Preserving California's Public Works Investment

California Tax Foundation

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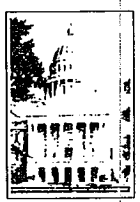

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Contents

Why is "Infrastructure" Policy Receiving So Much Attention? 1
Why Is This Issue Important to California 1
What Are the Dimensions of California's Needs? 3
California's Water Infrastructure 3
School Buildings 4
County Health and Criminal Justice Facilities 5
Transportation Facilities 6
One Community's Investment 7
Public Works Standards - The Missing Argument in the Infrastructure Debate? 8
Financing Public Capital Facilities in the 1980s 10
The Politics of Capital Budgets 13
Suggested Readings 16

Preserving California's Public Works Investment

November 19, 1982
SRI International, Menlo Park, California

Panel I: **The Dimensions of Public Capital Facility**

Angelo J. Siracusa, President, Bay Area Council *(moderator)*
M. Catherine Bergren, Executive Assistant to the Director, Department of Water Resources
Dave King, Chairman, Coalition for Adequate School Housing
Marty Nichols, Assistant County Administrative Officer, Contra Costa County
A. J. Zissler, Executive Director, Californians for Better Transportation
Art Bauer, Principal Consultant, Californians for Better Transportation

Panel II: **Two Views of Our Infrastructure Restoration Problem**

John H. Sullivan, Director, California Tax Foundation *(moderator)*
Gerry Newfarmer, City Manager, City of Fresno
Ted Downey, Senior Manager, Price Waterhouse

Keynote Address: **The Federal Role in Infrastructure Policy**

Congressman William Clinger (R-Pennsylvania), member of House Public Works and Transportation Committee

Panel III: **Financing Capital Facilities in the 1980s**

Steve Waldhorn, Director, Public Policy Department, SRI International *(moderator)*
Henry Gardner, City Manager, City of Oakland
Richard Gerwitz, Associate, Merrill Lynch Capital Markets Group
Doug Henton, Policy Analyst, SRI International

Panel IV: **The Politics of Capital Budgets**

J. Fred Silva, Senior Fiscal Advisor to President Pro Tempore of the Senate *(moderator)*
Rudy Nothenberg, Deputy Mayor, City of San Francisco
Arlen Gregorio, Supervisor, San Mateo County
Keith Comrie, Chief Administrative Officer, City of Los Angeles
Thomas Graff, Regional Counsel, Environmental Defense Fund

Introduction

One of the major public policy issues of the 1980s is the level of America's investment in maintaining, replacing, and expanding its vast network of public capital facilities. "Infrastructure" (the essential public facilities that underlie a country's economy) is the latest "buzz word" in the public policy lexicon.

Since infrastructure zoomed to national prominence via the covers of *Times* and *Newsweek* and the "Op-Ed" pages of our major newspapers, we have been bombarded with vivid photos of crumbling eastern cities and lurid accounts of the potential dangers of their decaying bridges, potholed highways, and unsafe transit systems. Little has been said, however, about the dimensions of this problem for a relatively recently developed "sunbelt" state such as California.

The California Tax Foundation set out to rectify this situation by conducting a one-day conference on this subject in November 1982. The conference brought together more than 100 interested persons from a wide variety of public and private sector backgrounds. Participants heard and questioned panelists who reviewed:

- The dimensions of California's public capital needs.
- The role that "standards" play in determining the amount and cost of our public facilities "needs."
- Problems with and approaches to the raising of the financial capital needed to meet these needs.
- The political obstacles to the provision of adequate resources for public capital facilities.

This report summarizes the main themes discussed at the conference and highlights the key policy questions that must be addressed by interested citizens and state and local officials as they grapple with the problems of public capital investment.

Why Is "Infrastructure" Policy Receiving So Much Attention?

Much of the current attention to public works policy can be traced back to a small book published in 1981. The book was *America in Ruins: Beyond the Public Works Pork Barrel*, authored by Pat Choate and Susan Walters and published by the Council of State Planning Agencies. In a highly readable form, this book highlighted key trends and ideas such as:

