VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

BOARD OF RETIREMENT

BUSINESS MEETING

December 21, 2015

AGENDA

PLACE: Ventura County Employees' Retirement Association
Second Floor Boardroom
1190 South Victoria Avenue
Ventura, CA 93003

TIME: 9:00 a.m.

Members of the public may comment on any item under the Board's jurisdiction by filling out a speaker form and presenting it to the Clerk. Unless otherwise directed by the Chair, comments related to items on the agenda will be heard when the Board considers that item. Comments related to items not on the agenda will generally be heard at the time designated for Public Comment.

ITEM:

		Master Page No.
I.	**CALL TO ORDER**	
II.	**APPROVAL OF AGENDA**	1 – 4
III.	**APPROVAL OF MINUTES**	
	A. Disability Meeting of December 7, 2015.	5 – 12
IV.	**CONSENT AGENDA**	
	A. Approve Regular and Deferred Retirements and Survivors Continuances for the Month of November 2015	13
	B. Receive and File Report of Checks Disbursed in November 2015	14 – 22
	C. Receive and File Statement of Fiduciary Net Position, Statement of Changes in Fiduciary Net Position, Schedule of Investments and Cash Equivalents, and Schedule of Investment Management Fees for the Period Ending October 31, 2015.	23 – 30

IV. **<u>CONSENT AGENDA</u> (continued)**

D. Receive and File Statement of Fiduciary Net Position, Statement of Changes in Fiduciary Net Position, Schedule of Investments and Cash Equivalents, and Schedule of Investment Management Fees for the Period Ending November 30, 2015. 31 – 36

E. Receive and File Budget Summary for FY 2015-16 Month Ending November 30, 2015 37

V. **<u>INVESTMENT INFORMATION</u>**

A. NEPC – Allan Martin, Partner
Dan Gallagher, VCERA Chief Investment Officer

1. Asset Allocation Implementation Plan 38 – 77
RECOMMENDED ACTION: Approve

2. Sprucegrove Benchmark Change

a. Staff Letter 78
RECOMMENDED ACTION: APPROVE THE SPRUCEGROVE PERFORMANCE BENCHMARK CHANGE FROM MSCI EAFE INDEX TO MSCI ACWI ex- U.S.

b. NEPC Report on Sprucegrove 79 – 84

c. NEPC Report on GMO 85 – 89

3. Rebalancing Strategy 90 – 92
RECOMMENDED ACTION: Receive and file.

4. Preliminary Performance Report Month Ending November 30, 2015 93 – 101
RECOMMENDED ACTION: Receive and file.

VI. **<u>INVESTMENT MANAGER PRESENTATIONS</u>**

A. Receive Annual Investment Presentation, Blackrock, Anthony R. Freitas, Timothy Murray, and Laura Champion (15 Minutes) 102 – 154

VII. ACTUARIAL INFORMATION
John Monroe and Paul Angelo, Segal Consulting
Presenting via Teleconference

A. Actuarial Experience Study and Review of Economic Assumptions, Continued from May 18, 2015 Business Meeting

1. Staff Letter 155

2. Analysis of Actuarial Experience During the Period of July 1, 2011 through June 30, 2014 156 – 220
RECOMMENDED ACTION: ADOPT THE PROPOSED ACTUARIAL ASSUMPTIONS TO BE USED IN FUTURE ACTUARIAL VALUATIONS BEGINNING WITH THE JUNE 30, 2015 ACTUARIAL VALUATION

3. Review of Economic Actuarial Assumptions for the June 30, 2015 Actuarial Valuation 221 – 246
RECOMMENDED ACTION: ADOPT THE PROPOSED ECONOMIC ASSUMPTIONS, WITH THE EXCEPTION OF THE INVESTMENT RETURN ASSUMPTION, WHICH WAS PREVIOUSLY ADOPTED ON MAY 18, 2015.

