

**MANAGEMENT**

**OBJECTIVE(S)**

[Return to Table of Contents](#)

Ensure that debt is issued only for accepted public purposes, consistent with the entity's mission and legislative expectations and is prudently managed in conjunction with overall financial plans and related functions.

**BACKGROUND**

Debt is issued to finance a wide variety of projects including infrastructure, general capital improvements, and utilities, and to encourage economic development. The cost and long-term nature of these projects require that capital be raised from sources other than normal operating revenue. Capital may be raised by issuing short- or long-term debt, entering into capital leases, receiving capital contributed by other governmental units, or imposing special taxes or service charges (Raftery, pp. 2-3).

Effective debt management is essential because of its far-reaching consequences. The decision to issue debt may commit an entity's revenues for several decades into the future and, as a result, limits the entity's flexibility to respond to changes in service priorities, revenue inflows, or cost structures (Kurish and Tigue, p. vii). Legal and statutory restraints, voter or policy maker attitudes, market conditions, and anticipated revenue flows are some of the factors that will influence the strategy an entity follows to raise capital (Raftery, pp. 2-3).

The debt management process involves several other management functions, including:

- **planning:** identifying the types and timing of projects to be financed
- **investment management:** investing proceeds and monitoring arbitrage earnings
- **cash management:** expending proceeds and maintaining required account balances (e.g., minimum reserve and/or interest and sinking fund balances)
- **asset management:** building, acquiring, and maintaining project assets

State and local government debt securities can be categorized into two major types, depending on the nature of funds pledged to their repayment:

- general obligation bonds
  - self-supporting
  - non self-supporting
- "limited-liability" or "revenue" bonds
  - enterprise revenue bonds
  - lease-rental bonds
  - conduit revenue bonds
  - special tax bonds

(Descriptions of these bonds are found in the "Definitions" section of this module.)

The following table compares the advantages and disadvantages of general obligation and limited-liability bonds:

Advantages and Disadvantages of General Obligation and Limited-Liability Bonds	
GENERAL OBLIGATION BONDS	
Advantages	Disadvantages
<ol style="list-style-type: none"> <li>1. Strongest pledge usually produces lowest interest cost.</li> <li>2. Administrative aspects of preparing to borrow are usually simpler and normally cost less.</li> <li>3. Typically sold at competitive sale rather than negotiation, usually reducing the interest cost.</li> <li>4. A vote of the people confirms that the project or program is popularly supported.</li> </ol>	<ol style="list-style-type: none"> <li>1. Necessity for vote may delay capital financing.</li> <li>2. Is constrained by legal debt limit.</li> <li>3. If paid by taxes, may not align benefits to cost.</li> <li>4. Project costs may not be aligned to useful life of improvement.</li> </ol>
LIMITED-LIABILITY BONDS	
Advantages	Disadvantages
<ol style="list-style-type: none"> <li>1. Allow for quick action because voters' approval is not required.</li> <li>2. Do not contribute to the legal debt limit.</li> <li>3. Cost of debt is distributed to the benefiting users of the service. Financing costs must be paid within the useful life of the project.</li> <li>4.</li> </ol>	<ol style="list-style-type: none"> <li>1. Usually require a higher interest rate.</li> <li>2. No voter approval: elected officials less accountable.</li> <li>3. Subject to more stringent issuance requirements such as reserve fund, bond insurance, etc.</li> <li>4. Bonds are more apt to be sold through negotiations, thus increasing interest costs.</li> </ol>

Source: Peterson, p. 270.

The debt management process in Texas exists at several different levels:

- at the *statewide level* by the Legislature and Bond Review Board
- at the *state entity level* by agency and university management
- and at the *local level* by cities, counties, school districts, and special districts

This module focuses mainly on debt management as it relates to state government.

Although the Bond Review Board is charged with overseeing bond issuance by state entities, only 12 percent of the total Texas government debt is issued by state entities. Local governments are responsible for the remaining 88 percent. There are 22 individual state issuers and more than 3,100 local issuers with debt outstanding as of August 31, 1994 (*Bond Review Board 1994 Annual Report*, p. 8).

Authorization is a key control that helps ensure debt is issued for proper purposes and within the guidelines set forth in the debt policy. Various levels of approvals are needed before state entities can issue debt, including the following:

- **Executive Management:** The project and proposed funding should first be approved internally by executive management and the entity’s governing board.
- **Bond Review Board:** All state bonds (except Permanent University Fund bonds) must be approved by the Bond Review Board, which is comprised of the Governor, the Lieutenant Governor, Speaker of the House of Representatives, Comptroller of Public Accounts, and State Treasurer.
- **Attorney General:** Prior to the issuance of bonds, the bonds and the bond authorization are submitted to the Attorney General. The Attorney General determines that the bonds have been authorized in accordance with the law and approves the bonds in the form of a legal opinion (State Auditor’s Office: *Debt Management-Securing Texas’ Future*, p. 23).
- **Legislature:** The authorization to issue general obligation bonds requires approval by two-thirds of both houses of the Legislature. The Legislature also has the authority to authorize the issuance of revenue bond debt or other forms of long-term debt, such as lease purchase agreements, without voter approval (State Auditor’s Office: *Debt Management-Securing Texas’ Future*, p. 23).
- **Citizens:** Issuance of general obligation bonds requires approval by a majority of the State’s citizens voting on the issue (State Auditor’s Office: *Debt Management-Securing Texas’ Future*, p. 23). The total sum of general obligation bonds that have been authorized by the voters is in excess of \$8.28 billion. The following table lists state bond programs and general obligation limitations as of August 31, 1994:

<b>State Bond Program</b>	<b>G.O. Debt Authorized and Unissued</b> (in thousands)
<b>Self-Supporting</b>	
Agriculture Water Conservation Bonds	\$193,000
Agricultural Finance Authority Bonds	30,000
Texas Department of Commerce Bonds	45,000
Farm and Ranch Loan Bonds	500,000
Park Development Bonds	25,975
Veteran’s Land and Housing Bonds	854,999
Water Development Bonds	986,245
College Student Loan Bonds	\$50,001

State Bond Program	G.O. Debt Authorized and Unissued (in thousands)
Subtotal Self-Supporting	\$2,685,220
<b>Not Self-Supporting</b>	
Texas Public Finance Authority	773,540
Superconducting Supercollider Bonds	250,000
Water Development Bonds	432,565
Subtotal Not Self-Supporting	1,456,105
<b>Total</b>	<b>\$4,141,325</b>

Source: Texas '94 Comprehensive Annual Financial Report

**Debt Issuance Process**

The issuance process in Texas for a *competitive bond sale* is as follows (SAO: *How to Audit Bonds*, p. 3):

1. The entity defines the need for funds and receives tentative approval from its governing board.
2. The financial team is assembled (financial advisor, bond counsel, etc.). **(Note:** The entity may have ongoing contracts for these services.)
3. Preliminary analysis is performed to determine the tentative amount, timing, and terms of the bonds to be issued.
4. The Bond Review Board is notified of the purpose, amount, timing, terms of the bonds, and the date that the issuer wishes to meet with the Board.
5. The financial advisor obtains proposals for various services (paying agent/registrar, printing, etc.) for approval by the issuer.
6. The financial advisor prepares a preliminary official statement. The bond counsel certifies the description of the bonds in the preliminary official statement.
7. The Director of the Bond Review Board certifies that the preliminary official statement meets the established standards. The issuer submits an application to the Bond Review Board at least two weeks prior to meeting with the Board.
8. The Bond Review Board holds a meeting to consider the issuer's application and to approve, approve subject to conditions, or reject the bond issuance proposal.
9. If approved, a notice of sale is published in the *Bond Buyer* and *MAC Bond Reporter*. The preliminary official statement and bid forms are also mailed to potential investors.
10. The Bond Review Board requests bond ratings and mails documents to bond rating agencies.

11. Bond Review personnel along with the financial advisor, bond counsel, and issuer personnel attend the ratings meeting. The bond rating notice is received and communicated to prospective bidders.
12. Competitive bids are received, and the financial advisor verifies calculations on the two lowest competitive bids. The lowest bid is accepted, and the successful bidder is notified.
13. The bond counsel prepares the bond resolution.
14. A board meeting is held to approve the bond resolution and sale.
15. The Comptroller's Office certifies demographic data in the official statement.
16. The Public Finance Division of the Attorney General's Office receives a transcript of the board meeting and issues an approving opinion.
17. The financial advisor arranges for the delivery of the bonds and proofs the printing of the bonds.
18. The Comptroller's Office receives and registers the bonds in the Bond Registration Book.
19. The bonds are delivered to the bond counsel.
20. The bond closing is held, and a final report is sent to the Bond Review Board describing the actual issuance costs, bond transcript, and other documents.

The debt issuance process is generally the same for a negotiated sale. However, in a negotiated sale, competitive bids are not taken — the selection of the underwriter is negotiated in advance.

### The Debt Burden in Texas

Texas has a relatively low state debt burden compared to other states but a high local debt burden. Moody's ranks Texas 33rd among all states and 8th among the ten most populous states in net tax-supported debt service as a percentage of revenues. According to Moody's, this measure reflects a state's relative annual burden of supporting its outstanding net tax-supported debt. The heavy local debt burden combined with the relatively light state debt burden result in Texas being ranked fifth among the most populous states based on combined state and local debt. As of August 31, 1994, Texas' general obligation bonds were rated Aa/AA/AA+ by Moody's, Standard & Poor's, and Fitch, respectively (*Bond Review Board 1994 Annual Report*, pp. 8-10).

Although Texas' state debt burden compares favorably with other states, state debt supported by general revenues has grown significantly in Texas since 1987. Debt service from general revenue has grown by an average of 30.7 percent per year since 1988, while unrestricted general revenue collections have only increased by an average of 10.1 percent per year (*Bond Review Board 1994 Annual Report*, p. 8). (See figure 1.) In addition, Texas has the potential to substantially increase its debt burden with approximately \$1.9 billion in authorized but unissued bonds as of August 31, 1994 (*Bond Review Board 1994 Annual Report*, p. 9).

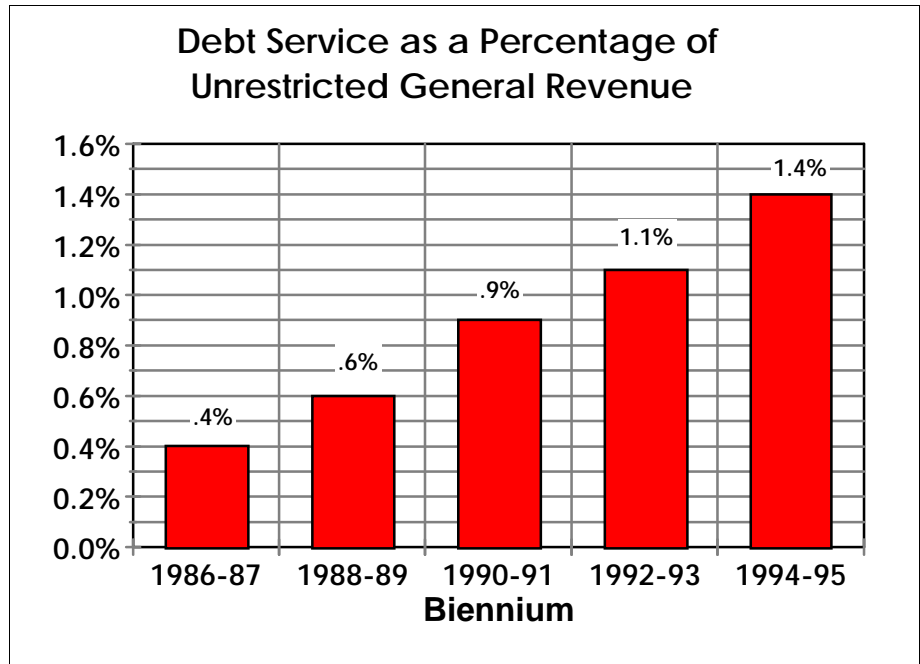


Figure 1

Source: 1994 Bond Review Board Annual Report

**The Master Equipment Lease Purchase Program**

In order to reduce financing costs for lease-purchases, the Legislature authorized the creation of the Master Equipment Lease Purchase Program (Lease Program). The most significant benefit of the Lease Program is the State’s ability to obtain lower interest rates by issuing debt rather than using vendor financing. Other benefits include lower administrative costs, increased vendor competition, uniform documentation, and centralized record keeping (SAO: *Debt Management*, p. 17).

Currently, due to low interest rates, the Lease Program is financed through the issuance of commercial paper. Under the Lease Program, all equipment purchases for state agencies are purchased with the commercial paper proceeds. Individual agencies lease the equipment back from the State, and the lease payments are then used to pay the interest on the commercial paper.

The procedures for financing equipment through the Master Equipment Lease Purchase Program are as follows (SAO: *Debt Management*, p. 28):

1. The user agency determines equipment needs and specifications in conjunction with the General Services Commission and, if necessary, the Department of Information Resources.
2. The Public Finance Authority receives the request for financing and approves if the eligibility requirements are met.
3. The user agency procures the equipment from a vendor.
4. The vendor delivers the equipment to the user agency.

5. The user agency inspects and accepts the equipment. A payment voucher and lease supplement, containing a statement of acceptance, are forwarded to the Public Finance Authority.
6. Bondholders invest in the Public Finance Authority's interim financing (commercial paper program) or lease revenue bonds.
7. The Public Finance Authority makes payment in full to the vendor or partial payment, if progress payments are designated.
8. The Comptroller's Office effects the intercept feature, "sweeping" agency appropriations into a restricted cost center.
9. The Public Finance Authority submits a voucher to the Comptroller's Office directing the transfer of funds from the restricted cost center.
10. Funds for the lease payment are transferred from the restricted cost center into the State Lease Fund.
11. Funds for the payment of administrative costs are transferred from the restricted cost center into the Cost of Issuance Fund.
12. The State Treasurer transfers funds from the State Lease Fund to the Public Finance Authority to make the lease payment.
13. The Public Finance Authority provides the user agency with a debt memo showing the expenditure of funds for the lease payment.
14. The Public Finance Authority makes the debt service payment to the bondholders.

### Legal references

**The 1986 Tax Reform Act:** The Tax Reform Act of 1986 placed many new and complicated restrictions on tax-exempt borrowing and imposed complicated regulations regarding arbitrage. See [Appendix 2](#) for more information on arbitrage compliance requirements.

