Financing California's Infrastructure

Sponsored by the CSU Faculty Research Fellows Program

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December 2005

Executive Summary

California's infrastructure, including schools, hospitals, highways, water and sewage systems, jails and prisons, have been built over the past fifty years using a myriad of financing strategies. Initially these facilities were paid using current revenues (paying-as-you go), but as projects became larger and more expensive, and state and local governments had to allocate revenues for other purposes, a shift occurred to the use of bonds (borrowing). The use of bonds allows public agencies to complete projects more rapidly and have future residents, who will benefit from the completed project, contribute to the cost.

Since 1958, California voters have authorized the sale of $83 billion worth of General Obligation (GO) bonds; sixty percent of these bonds went to construct and modernize higher education and K -12 classrooms and buildings. Additionally, the State has $11 billion in lease-revenue bonds outstanding and currently authorized.

As of October 1, 2005, California had outstanding $34.5 billion of General Fund supported GO bonds, exclusive of $10.7 Economic Recovery bonds, and another $30.5 billion authorized and yet to be sold.

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This year repayments of these debts use approximately 4.5% of the General Fund. In five years, according the Legislative Analyst's 2005 Fiscal Forecast, debt service will rise to 5.2%. Investors and credit agencies consider as moderate a range of debt service capacity as between 6% to 8%, but they argue against inserting any specific debt limit into law or constitutions as too restrictive. Creditors want governments to have flexibility in their ability to maintain necessary public infrastructure improvements.

California, compared to other states, is fiscally conservative in terms of its debt policy. For instance, in 2003 the state ranked 21st in terms of debt service as a percentage of general fund expenditures and 23rd as a percentage of personal income.

Applying the Legislative Analyst's latest fiscal forecast (November 2005), which assumes no change in tax and spending policies and a municipal bond market and economy remaining healthy, this study calculates that in the next five years the State of California could sell an additional $14 to $15.6 Billion of general obligation debt. This conclusion assumes the Legislature and Governor agree to spend 6% of the State's General Fund repaying current and future debt issues. If this debt capacity ratio is raised to 6.5%, the amount of new debt could increase to $23.4 billion.

Exclusive of school and community college districts, from 1995 through 2004, local agencies' voters approved only 53 GO bond issues totaling $5.3 billion. The substantial infrastructure requirements these agencies face continuously are, therefore, financed using non-general obligation debt instruments. Comparatively, in 2004 the State sold 60% of its long term debt as GO bonds. Only 30% of all local public agency debt sold, including schools, was GO bonds.

Local public agencies issue a greater variety of debt instruments than does the State, and, other than school districts, have issued GO bonds less frequently than has the State. Municipal governments and school districts' GO bonds are property based, which require a two-thirds vote, until Proposition 39 reduced the threshold for school districts to 55%. The State's GO bonds require 50% approval, but only after approval by two-thirds of the Legislature or through the initiative process.

General obligation bonds are considered to be backed by a jurisdiction's "full faith and credit" pledge, i.e. debt repayment is its first obligation. This obligation may result, however, in less revenue available for other public purposes. Consequently, prior to making a long term debt commitment, prudent debt policy includes determining both how on-going programs or services may be impacted and revenue volatility. These considerations are critical, as the Legislative Analyst cautioned (January 2005), because, in the State's situation, revenues are highly sensitive to fluctuations to changes in the overall economy, while, comparatively, local governments' ad-valorem based property taxes have remained relatively stable.

There is considerable evidence that infrastructure construction projects generate direct and indirect employment opportunities. Albeit the magnitude of change is difficult to measure, it appears that $1 of public infrastructure investment increases personal income or employment between 10 and 20%. Depending on the type of infrastructure project, a $1 billion investment increases direct and indirect employment by approximately 15,000 individuals.

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A primary obligation of government is to provide the infrastructure needed to assure a viable and efficient economy. Whenever governments own roads, schools, sewer lines, airports, bridges, prisons, and libraries, public leaders must decide how best to finance their construction and make improvements. Just like homeowners having to decide how best to maintain and renovate their own homes, public leaders must decide whether to pay for public infrastructure improvements all at once (applying current year tax dollars) or over time (repaying a debt using future tax dollars).[1]

Although borrowing and repaying a debt over time is expensive, it may be both necessary and beneficial for current taxpayers and the economy. When public improvements are costly to design and build, setting aside current dollars until sufficient project funds are available becomes expensive and impractical. With annual revenues committed to existing programs there is not enough additional money to pay for major projects and save for unforeseen events. Hence, using current tax dollars to finance these activities forgo opportunities elsewhere. Similarly, necessary infrastructure projects are more likely delayed when government are limited to current tax revenues. If governments, like private firms, are unable to maintain needed facilities, residents and business will suffer economic losses.

When infrastructure improvements use current tax dollars exclusively, future residents and businesses enjoy the benefits at no cost. Financing a project using a debt instrument permits governments to initiate expensive projects quickly, share the repayment burden with those who receive the benefits, and can more rapidly stimulate economic growth. On the other hand, creating a debt obligation limits future decision makers' options and puts pressure to increase government revenue absent a desire to reduce current program expenses. Historically, California's state and local governments have used both financing methods to develop and maintain public infrastructure.

Recent History of California's Infrastructure Financing

Since the end of the Second World War, California's state and local governments embarked on a concerted effort to construct transportation, water, sewage, educational, recreational, energy, and correctional systems designed to support and facilitate a growing population and economy. As the state prospered, increasing tax receipts enabled governments and school districts to provide universities, highways, water systems, and school buildings.[2] Until the mid-1960s the federal government's financial assistance to state and local governments was limited to flood control and interstate highway projects.[3] From 1957 through 1969, as illustrated in Appendix A, California state and local governments outpaced the

*I would like Brendan Hughes' considerable assistance in collecting data and asking questions.

[1] Using current year tax dollars is sometimes described as "pay-as-you-go" in contrast to using debt instruments called "pay-as-you-use" financing.

[2] In 1998 the Legislative Analyst recommended the Legislature commit 6% of the General Fund for infrastructure spending. Chapter 606, Statutes of 1999 (AB 1473, Hertzberg), requires the Governor to submit a five-year infrastructure plan annually in conjunction with submission of the Governor's budget. This plan has not been produced since 2003.

[3] If infrastructure is characterized to include subsidized housing development, state and federal governments participated earlier through a variety of programs. "Flood control" includes dams, canals, and levees.

national average of public infrastructure spending.[4] Over the last thirty years, however, California's spending mirrored the national average. The evidence, as illustrated in Appendix A, shows how these patterns are related to the state's population and employment growth.

But forty-five years ago infrastructure was financed using current tax dollars, especially from special fund sources. Table 1 depicts the changes since 1960, especially the shift from using current tax dollars (General and Special Funds) to future or over-time sources (Bond Funds). In 1960 – 1961, for example, nearly 60% of the Governor's Budget

Table 1

State Revenue Sources for Infrastructure Financing			
	1960-1961	1965-1966	2002-2003
General Fund	13.5%	1.8%	0.9%
Special Funds	44.2%	27.9%	7.5%
Bond Funds	15.8%	42.2%	77.5%
Federal Funds	26.6%	28.0%	14.1%
Total Amount	$4,104	$5,789	$10,607
Amount Per Capita	$259	$307	$299

Reprinted from: Shelly de Alth and Kim Rueben, Understanding Infrastructure Financing for California, page 8, (2003 dollars)

for capital projects came from general and special funds.[5] This reflects spending on higher education and flood control projects. The growth of the federal and state highway system is evident by the continuing share of federal government dollars.[6] Passage in 1960 of the $1.75 billion state water project bond measure quickly increased, as shown in Table 1, the state's reliance on bond funding. Currently, almost all state capital improvements are financed over-time using proceeds from the sale of bonds.[7] Nevertheless, on a per-capita basis California state government spends the same today, in constant dollars, as it did in 1965 -66, $299 in 2002-03 compared to $307, thirty-seven years earlier.

[4] de Alth and Rueben, p. 5

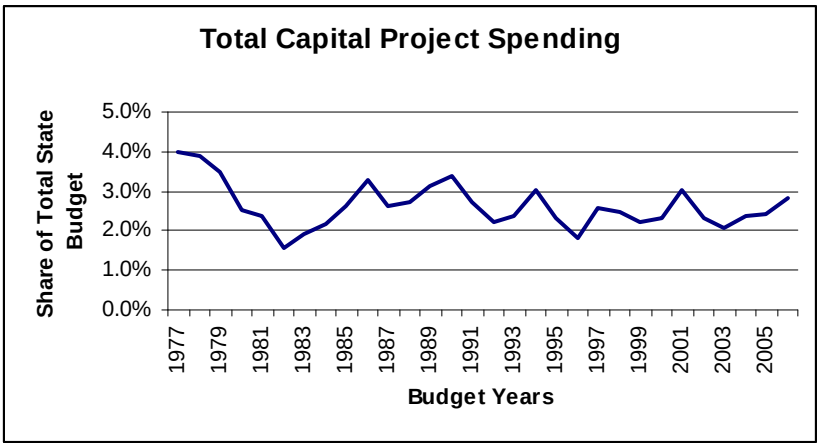
[5] From 1960-61 through 1965-66 (the last six years of Pat Brown's administration), general and special fund spending on capital projects accounted on average for 13% of all state expenditures.

[6] The federal highway trust fund offered the states a 90 cent contribution for every 10 cents of state funds for the construction of federal and state highways – the state's share came from motor vehicle fuel taxes.

[7] The Legislature placed on the October 2003 ballot a proposal to finance infrastructure improvements on a "pay-as-you-go" basis. The measure received only 36.2% of the votes cast. Proposition 53 (ACA 11) would have set aside a specific percentage of the General Fund for state and local infrastructure purposes. Beginning with the upcoming fiscal year (2006 -07), the measure would have set aside 1% of the General Fund and grow to 3% by 2013-14. Opponents argued successfully that earmarking a specific share of the State' General Fund would have further limited the Legislature and Governors' policy options, especially during a major downturn in the State's economy, as was the case at the time. California Secretary of State, Official Voter Information Guide, October 2003, p. 34 - 39

But since 1977 allocation for capital improvements as a share of the state's entire spending has declined, as Figure 1 illustrates. Until recently federal dollars for expensive

Figure 1



Source: Chart F, Governor's Budget Document

and extensive highway, water and wastewater development projects were the largest source for capital improvement dollars (Appendix B). The ebb and flow of federal assistance is closely linked to national public policy changes. For example, federal financial support in the last five years has declined substantially. In the 1980s, state general and special fund spending (primarily for higher education and prisons) also declined, but recently it has increased reflecting a policy of levying fees for special, enumerated projects.

California State Debt

Debt financing is neither good nor bad; in California, other than for roads and highways, it has been the preferred alternative. Since 1958, California voters have authorized the state to issue over $83 billion in general obligation (GO) bonds to construct, among other things, classrooms and universities, build water transport and sewage systems, purchase parks and improve public transit.[8] As Table 2 indicates, the largest share of the State's general obligation bond sales (60%) has been used to construct and modernize university and K -12 classrooms. Since 1978, a substantial share of the state's general obligation debt issues have been issued for construction and renovation of local schools and jails. In addition to general

[8] During this period state voters authorized an additional $1.3 billion to support Veterans' Home Loans and $15 billion in Economic Recovery Bonds. General Obligation Bonds are secured by a jurisdiction's full faith and credit. The State's GO Bonds are repaid from the General Fund, unless from earmarked or dedicated revenues. The 2004 Economic Recovery Bonds, for example, are repaid from a special, voter approved, share of the sales tax and, thus, excluded from this analysis unless noted.

