Tuition Revenue Bonds

An Analysis of the History and Use of TRBs in Texas from 1971-2016

by Trevor McGuire

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Executive Summary

College tuition costs have grown at a startling rate over the past several decades. The average annual cost of attendance[1] at a public institution, adjusted for inflation, increased by 116 percent between 1982-83 and 2012-13 (U.S. Department of Education). This period of tuition hyperinflation has coincided with a boom in campus construction, during which "space per student has in some cases tripled since the 1970s" (Carlson).

Of $21.6 billion projected to fund capital expenditures[2] for Texas public higher education over the next five years, only 2.26 percent will come from either designated tuition (0.71 percent) or student fees (1.55 percent). The overwhelming majority of capital expenditure funding based on tuition—39.32 percent, or nearly $8.5 billion—will come in the form of revenue bonds secured either in whole or in part by tuition revenue (THECB 2015, 10). Almost half of this amount will come from the proceeds of tuition revenue bonds (TRBs), a special species of revenue bond that requires legislative approval.

Tuition revenue bonds (TRBs) are secured "with pledged future revenue, such as tuition and fees," and according to the Texas Education Code, "such bonds shall never be an obligation of the State of Texas" (HB 100 Bill Analysis, 2; Texas Education Code § 55.18). But as the Texas Higher Education Coordinating Board (THECB)[3] notes, "the Texas Legislature has historically appropriated general revenue to cover the annual cost of debt service" (THECB 2014, 1). This reimbursement of TRB debt service with general revenue places the "cost of these projects on the taxpayers, instead of the institutions and students who benefit from them" (HB 100 Bill Analysis, 5). These costs include "roughly $2.6 billion" of capital expenditure financing from 1971-2014, "$2.2 billion of the debt from previously issued TRBs . . . outstanding as of August 31, 2014," and over $5.35 billion in debt service payments for the $3.1 billion in TRBs authorized during the Legislature's 84th regular session (Branch, 37; HB 100 Bill Analysis, 4).[4] The Legislative Budget Board (LBB) forecasts that over the next five years Texas will spend nearly $1.35 billion in general revenue funds on debt service for this most recent round of TRBs (HB 100 Fiscal Note).

KEY POINTS

- For the past 46 years, tuition revenue bonds have been used to effectively keep state debt on university balance sheets.
- A lack of systematization of TRB authorizations hurts Texas higher education.
- Proposed TRB alternatives—GOBs, ESF funding, endowment fund bonds, and public-private partnerships—would not address the fundamental problems with TRBs and should be rejected.
- Instead of developing an alternative, the TRB authorization process should be systematized, with TRB authorizations conditioned on an assessment of how well each institution utilizes its existing space and its potential for providing online education.

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1 Annual cost of attendance includes "total tuition, fees, room and board rates charged for full-time undergraduate students" (U.S. Department of Education).

2 "New construction, major repair and rehabilitation projects, and deferred maintenance needs," plus "property acquisitions" and "information resource projects" (THECB 2015, 1).

3 Referred to throughout as the "Coordinating Board," with "THECB" used for citations only

4 $3.109 billion in principal plus $2.237 billion in interest. This debt service calculation assumes a 6 percent interest rate with a 20-year level debt service amortization for all TRBs authorized by the 84th Legislature. Of TRBs authorized last session, interest rates on 95.5 percent are set at 6 percent, while the other 4.5 percent are divided almost evenly between bonds set at a rate of 5 percent and bonds set at a rate of 7 percent. All of these have a 20-year loan amortization schedule (HB 100 Fiscal Note).

The two chief issues with Texas' TRB authorization process are its vulnerability to political pressure and general confusion about how TRBs are authorized and how their debt is serviced.

While changes can be made to increase the efficiency and transparency of the TRB authorization process, a more substantial reform effort will be necessary to address concern over the very use of TRBs to finance campus construction, itself part of a larger conversation about how new construction contributes to the growing cost of higher education. Previous Foundation research on the link between tuition hyperinflation and the recent increase in campus construction found that "incentivizing universities . . . to maximize their use of existing space . . . would go no small way toward keeping tuition down. . . ." (Lindsay, 3).

With at least another legislative session to go until the next major attempt by institutions of higher education to secure TRB authorizations, now is the perfect time to consider how to encourage institutions of higher education to better utilize existing space and expand opportunities for online learning in order to reduce new construction that has contributed to rapidly increasing tuition costs.

Revenue Bonds for Higher Education

Nearly a century ago, in his study, "Capital Needs for Education in the United States," David Snedden identified what was and remains the central question for those who seek to provide a system of public education in a modern republic: how such a system is to be funded. Calling public education "by far our largest public enterprise," Snedden described it as "obviously an enterprise in which, unlike roads, or fire protection, or even policing, returns must be taken considerably on faith"—his conclusion being that the public must therefore be taxed "heavily and persistently" to provide for education's capital needs (Snedden, 71).

True to Snedden's words, the American people do pay heavy and persistent taxes to finance our costly public education system. And a significant component of that taxation is the nearly 100 years of revenue bond use by public universities.

When revenue bond financing by publicly owned colleges and universities began in earnest in the 1920s, it was concentrated "in the Mid-West and the East" (Taylor, 328). These early higher education revenue bonds generally involved a "relatively small" amount of borrowing to finance the permanent improvements that were then (as they often are today) the most capable of servicing bond debt with the revenue they generated: "stadiums, union buildings, and dormitories" (Taylor, 328). Texas began to use revenue bonds for higher education during a period when "all over the nation the trend in college permanent improvement financing" seemed to be moving "in the direction of revenue bond financing for self-supporting and auxiliary enterprises" (Taylor, 330). Writing on higher education's renewed interest in revenue bonds in 1949, University of Texas professor J. G. Taylor suggests that "private donors and legislatures have the feeling that what money they can expend must go for such permanent improvements as classrooms and academic type buildings"—i.e., the sort of buildings that lack a way to generate their own revenue (Taylor, 330-1). The buildings thought undeserving of donor or taxpayer money were the same ones supported by revenue bonds in the 1920s: "dormitories, stadiums, union buildings, and other income-producing activities" (Taylor, 331).

> "The raising of revenues for public purposes has always taxed the ingenuity of governing authorities. The tornadoes of revolution have more often been generated under the atmospheric pressure of excessive or unwise taxation than from any other cause." –David Snedden, 1920

Revenue bonds of the types described by Taylor in 1949 still account for a portion of Texas higher education's construction costs today; of the $21.6 billion to be spent from FY 2016-2020 on capital expenditures at public institutions of higher education in Texas, $526 million (2.44 percent) will come from housing revenue, and $767 million (3.55 percent) will come from the auxiliary enterprise revenues ($634 million, 2.94 percent) and the Auxiliary Enterprise Fund ($132 million, 0.61 percent), i.e., proceeds from university enterprises "such as parking, food service, or clinics" (THECB 2015, 10, 41).

