DEBT AFFORDABILITY ADVISORY COMMITTEE

Agenda

Friday, March 10, 2017
10:30 A.M.

651 Pine Street, 11th Floor - Martinez CA 94553

Robert Campbell, Auditor-Controller
Russell Watts, Treasurer-Tax Collector
Lisa Driscoll, County Finance Director
John Kopchik, Department of Conservation and Development

Agenda Items:

Items may be taken out of order based on the business of the day and preference of the Committee

1. Introductions/Call to Order

2. Public comment on any item under the jurisdiction of the Committee and not on this agenda (speakers may be limited to three minutes).

3. CONSIDER reviewing and approving the draft FY 2015/16 Annual Report.

4. CONSIDER reviewing and approving amendments to the County Debt Management Policy and forward to the Board of Supervisors for approval.

5. Adjourn

The Debt Affordability Advisory Committee will provide reasonable accommodations for persons with disabilities planning to attend Debt Affordability Advisory Committee meetings. Contact the staff person listed below at least 72 hours before the meeting.

Any disclosable public records related to an open session item on a regular meeting agenda and distributed by the County to a majority of members of the Debt Affordability Advisory Committee less than 96 hours prior to that meeting are available for public inspection at 651 Pine Street, 10th floor, during normal business hours.

Public comment may be submitted via electronic mail on agenda items at least one full work day prior to the published meeting time.

For Additional Information Contact:
Timothy Ewell, Committee Staff
Phone (925) 335-1036, Fax (925) 646-1353
Timothy.Ewell@cao.cccounty.us

Acronyms, Abbreviations, and other Terms (in alphabetical order):

Contra Costa County has a policy of making limited use of acronyms, abbreviations, and industry-specific language in its Board of Supervisors meetings and written materials. Following is a list of commonly used language that may appear in oral presentations and written materials associated with Board meetings:

AB	Assembly Bill
ABAG	Association of Bay Area Governments
ACA	Assembly Constitutional Amendment
ADA	Americans with Disabilities Act of 1990
AFSCME	American Federation of State County and Municipal Employees
AICP	American Institute of Certified Planners
AIDS	Acquired Immunodeficiency Syndrome
ALUC	Airport Land Use Commission
AOD	Alcohol and Other Drugs
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit District
BCDC	Bay Conservation & Development Commission
BGO	Better Government Ordinance
BOS	Board of Supervisors
CALTRANS	California Department of Transportation
CalWIN	California Works Information Network
CalWORKS	California Work Opportunity and Responsibility to Kids
CAER	Community Awareness Emergency Response
CAO	County Administrative Officer or Office
CCHP	Contra Costa Health Plan
CCTA	Contra Costa Transportation Authority
CDBG	Community Development Block Grant
CEQA	California Environmental Quality Act
CIO	Chief Information Officer
COLA	Cost of living adjustment
ConFire	Contra Costa Consolidated Fire District
CPA	Certified Public Accountant
CPI	Consumer Price Index
CSA	County Service Area
CSAC	California State Association of Counties
CTC	California Transportation Commission
dba	doing business as
EBMUD	East Bay Municipal Utility District
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EMCC	Emergency Medical Care Committee
EMS	Emergency Medical Services
EPSDT	State Early Periodic Screening, Diagnosis and treatment Program (Mental Health)
et al.	et ali (and others)
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
F&HS	Family and Human Services Committee
First 5	First Five Children and Families Commission (Proposition 10)
FTE	Full Time Equivalent
FY	Fiscal Year
GHAD	Geologic Hazard Abatement District
GIS	Geographic Information System
HCD	(State Dept of) Housing & Community Development
HHS	Department of Health and Human Services
HIPAA	Health Insurance Portability and Accountability Act
HIV	Human Immunodeficiency Syndrome
HOV	High Occupancy Vehicle
HR	Human Resources
HUD	United States Department of Housing and Urban Development
Inc.	Incorporated
IOC	Internal Operations Committee
ISO	Industrial Safety Ordinance
JPA	Joint (exercise of) Powers Authority or Agreement
Lamorinda	Lafayette-Moraga-Orinda Area
LAFCo	Local Agency Formation Commission
LLC	Limited Liability Company
LLP	Limited Liability Partnership
Local 1	Public Employees Union Local 1
LVN	Licensed Vocational Nurse
MAC	Municipal Advisory Council
MBE	Minority Business Enterprise
M.D.	Medical Doctor
M.F.T.	Marriage and Family Therapist
MIS	Management Information System
MOE	Maintenance of Effort
MOU	Memorandum of Understanding
MTC	Metropolitan Transportation Commission
NACo	National Association of Counties
OB-GYN	Obstetrics and Gynecology
O.D.	Doctor of Optometry
OES-EOC	Office of Emergency Services-Emergency Operations Center
OSHA	Occupational Safety and Health Administration
Psy.D.	Doctor of Psychology
RDA	Redevelopment Agency
RFI	Request For Information
RFP	Request For Proposal
RFQ	Request For Qualifications
RN	Registered Nurse
SB	Senate Bill
SBE	Small Business Enterprise
SWAT	Southwest Area Transportation Committee
TRANSPAC	Transportation Partnership & Cooperation (Central)
TRANSPLAN	Transportation Planning Committee (East County)
TRE or TTE	Trustee
TWIC	Transportation, Water and Infrastructure Committee
VA	Department of Veterans Affairs
vs.	versus (against)
WAN	Wide Area Network
WBE	Women Business Enterprise
WCCTAC	West Contra Costa Transportation Advisory Committee

DRAFT

County of Contra Costa
Debt Report
Fiscal Year 2015-16

Debt Affordability Advisory Committee

March _, 2017

DRAFT

County Administrator

County Administration Building
651 Pine Street, 10th Floor
Martinez, California 94553-4068
V-925-335-1080
F-925-335-1098

David Twa
County Administrator

Contra Costa County

Board of Supervisors

JOHN M. GIOIA
1st District

CANDACE ANDERSEN
2nd District

MARY PIEPHO
3rd District

KAREN MITCHOFF
4th District

FEDERAL D. GLOVER
5th District

Date: March _, 2017

To: David Twa
County Administrator

FR: Debt Affordability Advisory Committee

RE: **Debt Report for Fiscal Year 2015-16**

We present to you the report of the County of Contra Costa's debt (the "Debt Report") as required pursuant to Section II.A of the County's Debt Management Policy (the "Policy"). The Policy requires the Debt Affordability Advisory Committee (the "Committee") to report on the General Fund financings of the County, which is the focus of this Debt Report.

Highlights. One of the most important tasks assigned to the Committee is the comparison of the County's performance on a variety of debt factors (a) to published benchmarks for counties nationwide and (b) to the cohort of urban counties in California (Section V(B)). The Committee notes that the County's debt performance has improved when compared to counties nationwide and to its California cohort counties. Of the nine debt ratio factors reviewed by the Committee that have published national medians and/or means, the County performed better on eight factors and worse on one factor. When compared to its California cohort counties on the eleven debt ratio factors, the County performed better or the same on nine factors and worse on two factors. These outcomes relative to national and California cohort medians and means are an improvement to the outcomes we saw in the Fiscal Year 2014-15 Debt Report.

The County's credit rating is at the highest possible level of AAA by Standard & Poor's. Further, Moody's Investors Service has maintained the County's high investment grade rating of Aa2. These achievements are due to the County's adherence to its financial management policies, to the underlying long-term strength of the County's wealth and assessed valuation demographics and to the County's recent track record of maintaining structurally balanced budgets during difficult economic cycles like we witnessed over the past several years. In addition, the County's conservative fixed-rate debt portfolio shielded it from the serious and costly disruptions in the variable rate market that occurred during the recent financial crisis.

The Committee recommends that the County continue to work toward improving its comparative debt performance in order to further reduce the gap between the County and its higher performing cohort counties. Important elements under the County's control that would reduce the gap include:

1. Continuing to issue debt prudently and structuring debt issues conservatively to achieve low borrowing costs and maximum Federal and State reimbursements, as required under the Policy. Of note is the County's successful issuance in November 2010 of $13.13 million on taxable Build America Bonds ("BABs") for which the County receives an approximate 35% federal subsidy of interest cost and the issuance of $20.7 million of taxable Recovery Zone Bonds ("RZBs") for which the County receives an approximate 45% federal subsidy on interest cost.[1]

2. Maximizing the County's opportunity to earn allowable arbitrage interest earnings on all indentured funds (such as reserve funds), a practice the County Finance Director has implemented with the assistance of a registered financial advisor.

3. Monitoring the market for refunding or refinancing opportunities to reduce debt service costs for capital projects and pension costs.

4. Assessing alternative funding sources in order to reduce reliance on Lease Revenue Bonds ("LRBs"), such as when available reserves were appropriated to fund the County's portion of the purchase of East Bay Regional Communication System's emergency equipment.

We note that comparative information on pension Unfunded Actuarial Accrued Liabilities (Pension UAAL) and other post-employment benefits' Unfunded Actuarial Accrued Liabilities (OPEB UAAL) is also included in the Debt Report. These liabilities have become significant credit factors in rating agencies' financial review of local and state governments.

Recommendations. The Committee emphasizes the heightened importance of the County's adherence to its Policy in light of its performance relative to counties nationwide and to its California cohort counties, and the Committee recognizes the County has work to do to maximize the benefits of adhering to the Policy.

We hope the information in this Debt Report can be used to support the development of sound capital plans and adherence to the County's policies. Such capital plans provide critical guidance for the protection of the County's infrastructure and assets. Together with sound capital planning, adherence to the County's debt and finance policies and this committee's recommendations will lead to greater fiscal strength in the years ahead.

[1] The subsidy percentages are "approximate" due to federal sequestration requirements that reduced the subsidies in 2016 and are scheduled to reduce them in 2017 as well. The sequestration rate in 2016 was 6.8%, resulting in a net federal subsidy of 32.62% for the BABs and 41.94% for the RZBs. Sequestration requirements, if any, in the future depend upon federal budget decisions for each of its fiscal years. See Section I.C. in the Debt Report.

If you have any questions or comments regarding this Debt Report, please contact Lisa Driscoll at (925) 335-1023. Your input is important to us and would be greatly appreciated.

Sincerely,

Members of the Debt Affordability Advisory Committee:

Robert Campbell, County Auditor-Controller
Russell Watts, County Treasurer-Tax Collector
Lisa Driscoll, County Finance Director
John Kopchik, Department of Conservation and Development Director

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TABLE OF CONTENTS

LISTING OF CHARTS, TABLES AND APPENDIX ITEMS

In accordance with the requirement of the County's Debt Management Policy, the Debt Affordability Advisory Committee must submit a Debt Report to the County Administrator annually. The following list identifies the information included and its location in the Debt Report:

PREFACE

This Debt Report frequently uses the words “bonds” and “debt” interchangeably, even when the underlying obligation does not technically constitute “debt” under California's constitution. This conforms with market convention for the general use of the term “debt” and “debt service” as applied to a broad variety of instruments in the municipal market, regardless of their precise legal status.[2] The rating agencies and the investor community evaluate the County’s debt position based on all of its outstanding debt regardless of the term of the debt and whether or not such debt is repaid from taxpayer-approved tax levies, the General Fund or other sources.

Sometimes referred to as “bonded indebtedness,” long-term debt is typically used to finance capital projects with a long useful life but may also be issued in special situations to fund other types of long-term obligations such as unfunded pension liabilities. This Debt Report presents an overall picture of the County’s indebtedness in the categories of General Obligation Bonds (“GO Bonds”), LRBs and Pension Obligation Bonds (“POBs”) as well as a summary of the County’s short-term debt in the form of Tax and Revenue Anticipation Notes (“TRANs”).

GO Bonds represent debt that is paid from voter approved *ad valorem* property taxes that, while levied and collected by the County, are not under the control of the County. The County currently has no outstanding GO Bonds.

LRBs and Certificates of Participation (“COPs”) represent debt that is paid from revenues under the County’s control, such as General Fund revenues, to finance long-term capital projects. POBs also represent debt that is paid from revenues under the County’s control, such as General Fund revenues, but are used to refinance unfunded pension costs at an anticipated lower interest cost over time than would be charged by the Contra Costa County Employers’ Retirement Association. Tax Allocation Bonds (“TABs”) are paid from property tax increment in former redevelopment areas. Previously, in a redevelopment area, assessed values would be frozen at a base level when the redevelopment area was established. Any property taxes associated with increases in taxable valuation in that area were dedicated to the redevelopment agency.[3]

To assure that issuance of debt is undertaken in a prudent manner that protects the County’s operations and fiscal margins, the Board of Supervisors adopted the Debt Management Policy that prescribes benchmarks against which the combined amount of LRB and POB indebtedness is to be compared. This Debt Report provides a discussion of the County’s performance compared to the benchmarks as well as to the performance of cohort counties.

GO Bonds, LRBs, POBs, and TABs are considered to be “Direct Debt” of the County and are also included in the measurement of the “Overall Debt” issued by all local public agencies within the

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[2] The legal definition of “debt” excludes short-term obligations such as TRANs and long-term obligations such as lease revenue bonds, but this Debt Report presents information on such obligations.

[3] In 2011, the California Legislature enacted legislation that dissolved redevelopment agencies in California, however, outstanding bonded indebtedness continues to be secured by property tax increment. The debt is now managed by the Successor Agency to the Contra Costa County Redevelopment Agency through the County’s Department of Conservation and Development.

County's boundaries.[4] It is important to monitor the levels and growth of both Direct Debt and Overall Debt as they portray the debt burden borne by our taxpayers and serve as proxies for the capacity taxpayers have to take on additional debt in the future.

When debt is issued, independent credit rating agencies assign a rating to the issue. The County's credit ratings are directly related to the financial condition of the County. As of the date of this Debt Report, the County's implied GO Bond ratings were AAA by Standard & Poor's and Aa2 by Moody's Investors Service reflecting the highest quality (S&P), and high quality (Moody's) investment grade status. The ratings on POBs were AA+ (S&P) and A1 (Moody's) and the ratings on LRBs were AA+ (S&P) and Aa3 (Moody's). The ratings assigned to all County debt issues affect interest payments and the debt service costs to the General Fund. In addition, the fiscal health of the State may affect the County's interest costs. A history of the County's long-term credit ratings is provided in Appendix 2 to this Debt Report.