**Bond resolution covenants:** A bond resolution describes the contract between the issuer and the bondholder. The bond resolution provides important guidance on authorization, security for the bonds, use of proceeds, required funds and accounts, allowable investments, insurance requirements, and several other issues.

**Permanent University Fund (PUF) Debt:** The University of Texas and Texas A&M University Systems are authorized to issue Permanent University Fund (PUF) debt to build, equip, or buy buildings or other permanent improvements. Revenue from investments of the PUF is pledged to secure the payment of interest and principal. The PUF debt is limited to 30 percent of the book value of the PUF, not including real estate (10 percent to A&M and 20 percent to UT).

**Legislation:** Several amendments to the State Constitution and other legislation have defined the debt issuance authorization and limits for state agencies. (See [Appendix 1](#): State Issuers for a list of state entities with debt issuance authorization.) In addition, the following statutes are relevant:

- *Senate Bill 3, 72nd Legislature, 1991:* Additional tax-supported debt may not be authorized if the maximum annual debt service on debt payable from general revenue, including authorized but unissued bonds

- and lease purchases greater than \$250,000, exceeds *five percent* of the average annual general fund revenues for the previous three years.
- *Senate Joint Resolution No. 26, 72nd Legislature, 1991*: An amendment to the Constitution requiring that all debt-authorizing measures considered by the voters be submitted in proposition form rather than by constitutional amendment. The proposition for debt must clearly describe the amount and purpose for which debt is to be created and must describe the source of payment for the debt.
  - *72 Legislature, 1991*: The Texas Public Finance Authority is authorized to issue bonds on behalf of the following entities:
    - Texas National Guard Armory Board
    - Texas National Research Laboratory Commission
    - Parks and Wildlife Department
    - all higher education institutions authorized to issue bonds under Chapter 55 of the Education Code
  - *HB 815, 74th Legislature, 1995*: The University of Texas System, Texas A&M University System, and Texas Tech University may not issue bonds through their revenue financing systems on behalf of one of its members unless it has been determined in advance that the institution receiving the proceeds has the necessary resources to service the debt without using the resources of any other institution.
  - *HB 1564, 74th Legislature, 1995*: The Attorney General's Office is authorized to collect information on bonds issued by a municipal corporation or other political subdivision of Texas.
  - *S.C.R. No. 3 (Acts 1921, 37th Leg., 2d C.S.)*: All state-owned buildings and their contents are to be self-insured. Chapter 55 of the Education Code authorizes institutions of higher education to issue bonds for the construction, maintenance, and equipping of buildings and facilities. The Attorney General has interpreted Chapter 55 as providing broad enough authority to allow institutions to purchase property insurance that covers the buildings constructed or equipped so long as the bond resolution specifically requires it. The premiums are payable out of the revenues collected and may be paid until the bond issue is retired. Once the bond issue is retired, the institution must again self-insure the buildings according to S.C.R. No. 3.

**Accounting**

Long-term debt is recognized as a liability of a governmental fund when due, or when resources have been accumulated in the debt service fund for payment early in the following year. For other long-term obligations, only that portion expected to be financed from expendable available financial resources is reported as a fund liability of a governmental fund. The remaining portion of such obligations is reported in the general long-term debt account group (GLTDAG). Long-term liabilities and related interest payments, expected to be financed from proprietary funds and university funds, are recorded in those funds (*Texas 1994 Comprehensive Annual Financial Report*, p. 47).



With the exception of deep discount bonds (zero coupon or capital appreciation bonds), the bonds payable are reported at par. Deep discount bonds pay no interest until maturity. These bonds are reported in the GLTDAG at par less unamortized discount. The annual accretion, or increase in the amount of the liability arising from accrued and unpaid interest on the bonds, is reported in bonds payable (*Texas 1994 Comprehensive Annual Financial Report*, p. 47).

### Fund Types and Account Groups

*General Long-Term Debt Account Group:* Noncurrent debt that is not specifically the obligation of another fund type (i.e. proprietary or trust funds) must be accounted for in the General Long-Term Debt Account (GLTDAG). The GLTDAG is not a fund because it does not account for available financial resources or current obligations. Liabilities presented in the GLTDAG are backed by the full faith and credit of the state. Although the title of the account group refers to general long-term debt, the term is broader and encompasses various types of noncurrent liabilities that may be incurred by a governmental unit including (Bailey, p. 67.01):

- Debt instruments (revenue bonds, general obligation bonds)
- Bond anticipation notes
- Demand bonds
- Loss contingencies
- Compensated absences
- Special termination benefits
- Leases
- Pensions

*Debt Service Fund:* A debt service fund is created to account for resources that will be used to service general long-term debt that is recorded in the GLTDAG. A debt service fund is similar to a sinking fund used by a commercial enterprise in that resources are accumulated for the purpose of eventually retiring long-term obligations. Like other governmental funds, a Debt Service Fund is an accounting entity with a self-balancing set of accounts and separate statements of position and operations. The basis of accounting is the modified accrual basis (Bailey, p. 62.01).

*Capital Projects Fund:* The acquisition or construction of capital projects, other than those financed by Enterprise Funds, Internal Service Funds, or Trust Funds, must be accounted for in a Capital Projects Fund. A separate Capital Projects Fund is usually established when the acquisition or construction of the project extends beyond a single fiscal year and the financing sources are provided by more than one governmental fund, or the capital asset is financed by specifically designated resources. The basis of accounting is the modified accrual basis (Bailey, p. 61.01).

*Proprietary Fund:* A proprietary fund is used to account for governmental activities that are similar to activities that may be performed by a commercial enterprise. For example, a hospital may be operated by a governmental unit or by a profit-oriented corporation. Long-term debt for a proprietary fund is recorded in the proprietary fund’s balance sheet and not in the GLTDAG (Bailey, p. 64.01).

*Colleges and Universities:* Long-term debt for colleges and universities is reported in plant funds. Assets set aside for the acquisition of long-lived assets for institutional purposes are reported in the Unexpended Plant Fund. The Retirement of Indebtedness Fund is similar to the Debt Service Funds of state agencies. The Investment in Plant Fund accounts for all property, plant, and equipment used by the college and university (Hay, p.571).

- Plant Fund: Unexpended: The Unexpended Plant Fund accounts for resources received and liabilities incurred to finance the acquisition of property, plant, and equipment. When a liability such as bonds payable is issued, the liability is recorded in the Unexpended Plant Fund. As capital assets are *purchased* by the unexpended plant fund, the payments are charged to its fund balance account; however, the acquired asset is recorded directly in the Plant Fund - Investment in Plant. For example, if equipment costing \$40,000 is acquired, the following entries would be made.

PLANT FUND-UNEXPENDED			
Fund Balance-Unrestricted	\$40,000		
Cash		\$40,000	
PLANT FUND-INVESTMENT IN PLANT			
Equipment	\$40,000		
Net Investment in Plant			\$40,000

*Assets under construction* may be accounted for in the Unexpended Plant Fund (or the Plant Fund-Investment in Plant). Costs are accumulated in a “Construction in Progress” account, and related liabilities are recorded. When the capital asset is completed, the total cost of construction, including capitalized interest cost, is transferred from the Unexpended Plant Fund to the Plant Fund-Investment in Plant. Liabilities related to the financing of the constructed asset are also transferred to the Plant Fund-Investment in Plant. Alternatively, the cost of construction to date can be transferred at the end of each reporting period (Bailey, pp. 31.24-31.25).

- Plant Fund - Renewals and Replacements: This subgroup fund is used to account for resources that are accumulated for the purpose of renewing or replacing property, plant, and equipment. The receipts of resources are credited to the fund balance account. Expenditures are recorded as reductions to the fund balance account. Because the fund is used to account for the maintenance of the institution’s physical plant,

expenditures are not usually capitalized in the Plant Fund-Investment in Plant. If it is concluded that an expenditure represents an addition or improvement to the plant facilities, it should be capitalized in the Plant Fund-Investment in Plant (Bailey, pp. 31.25-31.26).

- Plant Fund - Retirement of Debt: This plant fund subgroup is used to account for resources that are accumulated for the payment of debt and interest related to the financing of plant assets. Resources received are recorded as additions to the fund balance accounts. Expenditures are charged against the fund balance account, and any payment that represents a decrease in the debt principal is also recorded in the Plant Fund-Investment in Plant.
- Plant Fund - Investment in Plant: All property, plant, and equipment, except for those capital assets held by endowment and similar funds or construction in progress, are recorded in the Plant Fund-Investment in Plant. Included in this fund would be land, land improvements, buildings, equipment, and library books. Also, any outstanding liabilities that were used to finance the acquisition of plant assets may be reported in this fund (Bailey, p. 31.26).

**Key USAS Object Codes and Categories**

Object	Description	Category
REVENUE CODES		
3307	Repay Principal-Vet Land Contracts	Other Revenue Sources
3308	Interest on Vet Land Contracts	Other Revenue Sources
3353	Sale of Veterans Land Bonds	Bond and Note Proceeds
3354	Water Development Bond Sales	Bond and Note Proceeds
3406	Farm/Ranch Loan Repayment	Other Revenue Sources
3408	Farm/Ranch Finance Pgrm Fees	Licenses/Fees/Fines/Pnlts
3416	State Agri Fin Auth Bonds/Notes	Bond and Note Proceeds
3515	College Student Loan Bond Sale	Bond and Note Proceeds
3516	Interest - Student Loans	Interest Income
3517	Repay-College Student Loans	Other Revenue Sources
3742	Tax/Revenue Anticipation Notes	Bond and Note Proceeds
3743	Wtr Dev Bd-St Revolving Fd Passthr	Bond and Note Proceeds
3744	Sale of Public Bldg Bonds	Bond and Note Proceeds
3745	Sale of Tx Nat Res Lab Bonds	Bond and Note Proceeds
3807	Issuance of Commercial Paper	Bond and Note Proceeds
3808	Sale/Redemption of Comm'l Paper	Bond and Note Proceeds
3837	Premium Write-Off -State Bonds	Bond and Note Proceeds
3844	Interest on Special District Bonds	Interest Income
3845	Interest on State Bonds	Interest Income
3846	Interest on Coll/Univ Bonds	Interest Income
3964	Master Lease Receipts	Rev Obj/Intrfd & Invest Trf

Object	Description	Category
EXPENDITURE CODES		
7246	Legal Services	Professional Services & Fees
7341	Construction/Improvement of Bldgs	Capital Outlay
7342	Purchase of Buildings	Capital Outlay
7350	Lease/Purchase of Buildings	Capital Outlay
7519	Lease/Purchase of Telecomm Equip	Capital Outlay
7521	Purchase of Telecomm Equip	Capital Outlay
7701	Loans to Political Subdivision	Other Expenditures
7702	Loans to College Students	Other Expenditures
7705	Loans to Nongovernmental	Other Expenditures
7706	Loans Fin Assist/Tx Agric Prod	Other Expenditures
7800	Defeasance of State Bonds	Payment of Principal
7801	Interest on State Bonds	Payment of Interest
7802	Interest - Other	Payment of Interest
7803	Principal on State Bonds	Payment of Principal
7804	Principal on Other Indebtedness	Payment of Principal
7807	Principal-Tax/Rev Anticipation Notes	Payment of Principal
7808	Arbitrage	Claims & Judgments
7964	Master Lease Disbursement	Intrfd Trf & Rev Obj

**Key Financial Report Line Items**

<b>BALANCE SHEET-ASSETS</b>
Amounts Available for Debt - GLTD
Amounts Available for Debt - General Obligation Bonds
Amounts Available for Debt - Other GLTD
<b>BALANCE SHEET- LIABILITIES</b>
Revenue Bonds Payable
General Obligation Bonds Payable
Notes and Loans Payable
Capital Lease Obligations
<b>OPERATING STATEMENT-OTHER SOURCES</b>
Bond and Note Proceeds
Increase in Obligations - Other GLTD
Investment Income
Net Decrease in Bonds Payable (Coll/Univ only)

OPERATING STATEMENT-EXPENDITURES/OTHER USES
Principal-Capital Leases
Principal-Other GLTD
Interest Expense
Other Debt Service
Capital Outlay
Bond Sale Issuance Costs
Payment for Refunding
Net Increase in Bonds Payable (Coll/Univ only)

**Useful materials**

- CAFE<sup>®</sup>
- Annual Financial Report
- Comprehensive Annual Financial Report (CAFR)
- Financing Agreements (bond resolution, trust indenture, line of credit agreement, etc..)
- Official statement (for bonds)
- Bond Review Board Annual Report
- Service contract agreements (financial advisors, bond counsel, etc.)
- Amortization schedules (accretion tables for capital appreciation bonds)
- Comptroller’s reporting requirements

**DEFINITIONS**

**Debt** refers to all long-term credit obligations of the entity and all interest bearing short-term credit obligations that are repayable within one year. This excludes non-interest bearing obligations, amounts owed in a trust or agency capacity, advances and contingent loans from other governments, and rights of individuals to benefits from employee-retirement funds.

The most common types of debt securities include bonds, commercial paper, variable rate notes, and capital leases.

**Debt Instruments**

A **bond** is a certificate or formal evidence of debt, in which the issuing company or governmental body promises to pay the bondholders stated rates of interest on specified dates, typically semi-annually, and to repay the principal on specified maturity dates. There are several types of bonds, including the following:

- **Arbitrage bonds** are municipal bonds whose interest is not exempt from federal income tax. Interest on these bonds is subject to taxation when the proceeds of the bonds are reasonably expected to be invested in obligations with a yield that is "materially higher" than the yield on the bonds beyond a predefined temporary period. (The **yield** refers to the net annual percentage of income from an investment.)
- **Capital appreciation bonds** are bonds whose interest payments accrue and are not paid until maturity. Typically, the bonds are sold at a price below par, the difference representing interest which will be recognized as accretion over the life of the bonds. These are similar to U.S. Savings

Bonds, which are sold at a discounted price and pay a fixed amount at maturity. (The **face or par value** of bonds refers to the stated principal value of the bond. This is the amount that the issuer is contracted to repay, regardless of the amount of proceeds raised by issuance of the bonds. Bonds are issued at par when the stated rate of interest equals the effective rate determined by the market at date of issuance.) Although these bonds result in lower net interest costs and cash flow savings for the issuer in the earlier years, the issuer may be required to establish a sinking fund to ensure the repayment of the bonds at maturity.

