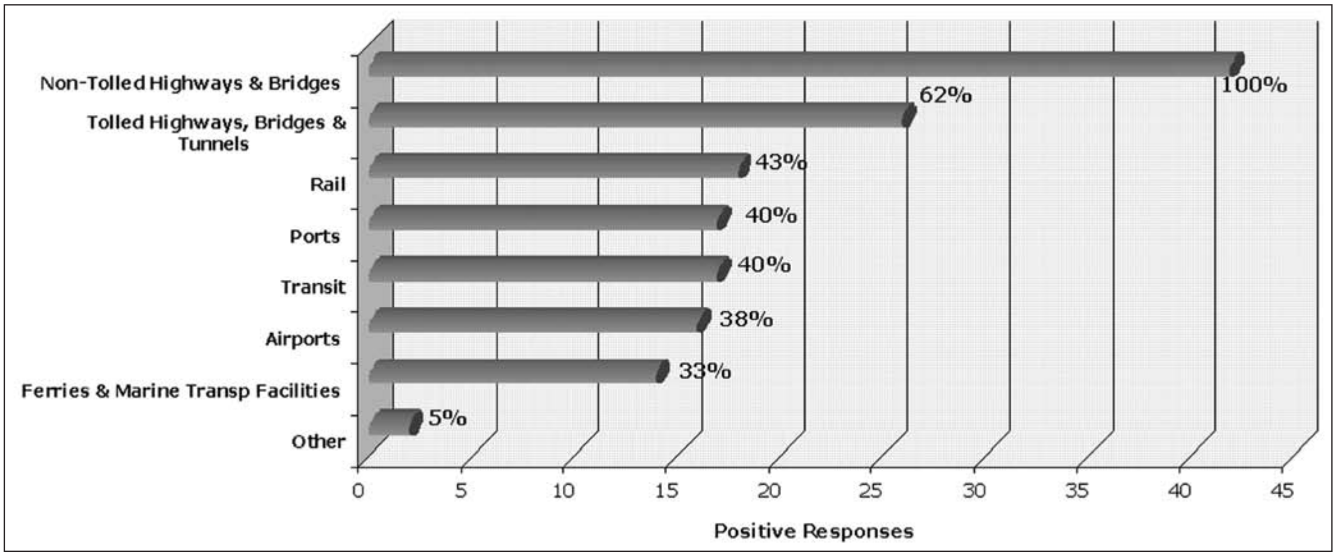

FIGURE 7 For which purposes is debt authorized? (n = 42).

- Local transportation revolving fund (Kansas)
- State DOT buildings (Kentucky)
- Border crossings and canals (New York)

Debt Issuance for State Infrastructure Bank Capitalization

In addition to directly funding projects or programs of projects by means of the use of debt instruments, some states have utilized—or considered utilizing—debt financing to capitalize (i.e., assemble upfront funds for) an SIB, a special type of transportation revolving fund. In turn, SIBs are used to lend funds to local governments, private entities, and other project sponsors.

In response to the survey, 11 states reported using (or are considering using) debt financing for the purpose of capitalizing an SIB (see Figure 8). These states are as follows:

- Arizona—issues Board Funding Obligations (a form of intrastate borrowing) to the state treasurer to fund its SIB
- California—reports having only a small SIB lending program
- Florida—has issued debt to fund the state-funded SIB, which is backed solely by a pledge of the portfolio of loan repayments without state backing and without insurance
- Kansas—reports having an SIB program for projects off the interstate that do not include federal funding
- Minnesota—reports having a limited SIB program with limited funding
- Missouri and Texas—have informally considered borrowing to capitalize the SIB program but currently have adequate resources without doing so
- Nevada—reports that they have considered this but not done so
- Ohio—in addition to the revolving loan fund, the Ohio SIB has been structured to sell bonds for two different funding sources within the bank: (1) the state's Title 23 funds for both FHWA and Title 49 projects and (2) the state's General Revenue Fund (GRF) for all other multimodal projects
- Oregon—has an SIB in place as well as an anticipated debt capitalization program to be backed by state lottery funds
- South Carolina—has a comprehensive SIB (a separate state agency) that issues revenue bonds backed by statutorily provided and local government repayment funds

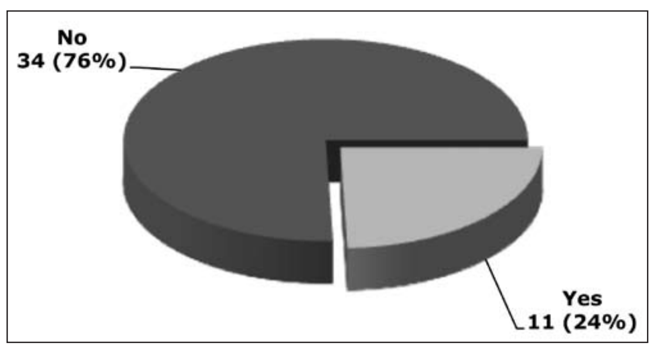

FIGURE 8 Has your state issued debt or considered issuing debt to capitalize a state infrastructure bank or state revolving fund for transportation-related lending? (n = 45).

Which State Entities Have Authority to Issue the Debt?

A wide range of state entities have authority to issue debt for specific purposes. In some states, the state DOT or state transportation board or commission has explicit authority to issue debt on behalf of the state for surface transportation purposes. In some states, an independent state-sponsored toll, turnpike, or bridge authority has debt issuance authority, either in addition to or in lieu of the state transportation agency. In other states, debt issuance authority rests solely with the state treasurer, Bond Commission, or other designated administrative agency of state government. In many cases, state DOTs are required to go to a Bond Review Board or other external state entity for final authorization. This can sometimes be the source of some procedural delay (for additional explanation of the various parties and roles, refer to the section entitled "Issuing Entities" later in this chapter).

As shown in Figure 9, 43% of the responding states have some authority to issue debt directly from the state DOT. Similarly, 43% involve the state treasurer and 31% a state finance authority. For those reporting some other entity with issuance authority (24% of respondents), examples include the following:

- Regional Mobility Authorities (Arkansas, Texas)
- Governor's Office of Management and Budget (Illinois, Pennsylvania)
- State Bond Commission (Mississippi, Wisconsin)
- State Department of Administration (Montana)
- Transportation Trust Fund Authority (New Jersey)

These provisions include the dollar amount of debt that can be issued—controlled as a fixed dollar amount, relative to a specified benchmark, or in terms of additional bonds tests (i.e., limitations on additional debt that can be issued against the same repayment stream). They also include controls over allowable debt structures or methods of debt issuance, as shown in Figure 11.

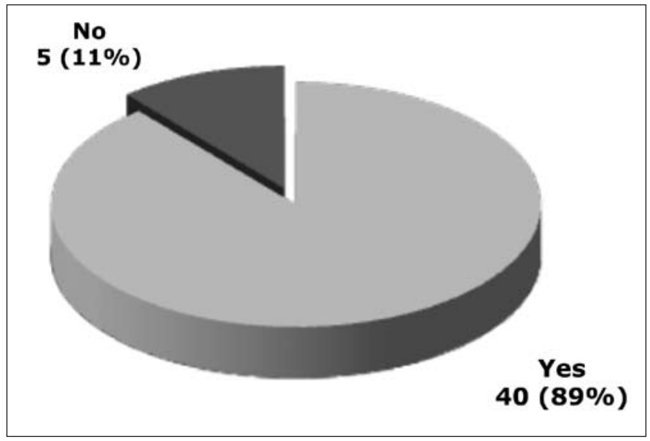

FIGURE 10 Are there constitutional and/or statutory provisions governing debt issuance for surface transportation? (n = 45).

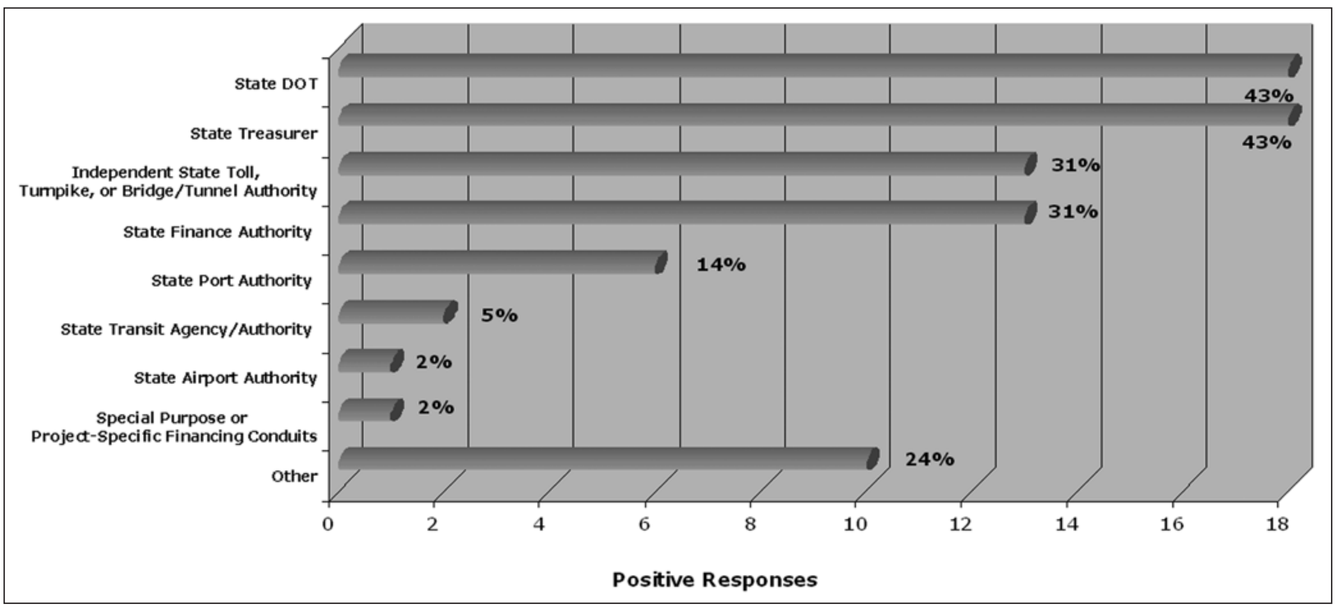

FIGURE 9 Which state entities have authority to issue debt for surface transportation? (n = 42).

Do Constitutional or Statutory Provisions Govern Debt Issuance Procedures?

In the vast majority of states (89% of states responding to the survey), provisions in the state constitution or statute govern the manner in which debt can be issued (see Figure 10). In a prior survey conducted by the Kentucky Transportation Center, 15 states reported that their Road Fund debt issues were limited by constitutional provisions, and 15 states reported statutory debt limits of some form. In some states, both constitutional and statutory limits apply (Hackbart et al. 2004, p. 22).

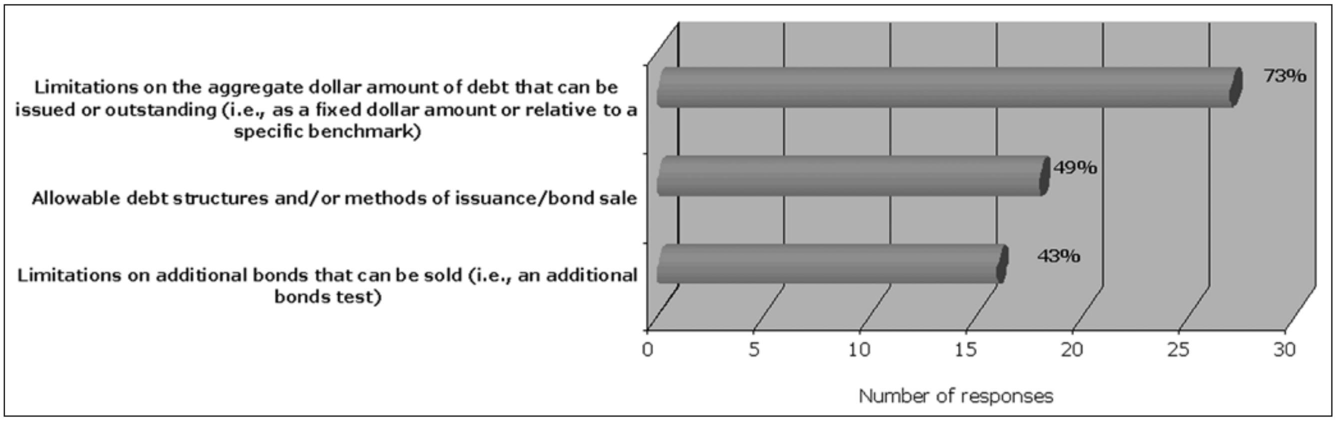

FIGURE 11 Which limitations on debt issuance are included in a constitution and/or a statute? (n = 37).

Local Authority to Issue Debt for Surface Transportation Purposes

Local debt issuance is governed by a combination of state constitution and state and local statute as well as the direct oversight of local governing bodies. According to FHWA's *Highway Statistics*, as of the end of 2005, 100% of states reported some level of outstanding debt at the local level for transportation purposes (FHWA 2006, Tables LGB-2 and LGF-21; some debt figures are estimated by FHWA).

Local governments issue debt to finance surface transportation infrastructure investments for a range of purposes and in a wide variety of manners. Local investment purposes can be categorized into three broad categories:

- To finance local projects directly, including for example local investment in transit or local roads;
- To finance the required cost share for federal and/or state projects; and
- To advance federal and state projects by advance funding the project and being repaid at a later date by the state.

The final category represents an emerging strategy being pursued by local governments to speed delivery of projects in their areas. Montgomery County, Maryland, for example, has chosen to issue debt to finance projects that are in the state program but that will not be funded for some number of years. The locality will issue debt, pay for the project and associated interest on the debt, and be repaid by the state (in some instances, absent the interest portion) when the project would be normally scheduled. By doing so, the locality has the benefit of completing the project some number of years before it otherwise would be able to at the cost of the interest on the debt.

CURRENT DEBT ISSUED AND OUTSTANDING

Comprehensive statistics on state and local debt issuance for surface transportation—spanning state and local issuers and covering all surface transportation investment purposes—are not readily available. At the local level, the challenge is segregating debt issued for transportation investment from other locally issued debt, because these often are multipurpose issues. At the state level, the situation is a bit more straightforward, but states still face some reporting and coding issues, largely owing to the number of entities potentially involved in debt issuance (e.g., state DOTs, independent toll, airport, and port authorities, state finance agencies, independent transit agencies, and so forth). Although *Highway Statistics* includes information on local as well as state debt issuance, the local information is less complete. Local information depends on the quality of data collected and provided by individual states on their local jurisdictions' activities, and it is collected on a comprehensive basis only every other year.

The vast majority of states have some amount of debt outstanding for transportation purposes. Of 44 states responding to this portion of the survey, 91% (40 states) reported current debt outstanding for surface transportation purposes (see Figure 12). The four states responding to the survey reporting zero debt outstanding for surface transportation are Iowa, Nebraska, South Dakota, and Tennessee.

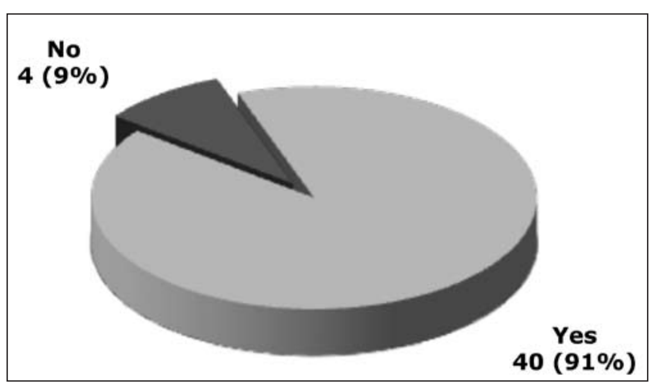

FIGURE 12 Does your state have debt outstanding for surface transportation? (n = 44).

Results from the synthesis survey provide the following data regarding the relative types of debt outstanding for highway and other transportation purposes (see Figure 13). Because a relatively small number of states provided complete responses to this portion of the survey and because some states provided information outside of the purview of the DOT although others did not, care should be taken in interpreting these results. It is primarily offered here to demonstrate the range of debt currently outstanding for surface transportation.

Transportation-related debt outstanding ranged from $13 million (Vermont) to $12.1 billion (New Jersey) as of the end of 2005. Twenty-five states reported more than $1 billion of debt outstanding, inclusive of debt for state toll authorities (FHWA 2006, Table SB-2). As of the end of 2005, debt service as a percent of all disbursements for all states equaled 9%. Twelve states reported debt service payments in relation to total disbursements of 10% or higher. As a percentage of all reported capital outlays (direct pay-as-you-go plus interest and bond retirement), debt service represented an average of 13% for the 2005 reporting year (FHWA, 2006, Table SF-2).

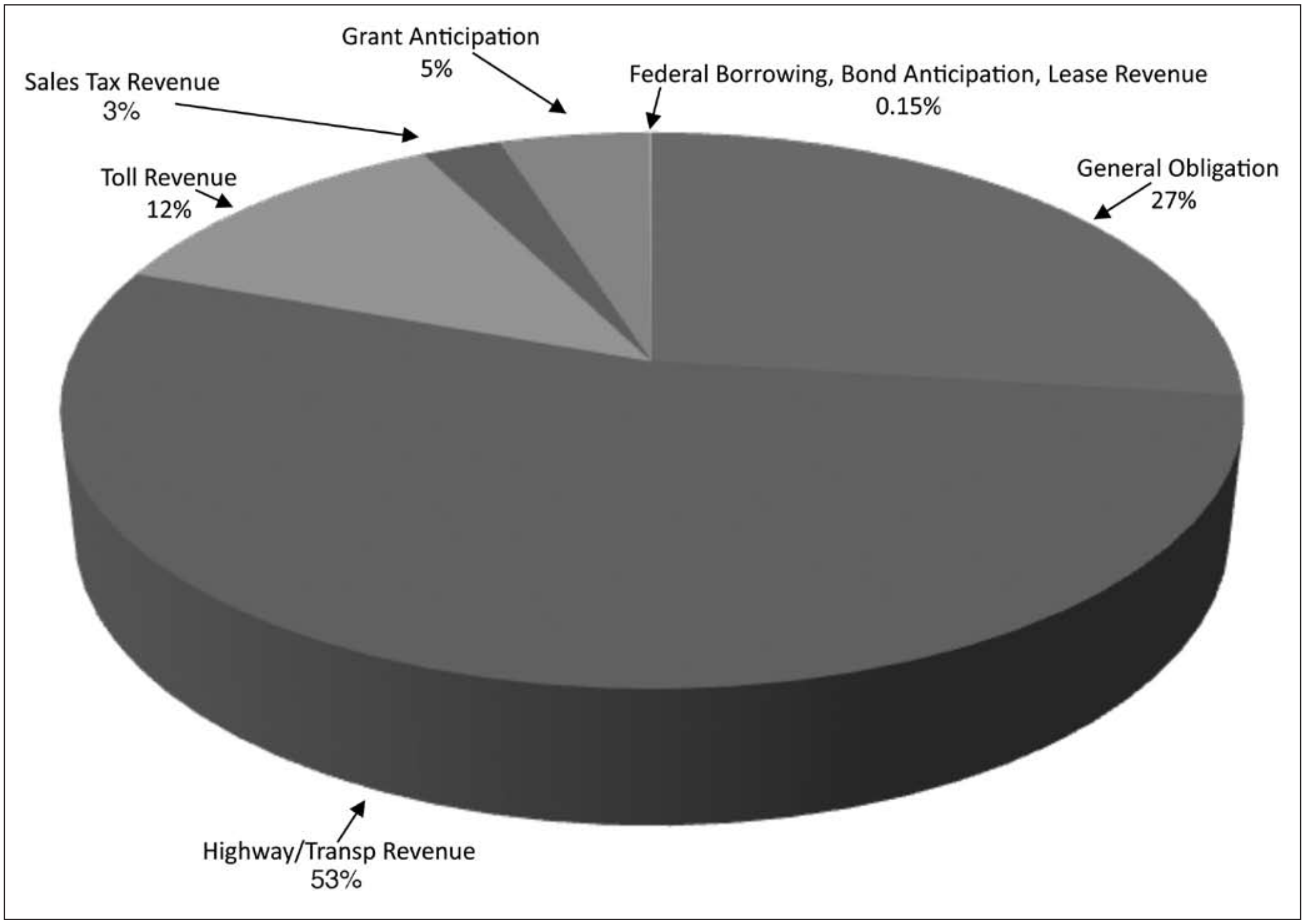

FIGURE 13 Relative types of debt outstanding for highway and other transportation purposes.
Note: Most states reported debt for DOT only; several reported debt for DOT and other state transportation agencies on a combined basis.

According to data available from FHWA's *Highway Statistics*, more than 80% of states (42 of 51, including the District of Columbia) reported having some amount of state-issued debt outstanding for transportation purposes as of the end of 2005 (FHWA 2006, Table SB-2). All states (100%) reported some amount of locally issued debt outstanding for transportation as of the end of 2006 (FHWA 2007, Table LGB-2). Yet, among those states and localities, the amount and types of debt issued vary widely.

These results compare with a report of the National Association of State Budget Officers (NASBO) finding that 32 states relied on bond proceeds to finance transportation investment in fiscal year 2004 and 34 states relied on bond proceeds in fiscal year 2005. According to the same report, transportation-related bond proceeds increased from \$5.2 billion in 2000 to \$8.4 billion in 2005. Bond proceeds, as a percent of total state transportation expenditures, ranged from 6.2% in 2000 to roughly 8% in 2005 (NASBO 2006).

Figure 14 provides a snapshot of the total annual disbursements by states for highways from 1950 to 2005. Although the total amount of debt for highway investment has increased over time, a large portion of the additional indebtedness—more than 50% of state-issued debt outstanding between 1994 and 2005, for instance—can be attributed to a handful of large states and generally can be associated with new transportation funding streams.

Figure 15 shows these data as a percent of total disbursements. As shown, although total debt obligations have increased substantially over time, in aggregate, the percentage of available resources applied to debt service has been remarkably stable over the 50-plus year time horizon.

Figure 16 focuses on debt service alone and shows the trend line in debt service as a percent of all disbursements ("Interest and Bond Retirement" in the chart) as well as debt service as a percent of combined capital outlays (debt service and direct pay-as-you-go capital expenditures). As this figure demonstrates, debt services has experienced greater volatility in more recent years (some incidentally could reflect reporting differences), but the overall level of debt obligations relative to all financial obligations has remained fairly stable over a long period of time. Exceptions can be found in a small number of states.

Debt Service as a Percentage of Revenues

One of the common benchmarks that state and rating agencies use to determine a fiscally prudent amount of debt is debt service as a percentage of available revenues. Some states even have established maximum thresholds—by statute or formal and informal policies—as to the maximum percentages allowable.

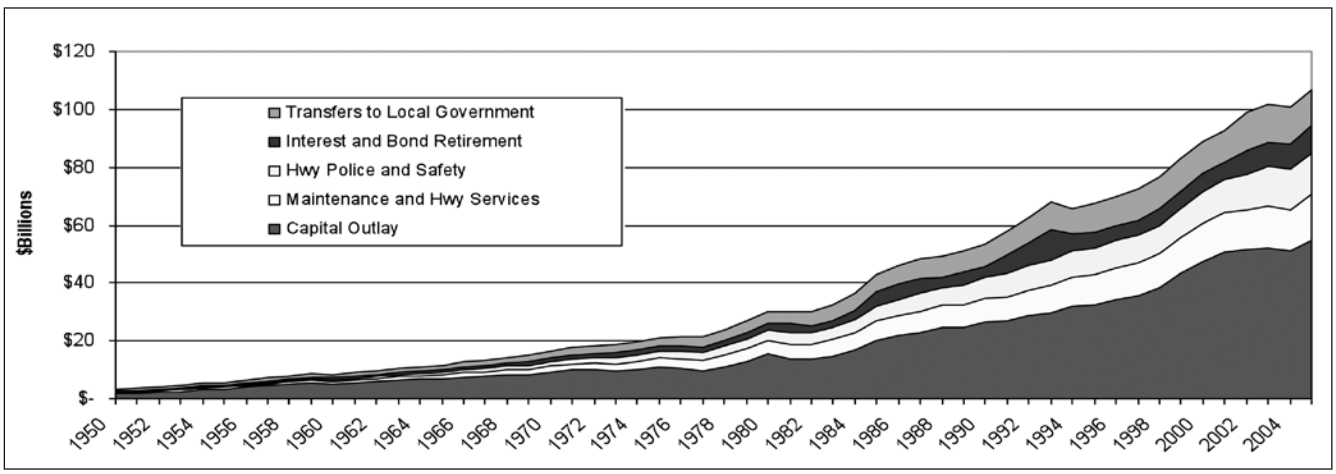

FIGURE 14 Total annual disbursements by states for highways from 1950 to 2005 (*Source:* FHWA Highway Statistics, Series SB-2). *Note:* Excludes Refunding Issues.

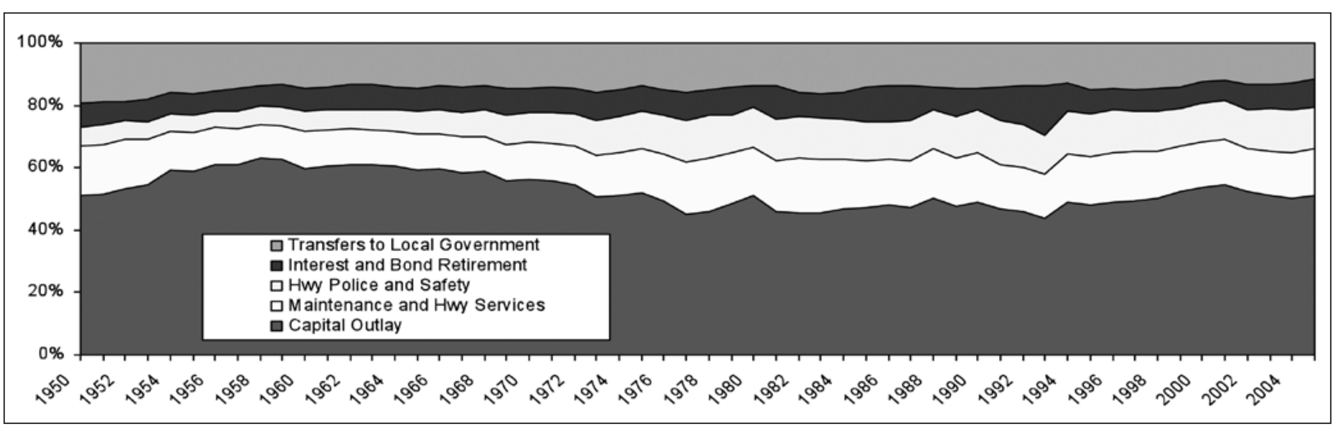

FIGURE 15 State funding for highways data as a percent of total disbursements (*Source:* FHWA Highway Statistics, Series SF-21).

Of 22 states responding to this portion of the survey, the average level of highway-related debt service as a percentage of highway-related revenues ranged from 6.06% in 2001 to 7.75% in 2005 (see Figure 17). Delaware (2003) and Minnesota (2005) reported the highest percentages of 26.2% and 27.5%, respectively (see Figure 18). Although somewhat incomplete, the data collected in this portion of the survey are generally consistent with those available from other sources—for example, see *Highway Statistics* (FHWA, 2004, 2005, 2006); and the Kentucky Transportation Center survey described later (Hackbart et al. 2004).

A recent study conducted by the Kentucky Transportation Center College of Engineering gathered information on state policies and debt limits associated with restricted highway or Road Fund revenues to support bond issues as well as on General Fund and overall state debt management and debt limit policies (Hackbart et al. 2004, pp. i–v). Among the study results was that states tend to commit greater percentages of Road Fund revenues to debt service than for General Obligation debt service. Mean ratios of current debt service to total revenues ranged from 3% to 4% for state General Funds and from 7% to 11% for state Road Fund debt service payments for the 1980–2000 study period. The ratio for Road Fund debt varied among states, with the highest third of reporting states having debt service levels ranging from 15% to 25% of revenue; the middle third with ratios of 6% to 7%; and the lowest third at 1.9% to 3.7% (Hackbart et al. 2004, p. v).