B. Distribution of June 30, 2015 Actuarial Valuation and Review

1. Staff Letter 247

2. Actuarial Valuation and Review as of June 30, 2015. 248 – 345
RECOMMENDED ACTION: Receive and File

3. Governmental Accounting Standards (GAS) 67 Actuarial Valuation as of June 30, 2015 346 – 367
RECOMMENDED ACTION: Receive and File

VIII. NEW BUSINESS

A. Designation Of Additional Representative For Labor Negotiations With Prospective Unrepresented Employees

1. Staff Letter 368

IX. CLOSED SESSION

A. **CONFERENCE WITH LABOR NEGOTIATORS, GOVT. CODE SECTION 54957.6**

Agency Designated Representatives:
Tracy Towner
Kelly Shirk
Ashley Dunning and John Kennedy of Nossaman LLP

Prospective Unrepresented VCERA Employees:
Retirement Administrator
Retirement Chief Financial Officer
Retirement General Counsel
Retirement Chief Investment Officer
Retirement Chief Operations Officer

X. INFORMATIONAL

A. SACRS Legislative Committee, Trustee McCormick

B. CALAPRS Advanced Principles of Pension Management for Trustees, January 27-29, 2016, Los Angeles, CA 369 – 372

XI. PUBLIC COMMENT

XII. STAFF COMMENT

XIII. BOARD MEMBER COMMENT

XIV. ADJOURNMENT

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

BOARD OF RETIREMENT

DISABILITY MEETING

December 7, 2015

MINUTES

DIRECTORS PRESENT:	Tracy Towner, Chair, Alternate Safety Employee Member William W. Wilson, Vice Chair, Public Member Mike Sedell, Public Member Deanna McCormick, General Employee Member Craig Winter, General Employee Member Chris Johnston, Safety Employee Member Arthur E. Goulet, Retiree Member Will Hoag, Alternate Retiree Member
DIRECTORS ABSENT:	Steven Hintz, Treasurer-Tax Collector Joseph Henderson, Public Member Peter C. Foy, Public Member
STAFF PRESENT:	Linda Webb, Retirement Administrator Henry Solis, Chief Financial Officer Lori Nemiroff, Assistant County Counsel Dan Gallagher, Chief Investment Officer Julie Stallings, Chief Operations Officer Vickie Williams, Retirement Benefits Manager Donna Edwards, Retirement Benefits Specialist Chantell Garcia, Retirement Benefits Specialist Stephanie Caiazza, Program Assistant
PLACE:	Ventura County Employees' Retirement Association Second Floor Boardroom 1190 South Victoria Avenue Ventura, CA 93003
TIME:	9:00 a.m.

ITEM:

I. CALL TO ORDER

Chair Towner called the Disability Meeting of December 7, 2015, to order at 9:00 a.m.

II. APPROVAL OF AGENDA

MOTION: Approve the agenda.

Moved by Wilson, seconded by Johnston.

Vote: Motion carried
Yes: Goulet, Sedell, Johnston, Winter, McCormick, Wilson
No: -
Absent: Hintz, Henderson, Foy

III. APPROVAL OF MINUTES

A. Business Meeting of November 16, 2015.

Trustee Sedell requested an amendment to the minutes on master page 10 under item VII.D, changing “draft the letter” to “work with staff to draft the letter”.

MOTION: Approve the minutes, as amended.

Moved by Wilson, seconded by Johnston.

Vote: Motion carried
Yes: Goulet, Sedell, Johnston, Winter, McCormick, Wilson
No: -
Absent: Hintz, Henderson, Foy

III. RECEIVE AND FILE PENDING DISABILITY APPLICATION STATUS REPORT

MOTION: Approve.

Moved by Goulet, seconded by McCormick.

Vote: Motion carried
Yes: Goulet, Sedell, Johnston, Winter, McCormick, Wilson
No: -
Absent: Hintz, Henderson, Foy

IV. APPLICATIONS FOR DISABILITY RETIREMENT

A. Application for Service Connected Disability Retirement, Juan Carlos Benavides; Case No. 15-016.

1. Application for Service Connected Disability Retirement and Supporting Documentation.

2. Hearing Notice served on November 13, 2015.

Wanda Tuttle was present on behalf of County of Ventura Risk Management. The applicant, Juan Carlos Benavides, was also present.

Both parties declined to make statements.

The following motion was made:

MOTION: Grant the applicant, Juan Carlos Benavides, a service connected disability retirement.

Moved by Goulet, seconded by Wilson.

Vote: Motion carried
Yes: Goulet, Sedell, Johnston, Winter, McCormick, Wilson
No: -
Absent: Hintz, Henderson, Foy

The parties agreed to waive preparation of findings of fact and conclusions of law.