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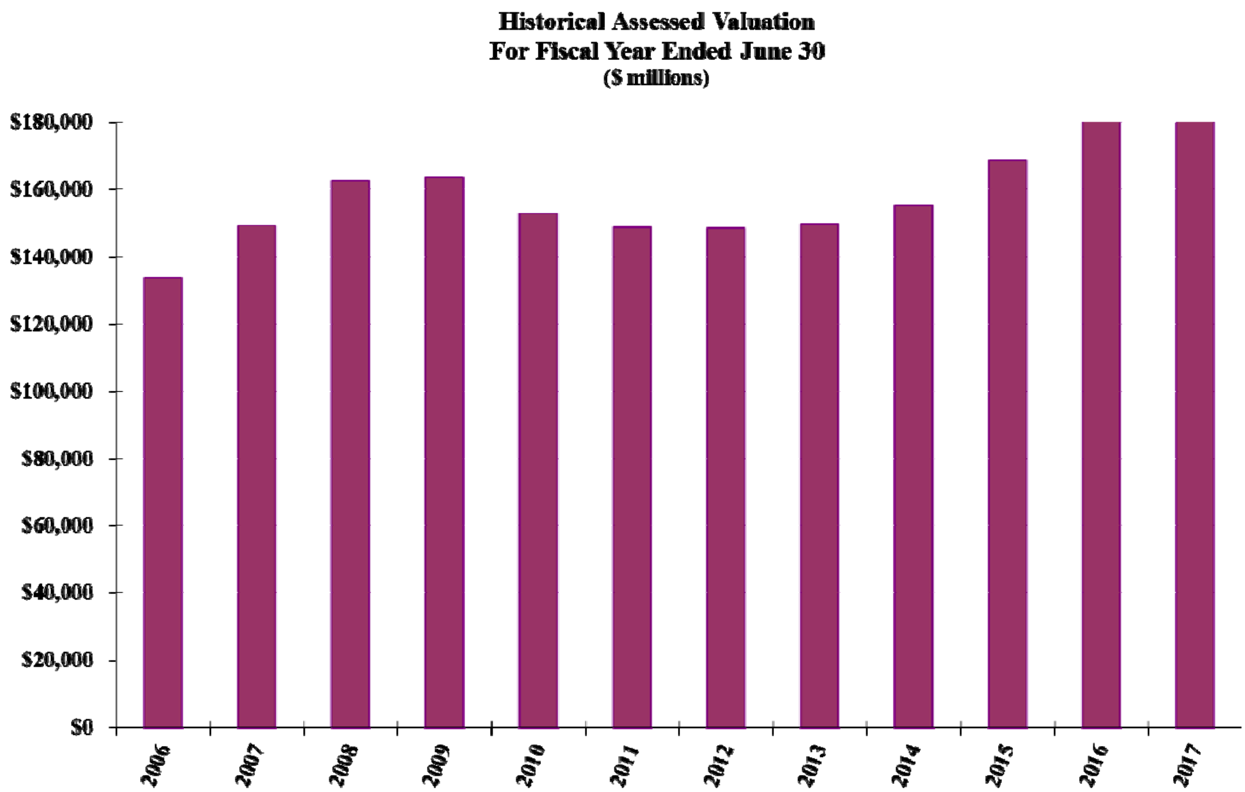
[4] From "Moody's Rating Methodology: U.S. Local Government General Obligation Debt," published December 16, 2016.

SECTION I: GENERAL DEBT PROFILE

A. County's Assessed Valuation and Bonded Debt Limitation

For Fiscal Year 2015-16, the County's total assessed valuation base was $181.1 billion and the growth rate of total assessed valuation in the County was 7.3%, the fourth fiscal year increase since Fiscal Year 2008-09. The local portion of total assessed valuation can grow up to the maximum annual rate of 2% allowed under Proposition 13 for existing property plus additional growth from new construction and the sale and exchange of property. The annual growth rate in assessed valuation averaged 9.4% over the last 25 years and averaged 4.4% over the past 5 years. Assessed valuation fell by a cumulative 9.3% from its peak in Fiscal Year 2008-09 to its trough in Fiscal Year 2011-12 as a result of the impacts of foreclosures and the recession on the County's economy. Assessed valuation appears to have stabilized and has begun growing again. Subsequent to the reporting period of this Debt Report, total assessed valuation grew by 3.5% in Fiscal Year 2016-17.[1] See Chart 1 below.

Chart 1



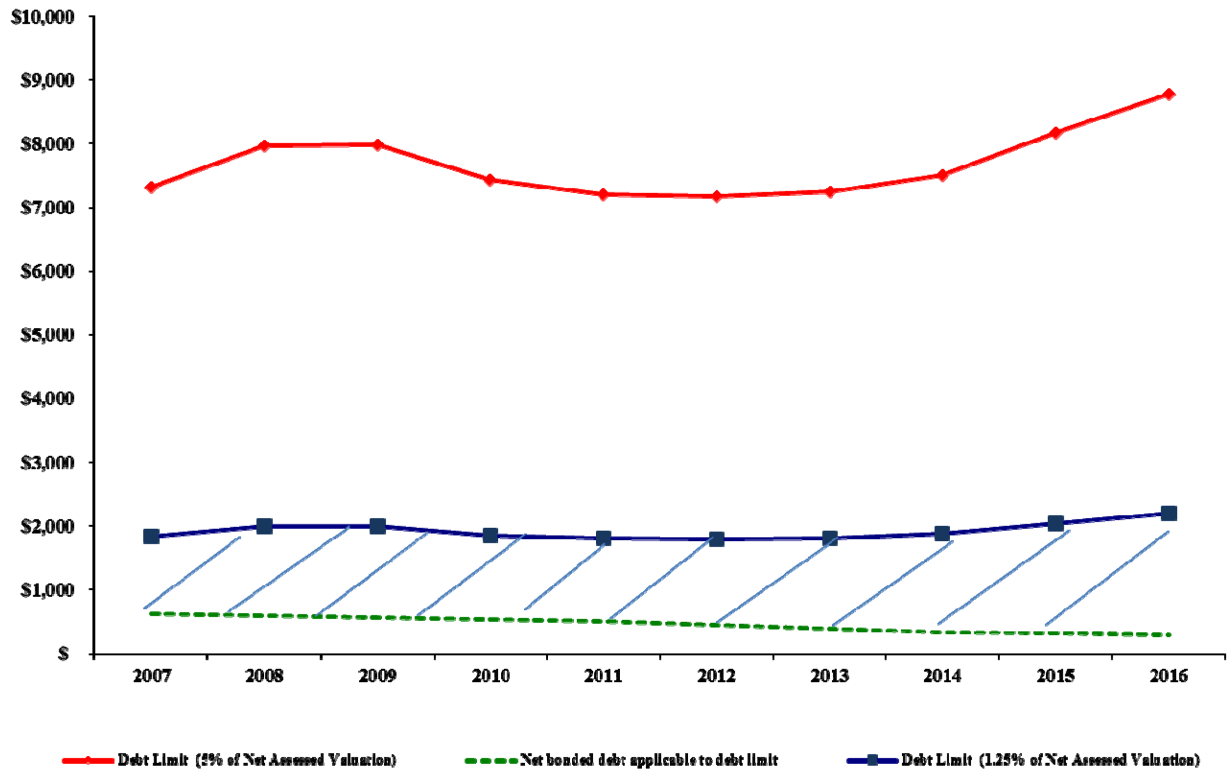
Source: County of Contra Costa, California Comprehensive Annual Financial Report, Fiscal Years Ended June 30, 2012 and June 30, 2016, Table of Assessed Value of Taxable Property.

[1] Based on the June 30, 2016 Assessor's letter to the Board of Supervisors

In accordance with California Government Code Section 29909, the County's GO bonded debt limitation equals 5.0%[1] of the value of taxable property (i.e., assessed valuation) and was $8.8 billion[1, 2] in Fiscal Year 2015-16. It should be noted that this limit applies to all County-controlled agencies, including the County General and Enterprise funds, the Successor Redevelopment Agency, the Housing Authority and Special Districts. For technical auditing purposes, only POBs and TABs are counted as "general obligation bonded debt" even though neither form of debt are true "general obligation bonds" that require voter approval; lease revenue bonded debt and assessment district debt are not required to be included.

As of this reporting period, the County's bonded debt limitation peaked in Fiscal Year 2015-16. From Fiscal Year 2009-10 through Fiscal Year 2011-12, the bonded debt limitation decreased due to declining assessed value. In Fiscal Year 2012-13, assessed value, and hence, bonding capacity began to rebound due to improved economic performance. This trend continued through Fiscal Year 2015-16, as seen in Chart 2 below.

Chart 2
Contra Costa County Debt Limit vs. Outstanding Net Bonded Debt
(as of June 30; in $ millions)



1 Article XIIIA of the California Constitution and Senate Bill 1656, Statutes of 1978, provided for changing assessed valuation from 25% of full cash value to full cash value. Hence, the 5% limitation on general obligation bonds indebtedness imposed by Section 29909 of the Government Code became 1.25% of assessed valuation.

2 Pursuant to the statutory debt limitation of 1.25% of assessed valuation, the bonded debt limitation was $2.2 billion in Fiscal Year 2015-16. Assessed valuation (excluding unitary valuation) was $187.4 billion for Fiscal Year 2016-17, subsequent to the reporting period for this Debt Report, resulting in a bonded debt limitation of $2.3 billion.

Table 1 presents the County's debt limitation versus current outstanding bonded debt. The difference is the "Legal Debt Margin." Chart 2 shows that the Legal Debt Margin (i.e., the distance between the blue and green lines) has been very large but shrank during the recent period as assessed valuation declined. Due to the difficulty of achieving two-thirds voter approval for GO bonds issued by counties, the County historically has not benefited from having such large debt capacity. Local agencies similar to the County generally have not been successful when competing with school districts, transportation agencies and the State for voter approval of GO bonds.

Table 1
Contra Costa County – All Agencies
Bonded Debt Limitation and Legal Debt Margin, Fiscal Year 2015-16
(in $000s)

Total Net Assessed Valuation	$175,606,886
Bonded Debt Limitation (5% times Assessed Valuation)	8,780,344
Less: Outstanding Bonded Debt	(301,030)[1]
Plus: Amounts Available in Bond Interest and Redemption Fund to Pay Principal	8,863
Equals: Legal Debt Margin	***$8,488,177***

1. Includes POBs and TABs

B. Bonds Outstanding

As of June 30, 2016, the County had a total of $456.823 million of outstanding POBs and LRBs, a detailed listing of which is shown in Table 2 and the debt service requirements for which can be found in Appendix 1. The County's entire debt portfolio is comprised of fixed-rate debt issues. The Debt Management Policy permits variable rate issues such as variable rate demand obligations only under special circumstances and does not presently permit derivatives such as swaps. Even prior to the implementation of its formal Debt Management Policy, the County had issued only fixed rate issues. This approach has shielded the County from the risks associated with swaps and variable rate issues such as liquidity risk, renewal risk, tax risk, basis risk, counterparty risk, and termination risk.

Also presented in Table 2 is the true interest cost (TIC) for each outstanding bond issue for which such information is available. The TIC varies from issue to issue depending upon the term to maturity and the interest rate environment that existed when each respective issue was sold. It should be noted that POBs, the 2010 Series A-2 Lease Revenue Bonds and the 2010 Series A-3 Lease Revenue Bonds are taxable securities whereas all other County debt issues are tax-exempt securities. The TICs for the taxable issuances are generally higher than those for tax-exempt securities.

Table 2
County of Contra Costa (County Only)
Outstanding Lease Revenue and Pension Obligation Bonds and True Interest Cost
(as of June 30, 2016)
($ in thousands)

Bond Issues	Date of Issue	Final Maturity Date	Principal Amount Issued	Outstanding Principal	True Interest Cost (%)
Lease Revenue Bond and Obligation Issues (LRBs and LROs):					
2007 Series A (Refunding and Various Capital Projects)	03/14/07	06/01/28	122,065	83,920	4.27%
2007 Series B (Medical Center Refunding)	08/07/07	06/01/18	110,265	17,730	4.27%
2009 Series A (Various Capital Projects)	06/03/09	06/01/24	25,062	15,380	4.55%
2010 Series A-1 (Capital Project I – Tax Exempt)	11/16/10	06/01/20	6,790	4,080	4.15%[1]
2010 Series A-2 (Capital Project I – Taxable BABs)	11/16/10	06/01/30	13,130	13,130	4.15%[1]
2010 Series A-3 (Capital Project I – Taxable RZBs)	11/16/10	06/01/40	20,700	20,700	4.15%[1]
2010 Series B (Refunding)	11/16/10	06/01/25	17,435	12,320	3.84%
2012 Lease Revenue Obligations	11/11/12	06/01/27	13,102	10,688	2.68%
2015 Series A (Refunding and Capital Projects)	08/25/15	06/01/35	19,055	18,500	3.18%
2015 Series B (Refunding and Capital Projects)	08/25/15	06/01/28	52,060	47,610	2.40%
	Total LRBs and LROs		***$399,664***	***$244,058***	
Pension Obligation Bond Issues (POBs):					
Series 2003 A (Taxable)	05/01/03	06/01/22	322,710	212,765	5.36%
	Total POBs		***$322,710***	***$212,765***	
	Grand Total		***$722,374***	***$456,823***	

1. The yield shown is the blended TIC for all three indicated series, net of the receipt of federal subsidies of interest cost.

C. Innovative Transaction

In November 2010, the County's Public Financing Authority issued $6.79 million of its 2010 Series A-1 tax-exempt Lease Revenue Bonds, $13.13 million of its 2010 Series A-2 taxable Build America Bonds , $20.7 million of its 2010 Series A-3 taxable Recovery Zone Bonds (collectively, the "2010 Series A Bonds"), and $20.7 million of its 2010 Series B Refunding Lease Revenue Bonds. The 2010 Series A Bonds represented an innovative use of specialized bond structures permitted under the American Recovery and Reinvestment Act (ARRA).

The portions of the 2010 Lease Revenue Bonds issued as RZBs and BABs are eligible to receive Federal subsidies of 45% and 35%, respectively, toward bond interest expense. The County obtained $10.7 million of RZB authorization directly from the federal government in 2009 and another $10 million from the State in September 2010.