- **Conduit revenue bonds** are used to finance private facilities such as homes, hospitals, and factories in order to increase employment opportunities, promote economic development, or achieve a socially useful goal. Facilities are leased or funds are lent to a private entity. Rental or loan payments cover the debt service on the bonds. The term conduit refers to the fact that the sponsoring government undertakes no commitment to pay or guarantee the debt service, but merely gives the underlying obligor access to the tax-exempt market.
- **Demand bonds** can be redeemed by the bond holder after a specified period of time.
- **Discount bonds** are bonds that sell for less than the par value. Because market conditions are such that investors can obtain higher interest rates with other investments, the market rate on these bonds exceeds the stated rate because investors could obtain higher interest payments with other investments. Therefore, they pay less than the bond's face value.
- **Enterprise revenue bonds** are limited-liability bonds that are not backed by taxing power. These bonds are issued for governmental enterprise projects that generate revenues from user charges to pay the debt. This form is commonly used for public utilities such as water, sewer, gas, and electric facilities.
- **General obligation (g.o.) bonds** are backed by the "full faith and credit" of the State and require voter approval prior to issuance. They may be self-supporting or non self-supporting. Self-supporting g.o. bonds are designed so that their repayment is from sources outside the State's General Revenue Fund. The bonds are usually supported by a specifically identified revenue stream from projects or programs they finance. Non self-supporting g.o. bonds depend solely on the State's General Revenue Fund for repayment.
- **Lease-rental bonds** are used finance facilities that are leased under contract to another agency, which pays rent sufficient to service the debt.
- **Redeemable bonds** can be turned in for early retirement at the bondholder's option (put option).
- **Registered bonds** are a form of bonds in which interest is paid to the person whose name is in the bond register (the owner).
- **Revenue bonds** are bonds issued by a public agency, municipal corporation, or state, in which the issuer pledges the revenues from

specified sources for payment of interest and repayment of principal on the bonds.

- **Secured bonds** carry a specific pledge of assets as a repayment guarantee (e.g., mortgage bonds, which have a claim on the real estate of the corporation, or collateral trust bonds, which have a claim on the securities of other corporations).
- **Serial bonds** consist of a number of bonds with different maturity dates (maturing in installments).
- **Special tax bonds** are backed by a specific tax such as a gasoline tax, a special-purpose tax such as that levied by a development district, or a special assessment. Depending on the extent of the tax, these securities can be close cousins to the general obligation security.
- **Term bonds** are bonds whose principal is payable at a specific maturity date.
- **Treasury bonds** are bonds which have been reacquired, but not retired, by the issuer. Their par value is shown on the balance sheet as a deduction from bonds payable issued.
- **Unsecured bonds (debentures)** are bonds for which only the reputation of the issuing entity serves as a repayment guarantee.

**Tax-exempt commercial paper** refers to notes with maturities of up to 270 days supported by a bank line of credit. Because of the short maturity, it has continuous offerings. (The paper may be made available as frequently as on a daily basis.) Because of their flexibility, repayment of the paper is backed by a line or letter of credit from a commercial bank. Although the initial and operating costs of these notes are higher than those of other notes, the interest costs are lower; hence, these notes are attractive to issuers requiring large annual short-term borrowings. Some of the uses of commercial paper in Texas include:

- to finance interim construction costs
- to finance the Master Equipment Lease Purchase Program
- to finance economic development programs at the Department of Commerce and Agricultural Finance Authority

A **capital lease** (or **lease-purchase agreement**) is a lease meeting any of the following criteria:

- Ownership of the leased asset is transferred to the lessee at the end of the lease period.
- The lease gives the lessee the option of purchasing the leased asset at less than fair value at some point during or at the end of the lease period.
- The period of the lease is 75 percent or more of the estimated service life of the leased asset.
- The present value of the minimum lease payments is 90 percent or more of the fair value of the leased asset.

**Variable rate** securities were developed first in the short-term market but rapidly extended to long-term debt as well. Their chief characteristic is that, instead of a

fixed interest rate throughout the life of the obligation, the rate is allowed to fluctuate in response to the changing market (daily, weekly, monthly, or annually). Like commercial paper, variable rate securities may be “rolled over” by reselling maturing securities to new buyers in the market. In the case of variable rate securities, the new rate is assigned to the outstanding paper without maturities. The bondholder has the right on specified dates, upon notice, to demand that the obligation be purchased (or redeemed) by the issuer (the “put”).

**Bond anticipation notes (BANs)** are issued to provide interim financing for construction or in anticipation of a more favorable long-term interest rate. The notes are retired using the proceeds of the bond issue.

**Revenue anticipation notes (RANs)** are secured by specific revenue sources. For example, grant anticipation notes would be secured by the related grant receivable. The proceeds are used to pay grant-related expenditures, and the notes are retired when the grant revenue is received.

**Tax anticipation bonds (TANs)** are issued in anticipation of, and are collateralized by, specific future tax collections. The proceeds are invested to generate additional revenue to fund the government’s operations until the receipt of period tax payments.

## Key Players

The following are some of the “players” involved in the debt issuance process:

- **Bond counsel** is an outside attorney whose functions include (a) delivering an independent legal opinion certifying that the bond issue is a valid and binding obligation of the issuer, and (b) stating whether interest on the bonds is tax-exempt according to federal, state, and local law.
- A **financial advisor** is an outside consultant to the issuer, typically in an ongoing capacity, regarding financing activities. The financial advisor may perform a variety of functions to assist the issuer in setting up and structuring competitive bond sales.
- A **liquidity facility** is a provision whereby an entity agrees to lend funds in the event that a remarketing agent is unable to remarket obligations. The provider of a liquidity facility is normally a bank that extends a letter of credit to an issuer of variable rate debt or commercial paper. However, in some cases, an institution of higher education or the State Treasury may provide the liquidity facility.
- A **paying agent** is a bank or other institution which acts as the agent for making bond interest and principal payments.
- The **rating agency**, such as Moody's Investors Service or Standard & Poor's Corporation, assigns a rating to the bonds which serves as a guide to investors as to the creditworthiness of the issue. Ratings are based on the issuer's ability and willingness to meet future debt service requirements.



- The **registrar** is an agent, usually a bank, appointed by an agency/university to keep track of the names of the bondholders and the principal and interest payments made to them.
- The **remarketing agent** is a firm that buys back and resells to investors variable rate obligations that have been “put” or commercial paper that has matured.
- **Underwriters** accept the risk of purchasing a bond issue with the intent of reoffering the bonds to investors at a profit. In competitive sales, underwriters may join together forming **bond syndicates** to bid for the bonds. In negotiated sales, an underwriter is selected before the sale and works closely with the issuer in structuring and marketing the issue. Underwriters receive a **gross spread** or **underwriter’s discount** for providing underwriting services to issuers. The gross spread is a percentage of the amount of bonds sold, and is expressed as a certain number of dollars per \$1,000 bond.
- The **bond trustee**, usually a bank, acts as custodian of the bond funds, ensuring that all bond accounts are maintained and that the issuer complies with the provisions of the bond contract.
- The **verification agent** is a firm that verifies the adequacy of the federal securities in the escrow used to pay the debt service on refunded bonds that have been defeased.

## Refundings

At the end of the call deferment period, usually five to ten years from the sale date of the “old” bonds, issuers may elect to do a **refunding**. A refunding involves the sale of new bonds, the proceeds of which are used concurrently to redeem “old” bonds. Refundings are usually done to save on interest costs but may be undertaken to overcome restrictions in bond covenants. There are several types of refundings, including the following:

- An **advance refunding** is the issuance of new bonds to refund outstanding debt, where the proceeds from the refunding bonds are used to establish a fund to retire the old debt over a period of time, either as the old debt matures or as call dates are reached. Unlike a regular refunding, the new debt is not used immediately to redeem outstanding bonds. Instead, proceeds are typically invested in U.S. government securities and placed in escrow. There are two types of advance refundings:
  - (1) In a **defeasance** or **net cash defeasance**, proceeds of the refunding issue are placed in an escrow account from which the debt service on the original issue(s) is paid. This arrangement continues until the original issue(s) can be retired. At that time, funds from the escrow are used to call the remaining maturities, paying whatever redemption price is specified for that date. Once the proceeds are placed into escrow, the original issue(s) is said to be “defeased.” In other words, the defeased debt is no longer a direct obligation of the issuer because the amount of funds placed into escrow along with the interest that will be earned on those funds will be enough to pay all of the debt service

requirements that remain for the original issue(s). (**In-substance defeasance** occurs when debt is considered defeased for accounting and financial reporting purposes though not legally defeased. Debt is considered defeased in substance for accounting and financial reporting purposes if the debtor irrevocably places cash or other assets with an escrow agent in a trust, to be used solely for satisfying scheduled payments of both interest and principal of the defeased debt, and the possibility that the debtor will be required to make future payments on that debt is remote. **Legal defeasance** occurs when debt obligations are legally satisfied based on certain provisions in the debt instrument, even though the debt is not yet actually paid.)

- (2) **Crossovers** differ from defeasance in that the escrow account is used to pay the debt service on the *refunding* bonds instead of the *refunded* bonds, until the call or crossover date. On this date, the escrow is liquidated to retire the original issue. Under the crossover method, the original issue is not considered defeased until it is retired.
- **High-low refundings** are refundings where the interest cost on the refunding bonds is lower than the interest cost on the old bonds. Proceeds from the refunding are placed into an escrow fund and are then invested, usually in federal securities or securities guaranteed by the Federal Government. Treasury regulations restrict the yield on the escrow to the arbitrage yield on the refunding issue. The investments are structured such that they mature in time to pay principal and interest plus call premium, if necessary, on the refunded bonds. High-low refundings can be structured so that the savings are realized either at the time of the issue or over the life of the issues in the form of lower debt service costs. Refundings commonly involve an escrow agreement between the issuer and the trustee, usually a bank. The trustee establishes and oversees the escrow fund and retirement of the bonds in accordance with the escrow agreement.
  - **Low-high refundings** are refundings in which higher-interest bonds are issued to refund lower-interest debt, thus increasing the issuer's interest costs. However, since the refunding involves a defeasance to maturity, the escrow is invested to maturity, decreasing the issue size and reducing interest expense. Low-high refundings are usually undertaken to relieve the issuer of certain restrictive provisions of the bond indenture.

Governmental Accounting Standards Board Statement (GASB) No. 7 establishes disclosure standards for advance refundings by all governmental entities. A note to the financial statements should provide a general description of an advance refunding that results in debt defeasance. *At a minimum*, the note should contain the following disclosures:

1. The difference between (a) the cash flow requirements necessary to service the old debt over its life and (b) the cash flow requirements

- necessary to service the new debt and other payments necessary to complete the advance refunding.
2. The economic gain or loss that arises because of the advance refunding.

The life of the old debt is based on its stated maturity date and not on its call date, if any (Bailey, p. 14.22).

*Difference in Cash Flow Requirements:* The cash flow requirements of the old debt are simply the sum of all future interest and principal payments that would have to be paid by the governmental entity if the debt remained outstanding until its maturity date. The cash flow requirements of the new debt are the sum of all future interest and principal payments that will have to be paid to service the debt in the future, and other payments that are made from the governmental entity's current resources rather than from proceeds from the issuance of the new debt. Any proceeds from the issuance of the new debt that represent accrued interest (when the bonds are sold between interest payment dates) should not be included as cash flow requirements related to the new debt (Bailey, p. 14.23).

When new debt is issued in an amount that exceeds the amount needed to defease the old debt, only the portion of the new debt needed to defease the old debt should be included as cash flow requirements related to the new debt (Bailey, p. 14.23).

*Economic Gain or Loss:* The economic gain or loss is computed by determining the difference between the present value of cash flow requirements of the old debt and the present value of cash flow requirements of the new debt. The interest or discount rate used to determine the present value of the cash flows is a rate that generally must be computed through trial and error. The objective is to identify an interest rate that, when applied to the cash flow requirements for the new debt, produces an amount equal to the sum of the (1) proceeds of the new debt (net of premium or discount) and (2) accrued interest, less the (a) underwriting spread and (b) nonrecoverable issuance costs (Bailey, p. 14.23).

*Accounting Gain or Loss:* For proprietary funds, when debt is defeased, the accounting gain or loss is the difference between the reacquisition price and the book value of the old debt. The reacquisition price is the amount needed to retire the old debt and includes the call premium, if any, and transaction costs related to the old debt retirement. The book value of the old debt includes its maturity value, any related unamortized discount or premium, and any unamortized bond issuance costs (Bailey, p. 14.23).

When a governmental entity decides to enter into a refunding because interest rates have fallen, often an accounting loss arises because the reacquisition price is greater than the book value of the debt. Thus, the governmental entity may enter into a refunding transaction that will save debt service costs (an economic gain) in the future, but will result in an accounting loss. GASB Statement No. 23 requires that a gain or loss that arises from the early extinguishment of debt should be

deferred and amortized over the remaining life of the defeased debt or the life of the new debt, whichever is shorter (Bailey, 14.18).

**General Definitions**

**Accretion** is the recognition of interest accruing on capital appreciation bonds (CABs). Because CABs are typically sold below par value (discounted by the amount of interest), the amount recognized as accretion is added to the liability (bonds payable) to reflect the current amount of liability due.

In an original governmental bond sale, **accrued interest** is the amount of interest which has accumulated on the bonds from the day they are dated up to, but not including, the date of delivery.

**Arbitrage** is the purchase and sale of the same or a similar security in order to profit by price discrepancies between markets. For tax-exempt bond purposes, arbitrage is the ability to obtain tax-exempt proceeds and invest those funds in higher yielding taxable securities, resulting in a profit to the issuer. Arbitrage is the difference (profit) earned from investing low-yielding, tax-exempt bond proceeds in higher yielding taxable securities. (See [Appendix 2.](#))

A **basis point** is 1/100th of one percent (e.g., an increase in rates from 8.25 percent to 8.50 percent would be a 25 basis point increase).

A **bond indenture** describes the contract between the issuer (borrower) and bondholders (lenders).

**Bond insurance** is insurance on the prompt payment of interest, or of interest and principal, depending on the terms of the policy. Bond insurance serves to raise the rating a given issue receives. A higher rated bond will be more attractive to investors. The benefit of insurance to the issuer is lower interest costs which must be weighed against the cost of the premiums. The cost of insurance will depend, among other things, on the quality of the issuer, the maturity of the issue, and the amounts involved.