B. Application for Service Connected Disability Retirement, David Pumphrey; Case No. 14-005

1. Application for Service Connected Disability Retirement and Supporting Documentation.

2. Hearing Notice served on November 23, 2015.

Wanda Tuttle and Stephen D. Roberson, Attorney at Law, were present on behalf of County of Ventura Risk Management. The applicant, David Pumphrey, was not present.

The representatives from Risk Management declined to make a statement.

The following motion was made:

MOTION: Grant the applicant, David Pumphrey, a service connected disability retirement.

Moved by Johnston, seconded by Wilson.

Vote: Motion carried
Yes: Goulet, Sedell, Johnston, Winter, McCormick, Wilson
No: -
Absent: Hintz, Henderson, Foy

Risk Management agreed to waive preparation of findings of fact and conclusions of law. Ms. Webb stated that VCERA staff will contact the applicant to offer the same waiver.

C. Application for Service Connected Disability Retirement, Jeffrey Titcher; Case No. 13-017

1. Summary of Evidence, Findings of Fact, Conclusions of Law and Recommended Decision, submitted by Hearing Officer Irene P. Ayala, dated October 28, 2015.

2. Hearing Notice served on November 10, 2015.

Stephen D. Roberson, Attorney at Law, was present on behalf of County of Ventura Risk Management. Laurence D. Grossman, Attorney at Law, was present on behalf of the applicant.

Both parties declined to make statements.

The following motion was made:

MOTION: Adopt the Hearing Officer's recommendation and deny the applicant, Jeffrey Titcher, a service connected disability retirement.

Moved by Wilson, seconded by Sedell.

Vote: Motion carried
Yes: Goulet, Sedell, Johnston, Winter, McCormick, Wilson
No: -
Absent: Hintz, Henderson, Foy

D. Application for Service Connected Disability Retirement, Karen Anderson; Case No. 11-021

1. Hearing Officer's Proposed Findings of Fact, Conclusions of Law, and Recommendation, submitted by Hearing Officer Kenneth A. Perea; dated March 18, 2015.

2. Hearing Decision Notice, served on October 5, 2015.

3. Hearing Notice, served on November 10, 2015.

Stephen D. Roberson, Attorney at Law, was present on behalf of County of Ventura Risk Management. Stephen R. Pingle, Attorney at Law, was present via teleconference on behalf of the applicant.

Both parties declined to make statements.

The following motion was made:

MOTION: Adopt the Hearing Officer's recommendation and deny the applicant, Karen Anderson, a service connected disability retirement.

Moved by Sedell, seconded by Wilson.

Vote: Motion carried
Yes: Goulet, Sedell, Johnston, Winter, McCormick, Wilson
No: -
Absent: Hintz, Henderson, Foy

VI. <u>OLD BUSINESS</u>

A. Update on AB1291

Chair Towner informed the Board that the draft resolution and proposed service agreements had been submitted to Ventura County Human Resources and County Executive Office, and were currently being reviewed.

VII. NEW BUSINESS

A. Request to Increase Nossaman Engagement for Work Related to AB1291

1. Staff Letter

The following motion was made:

MOTION: Authorize the Retirement Administrator to increase the authorization to $50,000 with an additional $1,000 for expenses, for Nossaman's continued assistance to VCERA in implementing Government Code Section 31468 (AB 1291).

Moved by Goulet, seconded by Sedell.

Vote: Motion carried
Yes: Goulet, Sedell, Johnston, Winter, McCormick, Wilson
No: -
Absent: Hintz, Henderson, Foy

B. Recommendation to Approve Trustee Towner's Attendance at PIMCO Institute, January 26-27, 2016 in Newport Beach, CA.

1. Staff Letter

MOTION: Approve.

Moved by Sedell, seconded by McCormick.

Vote: Motion carried
Yes: Goulet, Sedell, Johnston, Winter, McCormick, Wilson
No: -
Absent: Hintz, Henderson, Foy

C. Discussion of CPI Calculation Methodology, Trustee Johnston

1. Staff Letter

2. 2015 Segal COLA Letter

3. Statutory COLA Provision

4. Bureau of Labor Statistics Table

5. CERL System Survey Table

6. Trustee Johnston Reference Table

Ms. Webb provided a correction to VII.C.5. CERL System Survey Table, stating that both ACERA and Marin use Method #1.