On March 4, 2013 the Internal Revenue Service announced that certain automatic reductions to federal budget items would take place effective March 1, 2013. Based upon the requirements of the Balanced Budget and Emergency Deficit Control Act of 1985, as amended, the automatic reductions are due to so-called "sequestration." Federal subsidies on BABs and RZBs were reduced by 6.8%, or a reduction of $32,053.09 from the scheduled subsidies for the County's June 1, 2016 bond interest cost. Unless Congress otherwise addresses the federal deficit matter, sequestration will occur each federal fiscal year through fiscal year 2024. The sequestration rate is determined at the beginning of the federal fiscal year (October 1).

D. Intended Issuances of Bonds

Intended issuances are based on actual spending patterns and expenditure projections prepared by the General Services Division and other departments and are subject to change. Generally, the County expects to issue LRBs or Lease Revenue Obligations ("LROs") periodically, but no more than once a year for new purposes. In Fiscal Year 2015-16, the County issued $19.055 million in 2015 Series A new money bonds (as well as $52.060 million in 2015 Series B refunding bonds). In March 2017, after the date of this report, the County issued $99.810 million in 2017 Series A bonds, $9.72 million of which were issued for new money purposes. Based upon the latest available County projections, the County does not expect to issue any additional money bonds in Fiscal Year 2016-17.

The County may issue refunding bonds from time to time if significant savings can be achieved. See section E below.

E. Refundings

The County Finance Director monitors market conditions for refunding opportunities that, pursuant to the Debt Management Policy, will produce at least 2% net present value savings for each maturity of bonds refunded and a minimum of 4% overall present value savings. Table 3 sets forth the amount of savings achieved on refundings undertaken since 2002. A total of $14.19 million of net debt service savings were achieved over the remaining terms of bonds refunded since 2002. The County's largest refunding occurred in Fiscal Year 2006-07 when $200.9 million in Certificates of Participation and LRBs were refunded as part of the plan of finance for the 2007 Series A and 2007 Series B Lease Revenue Bonds. To the extent that Federal and/or State programs offset debt service cost for projects funded with LRBs, the County must share the refunding savings attributable to such projects with the Federal and/or State program.

Table 3
Lease Revenue Bond Refunding Savings Since 2002
(as of June 30, 2016)

Refunding Lease Revenue Bond Issue	Amount Refunded ($ millions)	Term of the Refunding Bonds	Savings ($ millions)	Average Annual Savings
2002 Series B	$25.870	18 years	$0.85	$49,906
2007 Series A (advance refunding)	61.220	21 years	3.83	182,380
2007 Series A (current refunding)	26.815	14 years	0.90	64,286
2007 Series B	112.845	15 years	2.93	195,333
2010 Series B (current refunding)	17.400	15 years	1.10	73,330
2015 Series B (advance and current refunding)	55.995	13 years	4.58	416,893
Total	***$300,145***		***$14.19***	***$982,128***

In addition, in March 2017, after the date of this report, the County issued $99.810 million in 2017 Series A bonds. These bonds refunded $117.030 million in outstanding Series 2007A, 2007B and 2009A bonds. They achieved $9.10 million in net present value savings, mature in 10 years and have average annual savings of $2,450,151.

In addition to the traditional refundings described above, the County has issued POBs in 1994, 2001 and 2003 to refinance its then-unfunded actuarial accrued liability (UAAL) with the Contra Costa County Employers' Retirement Association (CCCERA). The County's objective is to pay a lower interest cost on the POBs than the actuarial interest cost (i.e. the assumed investment rate) charged by CCCERA, thereby producing savings for the County. Unlike traditional refundings where the prior debt service is fixed, the debt service on a UAAL is not necessarily fixed over the term of its amortization; rather, CCCERA's investment performance and/or a number of actuarial assumptions could change from year to year, which would result in the UAAL changing as well. For purposes of determining debt service "savings" from the issuance of POBs, however, it is typically assumed that the respective UAAL does not change so that the debt service savings are calculated as the difference between the amortization of the respective UAAL at the time of issuance of POBs and the debt service on said POBs.

For example, in the 2003 Pension Obligation Bond issue, total savings were estimated to be $113.8 million ($73 million on a present value basis) over 19 years for average annual savings of about $6.0 million. The estimated savings reflected the lower interest cost on the bonds (5.36%) versus the 8.35% actuarial interest rate charged by CCCERA at the time, but also assumed CCCERA would earn 8.35% throughout the term of the bonds. The assumed actuarial interest rate has since been lowered to 7.25% meaning that long term savings from POBs are also reduced.

CCCERA's net return on market value of assets for the last five calendar years is presented below in Table 4.[1]

Table 4
Net Return on Market Value of CCCERA's Assets

Year Ending December 31	Net Return on Market Value of Assets
2012	13.5%
2013	15.7%
2014	7.7%
2015	1.9%
2016	[to come]

Unless CCCERA's future performance produces investment returns above the assumed actuarial rate in some years to offset negative or low investment returns in others, the actual savings from POBs may be zero or negative.

[1] The net return figures are set forth in the Cumulative Performance Statistics section of the Quarterly Review & Performance Measurement Report for the periods ending December 31 posted on CCCERA's website www.cccera.org.

To the extent that Federal and/or State programs offset debt service costs for any UAAL, the County must share the savings from the reduced debt service attributable to funding the UAAL with POBs with such Federal and/or State program.

SECTION II: LEASE REVENUE BOND AND LEASE REVENUE OBLIGATION DEBT

The County has issued LRBs and LROs and, prior to 1998, Certificates of Participation, to fund a variety of capital projects including the construction of the County hospital and regional health clinics, improvements to County social service and employment centers and the acquisition of furnishings and equipment, among others. Debt service on LRBs and LROs is paid either from the County General Fund or Enterprise Funds, depending upon which department is financing the improvements.

The County has historically issued its LRB and LRO debt in fixed-rate mode, the most conservative and stable type of debt. The Debt Affordability Advisory Committee will consider alternative modes, such as variable rate and synthetic fixed rate, when recommended as the appropriate financing structure for a given project.

Shown in Chart 3 is the amortization of principal by issue and by fiscal year for all outstanding LRBs and LROs as of June 30, 2016. Annual principal amortization ranges from about $22 million to $24 million until Fiscal Year 2023-24 when it declines to about $15 million and then falls farther to about $2 to 3 million by Fiscal Year 2028-29. Chart 4 presents the amortization of outstanding principal by fiscal year.

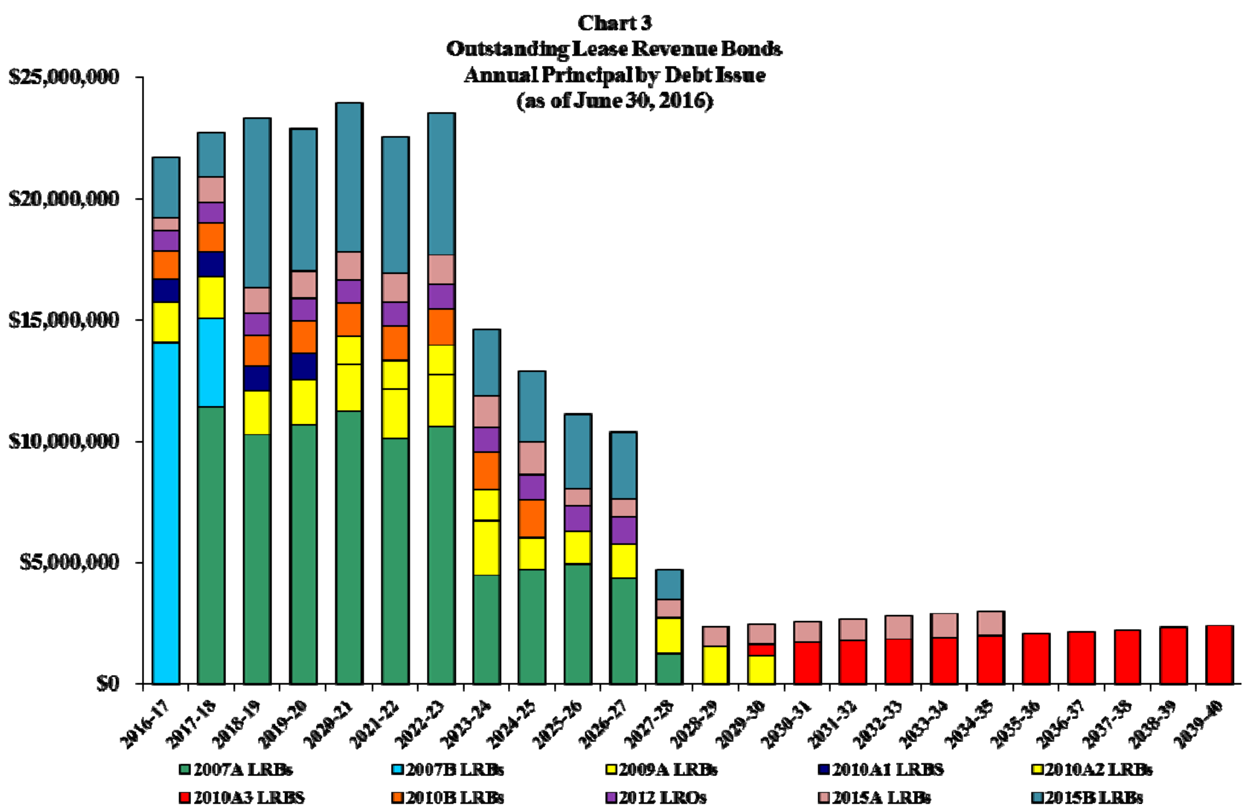
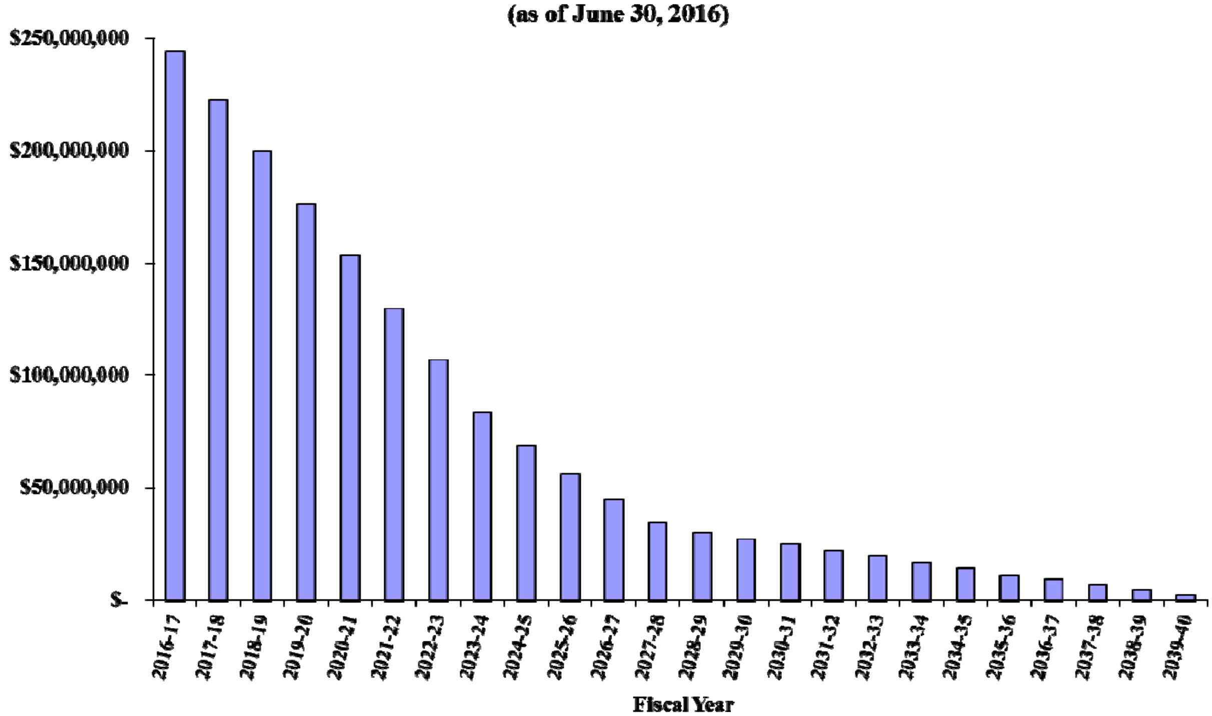


Chart 4
Amortization of Outstanding Lease Revenue Bonds
(as of June 30, 2016)



SECTION III: PENSION OBLIGATION BOND DEBT

The County has issued POBs to refinance its then-existing UAAL with CCCERA and to restructure prior POBs. Debt service on POBs is paid from the County General Fund or Enterprise Funds, depending upon each department's pro-rata share of the respective UAAL being refinanced.

For a discussion of the rationale for issuing POBs, see Section I.E. Refundings.

Shown in Chart 5 is the maturity structure of principal by fiscal year of outstanding POBs. Chart 6 presents the amortization of aggregate outstanding principal by fiscal year. The POBs issued in 1994 (the "1994 POBs") have been repaid. The 2001 POBs issue relates to the refinancing of the County's $333.6 million UAAL as of January 1, 1994. The 2001 POBs issue restructured a portion of the 1994 POBs issue through a tender process and modestly extended the original final term by two years. The 2001 POBs have been repaid. When the 2003 POBs were issued to finance an approximate then-existing $319 million UAAL, the term to maturity on the bonds was equal to the Fiscal Year 2021-22 term to maturity used by CCCERA to amortize that UAAL.