Table 2
California General Obligation Bonds
Authorized by Voters, 1956 - 2004

Purpose	General Fund	Self-Liquidating
Education	$49,880.0	
Environmental Protection	7,565.0	$1,750
General Government	1,565.0	
Health & Hospitals	3,905.9	
Housing	2,750.0	850
Public Safety	4,087.0	
Parks & Open Space	7,981.0	
Seismic Safety	2,800.0	
Transportation	2,990.0	
Veterans' Home Loan Program		6,910
	$83,523.9	$9,510

Source: Office of the Treasurer, Preliminary Official Statement, October 1, 2005, dollars in millions

obligation bonds, the legislature and governors have authorized the sale of lease-revenue bonds (currently $8 billion are outstanding and more than $3 billion are authorized but not yet issued) for the construction of state prisons, improvements in higher education facilities, and state buildings.[9]

Table 3a illustrates the state's general obligation and Table 3b the lease-revenue bonds currently outstanding and authorized but not yet issued. The largest shares of the authorized but unissued debt are for schools, environmental projection and health care (Children's Hospitals and stem cell research) projects. Unissued lease revenue debt awaits completion of various state building and university construction projects.

Table 3a
California General Obligation Bonds

Purpose	General Fund	Special Fund	Authorized but Unissued	
Education	$25,042,877		$15,863,099	
Environmental Protection	2,816,215	$715,390	7,340,523	
General Government	349,900		491,125	
Health & Hospitals	0		3,750,001	
Housing	20,465		2,085,125	
Public Safety	1,162,070		10,080	
Parks & Open Space	1,748,105		8,430	
Seismic Safety	1,644,515		178,810	
Transportation	1,758,455		210,915	
Veterans' Home Loan Program		1,318,365	653,185	
	$34,542,602	$2,033,755	$30,591,293	$67,167,650
Economic Recovery	$10,727,305			

Source: Office of the Treasurer, Preliminary Official Statement October 1, 2005 (in thousands)

[9] Lease-revenue bonds are also repaid with General Fund revenues, but these must be appropriated annually and are not secured by the State's full faith and credit. Repayment occurs as part of the annual budget process, i.e. they are neither "guaranteed" or "continuously appropriated."

Table 3b
California Lease-Revenue Bonds

Purpose	Outstanding Bonds General Fund	Outstanding Bonds Special Fund	Authorized but Unissued	
Education	$2,706,317		$1,041,832	
Energy Efficiency		49,025	0	
General Government	2,613,430	142,958	1,858,708	
Public Safety	2,377,808		419,147	
	$7,697,555	$191,983	$3,319,687	$11,209,225

Source: Office of the Treasurer, Preliminary Official Statement October 1, 2005 (in thousands)

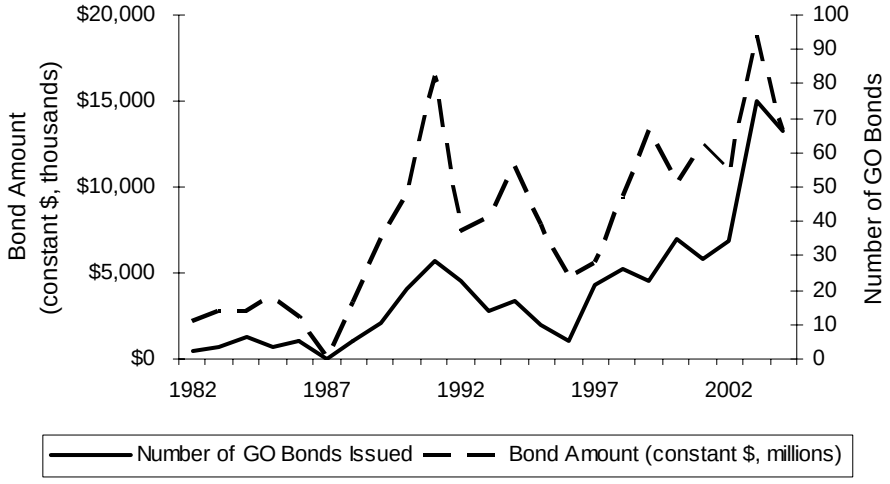
Source: Office of the Treasurer, 2005 Debt Affordability Report

Since 1982, the number and amount of State of California General Obligation Bonds issued or sold have increased substantially. As Figure 2 indicates, the frequency of annual sales and amounts sold are closely related.[10] The amount of bonds sold depends on state policy decisions to finance specific projects over time and voter approvals. Frequency of issuance, on the other hand, is determined by the Treasurer and Department of Finance's assessment of project status and municipal bond market conditions. Timing of bond sales is independent of elections, but related to how a project is developing and bond market conditions. In addition, when market conditions are favorable, the Treasurer is desirous of reducing the State's debt burden by refinancing existing debt. Accordingly, at the beginning and end of the 1990s, when long term municipal bond rates were at historical lows, the number and amount of bonds sold increased markedly. In 1987, no state general obligation bonds were issued due to statutory and market uncertainties resulting from major changes in federal tax law.[11]

[10] CDIAC does not indicate how it "counts" a large bond issue with multiple series, e.g. Series A, B, etc. It appears each series is counted separately even though all are sold at the same time. There are several reasons why bonds may be sold in separate series, e.g. for varied projects, financing structure, or bond market receptivity. Bond amounts in portrayed in the following figures are in constant dollars (1980 – 82 dollars) to better illustrate the magnitude of amounts and subsequent comparisons to changes in real personal income.

[11] Federal income tax law, which was significantly amended in 1986, now limits the frequency of all bond refinancings or refundings and severely restricts the use of tax-exempt bond proceeds.

Figure 2
State General Obligation Issues
1982 – 2004
Amount and Frequency



Source: Appendix C

Historically, the State of California is fiscally conservative in terms of debt issues. California issues less debt per-capita than fifteen other states, as shown in Appendix E, including the neighboring states of Nevada and Oregon. California ranks 21st in terms of bond debt as a percentage of general fund expenditures, and 23rd as a percentage of personal income. Among the ten most populous states, California has the second largest long term debt per-capita, but proportional to the size of the general fund and individuals' personal income it is in the middle[12]

California's Economy and Voter Approval – a relationship?

Empirical voting studies consistently find that in presidential elections voters take into account current economic conditions. But the academic literature presents inconclusive evidence concerning how voters actually make such considerations, what evidence they use, and to what extent the economy becomes relevant in their decisions. At the state level the relationships are even less clear: voters may differentiate state economic conditions from national ones, but do they act on these beliefs and in what direction?[13] The relationship

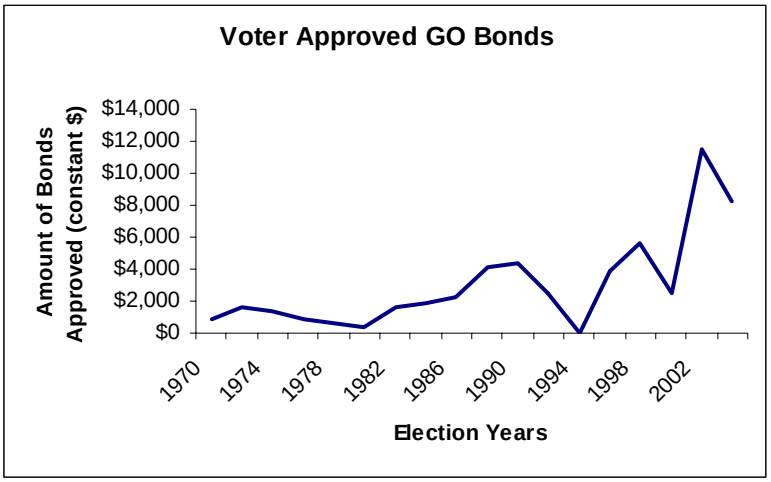
[12] Data from 2003 State Government Finances, U.S. Bureau of Economic Analysis. Difference in state-local responsibility for capital improvements, laws governing debt issuance, and economic well-being and growth as well as policy choices contribute to the observed variation in debt rankings. For instance, in 1997, California ranked 19th of debt per-capita.

[13] Niemi, et. al. (1999) provide evidence from large voter samples from across the states that individual voters differentiate national and state economic conditions but no evidence whether they act on those perceptions. Funk and Garcia-Monet (1997) found that voters' pocketbooks impact voting decisions indirectly through other factors such as political party preferences. Analyses by Nadeau and Lewis-Beck (2001), Fiorina (1981), Norpoth (1996), and Rudolph and Grant (2002) suggest alternative explanations. Voters evaluate candidates' positions and promises on economic matters, but scholars debate whether candidate evaluations are based on past performance or assessments about the future. Sorting out the relative weight of the economy's "actual" performance from individuals' "perceptions" of candidate positions on economic and other issues is the subject of debate. Since the

between voting for bond measures and a community's current economic condition is also not well understood.[14] Furthermore, there is very little empirical research on the relationship between voting for bond measures and economic conditions.

Nevertheless, as Figure 3 shows, California voters have approved GO bonds in every election year since 1970, aside from 1993 and 1994.[15] In 1993 California voters were asked at a special election to authorize the issuance of $185 GO bond for affordable housing; if failed to pass. Exactly ten years later, in another special election (October 2003), voters decided not to set aside a specific percentage of the General Fund to pay on an-ongoing basis state and local infrastructure improvements.[16] Since 1970, Californians have approved 71% of all bond measures or 86% of the proposed amounts.

Figure 3



Source: Appendix F

Voters have approved general obligation debt, as Figures 4 and 5 illustrate, regardless of the state of California's economy or whether the state's budget has been in a surplus or deficit condition. There have been notable exceptions that may be connected to the state's economy, but also may have been linked to a number of other factors. For instance, in 1993 California's economy had slowed, as evident by reductions in personal income and the state gross domestic product, and the next year voters did not approve any of the 5 bond proposals (see Appendices F and G). When the state's economy slowed in 1982 and 2001, voters approved bond proposals. In 1990, with personal income increasing minimally, voters were asked to approve 19 separate bond measures, but only 8 passed. Although $5.9 billion of over $10 billion in proposals were approved, it is difficult to conclude that the state's economic

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first major national academic surveys in the 1950s, the condition of a voter's "pocketbook" was recognized to impact voting decisions.

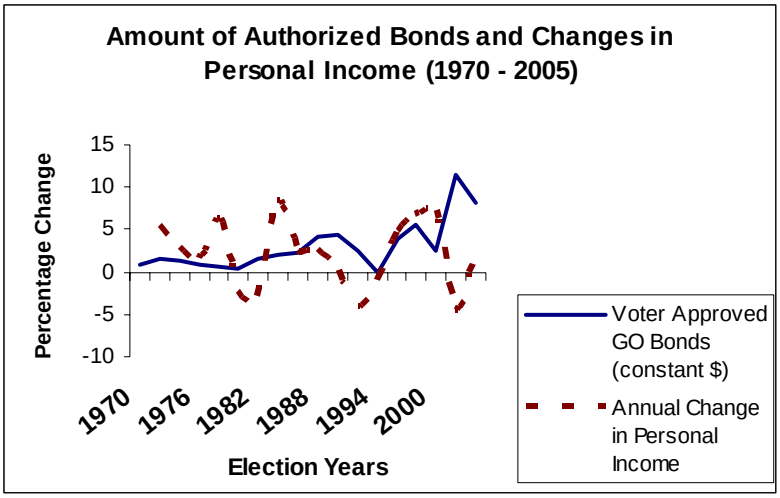
[14] Niemi, et. al. (1999) found that a state's debt capacity has very little impact on individuals' perceptions whether their states' economy was "good" or "excellent." P. 185-186 The inflation rate, state and local taxes per-capita, and changes in disposal income per-capita appear to have greater impact on public perception of how "good" or "excellent" is a state's economy. Table 4, p. 184

[15] Figure 4 does not include "self-liquidating" or revenue bonds (primarily Veterans' Home Loans) or the Economic Recovery Bonds approved in 2004.