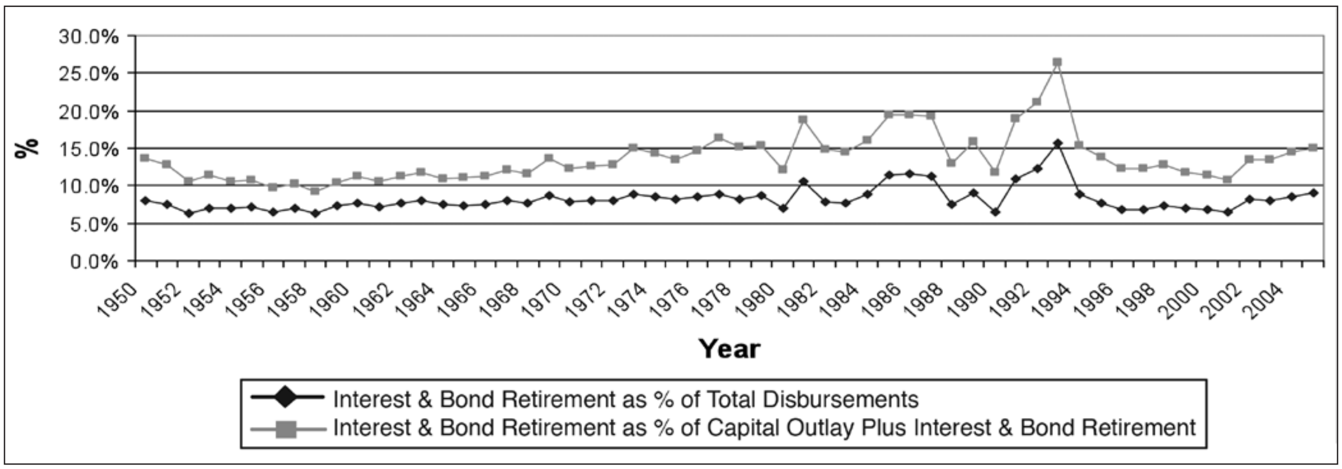

FIGURE 16 Debt service (“Interest and Bond Retirement” in the chart) as a percent of all disbursements as well as debt service as a percent of combined capital outlays (debt service and direct pay-as-you-go capital expenditures) (*Source:* FHWA Highway Statistics, Series SF-21).
Note: Excludes Refunding Issues.

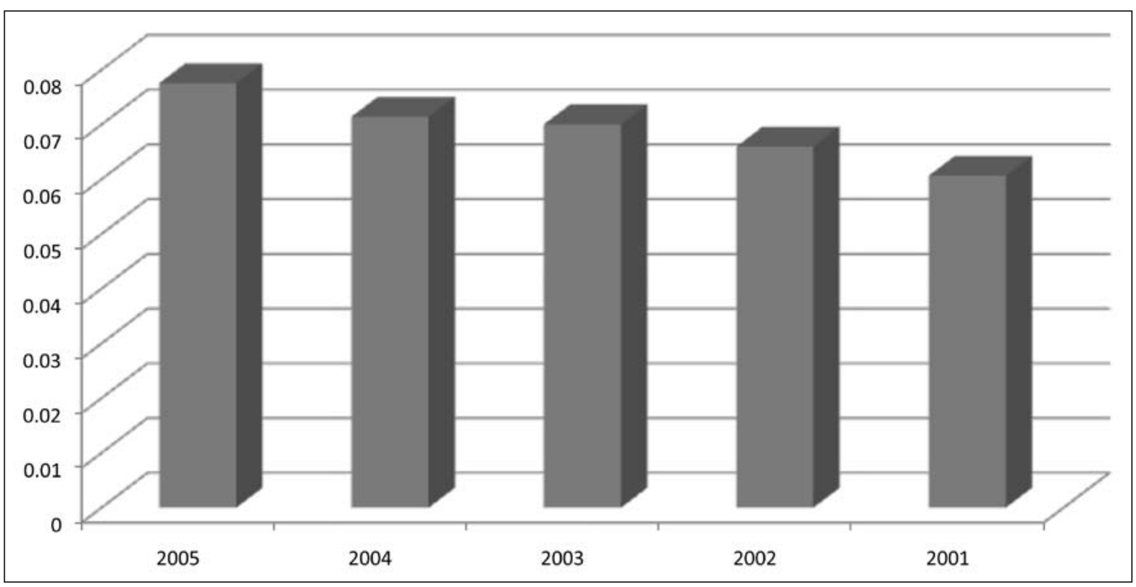

FIGURE 17 Average annual debt service as a percent of highway revenues (n = 22).

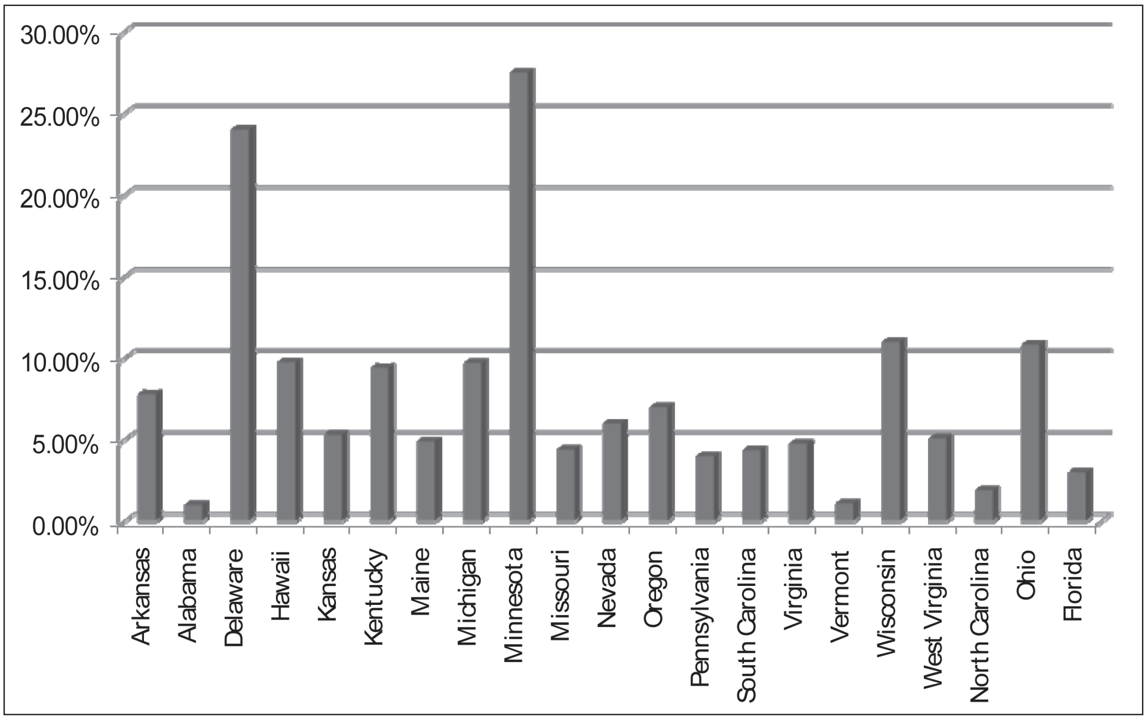

FIGURE 18 Debt service as a percent of highway revenues, 2005 (n = 22).

REPAYMENT SOURCES

For currently outstanding debt, states report a wide variety of repayment streams. The most common among these include the following (also refer to earlier discussion of debt structures and repayment streams, see Figure 19):

- Motor fuel tax revenues (82% of respondents)
- Vehicle registration and other motor vehicle and driver's license fee revenues (68%)
- Federal transportation funds (56%) (the percentage of states reporting federal transportation funds as a debt repayment source does not correspond directly with the number of states with GARVEE issuances, which is significantly smaller)
- General revenues of the state (41%)

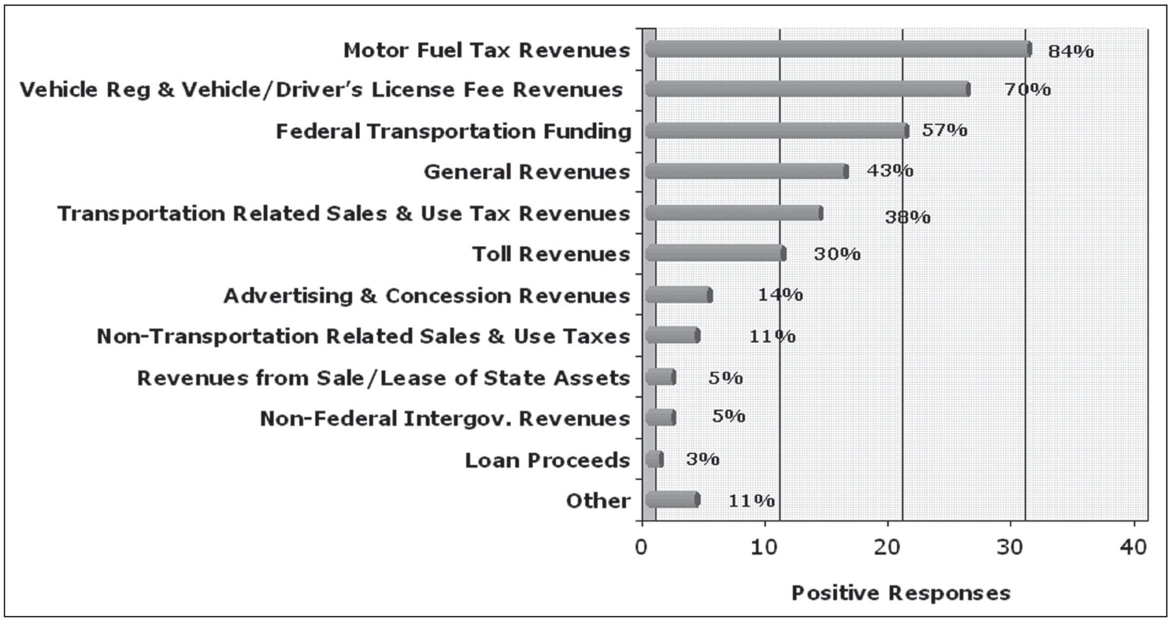

FIGURE 19 Repayment sources for currently outstanding debt, number and percentage of states reporting each source (n = 37).

- Transportation-related sales and use tax revenues (e.g., rental car, automobiles, auto parts, etc.) (38%)
- Toll revenues (29%)

For those states designating "other" repayment sources, these include the following:

- Airport revenues
- Tobacco settlement receipts
- State appropriations
- Loan repayments (e.g., from revolving loan fund programs)
- Investment income
- Other minor fees and fines
- Parking revenue
- Miscellaneous receipts

ISSUING ENTITIES

As noted earlier, the entity that actually carries out debt issuance varies from state to state, with some vesting this authority directly with the state DOT, transportation commission, or other state transportation agency or authority, and others limiting this responsibility and authority to a state administrative or financing agency. For the states reporting current debt outstanding, they identify the following as the primary mix of issuing entities from within state government (also see Figure 20):

- State treasurer
- State DOT
- Independent state toll, turnpike, or bridge/tunnel authority
- State finance authority, such as an independent transportation finance or trust fund authority or a general purpose state finance authority

Examples of other debt issuing entities listed by states include the following:

- State Bond Committee (Alaska)—a committee that oversees all of a state's debt issuance regardless of the program for which the funds are being raised.
- Federal-aid Highway Finance Authority (Alabama)—established specifically for the issuance of debt backed by future federal transportation revenues.
- State Transportation Board (Arizona), Commonwealth Transportation Board (Virginia)—approaches whereby appointed, or in a few instances elected, boards are directly responsible for the issuance of transportation-related debt along with their other transportation program oversight responsibilities.
- State Infrastructure Bank (California)—in some instances, SIBs have separate authority to issue debt backed by future SIB loan repayments.
- City or county with debt service paid contractually by DOT (Mississippi)—a form of indirect debt whereby the locality is the issuing entity, but the state has a binding commitment to provide the debt service for the debt.
- Northern Tobacco Securitization Corporation (Alaska)—a unique situation in which the state has issued debt backed by tobacco settlement payments and used the proceeds for transportation purposes.
- Housing Finance Corporation (Alaska)—another form of state finance authority, in this case specifically geared to housing-related debt issuance.
- State Rail Authority (West Virginia)—similar to the transportation finance authorities noted earlier, but in this case geared specifically to rail investments.
- Governor's Office of Budget (Pennsylvania)—a somewhat unique situation whereby debt issuance is controlled and managed directly by the governor's office rather than a special purpose finance entity or the transportation agency.

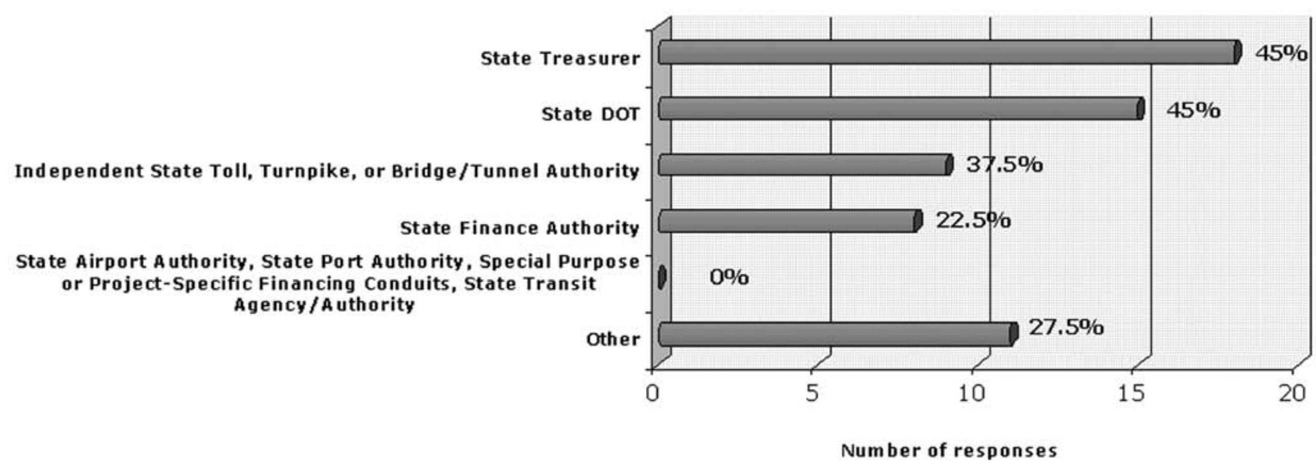

FIGURE 20 State agencies with debt outstanding ($n = 40$).

As can be seen from this list, the approaches are varied and the ramifications for management of a state's transportation-related debt program are important. States that use a centralized approach generally believe that this centralization allows for better coordination across debt issuances and improves efficiency by housing personnel with appropriate skills and access to the necessary outside advisory services and resources in a central agency. In some instances, states allow programs with their own dedicated revenue sources, such as through a transportation trust fund, to control and manage their own debt issuances, although other agencies without such dedicated resources participate in a centralized approach. In most instances, when a nontransportation agency has primary debt-issuing responsibility and authority, this agency will work closely with DOT staff to plan and implement transportation-related debt programs, while depending on the DOT for vital program information, needs analysis, and input regarding the optimal debt issuance timing from a programmatic standpoint. These interagency relationships are important to the success of a state's overall debt program and to meeting the transportation agency's specific needs.

CHAPTER THREE

DEBT ISSUANCE POLICIES AND GUIDELINES

INTRODUCTION

States are grappling with a variety of policy issues as the complexity of debt issuance increases. Examples of policy issues related to the management of debt programs identified by states in the survey and in other policy studies include such questions as follows:

- When is it appropriate to use debt to finance capital (and operating) expenses?
- What criteria or benchmarks could be set to guide decisions about how much debt to issue and how it should be used?
- Might debt limits be set on a comprehensive basis (e.g., across all government programs), for individual funds (e.g., Road Fund) or programs, or for some combination of aggregate and individual limits?

Limited research has been conducted on these policy issues, particularly relating to transportation program finance as opposed to the general revenue programs of state governments. Despite inadequate supporting research, an increasing number of states have established their own policies. This section reviews survey results and information from available studies and literature regarding the status of policy development by state DOTs and other transportation entities (e.g., toll authorities, port authorities, and the like).

WRITTEN POLICIES

The Government Finance Officers Association (GFOA) recommends that state and local governments maintain a debt policy and that such policy be updated on an annual basis. GFOA recommends that the policy include the following (GFOA 2002):

- **Types of debt**—a description of the types of debt issued, generally categorized by repayment source(s).
- **Debt limits**—the definition of debt limits or acceptable ranges for each type of debt.
- **Debt structuring practices**—policies regarding debt structuring practices, including maximum term of bonds for each type of debt and limits on the use of variable rate debt, derivatives, and credit enhancements.
- **Debt issuance and management practices**—a range of topics that vary by type of debt but include criteria for issuance of refunding bonds, primary and secondary market disclosure practices, use of professional advisors (e.g., financial advisors, bond counsel) and method of selection, investment of bond proceeds, selection and use of credit ratings, federal and state law compliance practices, market and investor relations efforts, and bond pricing practices.

According to GFOA, debt policies also may address limitations on capital spending financed with debt, although many state and local governments address this in their respective capital budget policies and use debt policies to determine debt capacity for each type of debt to be issued. GFOA recommends that the debt policy be developed based on specific objectives of the state or local government.

It is notable that despite recommendations of organizations such as GFOA, only a minority of states have written policies that govern their debt issuance practices as they relate specifically to transportation-related debt. According to the survey of state DOTs, only 27% (12 of 44 respondents) have written policies or debt issuance guides (see Figure 21).

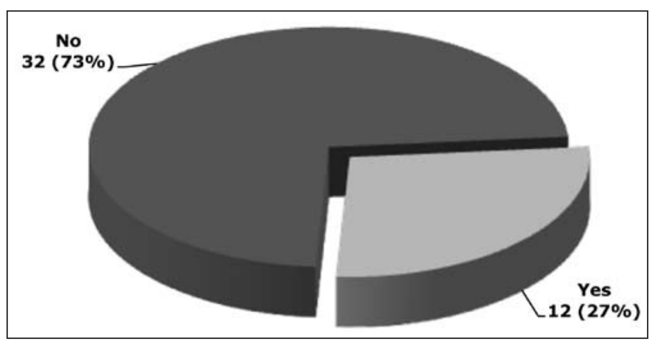

FIGURE 21 Does DOT have a written policy or guide governing debt issuance for surface transportation? (*n* = 44).

This compares to another survey for which 23 of 37 states responding (or 62%) reported that their state had formal debt policies that guide Road Fund-supported debt issuance processes (Hackbart et al., p. 18). These policies may, however, be part of broader policies that address transportation programs along with other general programs of the state.

For states that have a written policy or guide report, the guide generally addresses:

- Purposes for which debt can be issued;
- Debt structures, terms, or issuance procedures that are permissible; and
- Amount of debt that can be issued or is outstanding as a total dollar amount or relative to specified benchmarks.

An example of such limitations established in written policy is that of Minnesota. Minnesota's written policy (reported to be 25 years old) stipulates that annual highway-related debt service may not exceed 25% of the state revenue-funded portion of annual appropriation for construction on the state highway system. Additional examples of states' written policies can be found in this report's Annotated Bibliography.

In response to a specific question about which areas are addressed in preestablished policies—both formal and informal—states identified the following (also see Figure 22):

- Choice between competitive and negotiated debt issuance process;
- Credit quality/ratings that must be achieved;
- Use of derivative products;
- Percentage of program that is debt financed versus pay as you go;
- Percentage of annual revenues that can be used for debt service; and
- Debt coverage ratios for specific types of debt (e.g., grant anticipation notes).

States find themselves searching for guidance or "rules of thumb" on many of these policy issues. There is particular interest in information that could support the establishment of guidelines for the levels of debt or debt service as a percentage of overall program expenditures or revenues that are fiscally prudent.

One area for which states find themselves looking for guidance is the amount of their federal transportation revenues that are appropriately dedicated to debt repayment (e.g., for GARVEE debt). The rating agencies have provided some guidance on this topic (e.g., see Fitch Ratings 2002). Some states have established limitations—both in statute and by policy. The California Transportation Commission, for example, has adopted Grant Anticipation Revenue Vehicle (GARVEE) guidelines that establish the authority and purpose of the state's GARVEE program, establish project eligibility guidelines, define methods to allocate GARVEE proceeds across the state, and review other program elements such as the timely use of program funds (California Transportation Commission 2000).

WRITTEN DEBT-RELATED FINANCIAL PLANS

State DOTs are beginning to recognize the value of having a written financial plan. Of 43 states responding to the survey, 27 (63%) reported that they have some form of a written financial plan that establishes or forecasts future debt issuances or debt levels, but more than one-third (37%) do not (see Figure 23).

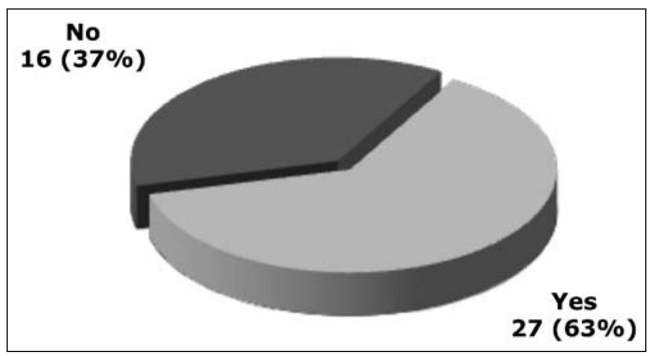

FIGURE 23 Does your state have a written financial plan that establishes or forecasts future debt issuances and/or debt levels? (n = 43).

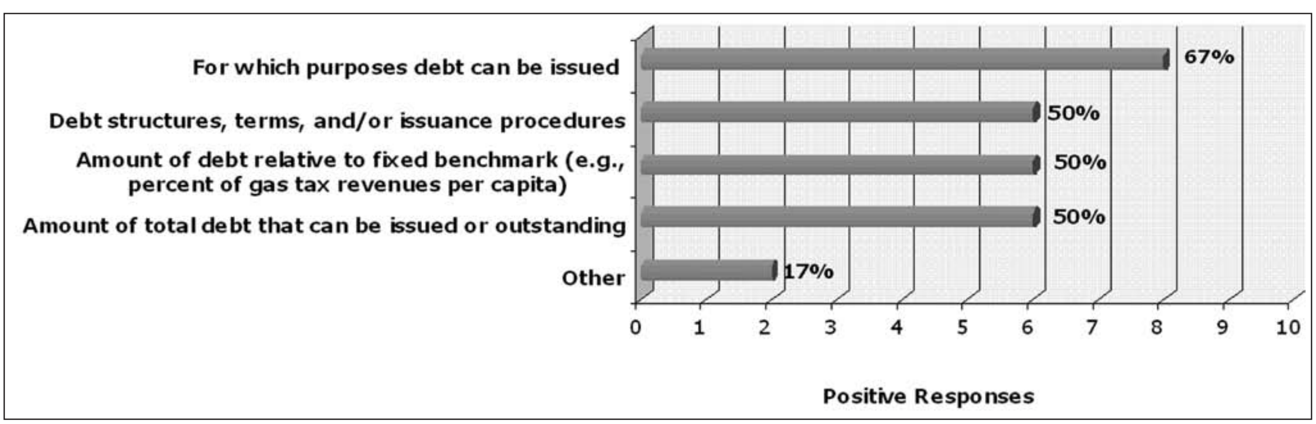

FIGURE 22 What is addressed in written debt policy guidance? (n = 12).

The states with a written plan reported varying lengths of time that the plan covers (see Figure 24). The biggest group (48%) reported having plans in the 6- to 10-year range.

by fiscal year, the cash flows of projected revenues against capital and operating expenditures, including bond proceeds and debt service.

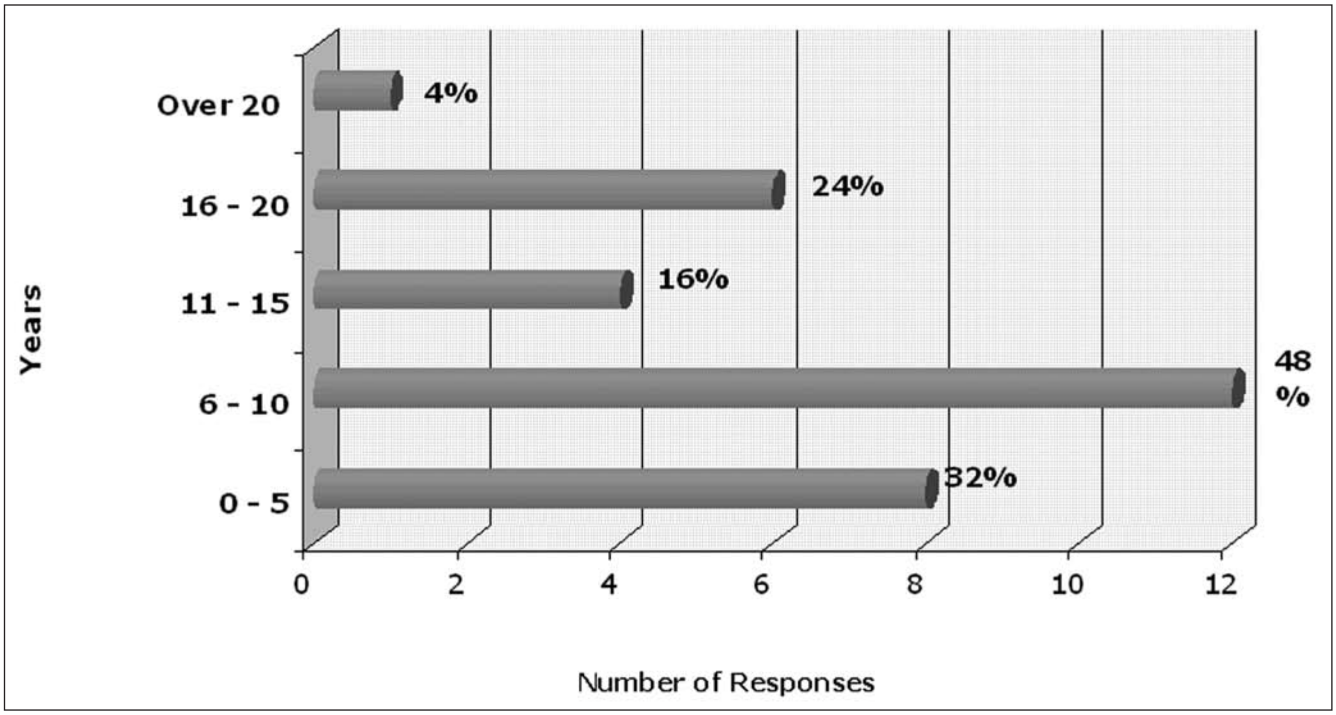

FIGURE 24 How many years does the financial plan cover? (n = 25).

The structures and purposes of states' financial plans vary considerably from one state to the next. It is worth noting that several states described their biennial budgets and multiyear highway plans as their relevant finance plans, demonstrating the range of approaches among states and the relatively unclear definition of what constitutes an explicit debt-related finance plan. Other states pointed to statewide (i.e., not transportation-specific) debt management or finance plans as the relevant documents for their situations.

Following are several examples of states with transportation-specific finance plans that explicitly address debt management as well as pay-as-you-go funding approaches (see Appendix C for additional state-specific responses):

- Arizona DOT (ADOT) uses a 20-year financial plan for the Maricopa County portion of the state's highway program that includes estimated bonding levels over the planning period. Meanwhile, the state uses a five-year plan for the remainder of the state transportation program. In addition, ADOT develops an annual financial plan that includes estimated annual bonding levels.
- Florida DOT (FDOT) maintains a long-term finance plan that includes both short-term (5 years) and longer-term (more than 5 years) financing plans for transportation. FDOT's finance plan encompasses more than just debt management and is a 10-year model that matches, by fiscal year, the cash flows of projected revenues against capital and operating expenditures, including bond proceeds and debt service.
- Maryland DOT's (MDOT's) debt management plan is structured to ensure that targeted coverage ratios of pledged revenues to debt are met. A state statute requires a two times coverage ratio (i.e., pledged revenues must be forecast to be two times the annual debt service to which it is pledged); MDOT follows a management policy of 2.5 times coverage, helping the state maintain its AA rating on outstanding transportation revenue debt.
- Ohio DOT uses a fiscal forecast that addresses federal and state funding (including bonding plans) on a "look forward" basis. The document includes a 10-year pro forma finance plan for the overall program (the current document can be found at http://www.dot.state.oh.us/finance/budget/2006%20Safetea-lu%20Forecast.pdf.)
- Washington State DOT's (WSDOT's) financial plan currently covers 16 years and incorporates current debt and estimates for future planned debt service. The financial plan is considered an essential function for planning long-term capital construction projects, planning bond sales, and managing positive cash balances in the various accounts.