Chart 5
Outstanding 2003 Pension Obligation Bonds

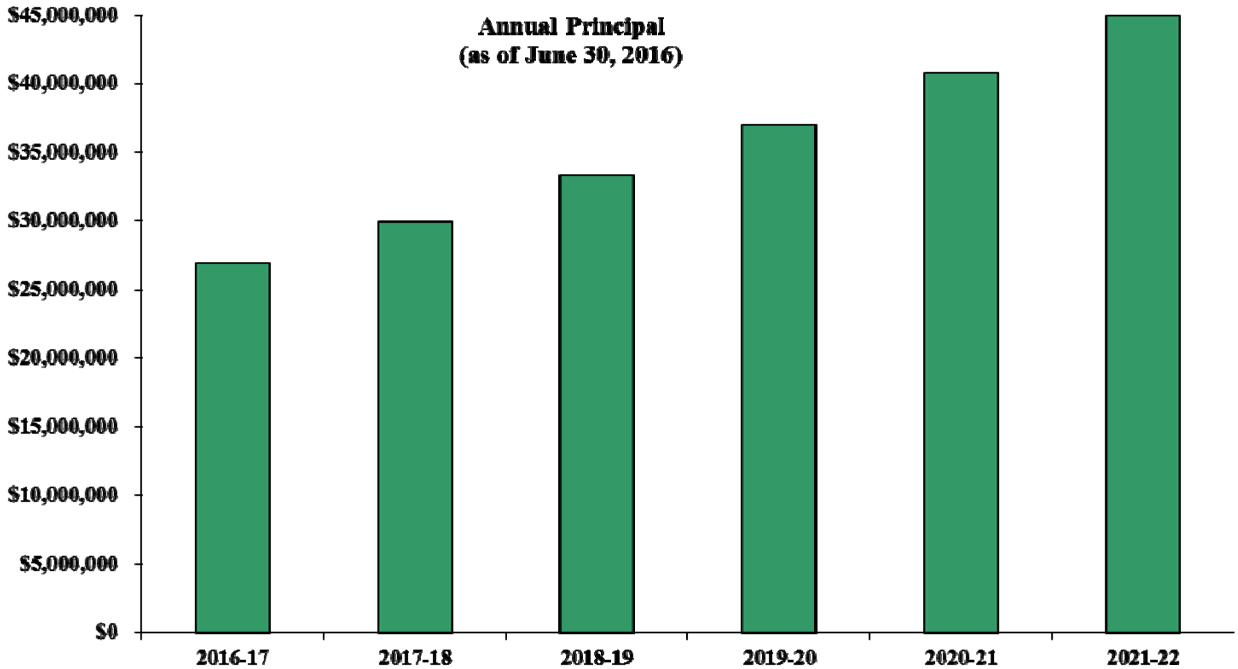
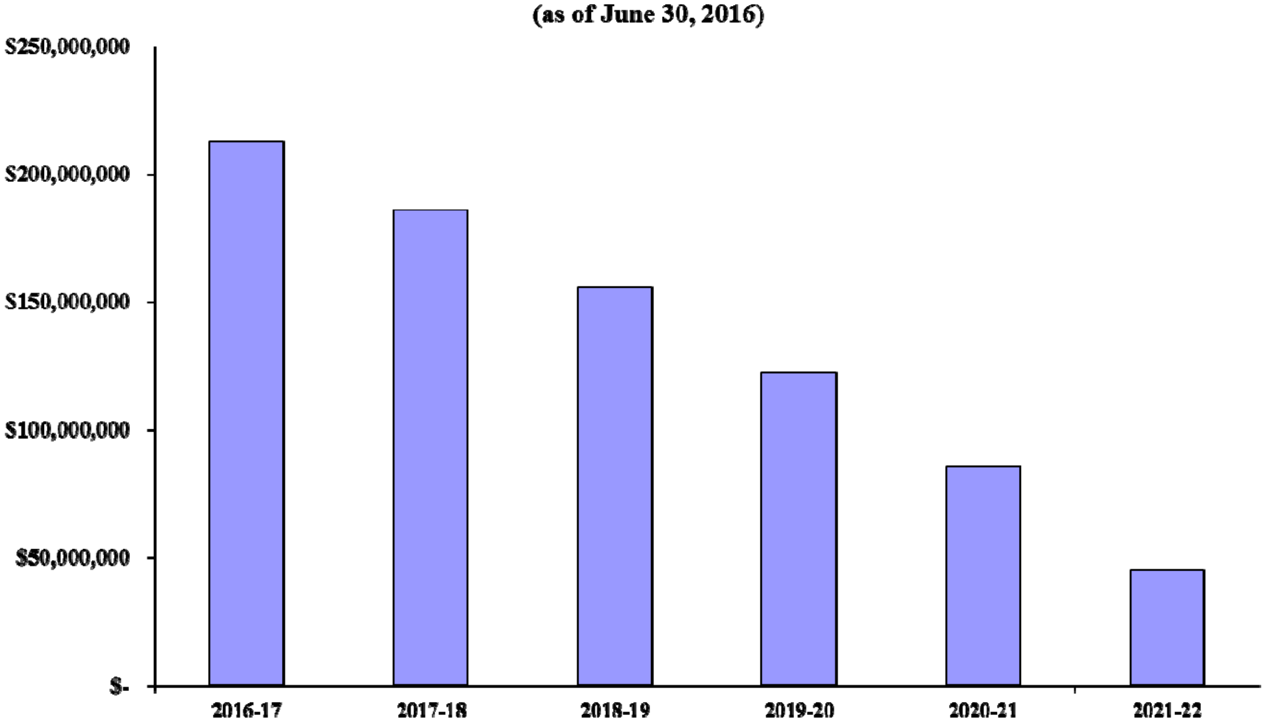


Chart 6
Amortization of Outstanding Pension Obligation Bonds
(as of June 30, 2016)



SECTION IV: THE COUNTY'S CREDIT RATINGS

A. Long-Term Credit Ratings on Implied General Obligation Bonds, Pension Obligation Bonds and Lease Revenue Bonds

Long-term credit ratings provided by a rating agency are an independent assessment of the relative credit risk associated with purchasing and holding a particular bond through its scheduled term of repayment. Long-term credit ratings serve as unbiased opinions of a borrower's financial strength and ability to repay its debt on a timely basis. Long-term credit ratings are one of the most important indicators of creditworthiness readily available to the investment community and have a direct impact on the borrowing rates paid by the County.

Standard & Poor's ("S&P") and Moody's Investors Service ("Moody's") currently assign the County an implied GO Bond rating (or "Issuer Rating") of AAA and Aa2 , respectively, as shown in Table 4 below. GO Bond ratings are typically one to two notches higher than those of LRBs, owing to the superior credit strength of the *ad valorem* property taxes pledged to repay GO Bonds versus the General Fund pledge that supports repayment of LRBs. The County's implied GO Bond ratings are "best quality" (S&P) and "high quality investment grade" (Moody's) ratings. S&P and Moody's currently rate the County's POBs AA+ and A1, respectively. Finally, S&P and Moody's currently rate the County's LRBs AA+ and Aa3 respectively. All of S&P's POB and LRB ratings are in the "high quality investment grade" category whereas Moody's POB and LRB ratings are in the "upper medium investment grade" category.

The S&P ratings on POBs and LRBs tend to be one notch lower than the implied GO bond rating, while the Moody's ratings tend to be one to two notches lower. Beginning in 2001, S&P began to rate lease obligations only one notch (rather than the previous two notches) lower than the issuer's GO bond rating; the rationale is that the availability of lease financings is so critical to the issuer's capital funding that the likelihood of repayment is high; hence, the credit strength of leases is greater as a result. In October of 2016, Moody's upgraded the County's LRB rating to one notch below the GO bond rating due to a change in the rating methodology of LRBs. The POB remains two notches below the GO bond rating. However, S&P has recently been evaluating the abandonment of specific rating notching relationships, such that GO Bonds paid from voter-approved *ad valorem* property taxes would be de-linked from general fund credit. This could lead to wider notching between general fund credits and other forms of debt, depending upon the financial performance of the issuer as occurred when Moody's downgraded the County's POBs on February 20, 2013 to the same rating level as LRBs.

In addition to the rating itself, each rating agency publishes an outlook on the rating. Outlooks are either "Positive", "Stable" or "Negative." A "Positive" outlook indicates a possible upgrade in the rating may occur; a "Negative" outlook indicates a possible rating downgrade may occur; and a "Stable" outlook indicates that neither an upgrade nor a downgrade is anticipated to occur.

In December 2005, Moody's downgraded the County's ratings for each type of bond issue by one notch and assigned a Negative outlook to the ratings. S&P assigned a Negative outlook in November 2005, but did not downgrade the ratings. These rating actions were largely attributable to a four-year trend of reduced fund balances in the General Fund. As of June 30, 2007, both Moody's and S&P had removed their respective Negative outlooks on the County's ratings. Citing the County's improved financial flexibility and reserves, each of the two agencies assigned an outlook of "Stable" to the County's ratings. The ratings have had a "Stable" outlook ever since.

Recognizing the importance of maintaining high investment quality ratings, the Board of Supervisors adopted a Reserves Policy on December 20, 2005 that, among other things, established a minimum Unreserved General Fund balance of 5%. Reflecting changes in fund balance measurements promulgated by GASB in Fiscal Year 2009-10, the applicable measure now is the combined "Assigned, Committed and Unassigned" Fund Balances. In addition, the Board of Supervisors adopted a Budget Policy on November 14, 2006 that, among other things, requires the County to maintain structurally balanced budgets. A key objective for the County going forward is keeping its combined Assigned, Committed, and Unassigned General Fund Balance at or above the 5% policy threshold while maintaining structurally balanced budgets so that resources are available to deal with unforeseen fiscal challenges.

Table 5
Credit Quality Tranches
(County's Implied G.O. Bond Ratings Highlighted in Yellow)
(County's Lease Revenue Bond Ratings Highlighted in Green)
(County's Pension Obligation Bond S&P Rating Highlighted in Green)
(County's Pension Obligation Bond Moody's Rating Highlighted in Blue)

	Moody's (Since October 6, 2016)	S&P (Since December 18, 2013)
Best Quality	Aaa	AAA
High Quality Investment Grade	Aa1	AA+
	Aa2	AA
	Aa3	AA-
Upper Medium Investment Grade	A1	A+
	A2	A
	A3	A-
Medium Investment Grade	Baa1	BBB+
	Baa2	BBB
	Baa3	BBB-
Below Investment Grade	Ba1 and lower	BB+ and lower

A history of the County's implied GO Bond, Pension Obligation Bond and Lease Revenue Bond ratings since 1995 is presented in Appendix 2.

Listed below are the implied GO Bond/Issuer ratings for the County's cohort counties, namely, the other large, urban counties in California. The County's performance on various debt and reserve ratio compared to its cohort counties is presented in Section V.B.

	Moody's	S&P	Moody's Rating/ Affirmation Date
Alameda	Aaa	AA+	10/10/2016
Contra	Aa2	AAA	07/17/2015
Los	Aa2	AA+	02/23/2016
Orange	Aa1	AA+	10/27/2016
Riverside	Aa3	AA	02/28/2013
Sacramento	A2	A	09/30/2013
San	Aa2	AA	02/26/2013
Santa Clara	Aa2	AAA	09/12/2016
San Diego	Aaa	AAA	02/02/2016

B. Long-Term Ratings on the Successor Agency to the Contra Costa County Redevelopment Agency[1]

The County's Redevelopment Successor Agency has four outstanding tax assessment bond issues secured by property tax increment. These issues are not secured by the County's General Fund or other funds. S&P changed the outlook on three of these bond issues from Negative to Stable in 2013. S&P also raised its rating on the 1999 Bonds to BB- from B in 2014, the ratings for the other outstanding bond issues were affirmed. The ratings by S&P on the four bond issues are as follows:

Bond Issue	**Amount Outstanding As of June 30, 2016 ($000)**	**Ratings in 2013**	**Ratings in 2016**
1999 Bonds	$7,170.0	B/Stable	BB+/Stable
2003A Bonds	5,550.0	BBB+/Stable	AA/Stable
2007A Senior Bonds	50,725.0*	BB+/Stable	BBB-/Stable
2007B Subordinate Bonds	13,105.0	B/Stable	BB+/Stable
Total	$76,550.0		

*Outstanding principal amount includes $13,315,000 held by the Trustee in a defeasance escrow for the purpose of paying a portion of the scheduled principal due on August 1, 2017, and to redeem $13 million principal amount of the 2007A Bonds callable on 8/1/2017.

C. Short-Term Credit Ratings on Tax and Revenue Anticipation Notes

The County issued TRANs from Fiscal Year 1979-80 through Fiscal Year 2002-03 and in Fiscal Years 2005-06 and 2006-07 to finance periodic cash flow deficits. The County always received the highest possible short-term ratings from Moody's (MIG 1) and S&P (SP-1+) on its prior TRANs, reflecting strong cash flows and ample debt service coverage from both the General Fund and intrafund borrowing sources. The rating agencies also cited the demonstrated accuracy of the cash flows prepared by the Auditor-Controller as a positive factor in the ratings.

[1] These debt issues were issued through the Contra Costa County Public Finance Authority.

SECTION V: DEBT RATIOS

A. Use of Debt Ratios

Pursuant to the County's Debt Management Policy set forth in Appendix 3, the Debt Affordability Advisory Committee must calculate certain debt factors and debt burden ratios, compare them to benchmarks and report the results in this Debt Report. Measuring the County's debt performance through the use of debt ratios provides a convenient way to compare the County's credit performance to other borrowers. The most common debt ratios applied to counties are:

- **Ratio of Outstanding Debt to Assessed Value**. The ratio is calculated for the County's "Direct Debt" (i.e. GO Bonds, POBs, LRBs, and TABs). In addition, a ratio is also calculated that measures the aggregation of all debt issues attributable to agencies located in the County and is commonly referred to as "Overall Debt" in the California Municipal Statistics Overlapping Debt Statement. It is important to monitor the levels and growth of Direct Debt and Overall Debt as they portray the debt burden borne by the County's taxpayers and serve as proxies for taxpayer capacity to take on additional debt in the future. It is noted that the County presently does not have any outstanding GO Bonds.

- **Assessed Valuation Per Capita**. The formula for this computation is total Assessed Valuation divided by the population residing within the County's boundaries. This ratio is a measure of the underlying wealth base of the County.

- **Ratio of Outstanding Debt Per Capita.** The formula for this computation is Outstanding Debt divided by the population residing within the County's boundaries. Ratios can be computed for both "Direct Debt Per Capita" and "Overall Debt Per Capita." It is important to monitor one or both of these ratios as they attempt to measure the degree to which debt is concentrated, i.e. whether it is spread across a large or small population.