[16] See note 7 above.

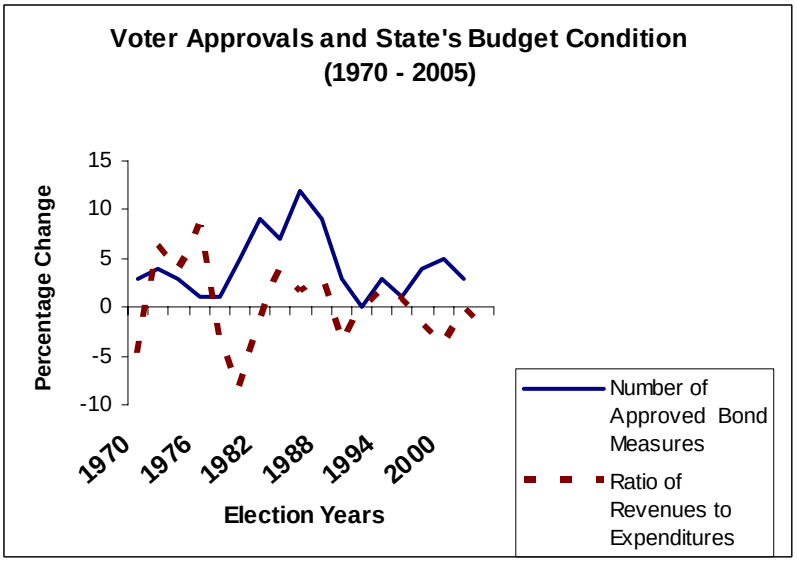
health contributed to voters' willingness to make specific long term commitments.[17] Similarly, as Figure 5 depicts, bond approvals appear independent of state government's budget condition, i.e. the extent to which state budget revenues were greater than proposed spending.[18]

Figure 4



Source: Appendices F and G

Figure 5



Source: Appendices F and G
Note: "Ratio of Revenues to Expenditures" is the budget enactment date. Also see footnote 13

[17] The 1990 Primary and General Election results may be considered anomalous and certainly interesting. In June 1990 all seven bond measures, totaling $5,140 million, passed, but in November only one of 12 passed. Bond proposals for prisons, open space, affordable housing, forest protection, county and courthouses, childcare facilities and higher education classrooms all failed in November, but housing, transit, prisons, seismic safety, and higher education classrooms passed in June. In both elections $1.6 billion for K -12 schools was approved. Clearly, voters made choices, but "subject matter" does not appear to have been the rationale.

[18] The "ratio of revenues to expenditures," as derived from the Department of Finance, incorporates the issuance of the Economic Recovery Bonds. Bond proceeds were deposited into the General Fund –"$9.242 billion was applied to the 2002-03 fiscal year and approximately $2.012 billion was applied to offset fiscal year 2004-05 General Fund expenditures." (Preliminary Official Statement, October 1, 2005, p. A-5) The reported ratios under-represent actual deficits by 10% in 2002-03 and 2% in the 2004-05 budgets.

State Government's Debt Burden

Governments' debt repayment ability is dependent on having sufficient revenues. While creditors are interested in reliable repayment plans, they are not desirous of imposing an unreasonable burden that could lead to deteriorating the underlying assets. Municipal bond creditors assess the likelihood of repayment using a number of financial, managerial, and economic factors.[19] Financially, three standards are generally employed: sufficient income to repay the debt (measured by the percentage of debt per personal income), the share of state spending required to service the debt (debt service as a percentage of unrestricted, general fund revenues), and the amount of debt per capita.[20]

In 2003, the total amount of California's outstanding debt was $679 per capita or 8% of residents' personal income, the later compares favorably to 22 other states.[21] The national median was 7% of personal income. The data in Appendix E illustrate measures indicating the relationship between a state's relative debt burden, population, income, and the share of a state's general fund (the revenue source most likely to be made available for debt service). While there is no ideal standard for these indicators, the data indicate California has a low to moderate debt burden.

From the perspective of state government policy makers as well as investors, the most frequently used indicator of state debt is the annual share of its general fund committed to annual debt repayment. There is no single, appropriate standard of appropriate debt service or burden level. Generally, creditors or investors examine the purpose of any debt as well as the relative burden it imposes. The greater the "essentiality" to which the borrowed money will be applied, the more investors are willing to have governments spend a larger share of their revenues on debt repayment, e.g. a police station is more or less essential than open space or hospitals.

Over time, California's ratio of debt service payments to the General Fund (commonly referred as the debt affordability or debt capacity index) has been consistently less than what analysts consider "modest."[22] Figure 6 shows the state's debt capacity ratio since 1977.[23] Slower general fund growth with increasing debt service payments starting in 1989 produced sharply higher ratios, peaking at nearly 6% in 1995. When the Treasurer's office restructured annual debt payments along with lower interest rates, the ratio declined for two years.

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[19] See for example Moody's Investor Service, State Rating Methodology, November 2004, p.22. They also note that more weight is given to overall finances and management issues and less to a state's economy and debt activity.

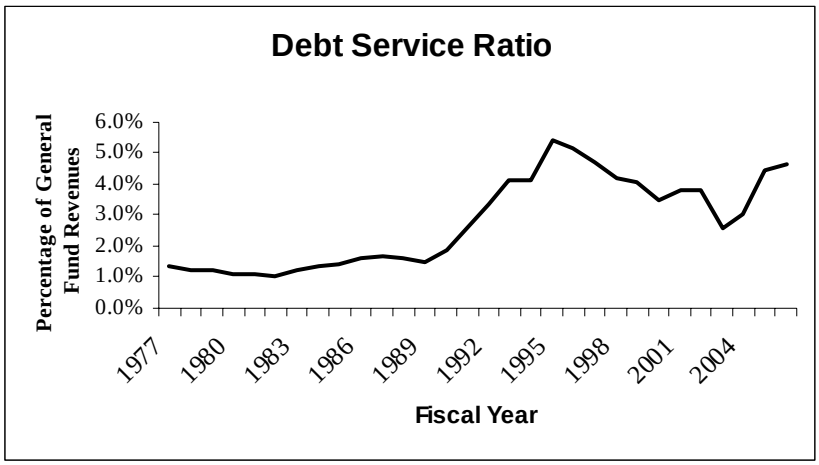
[20] These standards, among others, are commonly used by the three major rating agencies, Standard & Poor's, Moody's Investor Services, and Fitch.

[21] The "full faith and credit" measure is from the 2001-02 Fiscal Year; the others are for calendar year 2003. Different legal structures and policies impact a state's relative full faith and credit debt levels. Standard and Poor's 2000 Public Finance Criteria, p.29 notes the criteria for these standards. For example, they treat a low overall per capita debt burden as being less than $1,000.

[22] The Treasurer's 2001 Debt Affordability Report, observed "credit analysts generally consider (the ratio) to be 'low' at a level of 5.0 percent or less." p. ii.

[23] Debt service ratio is measured as the amount of principal and interest payments on outstanding general obligation and lease-revenue bonds as a percentage of general revenues.

Figure 6



Source: California's Fiscal Outlook, 2005

Debt Capacity

Debt capacity is a measure that summarizes the relationship between a jurisdiction's existing debt, the expenditures to service (repay) the debt, and a judgment on an appropriate balance between spending on current projects and future obligations. As "capacity" increases, a public agency has the opportunity to increase its current level of outstanding debt. Assuming a continuing policy of "moderate" debt levels, what is a realistic measure of California's future debt capacity?[24]

Excluding policy makers' preferences about an acceptable level of debt relative to current spending, estimating the State's debt capacity requires making a series of assumptions concerning economic and population growth, the bond market's acceptance of existing and future state debt (as measured by prevailing interest rates), and future state revenues and expenditures. While variations in each of these five elements makes estimating future debt capacity an "art" as much as a "science," they can be differentiated according to the level of control exercised by state policy makers.[25]

Three factors are beyond state government leaders' ability to modify: current economic conditions, population growth, and interest rates on municipal bonds. A strong national economy, for example, has an impact on the state's economy as well as the cost of state and municipal borrowing. If creditors require higher interest rates, the state will have less ability to refinance existing debt in order to reduce annual debt service payments.[26] Absent any change in policy, this phenomenon results in less capacity to issue new debt issues. Similarly, growing

[24] Debt capacity measures traditionally assume existing spending and revenue policies remain unchanged. Debt obligations have also not included the "post employment" benefits that the Government Accounting Standards Board now requires public sector agencies to account for the expected benefits for all plan participants.
[25] Future bond capacity estimates are independent of how bond proposals are placed the ballot. Since 1978, five initiatives were approved authorizing the sale of $9.956 billion of GO bonds (10% of the value of all voter approved bonds). Four bond initiative measures were defeated.
[26] Recent low market rates provided the state and local finance officials the opportunity to increase debt capacity by lower costs on existing (outstanding) debt.

populations lead to an increase in personal income and taxable sales which produce growth in state and local revenues.

State policy leaders may, however, influence directly the state's bonding capacity by deciding (a) how quickly currently authorized and unissued bonds will be sold, and (b) whether to establish a debt level goal or policy. For example, in each of the last two years, nearly $7 billion in new GO and lease-revenue bonds were sold to investors. The rate of new bond sales, based on current policy, depends on progress made by state agencies toward completing capital projects. Alternatively, establishing a "debt capacity" policy or goal is rarely undertaken by public agencies in California[27] or elsewhere.[28] The State's current "policy" is framed as part of the budget making process in terms of a project's necessity or essentially, revenue options, and cost.

Moody's Investor Services and Standard and Poor's each incorporate a number of financial ratios among a series of standards used to establish their own credit ratings. Moody's standard for a "low-to-moderate burden of long-term tax-supported state debt, (*is one that)* generally (*does*) not exceed 6% of personal income, and annual debt service not exceeding 8% of the general budget (each of these percentages being roughly twice the national average)."[29] Standard and Poor's "carrying charge" measure depicts as "low" 5% of debt service "as a percentage of expenditures" and "moderate" as 10%.[30]

California's Future Debt Capacity

This discussion of debt capacity implies that there is no single, best estimate for future bond capacity. Nevertheless, starting with assumptions about the growth of state revenues and

[27] Throughout the years, the Department of Finance and Legislative Analyst have reported and commented on the state's debt payment ratio by noting that the burden was moderate or acceptable. Chapter 1146, Statutes of 1996 (SB 2009, Killea) requires the State Treasurer to issue annually a Debt Affordability Report. The Legislative Analyst's 2005 California's Fiscal Outlook, indicates that a debt capacity exceeding 6% is "within the range" of acceptability. The Legislature, as part of its approval of ACA 11in 2003 (Proposition 53 on the October 2003 ballot), established an infrastructure spending threshold of 7.5% of General Fund spending that became a de facto debt capacity limit.

