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California Debt and Investment
Advisory Commission

**An Historical Review of
Local Public Enterprise
Revenue Bond Issuance**

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Local Public Enterprise
Revenue Bond Issuance**

CALIFORNIA DEBT AND INVESTMENT ADVISORY COMMISSION

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ACKNOWLEDGMENTS

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INTRODUCTION

A public enterprise revenue bond (PERB) is defined as a debt instrument that is used to finance facilities for revenue producing public enterprises. Debt service on the bonds is paid from the revenues of that enterprise. Examples of such enterprises include an airport, a water system, a power system, a sewer system, a single power plant, or a bridge. Revenues may include such items as service charges, tolls, connection fees, admission fees, and rents. PERBs are authorized by resolution of the agency's legislative body, subject to approval by a simple majority of the voters voting on the bond measure. The legislative body's resolution must state the purpose for which the bonds are proposed, the estimated cost of construction, improvement, and financing, the principal amount of the bonds, and the rate of interest.

For many years California local agencies have used PERBs as a common method of financing infrastructure projects. The 20-year period prior to 2005 produced steady but modest issuance of PERB debt with annual volumes averaging \$3 billion. After 2005, volume experienced significant growth. Market events, along with the federal government's implementation of the Build America Bond Program (BAB) in 2009-2010 expanded the use and investor de-

mand for this type of debt. This report considers PERB issuance during the 26-year period 1985-2010.

The historical data presented in this report was extracted from information supplied to CDIAC pursuant to Government Code 8855(i) and (j). The amounts presented in the report are for new money issues and do not include refunding bonds.

The report is divided into the following sections:

1. **ISSUANCE HISTORY** presents a history and narrative of PERB issuance over the survey period, identifying trends in issuance.
2. **ISSUANCE BY PROJECT TYPE** provides a detailed review of PERB issuance by four main categories of capital projects: water/wastewater, transportation, power generation/transmission, and other.
3. **ISSUANCE BY REGION** examines issuance by major geographic region throughout California, with special emphasis on major issuers within the region.
4. **ISSUANCE BY MUNICIPALITY/TOP 10 ISSUERS** provides a review of issuance by cities/counties, joint powers authorities, and special districts along with a listing of the top ten issuers.

ISSUANCE HISTORY

Between 1985 and 2010, PERBs were used to finance local agency capital improvement projects more than any other bond type in California, accounting for 43 percent of the \$198 billion in local agency debt issuance (Figure 1). During this period, PERB issuance grew at an average annual rate of 6.4 percent. Eight years over the study period stand out (Figure 2).

1985 – Of the \$3 billion sold in 1985, \$2.7 billion was attributable to power generation/transmission projects. The majority of that amount was issued by the Northern California Power Agency (\$1.1 billion), which spans multiple regions/counties; the Southern California Public Power Authority (\$642 million) in the Los Angeles region; and the Kings River Conservation District (\$450 million) in the Central Valley Region.

1993 – Total issuance was \$3.2 billion, of which, \$1.4 billion was for transportation projects in the Los Angeles Region. The largest issuer was the San Joaquin Hills Transportation Corridor Agency, which issued \$1.2 billion for toll roads.

1995 – About half of the \$4.1 billion issuance was for Los Angeles region transportation projects (\$2 billion). Of the remaining \$2.1 billion, the

Foothill/Eastern Transportation Corridor Agency issued \$1.8 billion in transportation PERBs.

2004 – Water/wastewater projects account for \$1.8 billion of the \$3.3 billion total issuance in

Figure 1
COMPARISON OF LOCAL NEW ISSUANCE FOR CAPITAL IMPROVEMENTS PROJECTS BY DEBT TYPE, 1985-2010

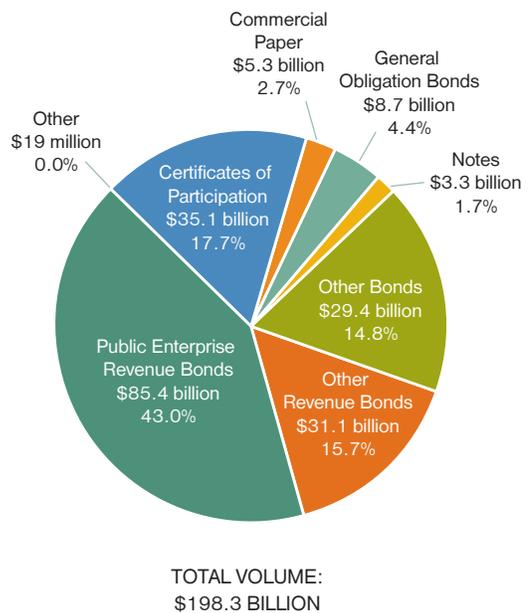
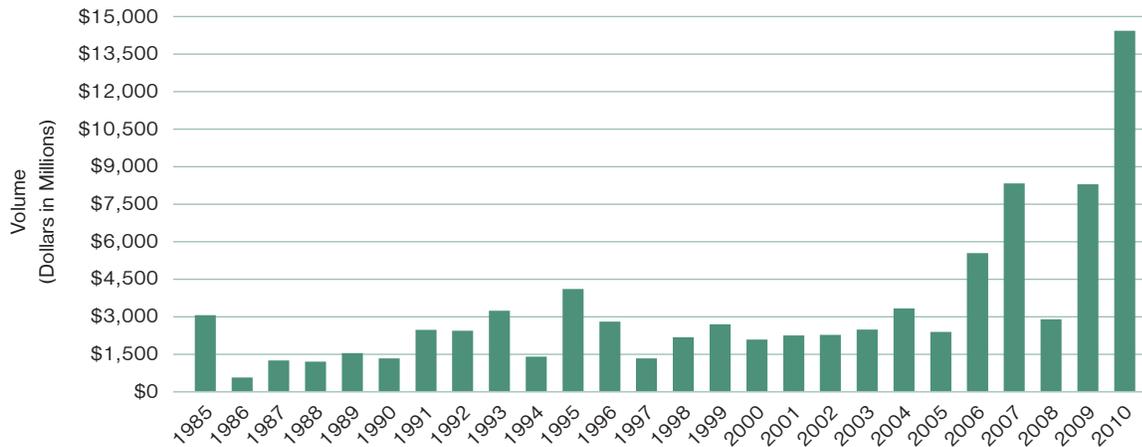


Figure 2

STATEWIDE LOCAL AGENCY ISSUANCE, PUBLIC ENTERPRISE REVENUE BONDS, 1985-2010



2004. The majority of issuance in this year were for projects in the Central Valley Region (\$775 million), followed by the Los Angeles Region (\$684 million).

2006 – Unlike 1985 and 1995 where issuance was centered on large projects, 2006 included several project types: thirty-six water/wastewater projects (\$2.4 billion) and four transportation projects (\$2.2 billion), of which, three were from issuers in the San Francisco Bay Area region for improvements to the Oakland Bay Bridge.

2007 – PERB financing in 2007 totaled \$8.3 billion. Issuance in this year spanned all regions and several project types: power generation/transmission (\$3.2 billion); transportation/transit (\$2.2 billion), and water/wastewater (\$2.9 billion).

2009 – As in 2007, PERB issuance totaled \$8.3 billion. Most of the issuance occurred in three re-

gions: Los Angeles (\$2.6 billion), San Francisco Bay Area (\$2.5 billion), and Central Valley (\$2.3 billion). The majority of the \$8.3 billion was for transportation (\$3.4 billion), water/wastewater (\$3 billion), and power generation/transmission (\$1.6 billion).