States offer a wide range of advantages of having a financial or debt management plan, including the following (also see Appendix C for additional detailed state-specific responses regarding the advantages and disadvantages and general constructs of their financial plans):

- Ability to ensure adequate cash flow balances for existing and planned debt;
- Ability to look ahead, quantify possibilities, and make good decisions; and
- Ability to optimize the timing of debt issuance relative to cash flow needs.

The disadvantages or challenges associated with debt management plans noted by state respondents include the following (see Appendix C for detailed state-specific responses):

- Arriving at accurate forecasts, especially in the 15- to 20-year time horizons (e.g., gas price increases, changes in sales tax revenues, and cost changes);
- Making a trade-off between pressing operating needs and capital investments; and
- Locking in debt timing when situations can change and the need to manage expectations regarding the level and timing of debt issuances. For instance, when expectations are set about debt issuances in certain time periods, it is sometimes difficult to adjust the timing even when circumstances call for adjustments to be made.

HOW DECISIONS ARE MADE REGARDING DEBT ISSUANCE FOR INDIVIDUAL PROJECTS, SETS OF PROJECTS, AND/OR ENTIRE PROGRAMS

Once states have decided that debt will be utilized for some portion of their programs, they follow a variety of approaches to determine whether this will be done on a project-specific or programmatic basis. For the states responding to the survey, following is a summary of how they approach this set of decisions. As can be gleaned from these responses, a number of factors dictate whether debt is issued on a project-specific or programmatic basis. These include the following:

- **Economic and financial market factors**—including current and anticipated inflation and interest rates
- **Economies of scale**—in terms of overall project and program size relative to potential debt issuance costs
- **Cash flow timing and need for flexibility**—for example, in terms of changes to contract letting and project schedules
- **Underlying project funding**—for example, the extent to which a project(s) has a dedicated revenue stream
- **Political factors**—such as the level of direct program financial control exercised by state legislatures, which varies from state to state and within a state over time

States with more extensive debt programs tend to operate on a programmatic basis, whereas those with more limited use of debt do so under more controlled (project-specific) bases. However, as the responses from individual states demonstrate, every state differs in how these decisions are made and who is involved in making them. Following is a sampling of responses from individual states regarding their approach to the decision of project-specific or programmatic debt issuance and how these decisions are made (also see Appendix C for detailed responses from additional states):

- California issues General Obligation bonds for the entire transportation program. Decisions regarding revenue bonds are based largely on economies of scale—that is, debt is issued for an individual project if size is large enough and for a set of projects if individual projects are not large enough economically and if timing allows combining projects into a single issuance. Generally, tax revenue bonds are issued for the entire program.
- Connecticut, Delaware, and Maine all report that debt is issued on an ongoing basis for the entire program based on spending needs and available cash balances.
- In Maryland, the decision is based on the type of project being financed. If the project has a dedicated revenue source that will cover debt service then special revenue bonds are issued. If the projects are general highway projects that do not have specific dedicated revenue, then Consolidated Transportation Bonds are used.
- In Michigan, the five-year plan is used to determine the mix of funding sources required. Generally, bond issuances would be for a group of projects with the rare exception for a single megaproject.
- In Mississippi, for each state bond issue, the legislature must pass a specific statute authorizing the amount to be issued and describing the specific projects financed and setting out the terms of the bonds.
- Nevada reports issuing debt for sets of projects to maintain flexibility.
- In South Carolina, debt is issued for a group of projects. The decision to issue debt is based on the availability of limited federal and state resources and the amount that can be leveraged by issuing debt.
- In Virginia, transportation debt issuance is by program. The actual issuance of debt then is for some or all of the project(s) in the program rather than for individual projects.
- In Vermont, all debt is subject to legislative approval. Because the amount of debt authorized for transportation has been minimal, debt is generally requested for specific projects to minimize the complexity.
- Washington State's two recent funding packages included specific project lists, with associated project schedules. Each budget cycle, the legislature appropriates bond proceeds to cover the projected expenditures. Bonds are then sold as needed throughout the biennium.

As shown, states use a variety of approaches to determine whether debt is to be issued on a programmatic or project-specific basis. The role of the state legislature in authorizing indebtedness, among other factors, has an important bearing on this determination.

HOW DECISIONS ARE MADE REGARDING WHETHER FEDERAL AND/OR STATE REVENUE STREAMS ARE UTILIZED FOR DEBT REPAYMENT

In addition to programmatic decisions about debt structures, states face decisions about the structures of individual bond programs, including the selection of sources of debt repayment. This includes the selection of repayment structures that comprise 100% of a single state source (e.g., state gas tax revenues), a single federal source (e.g., future federal-aid reimbursements), or a hybrid of repayment sources (state transportation revenues combined with future federal reimbursements, for instance).

States employ a variety of methods to make this decision, as reflected in the survey. Some of the factors considered by state DOTs in making the choice between different securities for their debt include the following:

- Size of funding need, with some states turning to GARVEEs for megaprojects to manage the impact of the megaproject on the rest of the program;
- Relative availability of federal and state funding;
- Federal eligibility of specific investments;
- Federal requirements that would accompany federal funding;
- Market conditions, rating quality of state's own debt relative to federal program, and perceived cost-effectiveness of either method;
- Impact on the remainder of the transportation program of either choice;
- Impact on the state's or program's credit rating; and
- Political feasibility of one approach over another, with some states reporting that in some situations GARVEEs have been the only feasible option politically; in other states, the converse has been the case, with only state bonding being politically acceptable.

Through this survey, it was observed that some states have a perception of relative credit quality and related interest rate savings of one repayment source over another (e.g., state sources having higher credit quality or lower interest cost than federal repayment sources) that may not be borne out entirely in the marketplace. This is evidence of the need for further research and education on this important topic.

Following is a sample of state responses regarding their approach to the determination of preferred repayment stream, including whether federal or state revenues are to be the designated repayment source (also see Appendix C for all states' detailed responses). These responses provide a good sample of the range of considerations that influence states' choices.

- Alabama considers the following primary factors to determine the type of debt issued: (1) size of the issue; (2) expected level of federal versus state funding; and (3) impact on the remainder of the transportation program.
- In Arizona, all highway revenue debt and Maricopa County regional area Road Fund debt is issued for general program acceleration. Grant Anticipation Note debt is issued for both general program acceleration and specific project acceleration.
- Colorado reports that utilizing GARVEEs was the only way that the state was able to get enough political support to pass bonding legislation. Colorado issues no general obligation debt and therefore was generally debt adverse. Using future federal funds as part of the repayment stream was the only politically viable option.
- In Florida, debt is determined based on a combination of cash management factors and on the eligibility of funding sources (federal or state). For the Turnpike, all debt service on Turnpike Enterprise revenue bonds are payable solely from the net revenue of the Turnpike Enterprise system per bond documents.
- In Kentucky, debt depends on the eligibility of the projects. If they are federal projects and toll credits can be used to match the debt, the state first considers GARVEEs.
- In Maine, GARVEE bonds have been used only once for an emergency project. The traditional debt instrument for the state is General Obligation bonding.
- In Michigan, to maintain favorable coverage ratios, the occasional use of debt that pledges future federal funds as the source of repayment is used, as opposed to the usual approach of issuing debt backed by state transportation revenues. Debt is also determined by the makeup of the project list.
- In Montana, many factors weigh into the decision regarding debt, including potential interest rates, bond rating, resource availability, and the timing of projects.
- In New York, to date, all debt has been backed by the state. Borrowing against state funds has, to date, provided enough flexibility to continue without employing borrowing against federal funds.
- In Ohio, since 1997, the Ohio DOT has used GARVEEs as well as state general obligation (GO) bonds. GARVEE bonds are issued primarily for the state's largest projects and GO bonds are issued for smaller projects. The annual and total GO limits may determine the type of debt to use. The state also tries to balance between bonds repaid with state revenue and federal funds to stay within internal debt policy limits.
- In Virginia, debt backed by federal funding (FRANs) is used to supplement shortfalls in transportation funding and to leverage federal reimbursements.

HOW STATES ASSESS OVERALL DEBT AFFORDABILITY

State governments use a range of criteria to evaluate the amount of debt that can be sustained. Common benchmarks considered include the following:

- Debt per capita,
- Debt as a percent of personal income,
- Debt as a percent of taxable property,
- Ratio of debt service expenditures to total revenues,
- Ratio of debt service expenditures to all expenditures, and
- Debt service coverage by pledged revenues.

Although states establish and follow these benchmarks, they often rely most heavily on the credit rating assigned by the rating agencies and on the state's ability to maintain (or improve) its underlying rating. Larkin and Joseph (1996) suggest that bond ratings serve as proxies for the financial market's perception of a state's creditworthiness, and because the rating agencies focus on the state's debt capacity and its debt management practices, so too do the states. In this way, the states focus on debt affordability as a key benchmark (Larkin and Joseph 1996, p. 277).

According to a Fitch Ratings report on debt affordability, "restrictive debt policies that do not allow for the funding of essential capital projects carry risks that Fitch sees in some cases as greater than those of high debt load" (Fitch Ratings 2002). The report asserts that "debt affordability is best viewed in the context of a comprehensive assessment of capital needs," meaning that hard-coded and inflexible targets or tests are not fully appropriate. Fitch outlines several key components of strong debt affordability policies, as follows (Fitch Ratings 2002, pp. 1–3):

- **Reasonable, attainable debt parameters**—including a set of targets that measure debt levels against economic and financial indicators. The most common limits set by governments, according to Fitch, are on debt as a percentage of the market value of taxable property, debt per capita, debt service as a percentage of spending or revenues, principal amortization rates, and sometimes debt as a percentage of personal income.
- **Pay-as-you-go funding guidelines**—although it is not always practical, Fitch views favorably government entities that allocate a percentage of the annual budget for capital needs or that have a method to channel surpluses to this purpose.
- **Use and management of derivative products and variable rate debt**—Fitch is supportive of evolving debt policies that include asset and liability management policies so long as these policies, including limits on the use of variable rate debt, are reasonable and appropriate to the entity's credit profile. Comprehensive policies are those that identify the benefits expected from derivative products and include strategies for mitigating the risks.

According to the University of Kentucky Transportation Center Survey, states reported that a major reason for estimating debt capacity was to provide information for the preparation of the Capital Improvement Plan (CIP). Sixty-one percent (or 14 of 23 states) suggested that the CIP was the main reason for estimating debt capacity. Eight states (35% of those responding) reported that setting debt limits was the primary reason for estimating debt capacity or affordability (Hackbart et al. 2004, p. 20). Four states (19% of responding states) indicated that they include their anticipated share of future federal funds in the calculation of their state's debt limit, whereas 17 states do not do so.

Appendix D provides a brief review of the debt affordability policies reported by the states responding to this synthesis survey. As reported by the states, these affordability policies do not apply specifically to transportation but to broader state government debt management practices.

BOND SALE METHOD

States generally use two methods of bond sale: negotiated and competitive. In a negotiated transaction, the issuer (state) selects a single banking firm as the lead banker and works with them (negotiates) on a one-on-one basis to arrive at a negotiated sale price for the bonds. In a competitive transaction, the issuer places its bonds out to the market for competitive bidding.

Some states have policies that dictate whether bonds are to be sold on a competitive or negotiated basis; others make the determination on a more ad hoc basis. Of states responding to the survey, 61% (23 of 38 respondents) reported using both competitive and negotiated methods depending on the circumstances; 24% (9 respondents) reported using only competitive methods; and 16% (6 respondents) reported using only negotiated sales (see Figure 25).

Some states cite technological advances as a reason for greater use of competitive transactions. Other states reported using one method for certain types of bond sales—for instance, Alaska and Illinois both reported using competitive sales for GO debt issuances, whereas Alaska reports most revenue bonds being sold on a negotiated basis. Similarly, Wisconsin reported using competitive methods for new money issuances and negotiated transactions for refundings. Additional decision factors noted by survey respondents include the following:

- Size of issue,
- Complexity of debt structure and repayment stream,
- Market factors, including perceived potential for better rates through competitive transactions,
- Perception of market demand for a specific issuer's debt,
- Perceived flexibility associated with negotiated transactions, and

- Extent to which state law authorizing specific debt sale dictates the method of sale (e.g., as noted by Alabama).

USE OF OUTSIDE FINANCIAL ADVISORS

State transportation program (and debt) managers use outside financial advisors for a variety of purposes. These include activities to support individual debt issuances as well as activities supported on an ongoing basis. New York State Thruway, the issuer of New York State's bonds, hires financial advisors for each of its bond sales. In Washington State, the financial advisor is employed by the state treasurer on behalf of state agencies. A number of states (e.g., Virginia, Georgia, and Maryland) have sought to form a pool of potential advisors for special finance initiatives, including support in evaluating and negotiating public-private partnerships.

As shown in Figure 26, the majority of responding states noted the use of outside financial advice for one or more of a variety of services.

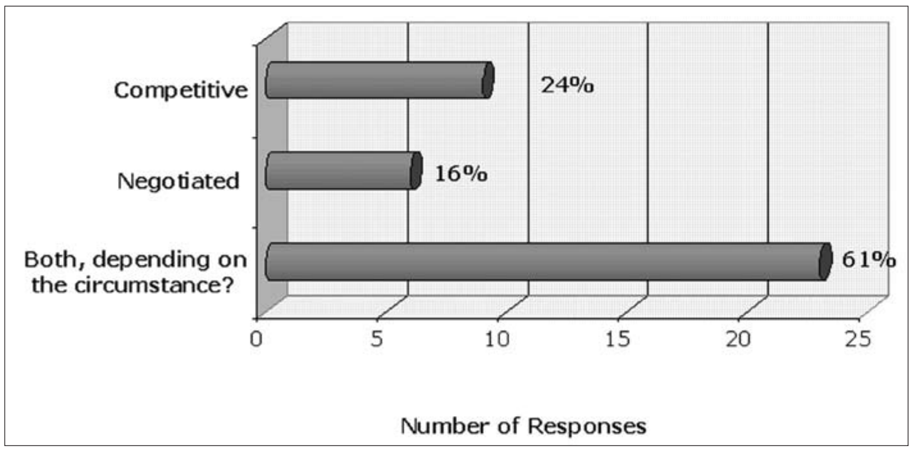

FIGURE 25 Which methods of bond sales are utilized for transportation-related debt? (n = 38).

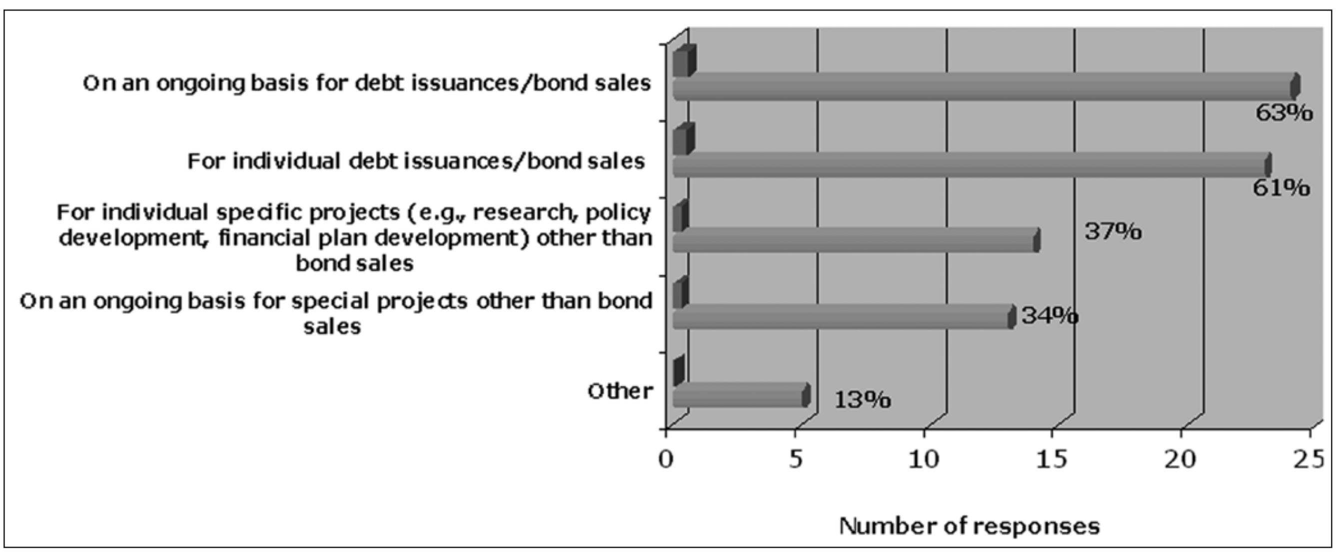

FIGURE 26 How are outside financial advisors utilized? (n = 38).

CHAPTER FOUR

CANDIDATE BEST PRACTICES AND AREAS FOR IMPROVEMENT

INTRODUCTION

States are continually searching for opportunities to learn from one another and to be able to avoid "reinventing the wheel" to develop sound debt management practices. The Kentucky Transportation Center survey found that the most common method for states to develop debt management guidelines is to replicate those of peer states (Hackbart et al. 2004, p. 22). Substantial resources are not available specifically to state DOTs as they look for relevant and sound examples. Therefore, states have to look to sources for general principles for state government debt management, such as those offered by the GFOA, and adapt them to transportation applications.

This chapter aims to further the dissemination of *potential* model practices by sharing the results of the survey of state DOTs regarding their practices and those of other transportation agencies in their states. It provides a summary of the self-identified areas for improvement of the debt management function in these organizations. Finally, it points to outside resources available to states in considering potential practices for their transportation debt programs.

CANDIDATE BEST PRACTICES

The term "best practices" is applied with some caution because no analytical assessment of the proposed best practices is undertaken. Instead, survey respondents were asked to identify the practices they believe to be of potential interest to other states in managing their debt programs, or potential model practices, with recognition that these may not necessarily always be true best practices for states facing varying circumstances.

States responding to the survey offered the following as practices of potential interest (also see Appendix C for all states' detailed responses):

- Adequate debt service coverage ratios, in some instances exceeding that required by statute (e.g., Maryland, Connecticut, and Oklahoma);
- Selection of lead bankers for negotiated transactions through a competitive negotiated process from a pool of prequalified bankers (Kansas);
- Strategic use of outside financial advisors to support financial decision making, negotiations, and ongoing monitoring (Kansas, Missouri);
- Creation of a Bond Team to monitor and manage the department's debt and to find creative ways to provide gap financing to minimize major fluctuations in the size of the department's annual capital improvement program and provide additional resources for one-time projects and program initiatives (Michigan);
- Systematically assessing the impact on future transportation program capacity before any new debt issuance (Pennsylvania);
- Use of a long-term financial plan, allowing for better cash flow management and optimization of the timing of future bond sales (Florida, Washington State);
- Use of a debt service model to project anticipated payments as well as incorporate actual debt service payments for bonds already sold (Washington State); and
- Use of the Internet for disclosure of financial information (Wisconsin).

AREAS FOR IMPROVEMENT

States responding to the survey offered the following as areas for improvement for their own programs:

- More robust and formalized financial planning and debt management policies. For example, historically, Kentucky's authorized debt capacity ratio (debt as a percentage of revenue) has been 6%. The last two budgets have authorized an unprecedented amount of debt. Kentucky managers note the need to continue its historically prudent management of the state's debt portfolio at a centralized level.
- New and expanded staffing and technical training for existing staffs, including the need for ongoing staff to monitor markets and plan for debt.
- New efforts to recruit staff with credit market experience as well as taking full advantage of outside advisors to augment internal staff capability. States responding

to the survey note this as a particular staffing challenge that requires new recruiting and, in some cases, new salary levels and human resource policies.
- Improved technology to support more sophisticated financial management, forecasting, cash management, and related analyses.
- Significant enhancements to financial management and information systems to support the level of analysis and data manipulation required to support more sophisticated forecasting and cash and debt management roles. Initiatives to improve these systems can be quite disruptive and expensive to complete, but ignoring this need will compromise states' ability to meet the heightened analytical and fiscal management demands associated with more extensive debt programs.
- Better understanding of new and advanced financing methods, including, for example, derivative products.
- A significant gap in knowledge and expertise as it relates to understanding the appropriate use of new and emerging financing techniques, such as interest rate swaps and other derivative products. States recognize the potential risks associated with such approaches but also the potential value and thus the need to build a better understanding.
- More thorough understanding of financial risks of debt financing.
- A better understanding of not only the benefits of debt financing but also the risks, including the risk of committing to higher debt levels than appropriate to the circumstance. Given the long-term nature of these commitments and the impact not only on future taxpayers but also on future program capacity, it is critical for program managers to have a comprehensive understanding of the impacts and associated financial risks to help policymakers make informed decisions.
- Greater managerial control over financial programs in relation to state legislatures as well as better communication with and training of legislative staffs involved in financial oversight.

Virginia, for example, notes the importance of being able to have the flexibility to issue debt for a project and to redirect it if circumstances warrant. This flexibility can at times be constrained by state legislatures and requires ongoing communication with legislators and their staffs. Washington State program managers make similar observations regarding the importance of communication and training of legislative staffs involved in financial oversight.

- Better understanding of how Advanced Construction of a federal program can be used as a form of indebtedness and the associated risks.
- In the realm of understanding all available tools and techniques, a need to more fully understand cash management techniques made available by the federal government, including the use of advance construction by which the state essentially advances the federal program with state resources. In an era of greater uncertainty regarding federal program resources, this approach (as well as GARVEE financing) can present new risks that need to be fully understood and measured.

INSTITUTIONAL CHALLENGES

In response to a question about the types of challenges that state transportation program managers face in carrying out their responsibilities, state program managers noted the following as being key challenges (also see Figure 27):

- Statutory limitations or political processes that are overly prescriptive or limiting,
- Lack of sufficient technical knowledge,
- Limited staff resources, and
- Technological and system limitations.

States that identified other factors as key challenges noted the following as being additional impediments or challenges:

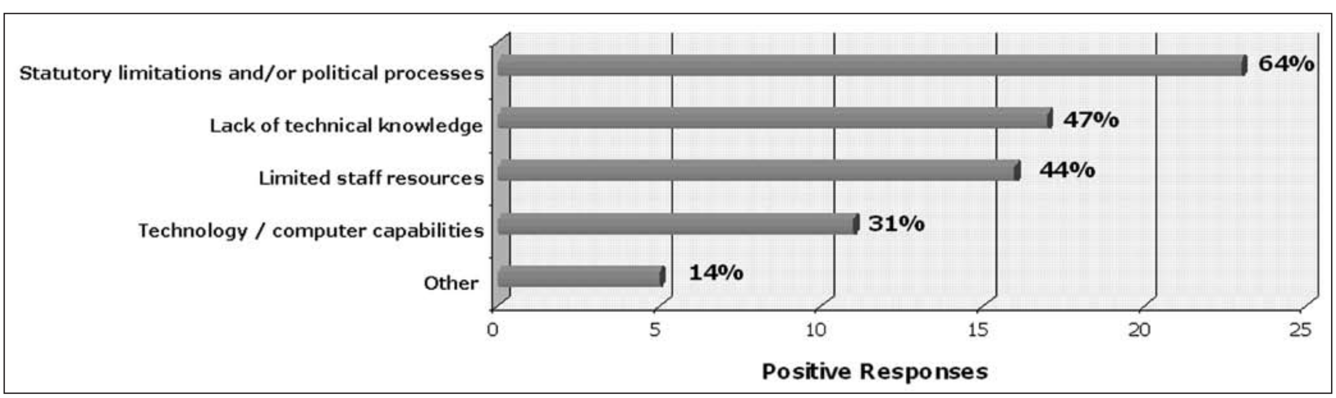

FIGURE 27 What challenges do you face carrying out debt management responsibilities? (n = 36).

- Need for ongoing monitoring of current market conditions,
- Need for better cash and outlay forecasting,
- Lack of a debt management system to record and track debt, and
- Inadequate technical knowledge of legislative staffs and associated challenges with communication and decision making regarding debt issuance and management.

OUTSIDE RESOURCES

States can use a number of important resources when formulating and improving upon their debt management programs. Care must be taken, however, in that many of these resources are not targeted specifically to transportation programs but more generally to state and even municipal debt. Therefore, these resources do not capture the nuances of transportation revenue streams, the unique cash flow aspects of transportation construction programs and the federal funding partnership, and other aspects unique to transportation. They are, however, still valuable tools, offering general debt management principles, guidelines, and road maps to effective debt management, including interacting with the capital markets.

Following are examples of available outside resources and organizations to tap for relevant information (also see the Annotated Bibliography at the conclusion of this report for additional resources and relevant report citations):

- **GFOA**, including a series of written guides and training sessions on a broad range of relevant topics. GFOA offers material specifically geared to the education of elected officials and the public on the debt issuance process that can be quite useful when new programs are being launched. These materials can generally be purchased for relatively nominal amounts, even without membership in GFOA (and can be accessed on GFOA's Debt Resources Page at http://www.gfoa.org/services/dfl/debt/index.shtml). A small sample of example publications include the following:
  - "An Elected Official's Guide: Government Finance"
  - "An Elected Official's Guide: Debt Issuance"
  - "An Elected Official's Guide to Rating Agency Presentations"
  - "A Guide for Preparing a Debt Policy"
  - "A Guide for Selecting Financial Advisors and Underwriters: Writing RFPs and Evaluating Proposals"
  - "Benchmarking and Measuring Debt Capacity Tax-Exempt Financing: A Primer"
  - "Benchmarking and Measuring Debt Capacity"

These materials are generally written for audiences with a relatively limited knowledge and familiarity with the relevant vocabulary.

- **Rating Agency Reports and Primers**, including not only reports on specific credit ratings but also general guides on the rating process and key rating criteria. Examples include the following (also see the Annotated Bibliography at the end of this report):
  - Fitch Ratings, *To Bond or Not to Bond—Debt Affordability Guidelines and Their Impact on Credit* (2005)
  - Fitch Ratings, *GARVEEs: Popularly Leveraging Federal Transportation Grants* (2002)
  - Standard & Poor's, *Public Finance Criteria Book* (2007), including a chapter on Toll Road and Bridge Financing
  - Moody's Investors Services, *State Debt Median* (2006) report
- **FHWA, TRB, and Other Transportation Industry Resources,** including the following:
  - FHWA, *Innovative Finance Primer* (2002) and *Innovative Finance Quarterly* newsletter (available at http://www.fhwa.dot.gov/ innovativeFinance)
  - TRB TCRP, *Financing Capital Investment: A Primer for the Transit Practitione*r (2003)
  - TRB NCHRP, *Future Financing Options to Meet Highway and Transit Needs* (Cambridge Systematics et al. 2007)
  - AASHTO, Project Finance Institute training materials

These and other resource materials, including reports and related materials of individual states, are reviewed in the Annotated Bibliography at the conclusion of this report.

CHAPTER FIVE

CONCLUSIONS

INTRODUCTION

Over time, states and local governments have become better versed in the role that traditional debt can play in supporting their transportation investment initiatives. In aggregate, both the number of states with debt programs and the total level of debt have increased substantially. It is important, however, to consider this increase in the context of the overall scale of state programs and, most important, available resources. As shown in this study, when examined in this way, the level of reliance on debt has remained remarkably stable over time, with some exceptions.

This chapter provides a summary of the key findings of this synthesis research project and reviews areas for which additional research or information sharing among peer organizations could be beneficial.