[28] Oregon and Florida adopted statutes designed to establish goals or policies regarding "prudent" levels of state issued debt. Oregon's policy is driven by the question "how much debt can be prudently issued without affecting ratings, interest costs, claims on the general fund, capital market access, and adverse impacts on other state spending needs?" Oregon concluded that a debt service ratio between 6% and 7% is "exceeding prudent capacity limits." Florida law established a debt capacity limit of 6% "as a target" and 7% "as a cap." Because Florida's state indebtedness was expected to exceed the 6% target over a number of years, the 2002 report outlined a number of consequences facing policy makers. State of Florida, Division of Bond Finance, 2002 Report on Debt Affordability Study, Update and Smith, Charles, "Measuring and Forecasting Debt Capacity: The State of Oregon Experience," Government Finance Review, December 1998, 52-54.

[29] Moody's Investor Service, State Rating Methodology, November 2004, p.22. The California Debt Advisory Commission (1987) also observed: "credit agencies consider strict, formal debt limits as artificial constraints which could severely restrict a state's ability to respond to an emergency or to make necessary ongoing improvements in its infrastructure." (p.4)

[30] Standard and Poor's Public Finance Criteria, 2000, p. 29. They also describe this as "combined general fund and debt service fund debt service (sic) divided by combined operating funds' expenditures."

spending[31] along with future interest rates, enables one to project a reasonable set of debt capacity numbers. The projections portrayed in Figure 7 apply the following assumptions:

• The Legislative Analyst's assumption about the General Fund's growth rate,[32]

• Mean Interest Rate on bonds sold over the next six years (which reflects two factors – the country's economy and credit ratings issued by the major rating agencies) [33]

• The Department of Finance and Treasurer's office decision whether and when to sell bonds currently authorized and the Legislative Analyst's assumptions about future interest rates impact on future debt service burden,[34]

• Alternative annual debt capacity levels at 5.5%, 5.75%, or 6%, and[35]

• Amortizing bond repayment over 30 years with principal and interest paid on a semi-annual basis.

[31] Over 90% of California General Fund's revenues are derived from three taxes (Personal and Corporate Income Taxes and Sales and Use Tax), and are closely tied to the state's economy. Hence, as the state's economy changes, State revenues fluctuate. While a continuing feature, the impact of this relationship has been especially noteworthy over the past five years. As state taxpayers prospered during the last part of the 1990s, state revenues grew even quicker, but as the "Internet Bubble" disappeared, State revenues declined substantially, e.g. in 1999-2000 the General Fund grew by 20% and declined by 17% a year later. As long as the General Fund remains dependent on these three taxes as currently structured, even short term revenue projections are subject to substantial volatility. The Legislative Analyst examined this linkage, Revenue Volatility in California, and found that state revenues fluctuate substantially more than changes in the state's overall economy. The measure of change, elasticity, was found over the longer term (1979-80 through 2003-04) to be 1:1, but from 1991 to 2004, it was 3.51%, and the personal income tax's elasticity was an extraordinary 6.24%. (p. 7-8). This means that a $1 dollar change in personal income produced over $6 increases and decreases in personal income tax collection. One result was the state's deficit cash-flow position; prompting issuance of the Economic Recovery Bonds.

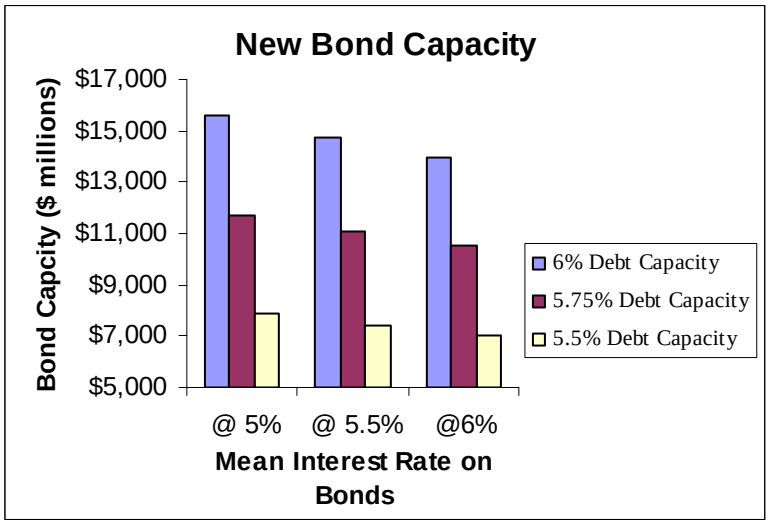
[32] The Legislative Analyst's Office, California's Fiscal Outlook, (2005) estimated an increase of 4.4% next year growing to an annual rate of 6.7% by 2011.

[33] "Mean Interest Rate" is the weighted average of all serial and term bonds sold at a particular date. The current market on new 30 year California uninsured GO debt is less than 5%. New and refinanced debt issues are likely to be less costly than payments on outstanding debt, reducing the state's overall debt payments. The ability of the Treasurer's office to refinance current obligations is limited by a number of legal, fiscal and market constraints. Provided that office can continue to undertake refundings that produce substantial net present value savings and/or restructure debt payment schedules, the greater is the opportunity to issue new debt in future years. Presumably, the "market" and credit rating firms reflect different evaluations of the state's debt and debt policies, but they are interrelated.

[34] California currently has $33 billion of authorized debt awaiting sale. The Treasurer's office plans to sell $11.5 Billion of this debt in the current and next fiscal years. The LAO assumes that future bond sales will occur at the same rate as in the recent past, and accounts for planned bond redemptions. They also assume "future bond rates will track our economic forecast."

[35] The Legislative Analyst's Office, California's Fiscal Outlook, (2005) p. 45-46, noted that a 6.8% debt service ratio is "still within the general range that many bond market participants would consider acceptable."

Figure 7



Source: Appendix H

Figure 7 indicates that through 2011, California has the potential of issuing between $7 and $15.6 billion of new General Fund supported debt (See Appendix H for a numerical summary). If a 6% debt service is considered acceptable, the State could sell $14 to $15.6 billion of additional debt, depending on bond interest rates.

With fixed annual payments, more bonds can be sold if interest rates remain low and policy makers choose to spend a slightly larger share of the State's General Fund for the purpose of debt repayment. For instance, if bonds are able to be sold at an average interest rate of 5%, which approximates the current municipal bond market, and debt capacity is at 6%, there is sufficient capacity to issue an additional $15.6 billion of new bonds. If interest rates rise by one percent to an average of 6%, the amount of new bonds capable of being sold will be reduced by $1.6 billion to $14 billion. But if interest rates remain at 5% and debt capacity is slightly reduced (5.75%), the state could sell $11.7 billion of new bonds.

In other terms, increasing debt service capacity from 5.5% to 6% doubles the amount of bonds that may be sold. However, increasing interest rates from 5% to 5.5% reduces the amount of bonds that can be sold by 5.45%. Because neither of these relationships are linear, increasing debt capacity alone does not enable the State to

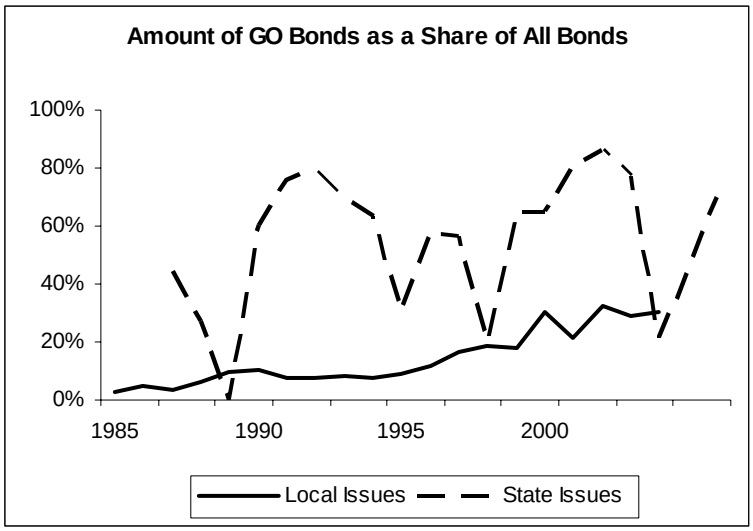
Comparing State and Municipal Agencies' Debt

California's local public agencies (local governments, school districts and special districts), like the state government have the authority to issue a wide variety of debt instruments. And like the state government, their ability to issue debt depends on the relationship between the state of the local economy, tax receipts, and voter approvals.

But there are three fundamental differences. First, to repay and secure its debt the state has a wider array of revenue options, especially from income and sales based taxes.

The result, as Figure 8 illustrates, is that local governments issue proportionately less general obligation debt than does the State.[36] Local governments have no income based tax and are

Figure 8

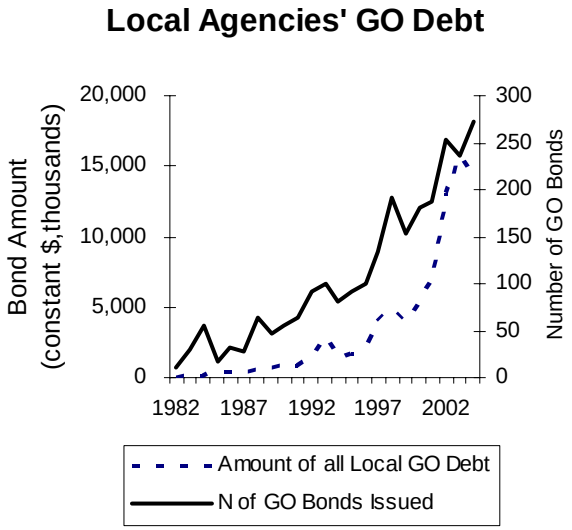


Source: Appendices C and D, excludes conduit revenue bonds, see note 33

constrained statutorily and financially from using local sales taxes. On the other hand, local governments and school districts may issue debt secured by real property; a source unavailable to the state. Property based taxes may be used to repay bonds either on the basis of value (ad-valorem) or acreage (parcel tax). California's local ad-valorem based general obligation bonds are highly valued by investors because voters commit themselves and future property owners to raise property taxes sufficient to repay the outstanding debt. The steady increase in locally issued GO debt reflects increases in school district bond issues used for classroom construction and renovation, while the marked fluctuations in State GO bond sales appears related to the rate of bond refinancings compared to new issues. These trends are illustrated in Figures 9 and 10. Figure 9 shows a steady increase in the amount of local general obligation bond debt,

[36] "All bonds" excludes conduit revenue bonds or certificates of participation (COPs), but includes lease revenue bonds, which have many similar legal and financial structures as COPs. "All bonds" also excludes short-term notes or commercial paper. State data on refundings are not available.