A **bond rating** is an appraisal of the relative safety or riskiness of an individual bond issue, and thus of its relative investment value, rendered by one of the recognized rating services, Standard & Poor's and Moody's. Triple A (AAA) bonds are the highest-rated, meaning that they are evaluated as the least risky for investors.

When a bond is issued, the **bond selling price** is computed as the sum of the present value of the future principal payments plus the present value of the future periodic interest payments. This records the value of the bond at its current cash equivalent.

A **call option** is a provision in the bond resolution which permits the issuer to redeem the bonds before their stated maturity date. Two important elements in a call option are:

- **Call date** - The date after which the bond may be prematurely redeemed.
- **Redemption price** - The price that the issuer would have to pay the bondholders to redeem the bonds, often including a call premium.

**Capital improvements** are major non recurring tangible fixed assets with a useful life of at least one year and a significant value.

A **capital program** is a plan for capital expenditures to be incurred each year over a fixed period of years to meet capital needs arising from long-term planning. The **capital budget** is the plan for capital expenditures to be incurred during the budget year.

A **covenant** is an agreement, convention, or promise to two or more parties, by deed in writing, signed, and delivered, by which either of the parties pledges himself to the other that something is either done, or shall be done, or shall not be done, or stipulates for the truth of certain facts. In its broadest usage, a covenant means any contract. In the context of bonds, a covenant is basically a contractual compliance point included in the bond resolution.

A **coupon** is that part of a bond which evidences interest due. Coupons are detached from bonds by the holders (usually semiannually) and presented for payment to the issuer's designated paying agent.

The **Depository Trust Company (DTC)** is a limited-purpose trust company that holds securities on behalf of brokers, dealers, banks, trust companies, and other organizations ("participants"). DTC also facilitates the settlement among participants of securities transactions, such as transfers and pledges, in deposited securities through electronic computerized **book-entry** changes in the participants' accounts, thereby eliminating the need for physical movement of securities certificates.

A **discount** is the excess of the par value of the bonds over the sale price (proceeds) when the actual or effective rate of interest determined by the market at the time of issuance exceeds the stated rate of interest on the bonds.

**Infrastructure** refers to public facilities such as streets, bridges, water and sewer systems, parks, jails, and wastewater treatment facilities.

The **market interest (effective yield) rate** is the stated rate adjusted at the time of bond issuance for premium or discount.

**Net interest cost (NIC)** is a measure of interest cost that is distinguished from the true interest cost (TIC) in that the NIC does not take into account the time value of money. The interest cost is derived by dividing the sum of all interest payments payable over the life of the issue by the sum of the product of each year's maturity value and the number of years to its maturity. If the bonds are issued at a discount, the amount of the discount is added to the interest total. If the bonds are issued at a premium, that amount is subtracted from the interest total (i.e. Total Debt Service Payments + Discount (- Premium)) / Bond Years).

The **official statement** is a marketing tool used by bond issuers. The official statement contains an overview of the issuing entity, a description of the bonds, the use of the proceeds, the source of repayment, the issuer's payment record, bond ratings, financial data of the issuer, and the financial and demographic data of the state in which the entity exists.

A **parity issue** is a bond issue that is equal in priority to another issue and has equal claim to the assets pledged for debt service payments.

A **premium** is the excess of the sales price of the bonds over their par value when the stated rate of interest on the bonds exceeds the actual or effective rate of interest determined by the market at the time of sale. Bonds are issued at a premium if the current market rate is lower than the stated rate. That is, investors are receiving larger interest payments than they could obtain with alternative investments, therefore, they are willing to pay more than the bond's face value.

A **put option** is a provision in the bond resolution which entitles a holder of the bonds to sell them back to the issuer on or before a specific date.

The formal bond contract is called a **resolution**. It is also known as the bond indenture.

The **stated or nominal interest rate** is the interest to be paid to investors. It is the rate specified in the bond contract.

The **true interest cost (TIC)** is a measure of the interest cost of an issue that takes into account the time value of money. The TIC is the rate that will discount all future payments so that the sum of their present values equals the original purchase price of the bonds.

A **window or "window of opportunity"** is a point in time when interest rates are low enough to make refunding advantageous to the issuer.

**Yield to call** is the rate of return earned by the investor from the time of purchase to the call date, assuming the bonds were redeemed at the call price.

**Yield to maturity** is the rate of return earned by the investor from the time of purchase of the security to its maturity.

## OVERVIEW OF THE PROCESS

The basic phases of the debt management process are:

- **Establish a debt policy.**
- **Determine the capital acquisition needs.**
- **Determine the method of financing.**
- **Obtain approvals.**
- **Issue the debt.**
- **Administer the debt.**
- **Monitor the debt and the environment.**

## PROCEDURES

Suggested procedures, organized according to the elements of a finding, are listed below. They should be expanded or tailored to fit the specific entity being reviewed.

Note: The following procedures and the process described above are normative, rather than prescriptive. That is, they represent "average" or baseline thinking since they assemble information which repeatedly appeared in the various resources used to prepare this module. Do not be too hasty or literal in applying a given criterion or procedural step to a specific entity. While omissions or variations may be *obvious*, judgment must still be used to determine whether such omissions or variations are *material*.

### Review criteria: General criteria

General criteria applicable to the debt management process are as follows:

The debt management process should be integrated with strategic, operational, physical, and financial planning processes to: (Kurish and Tigue, p.6.)

- Establish priorities that balance capital needs with all available funding.
- Match projects with appropriate funding alternatives.
- Ensure that debt-financed projects do not exceed legally or statutorily permitted levels of debt issuance.
- Plan for debt issuance to meet expenditure requirements.
- Ensure that debt supported projects satisfy accepted public purposes.
- Ensure that debt is issued, monitored, and disposed of in a cost-effective manner.
- Ensure compliance with legal and contractual agreements.

### Specific criteria

The criteria related to the basic phases of the debt management process are as follows:

#### **Establish a debt policy.**

Debt policies describe fiscal and management practices that seek to integrate long-term project needs with available financial resources (Peterson, p. 271). A formal

debt policy should establish parameters and provide general direction in the planning and implementation of a debt program. This can help management to integrate the issuance of debt with other long-term planning, financial, and management objectives. In addition, a formal debt policy should be used as a tool to evaluate the impact of individual bond issues on the entity's overall financial position so as to avoid exceeding acceptable levels of indebtedness (Kurish and Tigue, p. 11).

While debt policies are beneficial in establishing a framework for debt issuance, they should be sufficiently flexible to take advantage of market opportunities or to respond to changing conditions without jeopardizing an entity's mission, goals, and objectives (Kurish and Tigue, p. 12).

A debt policy should encompass several elements. The following should be considered (Kurish and Tigue, p. 11):

- acceptable levels of both short-term and long-term debt
- the purposes for which debt will be issued
- the use of tax-supported, general obligation bonds versus self-supporting revenue bonds
- the mix of pay-as-you-go and debt financing
- the use of variable rate debt
- structuring debt maturities
- acceptable financing costs and risks

Sample debt policies include the following (The International City Managers' Association, p. 31):

- Confine long-term borrowing to capital improvements or projects that cannot be financed from current revenues.
- Pay back bonds within a period not to exceed the expected useful life of the project.
- Debt will be refunded only when the net present value savings is 3% or greater.
- Keep the average maturity at or below \_\_\_\_ years.
- On all debt-financed projects, a down payment of at least \_\_\_\_ percent of total project costs will come from current revenues.
- Where possible, special assessment, revenue, or other self-supporting bonds will be issued instead of general obligation bonds.
- Long-term debt will not be used for current operations.
- General obligation bonds will not exceed statutory limitations.
- The entity will periodically communicate with bond rating agencies concerning its financial condition and will provide full disclosure on every financial report and bond prospectus.

The debt policy should be reviewed at explicit, predetermined time intervals. Although most changes in policy may arise from the periodic reviews, current events will require amendment and adjustment of the current policy from time to



time. At the time of the periodic review, a point-by-point re-examination of each element of the current debt policy is warranted (Moak, p. 198).

Although a formal debt policy statement has not been formulated for the State of Texas as a whole, the Legislature has taken steps to establish guidelines and standards for issuing bonds and to relate debt financing to capital acquisition planning. For example, the Bond Review Board was established to review and approve state bond issues and to ensure the cost-effectiveness of state debt issuance. In addition, legislation was passed to set general revenue debt limits, to limit the number of entities allowed to issue debt, and to amend the Constitution to require that all debt-authorizing measures considered by voters be submitted in proposition form rather than by constitutional amendment (SAO: *Debt Management*, p. 21).

### Determine capital acquisition needs.

Before undertaking a long-term debt program, an entity must have a clear understanding of the types and timing of the projects to be financed. These projects may include capital improvements such as buildings, land, and equipment; noncapital projects such as economic development programs; or self-supporting revenue projects.

- **Capital Improvement Needs:** A capital improvement program (CIP) should be developed (usually covering five or six years) to forecast spending for all anticipated capital projects. The plan should address both repair and replacement of existing infrastructure as well as the development of new facilities to accommodate future growth. An effective CIP consists of both an administrative *process* to identify the location, scale, and timing of needed capital projects and a fiscal *plan* to provide for the funding of those projects (Peterson, p. 66).

Generally, the capital programming process should include the following steps (Peterson, p.66):

- Establish specific policies and procedures for submitting and evaluating projects.
- Compile and periodically update an inventory of physical plant and future demands.
- Prepare, review, and prioritize project proposals.
- Evaluate each project and establish rankings.
- Perform financial analysis to assess project feasibility, fiscal impact, and long-term effects on operations.
- Identify the funding source.
- Determine the timing of the projects.
- Present a preliminary CIP and capital budget to the governing body for approval.
- Implement the CIP and review periodically.

In Texas, the capital improvement plan is part of the legislative request process. The “Capital Budget Project Schedule” is a table in the Request for Legislative Appropriations (RLA) that itemizes each capital budget item or project that is requested for funding. The projects are grouped by category, such as land, buildings, repairs, road construction, etc., and within each category, funds are estimated, budgeted, or requested for each item or project along with the proposed method of financing and funding sources. (*Detailed Instructions for Preparing and Submitting Requests for Legislative Appropriations for the Biennium Beginning September 1995*, p. 59). More detailed criteria for capital improvement planning are found in the Budgeting module of this manual.

- **Noncapital Improvement Projects:** For most state entities in Texas, debt financing is used for capital improvements. However, some agencies have issued debt to finance other types of long-term projects. For example, the Department of Commerce is authorized to issue general obligation bonds to promote economic development, and the Department of Housing and Community Affairs issues revenue bonds to assist in financing housing for families with low to moderate incomes. (See [Appendix 1](#) for detailed descriptions of state bond issuing entities and authorized revenue sources.)

The process followed to determine the financing needs for noncapital improvement projects should be closely linked to the entity’s strategic planning process. Some of the steps that might be followed are as follows:

- Establish policies and procedures for submitting and evaluating projects.
- Identify project goals and objectives.
- Develop program strategies needed to meet established objectives.
- Identify measurable outputs and outcomes.
- Perform financial analysis to assess feasibility, fiscal impact, and long-term effects on operations.
- Identify potential funding sources.
- Determine the timing of the project.
- Obtain project approval.
- Reevaluate project performance and financing needs.

- **Self-Supporting Revenue Projects:** When planning a revenue project, it is first necessary to ascertain the amount of money estimated to be required to complete a project - or at least to bring it to a point of optimum revenue production. The feasibility study should (Moak, p. 273):

- Include studies made by competent independent engineers to project total project costs as well as the costs of all phases of capital outlays.
- Estimate interest expense during construction.
- Estimate operating and maintenance expenses (including debt service).
- Estimate the gross revenue likely to be generated by the facility over the probable life of the bonds.
- Provide for contingencies—both to meet unexpected expenses and to cover an unexpected underrealization of revenue.

In addition to analyzing the financial feasibility of the individual project, the overall indebtedness of an entity should also be considered to determine whether the entity could continue to support the debt in the event that project revenues are not sufficient to cover expenses and debt service requirements. This requires an assessment of the entity's ability to support existing and planned debt obligations. Future revenue must be sufficient to provide services and repay previous obligations. The burden of debt only makes sense when its repayment is viewed in relationship to the underlying revenue bases available to support it.

#### Determine the method of financing.

Once capital projects have been identified and prioritized, an entity must determine the most cost-effective method of funding among the following options:

- **Use Available Funds:** If funds are not available to purchase capital assets, an entity must choose either not to acquire the asset or to finance the acquisition. When funds *are* available, an analysis of the interest rates available on invested funds and the cost of selling bonds should be made to determine if using debt financing for capital acquisitions is cost-effective. If the entity can earn an interest rate on invested funds that equals or exceeds its cost to sell bonds to provide funds for financing, a decision should be made to finance the capital acquisition. When the interest rate available on invested funds is *less* than the cost of the lease financing, the most economical decision would be to buy the capital asset. In this situation, it would cost more to finance the asset than to buy it, because the invested funds would not be earning enough interest to equal or exceed the financing costs (State Auditor's Office: *Debt Management—Securing Texas' Future*, p. 16).
- **Pay as You Go:** With the “pay as you go” method, resources are accumulated over time, and acquisitions are delayed until funding is available (Raftery, p. 2.3). The disadvantage of this approach is that funds may not be available when needed.
- **Borrow:** A government entering the capital market has a variety of financing alternatives, such as capital leases, collateralized bonds, special purpose revenue bonds, revenue anticipation notes, and advance

refundings, as well as the more traditional general obligation and revenue bonds (Raftery, p. 2.4). See the “**Definitions**” section of this module for descriptions of different types of debt instruments.

In choosing a method by which to finance capital improvements, three guiding principles should be considered (Peterson, p. 269):

- equity - those that benefit from a project should pay for it
- effectiveness - a sufficient sum of money should be provided when it is needed
- efficiency - the method with the lowest relative costs should be used

Once the decision to borrow has been made, the issuer faces numerous technical issues involving the selection of consultants, type of security to be issued, method of sale, issue size, maturity structure, issue size, and marketing the bonds.

- **Selecting technical advisors and consultants:** Unless an entity has in-house expertise, financial consultants should be used to determine the method of financing and to structure the debt. The key players in any bond transaction will usually include a financial advisor, underwriter, and bond counsel. Other firms, such as those providing paying agent/registrars, trustee, auditing, or printing services, are also retained as necessary.