However, the share of construction funding supported by traditional revenue bonds that rely on funding from specific projects pales in comparison to the share

provided by newer species of revenue bonds—tuition revenue bonds and revenue financing system (RFS) bonds—which will account for $8.5 billion (39.32 percent) of capital expenditures at public institutions of higher education in Texas from FY 2016-2020 (THECB 2015, 10).

Revenue Financing System Bonds

Taylor gives an example of an "omnibus type revenue bond" used at the University of New Mexico in 1948. This bond financed a set of buildings with varying capacity for generating revenue—"a dormitory, dining hall, press and publication building, a library extension building, and a heating system"—with debt secured against their combined revenue; this type of revenue bond "permits a weak activity to be supported by the revenues of a stronger activity" (Taylor, 335). Revenue financing system bonds operate according to the same principle, with RFS debt secured by the total revenue of the system issuing the bond (THECB 2015, 10).

Since 1971 the Texas Education Code has authorized institutions of higher education to issue revenue bonds "payable from and secured by liens on and pledges of all or any part of any of the revenue funds of the board and its institution or institutions, or any branch or branches of any of its institutions" (Texas Education Code § 55.13). This power was further expanded and formalized in 1993, when the Legislature granted Texas university systems the power to establish revenue financing systems, which are system-wide debt programs "secured by a system-wide pledge of all legally available revenues for debt issued on behalf of all . . . institutions and System Administration" (Texas Education Code § 55.02; University of Texas 2016). Revenue financing systems will issue over $4.3 billion in revenue bond debt over the next five years, accounting for just over 20 percent of total funding for capital expenditures at public institutions of higher education in Texas (University of Texas 2014, 8; THECB 2015, 10). Although RFS debt "is often issued for revenue-generating projects, such as student housing, parking facilities, and auxiliary projects," bonds issued by an RFS are technically secured by tuition revenue and can be issued for any project as long as they are approved by the system's board (University of Texas 2014, 8).

TRBs, while practically identical to RFS bonds in design, differ from them because of one crucial difference: The state of Texas has informally dedicated itself to servicing the full debt—principal and interest—of every TRB it authorizes.

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The Rise of the Tuition Revenue Bond

Texas campuses experienced a building boom during the 1950s and 1960s, with most of the funding for capital expansion in this period consisting of state-sponsored takeovers of private institutions and direct financing of a radical reorganization of the state's system of higher education. Part of this process involved Texas' state teachers colleges being remade into state colleges with curricula broadened "beyond teacher preparation" as a way to accommodate the diverse educational desires of "the deluge of veterans arriving on those campuses after World War II" (Cardozier). The desire to accommodate the baby boom "led to the state's taking over several two-year colleges and private institutions" (Cardozier).

The Texas Legislature first authorized tuition revenue bonds in 1971, at a time when the growth of Texas' campuses was about to slow "considerably" between the mid-1970s and early 1990s (THECB 2004, 6). Unlike traditional revenue bonds, which are raised for projects that can service their own debt from project revenue, the TRB was intended as "a mechanism for the State to assist institutions in funding much needed capital projects," i.e., projects whose revenues could not provide for their own debt service (University of Texas 2014, 10).

Few TRBs were authorized at first, as construction remained slow during the 1980s; this was especially true between 1981, when the statewide ad valorem tax ("that had for several years financed construction at public colleges and universities") was abolished, and 1985, when the Legislature established the Higher Education Fund to finance construction and repair at institutions "not funded by the Permanent University Fund" (Potter, 5; Cardozier).

TRB-financed construction "resumed in the early 1990s" with the advent of the South Texas Border Initiative

(STBI) (Potter, 5). Despite the government's victory in the 1987 Texas Supreme Court case *LULAC v. Richards*—which "alleged that South Texas and Border universities were not getting their fair share of funding from the state"—the 71st Legislature began the STBI in 1989, deciding that it was in the state's best interest "to enhance the scope and quality of higher education institutions and programs along the Texas-Mexico Border" (Flack, 1). In 1991, as part of the STBI, the Legislature "granted $421.4 million" in TRB authorization across the nine institutions involved in the initiative, in what was Texas' single largest TRB authorization thus far (THECB 2014, 2).

By 1996, TRBs were included in the master plan of virtually every Texas institution, and in 1997 the 75th Legislature passed what might be described as the first "omnibus" TRB authorization, with requests from 41 institutions included in the final authorization (THECB 2014, 2). This began an "informal tradition" of passing an omnibus TRB authorization "every fourth year" (Potter, iv). The $1.08 billion in TRBs authorized by the 77th Legislature in 2001 alone nearly doubled the total amount of TRB debt authorized by the state up to that point (THECB 2014, 2). During the following session, the Legislature voted to only reimburse institutions "for interest payments, and not principal, on TRBs issued after March 31, 2003" (Potter, 5). Lacking an enforcement mechanism, the vote was effectively nonbinding, and future legislatures continued appropriating general funds for full TRB debt service—principal and interest.

The only meaningful difference between RFS bonds and TRBs, then, is the "tradition" dictating that the Legislature cover TRB debt service with general revenue funds. Hence the argument that "without the general revenue debt service appropriations, there is no need for TRB authorizations," since institutions' revenue financing systems "already have authorization to issue revenue bonds" (University of Texas 2014, 10).

TRBs Today

In 2005 higher education institutions requested an unprecedented $3.1 billion in tuition bond authority (Potter, 5). Just 16 years after the launch of the STBI, TRBs had become a major fixture in the financing of public higher education in Texas. Responding to the rapidly increasing amount of TRB debt being issued, the Legislature requested that the Coordinating Board "develop new criteria by which TRB projects could be evaluated for funding decisions" for use during the third special session of the 79th Texas Legislature (THECB 2014, 2). The Coordinating

. . . "without the general revenue debt service appropriations, there is no need for TRB authorizations," since institutions' revenue financing systems "already have authorization to issue revenue bonds."

Board was then directed to "provide a preliminary evaluation of institutions' TRB requests" according to the new criteria, from which the Legislature "in turn . . . made their own decision as to which projects they should authorize TRBs for or not" (Branch, 36). These criteria were applied to a total of "155 proposals valued at $4.5 billion," reflecting an additional 36 projects, as well as increases in the amount requested for the initial 119 projects, together accounting for an additional $1.4 billion beyond the $3.1 billion requested a year earlier (THECB 2014, 2). Of the 155, "63 projects totaling $1.86 billion" were approved, or 42 percent of the requested amount (THECB 2014, 2). Since 2006, the Legislature and the Coordinating Board have worked to further develop objective criteria for evaluating TRB requests. The dramatic increase in the amount of TRB requests between 1997 and the present has disrupted the four-year cycle established during the 1990s, especially as omnibus TRB authorization bills, which seek authorization for "necessary" and "not-so-necessary" projects alike, forcing legislators to choose between two unsatisfying options: supporting the bill, knowing that it would authorize TRBs for low-priority projects, or instead opposing the bill, knowing that this would deny TRB authorization for high-priority projects (Lindsay and McGuire, 1).