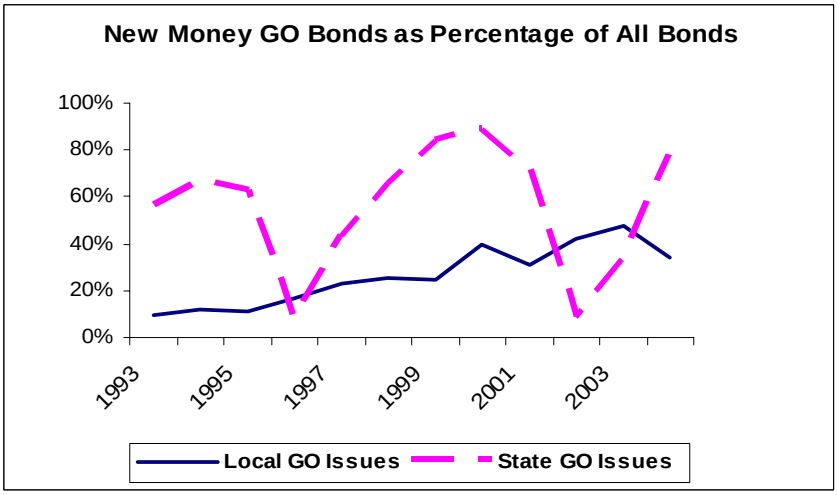
Figure 9



Source: Appendix D

but the number of bond issues fluctuates. This may be attributable to both refinancings as well as increases in local school bond issues. Prior to 1986, GO bonds were reissued with some regularity.[37] Appendix D shows that in 1985, 55% of all local GO bonds were refundings and in 1986, 65% were, but over the next five years more than 90% of all local GO bonds were new money issues. Figure 10 demonstrates since 1993 the percentage of new money GO bond issues for both the State and local public agencies. While the State does not issue or sell its

Figure 10



Source: Appendices C and D. Earlier data unavailable

general obligation bonds until projects are underway, the same process does not always occur in local governments and school districts.

[37] After passage of Proposition 13 in 1978 until the Supreme Court ruled in 1982 and the Constitution amended in 1986, local governments were unable to issue new GO bonds.

The difference in revenue sources has also a significant equity basis -- in terms of who pays and who benefits. Income-based taxes and fees are more likely to increase or decrease as the general economy grows or declines. Property-based taxes, however, are much less likely to change as the economy grows or declines, i.e. property taxes reflect individuals' "accumulated wealth" rather than "income." The current basis to levy an ad-valorem tax to pay for infrastructure arises from the belief that there is a nexus between the improvements and property values. If so, the argument goes, when thoroughfares, schools, and neighborhood recreational facilities are improved, adjacent property owners see direct, tangible benefits and may be more willing to impose on themselves a tax to finance those improvements. Similar links, although present, are harder to discern when income and sales based taxes are used to secure bonds issued for infrastructure improvements.[38]

Local governments are, as Figure 8 showed, much more willing to issue non-general obligation bonds, e.g. revenue bonds, assessment or benefit district bonds, and tax increment bonds. The ability and willingness of local governments, compared to the State, to issue bonds financed by taxes, fees, permits, user charges or tolls present equity and financial challenges. While general obligation bonds are backed by a promise to raise taxes, these other bonds do not have similar guarantees. Local revenue bonds, for example, may contain pledges to be repaid by parking meter collections, entrance fees at waste disposal sites, water and electricity usage, or sales and transit occupancy taxes, but such revenues are linked to each enterprise's business-like revenue generating capability. These enterprises have gained favor since passage of Proposition 13 by permitting local agencies to segregate these revenues from the general fund and operate them in a manner equivalent to private enterprises. Hence, debt secured from such activities is treated by investors as being similar to traditional business debt.

These types of debt issues are also attractive to local governments because they can provide a benefit directly to those who are asked to pay the tax or fee. They may not require voter approvals. The difference between the State and local governments' voter approval process further contributes to local agencies reluctance to issue general obligation debt. Local agencies are required to obtain agreement from two-thirds of the voters (school districts may now issue property tax backed bonds after 55% approval), while the State is only required to obtain approval from a simple majority of voters.[39]

Because school districts do not have independent funding sources from extra fees or taxes, their only local source of capital improvement funds comes from property linked revenues. Accordingly, as Table 4's data illustrates, 93% of all local general obligation bond proposals concerned K -14 educational facilities, and 65% of those were approved. Table 4 also evidences the impact of the less restrictive 55% requirement passed as Proposition 39 (2000): starting in 2001 "educational bonds" were nearly twenty percent more likely to be passed than during earlier periods.

[38] Both state and local governments also use enterprise fund transfers to support debt. The state, however, has fewer such enterprises used to repay debt or has decided to transfer such revenue to other funds.

[39] Proposition 13 authorized the issuance of ad-valorem based taxes only after two-thirds voter approval. Proposition 218 (1996) extended this voter approval requirement to other property based bond and tax measures. Proposition 39 (2000) authorized school districts to sell bonds after receiving 55% voter approvals, not two-thirds.

Table 4
Local Agencies Municipal Bonds[40]
1995 - 2004
Numbers and Approval Rate

	School Bonds		Non-Educational		
	Passed	*Failed*	Passed	*Failed*	Total
1995	40 (46%)	47	3 (75%)	1	91 (47%)
1996	34 (68%)	16	3 (27%)	8	61 (61%)
1997	70 (59%)	48	4 (50%)	4	126 (59%)
1998	75 (56%)	58	6 (67%)	3	142 (57%)
1999	59 (58%)	43	4 (80%)	1	107 (59%)
2000	70 (57%)	53	13 (81%)	3	139 (60%)
2001	47 (77%)	14	7 (70%)	3	71 (76%)
2002	174 (76%)	54	11 (65%)	6	245 (76%)
2003	11 (55%)	9	1 (50%)	1	22 (55%)
2004	133 (77%)	40	2 (33%)	4	179 (75%)
	713 (65%)	382	54 (61%)	34	1183

Source: CEDA

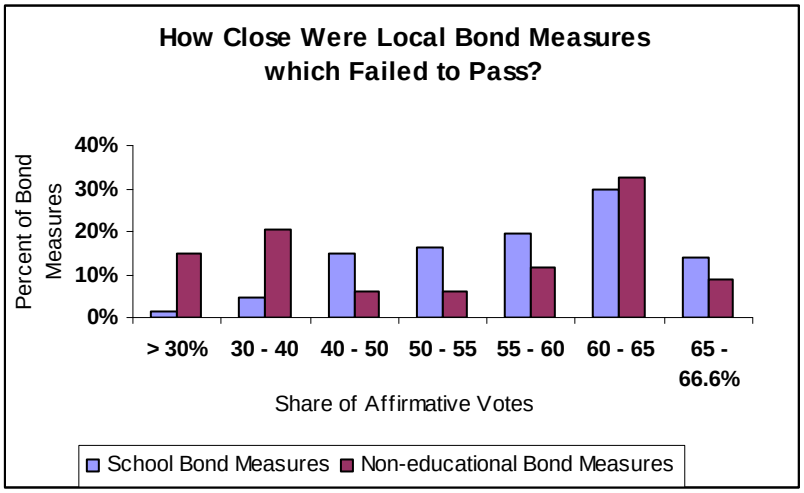
Of the $7.4 billion of debt local government voters were asked to authorize for non-educational purposes, $5.3 billion of debt passed. Of the 54 which passed, 12 accounted for 83% of the total amount approved. Eighteen (20.4%) of the 88 local government debt proposals designed to finance non-educational projects were for more than $100 million apiece.

Proposition 39's impact is further illustrated by Figure 11. It shows the likelihood that in the future school districts' voters will approve the issuance of general obligation bonds compared to local governments' voters. From 1995 through 2004, 382 school bond measures failed, but of those 63% could have passed if Proposition 39 had been enacted earlier. On the other hand, even if the 55% threshold was applied to local government bond proposals, only 53% of those which failed may have passed. Indeed, Figure 11 shows 41% of local government GO bond did not even receive 50% approval.

Even though the data imply that voters have are now more likely to approve the issuance of general obligation bonds for school district purposes, the data presented does not let us infer about a specific school district GO bond proposal. Variations among school districts' population and economic wellbeing, local needs and history, and the size of specific bond proposals likely impact the approval rate.

[40] "Municipal Bonds" includes 4 Revenue Bonds (two passed) and 12 Community Facilities Districts' Mello-Roos Bonds (nine passed). CEDA included these bonds in their "general obligation bond" classification. One Mello-Roos bond that passed was for both the unified and community college districts, jointly and proposed by the local government, San Francisco.

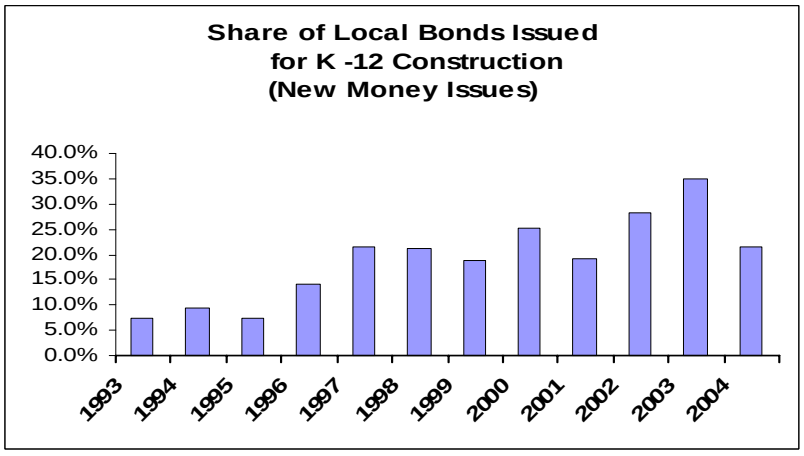
Figure 11



Source: CEDA

Figure 12 shows the share of local bonds sold to provide new funds for the purpose of constructing or renovating K -12 school sites. From 1986 onward, the data indicate school districts were the leading beneficiaries of new money (not refundings) bond measures.[41] The Legislative Analyst reported from 1987 through 1999, local school districts received 32% of their funds through the sale of locally approved GO bonds, 40% of their funds from the State's GO bonds, and 5% from voter approved CFD debt issues.[42] Other major local government capital endeavors (for water collection and distribution, power generation, wastewater treatment, and housing) are financed by issuing revenue bonds.

Figure 12



Source: CEDA

A third difference between state and local debt instruments stems from the state's constitutional supremacy: local agencies operate under the authority and direction of the state. Amending state laws can cause a shift in the amount and type of revenues local agencies' may

[41] "Total bond measures" excludes all interim notes, but includes conduit revenue issues.
[42] Legislative Analyst, 2001, A New Blueprint for California School Facility Finance The Analyst observes considerable variation among school districts regarding the ability of local districts to raise sufficient funds (see pages 14 – 15) and therefore proposes an alternative funding mechanism for state assistance.

apply for debt repayment. Hence, local agencies borrowing costs, all things being equal, tend to be more expensive.

Table 5 demonstrates the use of local governments and special districts general obligation bonds, exclusive of K-14 school building purposes. The uses for which bond proceeds are applied reflect not only community preferences but local agencies statutory authority, community wealth, or unwillingness to issue other debt instruments. For instance, local governments presumably are responding to public desires to construct or remodel public libraries when non-property based revenues are unavailable.[43] The most noticeable feature, however, is that only 61% of these bond proposals passed. While voters approved 90% of proposals for spending on recreational facilities, major cultural institutions (primarily museums) were not well received. Even public safety facilities (police, fire and emergency dispatch centers) and water or sewer improvements (all could be considered necessities) did not always meet voter approvals. Perhaps the amount of the bond proposal, location, or a community's economic condition contributed to these loses.[44] Local voters apparently make a distinction between various projects' importance and necessity.