KEY FINDINGS

In combination with information available in the literature, the survey conducted as part of this synthesis study offers several key findings relating to the current practices of states in issuing and managing transportation-related debt. These findings include the following:

- Most states report a need for assistance in developing prudent debt management practices for their transportation programs. Examples of policy issues related to the management of debt programs identified by states in the survey and in other policy studies include such questions as follow:
  - When is it appropriate to use debt to finance capital (and operating) expenses?
  - What criteria or benchmarks could be set to guide decisions about how much debt to issue and how it should be used?
  - Might debt limits be set on a comprehensive basis (e.g., across all government programs) or for individual funds (e.g., Road Fund) or programs or some combination of aggregate and individual limits?
- Limited research has been conducted on these policy issues, particularly as it relates specifically to transportation program finance as opposed to the general revenue programs of state governments. Despite this lack of supporting research, states increasingly have established or are in the process of setting their own policies.
- In the vast majority of states, there are provisions in the state constitution or statute that govern the manner in which debt can be issued. These provisions include the dollar amount of debt that can be issued—controlled as a fixed dollar amount, relative to a specified benchmark, or in terms of additional bonds tests. They also include controls over allowable debt structures and methods of debt issuance.
- The vast majority of states have some amount of debt outstanding for transportation purposes. The amount of debt, however, varies substantially from state to state and among local jurisdictions.
- Although the total amount of debt for highway investment has increased over time, a large portion of the additional indebtedness—more than 50% of state-issued debt outstanding between 1994 and 2004, for instance—can be attributed to a handful of large states and generally associated with new transportation funding streams. Furthermore, although total debt obligations have increased substantially over time, in aggregate, the percentage of available resources applied to debt service has been remarkably stable over a 50-plus year time horizon.
- Despite recommendations of organizations such as the Government Finance Officers Association, only a minority of states (27% of survey respondents) have written policies that govern their debt issuance practices relating to surface transportation.
- More than one-third (37%) of survey respondents indicated that their state lacks a written financial plan that guides and documents their debt issuance plans.
- States responding to the survey offered the following as practices of potential special interest:
  - Creation of a Bond Team to monitor and manage debt;
  - Establishment of adequate debt service coverage ratios, in some instances exceeding those required by statute;
  - Assessment of the impact on future transportation program capacity before any new debt issuance;

- Use of a long-term financial plan, allowing for better cash flow management and optimization of the timing of future bond sales;
- Use of a debt service model to project anticipated payments as well as incorporate actual debt service payments for bonds already sold;
- Strategic use of outside financial advisors to help plan, implement, and monitor debt programs; and
- Selection of lead bankers for negotiated transactions through a *competitive* negotiated process from a pool of prequalified bankers.

• States responding to the survey offered the following as areas for improvement for their own programs:
  - More robust and formalized financial planning and debt management policies;
  - New staffing and technical training for existing staffs;
  - Improved technology to support more sophisticated financial management, forecasting, cash management, and related analyses;
  - Better understanding of new and advanced financing methods, including, for example, derivative products;
  - More thorough understanding of financial risks and potential negative impacts of debt financing; and
  - Greater managerial control over financial programs in relation to state legislatures as well as better communication and training of legislative staffs involved in financial oversight.

FUTURE RESEARCH EFFORTS

States responding to the survey suggested a variety of areas in which further research and sharing of information would be valuable. These include the following:

• A critical need for the development and sharing of transportation-specific debt affordability measures, as distinct from general obligation and statewide (non-transportation specific) measures;
• Tools to help compare alternatives and evaluate options under varying interest rate scenarios, including cost-benefit analysis of pay-as-you-go programs versus advancing through debt issuance, with particular focus on research related to the quantification of the benefit side of the cost-benefit equation;
• Guidance on the effective use of debt and of nontraditional products such as derivatives;
• Guidance on the effective use of federally supported financing approaches such as the Transportation Infrastructure Financing and Innovation Act;
• Policy development regarding the evaluation of debt in the context of ongoing operations and maintenance demands;
• Additional sharing of candidate best practices and cross-training, including seminars by Government Finance Officers Association geared at transportation programs;
• Optimization of pay-as-you-go programs versus Grant Anticipation Borrowing (for highways) and other debt structures;
• Tools to educate lawmakers on both the advantages and disadvantages of debt financing;
• Rating agency preparation and management; and
• Guidance on minimum cash balances and cash management tools as they relate to debt management.

CONCLUDING COMMENTS

As states and localities face ever-growing investment demands, they likely will continue to leverage their available resources to the greatest extent possible and traditional debt obligations will continue to serve as a cornerstone of their transportation investment programs. This financing will be supported but not supplanted by alternative financing approaches such as federal and state credit programs and governmental programs to facilitate private investment, often referred to under the rubric of "innovative finance."

As state and local governments strive to manage their ever more constrained programs, they will need to address myriad policy issues and establish prudent debt management practices. Although substantial research has been conducted over the years on general state and local debt management practices, only limited research and guidance has been pursued that relates specifically to debt issued for surface transportation purposes. Data collection and reporting methods need to evolve to capture the full range of financial obligations, including not only traditional debt but also the obligations of private parties and alternative financing methods. As the need for this type of information grows and the body of literature expands, states will be well served to take advantage of it. In the meantime, they will need to continue to rely on peer-to-peer information exchanges and extrapolation of more general sources of information on state and local government finance practice.

REFERENCES

California Transportation Commission, *Grant Anticipation Revenue Vehicle (GARVEE) Guidelines*, Adopted on November 2 by the California Transportation Commission, Sacramento, 2000.

Cambridge Systematics, Inc., Mercator Advisors, LLC, A.E. Pisarski, and M. Wachs, *NCHRP Web-Only Document 102: Future Financing Options to Meet Highway and Transit Needs*, NCHRP Project 20-24(49), Transportation Research Board of the National Academies, Washington, D.C., 2007.

FHWA, *Highway Statistics 2004*, Federal Highway Administration, Washington, D.C., 2004.

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GFOA, *Debt Policies and Limits*, Government Finance Officers Association, Chicago, Ill., 2002.

Hackbart, M., S.P. Sapp, and Y. Hur, *Debt Capacity and Debt Limits: A State Road Fund Perspective*, Kentucky Transportation Center, College of Engineering, University of Kentucky, Lexington, 2004.

Larkin, R. and J.C. Joseph, “Developing Formal Debt Policies,” In *Handbook of Debt Management*, Gerald Mill, Ed., Marcel Dekkar Inc., New York, N.Y., 1996.

NASBO, *2006 State Expenditure Report*, National Association of State Budget Officers, Washington, D.C., 2007.

NASBO, *2005 State Expenditure Report*, National Association of State Budget Officers, Washington, D.C., 2006.

Robbins, M. and C. Dungan, “Debt Diligence: How States Manage the Borrowing Function,” *Public Budgeting and Finance*, Vol. 21, No. 2, Summer 2002.

TRB and TransTech Management, Inc., *TCRP Report 89: Financing Capital Investment: A Primer for the Transit Practitioner*, Transportation Research Board of the National Academies, Washington, D.C., 2003, 180 pp.

ANNOTATED BIBLIOGRAPHY: NATIONAL DEBT AND INNOVATIVE FINANCE RESOURCES

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

Project Financial Institute Workshop Materials (2005).

This source includes the handouts and background materials supplied to individuals participating in the AASHTO Project Finance Institute workshop. The materials provide a broad range of information on the state of the practice in transportation project finance. The information includes a summary of institutional framework considerations for project finance, descriptions of traditional and alternative project delivery approaches, a description of FHWA project finance plan requirements, and a thorough review of various project financing techniques.

Innovative Finance.org. http://www.innovativefinance.org

This AASHTO-based website serves as a clearinghouse for news, resources, best practices, and communication with regards to innovate financing for surface transportation. The clearinghouse has a resource library with links to public and private agency information. The site includes links to legislation authorizing innovative financing techniques, financing mechanisms, current projects, and detailed explanations of what is innovative finance.

FEDERAL HIGHWAY ADMINISTRATION

Highway Finance Data and Information. http://www.fhwa.dot.gov/policy/ohpi/hf/index.htm

The Highway Finance Data and Information office collects information from state departments of transportation and prepares annual reports and statistics on the status of debt and debt service. The annual report is titled *Highway Statistics.*

Innovative Finance Home. http://www.fhwa.dot.gov/innovativefinance/

This is a compendium of official guidance and general reports on innovative financing tools including: State Infrastructure Banks (SIBs), Transportation Infrastructure Financing and Innovation Act (TIFIA), TE-045 Research, Credit Guidance, Innovative Finance Quarterly, and related reports.

***Innovative Finance Primer* (2002).** http://www.fhwa.dot.gov/innovativeFinance/ifp/index.htm

The primer is a resource guide developed by FHWA and provided on the FHWA Innovative Finance website. The document is intended to support the use of innovative finance techniques for highway projects financed with federal funds and is targeted as a resource for federal, state, and local transportation officials who seek to overcome cash flow shortages and attract new sources of capital to transportation investment. Key information includes framework and options analysis guidance for analyzing, selecting, and implementing innovative finance activities and programs. Topics, techniques, and tools covered in the primer include a wide range of financial alternatives including nonfederal matching alternatives for receipt of federal funds, grant management mechanisms, GARVEE bonds, credit enhancement strategies, and tolling options.

***Innovative Finance Quarterly* (IFQ).** http://www.fhwa.dot.gov/innovativefinance/ifpubs.htm

This publication reports highlights in innovative finance from around the country and at the federal level. The archive of IFQs can be found on this link.

***Performance Review of U.S. DOT Innovative Finance Initiatives* (2002).** http://www.fhwa.dot.gov/innovativefinance/perfreview/index.htm

This review provides the first comprehensive evaluation of U.S.DOT's innovative finance program since its inception. The report examines the state of innovative finance for the U.S.DOT during its first decade of existence. The amount of revenue leveraged, project acceleration, the level of private investment, and the economic impacts of innovative financing techniques and tools for infrastructure projects are tabulated in this report. The report discusses how the process of the federal-aid program and innovative finance can become more efficient, suggesting changes to the various programs that are involved directly and indirectly with innovative finance. The report provides case studies of specific projects, includes observations and conclusions on the effectiveness of U.S.DOT/FHWA-sponsored innovative finance initiatives, and suggests ways in which continued experimentation with new tools benefit transportation investment.

Public and Private Partnership Website. http://www.fhwa.dot.gov/ppp/

This is a relatively new website maintained by FHWA. The site includes useful information and links relating to public-private partnership development and management and includes related project finance information.

Transportation Infrastructure Finance and Innovation Act (TIFIA) Page. http://tifia.fhwa.dot.gov/

The TIFIA page on the FHWA website has a wealth of information on how to use this flexible funding program to assist the development of megaprojects (i.e., those projects costing more than $50 million). The site reports a number of projects that have been built with TIFIA funding, includes reports to congress, original legislation, a regular newsletter, and a section on credit and oversight guidance.

Mayer, Jennifer, "Federal Project Finance Tools for Surface Transportation Infrastructure," U.S. DOT/AASHTO Center for Excellence, Chicago, April 2008.

This presentation reviews federal project finance tools that are available to support transportation projects and programs and provides assistance in determining which tools are most appropriate under specific circumstances.

GARVEE Bond Guidance—Implementing the Provisions of Title 23 Section 122 **(March 2004).**

This document provides FHWA's guidance on the use of GARVEE debt financing and the agency's GARVEE-related provisions.

GOVERNMENT FINANCE OFFICERS ASSOCIATION

Debt Resources Page. http://www.gfoa.org/services/dfl/debt/index.shtml

This resource page includes links to various topics related to debt issuance, policy, and management. There are links to specific debt guidance documents published by other organizations as well.

Following is a sampling of relevant GFOA publications:

- *Benchmarking and Measuring Debt Capacity: GFOA Budgeting Series, Volume 1: Putting Recommended Budget Practices into Action*
- *Competitive vs. Negotiated: A Practitioner's Guide to Effective Debt Management*
- *A Guide for Selecting Financial Advisors and Underwriters*
- *A Guide to Preparing a Debt Policy*
- *Tax-Exempt Financing: A Primer*
- *Elected Official's Guide to Debt Issuance*

Elected Official's Guide to Debt Issuance (May 2005). https://www.estoregfoa.org/Source/Orders/index.cfm?section=OrdersBooks

This guide addresses a number of issues related to debt policy, issuance, disclosure, and sale. The publication includes step-by-step guidelines to each step in the process to "floating" a bond. In addition, it addresses advice on how to determine maturity lengths and types of debt to issue. The language and sometimes-confusing terminology of bond issuance are explained in simple terms and a glossary of terms is included.

Use of Debt-Related Derivatives Products and the Development of a Derivatives Policy **(2003 and 2005).**

This brief document provides guidance on the use of derivative products for state and local governments. The document articulates GFOA's guidance that state and local officials be cautious in the use of derivative instruments and use them only when they have in place the necessary planning tools, staff resources, necessary monitoring and management capabilities, and comprehensive derivatives policy.

"Elements of Comprehensive Local Debt Policy," ***Government Finance Review*** **(October 1997).** http://www.gfoa.org/services/dfl/debt/GFR-Elements-of-Debt-Policy.pdf

Published in the GFOA's journal, *Government Finance Review*, this article examines 36 local government debt programs, with suggestions on the best practices of local government debt policy. In 1995, the GFOA began pushing local municipalities, states and other state agencies to create a debt policy program before issuing debt. This article attempts to take an account of how that initiative had been received and what cities are issuing for debt.

U.S. DOT Innovative Finance Overview (2005). http://www.gfoa.org/conference/2005/documents/EDToolbox_WernerFred.pdf

This resource provides a broad overview of innovative financing and the state of the practice for transportation departments. It provides detail on how states are using the flexible financing mechanisms available from federal transportation legislation.

NATIONAL CONFERENCE OF STATE LEGISLATURES

Transportation Standing Committee Conference (December 2005). http://www.ncsl.org/standcomm/sctran/transforumpres1205.htm

Provides links to presentations given at the December 2005 NCSL conference. Three presentations are related to transportation financing, two of which are linked here.

Basso, Jack, "Critical Issues in Transportation" (2005). http://www.ncsl.org/slides/transportation/basso1205_jpg_files/v3_document.htm

This December 2005 NCSL conference presentation provides a broad overview of the state of the practice. Slides 11–15 provide an overview of how SAFETEA-LU affects innovative finance.

"Skyway Sale and Implications for Municipal Finance" (2005). http://www.ncsl.org/slides/transportation/florian1205_jpg_files/v3_document.htm

This is a detailed presentation on the Chicago Skyway sale to a private company in 2005. The presentation provides insight into the considerations of private ownership of a highway corridor.

NATIONAL ASSOCIATION OF STATE BUDGET OFFICERS

Knowledge Bank Database. http://www.nasbo.org/members/knowledgebanktopic.php

***Fiscal Survey of the States* (2006).** http://www.nasbo.org/Publications/PDFs/FiscalSurveyJune06.pdf

An annual report of the fiscal situation among the states including a review of revenues and expenditures (including debt service), as well as indicators of budgetary and fiscal health or distress.

"Capital Budgeting in the States—Paths to Success: A Comparative Analysis of Capital Budgeting Practices in the States" (November 1999). http://www.nasbo.org/Publications/PDFs/CapitalBudgeting1999.pdf

This report highlights good practices in capital budgeting.

"Debt Management Practices in the States" (April 1994). http://www.nasbo.org/Publications/PDFs/debtmanagmntinstates.PDF

This report provides an overview of some of the central themes in establishing or revising a debt management policy. Topics include debt affordability policies, linking capital planning to debt management, and integrating debt policies with the operating budget.

TRANSPORTATION RESEARCH BOARD

NCHRP Project Number 20-24(14) Scan 8 of 8, "Innovations in Project Financing," Draft Final Report (2001). http://ntl.bts.gov/lib/19000/19400/19436/PB2002106929.pdf

This report offers a scan of innovative revenue sources and finance techniques, including revenue sources such as toll facilities, HOT lanes, value or congestion pricing, special assessments and fees, shared resource projects, and/or joint development coupled with debt and equity approaches to leverage scarce federal aid.

NCHRP Project Number 20-24(26) A, "Finance Trends in Non-Federal Funding and Debt," prepared for American Association of State Highway and Transportation Officials (AASHTO) (October 2002).

This report is structured as a series of memoranda that explore the impact that debt issuance has had on the financing of highway infrastructure in the United States and set forth scenarios for the future of debt issuance. The first memorandum reviews recent trends in debt financing for highways. The second memorandum is an assessment of current statistical reporting functions—both public and private. The third and final memorandum assesses major incentives and constraints affecting the future uses of debt to finance highways.

TRB Conference Proceedings Number 33, *Transportation Finance—Meeting the Funding Challenge Today, Shaping Policies for Tomorrow* (2002). http://trb.org/publications/conf/cp33transportationfinance.pdf

This publication documents the proceedings of the Third National Transportation Finance Conference sponsored by TRB and FHWA to educate federal, state, and local officials regarding new infrastructure and operations funding mechanisms and to explore new and potential funding and finance mechanisms. The conference included such workshops as "Highway Finance 101," "Transit Finance 101," "Conversations with Capital Market Experts," and "Advances in Transportation Roundtable." The conference included tracks that focused on four finance topic areas: (1) How to Finance the Next Transportation Program—Reauthorization and Beyond; (2) Tools and Techniques to Deliver More Projects Faster; (3) Structures, Institutions, and Partnerships to Deliver More Projects Faster and Cheaper; and (4) New Transportation Initiatives and Demands on Financing.

Transportation Research Circular Number E-062, *Addressing Fiscal Constraint and Congestion Issues in State Transportation Planning* (2002).

This publication documents the proceedings from the 2002 annual peer exchange co-sponsored by the TRB Committee on Statewide Multi-Transportation Planning and FHWA. The peer exchange included general discussions of the main issues facing transportation planning programs, and targeted discussions on fiscal constraint and financial planning issues, as well as a focus on how states address congestion in their state transportation plans. Participating states included Alaska, California, Florida, Maryland, Massachusetts, Michigan, Minnesota, Ohio, Texas, Washington, and Wisconsin.

Transportation Research Board, Transit Cooperative Research Program, *Financing Capital Investment: A Primer for the Transit Practitioner* (2003).

This document provides a resource for individuals and organizations responsible for financing public transportation capital projects. The primary objective of the primer is to identify and evaluate financing options for public transportation capital projects. The document reviews tools and techniques utilized to finance transit capital projects and also provide tools to help choose among debt financing alternatives.

STATE TRANSPORTATION DEPARTMENT AND RELATED DEBT ISSUANCE GUIDELINES

See Appendix D for Debt Affordability Guidelines and Reports.

California

Caltrans Innovative Finance Home. http://www.dot.ca.gov/hq/innovfinance/

California Transportation Commission, *Grant Anticipation Revenue Vehicle (GARVEE) Guidelines* (2000). http://www.dot.ca.gov/hq/innovfinance/download/garvee_guidelines.pdf

These guidelines describe how California state law enables GARVEEs to be issued. The guidelines include regulations on the sharing of debt service for county and regional entities. It also includes how funds will be allocated across the state within the framework of the State Transportation Improvement Plan (STIP).

Florida

Department of Transportation, *Debt Management Guidelines for the Turnpike System* (2005). http://www2.dot.state.fl.us/proceduraldocuments/procedures/bin/000350010.pdf

This brief framework for debt issuance by the Florida Turnpike Authority outlines authorizing legislation for debt issuance and enumerates a set of 10 policy practices in managing debt. The framework is intended to recognize and facilitate the management of a growing debt load and debt service in Florida.

Michigan

***State Transportation Borrowing and Debt Service Report* (2005).** http://house.michigan.gov/hfa/PDFs/transportation%20bonds%20debt.pdf

The level of debt in Michigan and what percentage is used for servicing debt is reported. In addition, the legislation authorizing debt issuance is included with an outline of the current bond program. There is also a reporting of recently issued debt by category.

Missouri

Guide to Financing Successful Partnerships with the Missouri Department of Transportation. http://www.modot.org/services/community/documents/programguide.pdf

This document includes all the necessary forms and explanation of how to set up a successful public-private partnership with the Missouri Department of Transportation. How to develop Missouri-based Transportation Corporations and Development Districts is explained in detail, which is a prerequisite for any private entity to fund, own, and operate a highway facility in Missouri. A section is also included on how to create a debt financing program.

Missouri Innovative Financing Home. http://www.modot.org/services/community/innovfinancing.htm

Virginia

***Transportation Partnership Opportunity Fund Guidelines and Criteria* (2005).** http://www.virginiadot.org/projects/resources/tpofImplementationGuidelines10-2005.pdf

These guidelines explain in detail the authorizing legislation, application process, and points of consideration in developing public-private partnerships for highway development in Virginia. A detailed process for applying for funds is outlined, with sample memorandums of understanding, operational issues to consider, financial stipulations, and planning guidelines. This report is similar to the report by the Missouri Department of Transportation, both of which outline all the steps necessary to apply, qualify, award, and finance a transportation facility as a private entity.

BOND RATING FIRMS

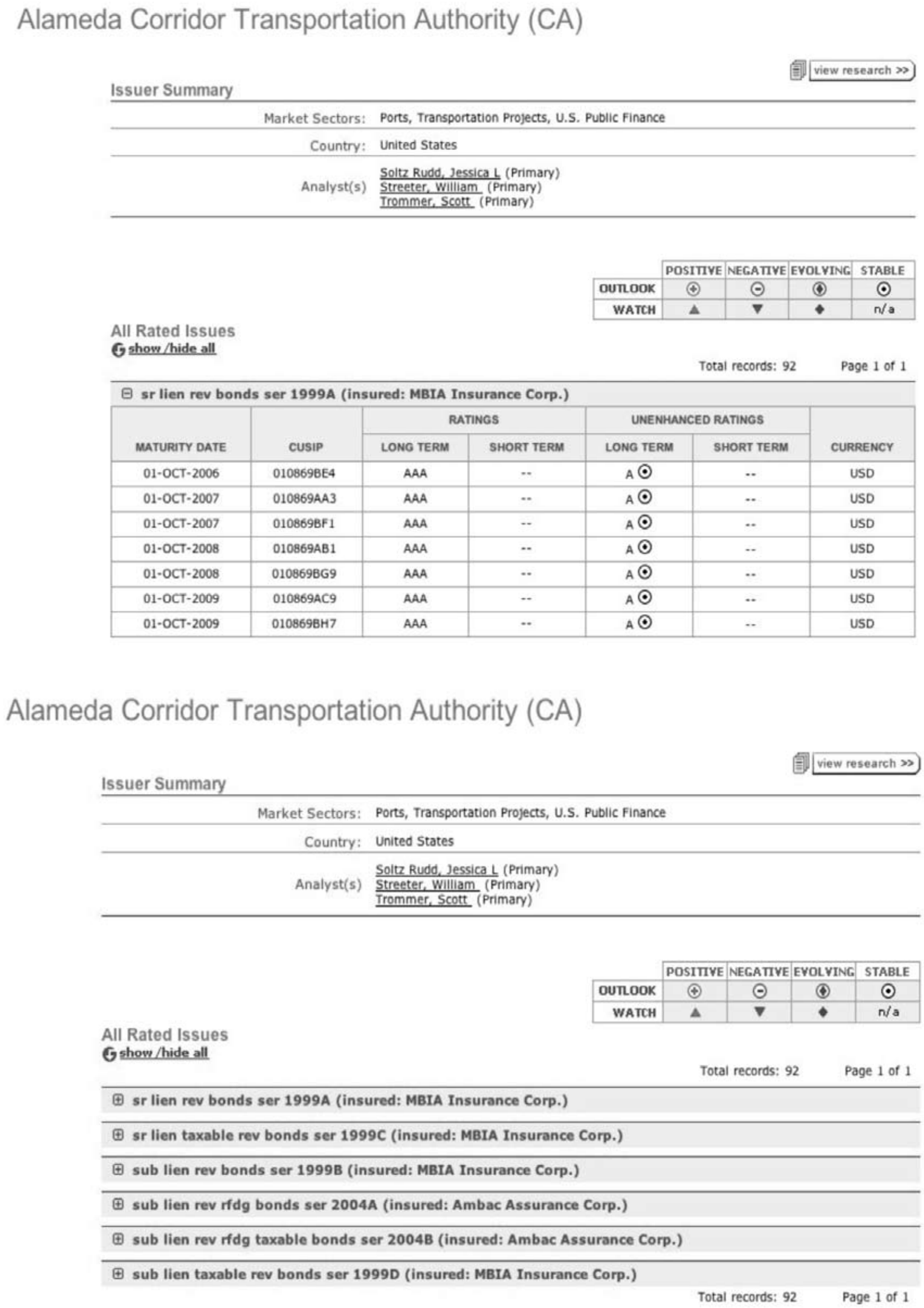
Each bond rating firm rates publicly issued bonds on a regular basis, publishes credit rating guides and criteria, issues analysis reports, and provides other related services. Each company has a unique rating system, which is published on the respective company website.

Fitch Investors Service

FitchRatings. http://www.fitchratings.com/

Fitch research has a number of pages of useful information. Basic registration is free and the registered user has access to the types of bonds issued to each transportation agency, their rating, analysts' names, and a link to further research on the bond and its rating.

Fitch rates 67 transportation authorities. Listings include each debt issued, its type, rating, year issued and maturity date. Figure 28 is an example:



Alameda Corridor Transportation Authority (CA)

view research >>

Issuer Summary

Market Sectors:	Ports, Transportation Projects, U.S. Public Finance
Country:	United States
Analyst(s)	Soltz Rudd, Jessica L (Primary) Streeter, William (Primary) Trommer, Scott (Primary)

	POSITIVE	NEGATIVE	EVOLVING	STABLE
OUTLOOK	⊕	⊖	◈	⊙
WATCH	▲	▼	◆	n/a

All Rated Issues
show /hide all

Total records: 92 Page 1 of 1

⊟ sr lien rev bonds ser 1999A (insured: MBIA Insurance Corp.)

MATURITY DATE	CUSIP	RATINGS		UNENHANCED RATINGS		CURRENCY
		LONG TERM	SHORT TERM	LONG TERM	SHORT TERM	
01-OCT-2006	010869BE4	AAA	--	A ⊙	--	USD
01-OCT-2007	010869AA3	AAA	--	A ⊙	--	USD
01-OCT-2007	010869BF1	AAA	--	A ⊙	--	USD
01-OCT-2008	010869AB1	AAA	--	A ⊙	--	USD
01-OCT-2008	010869BG9	AAA	--	A ⊙	--	USD
01-OCT-2009	010869AC9	AAA	--	A ⊙	--	USD
01-OCT-2009	010869BH7	AAA	--	A ⊙	--	USD

Alameda Corridor Transportation Authority (CA)

view research >>

Issuer Summary

Market Sectors:	Ports, Transportation Projects, U.S. Public Finance
Country:	United States
Analyst(s)	Soltz Rudd, Jessica L (Primary) Streeter, William (Primary) Trommer, Scott (Primary)

	POSITIVE	NEGATIVE	EVOLVING	STABLE
OUTLOOK	⊕	⊖	◈	⊙
WATCH	▲	▼	◆	n/a

All Rated Issues
show /hide all

Total records: 92 Page 1 of 1

⊞ sr lien rev bonds ser 1999A (insured: MBIA Insurance Corp.)

⊞ sr lien taxable rev bonds ser 1999C (insured: MBIA Insurance Corp.)

⊞ sub lien rev bonds ser 1999B (insured: MBIA Insurance Corp.)

⊞ sub lien rev rfdg bonds ser 2004A (insured: Ambac Assurance Corp.)

⊞ sub lien rev rfdg taxable bonds ser 2004B (insured: Ambac Assurance Corp.)

⊞ sub lien taxable rev bonds ser 1999D (insured: MBIA Insurance Corp.)

Total records: 92 Page 1 of 1

FIGURE 28 Example of Fitch Ratings for public finance debt (*Source:* www.fitchratings.com).

***GARVEEs: Popularly Leveraging Federal Grant Support* (April 30, 2002).**

This report outlines the federal GARVEE leveraging system and describes the two major ways to use GARVEE bonds, directly or indirectly. The report also points out the risks involved with the GARVEE program and the credit considerations Fitch uses when rating specific bond issues. The main risks include the federal reauthorization variable and how Congress changes the amount of funds dispersed to states for transportation. The recent reauthorization did not include any reductions in state funding or major changes to funding formulas.

Table 4 highlights the credit rating for each state's GARVEE program, what the funds are used for, how much is authorized in debt, the GARVEE issue amount, the number of federal transportation re-authorizations the debt repayment schedule spans, what future leveraging plans are, and the primary and secondary security for the bonds:

Moody's Investors Services

Moody's Investors Services. http://www.moodys.com/

Moody's has a number of restricted areas that require a paid membership for access. The user pays a registration fee to view credit ratings for different sectors of the economy. The news area, with ratings changes, is accessible to the no-cost registered user. Many of the State Debt affordability reports described above reference the Moody's State Debt Median report, which is available via paid subscription to Moody's.