During the following years, while the Coordinating Board worked to develop enhanced criteria for objectively determining which TRB requests should be authorized, the Legislature rejected practically all new TRB requests. The Legislature authorized only $168 million in TRB requests between 2007 and 2014, $155 million of which were authorized in the aftermath of Hurricane Ike to finance emergency repairs and erosion control at Texas A&M-Galveston and the University of Texas Medical Branch at Galveston (THECB 2014, 2).

In 2015, however, the flood gates reopened. The 84th Texas Legislature authorized roughly $3.1 billion in TRB debt, thus ending its nine-year moratorium on omnibus TRB bills. This $3.1 billion in authorized proposals was

selected from a record $5.7 billion in requests; at 54.6 percent of the amount requested, this authorization appears to have been more permissive than that of the 2006 TRB omnibus bill, which only authorized 42 percent of the total debt requested.[5]

The informal practice of using general revenue funds to retire all of a TRB's debt service—both principal and interest—continues today, in spite of the 78th Legislature's vote to restrict legislative appropriations for TRBs to interest payments only. The most recent General Appropriations Act (GAA) indicates that "Funds clearly identified . . . for revenue or tuition revenue bond retirement . . . may be used for bond and commercial paper debt service payments, *which can include principal, interest, and fees*" (HB 1, III-243; emphasis added). The Legislative Budget Board (LBB) projects that $1.35 billion in general revenue funds will be appropriated toward retiring the TRBs authorized by HB 100 through the end of FY 2020 (HB 100 Fiscal Note). Even while "the bonds would not be general obligations of the State," the LBB explains that "the issued bonds would have fiscal implications for the State" regardless, since "historically the Legislature has appropriated General Revenue to reimburse institutions for the tuition used to pay the debt service" (HB 100 Fiscal Note). The GAA appropriated $240 million in FY 2017 "for distribution to the institutions of higher education for debt service on the [newly-] authorized tuition revenue bonds" (HB 1, III-260). Though shy of the $270.2 million needed to fully cover the FY 2017 debt service for the most recent round of TRBs, the GAA appropriates far more than the $112 million required to cover interest alone (HB 100 Fiscal Note).

It bears repeating that the Legislature has no obligation to cover even the interest payments on TRB debt. Yet evidence written and unwritten confirms that the expectation of general revenue appropriations for paying TRB debt in full—principal plus interest—has always been an integral component of Texas' TRBs, beginning with their first use in 1971 and continuing uninterrupted into the present day. Even as the size, scope, issuing authority, and frequency of TRBs have changed over the past 46 years, the Legislature's voluntary appropriation of general revenue toward the total debt service of the TRBs it authorizes seems to be the one norm that has not changed.

The importance of this norm to the TRB authorization process cannot be overstated. As mentioned in the earlier comparison of RFS bonds to TRBs, without the informal "expectation . . . that the State will reimburse TRB debt service with general revenue," most institutions would probably not bother submitting TRB proposals for legislative authorization in the first place (University of Texas 2014, 10).

For nearly one-third of the TRB's 46-year history—and for more years than not since their expanded role in the state following the STBI—these bonds have faced opposition in the Texas Legislature. And yet the amount of TRB funding authorized by the 84th Legislature in 2015 was almost triple that authorized by the 77th Legislature in 2001, the session prior to the 78th Legislature's attempt to *reduce* the dependence of higher education institutions on TRBs for funding capital projects. Today, TRBs seem as much a fixture in Texas higher education as ever, in spite of a growing opposition to what amounts to a massive, behind-the-scenes subsidization of construction on public campuses with taxpayer funds—all without any democratic control over what can effectively be described as public debt kept on university balance sheets.

Assessing the TRB Authorization Process

In its Interim Report to the 84th Legislature, the House Committee on Higher Education observes that "TRBs have been both important and imperfect" as a "mechanism for financing higher education," an effective summary of the complicated role the tuition revenue bond continues to play in Texas higher education (Branch, 37).

Proponents claim that TRBs provide "a cost-effective way to fund projects" that are either "not likely to be funded by other means" or that would have to be funded "in other ways, such as by raising tuition" (HB 100 Bill Analysis, 3). They also say that TRBs provide the "long-term financing structure" necessary for "larger projects," making these projects accessible to smaller colleges that find themselves at a disadvantage when seeking to raise funds for such projects through private contributions, which "can take a long time," "are competitive," and "typically come with stipulations on how they may be used" (HB 100 Bill Analysis, 3). Proponents also point to the effectiveness of TRBs in providing funding for special cases, like emergency construction needs. Such was the

[5] Calculations made using information from throughout HB 100.

case in 2009, when the 81st Legislature authorized $155 million in the aftermath of Hurricane Ike: $150 million for repairs at the University of Texas Medical Branch at Galveston, and $5 million for erosion control at Texas A&M-Galveston (THECB 2014, 2).

Despite the arguments of proponents, Texas' current use of TRBs needs a serious assessment, if only as a reflection of the growing size of TRB authorizations. However, assessing the use of TRBs and related debt instruments is hindered by a relative paucity of research on state capital expenditure in higher education, which persists nationwide in spite of the growing prominence of such expenditure in state higher education budgets. In 2009, states spent $10.3 billion on higher education capital projects, "roughly the same amount" as on student financial aid; "other than transportation, higher education represents the largest sector for state capital projects" (Ness and Tandberg, 330). Despite an increasing proportion of state resources devoted to capital projects, almost all research activity on state funding for higher education "has considered only the general fund appropriations to higher education," such that "the empirical examination of state funding for higher education capital projects is virtually nonexistent" (Ness and Tandberg, 329-330).

A recent study of capital expenditure in higher education found "an overwhelmingly [sic] share of the variance in state capital expenditures for higher education . . . was due to political factors"; in this one aspect, TRBs are normal to U.S. higher education (Ness and Tandberg, 336). A lack of session-to-session consistency in the way the Legislature handles TRB authorization means that "institutions do not know which, if any, of their TRBs will be approved in a given legislative session" (Heldenfels, 3). According to the House Research Organization's assessment, opponents find TRBs "less than ideal" for every party involved in their financing—"institutions, the state, and taxpayers"—in part because they are "unreliable for long-term project planning" (HB 100 Bill Analysis, 5). Even the Coordinating Board, which has stated that "TRBs have been an important vehicle for meeting the capital needs of our universities," has expressed concerns with the unpredictability of TRB authorizations under existing policy (Heldenfels, 3). Even as institutions continue to request them and the Legislature continues to authorize them, all parties involved agree that the present system must not go on much longer without significant reform. The following sections address various aspects of needed TRB reforms.