2010 – PERB issuance for 2010 was by far the largest: \$14.4 billion, of which, more than \$8 billion was a type of BABs. Transportation projects accounted for the greatest portion of issuance in 2010 at \$5.1 billion. These projects include issuance from the Bay Area Transportation Authority (BATA) (\$2.4 billion) and the Los Angeles Department of Airports (\$1.9 billion). Water/wastewater projects total \$4.9 billion, with the largest issuance from the San Francisco City and County Public Utilities Commission at \$1.5 billion.

ISSUANCE BY PROJECT TYPE

PERB financings are classified using the following categories: water/wastewater, transportation/transit, power generation/transmission, and other. Figure 3 presents a comparison of total issuance for the review period using the above categories.

WATER/WASTEWATER PROJECTS

Water projects include treatment plant improvements/expansions, desalinization, ground water recovery, and water meter installations, with wastewater collection and treatment projects consisting of septic system conversions, digesters, pump stations, and treatment plants. As Figure 3 shows, the greatest volume of PERB issuance was for water-related projects. Local agencies issued \$31.8 billion (37.2 percent) for these projects from 1985 to 2010. The issuers with the largest water PERB sales are the Metropolitan Water District of Southern California (\$4.9 billion), Los Angeles Department of Water and Power (\$3.4 billion), East Bay Municipal Utility District (\$2.8 billion), and the San Francisco City & County Public Utilities Commission (\$3.1 billion).

Figure 3

STATEWIDE LOCAL ISSUANCE
PUBLIC ENTERPRISE REVENUE BONDS
COMPARISON OF CAPITAL IMPROVEMENTS
PROJECT TYPES, 1985-2010

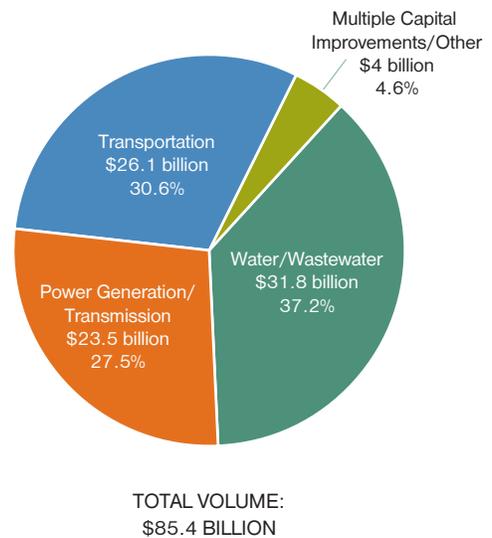
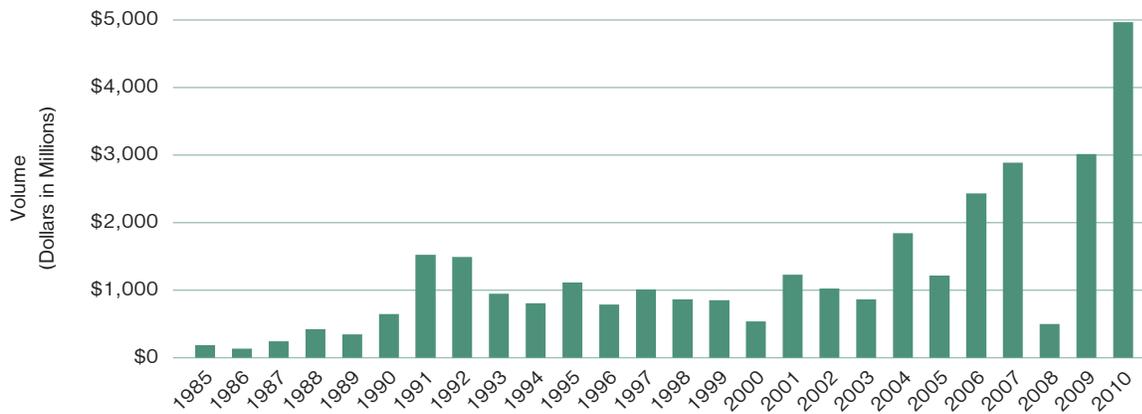


Figure 4

STATEWIDE LOCAL ISSUANCE, PUBLIC ENTERPRISE REVENUE BONDS
WATER/WASTEWATER PROJECTS, 1985-2010



PERB volume for these projects grew over time. Figure 4 shows annual issuance ranging from a low of \$131 million in 1986 to as high as nearly \$5 billion in 2010. The San Francisco City and County Public Utilities Commission (\$1.4 billion), the San Diego County Water Authority Financing Authority (\$573.1 million), the East Bay Municipal Utility District (\$495.2 million), and the Los Angeles Department of Water and Power (\$492.7 million) each contributed to the high issuance in 2010.

As shown in Figure 5, water-related projects are divided into three distinct categories: water, wastewater collection and treatment, and other/multiple water and wastewater projects. The City of Los Angeles (\$2.2 billion), Sacramento County Sanitation Districts Financing Authority (\$1.9 billion), San Diego Public Facilities Financing Authority (\$1.5 billion) total nearly half of the \$11.4 billion issued for wastewater collection and treatment projects.

Figure 5

STATEWIDE LOCAL ISSUANCE
PUBLIC ENTERPRISE REVENUE BONDS
WATER/WASTEWATER PROJECTS, 1985-2010

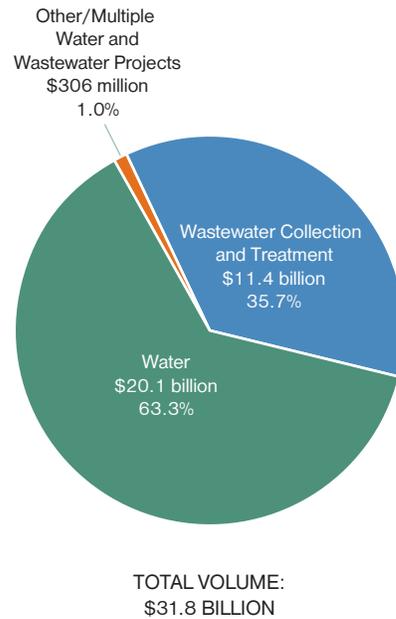
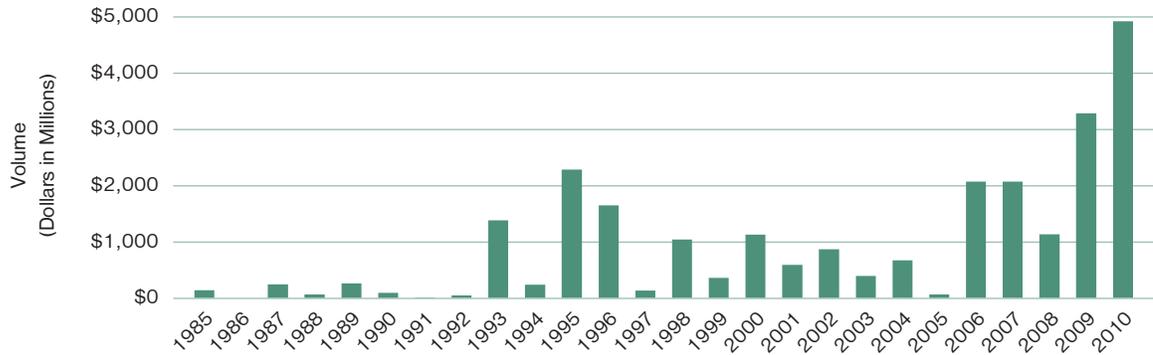


Figure 6

STATEWIDE LOCAL ISSUANCE, PUBLIC ENTERPRISE REVENUE BONDS
TRANSPORTATION/TRANSIT PROJECTS, 1985-2010



TRANSPORTATION/TRANSIT PROJECTS

Transportation projects consisted of bridges and highways, airports, ports and marinas, parking, public transit, and multiple transportation/transit PERB projects. Local agency transportation/transit PERB projects totaled \$26.1 billion between 1985 and 2010. As Figure 6 shows, issuance for transportation projects generally averaged under \$2 billion.