- **Ratio of Net Direct Debt to General Fund Revenues.** In response to S&P's updated methodology, this ratio is incorporated into the report as it measures the total debt burden on the government's revenue position, rather than the annual cost of debt, which can be manipulated by amortization structures. The formula for this computation is Net Direct Debt divided by total governmental funds revenue, expressed as a percentage.

- **Percentages of Total and Assigned, Committed and Unassigned General Fund Balance.** These ratios are important measures of the financial flexibility of the County, i.e. the ability of the County to absorb the impact of unforeseen events and emergencies such as earthquakes and sudden drops in assessed valuation due to real estate market cycles. Ratios are computed for both "Available Fund Balance as a Percentage of Revenues" and for "General Fund Balance as a Percentage of Revenues." "Available Fund Balance" is calculated as the sum of committed, assigned and unassigned fund balances in the General Fund and is divided by General Fund revenues to compute the ratio. The "General Fund Balance as a Percentage of Revenues" ratio is calculated using the total General Fund Balance divided by revenues.

- **Percentages of Total Government Available Cash.** These ratios measure the availability of cash and cash equivalents to service both annual debt service payments and governmental funds expenditures. These ratios are an important measure of the availability of liquidity of the County to meet debt service requirements and expenditures. Ratios are computed for both "Total Government Available Cash as a Percentage of Debt Service" and for "Total Government Available Cash as a Percentage of Expenditures." "Total Government Available Cash" is calculated as the sum of cash, and cash equivalents plus investments (when grouped with cash in the audit).

- **Ratio of Annual Debt Service to General Fund Revenues.** The formula for this computation is annual debt service expenditures divided by General Fund revenues as reported in the most recent Comprehensive Annual Financial Report. This ratio focuses on the extent to which annual debt service payments encroach on other funding needs of the County. It should be noted that a portion of the County's debt is paid by departments outside the General Fund, but such debt is treated as General Fund only for purposes of this ratio.

- **Ratio of Annual Debt Service to General Fund Expenditures.** The formula for this computation is annual debt service expenditures divided by General Fund expenditures as reported in the most recent Comprehensive Annual Financial Report. This ratio measures debt service as a percentage of expenditures and encompasses the annual fixed-cost burden that debt places on the County. Again, as noted, a portion of the County's debt is paid by departments outside the General Fund, but such debt is treated as General Fund only for purposes of this ratio.

B. County's Compliance with Debt Management Policy; Debt Levels Compared to Other Counties

By population, the County is one of the largest counties in California as well as in the United States. On the basis of its size, one could argue that it is appropriate to compare the County to other entities with similar size. However, those types of entities comprise a heterogeneous collection of cities, states, school districts and other public agencies rather than a homogenous group such as counties. At the same time, the funding of counties across the United States is not uniform. It would be ideal to compare the County to counties in California; however, published debt ratios and benchmarks tend to be on a national basis except for occasional reports and comparative data prepared on California counties. In order to use published ratios and to compare the County to counties with similar economic bases, the Debt Management Policy requires the Debt Affordability Advisory Committee to include a comparison of the County to other large, urban counties, preferably rated in the double-A category, using published data from S&P and Moody's. Currently, Moody's and S&P publish data on counties nationwide but have not recently published reports on California counties alone.

In rating the County, Moody's utilizes the principal methodology, "US Local Government General Obligation Debt," that was published in December 2016, replacing the Rating Methodology for General Obligation Bonds Issued by US Local Governments published in January 2014. The only substantive change in the methodology was to revise the approach to rating general obligation limited tax debt. This report calculates the County's performance compared to medians of similarly rated counties and Moody's national medians for 2016.

S&P utilizes the "U.S. Local Governments General Obligation Ratings: Methodology and Assumptions" published in September 2013 that replaced the previously utilized criteria published in October 2006. Montague DeRose and Associates ("MDA"), the County's financial advisor, has incorporated the medians for measures in the S&P methodology for the counties rated by S&P into the analysis of the County's debt affordability measures, and has incorporated these ratios into MDA's database calculations.

As noted, the Debt Affordability Advisory Committee decided to include California county comparisons using the database compiled by MDA; this data compares the County to its cohort of large, urban counties without regard to the ratings of the individual counties, from data provided in each respective county's CAFR as of June 30, 2016.[1] Additionally, MDA has included ratios from the Moody's and S&P methodologies and calculated the respective metrics for the County and the cohort counties to facilitate evaluation.

Table 6 below sets forth the debt affordability measures for Direct Debt and Overall Debt, General Fund Balance and Per Capita performance of the County compared to medians and/or means of counties whose ratings are in the AAA rating category by S&P and in the AA rating category by Moody's. There are presently no published medians or means regarding lease debt service ratios, but data from MDA's database are presented. In addition, Table 6 sets forth additional debt affordability measures comparing the County to other California urban counties using the MDA database[2].

Table 6
County's Debt Affordability Measures
(As of June 30, 2016)

Debt Affordability Measure	Benchmark	Benchmark's Value	County Actual
Direct Debt to Assessed Value	Moody's Median for Large Aa Rated Counties Nationwide (At Least 1,000,000 Population)	0.50%	0.29%
	MDA's Large Urban California County Median	0.34%	
Overall Debt to Assessed Valuation	Moody's Median for Large Aa Rated Counties Nationwide (At Least 1,000,000 Population)	3.50%	2.82%
	MDA's Large Urban California County Median	3.15%	
Assessed Valuation (or Market Value) Per Capita	Moody's Median for Large Aa Rated Counties Nationwide (At Least 1,000,000 Population)	$106,981	$161,184
	Standard & Poor's AAA GO Median for Counties: Update As Of Oct. 9, 2015	$132,136	
	MDA's Large Urban California County Median	$137,844	

[1] The MDA database does not include City and County of San Francisco because it is both a city and a county.
[2] The Moody's nationwide medians are from the publication "Updated 2016 U.S. Local Government Medians Demonstrate Stability of Sector." The S&P nationwide means and medians are from the publication "General Obligation Medians for Counties: Update As of Oct. 9, 2015"

Debt Affordability Measure	Benchmark	Benchmark's Value	County Actual
Direct Debt Per Capita	MDA's Large Urban California County Median	$463	$463
Direct Debt as Percentage of Governmental Funds Revenue	Standard & Poor's AAA GO Median for Counties: Update As Of Oct. 9, 2015	87%	26%
	MDA's Large Urban California County Median	26%	
Available General Fund Balance as Percentage of Revenues (Note: this measures Operating Funds Balance and includes Assigned, Unassigned and Committed Balances in this calculation)	Moody's Median for Large Aa Rated Counties Nationwide (At Least 1,000,000 Population	17%	25%
	MDA's Large Urban California County Median	23%	
General Fund Balance as Percentage of Revenues	Moody's Median for Large Aa Rated Counties Nationwide (At Least 1,000,000 Population)	19%	26%
	MDA's Large Urban California County Median	26%	
Total Government Available Cash as Percentage of Debt Service	Standard & Poor's AAA GO Median for Counties: Update As Of Oct. 9, 2015	1199%	1086%
	MDA's Large Urban California County Median	1118%	
Total Government Available Cash as Percentage of Expenditures	Standard & Poor's AAA GO Median for Counties: Update As Of Oct. 9, 2015	58%	57%
	MDA's Large Urban California County Median	59%	
Debt Payments as a Percentage of General Fund Revenues	MDA's Large Urban California County Median	4.5%	4.8%
Total Debt Service as Percentage of General Fund Expenditures	Standard & Poor's AAA GO Median for Counties: Update As Of Oct. 9, 2015	8%	5%
	MDA's Large Urban California County Median	5%	

The data in Table 6 shows that the County's performance is better than the national benchmark on eight of the nine measures:

1. Direct Debt to Assessed Value
2. Overall Debt to Assessed Valuation
3. Assessed Valuation Per Capita
4. Direct Debt as a Percentage of Governmental Funds Revenue
5. Available General Fund Balance as Percentage of Revenues
6. General Fund Balance as Percentage of Revenues

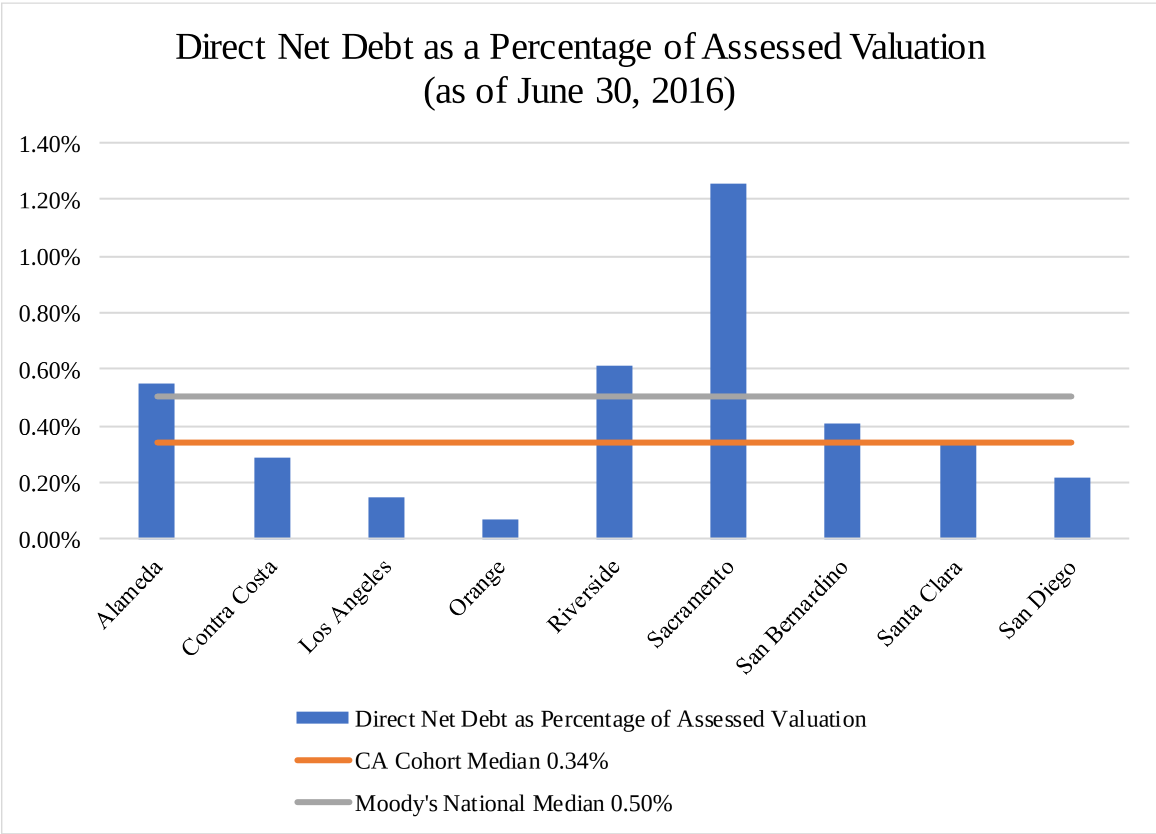
7. Total Government Available Cash as Percentage of Expenditures
8. Total Debt Service as Percentage of General Fund Expenditures

As noted previously, S&P no longer measures Direct Debt Per Capita and as such, there is no national median reported for this ratio. However, the County was the cohort median for this measure. The County performed worse than the national and cohort medians on Total Government Available Cash as Percentage of Debt Service. The County performed worse than the cohort median for Debt Payments as a Percentage of General Fund Revenues.

Below are presented charts from the MDA database that provides a closer look at the County compared to its California cohorts on each benchmark.

The County’s ratio of Direct Net Debt to Assessed Valuation is better than the National and California cohort median. Orange and Los Angeles Counties performed best on this ratio, whereas the County performed third in this measure

Chart 7



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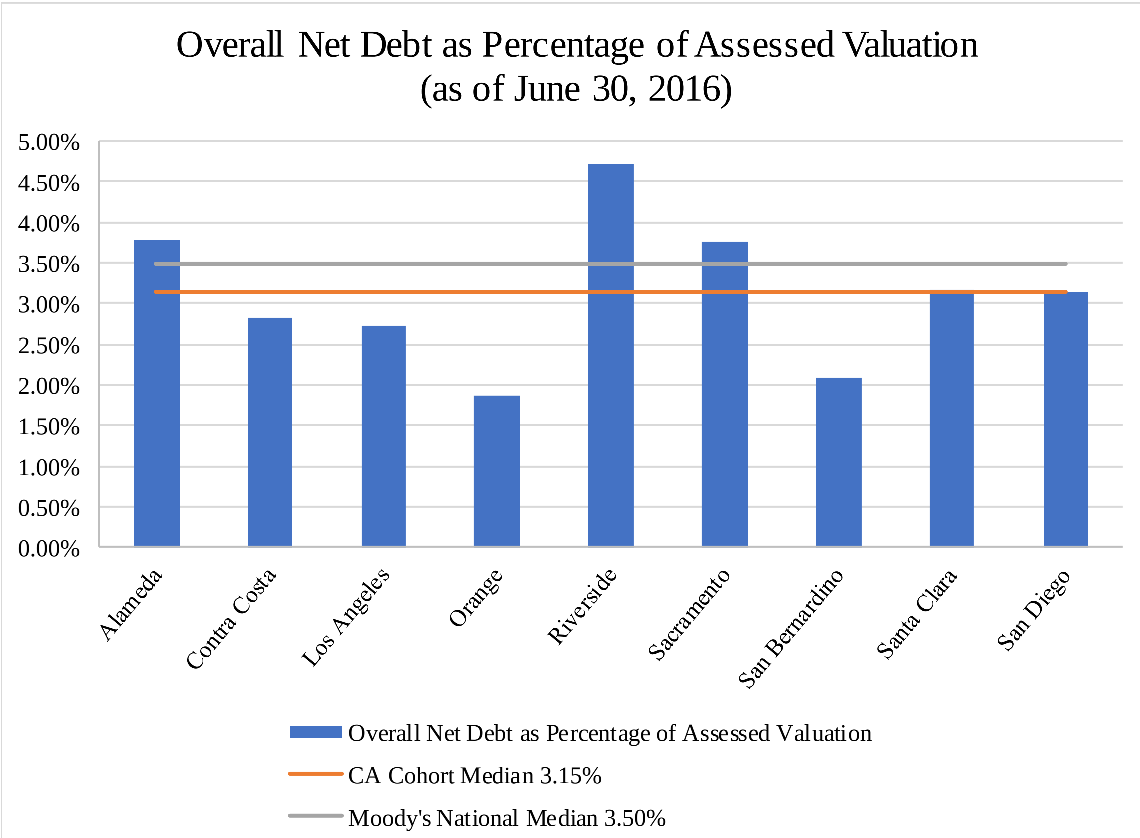
The County's ratio of Overall Net Debt to Assessed Valuation is below the Moody's median and the California cohort median. The County ranked fourth best in this measure, while Orange County performed best on this measure.