When selecting a financing team, the issuer should determine whether the consultants have (Kurish and Tigue, p. 19):

- an understanding of the entity’s needs
- sufficient technical expertise
- experience with similar types of securities
- knowledge of beneficial approaches taken by other issuers
- understanding of innovative debt financing methods which can reduce costs and provide greater flexibility
- an ability to complete the transaction in a timely manner without undue burden on the issuer

While issuers should strive to keep bond issuance costs to a minimum, they should not be guided solely by price in choosing finance professionals. An equally important consideration in the selection process is the knowledge of the team. Do they understand the goals and objectives of the issuer? Are they able to identify creative solutions to meet these goals and achieve savings on long-term borrowing costs (Kurish and Tigue, p. 19)?

- **Choosing a debt instrument:** The following factors should be analyzed in order to determine the most effective financing strategy for a particular project:

- *Legal constraints:* The type of security to be issued is often predetermined by constitutional amendment or legislative mandate. For example, the Water Development Board, by constitutional amendment, has been authorized to issue \$2.73 billion in general obligation bonds to make funds available to municipalities and certain other governmental units for the various water conservation and development projects. The Board is also authorized to issue revenue bonds payable from revenues generated by specifically authorized programs. In these instances, the type of debt to be issued has already been made for the agency (*Texas' 1994 Comprehensive Annual Financial Report*). See [Appendix 1](#) for a list of state agencies and their debt issuance authority.
  - *Project objectives:* The purpose of the project will also be a factor in determining the type of debt to issue. For example, leasing is appropriate for procuring assets that are too expensive to fund with current receipts in any one year, but have useful lives too short to finance with long-term debt. Leasing is also advantageous for assets that will be needed for only a short period of time, or which are subject to rapid technological obsolescence (Kurish and Tigue, p. 17). If the project involves long-term, revenue-generating assets such as university housing, then a revenue bond may be the best financing option.
  - *Market conditions:* Market conditions should also be analyzed before choosing a debt instrument. For example, if bond interest rates are stable, an entity might choose to issue short-term commercial paper to finance the construction phase of a revenue project. Once the project has been completed, a long-term bond can be issued. This strategy would result in lower interest costs during the construction phase and would ensure that the debt retirement period matches the project's life. If, however, bond rates are low with the expectation that rates will significantly increase in the near future, an entity may choose to issue the long-term bonds during the startup phase to avoid paying higher long-term rates following construction.
- **Determining the method of sale:** One of the most important decisions an issuer of municipal securities has to make is selecting a method of sale. Competitive sales and negotiated sales each have their own advantages and disadvantages. The issuer should evaluate factors related to the proposed financing, and select the most appropriate method of sale (*1994 Bond Review Board Annual Report*, p. 24).

In a *negotiated sale*, an underwriter is chosen by the issuer in advance of the sale date and agrees to buy the issuer's bonds at some future date and

to resell them to investors. Generally, a negotiated method of sale should be selected when the bond offering is (Kurish and Tigie, p. 40):

- large
- complicated
- time sensitive (when financial markets are volatile or in the case of refundings, for example)

Advantages of a negotiated sale include (Kurish and Tigie, p. 40):

- delegating to the underwriter a number of bond sale tasks (e.g., preparing documents, sizing, and structuring the transaction)
- presale marketing by the underwriter (in more complicated financings, presale marketing can be crucial to obtaining the lowest possible interest cost)
- timing and structural flexibility (the structure or timing of the sale can be adjusted as necessary to respond to changing market conditions. This is important if the financing involves an innovative financing technique or a complicated refunding where savings are sensitive to current interest rates)
- more influence in bond distribution towards selected underwriting firms or customers

Disadvantages of negotiated sales include a lack of competition in pricing and the possible appearance of favoritism (Kurish and Tigie, p. 40).

In a *competitive sale*, sealed bids from a number of underwriters are opened on a predetermined sale date, with the issuer's bonds being sold to the underwriter submitting the lowest bid meeting the terms of the sale. Underwriters bidding competitively usually do less presale marketing to investors since, in a competitive sale, underwriters cannot be sure they own the bonds until the day the bids are opened. Competitive sales are appropriate for types of securities that are commonly issued and widely understood such as general obligation bonds (Kurish and Tigie, p. 36).

Advantages of the competitive bid include a competitive environment where market forces determine the price, historically lower spreads, and an open process (Kurish and Tigie, p. 37).

Disadvantages include limited timing and flexibility, minimum control over the distribution of bonds, and the possibility of underwriters, including a risk premium in their bids to compensate for uncertainty regarding market demand (*1994 Bond Review Board Annual Report*, p. 24).

- **Sizing the issue:** Sizing the bond issue takes into account the cost of the project, the costs associated with the issuance of the bonds, and interest earnings on invested proceeds. The bond proceeds and investment income

must be sufficient to meet all the necessary uses of the funds (Kurish and Tigue, p. 46).

To size a new bond issue accurately, the issuer first must consider the estimated project cost. For construction projects, an accurate construction schedule must be obtained from the contractor. The schedule by which bond proceeds are to be drawn upon can be calculated, and interest earnings on invested funds can be used to reduce the initial size of the bond issue. The following are among the elements of cost to be factored (Moak, p. 255):

- preliminary feasibility studies and project design
- site acquisition and site preparation costs
- preparation of definitive plans and specifications
- construction
- basic equipment and, perhaps, furnishings
- supervision of construction
- interest during construction
- administrative, fiscal, and legal services
- financing costs
- capitalized reserves such as a debt service reserve fund

The bond issue's size also is affected by the extent to which other funds are available to pay for improvements. The availability of other funding sources may reduce the size of the offering (Peterson, p. 278).

Another factor affecting the size of the offering is the cost of issuance. Issuance costs are composed of the fees and expenses paid to consultants to market bonds to investors. The underwriting fee, or gross spread, is the largest component of issuance costs, averaging \$7.83 per \$1,000 of state bonds sold in 1994. This single component accounted for, on average, 70 percent of the total cost of issuance in 1994. Bond counsel fees were next in importance, average \$1.45 per \$1,000 of bonds sold (*1994 Bond Review Board Annual Report*, p. 22).

When sizing an issue, the issuance costs should be reviewed for economies of scale. For example, instead of issuing separate bond issues to finance several small projects, an entity should consider issuing a single bond issue in order to save on issuance costs.

- **Structuring the maturity:** When bonds are issued, they typically consist of a bundle of maturities, bound up in a single bond issue. A *serial* bond structure is one in which a specific principal amount of bonds is retired each year throughout the life of the bonds. A *term* bond structure is one in which a large part or all of a bond issue comes due in a single maturity. Capital appreciation bonds (CABs) are typical of another type of bond structure that does not pay interest periodically; instead, interest accrues

until the final maturity of the bonds and is paid in one lump sum (Kurish and Tigue, p. 50).

The structure of the security must be devised in such a way as to permit prompt repayment of the obligation while abiding with legal requirements and adhering to the adopted debt policy. For instance, if the debt policy of the entity requires rapid repayment, the final maturity of the obligation should not exceed a certain number of years. Following are some examples (Peterson, p. 276):

- In a *level debt service pattern*, the annual sum of interest and principal repayments is held constant over the life of the issue (much like the amortization schedule of a home mortgage). In this instance, early payments primarily cover interest costs, and principal repayment increases over the life of the bonds.
- The *level principal repayment pattern*, on the other hand, is often used by issuers interested in the rapid retirement of outstanding debt. The process of repaying equal installments of outstanding principal each year results in higher initial debt service payments.
- An *ascending debt service schedule* that grows over time may be appropriate if the bond proceeds are used to expand the capacity to generate higher revenues which enables the issuer to repay a greater amount of debt service without difficulty. This approach is riskier since a downturn in revenues could jeopardize an entity's ability to meet increasing debt service requirements.

In the case of *variable rate bonds*, the interest rate is not fixed and, as a result, there is less certainty in budgeting debt service payments. Variable rate bonds have maturities as long as 30 years, but the interest rate may be adjusted on a daily, weekly, monthly, semi-annual, or yearly basis. This usually results in lower interest costs; however, there is a risk that short-term rates may rise above the fixed rate it could have received at the time bonds were issued (Kurish and Tigue, p. 51).

Although *capital appreciation bonds* result in lower net interest costs and cash flow savings for the issuer in the earlier years, the issuer should establish a sinking fund to ensure the repayment of the bonds at maturity (Raftery, pp. 2-5).

For *capital improvements*, the bond's term should match the useful life of the facilities being financed. For example, 15-year bonds should not be issued to finance the purchase of vehicles. An average maturity schedule for capital projects is one in which 25 percent of the debt rolls off in five years, and 50 percent is retired in 10 years. A faster maturity might be considered only if it does not place undue strain on the operating



budget, or if the expected life of resources paying off the debt is shorter than the facility's useful life (Standard & Poor's Corporation, p. 32).

Issuers should consider structuring their bond offering so that they have the right to redeem, or "call," outstanding securities prior to their final maturity. This allows the issuer to take advantage of falling interest rates by refinancing debt obligations. An issuer deciding to undertake such a transaction returns the principal amount, accrued interest, and any redemption premium to bondholders. Bonds can be structured with either mandatory or optional redemption provisions (Kurish and Tigue, p. 52). The added costs associated with the call feature need to be weighed against the potential for savings when deciding whether to reserve a call option. If, for example, the call option is reserved and conditions do not occur during the callable life of the bonds at which they can be advantageously refunded, the issuer will have made an expensive decision in having purchased the call option at the time of the original sale. The following factors should be evaluated when making a determination (Moak, p. 283):

- the added interest to be paid for the call option
- the cost at the time any refunding is carried out, including the call premium payable, the gross profit to the dealers required to market the refunding bonds, and other costs incident to calling the old bonds and issuing the refunding bonds
- the amount of reduction in interest costs payable on the callable bonds
- the amount of the reduction in interest costs on the refunding bonds when compared with the costs on non-callable original bonds issued with the same maturity

These costs must also be reduced to a present value basis as of the date of the original bonds in order to make a sound decision.

- **Marketing the securities:** In order to effectively market bonds to investors, issuers must understand the risks faced by investors purchasing tax-exempt bonds. Issuers should take steps to alleviate some of these risks in order to achieve a better price on a bond issue. Three of the more significant of these risks include the following (Kurish and Tigue, p. 55):
  - *Market or interest rate risk:* This is the risk that market interest rate levels may change and adversely affect the return on an investment. For example, suppose an investor purchases tax-exempt bonds with a 20-year maturity and a 6 percent coupon interest rate, and the market interest rate increases to 7 percent in a year's time. If the investor wishes to sell the bonds, the bonds will sell for less than if market rates remained at the 6 percent level. This illustrates the basic law of bond prices. The price (value) of a bond is inversely related to a change in the direction

- of interest rates. If interest rate levels increase, bond prices decrease. If interest rate levels decrease, bond prices increase.
- *Credit risk:* This is the risk that the credit quality of a tax-exempt issuer may fall. Investors receive lower coupon interest rates for investing in the bonds of higher credit issuers. If, for example, investors purchase bonds from an issuer with a high credit rating (Aaa/AAA) and the rating is lowered to Aa/AA after five years, the price for the bonds will be adversely affected by the credit reduction.
  - *Call risk:* If a bond is issued with a call provision, the bonds may be redeemed prior to their full maturity. For example, if a 20-year bond issue with a 6 percent coupon interest rate were called after ten years when the market rate was 5 percent, the investor would lose out on the remaining ten years of 6 percent interest payments. If investors wished to keep those funds in the tax-exempt market, they would be forced to buy securities that pay the current market yield of 5 percent.

Some of these risks can be mitigated by certain actions taken by issuers.

- *Call Risk:* Call risk can be reduced by not including a call provision in the bond resolution. Because investors expect to be compensated for call risk with slightly higher coupon interest rates, the elimination of the optional call provisions can result in some interest rate savings to the issuer. Eliminating the call feature is more prudent when market interest rate levels are low. If debt is issued in a high interest rate environment, it is important that the issuer have the ability to refinance at lower interest rates should market rates fall in later years (Kurish and Tigue, p. 57).
- *Credit Risk:* Bond insurance is an important option to mitigate credit risk. Generally, issuers in the Baa/BBB to A/A credit range have been those for which the cost of bond insurance has proven economical. When an issuer buys bond insurance, the insurer guarantees the payment of principal and interest. Hence, the ultimate security of an insured bond issue is the credit of the insurer, not the issuer. Bond insurance may not be cost-effective when the interest rate differential between Aaa/AAA and A/A rated bonds is small (Kurish and Tigue, p. 57).

Other credit enhancement techniques include (Kurish and Tigue, p. 56):

- a debt service reserve fund dedicated to paying debt service when normal revenues are insufficient
- incorporating coverage test requirements to ensure pledged revenues available to pay debt service exceeds the actual debt service payment

- the additional bonds test which requires certain financial requirements to be met before additional bonds may be issued

When contemplating any of these actions, issuers must recognize the inherent trade off between a lower interest rate on a bond issue and the cost to obtain this rate, including higher up-front costs or reduced flexibility. Striking an appropriate balance for each bond issue, and for the entire debt program, is one of the primary tasks of an issuer, its financial advisor, and the underwriters (Kurish and Tigue, p. 57).

### Obtain approvals.

Before issuing long-term debt, decision-makers should consider reviewing the following factors that rating agencies and investors use to evaluate the riskiness of debt (Official Statement, p. A-22):

- **Economic Factors:** The economic condition of the state defines its ability to generate tax revenue, perform its functions, and retire debt. For *non self-supporting* general obligation debt, key state economic indicator trends and projections should be reviewed such as:
  - Gross State Product
  - Unemployment rate
  - Personal income
  - Nonfarm employment
  - Resident population
  - Oil and natural gas prices

Trends in national economic indicators should also be reviewed for potential impact on the state:

- Gross Domestic Product
- Consumer Price Index
- Prime interest rate

In addition to the above, the following unique factors should be reviewed for *self-supporting* general obligation and revenue debt:

- Will the service provided by the project continue to be demanded?
- Are the feasibility study projections consistent with other indicators (e.g., state economic projections)?
- What are the underlying assumptions used to project revenues and expenditures in the feasibility study? Are they aligned with the economic projections?
- Do similar projects exist? How have they performed?