The increase in PERB issuance in 1995 was due to the Foothill/Eastern Transportation Corridor Agency, which issued \$1.4 billion of which \$1.2 billion were issued for a toll road project. Total issuance in 2006 and 2007 was approximately \$2.2 billion each year, mostly to finance the San Francisco Bay Area toll bridge improvements. The Bay Area Toll Authority was the largest issuer for these years (\$2.1 billion and \$1.2 billion, respectively). Issuance in 2009 (\$3.4 billion) and 2010 (\$5.1 billion) increased dramatically from previous years due to the BAB program. Figure 7 describes statewide issuance by major project type.

Figure 7

PUBLIC ENTERPRISE REVENUE BONDS
TRANSPORTATION/TRANSIT PROJECTS
1985-2010

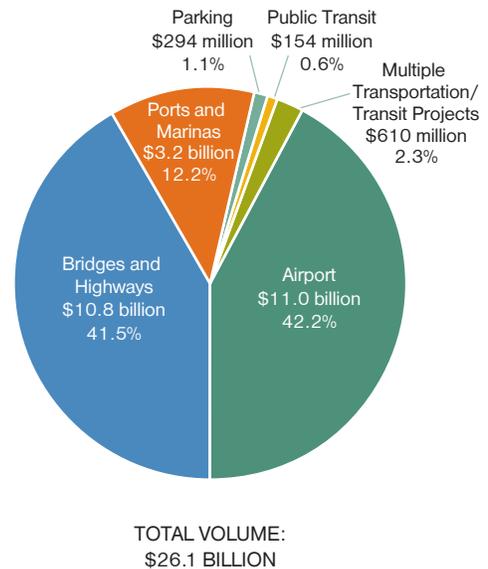
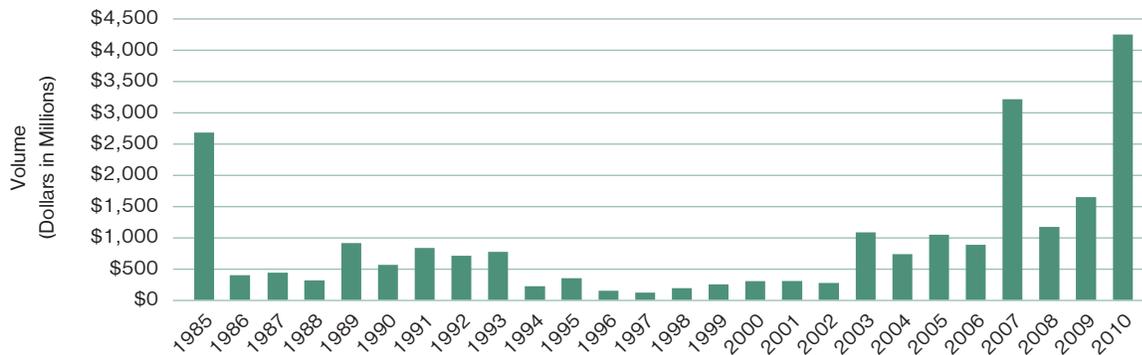


Figure 8

STATEWIDE LOCAL ISSUANCE, PUBLIC ENTERPRISE REVENUE BONDS
POWER GENERATION/TRANSMISSION PROJECTS, 1985-2010



POWER GENERATION/TRANSMISSION

From 1985-2010, PERB issuance related to power generation/transmission totaled \$23.5 billion. Figure 8 displays the 26 year trend. Figure 9 presents the types of power generation /transmission projects funded.

The spike 1985 was attributed to \$1.1 billion issued by the Northern California Power Agency and \$642 million issued by the Southern California Public Power Authority. The bonds financed a combustion turbine and the Palo Verde Nuclear Generating Station. In 2007, \$2.1 billion in PERBs were issued for prepaid natural gas purchases, which account for the increased volume in that year. Most of the PERB financing that contributed to the increase in 2010 was the Los Angeles Department of Water and Power (\$1.6 billion), Southern California Public Power Authority (\$987 million), and California Statewide Communities Development Authority (\$779 million).

Figure 9

California Electric System Improvements	Hoover Power
California-Oregon Transmission	Morgan Stanley Capital Group, Inc. (MSCG)
Combustion Turbines	Prepaid Gas Purchase
Electric Clean Renewable Energy Bonds (CREB)	Natural Gas Reserves Acquisition
Electric Generation Facilities	Hydroelectric
Electric Peaking Facilities	Nuclear Generating Station
Photovoltaic Systems	Power Plants
Federal Energy Regulatory Commission (FERC) Relicensing	Repowering Projects
Generating Stations	Substation Electric System
Gas Utilities	Transmission Lines
	Wind Energy

ISSUANCE BY REGION

This section reviews and examines regional differences in statewide PERB issuance between five regions: Los Angeles, San Francisco Bay Area, Central Valley, San Diego/Inland Empire and Other¹. In addition, each region's PERB issuance is classified by the following project types identified in an earlier section: water/wastewater, transportation/transit, power generation/transmission and other.

Figure 10 compares regional differences by project type.

COUNTIES INCLUDED IN REGIONAL ANALYSIS

CENTRAL VALLEY	Butte, Colusa, El Dorado, Fresno, Glenn, Kern, Kings, Madera, Merced, Placer, Sacramento, San Joaquin, Shasta, Sutter, Stanislaus, Tehama, Tulare, Yolo, and Yuba Counties.
LOS ANGELES	Los Angeles, Orange, and Ventura Counties.
SAN DIEGO/ INLAND EMPIRE	Imperial, San Diego, Riverside, and San Bernardino Counties.
SAN FRANCISCO BAY AREA	Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties.
OTHER	Alpine, Amador, Calaveras, Del Norte, Humboldt, Inyo, Lake, Lassen, Mariposa, Mendocino, Modoc, Mono, Monterey, Nevada, Plumas, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz, Sierra, Siskiyou, Trinity, and Tuolumne Counties.
MULTIPLE	Consists of counties in more than one region.

¹ "Other" includes smaller regions throughout the state as well as agencies that are comprised of more than one county.