Chart 8



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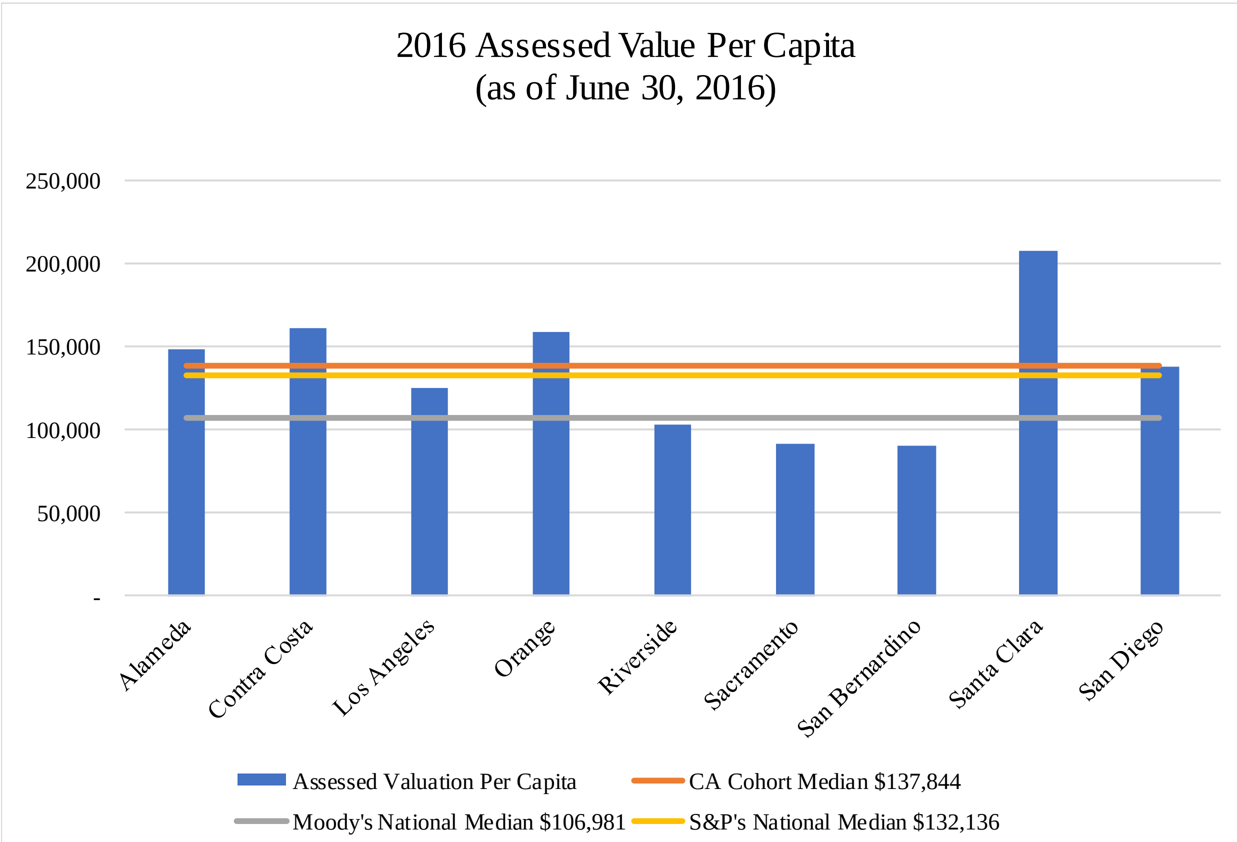
The County's performance on Assessed Valuation Per Capita is better than both the national and California cohort medians. This reflects the County's strong underlying wealth base relative to the other counties. Only Santa Clara County outperformed the County on this measure

Chart 9



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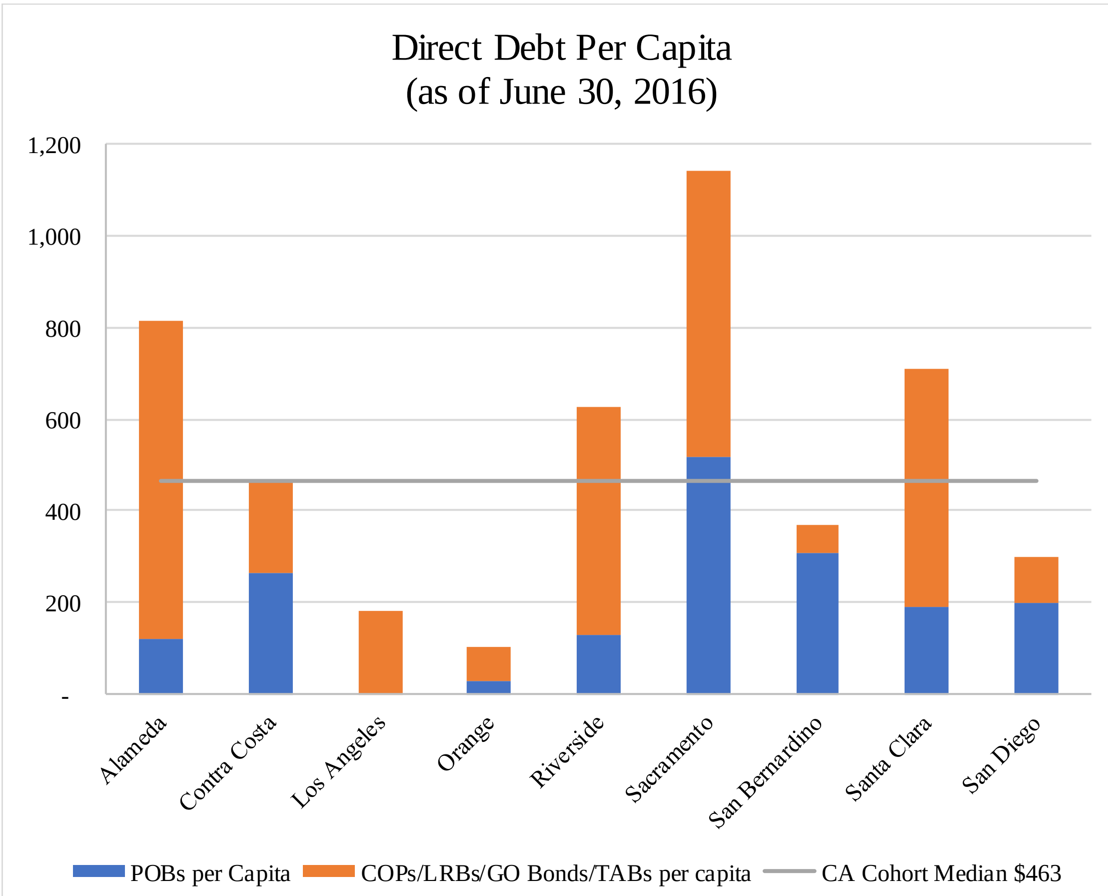
As noted previously, S&P no longer reviews Direct Debt per Capita, however, the County's performance on Direct Debt Per Capita is the California cohort median calculated by MDA. Orange County has Pension Obligation Bond debt, but a portion of it is economically defeased and not shown in the chart. It should be noted that the data in the chart does not reflect Federal and/or State reimbursement offsets to debt service, so many of the counties above the national and/or California medians might actually be closer to it.

Chart 10



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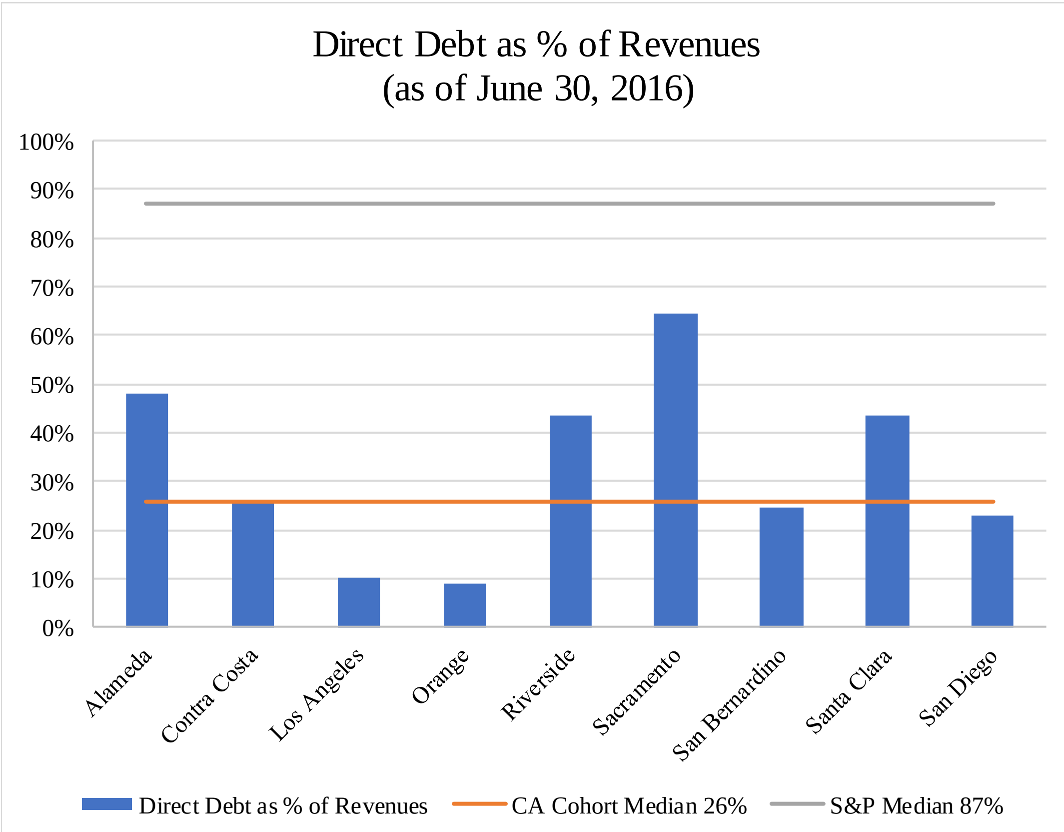
The County's Direct Debt as Percentage of Revenues was fifth among the counties, in line with the cohort median, but significantly better than S&P's national median of 87%.

Chart 11



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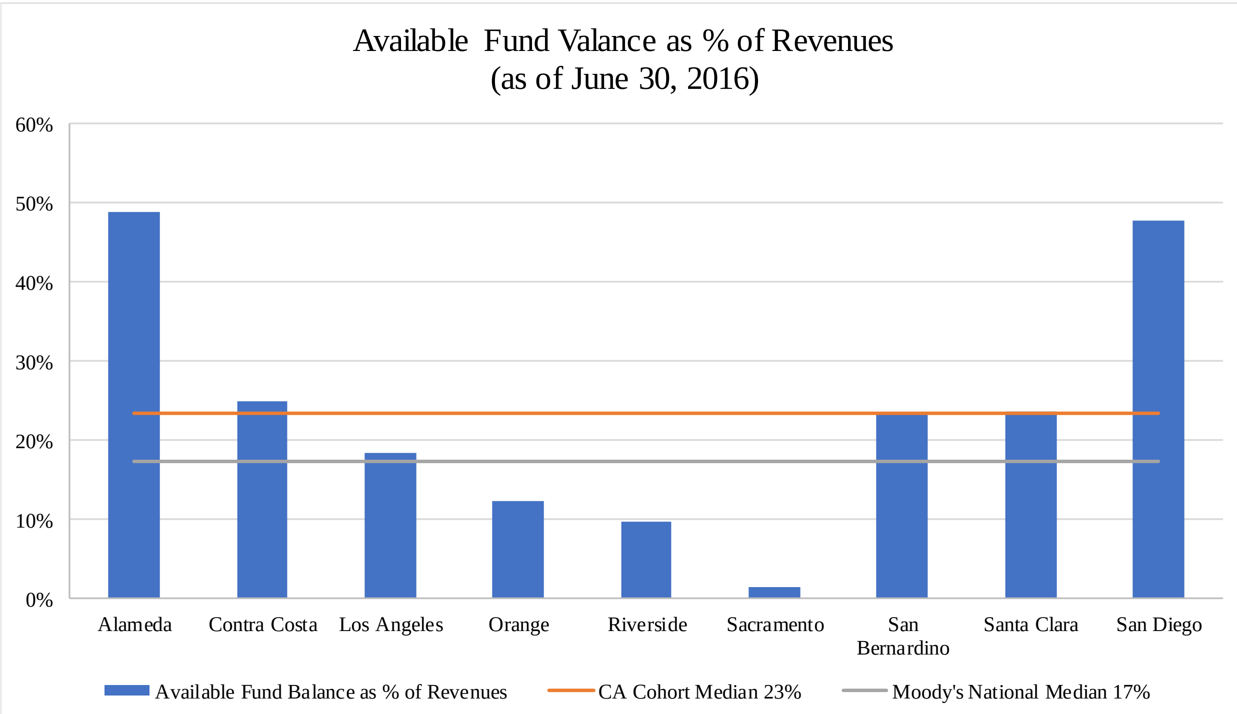
The County's Available Fund Balance as a Percentage of Revenues was above the Moody's national median and the California cohort median. The County measured third in this measure. It was significantly lower than Alameda and San Diego counties.