- **Financial Indicators:** A final review of financial indicators should include an analysis of revenue and expenditure trends and the adequacy, dependability, and scope of revenues (Kurish and Tigue, p. 62). For *non*

*self-supporting* general obligation debt, the following performance measures should be reviewed (*1994 Bond Review Board Annual Report*, p.8):

- Net tax-supported debt as a percent of personal income (U.S. average: 3.1%; Texas in 1994: 1.2%)
- Net tax-supported debt as a percent of revenues (U.S. average: 4.3%; Texas in 1994: 2.4%)
- Year-end General Revenue Fund cash balance as a percent of annual expenditures (benchmark = 5.0%; Texas in 1994 = 7.2%)

For *self-supporting* obligations the following should be reviewed:

- Is the projected debt-service coverage ratio greater than 1? (Gross revenues less operating expenditures.)
- What is the maturity structure of the debt (level debt service, level principal, or ascending debt service)? Does the maturity structure match revenue projections?

- **Debt Considerations:** The following indicators should be used to measure the state’s debt burden (*1994 Bond Review Board Annual Report*, p. 10):
  - Local debt per capita
  - Tax-supported debt per capita
  - Debt limit ratio
- **Administrative Factors:** Administrative factors to be reviewed include:
  - What is management’s track record for administering debt ?
  - Are the financial accounting and reporting functions adequate?
  - How strong is the agency oversight function?
  - Does the agency have good internal controls?
  - How flexible are the bond covenants? Are they restrictive or broad?

Information relating to the economic, financial, and debt indicators is compiled by the Comptroller’s Office and included in the official statement. Information relating to the administrative factors can be obtained by reviewing past audit reports and the bond documents.

**Issue the debt**

The principal criteria for debt issuance is efficiency, i.e. the lowest relative issuance costs. The cost of issuance is usually driven by four factors:

- **Method of Sale:** Negotiated sales are more costly than competitive sales and should generally be used only when the offering is large, complex, and time sensitive. Competitive sales should be used for less complicated, more common types of issuances.

- **Debt Rating:** Bond ratings are important because of the close relationship between bond ratings and borrowing costs. Increased risk, signified by lower ratings, pushes up the interest rates that investors demand on state bonds. For example, according to a July 1994 survey by the Chubb Corporation, Texas general obligation bonds (rated AA) were trading at 0.15 of a percentage point above the average interest rate on general obligation bonds of the five states currently rated AAA by Moody's, Standard & Poor's, and Fitch (*1994 Bond Review Board Annual Report*, p. 6).

Although officials have limited control over certain factors that enter into a rating decision, there are a number of actions that can be taken to help enhance a credit rating.

- The security for the bonds is often one area over which an issuer has direct control. Assigning a first lien of pledged revenues to the bondholders, strengthening coverage covenants, or establishing a prudent level of reserves provides added assurance to investors that the issuer will be able to meet debt obligations in a timely manner (Kurish and Tigue, p. 64).
  - Sound management practices will also reflect positively on the issuer in the rating process. Developing and adhering to long-term financial and capital improvement plans, keeping expense growth in line with revenues, and maintaining an adequate level of operating reserves are important in this regard. Preparation of annual financial reports in accordance with generally accepted accounting principles and receipt of the GFOA's Certificate of Achievement for Excellence in Financial Reporting are further evidence of good management (Kurish and Tigue, p. 64).
  - Issuers should develop and maintain good relations with the rating agencies. Annual, audited financial statements or other important financial documents should be sent routinely. It is important for issuers to keep the rating agencies informed of any changes that could affect credit quality. In periods of economic stress, finance officials will want to keep the rating agencies apprised of actions that will be taken to address financial problems (Kurish and Tigue, p. 64).
- **Market Timing:** Determining when to enter the capital market requires an analysis of general market conditions, including the volume of Texas debt in the market, interest rate trends, economic conditions, inflation, changes in monetary policy, and political events (Raftery, pp. 2.13-2.14). For example, when the market is disturbed by some major international or national monetary crisis, investors are likely to forego making new investments until the market is more stable. This results in higher interest rates. Entering the market at the right time is important because even slight variations in interest rates will impact total costs.

- **Economies of Scale:** In general, the larger a bond issue, the greater the issuance cost, but the lower the issuance cost as a percentage of the size of the bond issue. This “economies of scale” relationship results because there are fixed costs of issuance that do not vary proportionately with the size of a bond issue. Professional fees for legal and financial advisory services, document drafting and printing, travel, and other expenses must be paid no matter how small the issue. As a result, the smallest issues are by far the most costly in percentage terms (*1994 Bond Review Board Annual Report*, p. 22).

**Administer the debt.**

Administering outstanding debt requires a plan under which the various elements of responsibilities are to be performed (Moak, p. 381). Generally, this plan should address the following:

- **Accounting for the Bond Sale:** At the time of sale, the settlement sheet will show the amount of cash that has been paid for the bond issue. A copy of this should be furnished to the chief accountant for entry into the general ledger. Provisions will need to be made to establish the appropriate accounts (e.g., construction, revenue, interest and sinking, and reserve funds, etc.) and to determine the accounting treatment of premiums, discounts, and accrued interest. (See more detailed accounting information in the “Accounting” section of this module.)
- **Investing the Proceeds:** Normally, the full amount of the bond proceeds is not expended immediately. The balances remaining after payment of issuance costs should be immediately invested in accordance with the investment guidelines specified in the bond resolution. It is essential that such investments be in short-term securities that will mature at dates which shortly precede those upon which the cash is to be required. Among investments most frequently used for such purposes are time deposits and U.S. Treasury bills and notes. The latter ordinarily provide a greater yield and, by careful selection of maturity dates, adequate flexibility (Moak, p. 383). (See the Investment Module for more specific criteria.)
- **Budgeting and Appropriating Debt Service Requirements:** The funds for payment of debt service are ordinarily derived from one of four sources:
  - appropriations from general revenue
  - proceeds of taxes separately levied for debt service
  - net earnings of a revenue-producing facility
  - rentals derived from leasing

Provision should be made to ensure that the proposed budget contains amounts sufficient to meet the principal and interest payments, sinking fund deposits, and special amounts required for reserves, payment of mandatory call premiums, etc. Provision should also be made for related administrative expenditures. Also, in the case of revenue projects, an analysis of the revenue stream is necessary to determine whether service charges and rates are adequate to meet expenses and debt service requirements (Moak, p. 384). (See the **Budgeting** Module for more specific information.)

- **Paying Debt Service:** Arrangements for payment of principal and interest vary from reliance principally upon agency personnel to almost full reliance upon the fiscal agent bank or the trustee in case of indentures. However, the ultimate responsibility for seeing that the payment of principal and interest is made in a timely manner resides with the issuer (Moak, p. 384). The most common control to ensure timely debt service payments is a debt service calendar which is reviewed periodically to track scheduled payments. Paying agent banks will also notify the issuer when principal and interest payments come due. Failure to make timely payment constitutes a default and could result in a downgrading of the bond rating by rating services.
- **Managing Project Expenditures:** Controls are needed to ensure that the proceeds are expended as authorized in the bond or financing agreements and are available when needed. See the modules on **Construction**, **Contracting**, and **Cash Management** for criteria in this area. For non-capital improvement projects, the criteria for managing the project will depend on the nature of the program. For example, in the case of a loan program, procedures must be designed to address the following:
  - marketing the program to qualified individuals or businesses
  - screening and processing loan applications
  - investing proceeds
  - disbursing funds
  - collecting repayments
  - monitoring receivables
  - accounting for loan transactions
- **Monitoring Compliance:** Specific instructions for administering debt are described in legal documents such as the bond resolution, trust indenture, or financing agreement. Typically, these contractual agreements include instructions regarding:
  - project management (e.g., definition of the project, revenue sources, etc.)
  - funds management (e.g., receiving, investing, and expending the proceeds)

- the creation of specific funds and accounts (e.g., revenue fund, project or construction fund, interest and sinking fund, reserve fund, etc.)
- debt structure (e.g., security, debt maturities, early redemption and/or call provisions, etc.)
- various general provisions relating to authorization and security, federal tax provisions, insurance requirements, etc.

Procedures should be in place to monitor compliance with these requirements. In order to monitor compliance, responsible personnel must be familiar with the bond resolution or financing agreements and have an understanding of the requirements. For example, if the bond resolution requires that a reserve fund be maintained with a minimum balance equal to the “average annual debt service on the then outstanding bonds,” then procedures should be in place to periodically calculate the requirement and to verify the account balance. Other compliance requirements might include:

- mandatory transfers between funds at specific times and for specific amounts during the year
- the maintenance of a minimum “coverage ratio” (net revenues divided by annual debt service)
- the purchase of insurance (e.g., boiler insurance for buildings)
- restrictions on how proceeds may be invested (e.g., only in U.S.-backed securities)
- procedures to follow for early or mandatory redemptions

Procedures are also needed to monitor compliance with arbitrage requirements. Due to the complexity of these requirements, agencies should consider retaining a financial advisor with expertise in this area. Noncompliance with these requirements could result in penalties or the loss of tax exemption. See [Appendix 2](#) for more information on arbitrage.

**Monitor the debt and the environment.**

The financial markets and factors affecting the markets are constantly changing. The debt management process should include procedures to monitor both internal and external conditions which could impact the entity’s overall financial condition, the market, and the environment to ensure cost-savings opportunities are not overlooked.

When interest rates decrease significantly, an issuer should evaluate the savings potential available through refunding of the outstanding debt in exchange of new debt at the lower interest rate. An issuer should consider undertaking a refunding for three primary reasons:

- to reduce interest costs



- to restructure debt service
- to eliminate old bond covenants that may have become restrictive

Issuers must exercise care in evaluating refunding opportunities. Even though current interest rates may be lower than those on an issuer's outstanding bonds, it is possible that a refunding would generate little or no present value savings due to the associated costs. Many tax-exempt bonds carry a premium that must be paid to call the bonds before they reach maturity (Kurish and Tigie, p. 70).

The following steps should be followed to determine whether a refunding can be carried out advantageously (Moak, p. 400):

- Determine the probable interest rate that would be received on the refunding bonds if offered in the prevailing market.
- Calculate the gross amount of interest to be saved in terms of:
  - current dollars payable in the years in which the savings will occur
  - the present worth of dollars to be saved at future dates
- Determine the cost of refunding - the call premiums payable and the costs incident to the issuance of refunding bonds.

The most critical consideration in determining whether a projected refunding is likely to be profitable or unprofitable lies not in the apparent differential between gross interest costs on the old and new bonds after allowance for the refunding costs (including premium calls), but in the reduction of all factors to a *net present value*. Failure to do so can easily result in a refunding which is apparently favorable but which is in fact disadvantageous (Moak, p. 400). Due to the complicated nature of the calculations, agencies should consider consulting with a financial advisor.

## Benchmarks

The *coverage ratio* is used to monitor the availability of funds to meet debt service obligations. Typically, the coverage ratio should be 1.0 or greater. (The ratio is calculated by dividing the net amount available for debt service [pledged sources less expenditures and capital outlay] by the annual debt service.) This ratio is difficult to calculate when total pledged sources and related expenses cannot be easily determined. For example, The University of Texas System's Revenue Financing System pledges "all available revenues" to cover its debt. The resulting calculation is very complicated due to the number of revenue sources involved and the restrictions affecting their "availability." The expenditures associated with the revenue sources are also difficult to calculate.

The *gross underwriting spread* can be compared to the national average to determine whether issuance costs are excessive. In 1994, the average gross spread for Texas State Issues was \$7.83 per \$1,000 of bonds issued compared to the national average of \$8.28 (1994 Bond Review Board Annual Report, p. 23).

**Assess Condition:****Determine the actual process used**

Conduct interviews, observe operations, and identify and collect available documentation in order to gain an understanding of the entity's actual debt management process and controls. Included in the actual process are both official/unofficial and formal/informal processes and controls. An official process may exist even if it is not documented. Possible procedures include, but are not limited to:

- Determine where the debt management process resides in the entity, who participates in the process, and how the participants are selected.
- Obtain and review board minutes and any manuals, policies, and forms that could document any phase of the debt management process, including its relationship to entity goals, objectives, strategies, and plans.
- Determine if and how management consciously selects and employs the assumptions, criteria, methods, processes, and techniques used in the debt management process. Obtain and review available documentation on the assessment of risks, costs, and benefits.
- Determine how external financial advisors, bond counsel, paying agents, trustees, underwriters, and other consultants are selected and paid.
- Obtain and review pertinent legal documents, such as bond resolutions, financing agreements, official statements, etc.
- Review and document how the entity monitors compliance with legal and statutory requirements.

In addition to gaining an understanding of the actual process, also try to find out:

- how the participants view the actual process
- what parts of the process they see as successful or unsuccessful and why
- what they think is important about the process and why

This information may help identify causes and barriers.

**Red Flags**

Be especially alert to evidence of the following “red flags” which may indicate management weaknesses:

- late transfers of funds between specified accounts
- late principal and interest payments
- excessive arbitrage penalties or rebates
- lack of annual arbitrage calculations
- debt service coverage ratio less than 1
- declining debt service coverage ratio trend
- absence of interest and sinking fund for capital appreciation bonds (or the absence of a plan for meeting the “balloon” debt service due at maturity)

**Statewide Issues**

The following issues could impact debt management at the statewide level:

- coordination of local and state debt issuance
- monitoring and coordinating volume of Texas debt in the market
- future impact of “balloon” payments due on capital appreciation bonds

**Determine the strengths and weaknesses of the actual process**

Using the tailored criteria, the understanding of the entity's process gained above, and the procedures in this section, analyze the actual process to determine if it:

- is designed to accomplish the management objective(s) (this module, page 1)
- has controls that provide reasonable assurance that the process will work as intended
- is implemented and functioning as designed
- is actually achieving the desired management objective(s)

Suggested procedures for each of these four analysis steps are detailed below. In executing these procedures, remember to identify and analyze both strengths and weaknesses.