- The nation's annual investment in public works (measured in constant dollars) has been declining since the mid-1960s. For example:
  - Gross investment by all levels of government fell from $38.6 billion in 1965 to $31.0 billion in 1977, a 20% decline.
  - On a per capita basis, public works investment fell from $198 per person in 1965 to $140 in 1977, a 29% decline.
  - As a percentage of the Gross National Product, public works investment fell from 4.1% of GNP in 1965 to 2.3% in 1977, a drop of 44%.
- Measured in *qualitative* terms, substantial portions of America's existing stock of public facilities have deteriorated substantially in their ability to provide service to the public. This is particularly evident in the older portions of the country.
- Public capital facilities such as roads, water and sewer systems, transit systems, bridges, ports, and educational facilities play a crucial role in the nation's economic system. As Choate and Walters point out, "...while public works in themselves are never a sufficient condition for economic development, they are almost always a necessary condition."
- Public works investment throughout the 1980s will have to compete for a limited pool of savings with private investment needed to upgrade the economy in the face of strong foreign competition.
- A number of specific actions are possible to limit fraud and costly delay in public works projects.
- The federal government should publish an annual capital budget as part of the budget process. This national capital budget would provide for a focused review of maintenance and capital expenditure needs and policies that is totally lacking from the current system.
- There is a need to sort out which levels of government shall be responsible for financing, building, and maintaining the vast range of essential public improvements we have come to take for granted in this country.

Why Is This Issue Important to California?

Compared with eastern and midwestern states, California is a relatively "young" state in terms of its economic development and the age of its public facilities. Why should the "infrastructure issue" be of much interest to policy makers in our state? In the course of investigating this subject, the Foundation identified a number of reasons why this topic is in need of urgent study:

- Recent dramatic reductions in major state and local tax rates have led state and local governments to curtail maintenance and capital budgets in order to support operating budget programs. Such cuts have provoked little public reaction because their effects are relatively "invisible" in the short run. Their long term effects will seriously impact California's economy and the quality of life of its citizens.
- Since 1969-70, California state and local governments have reduced capital spending by 43%, as the following table indicates.

Capital Expenditures of State and Local Government in California Per $1,000 of Personal Income

Category	1969-70	1979-80	% Change
K-12 and Higher Education	$ 6.56	$ 2.82	-57%
Streets and Highway	13.79	4.58	-67%
Sewers	1.21	2.44	+ 102%
Hospitals and Health	.81	.86	+ 6%
All Other	10.06	7.84	-22%
Total	$32.43	$18.54	-43%

Source: *Before and After Proposition 13: Expenditure by State and Local Government in California,* Security Pacific Bank, March 1982, p. B-3.

- Some of this reduction reflects the decline in the school population, the completion of the interstate highway system, and the completion of the State Water Project. Even with these factors removed, there appears to have been a sharp drop in capital spending.
- Federal budget problems have led to a reduction in capital and operating grants to state and local governments, putting further pressure on local resouces available to finance maintenance, rehabilitation, and new construction.
- One effect of Proposition 13 has been the elimination of general obligation bonds as a tool for financing capital facilities. This loss will most affect those facilities (schools, public buildings) that cannot be financed through user charges.
- While California is a relatively "young" state, it does have a substantial stock of public improvements that are more than 25 years of age. Adequate maintenance programs and ultimate rehabilitation or replacement of these facilities are essential to the maintenance of a strong California economy.
- California's population will grow by more than five million persons (20%) over the remainder of this century. Providing adequate public facilities for these new citizens in an era of tax and expenditure limits will be a major challenge.
- An inadequate level of maintenance spending today may be creating a much greater rehabilitation and replacement cost for future generations. Appropriate responses to these issues today can help ensure that California does not fall into the state of disrepair that threatens the economic future of some of our eastern states.

What Are the Dimensions of California's Needs?

In preparing for this conference, the Foundation discovered that there is little comprehensive information now available about the public facilities investment in California state and local government. This reflects a similar situation which exists for the nation as a whole.

Both the conference's keynote speaker, Congressman William Clinger (R-Pennsylvania), and Stephen Carlson (Manager of Infrastructure Renewal for the Port Authority of New York), pointed out the fact that the nation lacks a detailed inventory of its public capital facilities and their condition. This lack is reflective of the piecemeal, uncoordinated, "pork-barrel" approach of American government to capital spending decisions. California is no different.

In an attempt to shed light on the dimensions of some of California's infrastructure needs, the conference's first panel discussion focused on four critical areas:

- water, sewer, and flood control systems
- public school building
- county health and criminal justice facilities
- transportation facilities

California's Water Infrastructure

In a paper prepared for the conference, Department of Water Resources Deputy Director Gerald Meral illustrated the magnitude of our investment in water systems:

- California's existing urban water mains have a replacement value of $8 billion.
- Nearly $4 billion worth of sewer systems have been constructed in California in recent years.
- An additional $2.8 billion will be needed to build new sewage treatment facilities required to meet clean water goals between now and 1983.
- The Los Angeles County Flood Control District has estimated that $10 billion may be required over the next 25 years to repair or replace flood control works in urban areas of the state.
- Three new flood control projects in urban areas proposed by the U.S. Corps of Engineers will cost nearly $1.3 billion, 20% of which must come from state and local sources.
- Repair of levees in the Sacramento-San Joaquin delta would cost anywhere from $450 million to well over $900 million at today's prices.