Figure 10

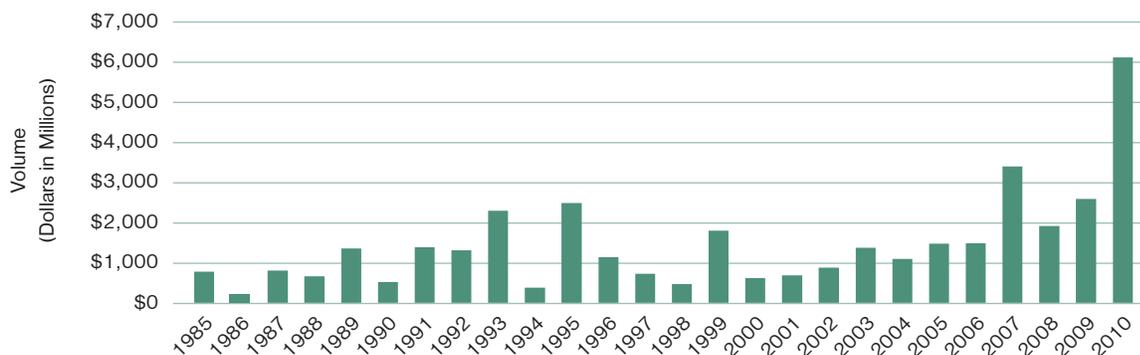
REGIONAL COMPARISONS OF CAPITAL IMPROVEMENTS PROJECTS
PUBLIC ENTERPRISE REVENUE BONDS, 1985-2010 (DOLLARS IN MILLIONS*)

REGION	WATER/ WASTEWATER	TRANSPORTATION	POWER GENERATION/ TRANSMISSION	OTHER	TOTAL
Los Angeles	\$12,995	\$9,944	\$12,729	\$2,746	\$38,413
Bay Area	8,569	14,213	692	489	23,963
Central Valley	5,069	1,364	6,701	246	13,380
San Diego/Inland Empire	4,317	517	815	339	5,988
Other	817	77	2,574	138	3,606
TOTAL	\$31,765	\$26,114	\$23,511	\$3,959	\$85,350

*Totals may not add due to rounding.

Figure 11

LOS ANGELES REGION, PUBLIC ENTERPRISE REVENUE BONDS
ANNUAL VOLUME, 1985-2010



LOS ANGELES REGION

The Los Angeles region issued the highest volume of PERBs during 1985-2010 representing \$38.4 billion or 45 percent of the total statewide issuance. As shown in Figure 11, issuance in the Los Angeles region reached a peak in 2010 totaling \$6.1 billion involving three issuers: Los Angeles Department of Water and Power (\$2.0 billion), Los Angeles Department of Airports (\$1.9 billion), and Southern California Public Power Authority (\$987 million).

Water/Wastewater Projects

Average annual issuance was \$500 million with more than half (52.9 percent) occurring in 1991, 1992, 2006, 2007, 2009, and 2010. The high volume in these years was due to issuance from the Metropolitan Water District of Southern California (\$2.4 billion), the Los Angeles Department of Water and Power (\$2.2 billion), and the City of Los Angeles (\$892 million).

Power Generation/Transmission Projects

PERB issuance peaked for power generation projects in 2007 and 2010. The increase is attributed

to several large financings: \$2.2 billion by the Los Angeles Department of Water and Power, \$1.5 billion by the Southern California Public Power Authority, \$887.4 million by the Long Beach Bond Finance Authority, and \$136.4 million by the Anaheim Public Financing Authority. In those years, power generation/transmission PERBs financed projects such as electric system distribution facilities, prepaid natural gas, solar and energy efficiency BABs, and wind energy BABs.

Transportation/Transit Projects

During the period, Los Angeles region issuers sold \$9.9 billion for transportation projects, approximately 26 percent of all new PERB issuance in the Los Angeles region (Figure 12). Nearly 83 percent of PERB transportation financings were issued by cities and joint powers authorities (JPAs). Most of these transportation/transit bonds (\$4.3 billion) were issued for airport projects. Two exceptional years for airport projects are 1987 and 2010. In 1987, Orange County issued the only PERB, and in 2010, the Los Angeles Department of Airports issued \$1.9 billion, which contributed to a spike in issuance. The years of greatest issuance for airport projects are 2008-2010, during which the Los Angeles Department of Airports issued \$3.4 billion (78 percent of all airport projects).

Figure 12

LOS ANGELES REGION
PUBLIC ENTERPRISE REVENUE BONDS
SUMMARY OF ISSUANCE, 1985-2010
(DOLLARS IN MILLIONS*)

PROJECT	TOTAL	PERCENT
Water/Wastewater	\$12,995	33.8%
Power Generation/ Transmission	12,729	33.1
Transportation	9,944	25.9
Other	2,746	7.1
TOTAL	\$38,413	100.0%

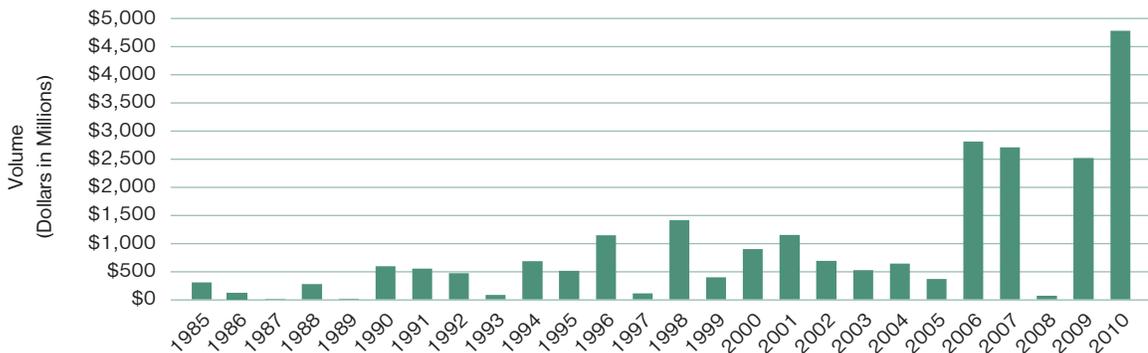
*Totals may not add due to rounding.

SAN FRANCISCO BAY AREA REGION

Local agencies in the San Francisco Bay Area region issued almost \$24 billion in PERBs during the 26-year period and had the highest issuance of BABs (\$5.2 billion) among all regions. As shown in Figure 13, 2010 experienced the greatest increase in PERB financings. Of the \$4.8 billion issued in 2010, \$3.8 billion were BABs issued for transportation (\$2 billion), water/wastewater (\$1.8 billion), and flood control/storm drainage (\$7.2 million).

Figure 13

SAN FRANCISCO BAY AREA REGION, PUBLIC ENTERPRISE REVENUE BONDS
ANNUAL VOLUME, 1985-2010



Transportation/Transit Projects

Transportation projects did not experience much activity until 1994. After nine years of negligible issuance, transportation PERBs increased from \$17.1 million in 1993 to \$240 million in 1994. In 2006, there was a dramatic increase due to the issuance of bonds to make improvements, which included seismic retrofitting to the San Francisco/Oakland Bay Bridge.

Prior to 2001, the majority of transportation PERBs were used to finance airport projects. From 2001, PERBs primarily were issued for bridges and highways.

Approximately 91 percent of PERB transportation financings were issued by special districts or the City and County of San Francisco. For these issuers, PERBs were sold mostly for airports and bridges/highways. Other city issuers, accounting for nearly nine percent of all Bay Area region issuers, used PERBs solely for airport projects in Santa Clara County. Miscellaneous issuers (a parking authority and a non-profit corporation) used PERB financing for parking projects in several Bay Area region cities.

Water/Wastewater Projects

Bond issuance in this category was irregular and experienced moderate growth. Most years, annual issuance was under \$500 million; however, in 2010, PERB issuance soared to \$2.3 billion from \$664 million in 2009. The increase was due to the issuance of \$1.8 billion of BABs.

Power Generation/Transmission Projects

As shown in Figure 14, PERB issuance for this category totaled \$692 million (2.9 percent of total Bay Area region PERB issuance), with \$370 million issued by JPAs and \$322 million by cities. Power generation/transmission PERBs financed projects such as power plants and the California-Oregon Transmission Line.