Even the Coordinating Board, which has stated that "TRBs have been an important vehicle for meeting the capital needs of our universities," has expressed concerns with the unpredictability of TRB authorizations under existing policy.

Accountability

Lack of accountability diminishes the effectiveness of state investment in capital projects as done through the current system of TRB authorization and retirement. Unfortunately, "previous THECB [Coordinating Board] facilities audits have revealed institutional reporting discrepancies" (Branch, 37). Since TRBs can "be approved without a vote [by citizens], which sometimes is required for other state-issued debt," such evaluations take on added importance; the removal of public control over the authorization of state-issued debt places additional responsibility on the Coordinating Board and, ultimately, the Legislature itself for the effective stewardship of public resources (HB 100 Bill Analysis, 5).

The call for more accountability in the TRB authorization process should not be directed at the state's institutions of higher education alone; the Legislature and the Coordinating Board must make their TRB authorization habits more transparent as well. As the history of TRBs in Texas makes painfully clear, the state has no systematized process to allocate funds for higher education capital projects. Most recently, multibillion-dollar omnibus TRB-authorization bills in 2006 and 2015 have bookended a nine-year period during which less than $20 million in new TRBs was authorized that wasn't related to the emergency Hurricane Ike projects (and even the Hurricane Ike projects bring total TRB authorizations over a nine-year period to a total of under $200 million). The high levels that were authorized in these bookend years make it more difficult to accurately judge the worth of each individual project. This doesn't mean that the Legislature should approve TRBs more often. Rather, the Legislature should set expectations that the amount of TRBs approved in any one year will be limited, both in terms of total debt issued at any given time, and restricted to high-priority projects at institutions that have demonstrated an adequate level of efficiency in their use of existing space.

Deferred Maintenance

Deferred maintenance refers to "the accumulation of facility components in need of repair brought about by age, use, or damage and for which remedies are postponed or considered backlogged" (THECB 2010, 4).

Until 1998, calculations of building replacement value were used to determine the allocation of state funding to capital projects at the state's colleges and universities; these calculations were dropped as criteria "once it was decided that building replacement value was no longer useful in determining funding allocation" (THECB, 7). At the same time building replacement value was dropped from the funding allocation, the growing share of higher education capital projects financed by TRBs led to the emergence of an unfortunate practice among institutions of higher education to request (and among the Legislature to authorize) "new construction rather than deferred maintenance at existing structures" (Branch, 37). The result of this trend: Thirteen years later, in the fall of 2011, there was "approximately $740 million in deferred maintenance" at Texas institutions of higher education (Heldenfels, 5).

Why prioritizing deferred maintenance over new construction would save the state money almost doesn't need stating: We typically find that properly caring for what we own is more economical than simply replacing the old and broken, particularly if the property in question still holds considerable value in spite of its old-and-broken-ness. Project construction cost analysis from the Coordinating Board confirms this lay wisdom. According to the Coordinating Board's analysis, only one type of facility—"office, technology"—is more expensive to renovate than to replace ($412/ft^2 vs. $375/ft^2) (Turcotte). Every other facility type follows the expected pattern of renovation costing less than replacement, in some cases considerably less. Renovation costs for many types of facility, such as "classroom, general," "healthcare facility, clinic," "housing, apartments," and "student center," are less than half the cost of replacement; two types, "office, general" and "other," are over three times more expensive to replace than to renovate (Turcotte). What's more, these are only average costs; for an individual deferred maintenance project, project costs increase every year the maintenance issue is not addressed. Add to this "the fact that new construction adds to the demand for maintenance," and the case for prioritizing deferred maintenance seems quite clear (Heldenfels, 5).

Of course, deferred maintenance is already considered in the Coordinating Board's evaluation methodology for TRBs (THECB 2010, 4). The fact that TRBs are often approved despite the existence of significant deferred maintenance emphasizes the difficulty of using the current system to effect more economical and effective capital projects. Yet while few could argue that deferred maintenance should not be taken into consideration when authorizing TRB debt, given the persisting deferred maintenance backlog, there are those who believe that such a backlog exists precisely because the problem of deferred maintenance has not been prioritized highly enough. Former THECB Chairman Fred Heldenfels IV, for one, argues, "It makes sense to ensure we're maintaining and effectively utilizing existing facilities *before* financing new ones" (Heldenfels, 5; emphasis added).

The necessity of funding deferred maintenance projects, combined with the knowledge that such projects only grow more costly the longer they are deferred, suggests that a greater emphasis on prioritizing the financing of deferred maintenance projects could reduce the overall cost of Texas' higher education capital projects, both for the state of Texas and for the institutions involved.

Alternatives to TRBs

Several alternatives—general obligation bonds, Economic Stabilization Fund (ESF) appropriation, endowment revenue bonds backed by Available University Fund (AUF) and Higher Education Fund (HEF) revenue, and public-private partnerships—have been proposed to address the shortcomings of TRBs. Additionally, some have advocated systematizing the issuance of the bonds to keep from having extended gaps between bond authorizations, regardless of which bonds are used to finance construction. Identifying TRB alternatives and systemization of bond authorization do not address the underlying concern about excessive capital construction costs in higher education, however, they remain a large part of the current discussion of TRB reform. Each of these issues is discussed below.

General Obligation Bonds

One idea for reducing Texas' reliance on TRBs, suggested by the House Research Organization and others, is to use general obligation bonds as a like-for-like alternative (HB 100 Bill Analysis, 6). Unlike revenue bonds, which, as a type of "special obligation," are "payable only from the income from a project with occasionally a lien upon the property," general obligation bonds pledge "the full faith, credit, and revenues of a municipality or corpora-

tion" (Taylor, 331). While a general obligation bond is a lien on the property itself, a revenue bond "is only a lien upon the revenues to be derived from the property" (Taylor, 331).

The merits of this alternative go beyond the comparative advantages of general obligation bonds versus revenue bonds. While TRBs are issued by university financing systems (and thus not technically obligations of the state), the use of general obligation bonds to support capital projects would involve the state itself "issuing statewide bonds" that, unlike TRBs, would be the obligation of the state of Texas (Branch, 37-38). Such a change would make capital project more transparent, since formally obligating the state to service capital project debt would make the cost of debt service more visible when setting the state's budget. Such are the perceived benefits of using general obligation bonds as an alternative to TRBs that in 2008, the Texas Higher Education Coordinating Board Strategic Planning Committee recommended "issuing general obligation bonds . . . to finance capital projects for higher education institutions" as a move which would independently "improve the process for funding capital projects" (Senate Finance, 15). The transition away from TRBs toward general obligation bonds would lead to closer review of individual bond requests.