Chart 12



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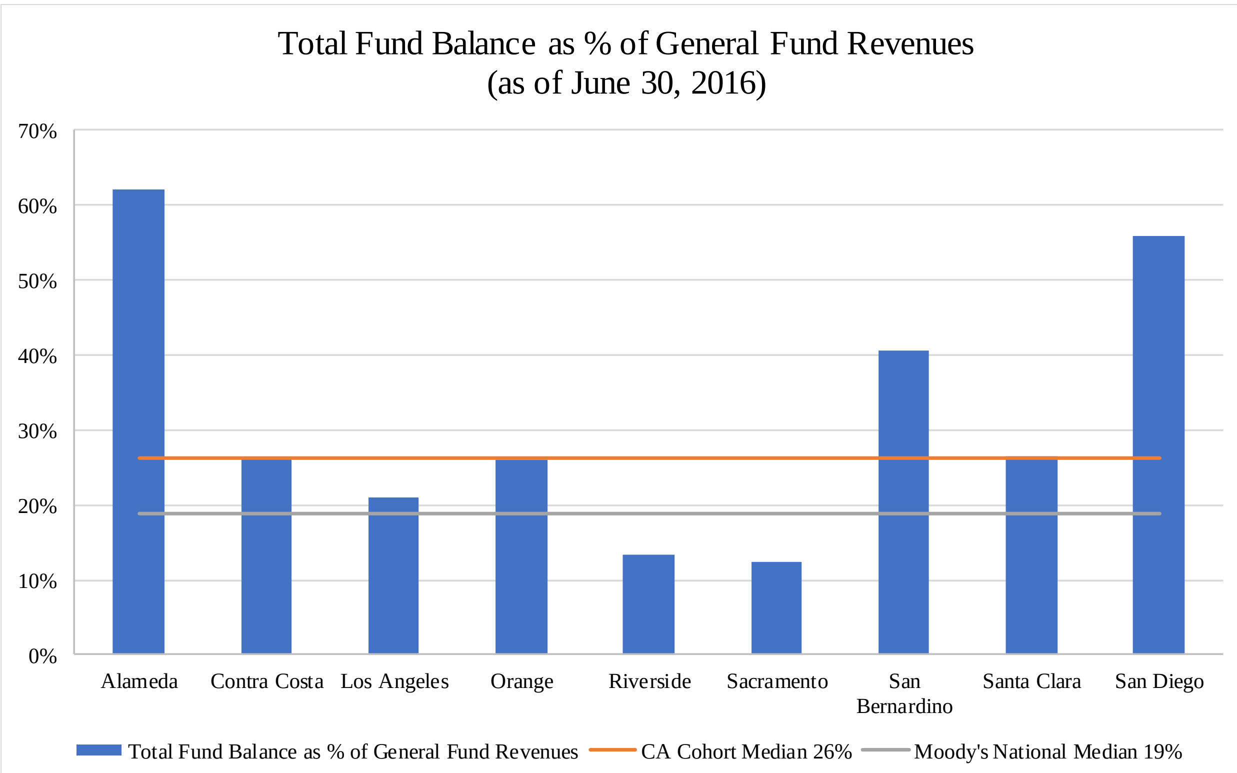
The County’s total General Fund Balance as a Percentage of Revenues was the median among the counties at 26%. The cohort’s median was better than the Moody’s national median of 19%. Alameda, San Diego and San Bernardino outperformed the other counties by a significant margin.

Chart 13



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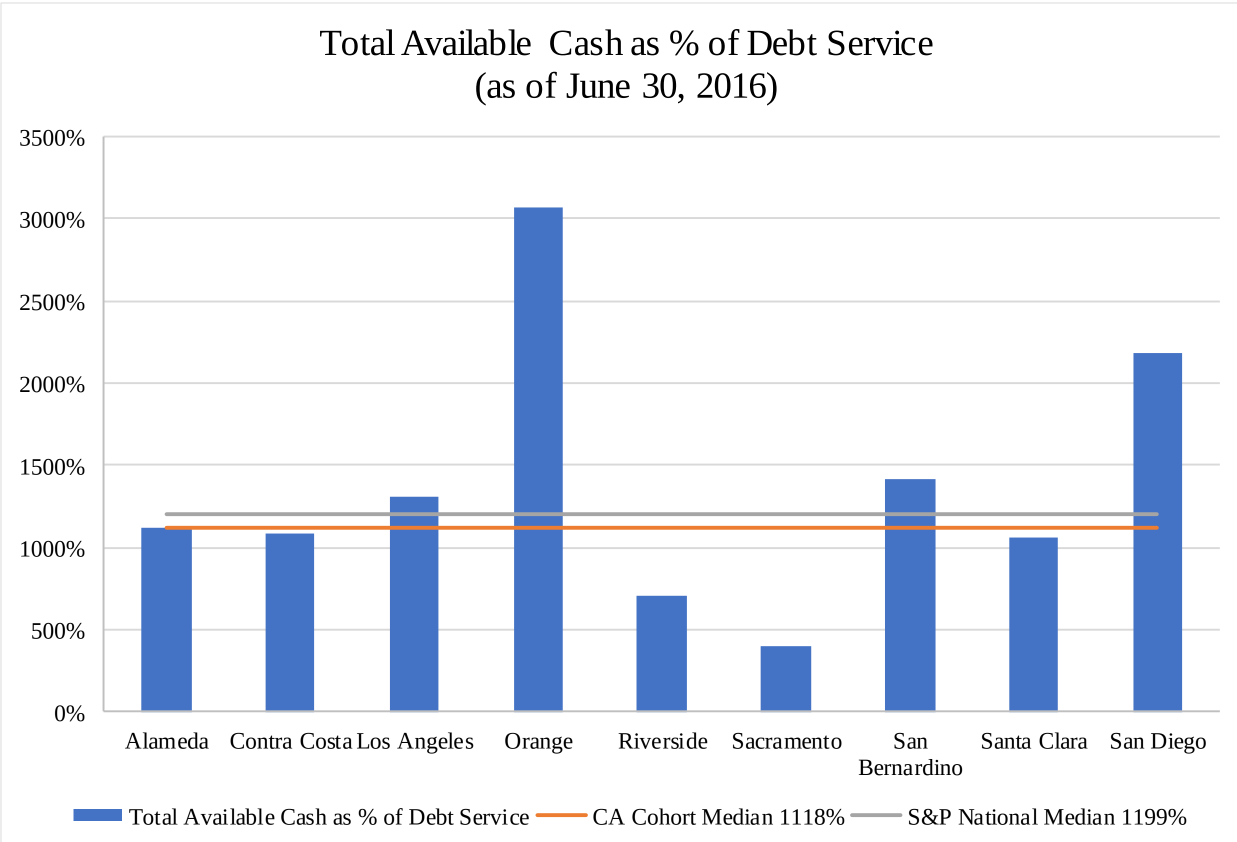
The County's Total Available Cash as a Percentage of Debt Service was the fourth lowest among the counties. Orange and San Diego outperformed the other counties by a significant margin.

Chart 14



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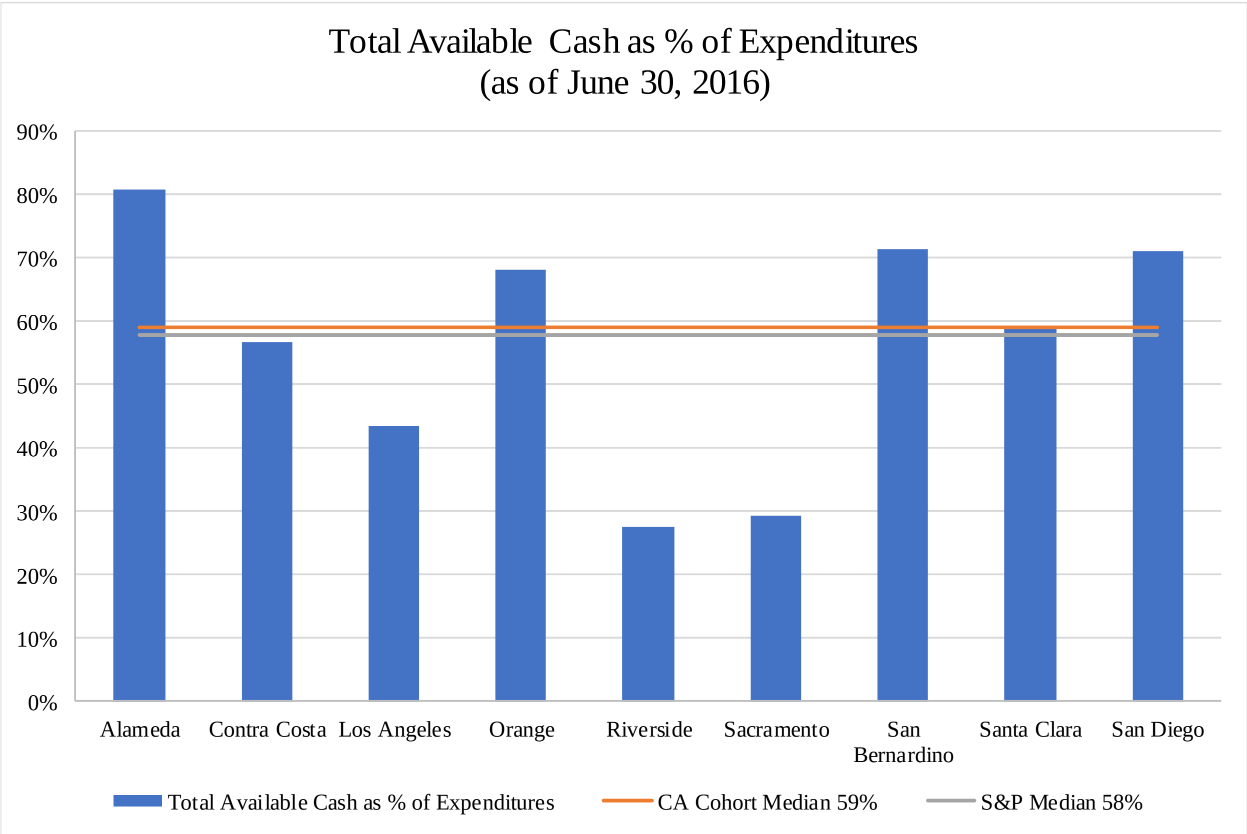
The County performed worse than the cohort median and S&P's national median for Available Cash as a Percentage of Expenditures. The County ranked sixth in this measure.

Chart 15



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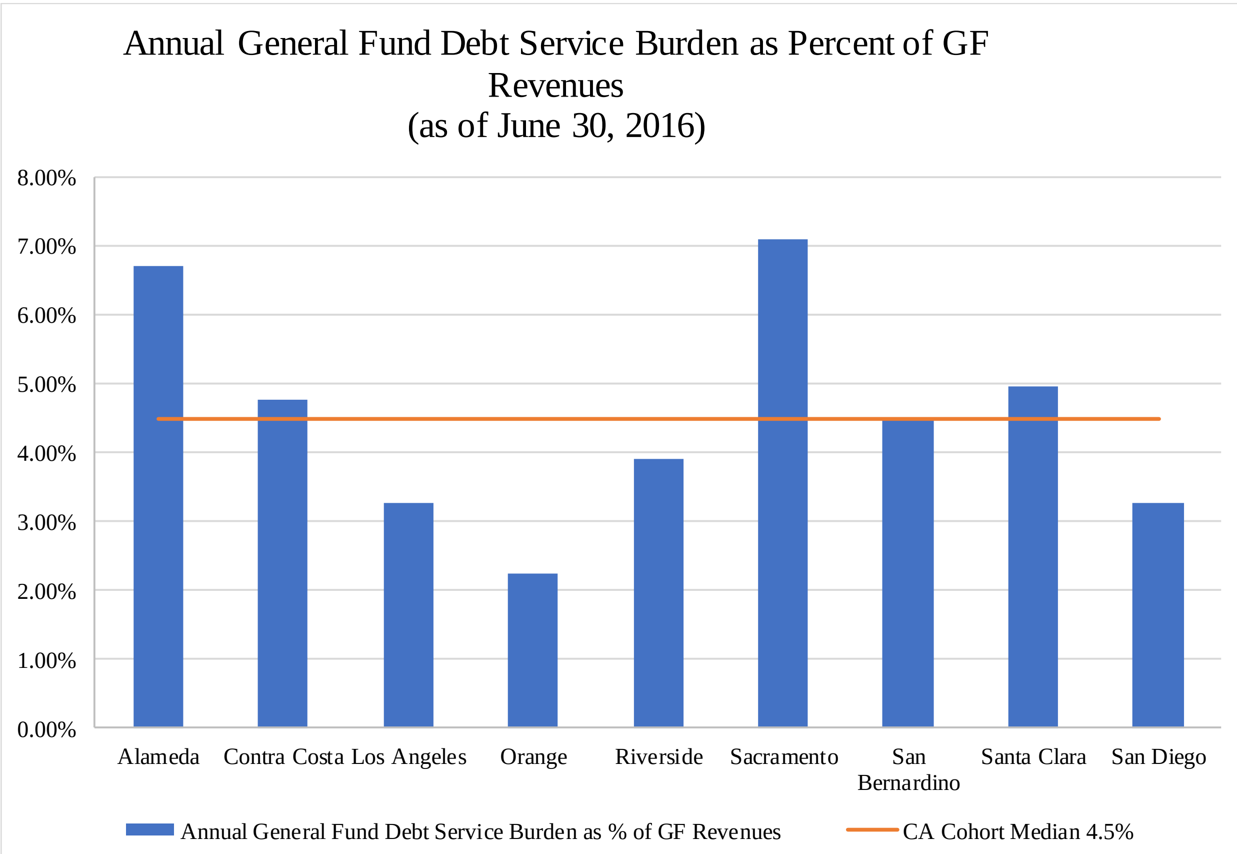
Sacramento County had the highest annual debt service burden among the counties as measured by Annual General Fund Debt Service as a Percent of General Fund Revenues. Alameda County had the second highest annual debt service burden followed by Santa Clara and the County. The County has improved upon this metric in the past couple of years.