Figure 14

SAN FRANCISCO BAY AREA REGION
PUBLIC ENTERPRISE REVENUE BONDS
SUMMARY OF ISSUANCE 1985-2010
(DOLLARS IN MILLIONS*)

PROJECT	TOTAL	PERCENT
Transportation/Transit	\$14,213	59.3%
Water/Wastewater	8,569	35.8
Power Generation/ Transmission	692	2.9
Other	489	2.0
TOTAL	\$23,963	100.0%

*Totals may not add due to rounding.

CENTRAL VALLEY REGION

Local agencies in the Central Valley region issued nearly \$13.4 billion in new PERBs from 1985 through 2010. PERB issuance for 16 of the 26 years remained under \$500 million. However, there were three years in which PERB issuance was high, reaching over \$1 billion: 2004, 2007, and 2009 (Figure 15). The high issuance for those years is due predominantly to power generation (\$2.5 billion) and water/wastewater (\$1.4 billion) projects.

Power Generation/Transmission Projects

As shown in Figure 16, the majority of PERB financings in this category were for power generation/transmission projects (\$6.7 billion, 50.1 percent).

The year with the largest volume (nearly \$1.5 billion) of power generation/transmission PERBs was 2009. M-S-R Energy Authority (\$900 million), Tuolumne Wind Project (\$428 million), and the Sacramento Municipal Utility District (SMUD) (\$200 million) were the only issuers of PERBs in this category. Both SMUD and Tuolumne Wind Project Authority both sold BABs (\$352 million) and M-S-R Energy Authority sold PERBs for natural gas.

Figure 15

CENTRAL VALLEY REGION, PUBLIC ENTERPRISE REVENUE BONDS
ANNUAL VOLUME, 1985-2010

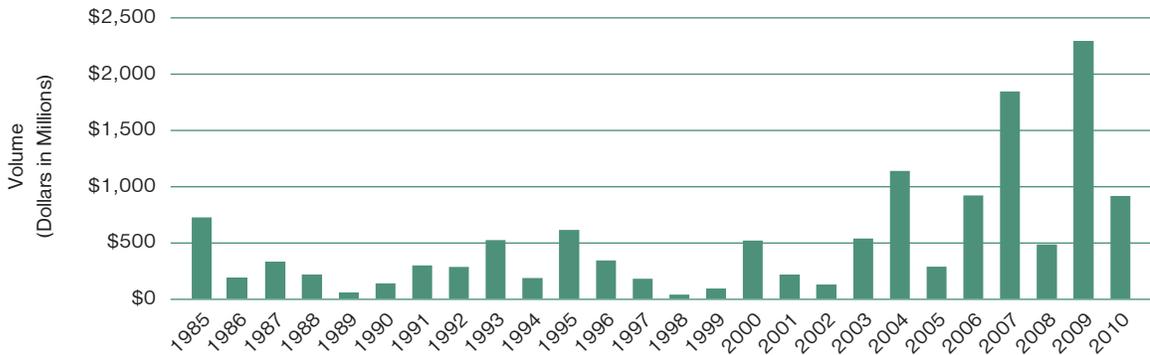


Figure 16

CENTRAL VALLEY REGION
PUBLIC ENTERPRISE REVENUE BONDS
SUMMARY OF ISSUANCE 1985-2010
(DOLLARS IN MILLIONS*)

PROJECT	TOTAL	PERCENT
Power Generation/ Transmission	\$6,701	50.1%
Water/Wastewater	5,069	37.9
Transportation	1,364	10.2
Other	246	1.8
TOTAL	\$13,380	100.0%

*Totals may not add due to rounding.

Water/Wastewater Projects

The years with the largest PERB sales were 2004 and 2007. In those years, the significant volume can be attributed to two issuers: the Sacramento County Sanitation District Financing Authority and the Sacramento County Water Financing Authority. In 2004, the Sacramento County Sanitation District Financing Authority issued \$720.2 million for wastewater projects, and in 2007, the Sacramento County Water

Financing Authority issued a single PERB for \$369.4 million for several projects including an intake facility and pumping plant located on the Sacramento River, and a reservoir and a water treatment plant located in central Sacramento County.² One issuer, the Sacramento County Sanitation District Financing Authority, sold \$1.9 billion in PERBs for wastewater projects, which accounts for 37 percent of all Central Valley PERBs sold for this purpose.

Transportation/Transit Projects

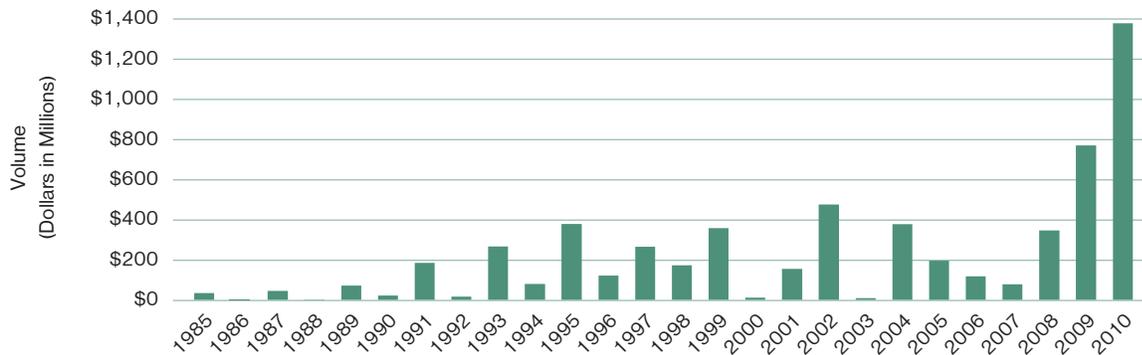
Over the study period, Central Valley region issuers sold \$1.4 billion of bonds for transportation projects, 10.2 percent of all new Central Valley PERB issuance. In 2009, Sacramento County issued the single largest transportation bond, \$480 million, to finance airport improvements.

Transportation PERBs were issued by six issuers: Sacramento County; cities of Chico and Fresno; special districts Sacramento-Yolo Port District and Stockton Port District; and the South Tahoe Joint Powers Parking Financing Authority (a JPA). Sacramento County marketed \$1.2 billion in transportation/transit PERBs comprised of mostly airport related projects. Fresno also issued

² Jones & Stokes, *Initial Study and Draft Supplemental Mitigated Negative Declaration to the Freeport Regional Water Project Final Environmental Impact Report State Clearinghouse No. 2002032132* (February 2006) pp 1-1 and 1-3.

Figure 17

SAN DIEGO/INLAND EMPIRE REGION, PUBLIC ENTERPRISE REVENUE BONDS
ANNUAL VOLUME, 1985-2010



all of its PERBs (\$65 million, 4.8 percent) for airport projects. Chico and the South Tahoe Joint Powers Parking Financing Authority used PERBs to finance parking projects (\$11.6 million, 0.8 percent). The Sacramento-Yolo and the Stockton Port Districts issued \$39.4 million (2.9 percent) in PERBs for ports and marinas projects.

Other Projects

For this region, the “other” category is comprised of three project types: solid waste recovery facilities, multiple capital improvements, and recreation and sports facilities. The categories with the largest volume are solid waste recovery facilities (\$120.7 million, 49.0 percent) and multiple capital improvements (\$122.2 million, 49.6 percent).

SAN DIEGO/INLAND EMPIRE REGION

PERB activity in the San Diego/Inland Empire region between 1985 and 2010 is illustrated in Figure 17. Local agencies in the San Diego/Inland Empire region issued nearly \$6 billion in PERBs during the 26-year period. In 2008, issuance began a dramatic climb, reaching an all-time peak of nearly \$1.4 billion in 2010.