Economic Stabilization Fund

Another TRB alternative touted as a straightforward move to improve the transparency and overall vetting of project requests, as well as to avoid the substantial cost of interest on debt service, is to finance capital projects with "a direct appropriation from the state's . . . Economic Stabilization Fund" (HB 100 Bill Analysis, 6). One of the five versions of the omnibus TRB bill considered by the 84th Legislature, SB 150, would have financed last session's TRBs with a $2.86 billion appropriation from the ESF.

However, the ESF was not created to fund general expenditures of state government:

> During economic downturns, such as the Great Recession, tax revenues decline while spending needs may remain mostly constant, creating budget shortfalls. Since Texas (correctly) cannot deficit spend because of a balanced budget amendment, legislatures have chosen on multiple occasions to close fiscal gaps with large tax increases, spending cuts, or some combination of both. The first choice hurts economic productivity, while the second can damage core government services. The ESF provides an alternative to these fiscal options (Ginn, et. al., 2).

The ballot language for approving the ESF confirms this perception:

> The constitutional amendment establishing an economic stabilization fund in the state treasury to be used to offset unforeseen shortfalls in revenue (HJR 2).

Capital expenditures for higher education, with the exception of damage from major natural disasters, are not related to unforeseen shortfalls in revenue. Using the ESF to finance capital projects is not appropriate.

Endowment Revenue Bonds

When Taylor compiled his list of revenue bond types in 1949, the University of Texas and Texas A&M were already drawing "substantial interest on a national basis" to the possibility of issuing revenue bonds secured by income from endowment funds (Taylor, 336). Bonds issued by Texas' two flagship universities in the late 1940s, secured with income from the Permanent University Fund (PUF), were offered by Taylor as the perfect example of an "endowment fund type bond" correctly executed; he emphasizes the "very wide pre-sale publicity" and Aaa rating ("the highest rating that could be given a bond") as further proof for his argument that revenue bonds could succeed as a tool for financing capital expansion on their strength as strong investments alone (Taylor, 336). As mentioned earlier, revenue from the state's endowment funds and their subsidiaries will account for a not inconsequential 8.5 percent of capital expansion funding for higher education over the next five years in Texas (HEF 3.47 percent; PUF 4.73 percent; AUF 0.26 percent) (THECB 2015, 10).

Capital expenditures for higher education, with the exception of damage from major natural disasters, are not related to unforeseen shortfalls in revenue. Using the ESF to finance capital projects is not appropriate.

In addition to suffering from the same basic shortcomings in accountability that characterize TRBs (as compared to General Obligation Bonds), revenue bonds backed by the state's higher education endowment funds are particularly unsuited for financing capital projects. In the case of the HEF, the endowment fund most frequently mentioned as a potential alternative source of financing for higher education revenue bonds, current restrictions on the use of HEF revenues to service revenue bond debt—"50 percent of HEF revenues can be used to pay bond debt service and bonds are limited to 10 years"—make it difficult for institutions to finance capital expansion with HEF revenues, "given the time window of a major capital project" for debt service is generally closer to 20 years, which is also the typical period over which TRB debt is serviced (Heldenfels, 6). The House Research Organization has identified this "long-term financing structure provided by TRBs" as the fundamental reason why TRBs should be used instead of bonds serviced with AUF and HEF revenue, the AUF and HEF being "limited in their ability to help institutions fund needed capital growth and facilities upgrades" (HB 100 Bill Analysis, 3).

It would require a significant policy effort to lift these restrictions on the use of HEF revenue; even then, endowment revenue bonds backed by the HEF would have no clear advantage over TRBs. The limited resources devoted to TRB reform would be better applied elsewhere.

Public-Private Partnerships

Among the alternatives to TRBs discussed over the past several years, none has received as much support as public-private partnerships (P3). Recommended by both the Coordinating Board and the House Committee on Higher Education of the 83rd Legislature as an alternative means for financing capital construction, supporters claim that "the benefit of public-private partnerships extends beyond simply providing access to new sources of capital" (Heldenfels, 4). In its Interim Report to the 84th Texas Legislature, the House Committee on Higher Education of the 83rd Legislature endorses the use of P3 as an alternative to TRBs by listing a number of the advantages of using P3, including: the way P3 raises "institution and private contributions"—"similarly to matching funds"; that they "spread risk across multiple stakeholders"; that more closely involving the private sector in capital construction gives P3 projects the benefit of "private financial management experience and expertise"; and, in stark contrast with TRBs, that in the past P3 has "raised needed capital in a predictable and reliable manner" (Branch, 38). Two of these points—the benefits of risk-spreading and of involving private sector "experience and expertise"—corroborate pro-P3 arguments presented in THECB Chairman Fred Heldenfels' testimony before the House Appropriations Committee in 2012 (Heldenfels, 4).

However, this praise of public-private partnerships in general does not address whether P3, with all of its advantages, would suit the particular kinds of construction financed with TRBs. A quick scroll through the projects listed in HB 100 shows that none of the authorized TRBs were requested for construction of auxiliary projects, e.g., student housing, athletics facilities, or auxiliary enterprises such as dining halls and parking garages. But these are precisely the projects to which P3 is best suited and that consequently occupy the lion's share of academic literature on the subject. P3 for the kinds of construction that TRBs typically finance would be far riskier than the usual P3 projects involving "the development and management of 'tangible' public goods and services," i.e., projects in areas where "calculation of return on investment" can be reasonably determined (Greiling and Halachmi, 134).

Private involvement in capital construction already occurs during the construction process itself, e.g., in the hiring of vendors; what sets P3 apart from this usual private sector involvement is the active participation of the private partner in providing the project's revenue-generating service once construction is complete. Parking garages and dormitories lend themselves to P3 because these sorts of projects originated in the private sector (parking garages and apartment buildings being profitable enterprises outside of their involvement with higher education); this established private sector activity is itself the source of the "experience and expertise" touted as part of the advantage P3 holds over traditional state funding. Furthermore, these projects fully contain their means of revenue generation, i.e., a parking garage does not fundamentally depend on operations outside of the parking garage to generate revenue (this is also the case with dining halls and dormitories). Classrooms, student unions, and academic office spaces simply don't operate the same way.

Compared to P3 for auxiliary projects, "the professional literature [does] not pay too much attention to the analysis of projects that involve 'soft' services in areas where private initiatives are not common" (Greiling and Halachmi, 134). This does not mean that some brilliant

person won't find a way for private investors to profit from investment in classroom space or research facilities at some point in the future. But for the immediate purposes of Texas higher education, the most-studied and most-practiced forms of P3—especially on college campuses—almost exclusively involve projects that provide a tangible service once complete. As the above definition of "soft services" suggests, public-private partnerships are ill-suited for projects that lack a private sector counterpart. True, the private sector is rife with all sorts of for-profit educational services, but one would be hard-pressed to find an academic office building or student lab facility provided privately as a standalone service. Unless universities transition to a model where students and professors pay directly for lab and classroom access, opportunities for public-private partnerships involving these types of buildings will remain limited to nonexistent.