Trustee Johnson proposed that VCERA begin using the month-to-month averaging method instead of the December-to-December method used currently. Trustee Johnston said that the CPI data consistently drops off at the end of the year.

Ms. Nemiroff stated that both methods could be interpreted as correct based on the language of the statue.

Trustee Wilson said that he would like to hear more from Segal on this issue.

After discussion by the Board, the following motion was made:

MOTION: Table this item to allow time to collect additional information, and bring back before the Board for consideration at a future meeting.

Moved by Sedell, seconded by McCormick.

Vote: Motion carried
Yes: Goulet, Sedell, Johnston, Winter, McCormick, Wilson
No: -
Absent: Hintz, Henderson, Foy

VIII. INFORMATIONAL

A. Summary of SACRS Colleagues' Committees

B. 2016 Public Funds Summit, January 13 – 15, 2016, Scottsdale, AZ

C. Investment Education Symposium, February 3 – 5, 2016, New Orleans, LA

IX. PUBLIC COMMENT

None.

X. STAFF COMMENT

Ms. Webb requested feedback on the Board's preferences on different electronic devices that may be used to view Board materials. Ms. Webb indicated that both an IPad Pro and Microsoft Surface were available for trustees to test after the meeting.

Ms. Webb informed the Board that educational hours will be posted in January. Ms. Webb reminded the trustees to submit any hours that were not yet reported, and to submit their SACRS conference evaluations if they had not already done so.

XI. BOARD MEMBER COMMENT

The Board discussed including only recommended educational opportunities in subsequent agenda materials.

Chair Towner clarified that trustees and staff may refer any investment inquiries to VCERA's Chief Investment Officer Dan Gallagher.

Chair Towner informed the Board that the December 21, 2015 business meeting agenda will include a Closed Session to discuss employee contracts related to the five VCERA positions impacted by Government Code Section 31468 (AB 1291).

XII. ADJOURNMENT

The meeting was adjourned at 10:08 a.m.

Respectfully submitted,

Linda Webb

____
LINDA WEBB, Retirement Administrator

Approved,

____
TRACY TOWNER, Chairman

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

REPORT OF REGULAR AND DEFERRED RETIREMENTS AND SURVIVORS CONTINUANCES

NOVEMBER 2015

REGULAR RETIREMENTS:

FIRST NAME	LAST NAME	G/S	DATE OF MEMBERSHIP	TOTAL SERVICE		OTHER SERVICE	DEPARTMENT	EFFECTIVE DATE
Anthony	Aguirre	S	6/5/1994	21.40			Sheriff's Department	10/14/15
Debra L.	Aldrich	G	8/14/2005	10.20			Sheriff's Department	10/24/15
Maria	Armas	G	11/9/1980	27.70			Health Care Agency (Deferred)	10/01/15
Carolina	Ayala	G	7/28/1996	19.00			Health Care Agency	10/15/15
George E.	Barrett	G	10/9/2015	17.01	*	D=3.47590	Fire Protection District	10/09/15
Nancy	Bevans	G	05/03/2014	9.50			Health Care Agency	05/03/14
Rebecca S.	Carter	G	04/29/2002	13.50			Animal Regulations (Deferred)	10/20/15
Annette	Dulin-Edwards	G	04/02/1989	25.70	*	B=0.0997	Child Support Services	10/06/15
Dennis V.	Good	G	02/10/2003	0.60			Human Services Agency (Deferred)	10/07/15
Linda J.	Kelley	G	03/18/2002	13.40			District Attoney	10/10/15
Denise M.	Mouwen	G	07/16/1990	22.30			Public Works	10/27/15
Lyle G.	Olson	G	01/27/1985	30.70	*	C=4.2162	Air Pollution Control District	10/23/15
Joseph T.	Pannell	G	06/30/2003	12.20			Human Services Agency	10/16/15
Cynthia A.	Parrish	G	02/05/1973	42.70			Child Support Services	10/24/15
Catherine L.	Schureman	S	01/22/1989	26.70			Fire Protection District	10/17/15
Scott A.	Sedgwick	S	12/04/1994	20.40			Sheriff's Department	10/03/15
Michael B.	Smith	G	02/27/1989	1.10	*	C=28.035	Resource Management Agency (Deferred)	10/31/15
Jamie L.	Stewart	S	05/14/2015	4.15			Sheriff's Department (Non-Member Spouse)	10/01/15
Humberto F.	Tello	G	01/02/2005	12.40			Library (Non-Member Spouse)	07/01/15
Gail I.	Temple	G	09/02/1990	24.00			Sheriff's Department	10/01/15