Not only does California face large demands for capital financing in the water resource area, but it now faces a change in federal funding policy for water projects. The federal government is proposing to require larger up-front cost sharing contributions from state and local government for new flood control and water supply projects. Grants for local waste water treat-

ment plants are also facing a cloudy future as federal budget shortfalls force deeper cuts in non-defense, non-benefit payment programs.

On the positive side, comments by Keith Comrie, City Administrative Officer of Los Angeles and Rudy Nothenberg, Deputy Mayor of San Francisco, indicated that the portions of the urban water system that are financed by user fees and charges (water and sewer lines and sewage plant operations and maintenance) are in reasonably good condition. Their outlook is positive, given the ability to adjust fees and charges to meet system maintenance, replacement and expansion costs.

The major problem areas in the water infrastructure appear to be the areas of new water supply facilities, new waste water treatment facilities, and flood control facilities that rely on substantial federal funding. As federal aid declines, state and local support for these needs will have to expand greatly if we are to continue to replace worn out facilities and expand capacity to accommodate new population.

School Buildings

Dave King, chairman of the Coalition for Adequate School Housing, pointed to the deferred maintenance and rehabilitation needs of California's public school system. This often overlooked portion of California's immense total public facilities investment consists of more than 40,000 buildings in the state's 1,038 K-12 school districts. These facilities are estimated to have a replacement value of $40 billion at current prices.

Total public school attendance peaked in the early 1970s and declined during the remainder of the decade. New school construction, consequently, was less of an urgent priority than it was during the "baby boom" years of the 1950s and early 1960s. The major demand for new schools has been confined to those districts serving areas of rapid development.

While the demand for large investment in new schools has slackened in the last decade, a large new problem has arisen — major maintenance, rehabilitation, and replacement of existing school facilities. More than 55% of our existing school facilities were built during the 15 year period from 1949 to 1964. One-third of our school buildings are now 30 years of age or older. The fact that such a large portion of these facilities were built within a relatively short time period, combined with natural life cycle of 15 to 20 years of major maintenance items such as roofs, mechanical and electrical systems, and asphalt, means that a large maintenance and rehabilitation bill for schools will be coming due within a short period of time.

In 1980 the Department of Education attempted to estimate the potential cost of a program to rehabilitate school facilities which were 30 years of age or older and then continue such a program in subsequent years as additional facilities become 30 years old. Using conservative estimates of the square footage of facilities 30 years or older and adjusting for declining enrollment, the department developed the following requirements in 1980 dollars:

- $1.9 billion would be required to rehabilitate the existing backlog of 30 year old facilities;

- $400 million per year would be required to continue the program on an annual basis.

While Proposition 1 on the November 1982 ballot did provide $150 million in state bond financing for school rehabilitation projects, King indicated that this is merely a "drop in the bucket" of the existing need.

Prospects for financing these needs rest primarily with increased state funding. Proposition 13 of 1978 eliminated the ability of school district electorates to increase property taxes to pay for general obligation bonds, a major source of school construction funding in the past. Several years of slow revenue growth and a priority in state funding for operating as opposed to maintenance and capital outlay programs has greatly reduced the state's ability to fund these programs.

County Health and Criminal Justice Facilities

Marty Nichols, Assistant County Administrator for Contra Costa County, reviewed the facility needs of counties in just two of the many services they are mandated to provide — health and criminal justice. While counties provide a wide variety of urban facilities (parks, roads, waste disposal, etc.) in unincorporated areas, health and criminal justice services touch all residents of a county regardless of where they live.

The Contra Costa County CAO's office conducted a survey of the health and criminal justice facilities of the 15 largest counties in the state. These counties serve 83% of the state's population. Figures derived from these counties were extrapolated to produce statewide estimates. The *replacement* value of existing health and criminal justice facilities was broken down as follows:

County Jails	$1.66 billion
County Courts	1.01 billion
County Hospitals	2.27 billion
	$5.14 billion

While no figures were provided on actual annual maintenance spending on these facilities, Nichols did estimate that $77 million a year should be spent on maintenance based on conservative property management guidelines.

In terms of additional facilities, the survey of the 15 largest counties indicated that 10,000 new jail cells must be constructed in order to meet projected demands by 1988. More than 260 additional courtrooms will also be required by 1988 in response to the same forces. In the area of hospital facilities, the survey found that the 15 largest counties are forecasting a 1988 need for hospital beds that is slightly *under* the existing demand (10,771 vs. 10,883). This may reflect the replacement of antiquated facilities with more modern (but slightly smaller) facilities. With recent changes in the state financed health care system for low income persons, an increasing service burden will fall to the county hospitals. The 1988 demand figures may change significantly as these changes are absorbed by the entire health care system.