Table 5
Intended Purpose for
Local Agencies Non-Educational Bonds
1995 – 2004

Purpose	Passed	Failed
Cultural Institutions	2 (33%)	4
Hospitals	1 (100%)	0
Housing	0 (0%)	1
Library	18 (78%)	5
Multiple Buildings	3 (43%)	4
Open Space	1 (50%)	1
Public Safety	12 (60%)	8
Recreation	9 (90%)	6
Roads & Transportation	2 (40%)	3
Water & Sewers	5 (71%)	2
	53	34

Source: CEDA
An additional parcel tax issued by a general government was approved for K – 14 purposes. See note 41

Impacting the State's Economy

As entrepreneurs, investors, and residents observe, prudent investment in California's infrastructure impacts everyone. Whenever governments, like private firms, make capital investments, jobs are created and opportunities exist for further economic growth and productivity. The magnitude and type of employment opportunities created vary depending on the nature of the capital project. As in the private sector, some investments produce goods that generate substantially more employment and economic growth (as measured by increases in gross domestic product). Obviously, large public-sector construction and renovation projects

[43] Many local library bond issues are conditional, based on local receipt of matching state funds that are derived from statewide general obligation bonds passed in 1988 and 2000.
[44] Until California's redevelopment law was amended (AB 1290, 1993) city halls, buildings and police stations were often funded using tax increment rather than general obligation bonds.

have a direct impact on employment in the construction industry and in secondary or dependent industries. These activities also stimulate the creation of additional jobs (induced employment) in other industries, e.g. retail merchants, financial services, and tourism. These activities help make everyone wealthier. In addition, investment in upgrading or renewing existing public facilities avoids negative economic effects that can result from a deteriorating infrastructure. Absent investment in adequate communication, water, and educational resources, for example, private sector employment opportunities can not exist.[45]

Studies analyzing empirically the relationship between public sector capital investments and the overall economy concentrate on the former set of questions – how many jobs are created with new investments? In contrast, there are few systematic or comparative empirical studies designed to determine the magnitude of "job-loss prevention" activities.[46] Scholars have, however, consistently studied how "fair" infrastructure benefits are distributed. By their very character, public projects are neither built or serve communities and individuals equally; they are not "impact neutral." Federal spending on highways, for example, has a long, significant history of positive and negative impacts.[47]

There are four empirically based methods commonly applied in analyzing how public sector investment impacts the economy: (a) applying cost/benefit techniques, where estimates are calculated for a specific project or investment, (b) using an input-output model, where expenditures are differentiated and enumerated by industry, (c) a case approach, and (d) constructing macro-economic models, where a classic production function model is created and tested empirically. Results vary depending on theoretical construct as well as such basic issues as the units of observation (e.g. community, type of project), form of investment (on-going maintenance or new capital), or time period (periods of economic growth differ from recessions).[48]

Table 6 highlights a representative sample of empirical studies demonstrating an array of possible impacts from an investment of $1 dollar in public infrastructure.[49] Some studies show minimal impact while others show substantial changes. Boarnet, who studied the impact of California counties' street and highway spending, found counties gross product and

[45] Muro and Puentes review studies designed to assess the impact on new public development as well as continuing service delivery expenditures in both urban and suburban areas. In the context of studying the potential of "smart growth" policies their literature review cites evidence that improving the urban core's infrastructure benefits both suburban and urban residents in the form of tax savings and spending reductions.
[46] There are many studies of deteriorating communities, but they do not examine directly the link between more potholes and fewer jobs. Redevelopment agencies existences are predicated on this linkage, but they analyze the future impact of infrastructure investment. Haughwout argues, for example, that targeted urban infrastructure improvements lead to greater productivity because the interactive effects that companies benefit from (agglomeration) are enhanced when many firms can share the costs of government supplied improvements. This argument suggests that not all communities share equally in the benefits of specific investments, i.e. there are spatial or locational benefits in public investments.
[47] Fishman's survey of academic and professional urban planners found that the federal highway program was considered to be the most significant influence on urban life in the second-half of the twentieth century.
[48]Most empirical studies do not consider the overall economy's condition. Yet, there is more than simple anecdotal evidence that when the economy is doing well the cost of providing infrastructure improvements increase (material costs and employees wages are bid higher). Post-Keynesian economics suggest deficit spending to stimulate economic well being during recessionary periods. Advisors to businesses seeking to relocate often report that infrastructure conditions are an important criterion in business location decisions.
[49] "Impact" is described as the economic multiplier. Each dollar here is assumed to be a new investment dollar rather than a maintenance dollar

employment were benefited by a factor greater than 20%. Kennedy, et. al. found that highway improvements in the Toronto regional area had a similarly impressive 20% direct impact, i.e. a billion dollar construction investment added $200 million to the area's gross domestic product. Asking a slightly different question, a Maryland transportation study (RESI) found that the durable manufacturing, communication, transportation and public utilities sectors enjoyed a 5% reduction in their overall costs of production following a 1% increase in the state's highway investment. This result suggests that public investment enhanced the competitiveness of local businesses.

Table 6
Estimated Impacts of Public Sector Investment

Study Author(s)	Unit of Observation	Changes in	$1 produces how much of a change?
Aschauer	United States -- highways	Personal Income	Between $0.31 and $0.39 more
Boarnet	California counties – streets and highways	Gross County Product, Employment	Within one county –between $0.24 and $0.30 more Adjacent county –reduced between $0.016 and $0.806
Duffy-Deno & Eberts	Metropolitan areas Infrastructure	Per-capita income	$0.094 more
Freight Analysis Study	United States highway construction	Employment	Direct construction plus Indirect Jobs: 16,298 per $1 Billion
Garcia-Mila, et. al.	States - highways	Economic output	$0.12 more
Holtz-Eakin and Schwartz	States - infrastructure	Gross State Product	No discernible change
Keane	United States-highways	Employment	Jobs: in multiple sectors see next table
Kennedy, et. al.	Greater Toronto	Gross Domestic Product	$0.20 increase
Munnell	United States -- infrastructure	Private Capital	Between $0.34 and $0.45 more
RESI	Maryland - highways	Industry output, rate of return	Varied, reduced production costs by $0.05, increase output by $0.06

Sources: see Bibliography

An "input-output" model ("Freight Analysis") found that every $1 billion in highway construction expenditures created between 16,000 and 25,000 direct and indirect jobs. This report also referenced an unpublished set of Bureau of Labor Statistics data as a point of comparison between various public and private construction activities. The study reported the following direct and indirect employment from different public and private construction financed projects:

Table 7
Selected Employment Impacts of Public Sector Spending

Type of Activity	Total Direct and Indirect Employment Impacts Per Billion Dollars
Private Multi-family Housing	15,362
Private Single Family Housing	13,512
Public Housing	15,133
College Housing	14,520
General Hospitals	15,688
Elementary and Secondary Schools	14,761
Federally Aided Highways	16,298
Sewer-Line Work	14,615
Sewer-Plant Work	14,225
Federal Office Building	15,265
Private Office Building	13,734

Source: Reported in Freight Analysis study from Keane who cites unpublished Bureau of Labor Statistics data, adjusted for 2000 dollars

These studies indicate variation in the direction and magnitude of job generating activities from different public sector investment activities. Arriving at acceptable impact measures is difficult. While it is easier to evaluate the impact of one project in a defined geographic area or population,[50] for larger geographic areas or entire industry sectors the calculations are more difficult and potentially less accurate. Equally problematic, these studies do not consider how changes in the workforce's educational achievements or skills and shifts in technology or production methods impact infrastructure investments. For instance, California's investment in higher education is widely viewed as a major contributor to the state's prosperity, the Internet has changed the face of outsourcing such that employees are not required to be in the proximity of each other, and employment growth prompts investments in transportation improvements. Equally the case, albeit difficult to measure in monetary terms, the failure to rehabilitate and maintain existing infrastructure is likely to cause substantial loses in workplace, housing, and recreational benefits.

Even though a traditional economic model views a dollar spent on government activities as being unavailable for and bidding up the cost of private sector investment, there is substantial evidence that private sector growth and an equitable distribution of resources require continuing government infrastructure investments.[51] One recent Los Angeles area project, the Alameda Corridor, illustrates clearly every aspect of the relationship. This is a somewhat controversial $2.4 billion construction project designed to expedite the movement via trains of containers from the Ports of Los Angeles and Long Beach 20 miles to train yards in central Los Angeles.[52] The rail line, which opened in 2002, was financed primarily through the issuance of revenue bonds secured by user fees levied on containers passing through the two ports. The two ports are the most active in the United States in terms of dollar value and together are the world's third most active; Los Angeles' port alone serviced more than $104 billion worth of goods in 2001.[53]

[50] For example, construction and development of the new UC Merced campus was partially promoted as a regional economic development stimulus (see Pastor and Reed, p. 25), and the LA Metro's Gold Line was viewed positively and negatively in terms of economic development opportunities.
[51] Problems arise when contradictory growth projections are used for planning infrastructure needs. The Center for Continuing Study of the California Economy (1999) described the problem and consequences, p. 25 -27.
[52] Haveman and Hummels, p.12
[53] Haveman and Hummels, p. 2 and 65. California's ports provide more than one-third of the nation's

Private firms and consumers benefit directly from more efficient distribution of goods imported and exported. The greatest share of the Corridor's benefits is throughout the region rather than areas adjacent to the ports. Pastor and Reed describe the controversy resulting from proponents' claim of substantial employment benefits were based on impacts throughout the United States. Critics countered with an argument that few benefits were specifically allotted to poorer community residents in the ports' vicinity. The Alameda Corridor Authority responded by pledging that 30% of "total hours" of construction activities would be given to new, presumably local, hires.[54] Because only 13 -14% of the containers going through the ports are transported on trains through the Alameda Corridor, truck traffic contributes to the ports' standing as the largest single pollution source in the Los Angeles area.[55] Accordingly, advocates for transferring larger share of goods to trains using the Alameda Corridor as well as other note that the project's success could have substantial health benefits that may be even greater than direct employment increases. [56]

Concluding Observations

Whenever public agencies sell debt, they make a commitment to repay their obligations over time. If a specific debt repayment is the first priority or first lien on all revenues, as is the case for GO bonds, fluctuations in the revenue stream may limit future discretionary future spending. On the other hand, once the bonds are issued, the project can commence and the community receives its benefits more quickly. When using bond financing, project beneficiaries will pay for its use. The alternative pay-as-you-go financing method reduces the likelihood that larger, expensive projects can be built within acceptable time periods and means that future beneficiaries will not have to pay for its construction.

California has been fortunate that voters in state and local elections have been willing to authorize the sale of infrastructure improvement bonds. Current residents, therefore, are fortunate their predecessors made those commitments and payments. Voters have approved bonds in nearly every statewide election since 1958, regardless of the state's economic condition or whether the state's budget was in a surplus or deficit position. The State of California also finances infrastructure improvements, principally for prisons and state buildings, by selling lease-revenue bonds, which do not require voter approvals.

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waterborne shipping imports and approximately one quarter of the exports, by value. p.49

[54] Pastor and Reed, p. 16

[55] According to the Authority's chief executive only 13 -14% of the ports' containers are now transported by rail. Shippers truck containers to rail yards in San Bernardino and Riverside counties. Thus, employment, health and safety consequences extend throughout the entire southern California area. Bernstein, Sharon and Deborah Schoch, "New Routes Just for Trucks Urged; Plans are recognition that Alameda rail line may never hit capacity, as big rigs move much port cargo inland. Activists voice concern," Los Angeles Times, August 22, 2004, p. B1 Streeter, Kurt and Mitchell Landsberg, "A Future Tied to the Tracks; Freight trains carry a growing load for the Southland economy. As commuter lines surge too, choking congestion may be down the road," Los Angeles Times, August 22, 2003, p. A1

[56] Because project bonds are repaid from project revenues, when the project does not attract sufficient users, debt repayment is jeopardized. The Alameda Corridor Transportation Authority's Program Operating Budget for FY2005/2006 (June 2005) reports that "user fees and container charges for 2006 are insufficient to cover annual debt service…in a timely manner." p. 25. The budget proposes the use of unused bond funds for repayment.