Water/Wastewater Projects

As shown in Figure 18, the majority of PERB financings in this category were for wastewater

purposes (\$4.3 billion, 72.1 percent). One issuer, the San Diego Public Facilities Financing Authority, marketed \$1.3 billion in PERBs for wastewater projects. PERB volume for these projects peaked in 2010, totaling \$806 million. The high issuance volume is attributed to two water bonds totaling \$573 million. Of that amount, \$526.1 million were BABs issued by the San Diego County Water Authority Financing Agency, a JPA.

Power Generation/Transmission Projects

Between 1985 and 2010, there were only 11 years in which PERBs were used to finance these

Figure 18

SAN DIEGO/INLAND EMPIRE REGION
PUBLIC ENTERPRISE REVENUE BONDS
SUMMARY OF ISSUANCE 1985-2010
(DOLLARS IN MILLIONS*)

PROJECT	TOTAL	PERCENT
Water/Wastewater	\$4,317	72.1%
Power Generation/ Transmission	815	13.6
Transportation	517	8.6
Other	339	5.7
TOTAL	\$5,988	100.0%

*Totals may not add due to rounding.

projects. During this time frame, PERB issuance for this category totaled \$815.5 million (13.6 percent of total San Diego/Inland Empire region PERB issuance), with nearly \$694 million issued by the City of Riverside. The City of Riverside was the sole issuer of power generation/transmission projects in seven of the 11 years that had PERB activity.

Transportation/Transit Projects

Activity in this category was sparse as evidenced by the six years of PERB financings between 1985 and 2010. During this time, San Diego/Inland Empire region issuers sold \$517 million for transportation projects, just 8.6 percent of all new PERB issuance in the San Diego/Inland Empire Region. The majority of this issuance (\$430.4 million, 83.2 percent) occurred in 2010 for airport purposes; \$215 million were BABs.

Other Projects

Projects in the “other” category resulted in PERB issuance of \$339.4 million, 5.7 percent of total San Diego/Inland Empire region PERB issuance.

The “other” category is comprised of seven project types: multiple capital improvements, solid waste recovery facilities, seismic improvements/repair, recreation and sports facilities, flood control/storm drainage, a public building, and other capital improvements.

The large volume of issuance in 1991 is attributed to a single bond issue of \$92.5 million by the Rancho California Water District Financing Authority. This financing was used for a variety of multiple capital improvements. Following periods of minor or no issuance, the largest volume of PERB financings in the San Diego/Inland Empire occurred in 1996. PERB financings in that year total \$107.9 million, and the funds were used for the following projects: recreation and sports facilities, flood control/storm drainage, seismic safety improvements/repairs, solid waste recovery facilities, and an emergency shelter, the bulk of which was used to finance a landfill expansion (\$90 million). Finally, issuance in 2009 experienced an increase in volume of \$82.5 million for multiple capital improvements projects by a water district and two JPAs.

ISSUANCE BY MUNICIPALITY

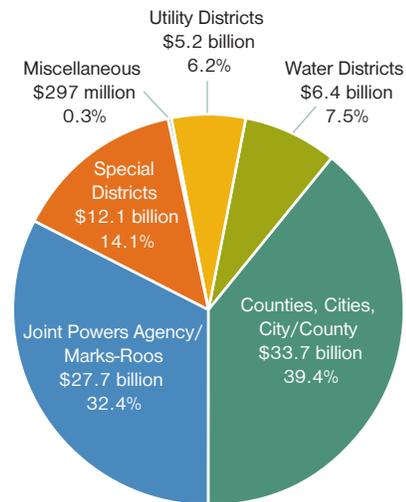
This section provides information on the distribution of PERB financings for capital improvements projects by reviewing the differences in statewide PERB issuance by type of municipality. There are six different municipal issuer types: counties, cities, city/county; JPAs/Marks-Roos; special districts; utility districts; water districts; and miscellaneous. In addition, the top ten issuers for each municipality are presented.

Nearly 72 percent of PERB financings were issued by counties, cities, city/county and JPAs (Figure 19). Miscellaneous issuers, consisting of a housing authority, a parking authority, non-profit corporations, and redevelopment agencies utilized PERB financings the least (0.3 percent). As shown in Figure 20, municipality issuance is presented by project type.

Among the top ten PERB issuers, municipalities in the Los Angeles region contributed to the greatest volume of PERB issuance (\$21.8 billion) (Figure 21).

Figure 19

MUNICIPALITIES
PUBLIC ENTERPRISE REVENUE BOND PROJECTS
1985-2010



TOTAL VOLUME:
\$85.4 BILLION

Figure 20

MUNICIPALITY ISSUANCE BY PROJECT, 1985-2010 (DOLLARS IN MILLIONS*)

MUNICIPALITY CATEGORY	WATER/ WASTEWATER	TRANSPORTATION	POWER GENERATION/ TRANSMISSION	OTHER	TOTAL	PERCENT OF TOTAL
Counties, Cities, City/County	\$12,252	\$12,553	\$8,144	\$716	\$33,666	39.4%
Joint Powers Agency/Marks-Roos	10,766	2,951	12,439	1,522	27,678	32.4
Special Districts	56	10,512	32	1,450	12,051	14.1
Water Districts	5,897	0	450	63	6,410	7.5
Utility Districts	2,794	0	2,446	9	5,249	6.2
Miscellaneous	0	97	0	199	297	0.3
TOTAL	\$31,765	\$26,114	\$23,511	\$3,959	\$85,350	100.0%

*Totals may not add due to rounding.

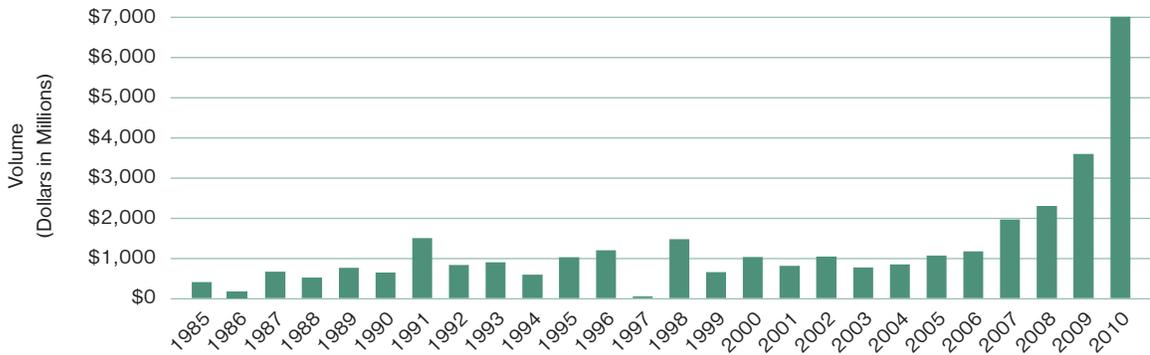
Figure 21

TOP 10 ISSUERS, 1985-2010 (DOLLARS IN MILLIONS*)

ISSUER	REGION	PROJECT TYPE	MUNICIPALITY TYPE	TOTAL ISSUANCE
Los Angeles Department of Water and Power	Los Angeles	Water	City/County	\$9,513
Bay Area Toll Authority	Bay Area	Transportation	Special District	8,081
Metropolitan Water District of Southern California	Los Angeles	Water	Water District	4,915
Los Angeles Department of Airports	Los Angeles	Transportation	City/County	3,716
San Francisco City & County Airport Commission	Bay Area	Transportation	City/County	3,652
Southern California Public Power Authority	Los Angeles	Power	Joint Powers Agency/ Marks-Roos	3,684
San Francisco Public Utilities Commission	Bay Area	Power	City/County	3,062
East Bay Municipal Utility District	Bay Area	Power	Utility District	2,752
Sacramento Municipal Utility District	Central Valley	Power	Utility District	2,427
Sacramento County Sanitation Districts Financing Authority	Central Valley	Water	Joint Powers Agency/ Marks-Roos	1,873
TOTAL				\$43,675

Figure 22

COUNTIES, CITIES, CITY/COUNTY, PUBLIC ENTERPRISE REVENUE BONDS
ANNUAL VOLUME, 1985-2010



COUNTIES, CITIES, CITY/COUNTY

As shown in Figure 19, more than 39 percent of all capital improvements PERB financings were issued by counties and cities. Figure 22 depicts that 1997 was a notable year due to low PERB issuance, which consisted of two cities that issued PERBs for water/wastewater projects.