Transportation Facilities

Art Bauer and A.J. Zissler, representing Californians for Better Transportation, presented information on the state of California's streets, highways, and public transit facilities. They pointed out that there is general agreement on the critical role the transportation system plays in maintaining California's existing economy and accommodating future economic expansion.

The existing street, road, and highway system currently faces some serious maintenance and rehabilitation problems. Information on California's roads prepared by The Road Information Program (a non-profit Washington, D.C., based association of businesses concerned with highway issues) indicated that:

- California has 180,000 miles of roads.
- 58,000 miles of arterial highways and collector roads (32.4% of the total) handle almost 92% of all daily traffic.
- 39% of these 58,000 miles of road are rated as deficient, according to standards published by the American Association of State Highway and Transportation Officials.
- The cost of bringing these roads up to standards would be $3.9 billion in current dollars.
- California has 20,699 bridges; 1,583 of them are "structurally deficient" and thus inadequate for existing traffic.
- Current highway spending is only 40% of the spending level required to meet the needs set out above.
- Based on published research studies, vehicle inefficiency caused by driving on inadequate road surfaces costs Californians an *extra* $1.5 billion per year, or nearly $100 for each licensed driver.

The major problems in the highway and transportation system stem from the financing system based on a fixed rate per gallon gasoline tax. While inflation has driven up the cost of highway maintenance and repair, the shift to fuel efficient vehicles has actually depressed the volume of gasoline sold. Indeed, the Energy Commission and Caltrans forecast that by the year 2000 California will experience a 5.7% *decline* in gasoline usage while seeing a substantial increase in vehicle miles traveled.

While recent increases in the state and federal gas taxes will help to address these needs, they do not appear adequate to completely address the backlog of existing needs as well as future new construction projects. Art Bauer suggested that regional differences within California will develop over the allocation of transportation funding between areas primarily in need of rehabilitation funding (S.F. Bay Area) and those seeking new construction (Orange County). These differences further complicate the transportation financing picture.

A final factor contributing to the large rehabilitation and reconstruction needs facing the state and local governments is the problem of changing

standards. Roads built to lower standards (truck weight limits, for example) in earlier years deteriorate rapidly when exposed to heavier traffic. Since it seems unlikely that large trucks (carrying agricultural products) are going to be banned from older county roads, it is likely that we will face additional demands for local road rehabilitation projects.

One Community's Investment

Infrastructure is often dealt with on a system-by-system basis (schools, roads, etc.), rather than on a community wide basis. This reflects the fragmentation of responsibility for building and maintaining public facilities among federal, state, and local agencies. In an effort to look at the entire problem in a comprehensive manner, the conference organizers asked Gerry Newfarmer, City Manager of Fresno, to discuss the overall dimensions of his community's infrastructure needs.

Fresno, a city of 250,000 persons (serving a metropolitan area of 350,000), is served by infrastructure valued at $1.4 billion. This investment is broken down as follows:

	($ in Millions)
• City owned facilities such as streets, buildings, sewage plants, the airport, and other municipal facilities	$ 800
• County operated facilities within the city (because the city has one half of the county's total population, only one half of the facilities' value is assigned)	100
• The local flood control district facilities	96
• Fresno Unified School District facilities	262
• State facilities (such as highways)	200
Total	$1,458

This staggering amount works out to about $5,800 of public investment for every citizen of Fresno.

In the same survey of Fresno's capital investments, Newfarmer also discussed the level of maintenance spending. While not stating a specific dollar figure, he indicated that current maintenance spending is only 60% of what is needed to properly maintain local facilities. He cited the lack of adequate local government funding for preventive maintenance as a crucial factor in the public works problems facing California. Recent revenue raising problems have led to a curtailment of preventive maintenance. This short term response to budget problems will lead to much higher reconstruction and replacement costs in the future.

Finally, Newfarmer discussed the difficulties a growing community such as Fresno faces in providing adequate funding for rehabilitation and renewal of public capital facilities. Since the mid-1970s, Fresno has required new development to "pay its own way" with respect to basic pubic capital facililties. As a result, the bulk of city capital spending has been directed

at maintaining and renewing existing city owned facilities. Due to the revenue constraints of Proposition 13 and a local voter approved initiative that abolished the city's utility users tax, Fresno has experienced severe financial pressure in recent years. Because the highest priority has been placed on maintaining police and fire services (including expensive pension costs), it is all other programs that have suffered budget cuts in recent years. Since police and fire costs now amount to 55% of the operating budget, cuts must be proportionately deeper in other activities to close the funding gap. A major target of these reductions has been the city's capital outlay program. It has declined from $5.6 million per year in 1980 to less than $2 million in the current year and may be eliminated by 1983-84. Given the high priority the public puts on public safety services and public resistance to raising additional taxes, Newfarmer was not optimistic that capital and maintenance spending would receive large increases in the near future.