TABLE 4

2002 REPORT OF GARVEE ISSUES

GRANT ANTICIPATION REVENUE VEHICLE BONDS WITH FITCH RATINGS: KEY CREDIT CONSIDERATIONS

	Arizona	Colorado	Massachusetts	Michigan	Mississippi	New Jersey	Ohio	Virginia
Ratings	'AA'	'AA'	'AA'	'AA–'	'AAA'	'A'	'AA–'	'AA'
Purpose	Major roadway projects in Maricopa County	28 high-priority strategic transportation corridor projects	Central artery tunnel project	Building Michigan II (various major rehabilitation, reconstruction, and new construction projects)	Four-lane highway program	Rental and purchase of passenger rail rolling stock and buses	Various highways and bridge projects	Six-year capital improvement program
Debt Authorization	$450 million	$1.7 billion	$1.5 billion	$400 million	$200 million	Maximum possible	$190 million	$1.1 billion
Debt Issued	$185 million	$1.1 billion	$1.2 billion	$400 million	$200 million	$1.1 billion	$190 million	$400 million
Final Maturity	2008	2016	2015	2008	2009	2015	2009	2010
Federal Reauthorization Periods	One	Two	Two	One	One	Two	One	Two
Primary Security	Federal HTF direct pay project agreement (only project-related federal aid)	Federal HTF direct pay project agreement (only project-related federal aid)	Federal HTF reimbursements	State Share of federal HTF reimbursements	Federal HTF reimbursements	Master equipment lease/purchase agreement	Federal HTF direct pay project agreement (only project-related federal aid)	Federal HTF reimbursements
Additional Security	Transfers from certain federal aid construction subaccounts, and from note proceeds account	Highway users trust fund and 10% of the state sales tax	10 cents per gallon from state gas tax receipts	None	Various state fuel taxes, certain state highway funds, motor vehicle registration fees, and lubricating oil tax, among other sources	None	Other available funds, including gas taxes subject to legislative appropriation	Legally available transportation trust fund revenues and other funds designated by the general assembly
Further Leveraging	Planned	Planned	Planned	Planned	Not planned	Down to ABT	Planned	Planned

HTF–Highway trust fund. ABT–Additional bonds test.

Source: www.fitchratings.com

***Swaps and the Municipal Market: The Impact of Swaps and FASB 133 on Municipal Credit Quality* (October 2002).**

This document offers the Government Finance Officers' Association recommendations related to the use and management of derivative products. It also provides references to other resources to help state and local agencies manage their use of derivative products and techniques.

Standard & Poor's Credit Ratings

Standard & Poor's. http://www2.standardandpoors.com/

A listing of Public Finance and Transportation sector bond ratings is available following registration. There are 94 ratings for transportation authorities.

***Public Finance Criteria Book, Toll Road and Bridge Financing* (2003).**

This section of the 2003 *Public Finance Criteria Book* covers guidance that Standard & Poor's uses to evaluate financing for toll roads and bridges. The following criteria are discussed and analyzed: Traffic Demand; Competition; Management; Legal Provisions; Financial Projections/Debt; Structure/Sensitivity Analyses; Construction Risk; Conceptual Design; Construction Management Plan; Siting; Permits and Right-of-Way; Regulation and Local Government Political Factors; Supporting Contracts and Equipment, Material, and Labor; Procurement; Equity Contributions; Completion Guarantees; Completion Incentives; Reserve Accounts; Liquidity Support; and Construction and Technology Risk.

ADDITIONAL SOURCES OF INFORMATION

Following is a list of additional publications and resources of relevance to this synthesis topic.

"Traditional Debt Financing as a Transportation Financing Mechanism" (January 2007).

This report prepared by TransTech Management, Inc. on behalf of the National Surface Transportation Policy and Revenue Study Commission, reviews the role of traditional debt financing approaches in supporting transportation infrastructure investment. The paper provides a historical context to the extent of debt issuance, forms of repayment, and institutional roles and responsibilities. It distinguishes debt financing from pay-as-you-go approaches and highlights the importance of considering debt as a leveraging tool and not a funding source in and of itself.

"Evaluation of Innovative Finance Tools as a Transportation Financing Mechanism" (January 2007).

This paper, prepared by Mercator Advisors on behalf of the National Surface Transportation Policy and Revenue Study Commission, reviews the role and impact of a variety of "innovative finance" tools and related government policies. It assesses the relative impact of these tools on the transportation industry and specifically transportation infrastructure investment.

Citigroup, "State DOT's Approach to GARVEEs" (July 9, 2005).

This presentation made to the AASHTO Finance Subcommittee provides a good snapshot of the status of states' use of the GARVEE financing tool.

Grote, Bryan, "Decision Framework for Debt Financing of Transportation Infrastructure," presentation at the Transportation Research Board 2005 Summer Conference (July 11, 2005).

This presentation reviews the decision factors utilized by states in deciding whether and how much debt is to be issued for transportation infrastructure funding purposes. It provides a useful review of issues to be considered and provides some information on the state of the practice among the states.

Henkin, Tamar, "State of the Practice—Debt Financing of Transportation Investment," presentation to Transportation Research Board 2005 Summer Conference (July 11, 2005).

This presentation provides an overview of current practice as it relates to debt financing for transportation. Relying on generally available statistics from FHWA's *Highway Statistics* data series, the presentation provides a snapshot of current utilization of debt for transportation.

Kentucky Transportation Center, "Debt Capacity and Debt Limits: A State Road Fund Perspective" (2004). http://www.ktc.uky.edu/Reports/KTC_04_16_TA_5_03_1F.pdf

This useful reference document compares states' debt levels and issuance criteria. The document included is a questionnaire (Appendix B) that was used to collect debt issuance and debt levels from a number of states.

GLOSSARY OF KEY TERMS

This glossary of terms is drawn from several resource documents.[1] It includes common public finance terminology, terminology specific to transportation capital investments, and terminology relevant to federal legislation and programs.

A

Ad Valorem Tax: A tax based on property value. It also may be based on the assessed value of the property.

Additional Bonds Test: A legal requirement that new additional bonds, which will have a claim to revenues already pledged to outstanding revenue bonds, can be issued only if certain financial or other requirements are met.

Advance Construction: States or local governments independently raise upfront capital required for a federally approved project and preserve eligibility for future federal-aid reimbursement for that project. At a later date, the state can obligate federal-aid highway funds for reimbursement of the federal share. This tool allows states to take advantage of access to a variety of capital sources, including its own funds, local funds, anticipation notes, revenue bonds, bank loans, and so on, to speed project completion.

Advance Refunding: As the name implies, this is the refunding of an outstanding bond issue by means of a new issue. Such refundings can be done only if the issue being refunded includes terms allowing for the bonds to be called by the issuer. An advance refunding is normally performed to achieve substantial interest rate savings for the issuer. Outstanding bonds with high interest rates are replaced with bonds with lower interest rates.

Amortization: Provision made in advance for the gradual reduction of an amount owed over time.

Appropriation: An authorization by a legislative body to set aside cash for a specific purpose.

Arbitrage: The earnings difference between invested bond proceeds and the interest paid on the bonds. The 1986 Tax Reform Act states that these earnings must be rebated back to the federal government unless certain conditions are met.

Assessed Valuation: The valuation by appropriate government entities of real property for the purposes of taxation.

Asset: Any item of economic value, either physical in nature (such as land) or a right to ownership, expressed in cost or some other value, which an individual or entity owns.

Auxiliary Transportation Revenues: Revenue earned from operations closely associated with transportation operations, including station concessions, vehicle concessions, advertising, and automotive vehicle ferriage.

Average Life: The average length of time an issue of serial bonds or term bonds with mandatory sinking funds or estimated prepayments are expected to be outstanding.

B

Balloon Payment: A principal amount, equal to a large percentage of the total principal amount, to be retired on a single date, often at maturity.

Basis Point: A shorthand financial reference to one-hundredth of one percent (0.01%) used in connection with yields and interest rates.

Bid: The price someone will pay for a security or a purchase offer.

Bond: An interest-bearing promise to pay a specified sum (the principal) on a specific date to the owner of the security.

Bond Anticipation Note (BAN): Short-term obligations issued by public agencies to temporarily finance a project. Bonds are expected to be sold to repay the BANs and to provide long-term financing for the project.

Bond Bank: A means of lowering borrowing costs in which local government securities are pooled into larger offerings that provide the financing for the participating local government projects.

Bond Counsel: A lawyer or law firm, with expertise in bond law, retained by the issuer to render an opinion upon the closing of a municipal bond issue regarding the legality of issuance and other matters including the description of security pledged and an opinion as to the tax-exempt status of the bond.

Bond Election or Bond Referendum: The process by which voters approve or reject bond issues.

Bond Insurance: A financial guarantee provided by a major insurance company (usually AAA rated) as to the timely repayment of interest and principal of a bond issue.

1 Source documents include Public Financial Management, Inc., *Introduction to Public Finance and Public Transit* (prepared for the U.S. Department of Commerce National Technical Information Service, January 1993); Innovativefinance.org, "Glossary of Terms;" *APTA 2000 Public Transportation Fact Book* (2000); George J. Marlin and Joe Mysak, *The Guidebook to Municipal Bonds* (1991); Moody's Public Finance Department, *Moody's on Municipals: An Introduction to Issuing Debt* (1989); William E. Sweeney, *Glossary of Municipal Securities Terms* (1985); Stephen A. Ross, Randolph W. Westerfield, and Jeffrey F. Jaffe, *Corporate Finance* (1990).

Bond Price: Prices are given in fractions per 100 rather than dollars and cents. A price of $973.75 for a $1,000 bond is given as 97 3/8.

Bond Proceeds: The money the issuer receives from its bond sale.

Bond Purchase Agreement: An agreement between an Issuer and the Underwriter of the Bonds. The terms of sale, conditions to closing, liability restrictions of the Issuer, and any indemnity provisions are set forth in this document.

Bond Resolution: A legal document describing in specific detail the terms and conditions of a bond offering, the rights of the bondholder, and the obligations of the issuer to the bondholder. The document is alternatively referred to as an indenture of trust.

Bond Transcript: The legal documents associated with a bond offering.

Bond Year: Begins with the date of issuance and consists of 12-month periods.

Bonded Debt: The portion of an issuer's total indebtedness as represented by outstanding bonds.

Budget Authority: Authority provided by law to enter into financial obligations that will result in immediate or future outlays of federal government funds. Budget authority includes the credit subsidy costs for direct loan and loan guarantee programs. Basic forms of budget authority include appropriations, borrowing authority, contract authority, and authority to obligate and expend offsetting receipts and collections.

Bullet: An issue with a single maturity date, before which no principal or sinking fund payments are amortized.

Build-Operate-Transfer: Public-private partnership arrangement involving private construction, private operation for a given period of time, and eventual transfer to public ownership.

C

Call: A provision that allows the issuer to prepay its debt prior to the maturity date of the security at a price at or above par.

Callable Bond: A bond or note subject to redemption at the issuer's option before its stated maturity.

Call Price: The specified price at which bonds are redeemed under a call provision (equal to or above the par amount of the bond).

Call Risk: Risk to the investor associated with prepayments by the issuer of the principal amount of the bonds before the stated maturity date, in accordance with the bonds' redemption provisions.

Capital Appreciation Bond (CAB): A long-term bond that pays no current interest, but accretes or compounds in value from the date of issuance to the date of maturity. CABs differ from zero coupon bonds in that they are issued at an initial amount and compound in value, in contrast to zeroes, which are issued at a deep discount and compound to par.

Capital Budget: A unified financial plan that accounts for needs and spending levels for a group of current and prospective capital facilities within a broader government budget.

Capital Expense: The expenses related to the purchase of tangible property or other items eligible to be capitalized. Property includes tangible assets with an expected service life of more than 1 year at the time of their installation and a unit cost greater than $1,000. Generally, these include any items eligible as capital expense under federal, state, or local requirements.

Capital Lease: A lease that has a term that spans at least 75% of the useful life of the leased property.

Capital Reserves: Funds that remain in a bank and are not loaned out. These funds can be used to support a variety of credit enhancement tools. Capital reserves also can be used to leverage the lending institution or to borrow against reserves to expand the pool of available loan funds.

Capitalization: Process of depositing various funds as seed capital into a lending institution to enable financial services. This pool of money is distributed, through loans and credit enhancements, in such a way to ensure that payments are made back to preserve the corpus.

Capitalized Interest: A specified portion of the original bond proceeds that will be used to pay interest on the bonds until revenue from planned sources becomes available upon completion of construction.

Certificate of Participation (COP) Lease: A type of lease in which the lessor (or designated Trustee) issues shares (in the form of COPs) that entitle the holder to a portion of the lessor's interest in the lease.

Closing: The procedure by which a sale between the issuer and the buying group is completed. It is at the closing that the issuer delivers the securities to the buyers and the issuer receives the proceeds from the sale of securities.

Collateral: Any property pledged as security for a loan.

Collateralized Annuity Bonds (CABs): These bonds amortize in the same way a mortgage does, with scheduled level payments comprising principal and interest. The bonds cannot be called.

Comanager: A manager participating in a security offering who is normally not responsible for maintaining the books of account for the offering.

Commercial Paper: Unsecured debt obligations with short (usually less than 180 days) maturities that are used to provide funds for operating expenses or for interim financing of permanent capital improvements. The corporate payer is taxable, whereas municipal paper is tax exempt.

Competitive Sale: A sale of securities in which underwriters submit bids to purchase the securities.

Conditional Sale Lease: A lease in which the lessee has the option of applying lease payments to the purchase of a facility for a reduced price. The lessee is the owner for tax purposes. For public lessees, it also is called a tax-exempt lease.

Conduit Financing: The sale of bonds or notes by a government unit for the benefit of a third party, usually a private corporation. The securities issued are not considered general obligations of the conduit agency.

Construction Fund: The fund from which project costs are financed. A portion of the bond proceeds is deposited into this fund, which then earns interest during the construction period.

Contingencies: Existing conditions, situations, or circumstances that involve uncertainty and that could result in gains or losses. For example, guaranteed loans represent contingent liabilities that, in the event of default by the borrowers, the federal government would be liable to cover the losses of the guarantors, and thereby sustain the loss itself.

Contract Authority: A form of budget authority that permits obligations to be made in advance of appropriations or receipts. Contract authority therefore is unfunded and requires a subsequent appropriation or offsetting collection to liquidate (pay) the obligations. The federal-aid highway program has operated under contract authority since 1921.

Convertible Bond: A bond that may be converted into other securities, most often common equity securities.

Cooperative Agreement: Written consent between two parties to define the basic structure and purpose of a financial transaction, including the roles the parties involved and the way in which funds will be administered.

Corpus: The corpus refers to all initial funds as well as additional and subsequent revenue deposited for bank capitalization. The corpus is essentially a "body" of funds that is available, on a revolving basis, for use in providing financial assistance to borrowers.

Coupon: A detachable part of a bond that evidences interest due. The coupon specifies the amount of interest due on a bond, on what date the interest payments are to be made, and where the payment is to be made.

Coupon Bond: A bearer bond, or a bond registered as to principal only, carrying coupons as evidence of future interest payments.

Covenant: A legally binding commitment by the issuer of municipal bonds to the bondholders.

Coverage Margin: The margin of safety for payment of debt service on a revenue bond, reflecting the number of times (e.g., 1.2) by which annual revenues after operations and maintenance costs exceed annual debt service. It represents the issuer's ability to make debt service payments.

Credit Enhancement: Financing tools—such as letters of credit, lines of credit, bond insurance, debt service reserves, and debt service guarantees—that improve the credit quality of underlying financial commitments. Credit enhancements have the effect of lowering interest costs and improving the marketability or liquidity of bond issues.

Credit Program: Federal program that makes loans or loan guarantees to nonfederal borrowers.

Credit Ratings: Credit quality evaluations of bonds and notes made by independent rating services. A higher bond rating generally lowers the interest rate that the borrower must pay and, therefore, the overall capital costs.

Credit Reporting Bureau: Private sector entity that collects financial information on debtors and whose reports on debtors reflect information received from the public and private sectors.

Credit Score: A statistically based measure of risk of a particular type of loan to a particular borrower.

Credit: Promise of future payment in kind or of money given in exchange of present money, goods, or services.

Current Discount Rate: Discount rate used to measure the cost of a modification with respect to the modification of direct loans or loan guarantees. It is the interest rate applicable at the time of modification on marketable Treasury securities with a similar maturity to the remaining maturity of the direct guaranteed loans, under either premodification terms, or postmodification terms, whichever is appropriate.

Current Yield: The ratio of interest to the market price of a bond.

D

Dated Date: The date of an issue from which bondholders are entitled to receive interest.

Dealer: A firm or an individual whose business is to act as a principal in the purchase and sale of securities.

Debt Limit: The limit on the principal amount of debt that an issuer may legally have outstanding at any time.

Debt per Capita: Outstanding bonds divided by population, a common measure of a jurisdiction's overall level of indebtedness.

Debt Service: The sum of required principal and interest payments for a given period.

Debt Service Coverage: The margin of safety for payment of debt service on a revenue bond, reflecting the number of times (e.g., 1.2) by which annual revenues after operations and maintenance costs exceed annual debt service.

Debt Service Reserve Fund: This fund is normally required under most indentures for the payment of debt service in the event that pledge sources of payment are insufficient. The initial balance of the fund is a portion of total bond proceeds and is an amount equal to the lesser of 10% of the bond size and the largest annual debt service payment.

Deep Discount Bonds: Bonds selling for far less than their face value, generally less than 80% of par. A deep discount bond will have a yield well above the stated coupon rate.

Default: Failure to meet any obligation or term of a credit agreement, grant, or contract. Often used to refer accounts more than 90 days delinquent.

Defeasance: To replace the existing security of an issue with another allowable security. Such a substitution is often necessary for refundings, which place sufficient funds in escrow to guarantee the payment of principal and interest on the issue being refunded.

Delinquency: Failure of the debtor to pay an obligation or debt by the date specified in the agency's initial written notification or applicable contractual agreement, unless other satisfactory payment arrangements have been made by that date. Delinquency also would occur if, at any time thereafter, the debtor fails to satisfy the obligations under the payment agreement with the agency.

Delivery Date: The date on which the purchaser takes full possession of an issue.

Demand Notes: Securities that can be sold by the holder back to the issuer (or its designated agent) on short notice, usually seven days. Most demand notes also carry variable rates.

Denomination: The face value of a security.

Design-Build: A procurement or project delivery arrangement whereby a single entity (a contractor with subconsultants, or team of contractors and engineers, often with subconsultants) is entrusted with both design and construction of a project. This contrasts with traditional procurement where one contract is bid for the design phase and then a second contract is bid for the construction phase of the project.

Direct Debt: The debt a municipality incurs in its own name.

Direct Loan: A disbursement of funds by the government to a nonfederal borrower under a contract that requires repayment of such funds with or without interest. The term includes the purchase of, or participation in, a loan made by a nonfederal lender. The term also includes the sale of a government asset on credit terms of more than 90 days. The term does not include the acquisition of federally guaranteed nonfederal loans in satisfaction of default or other guarantee claims or the price-support loans of the Commodity Credit Corporation.

Direct Loan Subsidy Cost: Estimated long-term cost to the federal government of direct loans calculated on a present value basis, excluding administrative costs. The cost is the present value of estimated net cash outflows at the time the direct loans are discharged. The discount rate used on the calculation is the average interest rate (yield) on marketable Treasury securities of similar maturity to the loan, which is applicable to the time when the loans are disbursed.

Direct Placement: The same as private placement, in which a new issue is sold directly to one or several institutional investors instead of being offered publicly through underwriters.

Directly Generated Funds: Any funds generated by or donated directly to a transit agency, including passenger fares, advertising revenues, donations, and grants from private foundations. Directly generated funds also include directly levied taxes and other funds dedicated to transit, such as development fees for which the transit agency has the legal authority to impose the fee or charge.

Discount: The amount by which the purchase price of a security is less than its par value.

Double-Barreled Bond: A bond that is secured by more than one source. A common combination is the full faith and credit of the issuer and certain pledged revenues.

Downgrade: Occurs when a ratings agency lowers the rating of an issuer.

Due Diligence: An investigation conducted by concerned parties to determine the accuracy of all the pertinent items associated with an issue, and to ensure that no necessary information has been omitted.

Duration: The sum of the present values of each of the principal and interest payments of a security, weighted by the time to receipt of each payment, divided by the total of the present values of the payments. Unlike average life or average maturity, duration takes into account the timing of both principal and interest payments.

E

Earmarking: Statutory or constitutional dedication of revenues to specific government projects or programs.

Effective Interest Cost: The rate at which the debt service on bonds would be discounted to provide a present value equal to the bid amount on the bonds.

Effective Yield: An investor's rate of return when it sells a security.

Enterprise Debt: Debt that will be retired by the revenues earned by a facility.

Equity: Commitment of money from public or private sources for project finance, with a designated rate of return target.

Equivalent Bond Yield: The annualized yield on a short-term discount security expressed on a comparable basis to yields on interest bearing securities.

Equivalent Taxable Yield: What a taxable security would have to yield to provide an investor with the same after-tax return as could be earned on a tax-exempt security.

Escrow Account: A fund established to hold monies pledge and to be used only for a certain purpose, such as payment of debt service or construction costs.

Event of Default: A specific event, as defined in the financing documents associated with an issue, which allows the trustee or the bondholders to commence certain default proceedings as outlined in the issue's security document.

F

Face Amount: The par value (i.e., principal or maturity value) of a security.

Fiduciary: An individual or trust given the responsibility of acting for the benefit of others.

Flow of Funds: The security documents' description of how revenues are to be collected, invested, transferred, and applied.

Force Majeure: Events that are beyond the control of a contractor, such as earthquakes, epidemics, blockades, wars, acts of sabotage, and archeological site discoveries.

Foreclosure: Method of enforcing payment of a debt secured by a mortgage by seizing the mortgaged property. Foreclosure terminates all rights that the mortgagor has in the mortgaged property upon completion of due process through the courts.

Full Faith and Credit: The pledge of the general taxing power of a government to pay its debt obligations.

G

General Obligation (GO) Bond: A municipal security that has payments secured by a pledge of the full faith and credit of the issuer. The issuer covenants to meet payment requirements through every legal means at its disposal. It generally is considered to be the strongest form of an uninsured security pledge.

Governmental Accounting Standards Board: Established by the Financial Accounting Foundation, the board writes accounting procedures for government bodies that, after approval by the federal government, become generally accepted accounting principles (GAAP).

Governmental Purpose Bond: A term in the Internal Revenue Code for a tax-exempt bond that is secured by government revenues or whose proceeds are used for a general government purpose (as opposed to a private activity bond).

Grant Anticipation Notes (GANs): Short-term debt that is secured by grant money expected to be received after debt is issued. Financial institutions may buy anticipation notes on behalf of project sponsors in advance of receiving other financial assistance, to enable a faster project start. Helps project sponsors advance projects, especially when unable to access capital markets.

Grant Anticipation Revenue Vehicles (GARVEEs): A GARVEE is any bond or other form of debt repayable, either exclusively or primarily, with future federal-aid highway funds under Section 122 of Title 23 of the United States Code. Although the source of payment is federal-aid funds, GARVEEs cannot be backed by a federal guarantee. Instead, they are issued at the sole discretion of, and on the security of, the issuing entity.

Gross Pledge: A pledge of all targeted revenues to the payment of debt service before the deduction of any operation and maintenance expenses.

Gross Proceeds: The total proceeds of a bond issue, including the original issue proceeds, the investment earnings on obligations acquired with the bond proceeds (including the repayment of principal), and any sums available to pay the issue's debt service.

Guarantee: A contract(s) in which a financial institution agrees to take responsibility for all or a portion of a project sponsor's financial obligations for a project under specified conditions.

Guaranteed Investment Contracts (GICs): Investment products with a typical maturity of less than 10 years that are offered by financial institutions and that pay investors a fixed rate of return. This rate of return normally follows the current yield on high-grade debt securities.

H

H.R. 3838: Refers to the Tax Reform Act of 1986 that revised existing federal tax law, including provisions affecting tax-exempt bond issues and the condition of tax-exempt bond interest in the hands of bondholders.

I

Impact Fee: A fee assessed against private developers in compensation for the new capacity requirements their projects impose on public facilities.

Indemnification: The state of agreement in which one party to a securities transaction agrees to pay the expenses incurred by another party for whatever situations are set forth in the agreement.

Indenture: A legal document describing in specific detail the terms and conditions of a bond offering, the rights of the bondholder, and the obligations of the issuer to the bondholder. The document is alternatively referred to as a bond resolution or deed of trust.

Industrial Development Bonds (IDBs) or Industrial Revenue Bonds (IRBs): Securities issued by an entity to finance the business of a private corporation. The security backing for such issues is not the credit of the issuer, but rather the credit of the private corporation.

Initial Offering Price: The percentage of par price at which the original purchaser intends to market an issue. This price is based on yield to maturity.

Installment Loan: An obligation to repay monies borrowed at fixed intervals over time.

Institutional Investor: A financial institution such as a mutual fund, insurance company, or pension fund that purchases securities in large quantities.

Insurance: Type of guarantee in which any agency pledges the use of accumulated insurance premiums to offset the cost of default on the part of borrowers. "Loan insurance" is considered the equivalent of a "loan guarantee."

Interest: Sum paid or calculated for the use of capital. Financing interest is the charge assessed as a cost of extending credit as distinguished from additional interest, which is the charge assessed on delinquent debts to compensate the federal government for the time value of money owed and not paid when due. Additional interest is accrued and assessed from the date of delinquency.

Interest Payment Date: The date on which interest is due to bondholders.

Interest Rate Swap: An agreement between two parties to exchange future flows of interest payments. One party agrees to pay the other at a fixed rate; the other pays the first party at an adjustable rate.

Interest Subsidy: A subsidy provided by a financial institution (such as multilateral lenders, state infrastructure banks, or export credit agencies) to lower overall financing costs for project sponsors. With this tool, project sponsors repay loans at less-than-current market rates. Market rates may be determined by the cost of borrowing through conventional issues of comparable duration.

Interim Financing: Financing needed to meet payment requirements between the time of closing and the time when the project begins to generate revenue. A construction fund is often set up as part of this financing.

Inverted Yield Curve: When short-term interest rates are higher than long-term rates.

Investment Banker: An individual belonging to a firm engaged in the financing of capital. Investment bankers are normally in the practice of purchasing new issue offerings for resale to investors with whom they communicate.

Investment Grade: Describes the top four rating categories of relatively secure bonds suitable for a conservative investor. Standard & Poor's rating service looks on all bonds between the AAA and BBB ratings as investment grade. Generally speaking, any bonds rated below BBB are considered to have speculative features and are deemed subinvestment grade or junk bonds.

Issuance Costs: The costs incurred by the issuer in connection with its offering. These include underwriter spread, feasibility studies, and various professional fees.

Issue: A specific group of securities issued by an issuer.

Issuer: The public entity borrowing money through the issuance of securities.

J

Junior Debt (or Junior Lien Bonds): Debt having a subordinate or secondary claim on an underlying security or source of payment for debt service, relative to another issue with a higher priority claim. (See also Subordinate Claim.)

Junk Bonds: High-risk, high-return bonds that are below investment grade in rating.

L

Late Charges: Amounts accrued and assessed on a delinquent debt; the term includes administrative costs, penalties, and additional interest.

Lead Manager(s): The manager(s) participating in a securities offering who is (are) responsible for maintaining the books of account for the offering.

Lease-Purchase Agreement: An installment sale in which a lease provides a means for the lessee to eventually acquire the leased property or asset.

Letter of Credit: A form of loan from a financial institution to be used only in the instance of a shortfall in net revenue for debt service (i.e., a contingent loan). A letter of credit is security provided directly to the lender or bondholders (via a bond trustee), rather than to the borrower or project sponsor.

Level Debt Service: Principal and interest payments that together represent equal annual payments over the life of a loan. Principal may be serial maturities or sinking fund installments.

Leverage: A financial mechanism used to increase available funds usually by issuing debt (typically bonds) or by guaranteeing or otherwise assuming liability for others' debt in an amount greater than cash balances.

Leveraged Lease: A type of lease in which a lender lends funds to the lessor (normally more than 50% of what is required to buy the property). The leased property serves as part of the collateral behind the lender or lessor loan, but other credit of the lessor is generally immune from any recourse.

Leveraging Ratio: Measures the extent to which a given investment attracts additional capital. In the context of this report, the leveraging ratio of federal funds is equal to the total project costs divided by the budgetary cost of providing federal credit assistance.

Liability: Amount owed (i.e., payable) by an individual or entity, such as for terms received, services rendered, expenses incurred, assets acquired, construction performed, and amounts received but not yet earned.

Lien: A security interest (possibly a mortgage) in a piece of property.

Limited Liability Bonds: Bonds that do not carry the full faith and credit pledge of a municipality.

Limited Tax Bond: A general obligation bond whose backing is only a specified portion of the taxing power of the issuer.

Line of Credit: A form of loan to be used only in the instance of a shortfall in net revenue for debt service or other financial commitments (i.e., a contingent loan). A line of credit, although similar to a letter of credit, is security available directly to the borrower or project sponsor with flexibility in use of the funds.

Liquidation: Process of converting collateral to cash.