**Identify and review the steps in the actual process to determine if the process is designed to accomplish the management objective(s).** Possible procedures include, but are not limited to:

- Determine if all major steps in the criteria are included in the actual process. If steps are missing, determine if their absence is likely to have a materially negative effect on the debt management process at the entity you are reviewing.
- Determine if all the steps in the process appear to add value. If there are steps that do not appear to add value, try to get additional information on why they are included in the process.
- Review the order of the steps in the process to determine if it promotes productivity.
- Review the level of technology used in the process to determine if it is up-to-date and appropriate to the task. Besides computer, electronic, communications, and other mechanical technology, you should also consider what kinds of management technology are used (Gantt charts, process maps, decision matrices, etc.). See the [appendix](#) to the module on Problem-Solving and Decision-Making for more information.
- Gain an understanding of the entity's debt issuance authority. What types of outstanding debt does the entity have (e.g., commercial paper, general obligation or revenue bonds, self-supporting or non self-supporting)? Read the Bond Review Board's annual report.
- Determine the objectives of each debt issuance. Was it issued to finance capital improvements or to fund economic development programs? Review the CAFR, board minutes, agency annual financial report, and pertinent legal documents, such as bond resolutions and/or financing agreements.

**Identify the controls over the process to determine if they provide reasonable assurance that the process will work as intended.** These controls should be appropriate, placed at the right point(s) in the process, timely, and cost effective. Possible procedures include, but are not limited to:

- Draw a picture of the process, the controls, and the control objectives (see the graphic of the procurement process in the **Introduction** for an example). Flowcharts of the debt management process can help identify inputs, processes, and outputs.
- Identify external controls which may reduce risk (i.e. statutory restrictions and authorizations, outside approvals, etc.)
- Determine if the control objectives are in alignment with the overall management objective(s) (this module, page 1).
- Identify the critical points of the process (i.e. those parts of the process most likely to determine its success or failure or expose the entity to high levels of risk) and the controls related to them. Consider whether the controls are:
  - in the right location within the process (input, operations, output)
  - timely (real time, same day, weekly, etc.)
- Compare the cost of the control(s) to the risk being controlled to determine if the cost is worth the benefit.
- Determine what controls are in place for monitoring and evaluating the overall effectiveness of the debt management process and making sure that changes are made in the process if it does not yield the desired results.
- Identify, describe, and assess the process used to gather input from employees who might reasonably discover flaws in the process.
- Identify procedures for reviewing and updating debt policies.
- Identify and assess the process used to engage and compensate professional consultants (e.g., bond counsel, financial advisors, etc.).
- Determine what controls are in place to ensure compliance with legal agreements, such as bond resolutions and financing agreements.
- Determine what controls are in place to monitor arbitrage requirements.
- Identify, describe, and assess the process used to monitor debt levels.
- Identify and assess the procedures followed to analyze revenue streams to ensure future debt service payments will be met.
- Identify and assess the controls in place to monitor the environment for cost-savings opportunities such as early extinguishments of debt and refundings.

Transactions for long-term debt are generally few in number and large in amount and may be handled on a special-event basis (e.g., semi-annual interest and principal payments) rather than as part of an elaborate system of procedures. At a minimum, controls should provide the following (Robertson and Davis, p. 499):

- a plan of organization that assigns high-level responsibility for review and approval of major financing transactions
- a system of accounting data processing that is independent of the review and approval level
- a system of accounting review to check for errors in data processing

**Review observations, interviews, documentation, and other evidence and design specific audit procedures as needed to determine if the process and/or the controls have been implemented and are functioning as designed.** Depending upon the objectives of the project, these procedures may include both tests of controls and substantive tests. Possible procedures include, but are not limited to:

- Determine if any evidence of management override exists.
- Walk through the actual process, i.e. follow a transaction through the people and documents involved, and compare to the official process.
- Identify significant compliance requirements. (“Significant” compliance requirements are those covenants which, if not complied with, would likely result in a technical default. Since the bond covenants are there to protect the bondholders’ interests, which covenants would be of most importance to them? For example, the timely payment of principal and interest, adequate reserve balances, the investment of proceeds in allowable securities, and the existence of boiler insurance would be considered “significant” requirements.)
- Test for compliance with significant bond covenants. Possible procedures include the following:
  - Determine the timeliness of principal and interest payments using confirmations or tracing scheduled debt service payments to paying agent statements.
  - Determine the existence of required accounts and the maintenance of minimum balances by tracing to accounting records and bank statements.
  - If insurance is required, review policies and premium payments.
  - Determine whether proceeds and account balances are properly invested by tracing to accounting records and investment documentation.
  - If a reserve fund is required, calculate the minimum balance and trace to accounting records and bank statement (if part of investment pool, then test allocation methodology).
- Test for compliance with arbitrage.
  - Review perm file documentation or use arbitrage flow chart for each issue to determine whether arbitrage is applicable.
  - Review arbitrage rebate calculations.
  - If financial advisor is used, review information submitted for rebate calculation for completeness by comparing investment information in the rebate calculation to the entity’s books and records.
  - If excess earnings have occurred, determine what steps management has taken to ensure funds will be available to pay the rebate if required.
  - Trace rebate and penalty payments made to the Internal Revenue Service to voucher documentation.

**Review and analyze any reports used by the entity to monitor the outcome(s) of the debt management process and/or any other information available to determine if the process is actually achieving the desired management objective(s) (this module, page 1).** Possible procedures include, but are not limited to:

- Analyze these process reports over time for trends.
- Discuss any apparently material negative or positive trends with management.
- Determine if and how management acts upon these trend reports and what changes, if any, were made in the process or controls as a result. Some process refinements, especially those affecting entity mission, goals, and outcome measures, may need to wait until the next appropriation cycle.
- Determine whether the entity has defaulted on any principal and interest payments.
- Perform trend analysis on debt service coverage ratio to determine if it is at or above 1 (pledged revenues less expenditures and capital outlay divided by the annual debt service).
- Perform an analysis of the total debt burden in relation to available revenues and economic projections. (Will the entity be able to meet debt service requirements in the event of an economic downturn?)
- For new issues:
  - Review the project feasibility study for completeness and reasonableness. Review the underlying economic, financial, and administrative assumptions and projections for reasonableness. Identify contingency plans.
  - Identify the criteria used to select the debt instrument. Consider the appropriateness of the debt instrument within the framework of legal constraints, project objectives, and current and projected market conditions.
  - Determine the method of sale (competitive bid or negotiated) and review the criteria used to select the method of sale for reasonableness.
  - Calculate the underwriter fee or gross spread per \$1,000 bond and compare to the national average. (According to the *1994 Bond Review Board Annual Report*, p. 22, the average was \$8.28 per \$1,000 bond in 1994.)
  - Review the maturity structure and compare to the projected cash flows in the feasibility study.
  - Determine whether the bond sale was appropriately accounted for and confirm the flow of funds.
  - Evaluate the cost-effectiveness of credit enhancement features in the bond resolution:
    - ... Was a call option added to the bond resolution if interest rates are low? Was a call option *omitted* if interest rates are high?

- ... Does the resolution require bond insurance? (Bond insurance may not be cost-effective if the interest rate differential between Aaa/AAA and A/A rated bonds is small.)
- ... Does the resolution require a reserve fund, minimum coverage requirement, or additional bonds test? What was the trade off between the lower interest rate and the cost of the credit enhancement features in terms of flexibility as well as dollars?

- Determine whether excessive arbitrage penalties have been paid as a result of noncompliance with expenditure schedules. (See [Appendix 2: Arbitrage](#), for more information.)

**Determine causes**

**Determine what circumstances, if any, caused the identified weaknesses in the debt management process.** Possible procedures include, but are not limited to:

- Determine if the participants in the debt management process understand the entity's mission, goals, and values and support them through their management of the debt management process.
- Determine if the participants understand both the purpose of and their role in the debt management process.
- Determine if the relationship between the debt management process and other entity processes is clear.
- If the process occurs at multiple locations, determine the nature and scope of the communication and coordination among them.
- Determine if the debt management process has adequate human, dollar, time, information, and asset resources. If they appear inadequate, determine if entity resources have been allocated according to the materiality of the debt management process relative to other entity processes.
- Determine if the entity has considered using alternative resources such as industry associations, non-profit organizations, academic institutions, or other governmental entities to meet its resource needs.
- Determine if resources available to the debt management process have been allocated and used in a manner consistent with the importance of that resource to the debt management process.
- If there are negative trends in the reports used to monitor the outcome(s) of the debt management process, determine if these reports are communicated to and used by the appropriate parties to modify the process.

**Determine what internal or external constraints or barriers, if any, must be removed in order to overcome these identified weaknesses.** Possible procedures include, but are not limited to:

- Review the applicable entity, state, or federal laws or regulations to determine if any of them prevent the necessary changes from being made in the debt management process.

- Determine if any key employees are unwilling to change the process and why they are unwilling.

**Determine effect**

**Compare the actual entity process to a recommended alternative process(es) and determine if each weakness in the entity process is material.** Alternatives can be developed by using the criteria contained in this module, applying general management principles to the process, using the processes at comparable entities, etc. Materiality can be measured by comparing the dollar cost, impact on services (either quantity or quality), impact on citizens, impact on the economy, risks, etc., of the actual process to the recommended alternative process(es). Measurements can be quantitative, qualitative, or both. Possible procedures include, but are not limited to:

- Identify performance benchmarks (industry standards, historical internal data, other comparable entities, etc.) for the process in question, and compare to actual performance. Measure the difference, if possible. Include the cost of the additional controls or changes in the process.
- Estimate the cost of the actual process and the alternative process(es) and compare.
- Estimate the quantity and/or quality of services provided by the actual process and by the alternative process(es) and compare.
- Identify the risks associated with the actual process and with the alternative process(es). Measure and compare the risks.

**Develop recommendations**

**Develop specific recommendations to correct the weaknesses identified as material in the previous section.** In developing these recommendations, consider the tailored criteria, kind of process and control weaknesses identified, causes and barriers, effects, and additional resources listed at the end of this module. Possible procedures include, but are not limited to:

- Identify alternative solutions used by other entities.
- Identify solutions for removing barriers.
- Provide general guidelines as to the objectives each solution should meet; then, the entity can tailor the solution to its specific situation.
- Provide specific information, if available, on how each recommendation can be implemented.

**RESOURCES****Books**

Bailey, Larry P.. *1993 HBJ Miller Comprehensive Governmental GAAP Guide*. New York, New York: Harcourt Brace Jovanovich, Publishers, 1993.

Burke, Terence P.. *Guide to Arbitrage Requirements for Governmental Bond Issues*. Government Finance Officers Association, 1992.

Hay, Leon E.. *Accounting for Governmental and Nonprofit Entities*. Homewood, Illinois: Richard D. Irwin, Inc., 1985.

Kurish, J.B. and Patricia Tigue. *An Elected Officials Guide to Debt Issuance*. Government Finance Officers Association, 1993.



Matzer, John, Jr., Editor. *Practical Financial Management: New Techniques for Local Government*. International City Management Association, 1984.

Moak, Lennox L.. *Administration of Local Government Debt*. Municipal Finance Officers Association, 1970.

*Municipal Finance Administration*. The International City Mangers’ Association, 1962.

Petersen, John E. and Thomas McLoughlin. “Debt Policies and Procedures,” *Local Government Finance Concepts and Practices*. Government Finance Officers Association, 1991.

Pyle, William W., and Kermit D. Larson. *Financial Accounting*. Homewood, Illinois: Richard D. Irwin, Inc., 1980 and 1983.

Raferty, William J.. *Government Accounting and Financial Reporting Manual*. Boston, MA: Warren, Gorham & Lamont, 1991.

Robertson, Jack C. And Frederick G. Davis. *Auditing*. Plano, Texas: Business Publications, Inc., 1985.

Standard and Poor’s Corporation. *Standard & Poor’s Rating Guide*. New York, New York: McGraw-Hill Book Company, 1979.

State of Texas. State Auditor’s Office. *Debt Management - Securing Texas’ Future*. SAO Report Number 3-026, December 1992.

\_\_\_\_. *How to Audit Bonds*. SAO Training Manual, October 1989.

**Human Resources**

The following staff members have specialized training or ongoing interest in bonds:

SAO Employee	Title/Function
Randall Reid, CPA	Module Writers/Editors
Tony Rose, CPA Chuck Dunlap, CPA John Swinton, MPA	Reviewers

Barbara Hankins, CPA Cathy Smock, CPA Charlie Hrcir, CPA Will Hirsch, CPA	Upper Reviewers
--	-----------------

**Periodicals**

***Moody’s Municipal and Government Manual***

Published annually by Moody’s. Updated by the weekly *Municipal and Government News Report*.

Location: The University of Texas, Perry-Castañeda Library (HG 4931 M58)

***Moody’s Bond Record***

Published monthly by Moody’s.

Location: The University of Texas, Perry-Castañeda Library (HG 4905 M78)

***Moody’s Bond Survey***

Published weekly by Moody’s.

Location: The University of Texas, Perry-Castañeda Library (HG 4905 M785)

***Bond Guide***

Published monthly by Standard & Poor’s Corporation.

Location: The University of Texas, Perry-Castañeda Library (HG 4905 S435)

***Texas Bond Reporter***

Published weekly by the Municipal Advisory Council of Texas.

Location: The University of Texas, Public Affairs Library (HJ 9321.4 T492)

**Related Modules and Reports**

- Investments
- Budgeting
- Cash Management
- Contracting
- Construction

Bond Review Board: *1994 Annual Report*

Texas Comptroller of Public Accounts: *1994 Comprehensive Annual Financial Report (CAFR)*

SAO Report 3-026: *Debt Management - Securing Texas’ Future*

**Background**

The Texas Constitution authorizes the State to issue several types of **general obligation bonds**. Each issue is designed to be self-supporting from revenue sources related to the program being financed, except for the general obligation bonds of the following entities:

- Texas National Research Laboratory Commission
- Public Finance Authority
- Water Development Board
- universities receiving constitutional appropriation bonds

During fiscal year 1994, \$160.5 million of general revenue was required to pay the debt service requirements on bonds issued by these entities.

Each series of **revenue bonds** is backed by the pledged revenue sources and restricted funds specified in the bond resolution. Each series is designed to be self-supporting except for the following, which are supported by pledged rental revenue derived from contracts with other state agencies, which in turn comes from legislative appropriations.