Another issue with public-private partnerships at universities, unrelated to their unsuitability for the particular projects financed by TRBs, is their relative inaccessibility to regional campuses. As Texas A&M University System Chancellor John Sharp explained in 2013 when describing the effect that a then-seven-year absence of major TRB authorizations was having on his system: "It's tougher on regional campuses. They don't have the leverage that we do at our flagship, which is big enough where we can go in the private sector and see if someone will partner with us" (Branch, 36). Even if a method were developed for attracting private investment for P3 in constructing non-auxiliary buildings, such projects would still be most likely to go through at the state's flagship universities, which have also done the most to demonstrate fitness for TRB authorization, according to the Coordinating Board's space utilization efficiency (SUE) standards (THECB 2015a).

In the end, the many advantages of public-private partnerships may explain why universities do not request TRBs for projects naturally suited to P3. The status quo incentivizes universities to finance revenue-generating projects with their own resources, while using TRBs exclusively for capital projects that do not generate revenue, such as classroom space, academic office space, multipurpose buildings, and research facilities. While public-private partnerships have a role to play in financing capital expenditure for public higher education, they are not suited to finance the kinds of projects TRB debt is normally issued to fund.

If the given goal of a stakeholder in TRB reform is fiscal responsibility, then their support for a more effective systemization of the TRB authorization process ought to be closely paired with an enforceable mechanism for both limiting (in amount) and restricting (according to merit) the Legislature's TRB authorizations for a given session.

Correlation between Funding Formulas, Increased Spending

According to the most recent comparative study of capital spending for higher education across the 50 states, Texas is not alone in its lack of systematization in capital spending. Only "11 of the 37 states" in the study "indicated that state master plans included capital spending," while 15 of 37 states[6] (41 percent) surveyed by CPUPC in 2006 indicated that "the state does have formulas to measure the needs for classroom, research and administrative space" (Ness and Tandberg, 335; Potter, v).

Ness and Tandberg use the presence of formula funding for higher education general fund appropriations as a proxy for the overall extent of systematic resource allocation to public higher education in a given state. Significantly, Ness and Tandberg find that "as a measure of the funding process," "states with formula funding for higher education general fund appropriations were associated with increased higher education capital spending" (Ness and Tandberg, 336). In fact, the increase in capital spending indicated by "the use of funding formulas to distribute general fund appropriations" was of "a larger magnitude for the capital expenditures . . . than for general expenditures"—even though the formula used as a proxy was for general appropriations, not capital expenditures (Ness and Tandberg, 351). As a possible explanation, Ness and Tandberg speculate that "the use of funding formulas highlights the capital needs for higher education, thereby prioritizing higher education capital projects or providing legislators with further justification for funding projects in their districts" (Ness and Tandberg, 351).

[6] The study surveyed 37 respondents, each answering for the state about which they were knowledgeable.

The Legislature should be wary of any proposal to systemize the issuance of TRBs given the correlation between systematization of state higher education funding and increases in state capital spending on higher education. If the given goal of a stakeholder in TRB reform is fiscal responsibility, then their support for a more effective systemization of the TRB authorization process ought to be closely paired with an enforceable mechanism for both limiting (in amount) and restricting (according to merit) the Legislature's TRB authorizations for a given session.

Alternatives to Bond Financing for New Construction: Better Space Utilization

Higher education will have ongoing needs for new construction, and determining the best, most efficient ways of financing that construction will remain important. Even so, emerging methods and technologies can help schools better utilize existing space and thus reduce the need for new campus construction. In fact, it has been argued that the dearth of TRB authorizations between 2007 and 2014 helped push higher education to make advances in increased space utilization and online learning (HB 100 Bill Analysis, 6).

Space Utilization Efficiency

Much of the recent attention given to TRBs in Texas can be attributed to growing public criticism of "a decade-long spending binge" across the nation—variously referred to as "the Edifice Complex," "the Law of More," or "Taj Mahal syndrome," among others—that "has left colleges and universities saddled with large amounts of debt" for a series of "inordinately lavish" buildings constructed for the sake of attracting students (Martin). According to a joint study on the subject by Bain & Company and Sterling Partners, "Many institutions have operated on the assumption that the more they build, spend, diversify and expand, the more they will persist and prosper. But instead, the opposite has happened: institutions have become overleveraged" (Martin). The most frequently cited examples of this phenomenon—five-star dormitories, gourmet dining halls, state-of-the-art stadiums—are usually auxiliary buildings which, because they can generate their own revenue, are not typically financed with TRBs. Nevertheless, the national conversation about extravagant construction projects on college campuses has emboldened the public to ask, "Just how much campus construction is really necessary for colleges and universities to fulfill their missions? Are institutions making efficient use of their existing space?"

The Coordinating Board's recommendations for TRB reform already include the suggestion that the Legislature "incentivize the more efficient use of existing space to meet capital needs" (Heldenfels, 5). As with deferred maintenance, one can easily guess the purported relationship between space use efficiency and the allocation of funds for capital projects: "Employing existing campus facilities more efficiently will make it less necessary to construct new buildings, lowering capital expenditures as well as ongoing maintenance costs" (Lindsay, 4).

As it turns out, the Texas Legislature had been considering the issue of space efficiency in higher education even before it became a major national talking point. In 2008, as part of the effort begun by the 79th Legislature in 2005 to establish a more systematic, data-driven approach to evaluating TRBs, the Coordinating Board designated a task force that developed the Space Usage Efficiency (SUE) score, which assesses "classroom and class laboratory utilization" (THECB 2009, 2). Drawing on past experiences of difficulty collecting data from institutions, the Coordinating Board's "principal considerations" in designing the SUE score were "minimizing administrative burden on the part of the institutions" and "ensuring the measure was not only useful for the THECB, but also at the institutional level" (THECB 2009, 2).

SUE scores focus on such areas of space use efficiency as "classroom and lab utilization, average fill and overall demand" (Branch, 37). In addition to their overall SUE score, institutions are given a classroom score and a lab score; this is meant to prevent situations where an institution requesting much-needed additional space in one area—additional lab space, for instance—sees the priority of its request affected by its inefficient use of classroom space. Like deferred maintenance, the SUE score is one of many metrics used by the Coordinating Board to evaluate TRB requests, although, since it is just one of many metrics, "the TRB authorization process may focus less on space utilization than on other more immediate considerations" (Branch, 37). While SUE scores lack an enforcement mechanism when it comes to TRB authorizations, the Coordinating Board's consideration of how SUE scores could be used at the institutional level has already paid dividends, both for the institutions involved and for the scoring system itself, by gaining the SUE score a reputation for efficacy. Consider an anecdote from Chairman Heldenfels' testimony before the Texas House Appropriations Committee:

> At the Board's March Strategic Planning and Policy Committee meeting, UT Dallas officials presented on the success they have had increasing space utilization and efficiency. They underscored some key factors

> needed to maximize space optimization at an institution: involvement of all facets and levels of the institution to increase efficiency in the use of space; the understanding of the need to make a cultural change in which efficiency is a priority; and the use of data and analysis to inform change. As a result of this focus on efficient use of space, UT Dallas has increased the average classroom utilization by 11 percent and lab utilization by 19 percent (as measured in hours utilized per week) (Heldenfels, 6).