Local government and school district voters have also been willing to support local infrastructure improvements by authorizing various forms of indebtedness. Compared to State government, California's local public agencies have issued varied forms of debt to finance infrastructure improvements. Other than school districts, which have limited debt raising capacity, municipal governments use revenue bonds, lease-revenue bonds, parcel tax bonds, tax increment bonds, and benefit assessment district bonds in addition to GO debt. The shift to non-general obligation debt places greater repayment burden on those who benefit most directly rather than the community-at-large. This can make repayment more expensive and contribute to inequitable distribution of infrastructure benefits.

If one of governments' primary responsibilities is to assure an efficient and equitable economy by developing needed infrastructure, a central question is how such projects should be financed. Should those who enjoy the benefits pay for most of the costs? Who benefits and to what degree? General obligation bonds are designed to finance projects over time and have everyone in the community contribute to the cost. When infrastructure improvements benefit everyone, it is a reasonable expectation that all contribute financially. Not only do benefits accrue to those who have used and may use the facilities and services, but their development and construction provide new employment benefits, enhance economic productivity, and can stimulate equitable growth.

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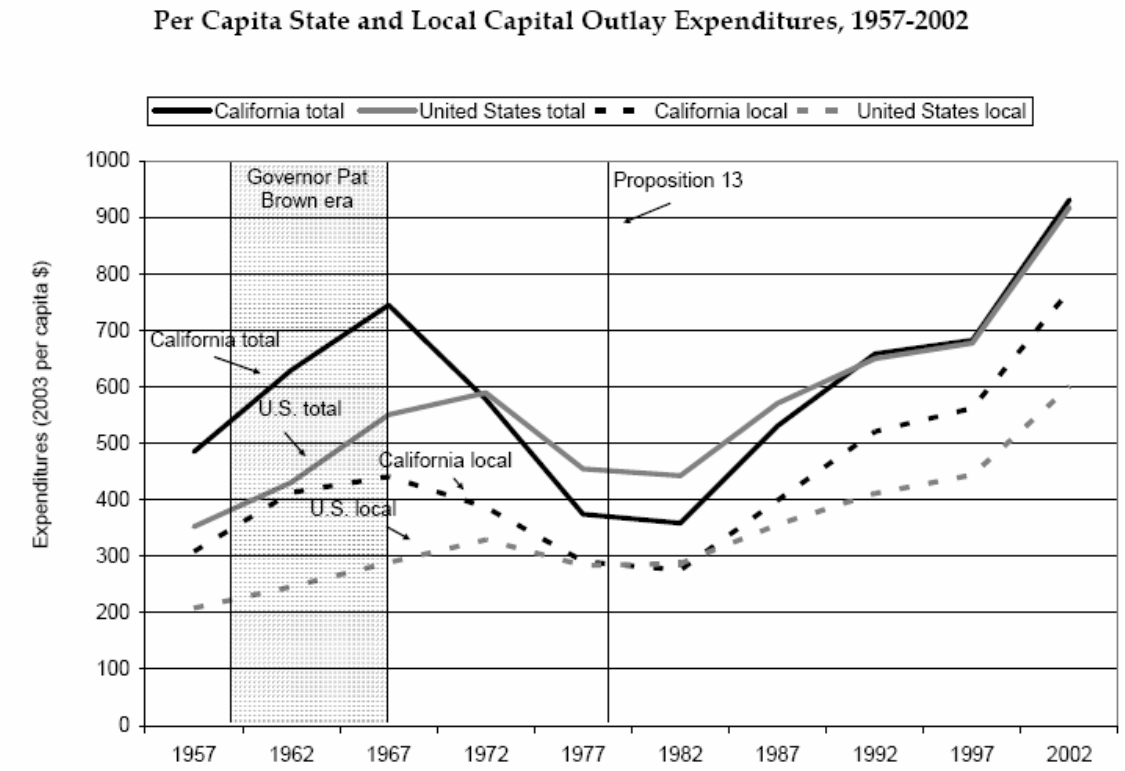
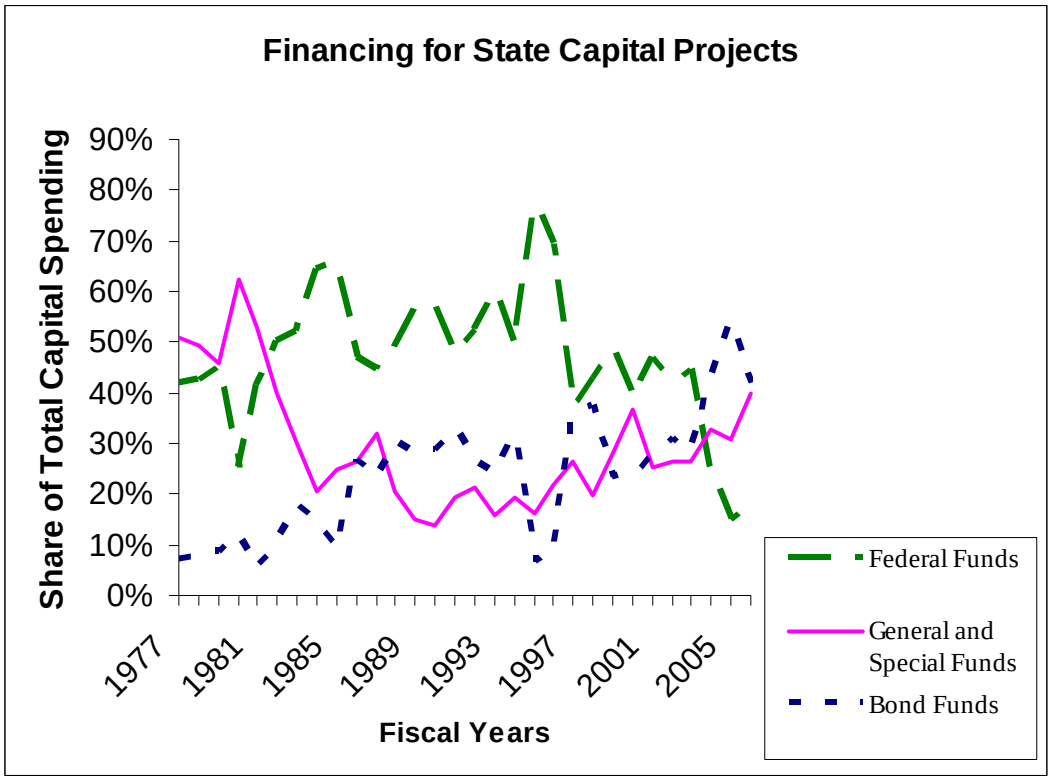
Appendix A
Historical Spending on California's Infrastructure



Reprinted from: Shelly de Alth and Kim Rueben, Understanding Infrastructure Financing for California, Occasional Papers, Public Policy Institute of California, June 2, 2005, page 5

Data Sources: United States Census Bureau, Governments Division (1957 – 2002), California State Controller (2001-2002)

Appendix B



Source: Chart F, Department of Finance, Governor's Budget

Appendix C

State Issued Bonds

	General Obligation Bonds					Total Bonds			
	Number	Total Amount	Refundings	New Money Issue	Percent New Money Issues	Total Amount	Percent General Obligation Bonds	New Money Issue	Percent New Money Issues
1982	11	$470,000,000							
1983	14	680,000,000							
1984	14	1,245,000,000							
1985	18	635,000,000	0	$635,000,000	100.00%	$1,440,000,000	44.10%		
1986	12	905,000,000	0	905,000,000	100.00%	3,325,000,000	27.22%		
1987	0	0	-	-	-	576,000,000	-		
1988	16	860,800,000	0	860,800,000	100.00%	1,433,530,000	60.05%		
1989	35	1,615,000,000	$45,800,000	1,569,200,000	97.16%	2,133,330,000	75.70%		
1990	48	3,020,100,000	56,100,000	2,964,000,000	98.14%	3,816,000,000	79.14%		
1991	82	4,023,000,000	0	4,023,000,000	100.00%	5785,000,000	69.54%		
1992	37	3,090,000,000	0	3,090,000,000	100.00%	4,849,790,000	63.71%		
1993	41	1,862,370,972	144,665,000	1,717,705,972	92.23%	6,076,970,972	30.65%	$3,060,658,075	56.12%
1994	56	2,207,000,000	0	2,207,000,000	100.00%	3,817,819,516	57.81%	3,294,074,516	67.00%
1995	39	1,246,625,000	81,095,000	1,165,530,000	93.49%	2,212,625,000	56.34%	1,865,404,789	62.48%
1996	23	659,715,000	530,815,000	128,900,000	19.54%	3,261,090,000	20.23%	1,690,275,000	7.63%
1997	28	2,691,970,000	2,265,650,000	426,320,000	15.84%	4,143,595,000	64.97%	975,273,879	43.71%
1998	47	3,202,895,000	1,942,510,000	1,260,385,000	39.35%	4,938,720,000	64.85%	1,908,477,511	66.04%
1999	66	2,679,900,000	166,540,000	2,513,360,000	93.79%	3,336,925,000	80.31%	2,999,800,000	83.78%
2000	51	3,962,505,000	1,605,255,000	2,357,250,000	59.49%	4,584,225,000	86.44%	2,653,626,207	88.83%
2001	62	3,193,980,000	1,018,331,395	2,175,648,605	68.12%	4,127,720,000	77.38%	3,008,893,119	72.31%
2002	54	3,710,320,000	2,510,320,000	1,200,000,000	32.34%	17,538,530,000	21.16%	14,254,954,534	8.42%
2003	94	7,868,580,000	3,818,580,000	4,050,000,000	51.47%	17,470,025,000	45.04%	11,664,951,351	34.72%
2004	66	6,798,470,000	713,280,000	6,085,190,000	89.51%	9,805,080,000	69.34%	7,801,422,792	78.00%
2004	12	10,727,305,000	Economic Recovery Bonds						