Public Works Standards — The Missing Argument in the Infrastructure Debate?

Much of the current discussion of our infrastructure problem focuses on the role such facilities play in the economy and the problems of raising the immense amounts of money needed to remedy past decay and provide for future needs. Lacking from the debate is any discussion of how we define our "need" for public facilities financed by tax dollars. Crucial to any discussion of the "need" side of the infrastructure equation is a consideration of the engineering standards set for public works projects.

Ted Downey, a senior manager with Price Waterhouse in Sacramento, devoted his presentation to a discussion of the role a review of such standards can play in controlling the size of the bill for infrastructure renewal.

Standards define the quality and quantity of service that a particular facility can provide to its users. Often, standards not only define the acceptable performance that a facility should provide but they also describe (in detail) the appearance of the facility and how it is to be constructed to achieve its performance targets. Downey pointed out that too often all decision makers see when considering capital outlay decisions are the technical engineering specifications which describe how a facility will be constructed to meet a given standard of service goal. The engineering language can shield the decision maker from the key policy questions involved in a capital project. Often those decisions involve substantial costs.

As an example, Downey reviewed a project he worked on while a budget analyst for the State of Illinois. The state was planning to build a 100% state financed highway project. When the costs of the project were closely examined it became clear that the technical specifications were developed for roads that could accommodate a 75 m.p.h. speed limit. This was at a time after the speed limit had been lowered to 55 m.p.h. The difference in construction costs between the two standards was 10%, approximately $100,000 per mile of highway.

Several other examples of standards playing a large role in determining the "need" for public facilities included:

- Nationally, one half of the bridges that are described as being "substandard" (125,000 bridges) are substandard only because they are too narrow. They are structurally sound, but our concept of an adequate bridge has changed since these bridges were built.
- Many of our highways are substandard and have begun to deteriorate because we have raised truck weight limits. Recent federal legislation increasing the gasoline tax also requires states to allow 80,000 pound truck weight limits if they are to receive additional federal funds. For roads constructed to 64,000 or 72,000 pound limits these heavier limits will cause substantial additional wear and consequent "need" for additional spending.
- A shift to year-round operation of schools, particularly in areas experiencing population growth, could increase our ability to serve a larger school population without as many new schools.

As a guide to examining the role standards play in the infrastructure problem, it was suggested that attention be focused on the standards that govern those capital facilities that represent the bulk of public investment. Valued at *original* costs, existing state and local government investment nationwide in public facilities was estimated at $834 billion in 1981. The major categories and their percentage of the total are:

Category	Percentage of the Total
Roads and bridges	41%
Schools	21
Sewers	9
General government	8
Transit and other utilities	8
Water	6
Housing	3
Parks	2
All other	2
	100%

Over 71% of our existing state and local investments is concentrated in roads, schools, and sewers. Concentrated review of standards in these three areas could make a significant impact on the cost of infrastructure renewal and new facilities.

Several reasons were suggested for why engineering standards are often accepted as "givens" in capital budgeting decisions. One problem concerns the professional legal liability of engineers for projects they design. Adherence to published national standards (sometimes developed as a result of court awards in personal injury suits) protects engineers from the legal responsibility to defend unique design features and standards in projects they manage.

Another major source of rigid standards is the federal government. Because so much of our capital spending is financed with federal dollars, federally imposed standards often dictate what is built and how it is built.

Often these standards are not in keeping with local needs and conditions. The alternative, varying standards for differing locations across the nation, would require the administrative flexibility, knowledge of local conditions, and willingness to assume responsibility for administrative decisions that are often lacking in large bureaucracies.

A final factor is the manner in which many public construction projects are managed. Engineering and design costs are often assigned a fixed percentage of project cost. This forces engineers to adopt the "conventional" approach to design rather than searching for other alternatives. The search for alternatives may increase the cost of design and engineering services but can result in significant overall project cost savings.

As a step towards a solution of the problems touched on in his presentation, Downey suggested that decision makers require a simple fiscal analysis of the standards implicit in proposed capital projects. The costs of alternative projects with accompanying restrictions on facility usage (i.e., road reconstruction with truck weight limits) can be compared by decision makers. While lay decision makers are not competent to judge the stresses on a proposed bridge design, they are competent to consider maximum truck weight limits and the economic effects of rerouting traffic if such decisions are made. The engineering profession needs to provide alternatives to decision makers so they can judge the merits of the key standards that do so much to shape the cost of capital projects.