Chart 16



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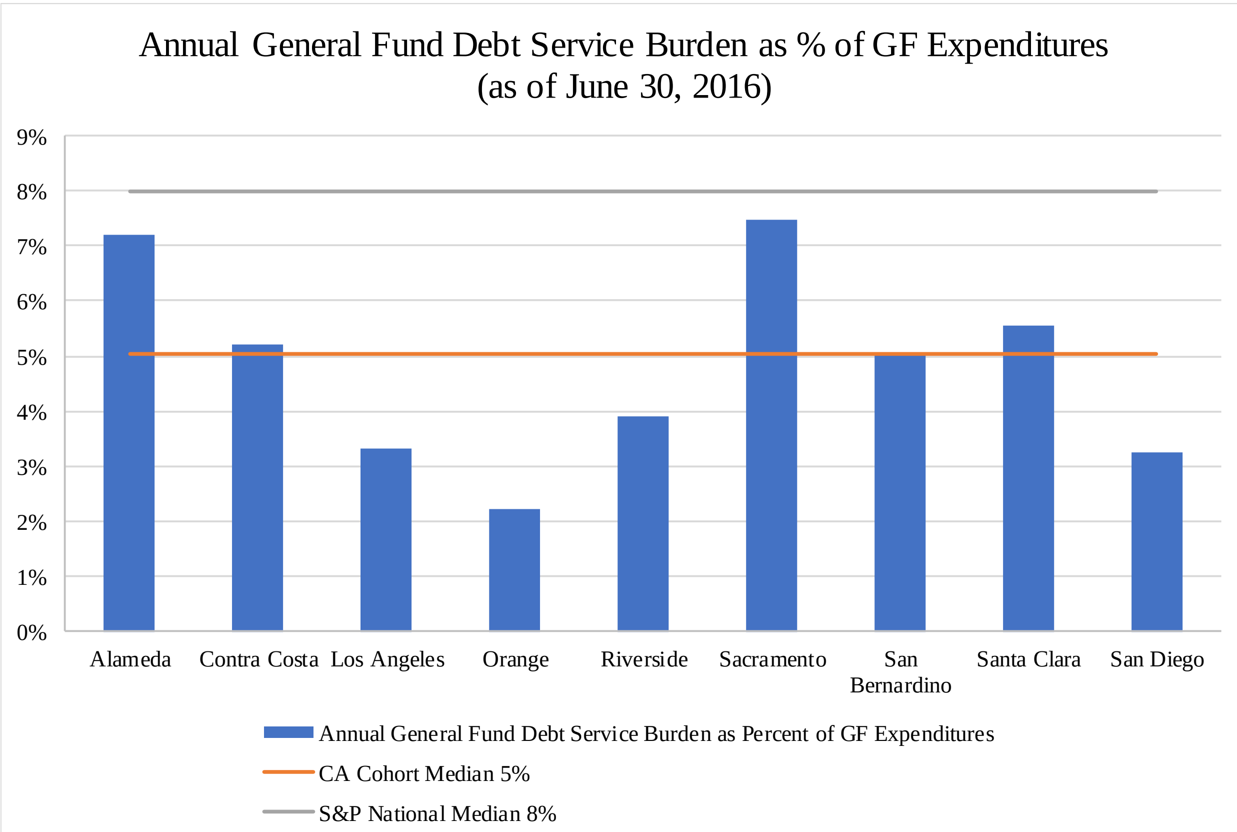
Sacramento and Alameda Counties had the highest annual debt service burdens among the counties as measured by Annual General Fund Debt Service as a Percent of General Fund Expenditures. Santa Clara and Contra Costa County had the highest annual debt service burdens. The cohort performed better against this metric than S&P's national median.

Chart 17



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SECTION VI: UNFUNDED PENSION OBLIGATIONS AND OTHER POST-EMPLOYMENT BENEFITS (OPEB)

The rating agencies have indicated they consider an agency's management of its respective unfunded actuarial accrued liabilities for pension costs (Pension UAAL) and Other Post-Employment Benefits (OPEB UAAL) to be significant credit factors, as Pension UAAL and OPEB UAAL costs can affect an agency's financial flexibility and performance. In Tables 7 and 8 below, the comparative Pension UAAL and OPEB UAAL performance of the cohort urban counties is presented, using information presented in the respective county CAFRs.

It should be noted that the underlying actuarial assumptions for the measurement of the Pension UAAL may vary from county to county, and that the Pension Funded Ratio may be higher than otherwise due to the particular County having deposited the proceeds of POBs in the pension system. The amounts of outstanding POBs for the particular counties are presented in the table below to provide a more complete picture of pension-related debt.

The County had the fifth highest Pension Funded Ratio. In addition to the Pension UAAL, the County also had $236.9 million of outstanding POBs.

Table 7
Comparative County Pension System UAALs and Funded Ratios
(as of June 30, 2016)

County	Pension UAAL	Pension Actuarial Valuation Date	Pension Funded Ratio	Outstanding POBs
Alameda	$1,615,549,000	December 31, 2015	77.16%	$198,891,000
Contra Costa	1,311,822,716[1]	December 31, 2015	84.47%	297,460,000[2]
Los Angeles	9,490,945,000	June 30, 2015	83.30%	0
Orange	4,822,348,000	December 31, 2015	71.72%	887,521,000
Riverside	1,759,400,000	June 30, 2015	79.40%	304,520,000
Sacramento	1,199,688,000	June 30, 2016	87.30%	773,957,002
San Bernardino	1,932,729,000	June 30, 2016	81.89%	662,694,000
Santa Clara	4,174,294,029	June 30, 2015	72.75%	367,118,349
San Diego	3,318,455,000	June 30, 2016	76.90%	649,860,000

(1) Based on the CCCERA Actuarial Valuation as of December 31, 2015. The County-only portion of the UAAL was estimated by the actuary to be $1,003,749,000. It is likely that the respective county-only portions of the UAALs for the other counties in the table are less than 100% of the related UAAL, but the data is not available.
(2) Represents County POBs. In addition, Contra Costa Fire Protection District has $84,695,000 in POBs outstanding.

Among the eight counties with an OPEB liability, the County had the fifth highest OPEB Funded Ratio and the second highest OPEB UAAL as a percentage of payroll.

Table 8
Comparative OPEB UAAL

County	OPEB UAAL	OPEB Funded Ratio	OPEB UAAL as % of Payroll	OPEB Actuarial Valuation Date
Alameda	$78,123,000	91.3%	8.0%	December 31, 2015
Contra Costa	764,39,000	18.6%	109.9%	January 1, 2016
Los Angeles	26,804,100,000	1.8%	401.7%	July 1, 2014
Orange	396944,000	35.4%	34.4%	June 30, 2015
Riverside	6,763,000	83.6%	53.0%	July 1, 2015
Sacramento	146,143,000	0.0%	19.3%	June 30, 2015
San Bernardino	N/A	N/A	N/A	Not applicable
Santa Clara	1,467,540,000	32.5%	103.0%	June 30, 2016
San Diego	151,627,000	4.9%	12.6%	June 30, 2016

SECTION VII: DERIVATIVES

Some municipal issuers undertake derivative transactions such as interest rate swaps in connection with variable rate bond issues and, less often, in connection with fixed rate bond issues. The purpose of a swap is to hedge the interest rate risk associated with the underlying bonds. Pursuant to GASB Statement No. 64, municipal entities must disclose their derivative exposure in their annual audits and provide the estimated mark-to-market value of the derivative. The mark-to-market value will fluctuate depending upon prevailing interest rates at the time of the audit and is meant to provide an estimate of the gain or loss on the derivative position should the interest rate swap be terminated at that time. Interest rate swaps contain provisions that include, among other things, automatic termination events if downgrades in the credit ratings of the municipal entity or the swap counterparty or both reach certain levels. Table 9 provides a summary of the derivative positions of the cohort counties as of June 30, 2015. The County had no derivative exposure.

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Table 9
Comparative Interest Rate Swap Positions

County	Number of Swaps	Notional Amount	Fair Value as of 6/30/2016	Final Maturity Date(s)
Alameda	0	Not applicable	Not applicable	Not applicable
Contra Costa	0	Not applicable	Not applicable	Not applicable
Los Angeles	0	Not applicable	Not applicable	Not applicable
Orange	0	Not applicable	Not applicable	Not applicable
Riverside	1	$59,495,000	-$29,100,000	2034
Sacramento	3	$557,395,000	-$215,170,000	2030, 2034, and 2039
San Bernardino	0	Not applicable	Not applicable	Not applicable
Santa Clara	1	$120,600,000	-$24,799,000	2035
San Diego	0	Not applicable	Not applicable	Not applicable

SECTION VIII: OUTSIDE MEMBERS OF THE FINANCING TEAM

Pursuant to the Policy, the County includes its general financial advisor, underwriters, investment advisor, bond counsels and disclosure counsel as members of the financing team that, in addition to completing new issuances of debt, provide feedback to the Debt Affordability Advisory Committee on various debt matters. The following firms are currently members of the financing team[1]:

Montague DeRose and Associates – Financial Advisor
Nixon Peabody LLP – Bond and Tax Counsel
Schiff Hardin LLP – Disclosure Counsel
Bond Logistix – Investment Advisor and Arbitrage Rebate Calculation Agent
Quint & Thimmig – Bond Counsel, Tax Allocation Bonds
Senior Managing Underwriters:
- Bank of America Merrill Lynch
- Barclays Capital
- J.P. Morgan
- Piper Jaffray
- Stifel, Nicolaus & Company
- Wells Fargo

Co-Managing Underwriters:
- Citigroup
- Fidelity Capital Markets
- Morgan Stanley

[1] The underwriter pool was reopened in November 2016. The underwriters listed were appointed to the new underwriting pool in January 2017.

APPENDIX 1

Contra Costa County
Debt Service Requirements for Outstanding Lease Revenue and Pension Obligation Bonds
(As of June 30, 2016)

Fiscal Year Ending 6/30	Total Lease Debt Service[1]	Total POB Debt Service	Total Debt Service [2]
2017	32,559,182	38,484,360	71,043,542
2018	32,570,232	40,114,901	72,685,133
2019	32,180,632	41,821,636	74,002,268
2020	30,757,282	43,600,400	74,357,681
2021	30,751,532	45,452,243	76,203,775
2022	28,234,086	47,382,398	75,616,484
2023	28,222,475		28,222,475
2024	18,203,958		18,203,958
2025	15,817,439		15,817,439
2026	13,451,226		13,451,226
2027	12,243,172		12,243,172
2028	6,093,871		6,093,871
2029	3,518,092		3,518,092
2030	3,519,390		3,519,390
2031	3,523,563		3,523,563
2032	3,523,248		3,523,248
2033	3,519,416		3,519,416
2034	3,520,893		3,520,893
2035	3,523,444		3,523,444
2036	2,470,618		2,470,618
2037	2,471,885		2,471,885
2038	2,475,073		2,475,073
2039	2,474,988		2,474,988
2040	2,471,630		2,471,630
TOTAL[2]	$318,097,324	$256,855,937	$574,953,261

(1) Excludes capital leases; includes federal subsidy receipts for certain lease bonds (Build America Bonds and Recovery Zone Bonds).

(2) Totals may not add due to rounding.

APPENDIX 2
Contra Costa County
History of Underlying Long-Term Ratings Since 1995
All Rating Outlooks are "Stable" Unless Otherwise Noted in Footnotes 4 and 5

(as of June 30, 2016)

	Implied General Obligation Bond/Issuer Rating		Pension Obligation Bond		Lease Revenue Bond/ Certificates of Participation	
FY Ending June 30	Moody's	S&P	Moody's	S&P	Moody's	S&P
1995[1]	Aa2	AA	A1	AA-	A1	A+
1996[2]	Aa2	AA	Aa3	AA-	A1	A+
1997	Aa2	AA	Aa3	AA-	A1	A+
1998	Aa2	AA	Aa3	AA-	A1	A+
1999	Aa2	AA	Aa3	AA-	A1	A+
2000	Aa2	AA	Aa3	AA-	A1	A+
2001[3]	Aa2	AA	Aa3	AA-	A1	AA-
2002	Aa2	AA	Aa3	AA-	A1	AA-
2003	Aa2	AA	Aa3	AA-	A1	AA-
2004	Aa2	AA	Aa3	AA-	A1	AA-
2005	Aa2	AA	Aa3	AA-	A1	AA-
2006[4]	Aa3	AA	A1	AA-	A2	AA-
2007[5]	Aa3	AA	A1	AA-	A2	AA-
2008	Aa3	AA	A1	AA-	A2	AA-
2009	Aa3	AA	A1	AA-	A2	AA-
2010[6]	Aa2	AA	Aa3	AA-	A1	AA-
2011	Aa2	AA	Aa3	AA-	A1	AA-
2012	Aa2	AA	Aa3	AA-	A1	AA-
2013[7]	Aa2	AA	A1	AA-	A1	AA-
2014[8]	Aa2	AAA	A1	AA+	A1	AA+
2015	Aa2	AAA	A1	AA+	A1	AA+
2016	Aa2	AAA	A1	AA+	A1[9]	AA+

[1] Municipal bond insurance policies were purchased to allow the ratings to be increased to Aaa (Moody's) and AAA (S&P) on all or portions of all Lease Revenue Bond/COPs issues since Fiscal Year 1987-88 and on all or portions of all POBs since FY 2000-01. While the County never requested underlying ratings from Fitch, Fitch automatically assigned its rating to all insured County issues since Fiscal Year 2002-03.
[2] Beginning in 1996, Moody's began to rate POBs one notch (rather than the previous two notches) lower than the issuer's GO bond rating. In addition, Moody's replaced their two-notch per tier system (e.g. Aa1, Aa2) with a three notch per tier system (e.g. Aa1, Aa2, Aa3).
[3] Beginning in 2001, Standard and Poor's began to rate lease obligations one notch (rather than the previous two notches) lower than the issuer's GO bond rating.
[4] S&P assigned an outlook of "Negative" to the County in November 2005. On December 1, 2005, Moody's downgraded the County one notch and changed the outlook to "Negative".
[5] Moody's assigned an outlook of "Stable" to the County in November 2006. In February 2007, S&P changed the outlook to "Stable".
[6] The changes in Moody's ratings reflect the recalibration of ratings completed by Moody's in April 2010.
[7]On February 20, 2013 Moody's downgraded the County's POBs to A1 with a "Stable" outlook.
[8]On December 19, 2013, S&P upgraded the County's ratings for each type of debt.
[9]On October 6, 2016, Moody's upgraded the County's LRB rating to Aa3.

APPENDIX 3

County of Contra Costa
Debt Management Policy