DEFERRED RETIREMENTS:

FIRST NAME	LAST NAME	G/S	DATE OF MEMBERSHIP	TOTAL SERVICE	OTHER SERVICE	DEPARTMENT	EFFECTIVE DATE
Elizabeth	Plazola-Jones	G	11/04/2002	11.88	D=3.000	Health Care Agency	09/18/2015
Jason A.	Sagar	G	04/28/2003	12.33		Child Support Services	10/23/2015
Wendy	Shaw	G	08/19/2001	13.12		Health Care Agency	10/25/2015
Jessica L.	Thompson	G	02/24/2008	5.81		Health Care Agency	10/22/2015
Maria R.	Van Davis	G	08/06/1989	23.75		Health Care Agency	10/31/2015
Harold L.	Wyckoff	G	02/19/2001	14.64		Health Care Agency	10/10/2015
Lisa K.	Yoshimura	G	09/30/2007	8.09		CEO	10/28/2015

SURVIVORS' CONTINUANCES:

FIRST NAME	LAST NAME
Nancy Y.	Aguirre
C. Mark	Franek
Charles W.	Harwood
Maria C.	Lara
Sara	Manyak
Aileen J.	Ruelas

*** = Member Establishing Reciprocity**
A = Previous Membership
B = Other County Service (eg Extra Help)
C = Reciprocal Service
D = Public Service

Check Nbr	Check Type	Check Date	Vendor ID / Vendor Name	Period To Post	Period Closed	Ref Nbr	Doc Type	Invoice Number	Invoice Date	Discount Taken	Amount Paid
Company:	**VCERA**										
Acct / Sub:	1002		00								
025784	CK	11/4/2015	105368 DEBRA ANN BURNS	05-16		020659	VO	REFUND CONTRIB	11/4/2015	0.00	50,859.34
025785	CK	11/4/2015	118409 LAURA DE MERIT	05-16		020660	VO	REFUND CONTRIB	11/4/2015	0.00	8,535.83
025786	CK	11/4/2015	123728 ROSIE L. CERVANTEZ	05-16		020661	VO	REFUND CONTRIB	11/4/2015	0.00	3,370.32
025787	CK	11/4/2015	124623 LISA A. PHIPPS	05-16		020662	VO	REFUND CONTRIB	11/4/2015	0.00	360.38
025788	CK	11/4/2015	120799 RAYMOND HERNANDEZ	05-16		020663	VO	REFUND CONTRIB	11/4/2015	0.00	546.17
025789	CK	11/4/2015	123389 BLANCA GONZALEZ DE AGUI	05-16		020664	VO	REFUND CONTRIB	11/4/2015	0.00	5,145.56
025790	CK	11/4/2015	124408 KIMBERLEE A. LINDEE	05-16		020665	VO	REFUND CONTRIB	11/4/2015	0.00	2,758.50
025791	CK	11/4/2015	116040 RONALD W. GRAY	05-16		020666	VO	REFUND CONTRIB	11/4/2015	0.00	32,426.98
025792	CK	11/4/2015	120935 MARIA GOMEZ TORRES	05-16		020667	VO	REFUND CONTRIB	11/4/2015	0.00	18,020.66
025793	CK	11/4/2015	106697 BEVERLY A. JACKSON	05-16		020668	VO	REFUND T2 COL	11/4/2015	0.00	11,925.60
025794	CK	11/4/2015	102787 ROBERT ESTRADA JR.	05-16		020669	VO	REFUND T2 COL	11/4/2015	0.00	14,005.96
025795	CK	11/4/2015	F1287B1 ESTATE OF HERMELINA C. M	05-16		020670	VO	DEATH BENEFIT	11/4/2015	0.00	4,384.87
025796	CK	11/4/2015	F5081B1 CHRISTINE E. CLIFFORD	05-16		020671	VO	DEATH BENEFIT	11/4/2015	0.00	60.34