Conversely, PERB financing in 2010 is notable due to the surge in issuance, which is attributable to the sale of nearly \$4 billion in BABs mostly for water (\$2 billion) and power (\$1.6 billion) projects.

Of the \$33.7 billion sold by issuers in this municipality group, cities issued \$24.4 billion (72.4 percent) over the study period. Cities used PERBs to finance power generation/transmission projects (\$8.1 billion, 33.4 percent), followed by wastewater collection and treatment projects (\$8.8 billion, 36.2 percent). Counties, primarily Sacramento County, used PERBs for airport improvements.

Figure 23 shows the volume of the top ten counties, cities, city/county municipalities that issued PERBs. Combined, the top ten issuers financed a significant portion (\$28.6 billion or 85.1 percent) of the \$33.7 billion in PERBs by all 103 issuers in this category. The Los Angeles Department of Water and Power had the highest issuance with \$9.5 billion (33.2 percent).

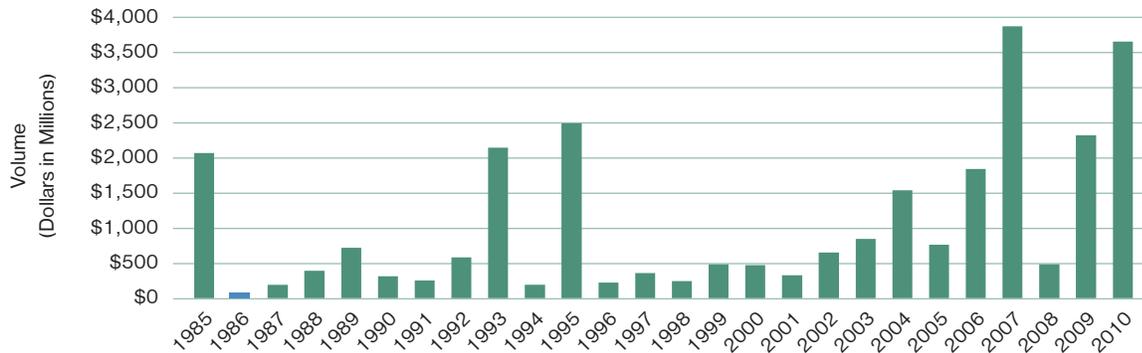
Figure 23

TEN LARGEST COUNTIES, CITIES, CITY/COUNTY ISSUERS
PUBLIC ENTERPRISE REVENUE BONDS
1985-2010 (DOLLARS IN MILLIONS)

MUNICIPALITY	TOTAL
Los Angeles Department of Water and Power	\$9,513
Los Angeles Department of Airports	3,716
San Francisco City & County Airport Commission	3,652
San Francisco Public Utilities Commission	3,062
City of Los Angeles	2,706
City of Long Beach	1,646
Sacramento County	1,248
City of Riverside	1,236
City of San Jose	1,217
City of Fresno	642
TOTAL	\$28,638

Figure 24

JOINT POWERS AGENCY/MARKS-ROOS ISSUERS, PUBLIC ENTERPRISE REVENUE BONDS
ANNUAL VOLUME, 1985-2010



JOINT POWERS AGENCY/MARKS-ROOS ISSUERS

Although issuance among JPA/Marks-Roos issuers was sporadic during 1985-2010, these issuers account for 32.4 percent of PERB financings, which commonly focused on power generation/transmission and bridges and highways projects (Figure 24). As shown in Figure 25, the Southern California Public Power Authority issued the highest volume in PERBs; more than 25 percent of the total volume (\$987.1 million) was issued in 2010, primarily for wind power projects.

SPECIAL DISTRICTS

Special districts include community services districts, county sanitation districts, harbor port districts, irrigation districts, sanitary districts, sewer districts, and transit authorities. Special districts issued \$12.1 billion in PERBs, approximately 14 percent of capital improvements PERB financings, with \$10.5 billion earmarked for transportation projects. As depicted in Figure 26, issuance for special districts between 1985 and 1994 was minimal.

Special districts, as compared to cities and counties, used alternative financing vehicles such as certificates of participation/leases, limited tax obligation bonds, sales tax revenue bonds, and special assessment bonds for capital improvements

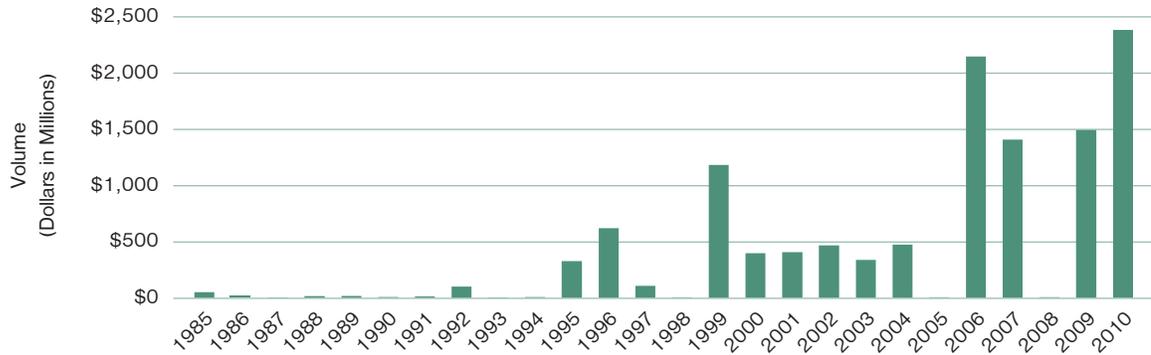
Figure 25

TEN LARGEST JOINT POWERS AGENCY/
MARKS-ROOS ISSUERS
PUBLIC ENTERPRISE REVENUE BONDS
1985-2010 (DOLLARS IN MILLIONS)

MUNICIPALITY	TOTAL
Southern California Public Power Authority	\$3,684
Sacramento County Sanitation Districts Financing Authority	1,873
San Diego Public Facilities Financing Authority	1,865
Northern California Power Agency	1,764
Foothill/Eastern Transportation Corridor Agency	1,519
San Joaquin Hills Transportation Corridor Agency	1,198
M-S-R Energy Authority	902
Long Beach Bond Finance Authority	887
California Statewide Communities Development Authority	784
Northern California Gas Authority No 1	757
TOTAL	\$15,233

Figure 26

SPECIAL DISTRICTS, PUBLIC ENTERPRISE REVENUE BONDS
ANNUAL VOLUME, 1985-2010



projects. In 2007, the BATA issued PERBs totaling \$2.1 billion for improvements to the San Francisco Bay Bridge, which accounted for the sharp rise in PERB issuance for that year.