Liquidity: Refers to an investor's ability to sell an investment as a means of payment or easily convert it to cash without risk of loss of nominal value.

Litigation: Legal action or process taken for full or partial debt recovery.

Loan Guarantee: Contingent liability created when the federal government assures a private lender who has made a commitment to disburse funds to a borrower that the lender will be repaid to the extent of a guarantee in the event of default by the debtor.

Loan Servicer: A public or private entity that is responsible for collecting, monitoring, and reporting loan payments. In the context of this report, a loan servicer would also assist in originating the loan.

Loan: Legally binding document that obligates a specific value of funds available for disbursement. The amount of funds disbursed is to be repaid (with or without interest and late fees) in accordance with the terms of a promissory note or repayment schedule.

Loan-to-Value Ratio: Represents the proportion of the amount of a loan to the value being pledged to secure that loan. It is derived as follows: total financing costs (i.e., the market value of the collateral plus the financed portion of any closing costs, insurance premiums, or other transaction-related expenses less the borrower's cash down payment) divided by the market value of the collateral.

Long Term: Obligations that generally have a maturity of longer than 1 year.

M

Management Fee: The percentage of the underwriting spread that goes to the manager(s) of the account.

Manager: The underwriting firm(s) responsible for dealing with the issuer on behalf of the entire group of underwriters.

Mandatory Sinking Fund: A standard means of paying term bonds in which deposits are made to an account for the express purpose of gaining interest and then being applied toward the term bond repayment.

Markdown: The difference between the cost of securities and their current price, in cases in which the prices have fallen, or the amount received by a dealer selling securities to a third party for a customer.

Mark-to-Market: A process whereby the value of an inventory position of securities is adjusted on a dealer's records to its current market value.

Market Risk: The risk to bondholders that changes in the prevailing market interest rates will adversely affect the price of the bonds they hold.

Market Value: The current price of a security in its trading market.

Master Lease: A lease in which the lessee has the option (as defined by the leasing agreement) to add property to the existing lease.

Master Resolution: The document stating the general terms under which an issuer may offer more than one series of bonds.

Maturity Date: The date on which the specified principal amount of a security becomes due.

Moral Obligation Bond: A municipal security that does not have the backing of the full faith and credit of the issuer, but that has means of payment morally (as opposed to legally) obligated to it.

Municipal Bond: A tax-exempt security issued on behalf of a state or any subdivision thereof.

Municipal Lease (Tax-Exempt Lease): A lease agreement in which the lessee is a state or local government and that exhibits interest payments that are exempt from the gross income portion of federal income tax.

Municipal Securities Rulemaking Board (MSRB): The primary rulemaking authority of the municipal securities industry.

N

National Association of Securities Dealers (NASD): A self-regulating body in charge of establishing rules geared to the protection of the investing public.

Negative Covenant or Negative Pledge Agreement: An agreement by whatever entity is providing the security backing for an issue not to incur any new debt that will encumber use of revenues targeted for debt service payments.

Negotiated Sale: An underwriting situation in which the underwriters of a securities offering are selected well in advance of the sale of the securities. The terms of the underwriting agreements are subject to negotiation.

Net Interest Cost: Represents the average coupon rate of a bond issue, weighted to reflect the term and adjusted for the premium or discount. It does not consider the time value of money.

Net Lease: A lease requiring rental payments to be set by the particulars of the debt securities issued to finance the subject of the lease. Certain costs of the lessor resulting from lease obligations may or may not be covered by the payments.

Net Pledge: The pledge to debt service payment requirements of targeted revenues minus all operation and maintenance costs.

Net Proceeds: Total bond proceeds less the portion of the proceeds invested in a reserve fund.

New Money Issue: A bond issue used to finance a new capital project (rather than a refunding).

Net Revenues: Gross revenues less operating and maintenance expenses. Net revenues are divided by debt service to get debt service coverage ratio.

Nominal (or Face or Par) Value or Amount: Amount of a bond, note, mortgage, or other security as stated in the instrument itself, exclusive of interest or dividend accumulations. The nominal amount may or may not coincide with the price at which the instrument was first sold, its present market value, or its redemption price.

Nominal Yield: The face interest rate of a bond.

Noncallable Bond: A bond that is not redeemable by the issuer before the maturity date.

Nonfederal Match: The commitment of state or other nonfederal funds required to receive federal contributions. For example, the U.S. SIB (State Infrastructure Bank) program requires a nonfederal match for capitalization funds, which is 25% of the amount of federal funds. The match may be lower in states that have a sliding scale rate based on the percentage of federal land in the state.

Nontransportation Revenues: The revenue earned from activities not associated with the provision of transit service. Nontransportation revenues include revenues earned from sales of maintenance service on property not owned or used by the transit agency, rentals of revenue vehicles to other operators, rentals of transit agency buildings and property to other organizations, parking fees generated form parking lots not normally used as park-and-ride locations, and donations.

Notes: Interest-bearing certificates of governments or corporations that come due in a shorter time than bonds. Treasury securities are notes if they mature in 10 years or less; municipal notes have maturities of up to approximately 1 year.

O

Obligation Authority: The amount of budgetary resources (including new budget authority, balances of unobligated budget authority carried over from prior years, and obligation limitations) available for obligation in a given fiscal year. With regard to the federal-aid highway program, obligation authority often refers to the amount of federal-aid obligation limitation (established annually by Congress in appropriation acts) that is allocated to the states and that controls the amount of apportioned contract authority that can be obligated by the states in a given fiscal year.

Odd Coupon: A coupon or interest payment that is longer or shorter than the normal six-month payment. It generally refers to the first interest payment of a new bond issue.

Offering Price: The price investors in an issue receive when the original purchaser (underwriter) offers the securities for sale.

Official Statement (OS): A document generally required for each new issue that contains information about the nature of the security being offered and the pledged sources of payment behind the security.

Open-Ended Indenture: An indenture that allows for additional bond issues governed under the original indenture.

Operating Lease: A type of lease that covers only a portion of the useful life of the leased property. This lease, generally covering less than 75% of the property's useful life, is characterized in this fashion for accounting and financial reporting purposes.

Operations and Maintenance Fund: A fund established in a revenue bond indenture that receives money to be used for meeting the costs of operating and maintaining the project.

Order: A commitment made by a buyer to purchase a stated number of bonds at the offered price.

Original Issue Discount: The discount from par at which an original offering is sold.

Original Proceeds: Net proceeds (total proceeds less the costs of issuance) received from a bond sale.

Original Purchaser: The purchaser (usually the underwriter) of an original issue directly from the issuer.

Outlay: An official payment of funds.

Overlapping Debt: The proportionate share of debt in addition to a community's own direct obligations, such as those issued by a county or school district in which it is located.

P

Par or Par Value: The principal amount of a security, generally the amount found on the face of the security.

Par Bond: A bond that is sold neither at a discount nor at a premium.

Parity Debt: Debt obligations issued or to be issued with an equal claim to other debt obligations on the source of payment for debt service.

Pay-As-You-Go Financing: Describes government financing of capital outlays from current revenues or grants rather than by borrowing.

Paying Agent: The institution chosen by the issuer to make principal and interest payments to bondholders.

Penalty: Punitive charge assessed for delinquent debts. The rate to be assessed is capped by law.

Personal Property: Tangible, movable assets, such as automobiles, planes, and boats.

Pledge: A promise to use targeted sources of revenue for the payment of debt service. A pledge differs from a lien in that the targeted source is not readily available or identifiable (e.g., revenues from the project being financed by the bonds that has not yet been constructed).

Point: One percent (1%) of the face value of a bond.

Preliminary Official Statement (POS): The draft of the Official Statement (without price, yield, or maturity information) that is used for the marketing of the bonds before issuance.

Preliminary Rating: A credit opinion from a rating agency based on a preliminary assessment assigned to a proposed bond issue.

Premium: The amount by which the price of a bond exceeds the face value of the bond.

Prepayment: Partial or full repurchase or other advance deposits of outstanding loan principal and interest by the borrower/debtor. The repurchase may be made at a discount from the current outstanding principal balance.

Present Value (PV): The value of future cash flows discounted to the present at a certain interest rate (such as the entity's cost of capital or funds), assuming compounded interest.

Primary Market: The market for new security offerings.

Principal Amount: The face amount of a bond payable at maturity. Accrued interest is not a portion of this amount.

Private Activity Bond: Can be defined as either of two things: (1) a bond of which more than 10% of the proceeds will be used for nongovernmental purposes, and which is going to be repaid from revenues received from a private entity; or (2) a bond that will have the lesser of 5% or $5 million of the proceeds being used for loans to nongovernmental entities.

Pro Forma: A projection for a revenue project that includes expected costs and income from the project.

Proceeds: The money received by the issuer from the original delivery of an issue. The total proceeds include any variation of the price from par (discounts or premiums) and accrued interest.

Project Costs: All outlays expected to be associated with the financing of a project that are legally able to be included in the principal amount of the bond issue. These outlays may include the costs of acquisition, construction costs, equipment use and acquisition costs, capitalized interest expenses, reserve funding requirements, printing costs, legal fees, and the like.

Project Revenues: All rates, rents, fees, assessments, charges, and other receipts derived by a project sponsor from a project.

Prospectus: The statement that must be filed with the Securities and Exchange Commission containing similar information to that found in an Official Statement, namely pertinent information about the issue and the issuer.

Provisional Rating: An estimate of what the credit quality of an issue is expected to be after an interim period.

Public Sale: Sale of an issue through a competitive bidding process in which the bidder offering to buy the issue and the lowest cost of funds to the issuer is awarded the bonds.

Put Bond: A bond that allows the bondholder to redeem the bond at a specific price either during a specified time period or on or after a specific date. The issuers of put bonds must have the means available to pay off these bonds should they be tendered.

Q

Quotation or Quote: A market indication of the price at which a security can be bought or sold.

Qualified Bid: A secondary market bid that is subject to conditions (i.e., an acceptable legal opinion).

Qualified Legal Opinion: A conditional statement regarding the legality of securities.

R

Ramp-Up Phase: The phase in a project's life cycle immediately following construction. It is during this phase, the early years of operation, that a project's revenue stream is established.

Rate Covenant: A contractual agreement in the legal documentation of a bond issue requiring the issuer to charge rates or fees for the use of specified facilities or operations at least sufficient to achieve a stated minimum debt service coverage level.

Rating: An evaluation made (for a fee) by rating agencies of the creditworthiness of an issue.

Rating Agency: An organization that assesses and issues opinions regarding the relative credit quality of bond issues. The three major municipal bond rating agencies are Fitch Investors Service, Moody's Investors Service, and Standard & Poor's.

Real Property: Tangible, nonmovable assets, such as land and buildings.

Receivable: Amount owed to a lender by an individual, organization, or other entity to satisfy a debt or a claim. Examples of receivables generated by government activities include amounts due for taxes, loans, the sale of goods and services, fines, penalties, forfeitures, interest, and overpayments of salaries and benefits.

Recourse: Rights of a holder in due course of a financial instrument (such as a loan) to force the endorser on the instrument to meet his or her legal obligations for making good on the payment of the instrument if dishonored by the maker or acceptor.

Redemption: The retirement of outstanding bonds before maturity by means of a cash payment. Certain bonds are redeemable ("callable") at a premium on certain dates. Redemption information is set forth in the indenture.

Refunding: Using a new bond issue to replace an existing bond issue either to decrease the annual debt service requirements of the issuer or to alter the restrictions included in the indenture of the issue being refunded.

Registered Bond: A bond the owner of which is recorded by the paying agent of the issue. A registered bondholder is entitled to the income from the bond.

Reoffering Price: The price at which the original purchasers of an issue offer the securities to investors.

Repayment Agreement: Agreement that establishes the terms and conditions governing the recovery of a debt of the lender and borrower when credit is initially extended or a debt is rescheduled. (See also Reschedule.)

Reschedule: Procedure of establishing new terms and conditions to facilitate repayment of a debt. Also called restructuring, refinancing, and reamortizing, rescheduling includes establishing new terms as a result of changes in authorizing legislation (e.g., congressional action allowing farmers to have an additional 5 years to pay off their loans).

Reserve Fund: A fund established under the indenture to meet expense or debt service payment shortfalls.

Revenue Anticipation Note (RAN): A short-term debt instrument the security pledge of which is the receipt of anticipated future revenues.

Revenue Bond: A bond that is payable from a specific source of revenue (typically from the facility for which the bond was originally issued) and that is not backed by a pledge of the full faith and credit of the issuer.

Revolving Loan Fund: Financing tool that recycles funds by providing loans, receiving loan repayments, and then providing further loans.

S

Sale and Leaseback: A transaction in which an issuer will purchase property and immediately lease the property back to the entity from which it was purchased for operation. The lease payments of the seller serve as the revenue required to pay debt service on the issue that allowed the issuer to purchase the property.

Secondary Market: The market in which securities are traded after they have been sold by the original investors.

Secured Debt: Debt for which collateral has been pledged.

Senior Debt or Senior Lien Bonds: Debt obligations having a priority claim on the source of payment for debt service.

Serial Bonds: Bonds that are scheduled to mature over a number of years (as distinct from term bonds).

Servicer: Entity under contract to a lender or agency to perform account-servicing functions.

Settle: Resolving a debt or claim.

Settlement Date: The day on which there is delivery and payment for a bond.

Short Term: Obligations that generally have a maturity of less than 1 year.

Sinking Fund: A fund accumulated over a period of time for retirement of debt.

Soft Loan: Loan provided to a project sponsor with flexible repayment terms. Soft loans are generally subordinate to other debt, can have variable repayment schedules and extended terms, and have subsidized interest rates.

Special Assessment: A charge imposed against certain properties to defray part or all of the cost of a specific improvement or service deemed to primarily benefit those properties.

Special District: A single purpose or local taxing district organized for a special purpose such as a rod, sewer, irrigation, or fire district.

Special Tax Bond: Any bond secured by a special form of tax (e.g., a tax on a certain commodity).

Split Ratings: Ratings assigned by more than one recognized rating service on a given issue that differ substantially from one another.

Spread: (1) The discount (usually computed in basis points per bond) an underwriter receives for purchasing a bond issue—the difference between what the underwriter pays for the issue and the resale price to the public; (2) the difference between the bid and offered price in the market for a security.

Standby Letter of Credit: A letter of credit that provides for a single draw should the bonds be declared to be in default and therefore accelerated by the trustee involved.

Start-Up Project: A separate, freestanding, and new facility dependent on its own revenue stream to generate earnings to cover operating and capital costs.

State and Local Government Series (SLGS): A type of U.S. Treasury security used by tax-exempt issuers to tailor the investment of bond proceeds to avoid earnings excessive arbitrage profits.

State Infrastructure Bank (SIB): A state or multistate revolving fund that provides loans, credit enhancement, and other forms of financial assistance to surface transportation projects.

State Transportation Improvement Program (STIP): A short-term transportation-planning document covering at least a 3-year period and updated at least every 2 years. The STIP includes a priority list of projects to be carried out in each of the 3 years. Projects included in the STIP must be consistent with the long-term transportation plan, must conform to regional air quality implementation plans, and must be financially constrained (achievable within existing or reasonably anticipated funding sources).

State Transportation Plan: The transportation plan covers a 20-year period and includes both short- and long-term actions that develop and maintain an integrated, intermodal transportation system. The plan must conform to regional air quality implementation plans and be financially constrained.

Stated Interest Rate: The interest rate used to compute the annual interest payable on a security.

Subordinate Claim: A claim on an underlying source of payment for debt service that is junior or secondary to that securing another debt obligation. (See also Junior Debt.)

Subsidy Cost: The estimated long-term cost to the federal government of providing credit assistance (e.g., direct loans or loan guarantees), calculated on a net present value basis at the time of disbursement and excluding administrative costs.

Supplemental Indenture: A supplement to an outstanding indenture that does not fundamentally alter an outstanding indenture but functions to settle an inconsistency or remedy a formal defect.

Syndicate: A group of underwriters who purchase a new issue and resell it to the public.

T

Take: To buy at the offered price.

Tax and Revenue Anticipation Notes (TRANs): Short-term debt that will be retired with taxes and other government revenues to be collected at a later date.

Tax Anticipation Notes (TANs): Short-term debt that will be retired with taxes to be collected at a later date.

Tax-Exempt Commercial Paper (TECP): An unsecured debt obligation with a maturity of less than 1 year, the proceeds of which are used to support current operations or to provide interim financing of capital investments.

Tax-Exempt Lease (Municipal Lease): A lease agreement in which the lessee is a state or local government and that exhibits interest payments that are exempt from the gross income portion of federal income tax.

Tax Increment Bond: A bond secured by the excess dollars of specific taxes after taking into account the history monetary yield of such taxes.

Tax Increment Financing: The dedication of incremental increases in real estate taxes to repay an original investment in improved public facilities that created increase real estate values.

Tax Reform Act of 1986: Legislation that produced profound changes in the municipal practice of issuing tax-exempt debt securities.

TE-045 Innovative Finance Initiative: A research program begun by the Federal Highway Administration in

1994 in response to Executive Order 12893. This finance initiative is designed to increase investment, accelerate projects, promote the use of existing innovative finance provisions, and establish the basis for future initiatives by waiving selected federal policies and procedures, thus allowing specific transportation projects to be advanced through the use of nontraditional finance mechanisms.

Term Bonds: Bonds that have a single maturity (as distinct from serial bonds).

Title 23 of the United States Code: Highway title that includes many of the laws governing the federal-aid highway program. The title embodies substantive provisions of law that Congress considers permanent and need not be reenacted in each new highway authorization act.

Title 49 of the United States Code: Transportation title that includes laws governing various transportation-related programs and agencies, including the Department of Transportation, general and intermodal programs, interstate commerce, rail and motor vehicle programs, aviation programs, pipelines, and commercial space transportation.

Tombstone: An advertisement of a new issue that states the basic information about the securities offering (principal amount and terms), the underwriters involved, and how an Official Statement may be obtained.

Total Bonded Debt: A municipality's total general obligation debt outstanding.

Total Direct Debt: A municipality's combined sum of total bonded debt and any unfunded debt.

Transportation Infrastructure Finance and Innovation Act (TIFIA): A federal transportation credit program authorized as part of the Transportation Equity Act for the 21st Century (TEA-21) that provides direct federal loans, lines of credit, and loan guarantees provided through the U.S. Department of Transportation to large projects of national significance, under criteria developed by Congress.

True Interest Cost (TIC): The true cost of borrowing money. Computes the interest cost on a discounted present value method.

Trust Indenture: The contract between bondholders and an issuer securing the prepayment of debt. It sets forth how all monies of issuers will be applied to operating costs, debt repayment, reserve funds, and construction funds.

Trustee: The bank or trust company that serves both as the custodian of funds and the official representative of an issue's securities holders.

Turnkey: A generic term for a variety of public-private partnership arrangements, whereby a public sector entity awards a contract to one or more private firms to undertake the development, construction, or operation of an infrastructure project for a predetermined period of time before turning the project back over to the public entity. Turnkeys may take various forms, including design-build-transfer and build-operate-transfer.

U

Underwrite: To assume the liability of delivering to the issuer the expected proceeds of an issue by agreeing to buy the issue in its entirety.

Underwriter: The dealer who buys the new issue of securities from the issuer and offers the bonds for sale to investors.

Unlimited Tax Bonds: Bonds backed by taxes that are not limited by rate.

Unobligated Balance: The portion of obligation authority (including new budget authority and balances of unobligated budget authority carried over from prior years) that has not yet been obligated. With regard to the federal-aid highway program, the term generally refers to balances of apportioned contract authority that the states have been unable to obligate because of annual obligation limitations imposed by Congress.

Upgrade: An improved rating by a rating service.

V

Variable Interest Rates: Interest rates that change according to a formula set forth in the securities issue.

Visible Supply: The total dollar value of new securities expected to be offered over the next 30 days.

Volume Cap: The limitation on the aggregate annual amount of private activity bonds that may be issued in each state as stated in the Tax Reform Act of 1986 and subsequently amended.

W

Warrant: A certificate giving the holder the right to purchase a bond at a specific price during a certain time period.

Workout Group: Group established within an agency, whose sole purpose is to resolve or attempt to resolve troubled debts, including those debts that demand that extreme measures be taken to protect the government's interests.

Write-Off: Occurs when an agency officially determines, after all appropriate collection tools have been used, that a debt is not collectible. Active collection on an account creases and the account is removed from an entity's receivables.

Y

Yield: The annual rate of return on an investment expressed as a percentage.

Yield Curve: Relationship between short- and long-term interest rates.

Yield to Average Life: The yield resulting from the use of average maturity instead of the maturity date of the issue in the yield calculation.

Yield to Call: The yield derived when the sum of interest payments to the call date is used as the cash flow when the issue is redeemed at its call price.

Yield to Maturity: The average annual percentage of return on a security assuming the interest is reinvested at the same yield and that the security is held to maturity.

Z

Zero Coupon Bond: A bond that is originally issued at a deep discount from its par or face amount and that bears no current interest. The bond is bought at a discount price that implies a stated rate of return calculated on the basis of the bond being payable at par at maturity. The bond is redeemable at its face value at maturity. (See also Capital Appreciation Bond.)

APPENDIX A

SURVEY QUESTIONNAIRE

NCHRP Debt Synthesis Study of Debt Financing Practices

Background and Purpose
Many states have a long history of issuing debt to help finance certain infrastructure improvements. In particular, more than forty states have outstanding debt obligations issued for highway purposes, yet among those states there is a wide variance in the amount and types of debt issued.
Basic principles of debt issuance for surface transportation projects have not yet been compiled into a single source of information. Expertise may exist in more debt-experienced states that may be useful to administrators and elected officials in states and local governments less familiar with the nuances of debt financing decisions and all states can benefit from a greater knowledge of the practices of other states in similar circumstances.
The goal of this synthesis project is to document current practices and identify principles commonly used by financial and programming managers and debt-issuing authorities in deciding when and how to best utilize debt financing techniques to fund investments in transportation. These techniques include bonds, notes, loans, and other debt instruments from any source.

About the Questionnaire
This questionnaire is designed to be completed by each state DOT Chief Financial Officer (CFO) or Finance Director and supporting staff, as appropriate. Depending on the structure of debt management responsibilities within the State, assistance from personnel outside of the DOT (e.g., state finance authority, treasurer's office, etc.) also may be required.
Please complete this questionnaire as soon as possible but not later than May 5th. If you have questions in completing the survey, please contact Tamar Henkin of TransTech Management, Inc. Ms. Henkin is serving as the Principal Investigator for this synthesis study on behalf of the Transportation Research Board. She can be reached at 202-628-0440, ext. 2 (ph), 202-628-1222 (fax), or thenkin@transtechmanagement.com. Ms. Henkin's mailing address is: Tamar Henkin c/o TransTech Management, Inc., 514 10th Street, NW, Washington, DC 20004.

There are 5 parts to this survey.
Part I. Respondent Information (for Lead Respondent).

Name

Title

Agency

Street Address

City

State

Zip Code

Phone

E-Mail

Years with Agency

Years in Current Agency Position

ADDITIONAL INSTRUCTIONS: The primary focus of this questionnaire is on debt finance for transportation investments for which each state (generally acting through the state DOT) has responsibility. It is recognized that in some states the DOT will be the debt issuing entity. In others, the DOT will be the recipient of bond proceeds issued by another state entity (e.g., Treasurer's Office, Finance Authority, etc.). Throughout the questionnaire, there are additional questions about the debt issuance of other state transportation agencies and/or independent authorities. In particular, please feel free to provide additional information regarding debt finance practices of any independent state toll, turnpike, bridge/tunnel, airport, or port authority (please clearly note where information is provided for other than the state DOT itself). Send survey-related attachments with a reference to the corresponding survey question to Tamar Henkin at thenkin@transtechmanagement.com.

You have completed Part I of V. Part II addresses the extent of your state's authority to issue transportation-related debt.

Part II. Authority to Issue Transportation Related Debt.

1. Does your state currently have authority to issue debt for transportation investment purposes?
   If no, skip to Question 8
   Yes No

2. If yes, where is this authority derived? (select all that apply)
 a. Constitution?
 b. Statute?
 c. Other?

If you chose other, please describe:

3. Which types of debt are currently authorized?
   Yes No Don't Know

a. General Obligation?
b. Highway/Transportation Revenue Bonds?*
c. Toll Revenue Bonds?
d. Sales Tax Revenue Bonds?**
e. Grant Anticipation Notes/Bonds?
f. Bond Anticipation Notes?
g. Lease Revenue Bonds (incl. Certificates of Participation)?

h. Borrowing from Federal Government (e.g., TIFIA, RRIF)?
TIFIA = Transportation Infrastructure Finance and Innovation Act loan,
RRIF = Railroad Rehabilitation and Improvement Financing loan
i. Other?

If you chose other, please describe:

**Highway/Transportation Revenue Bonds includes bonds backed by motor fuel taxes, registration fees, and other revenue streams dedicated to transportation investment.*
***Sales Tax Revenue Bonds excludes bonds backed by sales taxes on motor fuels which should be included under the Highway/Transportation Revenue Bonds category.*

4. Which debt structures are currently authorized? Please note that some debt structures may not be specifically authorized but rather are the assumed default, e.g. long-term and fixed rate structures. If a particular structure is utilized, please mark as authorized.
Yes No Don't Know

a. Short-term debt (i.e., 12 months or less)?
b. Commercial paper?
c. Long-term debt (i.e., over 12 months)?
d. Fixed rate debt?
e. Variable rate debt?
f. Double barreled (e.g., where multiple repayment sources are dedicated in a hierarchical fashion)?
g. Use of derivative products (e.g., interest rate swaps, synthetic rates)?
h. Other specialized structures?

If you chose other, please describe:

5. If long-term debt is authorized (and you chose (c) above), what is/are the maximum terms? (where multiple limits apply, select all that apply)
a. 0–9 years?
b. 10–19 years?
c. 20–29 years?
d. 30–39 years?
e. 40 years or more?
f. No limit?

6. For which purposes does your state have authority to issue transportation-related debt? (select all that apply)
a. Non-Tolled Highways and Bridges?
b. Tolled Highways, Bridges and Tunnels?
c. Transit?
d. Ports?
e. Ferries and Marine Transportation Facilities?
f. Airports?
g. Rail?
h. Other?
If you chose other, please describe:

You have now completed Parts I and II of the survey. Part III addresses the policies and guidelines that are in place in your state to govern debt issuance.
Part III. Debt Issuance Policies and Guidelines.

7. Which state entity(ies) have authority to issue transportation-related debt? (Please select all that apply)
a. State DOT?

b. State Treasurer?

c. State Finance Authority?

d. Independent State Toll, Turnpike or Bridge/Tunnel Authority?

e. State Airport Authority?

f. State Port Authority?

g. State Transit Agency/Authority?

h. Special Purpose or Project-Specific Financing Conduits (e.g., 63-20 corporations and other special purpose entities)?

i. Other?

If you chose other or would like to provide more information regarding the authorized issuers, please describe here:

8. Are there constitutional and/or statutory provisions that govern debt issuance practices for transportation purposes? If no, skip to Question 10
Yes No

If yes, please provide citations and/or a summary of the relevant constitutional or statutory provisions.

9. Which of the following limitations are included in the constitutional and/or statutory provisions? (select all that apply)
a. Limitations on the aggregate dollar amount of debt that can be issued or outstanding (i.e., as a fixed dollar amount or relative to a specific benchmark)?
b. Limitations on additional bonds that can be sold (i.e., an additional bonds test)?
c. Allowable debt structures and/or methods of issuance/bond sale?
For each item selected, please describe how the limitation is structured:

10. Does your DOT have a written policy/guide that governs debt issuance? If no, skip to Question 12
Yes No

11. If DOT has a written policy, what is addressed in the guide? If possible please provide a copy of the guide (e-mail to thenkin@transtechmanagement.com) or reference a link below in the "If you chose other, please describe:" text box). (Select all that apply)
a. Amount of total debt that can be issued or outstanding?

b. Amount of debt relative to a fixed benchmark that can be issued or outstanding (e.g., percent of gas tax revenues per capita, etc.)?
c. For which purposes debt can be issued?
d. Debt structures, terms, and/or issuance procedures that can be utilized?
e. Other?

If you chose other, please describe:

12. For which of the following does your state adhere to pre-established policies/guidelines? (please include both formal and informal policies) (select all that apply)
a. Credit quality/ratings that must be achieved?
b. Choice between competitive and negotiated debt sales?
c. Percentage of highway capital investment that is debt financed vs. pay-as-you-go?
d. Use of derivative products (e.g., interest rate swaps)?
e. Other?