Source: CDAC, Annual Report, and CDIAC, Summary

Appendix D

Local Agency Issued Bonds*

	General Obligation Bonds					Total Bonds			
	Number	Total Amount	Refundings	New Money Issue	Percent New Money Issues	Total Amount	Percent General Obligation Bonds	New Money Issue	Percent New Money Issues
1982	10	$53,178,000							
1983	30	134,548,000							
1984	55	173,500,000							
1985	18	410,540,000	$224,000,000	$186,540,000	45.44%	$15,352,350,297	2.67%		
1986	32	386,711,000	254,200,000	132,511,000	34.27%	7,859,153,592	4.92%		
1987	28	224,298,000	23,100,000	201,198,000	89.70%	6,019,080,160	3.73%		
1988	64	465,325,000	11,550,000	453,775,000	97.52%	7,127,687,860	6.53%		
1989	47	516,438,000	3,300,000	513,138,000	99.36%	5,210,263,159	9.91%		
1990	56	610,918,500	8,700,000	602,218,500	98.58%	5,753,543,531	10.62%		
1991	64	622,588,841	14,300,000	608,288,841	97.70%	8,214,846,168	7.58%		
1992	92	1,020,876,663	313,200,000	707,676,663	69.32%	13,373,747,288	7.63%		
1993	100	1,900,728,950	1,045,677,398	855,051,552	44.99%	22,263,598,629	8.54%	$8,743,768,117	9.78%
1994	80	921,384,359	316,132,792	605,251,567	65.69%	12,105,420,813	7.61%	5,126,140,819	11.81%
1995	92	1,106,163,583	99,031,304	1,007,132,279	91.05%	12,134,736,286	9.12%	8,987,600,094	11.21%
1996	100	1,312,437,797	332,838,117	979,599,680	74.64%	11,532,611,660	11.38%	5,885,553,083	16.64%
1997	133	2,443,796,380	841,221,852	1,602,574,528	65.58%	14,659,099,838	16.67%	7,049,517,517	22.73%
1998	191	2,908,352,765	941,873,552	1,966,479,213	67.61%	15,411,681,406	18.87%	7,850,766,470	25.05%
1999	153	2,334,552,006	325,607,103	2,008,944,903	86.05%	13,024,030,860	17.92%	8,179,581,157	24.56%
2000	181	3,051,067,065	181,212,700	2,869,854,365	94.06%	10,056,973,825	30.34%	7,173,304,865	40.01%
2001	187	3,813,414,039	734,084,017	3,079,330,022	80.75%	17,902,995,387	21.30%	10,060,180,467	30.61%
2002	254	7,021,258,182	1,354,507,939	5,666,750,243	80.71%	21,674,026,484	32.39%	13,415,078,462	42.24%
2003	236	8,302,687,957	1,090,932,564	7,211,755,393	86.86%	28,537,033,144	29.09%	15,249,350,566	47.29%
2004	272	7,228,277,463	2,102,231,529	5,126,045,934	70.92%	23,787,604,826	30.39%	15,008,980,251	34.15%

Note: This Table includes school and community college districts' data
Source: CDAC, Annual Report, and CDIAC, Summary

Appendix E
Comparing California's Debt Burden, 2003

(Ten most populous States in bold italics)

	Long Term Debt, Full Faith & Credit, Per Capita		Debt as a Percentage of General Expenditures		Debt as a Percentage of Personal Income	
	Amount	***Rank***	**Percent**	***Rank***	**Percent**	***Rank***
Alabama	$ 454.50	27	1.75%	44	5.30%	38
Alaska	$ 1,105.68	5	3.77%	15	27.25%	1
Arizona	$ 82.17	38	1.55%	47	3.66%	46
Arkansas	$ 243.68	33	1.30%	48	4.99%	42
California	**$ 678.59**	**16**	**3.34%**	**21**	**8.04%**	**23**
Colorado	$ 0.41	42	3.26%	22	5.68%	36
Connecticut	$ 3,608.68	1	7.01%	3	15.07%	5
Delaware	$ 863.35	10	6.41%	4	15.75%	4
Florida	$ 23.12	40	2.43%	34	4.30%	43
Georgia	$ 748.09	12	1.83%	43	3.55%	47
Hawaii	$ 2,957.88	3	4.72%	10	14.82%	6
Idaho	$ -	-	3.57%	18	7.51%	24
Illinois	$ 874.40	9	5.46%	5	10.93%	13
Indiana	$ -	-	2.74%	31	6.63%	31
Iowa	$ -	-	1.27%	49	5.09%	40
Kansas	$ -	-	1.61%	46	3.06%	48
Kentucky	$ -	-	2.83%	27	6.66%	30
Louisiana	$ 510.27	23	3.98%	14	8.41%	20
Maine	$ 271.76	31	4.14%	13	11.86%	11
Maryland	$ 646.86	19	4.47%	11	6.27%	32
Massachusetts	$ 3,117.27	2	9.63%	1	18.98%	2
Michigan	$ 246.05	32	3.35%	20	7.06%	28
Minnesota	$ 608.23	21	2.00%	41	4.13%	44
Mississippi	$ 954.21	7	2.03%	40	6.25%	33
Missouri	$ 165.11	36	3.69%	16	8.30%	22
Montana	$ 240.78	34	3.58%	17	11.95%	10
Nebraska	$ 13.30	41	2.13%	38	4.00%	45
Nevada	$ 1,088.43	6	2.65%	32	5.03%	41
New Hampshire	$ 621.09	20	7.77%	2	12.56%	9
New Jersey	$ 384.49	28	3.22%	23	9.79%	16
New Mexico	$ 654.53	17	2.27%	37	9.83%	15
New York	$ 478.71	26	5.20%	6	13.27%	8
North Carolina	$ 567.38	22	1.86%	42	5.18%	39
North Dakota	$ -	-	3.39%	19	8.80%	19
Ohio	$ 498.02	24	2.79%	30	6.15%	35
Oklahoma	$ 81.27	39	3.08%	25	7.25%	26
Oregon	$ 698.11	15	2.05%	39	7.18%	27
Pennsylvania	$ 492.10	25	2.39%	35	6.20%	34
Rhode Island	$ 743.17	13	4.88%	7	17.73%	3
South Carolina	$ 880.21	8	2.93%	26	10.21%	14
South Dakota	$ -	-	4.75%	9	11.54%	12
Tennessee	$ 202.15	36	1.17%	50	2.11%	50
Texas	$ 350.76	29	1.61%	45	2.25%	49
Utah	$ 660.28	18	2.35%	36	8.40%	21
Vermont	$ 829.81	11	4.86%	8	13.59%	7
Virginia	$ 116.97	37	3.12%	24	5.40%	37
Washington	$ 1,388.58	4	2.82%	29	7.26%	25
West Virginia	$ 300.63	30	2.45%	33	9.62%	17
Wisconsin	$ 736.22	14	4.43%	12	8.83%	18
Wyoming	$ -	-	2.82%	28	6.85%	29

Sources, United States Census Bureau, Census of Governments, Annual Survey of Government Finances

Appendix F

Rate of Voter Approvals of State General Obligation Bond Measures *1970 -2004*

(Excluding Veterans' Housing Loans)

Election Years	Number of Proposed Bond Measures	Number of Measures Passed	Proposed Amount of Bond Measures	Amount Voter Approved
1970	3	**2**	$ 556.3	$ 310.0
1972	3	3	$ 665.9	$ 665.9
1974	3	3	$ 650.0	$ 650.0
1976	6	**2**	$ 1,430.0	$ 455.0
1978	2	**1**	$ 725.0	$ 375.0
1980	3	**1**	$ 865.0	$ 285.0
1982	5	5	$ 1,560.0	$ 1,660.0
1984	9	9	$ 2,655.0	$ 2,655.0
1986	7	7	$ 2,545.0	$ 2,545.0
1988	13	**12**	$ 5,528.0	$ 5,018.0
1990	19	**8**	$ 10,019.0	$ 5,940.0
1992	4	**3**	$ 4,700.0	$ 3,700.0
1993*	1	**0**	$ 185.0	$ -
1994	5	**0**	$ 6,900.0	$ -
1996	4	**3**	$ 6,695.0	$ 5,995.0
1998	1	1	$ 9,200.0	$ 9,200.0
2000	5	**4**	$ 4,690.0	$ 4,470.0
2002	5	5	$ 21,390.0	$ 21,390.0
2004	3	3	$ 31,050.0	$ 31,050.0

* Special Election

Source: Governor's Budget, Chart K-7, California Secretary of State, "Voter's Pamphlet" and "Statement of Vote" June and November 1970

Appendix G
Comparing Voter Approved State General Obligation Bonds and the State's Economic Condition
1956 -2005

Election Years	Total Voter Approved GO Debt (current $)	Annual Change in Personal Income	Annual Change in State Gross Product	Percentage of Revenues as a Share of Expenditures
1956	$300			105.8%
1958	$480			99.7%
1960	$2,050			92.6%
1962	$470			98.7%
1964	$790			98.7%
1966	$505			98.3%
1968	$65			103.5%
1970	$310			95.3%
1972	$666	5.68%	10.55%	106.5%
1974	$650	2.97%	4.30%	103.7%
1976	$455	1.67%	6.73%	108.5%
1978	$375	6.25%	12.00%	96.1%
1980	$285	-2.25%	-3.03%	91.6%
1982	$1,560	-3.03%	1.79%	98.6%
1984	$2,005	8.39%	16.17%	103.9%
1986	$2,545	2.58%	9.00%	101.7%
1988	$5,018	2.75%	9.73%	102.9%
1990	$5,940	0.23%	4.87%	96.3%
1992	$3,700	-4.03%	-3.63%	99.9%
1994	$0	-0.93%	1.16%	101.9%
1996	$5,995	4.80%	7.17%	100.8%
1998	$9,200	6.81%	9.24%	98.3%
2000	$4,470	7.23%	11.30%	96.1%
2002	$21,390	-4.59%	-5.65%	100.0%
2004	$16,050	1.99%	12.89%	98.2%
2005				95.8%

Sources: Governor's Budget, Chart K-7, California Statistical Abstract

Appendix H

Future Possible Bond Sales:
Three Debt Capacity and Three Interest Rate Assumptions

Fiscal Year	LAO's General Fund Forecast	LAO Projected Debt Service	5.5% Debt Service Ratio	Debt Capacity	Bond Sold at 5% Interest	Bonds Sold at 5.5% Interest	Bonds Sold at 6% Interest
2006	$87,279	$3,926	$4,800	$874	$13,512	$12,775	$12,099
2007	$91,076	$4,331	$5,009	$678	$10,481	$9,909	$9,385
2008	$96,601	$4,846	$5,313	$467	$7,218	$6,824	$6,463
2009	$102,856	$5,295	$5,657	$362	$5,596	$5,290	$5,010
2010	$109,395	$5,713	$6,017	$304	$4,694	$4,438	$4,203
2011	$116,778	$6,061	$6,423	$362	$5,591	$5,286	$5,006
					$7,849	**$7,421**	**$7,028**

Fiscal Year	LAO's General Fund Forecast	LAO Projected Debt Service	5.75% Debt Service Ratio	Debt Capacity	Bond Sold at 5% Interest	Bonds Sold at 5.5% Interest	Bonds Sold at 6% Interest
2006	$87,279	$3,926	$5,019	$1,093	$16,885	$15,964	$15,118
2007	$91,076	$4,331	$5,237	$906	$14,000	$13,236	$12,535
2008	$96,601	$4,846	$5,555	$709	$10,950	$10,353	$9,805
2009	$102,856	$5,295	$5,914	$619	$9,570	$9,048	$8,569
2010	$109,395	$5,713	$6,290	$577	$8,920	$8,434	$7,987
2011	$116,778	$6,061	$6,715	$654	$10,103	$9,552	$9,046
					$11,738	**$11,098**	**$10,510**

Fiscal Year	LAO's General Fund Forecast	LAO Projected Debt Service	6.0% Debt Service Ratio	Debt Capacity	Bond Sold at 5% Interest	Bonds Sold at 5.5% Interest	Bonds Sold at 6% Interest
2006	$87,279	$3,926	$5,237	$1,311	$20,257	$19,152	$18,138
2007	$91,076	$4,331	$5,465	$1,134	$17,518	$16,563	$15,686
2008	$96,601	$4,846	$5,796	$950	$14,683	$13,882	$13,147
2009	$102,856	$5,295	$6,171	$876	$13,544	$12,805	$12,127
2010	$109,395	$5,713	$6,564	$851	$13,147	$12,430	$11,772
2011	$116,778	$6,061	$7,007	$946	$14,615	$13,818	$13,086
					$15,627	**$14,775**	**$13,993**

Note: Dollars in millions