The largest issuers are listed in Figure 27. Transportation agencies make up the greatest percentage of special district issuers for PERB financings (\$9.6 billion) followed by harbor districts (\$2.4 billion) and a sewer district (\$24 million). BATA issued the highest volume in PERBs (\$8.1 billion, 67.0 percent).

WATER DISTRICTS

Issuance for water districts fluctuated throughout the 26-year period, with the highest volume of issuance occurring in 1992 (Figure 28). The Metropolitan Water District of Southern California issued a \$550 million PERB for water projects, which accounted for the large volume for this year. Most of the PERB issuance (\$5.9 billion out of \$6.4 billion) was for projects such as transmission systems, a pumping plant, water system improvements, a desalinization system, reservoirs, ground water recovery, a filtration plant, treatment plants, and meter installations.

The Metropolitan Water District of Southern California issued the highest volume of PERBs (\$4.9 billion), which is nearly 77 percent of all water district issuance (Figure 29). This major

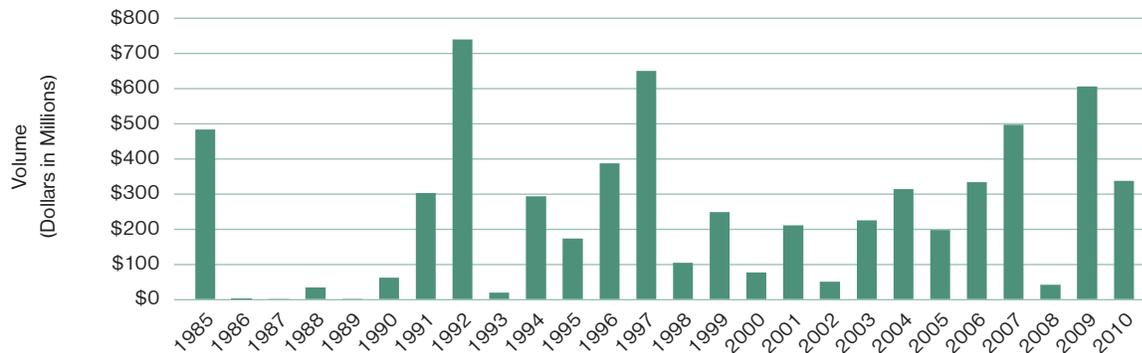
Figure 27

TEN LARGEST SPECIAL DISTRICT ISSUERS
PUBLIC ENTERPRISE REVENUE BONDS
1985-2010 (DOLLARS IN MILLIONS)

ISSUER	TOTAL
Bay Area Toll Authority (BATA)	\$8,081
Alameda Corridor Transportation Authority	1,276
Port of Oakland	1,228
Los Angeles Harbor Department	991
Los Angeles County Metropolitan Transportation Authority	186
Oxnard Harbor District	60
San Diego Unified Port District	50
Orange County Transportation Authority	39
Stockton Port District	36
Fairfield-Suisun Sewer District	24
TOTAL	\$11,971

Figure 28

WATER DISTRICTS, PUBLIC ENTERPRISE REVENUE BONDS
ANNUAL VOLUME, 1985-2010



water district is comprised of 26 cities and water districts, and it provides drinking water to parts of Los Angeles, Orange, San Diego, Riverside, San Bernardino and Ventura Counties.³

Figure 29

TEN LARGEST WATER DISTRICT ISSUERS
PUBLIC ENTERPRISE REVENUE BONDS
1985-2010 (DOLLARS IN MILLIONS*)

ISSUER	TOTAL
Metropolitan Water District of Southern California	\$4,915
Contra Costa Water District	457
Kings River Conservation District	450
Central Coast Water Authority	154
Western Municipal Water District Facilities Authority	151
Santa Clara Valley Water District	90
Semitropic Water Storage District	73
East Valley Water District Financing Authority	27
Sonoma County Water Agency	27
Marin Municipal Water District	19
TOTAL	\$6,364

UTILITY DISTRICTS

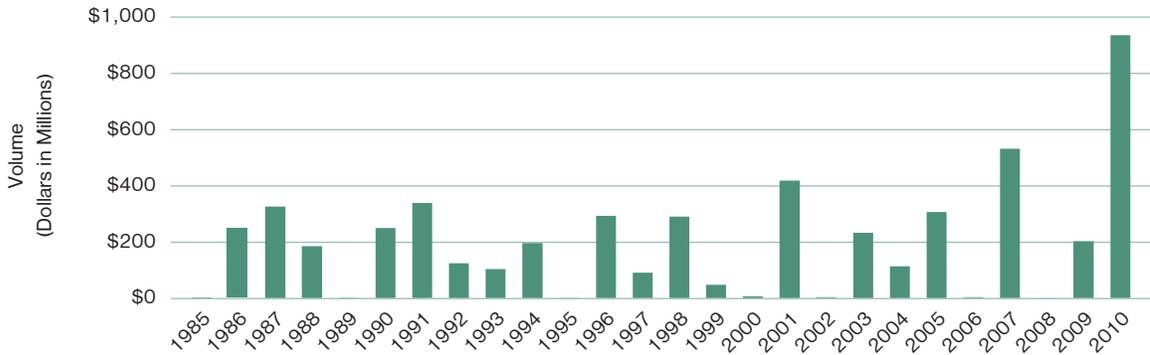
As shown in Figure 30, issuance for utility districts fluctuated throughout the 26-year period, with the highest volume of issuance occurring in 2010. The East Bay Municipal Utility District used PERBs to finance water and wastewater projects totaling \$645.2 million, which accounts for the substantial increase in 2010. Of the \$645.2 million, \$550 million were BABs.

Utility districts issued \$5.2 billion of PERBs, which was almost evenly divided between power generation/transmission projects (\$2.4 billion, 46.6 percent) and water/wastewater projects (\$2.8 billion, 53.2 percent). Interestingly, PERB financings for power generation/transmission projects were issued by just two issuers between 1985 and 2010: the Sacramento Municipal Utility District (\$2.4 billion) and the Trinity Public Utilities District Financing Authority (\$18.8 million) (Figure 31). Several other utility districts used PERBs for water/wastewater projects (\$43

³ "About the Metropolitan Water District of Southern California." Web. 22 May 2012. www.mwdh2o.com/mwdh2o/pages/about/about01.html.

Figure 30

UTILITY DISTRICTS, PUBLIC ENTERPRISE REVENUE BONDS
ANNUAL VOLUME, 1985-2010



million), but the East Bay Municipal Utility District issued the greatest amount (\$2.8 billion) for these projects.

CONCLUSION

PERBs have been the most widely use method of bond funding for capital improvements projects in California over the past two and a half decades. The majority of PERB projects, have a strong ability to generate revenue because those services they provide are vital. This report has been produced with the goal of providing an overview of the sources and uses of PERBs in California.

Figure 31

TEN LARGEST UTILITY DISTRICT ISSUERS
PUBLIC ENTERPRISE REVENUE BONDS
1985-2010 DOLLARS IN MILLIONS

ISSUER	TOTAL
East Bay Municipal Utility District	\$2,752
Sacramento Municipal Utility District	2,427
La Habra Utility Authority	20
Trinity Public Utilities District	19
Needles Public Utility Authority	9
Colton Utility Authority	6
Lake Oroville Public Utility District	5
Herlong Public Utility District	3
Donner Summit Public Utility District	3
Bridgeport Public Utility District	2
TOTAL	\$5,246



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