The story of UT Dallas' use of its SUE score to achieve impressive gains in space utilization over a short period of time demonstrates the benefit of collaboration between stakeholders in higher education. The Coordinating Board could have approached the role of evaluator with only its own immediate purposes in mind, designing methods useful only to it and the Legislature. Instead, the Coordinating Board designed the SUE score in a way that made it accessible to UT Dallas as a powerful tool for understanding its own space use efficiency, without which they might not have investigated the matter at all. At UT Dallas, the SUE score did not need "teeth" to make its mark on space utilization; the institution acted of its own volition, which is incredibly encouraging. Unfortunately, individual success stories like these are the most that can be expected of metrics like the SUE score in the existing TRB authorization process. While such activity represents an ideal in one sense—institutions taking greater initiative in addressing issues like space use efficiency on their own, without interference or micromanagement from the Legislature and Coordinating Board—the process of waiting for individual institutional action moves too slowly for those who want to see significant, immediate reductions in how much the state spends on higher education construction projects.

As an example of how the SUE score could be used to more aggressively combat inefficiency in the TRB authorization process, suppose the final TRB omnibus authorization bill passed by the 84th Legislature (HB 100) had been amended so that no TRBs were authorized for institutions with a failing grade in all three SUE categories (classroom, lab, and overall). Such an amendment would have authorized $606 million less in TRB debt than the $3.1 billion authorized by HB 100 as enrolled—a reduction of 19.5 percent.[7] Interest payments on that $606 million in TRBs for schools failing all three SUE categories, at 6 percent annually over 20 years, comes to $436 million, meaning the 84th Legislature could have saved the state in excess of one billion dollars over a 20-year period—$436 million in interest payments plus $606 million in principal—by applying an eminently reasonable SUE score requirement to TRB authorizations in 2015. This would also have lowered the percentage of TRB debt authorized from 54.6 percent of the amount requested to 43.92 percent, within two percentage points of the relatively modest 42 percent of requested debt that was authorized during 2006's third special session, when the 79th Legislature first gave the task of evaluating and prioritizing TRB requests to the Coordinating Board.

The Coordinating Board's vision in developing the SUE score as a user-friendly metric means that simply attaching the SUE scores of institutions requesting TRBs to the corresponding bills would give Texas legislators additional information to help make the difficult decision of which TRB requests to authorize and which to deny, without needing to establish any new statute or process.

SUE scores have applications for both short-term reform to the TRB authorization process and for that process's long-term systematization. The Coordinating Board's vision in developing the SUE score as a user-friendly metric means that simply attaching the SUE scores of institutions requesting TRBs to the corresponding bills would give Texas legislators additional information to help make the difficult decision of which TRB requests to authorize and which to deny, without needing to establish any new statute or process. Eventually, the state will need metrics like the SUE score to "balance effective accountability . . . with the flexibility and predictability" needed to manage one of the nation's most complex systems of higher education (Branch, 38).

[7] Calculation made using information from the Coordinating Board's most recent assessment of institutional SUE scores prior to the 84th session (THECB 2015a).

Space Utilization through Online Learning

Enrolling more students in online learning, "which does not rely heavily on capital construction funding," would reduce schools' dependence on capital construction (HB 100 Bill Analysis, 6). Rather than filling-in as a direct alternative to TRBs, further integration of space-and-capital-efficient online learning into the state's universities would instead make TRBs less necessary in the first place: "Clearly, students taking classes online lessens the need for new classrooms built of brick and mortar" (Lindsay, 4). Such has been the case at Brigham Young University-Idaho, where administrators reduced costs while growing enrollment by 60 percent between 2001 and 2011. According to one university official, "By not paying for office space, classrooms, and benefits, it's safe to say that it costs us less than half as much to teach courses online as it does face-to-face" (Lindsay, 10).

The recent example of the University of Florida's PaCE (Pathway to Campus Enrollment) program shows how quickly investment in online learning resources can lead to more efficient use of campus resources—space especially. In 2014, under instruction from the Florida State Legislature, the University of Florida (UF) launched UF Online, the online learning platform that makes the PaCE program possible (Straumsheim). The program—which was developed "to circumvent [the university's] space issues"—was announced in spring 2015 and was in full operation by the following fall (Straumsheim).

In its inaugural semester, the PaCE program admitted 3,118 applicants to UF's freshman class, in addition to the "approximately 12,000 students offered traditional freshman slots" (Strauss). Students offered a position in the freshman class through PaCE did not specifically apply to the program. In fact, the university did not tell applying freshmen about the possibility of being offered admission through PaCE, and a number of students were upset with the conditions of the program: "They were told that the acceptance [to UF] was contingent on their agreement to spend their first year taking classes online" (Strauss). Only after earning a total of 60 credits—of which up to 45 "may come from previous college credits earned through AP, IB, Dual Enrollment or other accelerated methods"—are PaCE students admitted to campus; until then, they are required to take all of their courses online (Strauss). Encouragingly, UF passes some of the savings made possible by the program onto the PaCE students themselves, who pay just 75 percent of what residential students pay for tuition and are exempted from the activity and service fees charged to residential students (although this also means that PaCE students "do not have automatic access to campus recreation centers") (Strauss).

The success of online learning programs at Brigham Young University-Idaho and the University of Florida shows how universities can use online learning to lower both the cost of tuition and institutional costs associated with capital construction. The expansion of online learning thus offers a two-pronged approach to reducing university dependence on TRBs: Online learning requires less capital construction (and hence less in TRB debt) than traditional education, and the money that schools save when they expand online learning can be used as an alternative to TRBs when funding future capital projects.

If online learning is to be leveraged as a means of reducing the role TRBs play in financing Texas higher education, the process for determining institutional need for additional TRB funds should be tied in some way to each university's utilization of its online potential—the same way the current (non-binding) evaluation process considers each university's space utilization. "Only after these two factors"—space usage efficiency and online learning—"are accounted for fully can the Legislature know with any reasonable degree of certainty whether tuition should be raised through tuition revenue bonds" (Lindsay, 4).

Recommendations

The Texas Public Policy Foundation recommends the following to address some of the underlying concerns about the cost of new construction in higher education, particularly as these concerns may be addressed through TRB reform:

Attach institutional SUE scores to TRB bills.

Institutional Space Use Efficiency scores—already developed by the Coordinating Board—should be attached to TRB bills the same way the Legislative Budget Board attaches a fiscal note to each piece of legislation.