Financing Public Capital Facilities in the 1980s

While the exact amount of the bill for meeting our maintenance and infrastructure needs may still be in dispute, no one questions the fact that it will be large. The first panel discussion of the afternoon session was devoted to a discussion of how those needs can be financed.

Doug Henton, a policy analyst with SRI and consultant to the joint Association of Bay Area Governments (ABAG) — Bay Area Council infrastructure study, discussed the range of financing options that are available and the criteria decision makers can apply to judging their value.

The key criteria for assessing the various possible financing techniques were:

- Adequacy — Will a suggested method raise sufficient funds to meet the need?
- Equity — (a) Are the people who are paying for a facility receiving its benefits? (b) What is the "ability to pay" of the persons asked to pay for a facility?
- Economic Effects — What will be the economic effects of the proposed revenue source on the local economy?
- Administration — How easy will it be to administer the proposed alternative?
- Legal — What are the legal constraints on use of a financing alternative?

These five criteria can be applied to the examination of the three main

financing avenues examined in the ABAG — Bay Area Council study. These approaches were:

- **Revenue Raising Techniques**

  Five revenue raising devices were reviewed, all of which are authorized under existing law. Each of these techniques involve trade offs among the various evaluative criteria listed above. These techniques are:

  - Additional user fees and charges;
  - Special assessments on property benefited by public improvements;
  - Special taxes for capital projects approved by a two-thirds vote;
  - General taxes levied without a vote being required under the California Supreme Court's 1982 ruling in *Farrell v. San Francisco.*
  - Expanded use of redevelopment authorities financed through property tax increments.

- **Borrowing Techniques**

  With Proposition 13's elimination of property tax-backed general obligation bonds, attention has shifted to other forms of debt that can help meet capital financing needs. Revenue bonds, financed through user fees and charges, have been used increasingly to finance facilities where users can be charged for services. Certificates of participation (a relatively new form of obligation) have been used to finance smaller investments where the overhead costs of issuing bonds might prove prohibitive. Finally, during recent periods of high interest rates, a whole array of new bond instruments (zero coupon bonds, floating rate bonds, etc.) have been designed to provide lenders with new investment features designed to secure lower interest rates.

- **Public-Private Partnerships**

  Another area involves voluntary participation of private individuals and businesses in the provision of public facilities. Such cooperation includes donations ("adopt a park" programs) and joint public private development projects. An example of the latter are sale-leaseback projects where public agencies structure construction or rehabilitation projects in order to pass through federal tax incentives to private investors who put up equity capital for the project. As tax revenues have become scarcer, many local governments have adopted a more "entrepreneurial" attitude about the management of local programs and private participation in public functions.

Richard Gerwitz, with Merrill Lynch's Capital Market Group, discussed how the market for tax exempt debt has changed in recent years and how those changes might impact the ability of the public sector to finance capital projects.

The once quiet tax exempt debt market has experience dramatic changes in recent years, all of which make public capital projects more expensive to finance. Significant changes include:

- The amount of state and local tax exempt debt has increased six-fold since 1960, rising from $11 billion per year to $73 billion in 1980.
- Interest rates on tax exempt debt have jumped from an average rate of 5.85% during the 1970-79 period to a high of 13.5% in 1981 and a 1982 average of 10.2%. Each 1% rise in interest rates adds $26 million to the lifetime borrowing costs of each $100 million borrowed for a 30-year term.
- The ratio of tax exempt bond interest rates to those of taxable bonds has risen from its historical level of 55% to a current average of 80%. Public sector borrowers must increasingly compete for capital by paying interest rates very close to those paid by taxable businesses.
- Banks and insurance companies, traditional purchasers of 90% of municipal debt, now purchase only 17%. Individual investors and mutual funds now make up for the drop in institutional purchases. The result of the loss of "wholesale" purchases is higher costs of marketing debt to "retail" purchasers (individuals).

One response to these higher rates has been a movement towards improving the security of tax exempt debt issues by providing bond insurance (against default) or bank letters of credit. These improve the "quality" of a bond issue and allow a higher credit rating and lower interest costs. However, such backing does increase overhead costs. Other responses include greater use of negotiated sales of debt (in lieu of public bids) and use of short term borrowing (at lower rates) to finance long term projects while waiting for long term rates to fall.

Gerwitz indicated that he did not think it was useful for state government to try to prioritize and aggregate proposed local debt issues. He felt that the financial markets themselves provided a sufficient credit allocation system for weeding out poorly conceived projects. He did indicate that the state might have a role to play in assisting very small units of government obtain access to the capital markets at favorable rates.