- Texas Department of Criminal Justice
- National Guard Armory Board Revenue Bonds
- Texas Public Finance Authority Revenue Bonds
- Texas National Research Laboratory Commission

**Bond Issuing Entities and Revenue Sources**

Entity	Type of Debt	Program Description
Agricultural Finance Authority	g.o. bonds	financial assistance for agricultural expansion, development, and diversification
Department of Commerce	g.o. bonds and industrial development bonds (through the Texas Small Business Industrial Development Corp.	financial assistance to export businesses, to promote domestic business development, and to provide loans to finance the commercialization of new and improved products and processes
Higher Education Coordinating Board	g.o. bonds	educational loans
Department of Criminal Justice	revenue bonds	prison facilities constructed with revenue bond proceeds issued by private financing corporations - debt service payments are payable from rental revenues received from the Department - once the bonds have been redeemed, title to the facilities will rest with the State

<b>Entity</b>	<b>Type of Debt</b>	<b>Program Description</b>
General Land Office and Veteran’s Land Board	g.o. bonds	land, housing, or home improvement loans for Texas veterans
Hospital Equipment Financing Council	revenue bonds	loans for health equipment purchases
Department of Housing and Community Affairs	revenue bonds	financing assistance for the purchase of homes by or the construction of rental housing for families with low to moderate incomes
National Guard Armory Board	revenue bonds	construction, expansion, and renovation of armories
National Research Laboratory Commission	g.o. and lease revenue bonds	financing assistance to develop and operate the Superconducting Super Collider
Parks and Wildlife Department	g.o. bonds	acquire and develop state park sites
Public Finance Authority	g.o. and revenue bonds	acquire or renovate state buildings - to issue bonds on behalf of other agencies
Turnpike Authority	revenue bonds	construction, maintenance, repair, and operation of Texas toll roads and bridges
Water Development Board	g.o. and revenue bonds	financial assistance to political subdivisions for water development, water quality enhancement, and flood control
Texas Water Resources Finance Authority	revenue bonds	a public authority created within the Texas Water Development Board, issued bonds to purchase from the Board the majority of existing political subdivision bonds held
The University of Texas System and Texas A&M System	Permanent University Fund Bonds	build, equip, or buy buildings or other permanent improvements
various colleges and universities	constitutional appropriation bonds	construction programs for colleges and universities not benefiting from the Permanent University Fund
various colleges and universities	revenue bonds	various

**Arbitrage**

Most state and local governmental entities enjoy the benefit of issuing tax-exempt debt obligations. To issuers, tax-exempt obligations provide significant interest rate savings over conventional debt which generates taxable income for investors. To the Federal Government, the issuance of tax exempt debt represents a loss of tax revenue because investors do not pay federal income taxes on the interest earned on these securities. Arbitrage restrictions were put in place by the Federal Government for two primary reasons (Kurish, p. 72):

- to ensure that the proceeds of tax-exempt financings are not solely being used to make investments in higher-yielding taxable securities
- to ensure that bond proceeds are spent in an expeditious manner

The regulations surrounding arbitrage are numerous and complicated and cannot be covered in detail in this appendix. The following are excerpts from Terrence P. Burke's *Guide to Arbitrage Requirements for Governmental Bond Issues*.

**Yield Definition**

A fundamental principle which must be understood when discussing arbitrage is "yield." Essentially, "yield" is the measure of the rate of return which is computed by present valuing the receipts from, or payments on, an investment to its "purchase price." The "purchase price" of a tax-exempt bond is its issue price to the first buyer who does not include a bond house, broker, underwriter or other intermediary. The purchase price of an investment is its "market price."

**Arbitrage Restriction vs. Arbitrage Rebate**

Arbitrage compliance can be divided into two major areas: arbitrage *restriction* requirements and arbitrage *rebate* restrictions.

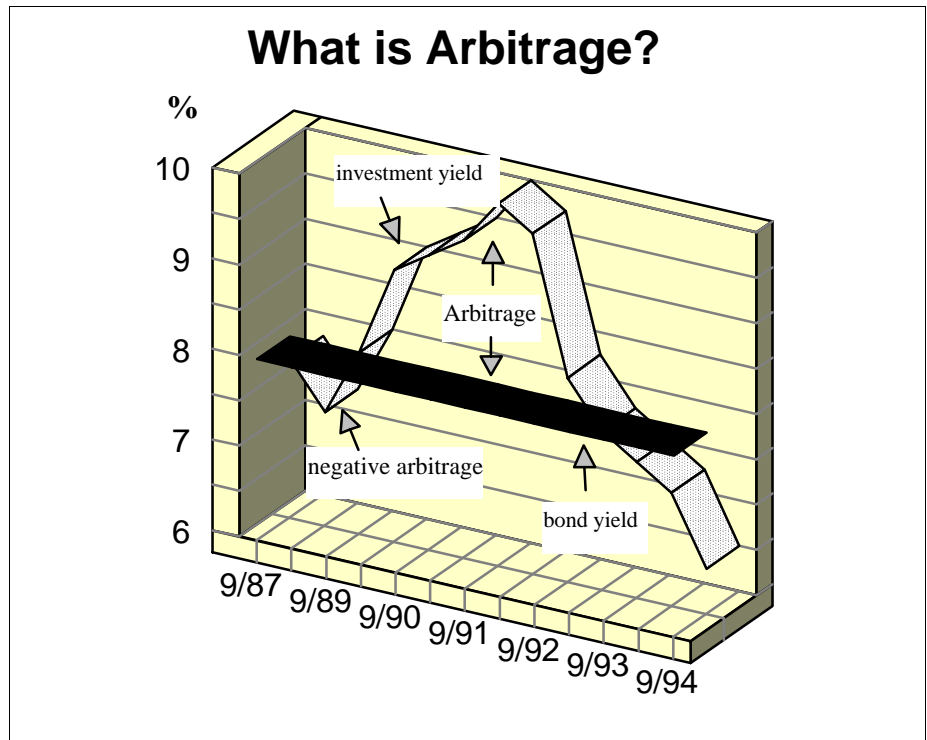
- Arbitrage *restriction* requirements describe the circumstances in which investment in materially higher yielding securities is allowed without compromising the tax-exempt status of the bond issue.
- Arbitrage *rebate* requirements identify what must be done with profits earned from those securities under the arbitrage restriction requirements. The rebate regulations are in addition to the arbitrage restriction rules and not a replacement for them.

**Arbitrage Restriction**

In general, an issuer may never invest tax-exempt bond proceeds at a yield that is materially higher than the yield on the bonds. A materially higher yield is defined as a yield which is more than one eighth of one percent greater than the yield on the bond issue. For example, if the yield on an issue of bonds is 7.500 percent, the materially higher yield is 7.625 percent.

Collectively, the amounts subject to arbitrage restrictions are referred to as "gross proceeds," which includes the following:

- sale proceeds (i.e. amounts received from the sale of the bonds)
- investment proceeds (i.e. interest earned from investing proceeds)
- transferred proceeds (i.e. unspent proceeds of a refunded bond issue)
- replacement proceeds (i.e. reserve funds, debt service funds, and sinking funds)



**Figure 2**

Arbitrage is the profit earned from investing low-yielding tax-exempt bond proceeds in higher yielding taxable securities.

Other than described below, the proceeds may not be invested in materially higher yielding securities. Remitting any arbitrage profits earned from failure to comply may not remedy the error, and the bonds could become taxable.

The regulations permit an issuer, in the following circumstances, to invest gross proceeds at a yield in excess of the bond yield for certain specified periods of time or for certain specified purposes:

- *New Money Funds.* In general, original proceeds and investment proceeds (e.g., interest earnings) of a governmental issue may be invested at an unrestricted yield for a *three-year period from the date of issue*, if it is reasonably expected on the date of issue that:
  - at least 85 percent of the spendable proceeds will be spent on the governmental project(s) within three years
  - a substantial binding contract (of at least \$100,000) to commence work on or acquire the project will be incurred within six months after the bonds are delivered
  - after the contract is incurred, work on or acquisition of the project must proceed with due diligence

- *Pooled Financings.* Financings in which the proceeds are used to make loans to two or more persons are generally permitted a temporary period for investing proceeds at an unrestricted yield of *six months*.
- *Debt Service Funds.* Amounts deposited into a bona fide debt service fund may be invested at an unrestricted yield for a period of *13 months*.
- *Interest Earnings.* Interest earned on bond proceeds may be invested at an unrestricted yield for a period of only *one year* from the date of receipt.
- *Reserve or Replacement Funds.* Amounts deposited in a reasonably required reserve or replacement fund may be invested without restriction throughout the life of the bond issue as long as the reserve fund balance does not exceed 10 percent of the proceeds of the issue.
- *Minor Portion.* A minor portion of any bond issue may be invested at an unrestricted yield throughout the life of the issue. If the bonds were issued prior to August 31, 1986, the minor portion is equal to 15 percent of the spendable proceeds of the issue. After August 31, 1986, the minor portion is the lesser of five percent of the spendable proceeds of the issue or \$100,000. Unless the bond issue was less than \$2 million, the minor portion is \$100,000.

The ability to invest proceeds at an unrestricted yield during permitted temporary periods is based upon an issuer's reasonable expectations regarding the amount and use of the proceeds. If the issuer reasonably expects that certain events will occur, they have established that the bonds are not arbitrage bonds. For example, if the issuer reasonably expects to satisfy the requirements for completion of a project within three years, the proceeds would qualify for investment at an unrestricted yield under the arbitrage regulations.

### Arbitrage Rebate Requirements

The arbitrage rebate rules require that cumulative earnings from the investment of bond proceeds exceeding the yield on the bonds must be remitted to the Federal Government. These rules carry very strict penalties for noncompliance, including taxability of interest retroactive to the date of issue.

Tax-exempt bond issues issued after the following dates are subject to the rebate requirement:

- August 31, 1986 (governmental bonds)
- December 31, 1984 (private activity bonds)
- September 25, 1979 (single-family bonds)
- December 31, 1985 (student loan bonds)

The following exceptions will preclude an entire issue from the rebate requirements:

- small issuer exception
- general six-month expenditure exception
- tax and revenue anticipation notes six-month expenditure exception
- 18-month expenditure exception

- two-year construction bond exception
- investment of proceeds in tax-exempt bonds

The most common exceptions applicable to bonds in Texas are the six-month expenditure exception, the eighteen month expenditure exception, and the two-year construction bond exception.

If the gross proceeds (including interest earnings) of the issue are expended for their governmental purposes within *six months* after the date of issuance of the bonds, the interest earned during that period is not subject to rebate. If all but a minor portion of the proceeds is spent within a six-month period, then the exception deadline is extended another six months.

Generally, in order to qualify for the *two-year construction requirement*, at least 75 percent of the proceeds are to be used to finance construction expenditures on property to be owned by a governmental unit. In addition, the available construction proceeds of the issue must be spent under the following spending schedule:

Period	Cumulative Expenditures
6 months	10%
12 months	45%
18 months	75%
24 months	100%

If the above expenditure requirements are not met, an issuer may elect to pay a penalty in lieu of rebate. This election must be made prior to the delivery of the bonds and requires the payment of 1.5 percent of the amount of the available construction proceeds *not* spent in accordance with the above expenditure schedule. This penalty is due within 90 days after the end of each semiannual period.

For example, by the end of 12 months, an issuer should have spent 45 percent of the available construction proceeds. If only 40 percent of the available construction proceeds had actually been spent, the issuer must pay a penalty equal to 1.5 percent on the five percent not expended in time. Assuming the following facts, the penalty would be \$16,125:

- a \$20 million construction bond issue where \$1 million in actual interest was earned in the first 12 months and future earnings on remaining proceeds were projected at \$500,000 for a total available proceeds of \$21,500,000
- expenditures during the first 12 months should have been \$9,675,000 (45 percent of \$21,500,000)



- actual expenditures during the first 12 months amounted to \$8,600,000
- the penalty of 1.5 percent is applied to the \$1,075,000 difference between the required and actual expenditure level

The penalty for each semiannual period is calculated separately, so if during the next semiannual period the actual expenditures are greater than, or equal to, the required expenditure percentage, no penalty would be required for the subsequent period.

The 18-month exception applies to all bonds issued after June 30, 1993, and has the following expenditures schedule:

Period	Cumulative Expenditures
6 months	15%
12 months	60%
18 months	100%

**Frequency of Rebate Calculations**

Rebatable arbitrage must be determined and reported at least every five years. Despite the five-year reporting requirement, bond lawyers may require that rebate be computed and an amount set aside more frequently for several reasons.

- In most cases, all proceeds are expended within a three-year period. Therefore, frequent computations are required to ensure that funds are set aside to make the rebate payment in the fifth year.
- The rebate amount represents a liability to the Federal Government which must be reported for financial statement purposes. This requires the quantification of the liability to determine its materiality.
- Annual computations allow issuers to match the cost of compliance against interest earnings from the proceeds.
- Annual computations provide security to the bondholders that the issuer will comply with periodic payment requirements since funds will be held for future payment.

The regulations define two types of reporting dates for rebatable arbitrage:

- *Installment Computation Date:* Rebatable arbitrage calculations are required every five years falling at the end of the fifth bond year.
- *Final Computation Date:* This is the date on which the last maturity of the issue is retired. The final installment payment is due within 60 days after the bonds have been retired. All of the unpaid rebatable arbitrage must accompany this payment.

**Accounting for Commingled Funds**

It is common practice among governmental entities to commingle available funds, including bond proceeds, as a means of more effectively managing investments.

The arbitrage regulations provide specific rules for accounting and allocation of commingled funds, rather than permitting any reasonable, consistently applied method. By definition, a “commingled fund” means any fund or account if:

- the fund contains both gross proceeds of an issue and amounts in excess of \$25,000, that are not gross proceeds of that issue
- amounts in the fund or account are invested collectively without regard to source of funds deposited in the fund

Under the arbitrage rules, the allocation of earnings from a commingled fund must be made on a pro rata basis using one of the following methods:

- the average daily balance of amounts in the commingled fund from different investors must be allocated during a computation period (daily, weekly, monthly, or quarterly)
- the average of the beginning and ending balances for a period not to exceed one month

**Noncompliance Penalties**

The Internal Revenue Service (IRS) has two options available for failure to comply with the rebate requirement:

- taxing interest on the issue
- assessing a penalty against the issuer

The loss of tax exemption is the only statutory-available remedy for failure to comply with rebate and is the IRS’s “big stick.” The assessment of a penalty depends on whether the failure was an “innocent failure” (i.e. mathematical error) or an “installment failure” (i.e. late payment). An innocent failure results in a correction amount which includes interest on the error. An installment failure results in a penalty unless the issuer pays an amount equal to the future value (at the bond yield) of the rebate due on the installment date.