Check Nbr	Check Type	Check Date	Vendor ID / Vendor Name	Period To Post	Period Closed	Ref Nbr	Doc Type	Invoice Number	Invoice Date	Discount Taken	Amount Paid
025797	CK	11/4/2015	F1080B1 CHAD E. KELLER	05-16		020672	VO	DEATH BENEFIT	11/4/2015	0.00	3,571.22
025798	CK	11/4/2015	F8267B1 GERALDA LEE RYANE	05-16		020673	VO	DEATH BENEFIT	11/4/2015	0.00	1,486.75
025799	CK	11/4/2015	F8267B3 ANNELIESE K. ULLRICH	05-16		020674	VO	DEATH BENEFIT	11/4/2015	0.00	1,443.02
025800	CK	11/4/2015	F8234B1 DENNIS A. HANSEN	05-16		020675	VO	DEATH BENEFIT	11/4/2015	0.00	2,442.42
025801	CK	11/4/2015	124892R UBS FINANCIAL SERVICES	05-16		020676	VO	ROLLOVER	11/4/2015	0.00	2,768.89
025802	CK	11/4/2015	118409R FORESTERS FINANCIAL SER	05-16		020677	VO	ROLLOVER	11/4/2015	0.00	27,794.86
025803	CK	11/4/2015	F9322 ALICIA R. LODSTROM	05-16		020678	VO	PENSION PAYMENT	11/4/2015	0.00	1,446.64
025804	CK	11/4/2015	101602 HENRY SOLIS	05-16		020679	VO	TRAVEL REIMB	11/4/2015	0.00	1,300.59
025805	CK	11/4/2015	ADP ADP, LLC	05-16		020680	VO	ADMIN EXP	11/4/2015	0.00	2,693.65
025806	CK	11/4/2015	BARNEY A.B.U. COURT REPORTING, II	05-16		020681	VO	ADMIN EXP	11/4/2015	0.00	315.00
025807	CK	11/4/2015	CUSTOM CUSTOM PRINTING	05-16		020682	VO	ADMIN EXP	11/4/2015	0.00	2,350.38
025808	CK	11/4/2015	CLIFTON PARAMETRIC PORTFOLIO AS	05-16		020683	VO	INVESTMENT FEES	11/4/2015	0.00	36,329.00
025809	CK	11/4/2015	PIMCO PACIFIC INVESTMENT MGMT	05-16		020684	VO	INVESTMENT FEES	11/4/2015	0.00	104,703.18

Ventura County Retirement Assn

Check Register - Standard

Period: 05-16 As of: 12/2/2015

Check Nbr	Check Type	Check Date	Vendor ID / Vendor Name	Period To Post	Period Closed	Ref Nbr	Doc Type	Invoice Number	Invoice Date	Discount Taken	Amount Paid
025810	CK	11/4/2015	CORPORATE STAPLES ADVANTAGE	05-16		020685	VO	ADMIN EXP	11/4/2015	0.00	424.28
025811	CK	11/4/2015	TORTOISE TORTOISE CAPITAL ADVISOI	05-16		020686	VO	INVESTMENT FEES	11/4/2015	0.00	160,465.65
025812	CK	11/4/2015	VOLT VOLT	05-16		020687	VO	ADMIN EXP	11/4/2015	0.00	1,978.67
025813	CK	11/12/2015	F7055 PRISCILLA M.F. CRUTCHER	05-16		020688	VO	PENSION PAYMENT	11/12/2015	0.00	538.90
025814	CK	11/12/2015	123645 STEPHAN A. RAMOS	05-16		020689	VO	REFUND CONTRIB	11/12/2015	0.00	3,753.16
025815	CK	11/12/2015	124637 LOVIA L. PITTS	05-16		020690	VO	REFUND CONTRIB	11/12/2015	0.00	1,397.40
025816	CK	11/12/2015	124295 LISA Y. REYES	05-16		020691	VO	REFUND CONTRIB	11/12/2015	0.00	2,122.11
025817	CK	11/12/2015	101911 ANNETTE DULIN EDWARDS	05-16		020692	VO	REFUND T2 COL	11/12/2015	0.00	17,217.84
025818	CK	11/12/2015	104942 CARROLINA AYALA	05-16		020693	VO	REFUND T2 COL	11/12/2015	0.00	11,896.88
025819	CK	11/12/2015	108023 JOSEPH PANNELL	05-16		020694	VO	REFUND T2 COL	11/12/2015	0.00	5,689.26
025820	CK	11/12/2015	107093 REBECCA S. CARTER	05-16		020695	VO	REFUND T2 COL	11/12/2015	0.00	14,548.24
025821	CK	11/12/2015	F3218B1 VIRGINIA MOORE	05-16		020696	VO	DEATH BENEFIT	11/12/2015	0.00	2,025.94
025822	CK	11/12/2015	F2792S C. MARK FRANEK	05-16		020697	VO	DEATH BENEFIT	11/12/2015	0.00	4,984.83
025823	CK	11/12/2015	F0664B2 KAY E. FARLEY II	05-16		020698	VO	DEATH BENEFIT	11/12/2015	0.00	2,454.00