Finally, he commented that Proposition 13, by removing large amounts of tax revenue and eliminating general obligation bonds, has negatively affected California's ability to issue debt. The loss of general obligations debt has resulted in greater reliance on assessment bonds and revenue bonds, both of which carry higher interest rates than general obligation bonds.

Henry Gardner, City Manager of Oakland, reviewed the experience of his city in using an innovative method for financing a major capital project. Oakland used a sale-leaseback arrangement partially financed by the issuance of tax exempt industrial revenue bonds to finance the renovation of its municipal auditorium. Private investors put up a substantial amount of equity capital to finance the project. In return the private investors received title to the city museum and the city auditorium and the right to significant federal tax deductions. Oakland leases back both buildings and should have enough cash at the end of the lease term to repurchase these facilities. The combination of selling federal tax credits and the use of tax exempt industrial revenue bonds to finance private purchase of these facilities was crucial to the success of this project. It is an example of how "fiscal necessity becomes the mother of financial invention."

In discussing this innovative approach to financing, Gardner made a number of important observations about the capital financing process in California's post-Proposition 13 world of scarce public resources:

- There are "friends of the library," "friends of the parks," "friends of the museum," but there are no "friends of the sewers." Maintenance of the basic infrastructure has no built-in constituency arguing for scarce budget dollars.
- Innovative sale-leaseback deals involving highly popular facilities (such as a museum) can touch off political reactions from supporters of such facilities. Public involvement and education are required if such projects are to be successful.
- So-called "innovative financing" techniques are not free. They always involve giving up something (control, title to property, etc.) in order to obtain financing. As Gardner noted, "...the bottom line is we have not yet come up with a financing vehicle that allows the public to pay nothing. These are real costs . . . and they are going to have to be paid in a real way."

The Politics of Capital Budgets

The final portion of the conference addressed the question of how the political process views maintenance and capital programs' claims for scarce public dollars. The serious maintenance and capital problems facing the nation reflect a long series of budget decisions made by national, state, and local elected officials. As Stephen Carlson noted in his opening remarks, America's infrastructure "deficit" is every bit as large as the Social Security "deficit," yet it is scarcely accorded the same attention in public discussion. This reflects the basic problems the last panel of speakers addressed.

Both Rudy Nothenberg, Deputy Mayor of San Francisco, and Keith Comrie, City Administrative Officer of Los Angeles, agreed that the fundamental infrastructure maintenance and renewal problems facing local government involve tax supported public facilities (such as jails, schools, courts, public transit). By contrast, user fee supported facilities such as water systems, airports, ports, existing waste water treatment plants, and electric utilities were in relatively good physical and financial condition. The main problems involved maintenance and capital spending that had to compete with operating budget programs.

Both Nothenberg and Comrie noted that the budget process is at the heart of the political process — the allocation of scarce public resources among numerous interest groups. Infrastructure funded from general tax dollars must compete with highly visible services such as public safety, health, education, and welfare programs. Each of these areas has a vocal and highly visible constituency. Infrastructure, by contrast, has no advocate. All speakers agreed that this is the fundamental political problem facing those advocating more public capital spending.

Nothenberg suggested that the fundamental solution involves making infrastructure more politically popular. One possible course is to let our facilities deteriorate to the point where the public cannot help but be aware

of the problem. While not advocating the approach, he did point out that this is often how important policy decisions are made — wait for the crisis and then act. As evidence of this, he noted San Francisco's past spending for general fund-supported public works. Using the 1974-75 as an index base of 100, he presented the following figures:

Fiscal Year	San Francisco's Public Works Spending
1974-75	100.0 (index)
1975-76	90.6
1976-77	83.2
1977-78	82.4
1978-79	72.1
1979-80	68.2
1980-81	54.5
1981-82	53.3

Nothenberg suggested that the level of reinvestment in maintaining and renewing infrastructure be made a key test of the professional competence of public managers and executives. The executive leadership must become the advocate before legislative decision makers for the program that has no outside constituency. He argued that the business community can play a key role in holding officials accountable in this area. He pointed to the recently completed strategic plan the San Francisco Chamber of Commerce developed in cooperation with city government. The plan sets targets for reinvestment in the city's capital facilities and provides a yardstick for measuring annual budget decisions. The business community's own self interest is involved since the strategic plan identified adequate capital facilities as a crucial factor in creating a healthy local economy. (Partly as a result of this strategic plan, San Francisco will spend a large part of its *Farrell* decision "windfall" revenues on infrastructure projects.)