13. Does your state have a written financial plan that establishes or forecasts future debt issuances and/or debt levels? If no, skip to Question 16
Yes No

14. How many years does your plan cover?
a. 0–5?
b. 6–10?
c. 11–15?
d. 16–20?
e. Over 20?

15. Please describe your financial/debt management plan and comment on the advantages or disadvantages of having a plan and of your plan's structure.

16. If debt is to be issued, how does your state decide whether to issue debt for an individual project, for a set of projects, or for the entire program? Please describe the process briefly.

17. How does your state decide between whether to employ debt backed by federal funding (e.g., GARVEEs) or state funding for transportation purposes and specifically which repayment sources to employ? Please describe the process briefly.

18. Has your state issued debt or considered issuing debt to capitalize (assemble upfront capital to lend) a State Infrastructure Bank (SIB) or state revolving fund for transportation-related lending?
Yes No

If yes, please describe briefly:

19. Which method of bond sales does your state utilize for transportation-related debt?
a. Competitive?
b. Negotiated?
c. Both, depending on the circumstance?

If you answered (c) Both, please describe further:

You have completed Parts I, II and III of the survey. There are 2 parts remaining. Part IV addresses potential "best practices" and provides an opportunity for you to identify needed research support.

Part IV. Candidate "Best Practices" and Needs

20. Do you employ specific debt management practices that you believe would be of potential interest to other DOTs (i.e., that you consider to be a "best practice" or that has helped you address a specific challenge)?
Yes No

If yes, please describe briefly:

21. Are there areas of debt management that you believe that your agency needs to improve upon?
Yes No

If yes, please describe briefly:

22. Are there cooperative research efforts that you think could be undertaken that would benefit state DOTs in improving their debt management practices?
Yes No

If yes, please describe briefly:

You have completed Parts I, II, III and IV of the survey. This is the final part. Part V addresses historical and current debt issuance data.
Part V. Historical and Current Debt Issuance Data

23. What challenges do you face in carrying out debt management responsibilities? (select all that apply)
a. Limited staff resources?
b. Lack of technical knowledge?
c. Technology / computer capabilities?
d. Statutory limitations and/or political processes?
e. Other?

If you chose other or would like to provide additional information regarding any of the above, please describe here:

24. Do you employ the services of outside financial advisors? (select all that apply)
a. For individual debt issuances/bond sales?
b. On an ongoing basis for debt issuances/bond sales?
c. For individual specific projects (e.g., research, policy development, financial plan development) other than bond sales?
d. On an ongoing basis for special projects other than bond sales?

e. Other?

If you chose other, please describe:

25. Does your state have current debt outstanding for transportation purposes (including for highways, transit, airport infrastructure, rail infrastructure, etc)?
Yes No

26. If yes, which are the issuing entity(ies) for the debt? (select all that apply)
a. State DOT?
a. State DOT?

b. State Treasurer?

c. State Finance Authority?

d. Independent State Toll, Turnpike or Bridge/Tunnel Authority?

e. State Airport Authority?

f. State Port Authority?

g. State Transit Agency/Authority?

h. Special Purpose or Project-Specific Financing Conduits (e.g., 63-20 corporations and other special purpose entities)?

i. Other?

If you chose other, please describe:

27. a) Please provide the *PRINCIPAL AMOUNT* of *DEBT OUTSTAINDING* for EACH of the last *5 YEARS* for EACH type of *HIGHWAY-RELATED DEBT*. If you cannot provide separately from all transportation related debt, please note what is included. If possible, exclude debt associated with headquarters buildings or other non-infrastructure uses. Please provide in millions of dollars ($).

MILLIONS OF DOLLARS ($)

	2005	2004	2003	2002	2001
a. General Obligation?					
b. Highway/Transportation					
c. Toll Revenue Bonds?					
d. Sales Tax Revenue Bonds?**					
e. Grant Anticipation					
f. Bond Anticipation Notes?					
g. Lease Revenue Bonds (incl. Certificates of Participation)?					
h. Borrowing from Federal					
i. Other?					

If you chose other, please describe:

*Highway/Transportation Revenue Bonds includes bonds backed by motor fuel taxes, registration fees, and other revenue streams dedicated to transportation investment.
**Sales Tax Revenue Bonds excludes bonds backed by sales taxes on motor fuels which should be included under Highway/Transportation Revenue Bonds category.

27. b) Please provide the *PRINCIPAL AMOUNT* of *DEBT OUTSTANDING* for EACH of the last *5 YEARS* for EACH type of *OTHER TRANSPORTATION DEBT*. If you could not separate above, leave this blank and be sure to note that the answer to Question 27. a) includes both highway and other transportation-related debt. If possible, exclude debt associated with headquarters buildings or other non-infrastructure uses. Please provide in millions of dollars ($).
MILLIONS OF DOLLARS ($)

	2005	2004	2003	2002	2001
a. General Obligation?					
b. Highway/Transportation Revenue Bonds?*					
c. Toll Revenue Bonds?					
d. Sales Tax Revenue Bonds?**					
e. Grant Anticipation Notes/Bonds?					
f. Bond Anticipation Notes?					
g. Lease Revenue Bonds (incl. Certificates of Participation)?					
h. Borrowing from Federal Government (e.g., TIFIA, RRIF)?					
i. Other?					

*Highway/Transportation Revenue Bonds includes bonds backed by motor fuel taxes, registration fees, and other revenue streams dedicated to transportation investment.
**Sales Tax Revenue Bonds excludes bonds backed by sales taxes on motor fuels which should be included under Highway/Transportation Revenue Bonds category.

28. a) Please provide *TOTAL HIGHWAY-RELATED* debt issued (bonds sold) for EACH of the last *5 YEARS*. If you cannot provide separately from all transportation-related debt, please note what is included. Please provide in millions of dollars ($).

MILLIONS OF DOLLARS ($)

	2005	2004	2003	2002	2001
a. General Obligation?					
b. Highway/Transportation Revenue Bonds?*					
c. Toll Revenue Bonds?					
d. Sales Tax Revenue Bonds?**					
e. Grant Anticipation Notes/Bonds?					
f. Bond Anticipation Notes?					
g. Lease Revenue Bonds (incl. Certificates of Participation)?					
h. Borrowing from Federal Government (e.g. TIFIA, RRIF)?					
i. Other?					

If you chose other, please describe:

*Highway/Transportation Revenue Bonds includes bonds backed by motor fuel taxes, registration fees, and other revenue streams dedicated to transportation investment.

**Sales Tax Revenue Bonds excludes bonds backed by sales taxes on motor fuels which should be included under Highway/Transportation Revenue Bonds category.

28. b) Please provide *TOTAL OTHER TRANSPORTATION DEBT* issued (bonds sold) for EACH of the last *5 YEARS*. If you could not separate above, leave this blank and be sure to note that the answer to Question 28. a) includes both highway and other transportation-related debt. Please provide in millions of dollars ($).

MILLIONS OF DOLLARS ($)

	2005	2004	2003	2002	2001
a. General Obligation?					
b. Highway/Transportation Revenue Bonds?*					
c. Toll Revenue Bonds?					
d. Sales Tax Revenue Bonds?**					
e. Grant Anticipation Notes/Bonds?					
f. Bond Anticipation Notes?					
g. Lease Revenue Bonds (incl. Certificates of Participation)?					
h. Borrowing from Federal Government (e.g. TIFIA, RRIF)?					
i. Other?					

If you chose other, please describe:

* Highway/Transportation Revenue Bonds includes bonds backed by motor fuel taxes, registration fees, and other revenue streams dedicated to transportation investment.
**Sales Tax Revenue Bonds excludes bonds backed by sales taxes on motor fuels which should be included under Highway/Transportation Revenue Bonds category.

29. Please provide: *ANNUAL HIGHWAY-RELATED DEBT SERVICE AS A PERCENTAGE OF TOTAL HIGHWAY REVENUES* and *ANNUAL OTHER TRANSPORTATION-RELATED DEBT SERVICE AS A PERCENTAGE OF TOTAL OTHER TRANSPORTATION REVENUES* for EACH of the last *5 YEARS*. If you cannot provide highway and other transportation-related debt service separately, please specify what is included in the area provided below the chart. Please enter as a percent.

DEBT SERVICE as % of REVENUES

	2005	2004	2003	2002	2001
a. Annual highway-related debt service as a percentage of total highway revenues?					
b. Annual other transportation-related debt service as a percentage of total other transportation revenues?					

If you could not provide separately, please describe here:

30. Which of the following REPAYMENT SOURCES are utilized for CURRENTLY OUTSTANDING debt? (select all that apply)
a. General Revenues (full faith and credit of state)?
b. Motor Fuel Tax Revenues?
c. Vehicle Registration and Other Motor Vehicle/Driver's License Fee Revenues?
d. Transportation Related Sales and Use Tax Revenues (e.g., rental car, automobile parts, etc.)?
e. Non-Transportation Related Sales and Use Taxes (e.g., general sales tax, hotel accommodations tax, food and beverage tax, etc.)?
f. Federal Transportation Funding?
g. Intergovernmental Revenues (excluding federal transportation funding)?
h. Loan Proceeds (e.g. State Infrastructure Bank)?
i. Toll Revenues?
j. Revenues from the Sale/Lease of State Assets (including the long-term lease of toll highways and bridges)?
k. Advertising and Concession Revenues (e.g., rest stops, restaurants, etc.)?
l. Other?
If you chose other, please describe:

Thank you for taking the time to respond to this survey. If you have any questions, please feel free to contact Tamar Henkin of TransTech Management at 202-628-0440 or thenkin@transtechmanagement.com. Please also provide any supporting documentation directly to Ms. Henkin.

APPENDIX B

LIST OF SURVEY RESPONDENTS

State	Title	Agency	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14
		Number of States Responding:	**46**	**46**	**42**	**42**	**41**	**42**	**42**	**45**	**37**	**44**	**12**	**32**	**43**	**26**
Alabama	Director of Finance & Audits	Alabama Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	
Alaska	Debt Manager	Alaska Department of Revenue	✓	✓						✓	✓	✓		✓	✓	
Arizona	Chief Financial Officer	Arizona Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
Arkansas	Administrative Officer V	Arkansas Highway & Transportation Department	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	
California	Innovative Finance Manager	California Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
Colorado	Chief Financial Officer	Colorado Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	
Connecticut	Finance Administrator	Connecticut Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	
Delaware	Assistant Director, Finance	Delaware Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
District of Columbia	Resource Allocation Officer	District Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓	✓
Florida	Director Office of Financial Development	Florida Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Hawaii	Administrative Services Officer	State of Hawaii, Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓
Illinois	Director, Finance and Administration	Illinois Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	
Indiana	Unidentified	Indiana Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓		
Iowa	Finance Office Director	Iowa Department of Transportation	✓	✓						✓		✓			✓	
Kansas	Bureau Chief	Kansas Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Kentucky	Exec Director Office of Budget and Fiscal Mgmt	Kentucky Transportation Cabinet	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓	
Louisiana	Undersecretary for Management and Finance	Louisiana Department of Transportation & Development	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
Maine	Acting Director Capital Resources	Maine Department of Transportation	✓	✓						✓		✓		✓	✓	
Maryland	Manager Debt Administration	Maryland Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
Michigan	Chief Financial Officer	Michigan Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
Minnesota	Director, Office of Finance	Minnesota Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mississippi	Deputy Executive Director	Mississippi Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	
Missouri	Chief Financial/Administrative Officer	Missouri Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓
Montana	Accounting Bureau Chief	Montana Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	
Nebraska	Finance Administrator	Nebraska Department of Roads	✓	✓	✓	✓		✓	✓	✓	✓	✓		✓		
Nevada	Chief Accountant	Nevada Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
New Hampshire	Director of Finance	New Hampshire Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
New Jersey	Chief Financial Officer	New Jersey Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
New York	Chief Budgeting Analyst	New York State Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
North Carolina	State Program Analysis Engineer	North Carolina Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
North Dakota	Financial Management Director	North Dakota Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	
Ohio	Deputy Director of Finance and Forecasting	Ohio Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Oklahoma	Chief Financial Officer	Oklahoma Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
Oregon	Sr. Financial Analyst	Oregon Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Pennsylvania	Dir, Bur of Fiscal Mgmt	Pennsylvania Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
Puerto Rico	Unidentified	Puerto Rico Department of Transportation	✓	✓	✓	✓	✓	✓	✓							
South Carolina	Acting Deputy Director	South Carolina Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	
South Dakota	Director, Finance and Management	South Dakota Department of Transportation	✓	✓						✓		✓			✓	
Tennessee	Asst. Commissioner	Tennessee Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
Texas	Chief Financial Officer	Texas Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓
Utah	Unidentified	Utah Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓	
Vermont	Fiscal & Mgt Analyst	Vermont Agency of Transportation	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓	✓
Virginia	Debt Manager	Virginia Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Washington	Deputy Director	Washington State Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
West Virginia	Highway Engineer	West Virginia Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	
Wisconsin	Federal Legislative Director	Wisconsin Department of Transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	

State	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27a	Q27b	Q28	Q29	Q30
	25	**40**	**39**	**45**	**39**	**40**	**41**	**38**	**36**	**40**	**44**	**40**	**33**	**31**	**33**	**26**	**37**
Alabama		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Alaska		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Arizona	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓
Arkansas		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
California	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Colorado		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					✓
Connecticut		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
Delaware	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
District of Columbia				✓						✓	✓	✓					
Florida	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Hawaii	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Illinois		✓	✓	✓	✓		✓				✓	✓	✓				
Indiana			✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓		✓
Iowa				✓		✓	✓	✓			✓						
Kansas	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Kentucky	✓	✓	✓	✓		✓					✓	✓				✓	✓
Louisiana	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Maine		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓
Maryland	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Michigan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Minnesota	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mississippi		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Missouri	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
Montana		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓
Nebraska	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓					
Nevada	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
New Hampshire		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
New Jersey	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓		✓
New York	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
North Carolina	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
North Dakota		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ohio	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Oklahoma	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					
Oregon				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓
Pennsylvania	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Puerto Rico																	
South Carolina		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
South Dakota		✓		✓		✓					✓						
Tennessee	✓	✓	✓	✓	✓			✓	✓	✓	✓						✓
Texas	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓	✓	✓		✓
Utah				✓	✓	✓	✓	✓		✓	✓	✓					✓
Vermont	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Virginia	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Washington	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
West Virginia		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wisconsin		✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓

APPENDIX C

DETAILED STATE RESPONSES TO QUALITATIVE SURVEY QUESTIONS

1. Discussion of Financial/Debt Management Plans and General Advantages/Disadvantages of Having a Plan

State	Comments on Plan Structure
Arizona	Arizona has two highway programs. The Maricopa Transportation Plan (for Maricopa County) is a 20-year program. The Department has developed a 20-year financial plan that includes estimated bonding levels during the entire period. The second program is for all projects in the remainder of the state and is for five years. Arizona develops an annual financial plan that includes estimated bonding levels year-by-year.
California	California prepares revenue and expenditure and debt service forecasts to ensure adequate cash flow for existing debt and proposed debt issuance. The state sees the primary advantage of this being the ability to ensure the feasibility of debt proposals.
Delaware	Delaware's Capital Transportation Program (CTP) is a six-year planning document which is updated annually by the DOT, coordinated with two Metropolitan Planning Organizations (MPOs), approved by the Council on Transportation and the first year of which is authorized by the General Assembly. The revenue sources are combined with bond proceeds and federal support to fund the department's total transportation budget, both operating and capital.
Florida	Florida DOT follows informal policies/guidelines to determine the maximum amount of transportation investment based on a combination of pay-as-you-go versus debt financing. A long-term finance plan is maintained in order to look at both short-term (five years) and long-term (over five years) financing of transportation needs. Cash management and financing models also must take into account unforeseeable events in Florida such as hurricanes. All of these known and unknown funding needs are reviewed on an ongoing basis to determine what levels of debt financing are needed and to balance the long-term debt financing of Florida's transportation investment. A monthly cash forecast is also employed to synch up financing commitments with cash availability. Further, the Florida Turnpike uses an informal process to decide between debt and cash for specific investments. The process involves the Turnpike's management team balancing a) projects programmed in b) what time frames, c) cash balances, and d) debt coverage ratios to get what they consider to be the "optimum" mix of those variables. FDOT's finance plan encompasses more than just debt management and serves as the "financial debt management plan." It is a 10-year model which matches, by fiscal year, the cash flows of projected revenues and expenditures (both capital and operating), including bond proceeds and debt service. Florida sees the primary advantage of this overall approach being the ability to look ahead, quantify possibilities, and make decisions based on the results.
Hawaii	Hawaii's current financial plan is to program a set amount of funding for revenue bond projects. With this limitation, large projects cannot be funded in their entirety and must be phased.
Kentucky	The Kentucky Transportation Cabinet considers its Biennial Budget to be a limited financial plan in that it does establish the debt structure for at least the two upcoming years. The advantage is only over that of an annual budget process.
Louisiana	The Louisiana Department of Transportation and Development (LADOTD) has retained the services of a Program Manager for the TIMED (Louisiana Transportation Infrastructure Model for Economic Development) program. The program is cash managed. Bonds are sold as the expenditures warrant. The whole program must be proven financially feasible each year; therefore, a long-term financial plan is critical.

State	Comments on Plan Structure
Maryland	Maryland DOT's debt management plan uses a coverage ratio of pledged revenue to debt. State statute requires a two times coverage ratio. Beyond the statutory requirement, MDOT follows a management policy of using a 2.5 times ratio. This plan assists the State in maintaining its AA rating.
Minnesota	The only plan that exists in Minnesota is prepared and managed by the state Department of Finance rather than the DOT. The plan projects all debt service on currently issued debt and authorized but unsold bonds through the projected termination date of these debts. It combines this information with baseline projections of future indebtedness that might be enacted by future legislatures to anticipate future bonding capacity that would leave the state under its pre-established debt service cap.
Missouri	Missouri's financial forecast documentation estimates future revenues and expenditures of MoDOT's highway-related funds and produces monthly cash flow projections. The advantage of the plan is to ensure an adequate cash balance is maintained. It also allows the department to target the date and amount of bonds to issue. The disadvantage of the plan is not being able to predict fluctuations in revenues and incorporate these in the model (e.g., drastic gas price increases, reduced sales tax revenues).
New Jersey	The New Jersey Transportation Trust Fund Authority must submit a Financial Plan to the Legislature each year which shows how much debt needs to be issued to support the capital program being proposed by the New Jersey DOT and NJ TRANSIT.
New York	New York DOT recognizes the importance of long-range plans to support capital planning and to anticipate debt service coverage/additional bonds capability over the long term. The primary disadvantage has been the incorporation of pay-as-you-go operating costs into the same dedicated transportation revenue fund as capital and debt service. Operating funding needs are more volatile due to inflation, especially on fuel and fuel-related cost increases. It has been difficult to obtain additional pay-as-you go resources after a plan has been locked in. Otherwise, the plan is an excellent framework for common understandings between the transportation providers, the Governor's office, the Legislature, and other stakeholders.
Nevada	Nevada's long-term debt plan is a 20-year cash flow. The advantage is that the department is aware of funding constraints. The primary disadvantage is that it is difficult to predict spending and revenue that far out.
Ohio	Ohio DOT has a fiscal forecast (currently covering 2006–2012) that addresses federal and state funding (including bonding plans) on a looking forward basis. The document includes a 10-year pro forma for the period 2005–2015. The current document can be found at: http://www.dot.state.oh.us/finance/budget/2006%20Safetea-lu%20Forecast.pdf.
Oklahoma	Oklahoma's current plan calls for ODOT to issue $600 million of GANs (GARVEEs) over an eight-year period. The advantage of the written plan is that the organization understands the commitment to debt financing for projects. A disadvantage of having the plan is that a level of expectation has developed that the bonds will be issued during a certain window of time. That window of time may not be correct in relation to the timeline for project development.
Pennsylvania	Pennsylvania sees an advantage of a documented financial plan being the ability to forecast debt and proposed debt and show the impact on funds available for maintenance and restoration of the system after debt service has been covered.
Tennessee	Tennessee's current plan is statutorily-based. The types of debt that are authorized and various security pledges are defined by statute as are methods of sale. Structure is included in the annual bond act. The State Funding Board, at its discretion, may make other decisions regarding timing and amount of bond sales.

State	Comments on Plan Structure
Virginia	The Commonwealth Transportation Board (CTB) is the governing authority for Virginia DOT. The CTB allocates funding provided by the General Assembly to projects in the Six-Year Improvement Plan (SYIP). The SYIP identifies all projects needing funding and allocates the various funds available to the projects, including bond funds. In certain specific cases, the General Assembly will mandate that certain specific projects be funded with bond funds, and an authorized dollar amount will then be assigned.
Vermont	Vermont's debt forecast is included in the State's Annual Report of the Capital Debt Affordability Advisory Committee.
Washington	Washington State DOT's (WSDOT's) financial plan currently covers 16 years and incorporates current debt and estimates for future planned debt service. The financial plan is an essential function for planning long-term capital construction projects, planning bond sales, and managing positive cash balances in the various accounts. The disadvantage to a 16-year financial plan is that long-term assumptions are more uncertain the further into the future one looks.

2. Decisions Regarding Project-Specific versus Programmatic Debt Issuance

State	Perspectives on Debt Structure
Alabama	Alabama considers the size of the project(s) or program, the level of benefit to the traveling public, and the impact on expected cash flow and the remainder of the planned transportation program as the general factors that are used to determine whether to issue debt. Program managers recognize that there also are political pressures to issue or not issue debt that must be weighed.
Alaska	Alaska describes the decision-making process as a collaborative process between the executive branch and legislature.
Arizona	In Arizona, all highway revenue debt and Maricopa County regional area road fund debt is issued for general program acceleration. Grant Anticipation Note debt is issued for both general program acceleration and specific project acceleration.
California	California issues General Obligation bonds for the entire program. Decisions regarding revenue bonds are based largely on economies of scale – i.e., debt is issued for an *individual* project if size is large enough and for a *set* of projects if size is not large enough economically, and timing wise permissible. Generally, tax revenue bonds, including double barrel revenue bonds, are issued for the entire program.
Colorado	Colorado already had in place a multi-project plan that the state was trying to finance in ways other than traditional pay-as-you-go. The debt program was pitched to the public (approved by a citizen vote) based on that plan of projects.
Connecticut	Connecticut reports that debt is issued on an ongoing basis for the entire program based on spending needs and available cash balances.
Delaware	Delaware reports that debt is issued based on the total program need within allowable limits.
Hawaii	Revenue bonds are issued for all capital improvement projects authorized by the legislature and not on an individual project basis.
Kentucky	Kentucky reports that the decision depends on the degree of flexibility needed. Most recently, state road bonds were issued for an entire program. This gives flexibility to move projects from a pre-established list (biennial construction program). Alternatively, the state issued GARVEE bonds for specific projects because of their need and overall contribution to economic development within the state.
Louisiana	Louisiana's TIMED (Transportation Infrastructure Model for Economic Development) program was switched from pay-as-you-go to a bonded program in 2002. The reason was to get the improvements completed more quickly. The debt is issued for the entire TIMED program and not any individual project.
Maine	Maine reports that all debt is generally designated for the entire program.

State	Perspectives on Debt Structure
Maryland	In Maryland, the decision is based on the type of project being financed. If the project has a dedicated revenue source that will cover debt service then special revenue bonds are issued. If the projects are general highway projects that do not have specific dedicated revenue, then Consolidated Transportation Bonds are utilized.
Michigan	In Michigan, the five-year plan is used to determine the mix of funding sources required. Generally, bond issuances would be for a group of projects with the rare exception for a single mega-project.
Minnesota	Minnesota does not employ any set criteria for making this determination. For general fund bonds, it is a political decision about how much to spend on transportation versus other capital expenditure purposes. For state highway bonds, it also has been largely political—trying to deliver more projects with no new taxes.
Mississippi	For each state bond issue, in Mississippi, the legislature must pass a specific statute authorizing the amount to be issued and describing the specific projects financed and setting out the terms of the bonds.
Missouri	Missouri's Debt Management Policy states that debt is to be issued for the entire program for the purpose of providing funds for the construction and reconstruction of the state highway system.
Montana	The Montana DOT follows a financial planning process. Debt issued for a project or program is determined on future expected funds available from all sources as compared to priorities of the projects.
Nebraska	If bonds are issued, the Nebraska State Highway Commission and senior management will determine how the bond proceeds will be used. They could be used to complete the State's 600-mile Expressway System, 6-laning the Interstate System, or for some other purpose.
New Hampshire	New Hampshire reports issuing debt for a set of projects.
New Jersey	The New Jersey Transportation Trust Fund Authority (NJTTFA) is designed to issue debt for the entire transportation program by statute. Although the Commissioner of Transportation is chairman of the Authority, the NJTTFA is an independent state agency with financing and management separate from the New Jersey DOT. Its only purpose is to finance transportation capital projects. Each year, the New Jersey DOT and NJ TRANSIT prepare a joint capital project plan which is submitted to the Legislature for approval. The Transportation Trust Fund Authority uses a combination of pay-as-you-go revenues and debt to cover the cash disbursements for the current year capital program projects as well as all other active projects which are generating cash flows.
New York	Historically, New York has never issued bonds for a single project. It has always been for a program.
Nevada	Nevada reports issuing debt for sets of projects to maintain flexibility.
North Dakota	In North Dakota, the decision to issue debt is based on the state's ability to fund specific projects on a timely basis using a pay-as-you-go methodology. In the event that a project cannot be completed on a timely basis using pay-as-you-go funding, the agency may approach the State Legislature for approval to fund the project using other methods such as the issuance of bonds.
Ohio	Ohio DOT issues debt for a group of projects. Many of the state's larger projects are in the \$40 million–\$100 million range and generally spend out over four years. Debt is generally issued to finance projects over a 12–18 month period depending on the direction that rates are thought to be headed.
Oklahoma	The Oklahoma Transportation Commission has identified 11 corridors of "economic development," where debt financing will provide a portion of the funding for individual projects within the corridors.
Pennsylvania	Largely, Pennsylvania employs pay-as-you-go funding with exceptions for buildings, dedicated revenue sources, and special economic development projects.
South Carolina	In South Carolina, debt is issued for a group of projects. The decision to issue debt is based on the availability of limited federal and state resources and the amount that can be leveraged by issuing debt.

State	Perspectives on Debt Structure
Tennessee	In Tennessee, approved projects are funded through a commercial paper program during construction. For larger projects, a portion of the debt may be sold when the project is 50% or more completed. The state "bundles" projects when it sells debt in the capital markets, thus debt issues range from $100 million to $200 million when sold.
Virginia	In Virginia, transportation debt issuance is by program. The actual issuance of debt then, is for some or all of the project(s) in the program rather than for individual projects.
Vermont	In Vermont, all debt is subject to legislative approval. Since the amount of debt authorized for transportation has been minimal, debt is generally requested for specific projects in order to minimize the complexity.
Washington	Washington State's two recent funding packages included specific project lists, with associated project schedules. Each budget cycle, the legislature appropriates bond proceeds to cover the projected expenditures. Bonds are then sold as needed throughout the biennium.
West Virginia	In West Virginia, if debt is general obligation, the Legislature approves wording of a constitutional amendment and can be either project-specific or for the entire program.
Wisconsin	Bonding in Wisconsin is typically used to fund projects in the state's major highway program. A set amount of bonding is available for rail infrastructure and capital improvements. Bonding has been used on the state's mega-project, the Marquette Interchange.