Authorize TRB requests according to a ranking of projects by objective criteria

Informal control of TRB authorization requests could be modelled after the 79th Legislature, which consulted with the Coordinating Board in order to determine which TRBs should be authorized, eventually rejecting 58 percent of requested TRB authorization. More formally, the Legislature could require all TRB authorization requests to meet Coordinating Board standards for (1) existing space utilization by a requesting institution in its educational and general buildings and facili-

ties and (2) the percentage of students in a requesting institution who enroll in online courses offered by the institution.

Examine ways to expand online learning

Besides cultural change at the institutional level to promote space use efficiency, the best way to reduce new capital construction costs in higher education is to provide student instruction outside of traditional brick and mortar settings. Texas should consider ways to improve the already rapid development of online education, especially where the development of online resources is used as a strategic alternative to planning for new construction, as seen at Brigham Young University-Idaho and the University of Florida.

Conclusion

With TRBs, the Legislature has a clear duty to carefully concern itself with the details of new construction in higher education. After all, universities do not lack the ability to issue bond debt against their tuition revenue on their own via an RFS; to request a TRB authorization from the Legislature is to effectively request state funds to pay for the project. The Legislature should have objective means of comparing project requests available to it during its deliberations to determine whether or not universities are making the best use of their existing facilities and the rapid improvement of online learning technologies before authorizing an institution's TRB requests.

Institutions of higher education have a number of strategies at their disposal in pursuing reduced capital expenditure costs: space use efficiency, online enrollment, or a more traditional device that Taylor suggested in 1949 "has been most frequently the case in the past"—"simply doing without the facility" (Taylor, 341). In all three cases, a conscious effort on the part of both the institutions themselves and policymakers to make more limited and efficient the public's investments in capital expenditure promises savings for both taxpayers and students, in the form of less public debt and, at those institutions that choose to pass on some of their savings to students, lower tuition. To delay any longer much-needed reform to the TRB authorization process, or to set out on TRB reform that does not have the reduction of public capital expenditure costs as its goal, is to perpetuate a financial burden that is increasingly unnecessary for the state and, more important, increasingly irresponsible given the millions of Texas students struggling to afford college.

References

Braddock, Scott. 2015. "Texas Lawmakers Start to Dive Down into Deferred Maintenance." *Construction Citizen*, March 17.

Branch, Dan. 2015. *Interim Report to the 84th Legislature*. House Committee on Higher Education of the 83rd Legislature.

Cardozier, V.R. 2012. "Higher Education." In *Handbook of Texas Online*. Texas State Historical Association.

Carlson, Scott. 2009. "Campus Officials Seek Building Efficiencies, One Square Foot at a Time." *The Chronicle of Higher Education*, April 17.

Flack, Teri. 2003. *Presentation on South Texas Border Initiatives Before the House Border and International Affairs Committee*. Texas Higher Education Coordinating Board.

Ginn, Vance, Talmadge Heflin, and Owen Smitherman. 2016. *Leaky Umbrella: The Need to Reform Texas' Rainy Day Fund*. Texas Public Policy Foundation.

Greiling, Dorthea, and Arie Halachmi. 2012. "Public Private Partnerships: Governance and Accountability." *Public Administration Quarterly* 36(2): 133-139.

HB 1. 2015. Enrolled. 84th Texas Legislature (R).

HB 100. 2015. Enrolled. 84th Texas Legislature (R).

HB 100 Bill Analysis. 2015. House Research Organization. 84th Texas Legislature (R) (April).

HB 100 Fiscal Note. 2015. Conference Committee Report. Legislative Budget Board. 84th Texas Legislature (R) (May).

HJR 2. 1987. Enrolled. 70th Texas Legislature (R).

Heldenfels IV, Fred. 2012. "Prepared Testimony of Chairman Fred Heldenfels IV Before the House Appropriations Committee." Texas Higher Education Coordinating Board.

Lindsay, Thomas. 2014. *Winning the "Space Race": How Universities Can Maximize Existing Space to Reduce Tuitions*. Texas Public Policy Foundation.

Lindsay, Thomas, and Trevor McGuire. 2015. "Center for Higher Education: 84th Texas Legislature in Review." Texas Public Policy Foundation.

Martin, Andrew. 2012. "Building a Showcase Campus, Using an I.O.U." *New York Times*, December 13.

Matocha, Dustin. 2015. "Tuition Revenue Bonds Are a Bipartisan Problem." *Texas Scorecard*, April 6.

Ness, Erik, and David Tandberg. 2013. "The Determinants of State Spending on Higher Education: How Capital Project Funding Differs from General Fund Appropriations." *The Journal of Higher Education* 84 (3): 329-362.

Potter, Rissa. 2006. *Public Higher Education Capital Funding: A Survey of 37 States*. Texas Council of Public University Presidents and Chancellors.

Snedden, David. 1920. "Capital Needs for Education in the United States." *Annals of the American Academy of Political and Social Science* 87: 71-82.

Straumsheim, Carl. 2015. "Gator from the Get-Go." *Inside Higher Ed*, June 11.

Strauss, Valerie. 2015. "University of Florida admits 3000 students – then tells them it is only for online program." *Washington Post*, April 6.

Taylor, J.G. 1949. "College Revenue Bonds to Finance Self-Supporting Projects." *The Journal of Finance* 4(4): 328-341.

Texas Education Code § 55.02

Texas Education Code § 55.13

Texas Education Code § 55.18

THECB (Texas Higher Education Coordinating Board). 2004. *A Summary of Deferred Maintenance: Current Accumulated Needs, Current Expenditures, and Planned Five-Year Expenditures FY 2004 to FY 2008*. THECB.

THECB. 2009. *Overview of Space Usage Efficiency (SUE)*. THECB.

THECB. 2010. *Tuition Revenue Bond Projects Evaluation Methodology*. THECB.

THECB. 2014. "Overview: Tuition Revenue Bonds." THECB.

THECB. 2015. *Capital Expenditures Report FY 2016 to FY 2020*. THECB.

THECB. 2015a. *Space Usage Efficiency (SUE) Fall 2014*. THECB.

Turcotte, Paul. 2015. *Project Construction Cost Analysis Fall 2014 (FY 2008 – FY 2014)*. THECB.

United States Department of Education, National Center for Education Statistics. 2015. "Fast Facts: Tuition Costs of Colleges and Universities." National Center for Education Statistics. Accessed August 3.

University of Texas System. 2014. *The University of Texas System Debt Overview* [PowerPoint]. The University of Texas System.

University of Texas System. 2016. "Frequently Asked Questions." The University of Texas System. Accessed August 3.

Zaffirini, Judith. 2008. *Senate Finance Higher Education Subcommittee Interim Report*. Senate Finance Higher Education Subcommittee of the 80th Legislature.

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