There was a difference of opinion among the panelists over the suggestion that earmarking revenue sources for maintenance and capital projects is the best way to solve our infrastructure problems. Arlen Gregorio, San Mateo County Supervisor and former state senator, argued against creating such special revenue sources because they "freeze" in resource allocations and can cause serious problems in the future because they run on "auto pilot" for long periods without adequate review. He cited the many far reaching effects of the earmarking of gas tax funds in the 1940s, 1950s, and 1960s for highway construction. He noted that this efficient money machine produced a vast network of highways *and* a powerful highway lobby which had dramatic impacts on land use and transportation patterns in the state. Gregorio was wary of the effects of creating a similar fund for infrastructure renewal.

Keith Comrie, in contrast, argued that tax supported infrastructure maintenance and renewal is so weak politically that the special fund approach is the only feasible long term answer to the problem. He cited numerous examples from Los Angeles' recent past of the strong claims for public safety funding against which the infrastructure must compete. All too often it loses the competition.

Two other approaches to building the public visibility of the need for adequate maintenance spending and reinvestment were suggested by the panelists.

- Federal and state grants and bond covenants could *require* provision of adequate maintenance support and replacement funding as a condition for receipt of funds. This would provide a legally binding requirement to adequately fund important parts of the infrastructure.
- Authorities responsible for setting accounting and financial disclosure standards in the accounting profession should begin to require better asset accounting by government entities. Disclosure of a more comprehensive measure of the annual depreciation charge for public assets would give the public a better idea of the investment or disinvestment policies of government agencies.

Thomas Graff, Regional Counsel for the Environmental Defense Fund, presented the closing perspective on political considerations. While acknowledging environmentalists' bias against many kinds of large scale public works projects, he suggested a number of areas where principles recently adopted by the environmental movement could be usefully applied to infrastructure renewal.

- **Seek Least-Cost Solutions**

  Environmentalists have argued against capital intensive large new water supply projects on the grounds that investments in water conservation can free up equal amounts of water at lower cost per acre foot. Alternatives to expensive new dams can provide cost effective flood control protection. In grappling with our other public capital financing problems, he argued that this same approach can pay big dividends.

- **Institutional Reform**

  Institutional reforms involve altering our standards for conducting certain functions. He said reforms in water rights transfer policy and reforms in water pricing might lead to a more efficient water market, reducing the need for new facilities. Other reforms in other program sectors might lead to similar savings.

- **Greater Reliance on User Contributions**

  Requiring user contributions towards the capital costs of public facilities (particularly heavily subsidized federal projects) will not only help finance needed facilities but will also mitigate the need for new capital. Users who pay a significant share of costs are more likely to closely examine the need for new public facilities than is the case when hidden subsidies make such capital projects appear to be "free."

In concluding, Graff noted that arguments of this kind, in tandem with traditional environmental arguments, led to the defeat of the Peripheral Canal proposal in 1982. The public responded to these arguments and Graff predicted that such a response will be a fixture of the political environment in the years ahead.

Suggested Reading

America in Ruins: Beyond the Public Works Barrel, Pat Choate and Susan Walters, Council of State Planning Agencies, 1982.

"Assessing Infrastructure Needs," Nancy Humphrey, The Urban Institute, December 1980.

Before and After Proposition 13: Expenditures by State and Local Government in California, Conrad C. Jamison, Security Pacific National Bank, March 1982.

The Capital Budget, Robert Devoy and Harold Wise, Council of State Planning Agencies, 1979.

"Capital Spending and Capital Obsolescence: The Outlook for Cities," George E. Peterson, in *The Fiscal Outlook for Cities;* Syracuse University Press, 1978.

"Cleveland and Cincinnati: A Tale of Two Cities," *The Urban Institute Policy and Research Report,* Vol. 10, No. 1, Spring 1980.

"Financing Urban Infrastructure: Policy Options," George E. Peterson and Mary John Miller. Urban Consortium Policy Paper, March 1982.

Funding Bay Area Capital Improvements and Maintenance, Association of Bay Area Governments, February 1983.

The Future of Oakland's Capital Plant, Mary John Miller, Marcy Arvin, Bonnie Berk, and George Peterson. The Urban Institute, 1981.

Paying the Piper: New Ways to Pay for Public Infrastructure in California, State of California, Office of Planning and Research, December 1982.

"Public Capital Needs and Financing Options," Mary John Miller, Urban Institute, November 1981.

Public Choices - Private Resources: Financing Capital Infrastructure for California's Growth through Public - Private Bargaining, John M. Kirlin and Anne M. Kirlin, California Tax Foundation, July 1982.

The Use of Tax-Exempt Bonds in California: Policy Issues and Recommendations, State of California, Legislative Analyst, December 1982.

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