3. How Decisions are Made Regarding Whether to Employ Debt Backed by Federal Funding (e.g., GARVEEs) or State Funding (and Specifically Which Repayment Sources to Employ)

State	Comments on Decision of Federal vs. State Backed Debt Approaches
Alabama	Alabama considers the following: (1) size of the issue; (2) expected level of federal versus state funding; and (3) impact on the remainder of the transportation program as the primary factors used to determine the type of debt issued.
Alaska	Alaska considers limitations on the ability to pledge revenues due to state constitution and federal requirements that follow federal money.
Arizona	In Arizona, all highway revenue debt and Maricopa County regional area road fund debt is issued for general program acceleration. Grant Anticipation Note debt is issued for both general program acceleration and specific project acceleration.
Arkansas	The only project for which Arkansas has used debt financing was the reconstruction of the Interstate highway system. The project involved the issuance of GARVEE bonds secured by pledges of future federal grant revenue. Bonds were issued in this case to expedite Interstate reconstruction.
California	California first considers whether the projects are federal-aid eligible; if not, GARVEE is not an option. If state GO debt is being utilized, tax revenue is the repayment source. If state Revenue bonds are employed, project-related revenue or allocations are repayment sources.
Colorado	Colorado reports that utilizing GARVEEs was the only way that the state was able to get enough political support to pass bonding legislation. Colorado issues no general obligation debt and therefore was generally debt adverse. Using future federal funds as part of the repayment stream was the only politically viable option.
Connecticut	Connecticut has not used GARVEEs and considers their current program to have a very successful ongoing debt issuance strategy.
Florida	In Florida, this is determined based on a combination of cash management factors and on the eligibility of funding sources (federal or state). For the Turnpike, all debt service on Turnpike Enterprise revenue bonds are payable solely from the net revenue of the Turnpike Enterprise system per bond documents.
Hawaii	Hawaii DOT does not have enabling legislation to issue GARVEES.
Illinois	State of Illinois General Obligation bonds have shown themselves to be an efficient means of issuing debt without having to resort to "innovative financing" techniques such as GARVEES.
Kansas	Kansas DOT does not employ the use of GARVEE bonds.
Kentucky	In Kentucky, this would simply depend on the eligibility of the projects. If they were

State	Comments on Decision of Federal vs. State Backed Debt Approaches
	federal projects and there is the ability to use toll credits to match, the state would consider GARVEEs first.
Louisiana	Louisiana has a 16-cent gas tax (excluding 4 cents for the TIMED program (Transportation Infrastructure Model for Economic Development)) that must pay for almost all transportation needs including match for federal funds. The state has not used the GARVEE tool, but has used Advance Construction to cash manage some projects.
Maine	GARVEE bonds have only been used once in the state of Maine for an emergency project. The traditional debt instrument for the state of Maine is General Obligation bonding.
Maryland	Maryland is about to embark on its first GARVEE debt and the GARVEEs will be issued by the Maryland Transportation Authority. The project associated with this proposed debt is large (the Intercounty Connector). Using state-backed transportation bonds would have had too great a limiting effect on other projects. It was decided to use GARVEEs backed by federal funds in addition to toll revenue bonds to help meet other needs in the state.
Michigan	In Michigan, to maintain favorable coverage ratios the occasional use of debt that pledges future federal funds as the source of repayment is used. It is also determined by the make-up of the project list.
Minnesota	Minnesota cannot use GARVEEs and program managers believe that GARVEEs have no advantage for Minnesota because all federal funds go into the state highway fund which is the source of all debt repayment for bond proceeds used for improvements to the state highway system.
Mississippi	In Mississippi, the payment source for a state issued transportation bond would be up to the legislature and would be proscribed in the statute the legislature passed authorizing the bond issue.
Missouri	Thus far, only state funds have been used to back debt for Missouri's statewide program. Missouri anticipates issuing GARVEE bonds for a specific project. Federal funds allocated to the part of the state where that project is located will be used to repay the debt.
Montana	Many factors weigh into the decision in Montana, including: potential interest rates; bond rating; resources available; and the timing of projects.
Nebraska	Nebraska does not have statutory authority to employ debt backed by federal funding. The state only has authority to issue debt backed by state funding and, specifically, state statutes require that this debt be paid by increasing motor fuel taxes.
New Hampshire	In New Hampshire, this decision would be made on a project by project basis.
New Jersey	The New Jersey Transportation Trust Fund Authority is planning to issue its first GARVEE bonds in approximately June, 2006 to finance a major bridge replacement that will cost up to $175 million. The project was selected for GARVEE financing by the New Jersey DOT because of the high cost and very limited resources of the MPO where the project is located. No other GARVEE financed projects are currently planned and there is no written policy regarding future use of that mechanism.
New York	To date, all debt in New York has been state-backed. Borrowing against state funds has, to date, provided enough flexibility to continue without employing borrowing against federal funds. In addition, borrowing via GARVEE debt is simply borrowing against an existing resource in that the federal aid is not any "new" or additional money. In the future, programs like TIFIA may be attractive because it represents a form of capital financing (although it must be repaid), above traditional federal formula sources. Potential TIFIA repayment streams include tolls, unpledged tax revenues, and a variety of other sources. Since 1993, the state has chosen to use transportation user taxes and fees to back transportation bonds for highways.
Nevada	To date, Nevada has issued revenue bonds backed by transportation program revenues to take advantage of a perception of a lower interest rate than would be achieved if they were to use GARVEE debt financing.
North Dakota	Historically, North Dakota has been quite conservative in its application of state funding; such funding is primarily used to match available federal funds and provide for routine maintenance needs. Thus, any debt must be backed primarily with federal funds and state

State	Comments on Decision of Federal vs. State Backed Debt Approaches
	funds covering a very limited portion.
Ohio	Since 1997, Ohio DOT has used GARVEEs as well as state general obligation (GO) bonds. GARVEE bonds are issued primarily for the State's largest projects and GO bonds for smaller projects. The annual and total GO limits also may enter into determining the type of debt to use. The State also reports trying to balance between bonds repaid with state revenue and federal funds to stay within internal debt policy limits.
Oklahoma	Constitutionally, Oklahoma DOT is not able to issue debt outside of debt backed by federal funding. The Oklahoma Turnpike Authority is able to issue toll revenue bonds. The Capital Improvement Authority is the entity that would be able to issue transportation bonds if state funds were again the source of debt service.
Pennsylvania	Pennsylvania used federal anticipation notes (pre-GARVEE) in the 1980s, but has not utilized that approach since that time.
South Carolina	The South Carolina DOT does not have authority to issue debt backed by federal funds.
Tennessee	The state of Tennessee has not issued debt backed by federal funds.
Virginia	In Virginia, debt backed by federal funding (FRANS) is used to supplement shortfalls in transportation funding and to leverage federal reimbursements.
Vermont	In Vermont, GARVEE bonds are not supported by the current administration or by the Capital Debt Affordability Advisory Committee.
Washington	Washington State uses state backed debt only with the exception of a $58 million GARVEE issue with future federal funds as the pledged repayment stream.
West Virginia	West Virginia does not employ a formal decision-making process. GARVEEs can only be used for highway projects. Repayment sources are limited to monies available in the State Road Fund, which can only be used for highway-related initiatives.
Wisconsin	Wisconsin does not use debt instruments secured by future federal funding. In general, the State tools are perceived as being more cost-effective.

4. Debt Management Practices Identified by States as Being of Potential Interest to Others (i.e., considered to be a potential "best practice" or helped address a specific challenge)

State	Candidate "Best Practice"
Connecticut	The use of dedicated revenues and balanced budget requirement, combined with two-times revenue coverage for outstanding bonds.
Florida	Florida offers several examples of potential model practices. These include: 1) The use of informal policies/guidelines to determine the maximum amount of transportation investment based on a combination of pay-as-you-go and debt financing; 2) Development and use of a long-term finance plan to look at both short-term (up to five years) and long-term (over 5 years) financing of transportation needs; and 3) Use of a monthly cash forecast to synch up financing projects commitments with cash availability.
Kansas	1) Establishing a pool of qualified underwriters through a RFP process; 2) Using a financial advisor as a partner in developing strategy for various types of bond issues including recommendation on banker proposals; and 3) Should a negotiated sale occur, the selection of the lead banker and team is made through a "competitive" negotiated process from a pool of pre-qualified underwriters.
Maryland	Maryland DOT uses a coverage ratio that is higher than required by statute.
Michigan	The Michigan DOT has taken a new approach to address funding gaps. In 2003, the Department organized a team to improve the timing of bond issues to ensure bonds are issued only when they are needed. MDOT's bond team monitors the Department's existing debt and market conditions to minimize debt service cost for its highway, transit, and aeronautics programs. By working closely with planning and engineering staff, the team has developed a better understanding of capital program delivery timeframes and financing needs. The team has found creative ways to provide gap financing to help minimize major fluctuations in the size of the Department's annual capital improvement program and provide additional resources for one time projects/program initiatives.

State	Candidate "Best Practice"
	In FY 2005, over $60 million in debt service savings was realized through refinancings of $223 million and $62 million. The team used an innovative financial tool to obtain a one-year interest rate lock for a future $260 million bond issue to support the Department's Five-Year plan—a first for MDOT. MDOT was the first DOT to issue short-term variable indirect GARVEE notes in 2001. The notes were originally structured to have a significant balloon payment at their maturity, which would reduce funding for the ongoing capital program. The team locked interest rates on a portion of these notes by restructuring $400 million with long-term fixed rate bonds, again stabilizing the size of the road and bridge program in the coming years. The team has prepared a plan for the Department to secure additional long-term bonds of up to $630 million to create more jobs in Michigan and to allow MDOT to match Federal High Priority Project funding without a negative impact on the previously announced program.
Missouri	Missouri notes retention of an independent financial advisor.
New York	New York managers note the following regarding their practices: 1) Previously, local capital programs were funded with service contract bonds which had no revenue pledge. Several years ago, the state began to sell these bonds with a pledge of 25% of the personal income tax. Other similar bonding programs were converted to this framework, resulting in higher ratings and lower interest costs. 2) Substantial debt service savings were accomplished to help finance the newest five-year highway and bridge program. The restructuring better aligned annual debt service with the asset life of the facilities that those bonds financed, and made previous debt service reserves available to pay down the debt.
Ohio	Ohio notes trying to keep the debt term as short as possible (8–10 years) and use level principal payment plans to the extent possible.
Oklahoma	Oklahoma notes not allowing ODOT to exceed a 3 times debt service coverage ratio for GARVEE issues.
Pennsylvania	Impact on future capacity for maintenance and restoration is analyzed with all debt proposals.
Vermont	The creation of the Capital Debt Affordability Advisory Committee, specified in 32 V.S.A., section 1001, has worked well for Vermont.
Washington	In Washington State, debt service has "first call" on revenues received, hence careful planning is essential. WSDOT uses monthly withholding practices, with a six-month reassessment of the monthly withholding amounts for each authorization to adjust for bond refunding and new bond sales. WSDOT uses a debt service model to project anticipated payments as well as incorporate actual debt service payments for bonds already sold. The Department's 16-year financial plan allows for better cash flow management and helps project the ability to pay for future debt service and helps to optimize the timing of future bond sales.
Wisconsin	Wisconsin makes extensive use of the internet for electronic disclosure of financial information.

APPENDIX D

SAMPLE DEBT POLICIES AND GUIDELINES

State Debt Affordability Papers

A handful of states' debt affordability studies are available publicly (online) and are referenced below (also see the below table for a synopsis). These studies are conducted regularly for the purposes of exploring strategies for managing short- and long-term debt affordability. The topics covered usually include information on:

- Credit ratings;
- Bond marketability;
- Debt burden; and
- Debt ratios.

Criteria Used to Manage Debt

from Selected States' Debt Affordability Reports

State	**Debt Ratio Criteria [cap if mandated]**	**Additional Criteria/Notes**
California (2004)	1. Debt service as a percentage of general revenues 2. Debt as a percentage of personal income 3. Debt per capita	Affordability report projects debt levels, service and issuance to 2029. No caps or restrictions noted.
Florida (2005)	1. Debt service as a percentage of general revenues **[6%]**[1] 2. Debt per capita 3. Debt as a percentage of personal income	Affordability report projects debt levels, service and issuance to 2015. Report breaks down debt by different government sectors, including education, transportation, etc.
Maryland (2005)	1. Debt service as a percentage of general revenues **[3.2%]** 2. Debt as a percentage of personal income **[8%]**	Affordability report projects debt levels, service and issuance to 2011. Report breaks down debt by different government sectors, including education, transportation, etc.
New York (2005)	1. Debt service as a percentage of general revenues **[5%]**[2] 2. Debt as a percentage of personal income **[4%]**[3] 3. Debt per capita	Affordability report projects debt levels, service and issuance to 2010. No bonds can be issued with maturities over 30 years.
North Carolina (2004)	4. Debt service as a percentage of general revenues **[4%]**[4] 5. Debt per capita 6. Debt as a percentage of personal income **[2.5%]**[5]	Affordability report projects debt levels, service and issuance to 2006. Report breaks down debt by different government sectors, including education, transportation, etc. *Also see chart below excerpted from report comparing North Carolina with other states.*

The reports generally are conducted by state treasury departments and are used by the Governor, Legislature, and other state agencies in financial planning. These affordability studies generally do not single out transportation debt for special consideration, but rather include the entire state debt status.

New York State, for example, provides a comprehensive analysis of New York's increasing amount of debt. This report includes a side by side comparison of debt for the 10 most populated states by selected medians:

Peer Group Comparisons

	General Obligation Bond Rating (Fitch/S&P/Moody's)	2004 Debt ($000)	2004 Debt Per Capita	2004 Debt as % of 2003 Personal Income	2004 Debt Service as % of All Funds Receipts *
California	BBB/A/A3	$ 55,452,000	$ 1,545	4.7%	2.3%
Texas	AA+/AA/Aa1	6,270,830	279	1.0%	0.9%
Florida	AA/AA+/Aa2	17,538,400	1,008	3.4%	3.0%
Illinois	AA/AA/Aa3	25,672,456	2,019	6.0%	4.1%
Pennsylvania	AA/AA/Aa2	9,052,000	730	2.3%	1.7%
Ohio	AA+/AA+/Aa1	9,922,638	866	2.9%	3.5%
Michigan	AA+/AA+/Aa2	6,987,100	691	2.2%	2.7%
Georgia	AAA/AAA/Aaa	7,090,755	803	2.8%	3.1%
New Jersey	AA/AA-/Aa3	25,236,000	2,901	7.3%	3.2%
North Carolina	AAA/AAA/Aa1	5,824,194	682	2.5%	1.5%
Peer Median		**9,487,319**	**835**	**2.9%**	**2.9%**
National Median		**2,685,360**	**703**	**2.4%**	**3.5% ****
New York	**AA-/AA/A1**	**48,248,981**	**2,509**	**7.0%**	**4.2%**
NYS Ratio to Peer Median - March 31, 2005			**3.01**	**2.44**	**1.47**
NYS Ratio to National Median			**3.57**	**2.91**	**1.20**

* Note that Debt Service and All Funds Revenue are from each state's Statement of Revenues, Expenditures, and Changes in Fund Balances contained within the state's 2004 Comprehensive Annual Financial Reports. Consequently, reported debt service does not include payments reported in proprietary funds that are supported by proprietary fund resources. New York's debt service includes SUNY and CUNY obligations from proprietary funds that are not self-supporting.

** Last Published by Moody's in 1996.

Sources:
Comprehensive Annual Financial Reports from Fiscal Years Ending in 2004 for listed states
Moody's Investors Services, *2005 State Debt Medians*, May 2005
US Census Bureau
US Bureau of Economic Analysis
Global Insight
New York State Office of the State Comptroller, *New York State's Debt Policy - A Need For Reform,* February 2005
New York State Division of the Budget, *2005-06 Enacted Budget Capital Program and Financing Plan,* April 2005

Debt Affordability Comparison; Source: New York State Office of Budget and Policy Analysis 2005 Debt Affordability Report.

California

Debt Affordability Report (2004, 17 pp.)
http://www.treasurer.ca.gov/publications/2004dar.pdf

California Smart Investments 2006
http://treasurer.ca.gov/publications/smartinvest/dec2005.pdf
This report is similar to the Debt Accountability reports put out by the state of California. However, this paper only reports on debt and debt affordability in more general and less specific terms than the longer full reports.

Florida

Debt Affordability Report (2005, 20pp.)
http://www.sbafla.com/bond/pdf/publications/DARrpt05.pdf

Maryland

Report of the Capital Debt Affordability Committee on Recommended Debt Authorization for 2007 (2005)
http://www.treasurer.state.md.us/reports/2005-CDAC-Report.pdf

Maryland Debt Affordability Issue Paper (2005, 6 pp.)
http://mlis.state.md.us/Other/IssuePapers/2005/02.pdf
This paper summarizes the more detailed report produced by the Capital Debt Affordability Committee of Maryland for the Governor and Legislature cited above. This report summarizes statistics on current debt, debt service and future plans for issuing debt in Maryland.

Debt Affordability Report (2005, 50 pp.)
http://www.osc.state.ny.us/reports/debt/debtaffordability.pdf

North Carolina

Debt Affordability Study (2004, 25pp.)
http://www.treasurer.state.nc.us/NR/rdonlyres/7768BC54-0D7C-4F2E-B7FF-03242A5E6D6D/0/2004DebtAffordabilityStudyFinalv3.pdf

North Carolina Debt Ratios versus Ratios for Other Highly Rated States				
State	Ratings (Fitch/S&P/Moody's)	Debt to Personal Income*	Debt per Capita*	Debt Service as a % of Tax Revenue **
Delaware	AAA/AAA/Aaa	5.0%	$1,599	5.0%
Georgia	AAA/AAA/Aaa	2.9	802	5.9
Maryland	AAA/AAA/Aaa	2.8	977	4.1
Missouri	AAA/AAA/Aaa	1.3	368	2.9
South Carolina	AAA/AAA/Aaa	2.4	587	4.1
Utah	AAA/AAA/Aaa	2.9	682	5.3
Virginia	AAA/AAA/Aaa	1.7	546	3.6
	Peer Group Median (as of 6/30/03)	2.8%	$682	4.1%
North Carolina (as of 6/30/03)	**AAA/AAA/Aa1**	**1.7%**	**$465**	**2.1%**
	Ratio to Median	0.61 x	0.68 x	0.51 x
North Carolina (as of 3/31/04)	**AAA/AAA/Aa1**	**2.1%**	**$582**	**2.7%**
	Ratio to Median	0.75 x	0.85 x	0.66 x
North Carolina (Projections for 2006)	**AAA/AAA/Aa1**	**2.5%**	**$726**	**3.9%**
	Ratio to Median	0.89 x	1.06 x	0.95 x

* Ratios for peer group as calculated by Moody's in its "2003 State Debt Medians" report published July 2003.

** Calculated from Fiscal Year 2002 CAFR for Georgia and Fiscal Year 2003 CAFRs for Delaware, Maryland, Missouri, South Carolina, Utah and Virginia

Debt Affordability Comparison; Source: North Carolina Department of State Treasurer Debt Affordability Study (2004).

APPENDIX E
STATE DEBT-RELATED CONSTITUTIONAL AND STATUTORY CITATIONS

State	Constitutional and/or Statutory References
Alabama	The Constitution of Alabama, Section 213 as amended by Amendment 26, forbids the issuance of debt by the State. Debt backed by the State can only be issued via a Constitutional Amendment approved by the people of the state. Title 23 of the Code of Alabama, Articles 6, 7, and 10 of Chapter 1, Article 5 of Chapter 2, and Chapter 6 establish and govern various public corporations and authorities that have/had authority to issue debt for transportation purposes. Any debt issued by these corportations/authorities does not constitute a debt of the state.
Alaska	Alaska Statute 37.15 Constitution prohibits dedicating revenue, requires election for general obligation debt.
Arizona	Arizona Revised Statutes, Title 28, Chapter 21.
Arkansas	Amendment 82 for General Obligations and Amendment 65 for Revenue Bonds - Copies attached
Connecticut	CGS 13b-174...177 STO Bonds(majority) CGS 3-20...24; 13a-176 GO Bonds (original, but now limited) CGS 15-101Bradley International Airport Bonds
Delaware	Transportation Trust Fund Act; Chapter 87, Volume 66 of the Laws of the State of Delaware Delaware Transportation Authority ACt; Chapter 164, volume 62 of the Laws of the State of Delaware
Florida	Relevant statutory excerpts: State Bond Act: F.S. 215.57-215.83 State Infrastructure Bank (SIB) FS 215.617: Upon the request of the Department of Transportation, the Division of Bond Finance is authorized pursuant s. 11, Art. VII of the State Constitution and the State Bond Act to issue revenue bonds, for and on behalf of the Department of Transportation, for the purpose of financing or refinancing the construction, reconstruction, and improvement of projects that are eligible to receive assistance from the state-funded infrastructure bank as provided in s. 339.55. Right of Way Acquisition and Bridge Construction Bonds: SECTION 17, Article Vll of the State Constitution authorizes bonds for acquiring transportation right-of-way or for constructing bridges. (a) When authorized by law, state bonds pledging the full faith and credit of the state may be issued, without a vote of the electors, to finance or refinance the cost of acquiring real property or the rights to real property for state roads as defined by law, or to finance or refinance the cost of state bridge construction, and purposes incidental to such property acquisition or state bridge construction. No bonds shall be issued under this section unless a state fiscal agency, created by law, has made a determination that in no state fiscal year will the debt service requirements of the bonds proposed to be issued and all other bonds secured by the same pledged revenues exceed ninety percent of the pledged revenues available for payment of such debt service requirements, as defined by law. F.S. 215.605: (1) The issuance of state bonds to finance or refinance the cost of acquiring real property or the rights to real property for state roads as defined by law, or to finance or refinance the cost of state bridge construction, and purposes incidental to such property acquisition or state bridge construction, is hereby authorized pursuant to s. 17, Art. VII of the State Constitution and ss. 215.57-215.83. Except for bonds issued to refinance property acquisition or bridge construction previously financed by bonds issued under this section, right-of-way or bridges financed by state bonds issued under this section shall first be authorized by the Legislature by an act relating to appropriations or by general law and shall be issued pursuant to the State Bond Act. F.S. 337.276: (1) The Division of Bond Finance of the State Board of Administration is authorized, in accordance with s. 215.605, to issue state bonds on behalf of the department to finance right-of-way land acquisition and to finance state bridge construction. The total amount of bonds to be issued under this section shall be limited by the debt service requirements of the bonds issued, and such requirements shall not exceed 90 percent of the pledged revenue authorized to be transferred pursuant to s. 206.46(2). Turnpike: All of Turnpike Enterprise's bonds are issued by the Division of Bond Finance on behalf of the Florida Department of Transportation pursuant to Article VII, Section 11(d) of the Florida Constitution, the State Bond Act, the Florida Turnpike Enterprise Law and other applicable provisions of law. Article VII, Section 11(f) of the Florida Constitution requires Legislative approval of each project to be funded with bond proceeds before selling the bonds. Section 338.2275 (1) F.S. authorizes the Division of Bond Finance to sell, on FDOT's behalf, up to 4.5 billion in toll revenue bonds for legislatively approved Turnpike Enterprise projects. 338.2275 (4) F.S. reads, in part, "Bonds may not be issued to fund a turnpike project until the department has made a final determination that the project is economically feasible" Further, Ss.338.223(1)(a) reads, in part, "and a statement of environmental feasibility has been completed for such project".

State	Constitutional and/or Statutory References
Hawaii	Article VII, Section 12 of the State Constitution and Part II, Chapter 39, Hawaii Revised Statutes
Illinois	Article IX, Section 9 of the State Constution authorizes the issuance of State debt. It requires that an increase in State Debt be approved by either a 3/5th's majority vote in both chambers of the General Assembly or by a majority for of electors in a general election. 30 ILCS 330/4 contains the authorization for General Obligation debt issued for Transportation Purposes (General Obligation Bond Act--30 ILCS 330 et seq.) Section 4 of the General Obligation Bond Act spells out the issuance limits for highway, transit/rail, and aeronautics purposes. 605 ILCS 10 et seq. spells out the powers of the Illinois Toll Highway Authority.
Kansas	68-2321. Issuance of bonds; term; highway bond proceeds fund, created; investment of proceeds; execution of trust indenture. (a) Bonds issued shall be authorized by resolution of the secretary. The secretary shall determine the form and manner of the execution of the bonds and the bonds may be made exchangeable for bonds of another denomination or in another form. The bonds shall be dated. Bonds issued under subsections (a) and (b) of K.S.A. 68-2320, and amendments thereto shall mature not more than 20 years from their date. The bonds may be in such form and denominations, may bear interest payable at such times and at such rate or rates, may be payable at such places within or without the state, may be subject to such terms of redemption in advance of maturity at such prices, and may contain such terms and conditions, all as the secretary shall determine. The bonds shall have all the qualities of and shall be deemed to be negotiable instruments under the laws of the state of Kansas. The authorizing resolution may contain any other terms, covenants and conditions that the secretary deems reasonable and desirable.
Kentucky	KRS 56.860- 56.869 - Garvee Debt KRS 175 - Turnpike Authority
Louisiana	Louisiana RS 47:820 allows the State to issue 30 year bonds for the Transportation Infrastructure Model for Economic Development (TIMED) Program utilizing a dedicated four cent gas excise tax. The dedicated 16 projects are scheduled for completion by 2013 at a cost of $4.6 billion
Maine	Constitution of Maine, Article IX, Section 14
Maryland	Annotated Code of Maryland Transportation Article MDOT = Title 3 Subtitle 2 Section 3-201 through 3-519 and 3-601 MdTA = Title 4 Subtitle 4 Section 3-302 through 4-312 and 3-601
Michigan	http://www.legislature.mi.gov/(kd12sa45ntmwjb45xyunj155)/mileg.aspx?page=getobject&objectname=mcl-Act-51-of-1951&queryid=13911567 Public Act 51 of 1951.
Minnesota	For the state highway system the governing legal cite is the state constitution, Article 14, Sec. 11. The governing cite for state general obligation bonds is Article 11, Sec. 5-7 and by statute Chapter 16A.
Mississippi	MS Constitution Article IV Section 115 limits all state bonded indebtedness to one and one-half times the sum of all revenue collected by the state in any one of the preceding four fiscal years. MS Statutes Sec.s 31-17-1 et.seq. sets out the powers of the State Bond Commission; Sec.s 31-18-1 et.seq. sets out terms for variable rate bonds;
Montana	17-5-901, Montana Code Annotated (MCA) through 17-5-930, MCA.
Nebraska	Bond proceeds can be used only to finance or refinance through the issuance of refunding bonds, construction of highways. The proceeds of such bonds must be used exclusively for (a) the construction, resurfacing, reconstruction, rehabilitation, and restoration of highways, when the Legislature expressly finds the need for such construction and reconstruction and the vital importance of the highway system to the welfare and safety of all Nebraskans requires such action, or (b) to eliminate or alleviate cash-flow problems resulting from the receipt of federal funds.
New Hampshire	RSA 237 & 237-A Turnpike Revenue RSA 228-A Garvee Bonds RSA 6 & 6-A General Obligation
New Jersey	The Constitution ensures that certain revenues are dedicated for transportation capital purposs only including the motor fuels tax, gross petroleum receipts tax, and the sales tax on motor vehicles. While these revenues are not specifically directed to the Transportation Trust Fund Authority, they have been appropriated to the Authority each year and they do help secure debt service payments on bonds issued by the authority. State statutes restrict the Authority to issuing no more than $1.6 billion each year and maturites of no more than 31 years.
New York	NYS Constitution, Article VII, Section 9-19 (GO Bonds; Public Authorities Law, sections 380, 385, 365 (PIT bonds, Revenue Bonds, Toll Revenue Bonds)
North Carolina	Relevant legislative and statutory references: Chapter 159, Local Government Finance (www.ncleg.net/EnactedLegislation/Statutes/HTML/ByChapter/Chapter_159.html; General Assembly of North Carolina, Session 1999, Session Law 1999-380, House Bill 1471: An Act to Adjust the Maturity Date of the 1996 Highway Bonds…"; 1995 Session, Chpater 590, House Bill 540: An Act to Authorize the Issuance of 950 Million Dollars General Obligation Bonds…for the Construction of Highways and to Amend the Highway Trust Fund; Session Law 2005-403, House Bill 254: An Act to Authorize the State Treasurer to Issue "GARVEE" Grant Anticipation Revenue Vehicle Bonds on Behalf of the Department of Transportation…"

Abbreviations used without definition in TRB Publications:

AAAE	American Association of Airport Executives
AASHO	American Association of State Highway Officials
AASHTO	American Association of State Highway and Transportation Officials
ACI–NA	Airports Council International–North America
ACRP	Airport Cooperative Research Program
ADA	Americans with Disabilities Act
APTA	American Public Transportation Association
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATA	Air Transport Association
ATA	American Trucking Associations
CTAA	Community Transportation Association of America
CTBSSP	Commercial Truck and Bus Safety Synthesis Program
DHS	Department of Homeland Security
DOE	Department of Energy
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
IEEE	Institute of Electrical and Electronics Engineers
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
ITE	Institute of Transportation Engineers
NASA	National Aeronautics and Space Administration
NASAO	National Association of State Aviation Officials
NCFRP	National Cooperative Freight Research Program
NCHRP	National Cooperative Highway Research Program
NHTSA	National Highway Traffic Safety Administration
NTSB	National Transportation Safety Board
SAE	Society of Automotive Engineers
SAFETY-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (2005)
TCRP	Transit Cooperative Research Program
TEA-21	Transportation Equity Act for the 21st Century (1998)
TRB	Transportation Research Board
TSA	Transportation Security Administration
U.S.DOT	United States Department of Transportation