Ventura County Retirement Assn

Check Register - Standard

Period: 05-16 As of: 12/2/2015

Check Nbr	Check Type	Check Date	Vendor ID / Vendor Name	Period To Post	Period Closed	Ref Nbr	Doc Type	Invoice Number	Invoice Date	Discount Taken	Amount Paid
025824	CK	11/12/2015	F3505B2 KAY E. FARLEY II	05-16		020699	VO	DEATH BENEFIT	11/12/2015	0.00	268.09
025825	CK	11/12/2015	MEGAPATH GLOBAL CAPACITY	05-16		020700	VO	IT/PAS	11/12/2015	0.00	603.63
025826	CK	11/12/2015	LINEA LINEA SOLUTIONS	05-16		020701	VO	IT/PAS	11/12/2015	0.00	57,112.50
025827	CK	11/12/2015	MBS MANAGED BUSINESS SOLUT	05-16		020702	VO	PAS	11/12/2015	0.00	5,357.50
025828	CK	11/12/2015	SBS SBS GROUP	05-16		020703	VO	IT	11/12/2015	0.00	87.50
025829	CK	11/12/2015	SHIRK KELLY SHIRK	05-16		020704	VO	ADMIN EXP	11/12/2015	0.00	1,633.00
025830	CK	11/12/2015	SPRUCE SPRUCEGROVE INVESTMEN	05-16		020705	VO	INVESTMENT FEES	11/12/2015	0.00	53,144.61
025831	CK	11/12/2015	WALTER BNY MELLON INV MGMNT CA	05-16		020706	VO	INVESTMENT FEES	11/12/2015	0.00	200,784.67
025832	CK	11/18/2015	F2931 JAMES DEAN CARRANZA	05-16		020707	VO	DEATH BENEFIT	11/18/2015	0.00	1,223.13
025833	CK	11/18/2015	F1093B1 STANFORD E. KEY	05-16		020708	VO	DEATH BENEFIT	11/18/2015	0.00	1,814.01
025834	CK	11/18/2015	F1093B2 LINDA D. SANDERS	05-16		020709	VO	DEATH BENEFIT	11/18/2015	0.00	1,814.01
025835	CK	11/18/2015	F9259B1 MELISSA LEE	05-16		020710	VO	DEATH BENEFIT	11/18/2015	0.00	100,757.00
025836	CK	11/18/2015	F8267B2 PATRICK ULLRICH	05-16		020711	VO	DEATH BENEFIT	11/18/2015	0.00	1,443.02

Ventura County Retirement Assn

Check Register - Standard

Period: 05-16 As of: 12/2/2015

Check Nbr	Check Type	Check Date	Vendor ID / Vendor Name	Period To Post	Period Closed	Ref Nbr	Doc Type	Invoice Number	Invoice Date	Discount Taken	Amount Paid
025837	CK	11/18/2015	F5421B2 SARA WINGATE	05-16		020712	VO	DEATH BENEFIT	11/18/2015	0.00	2,107.56
025838	CK	11/18/2015	F5421B1 GEORGE R. WINGATE	05-16		020713	VO	DEATH BENEFIT	11/18/2015	0.00	2,278.44
025839	CK	11/18/2015	F5742 SANDRA J ALONZO	05-16		020714	VO	PENSION PAYMENT	11/18/2015	0.00	3,740.06
025840	CK	11/18/2015	125305 OMAR A. RAMIREZ	05-16		020715	VO	REFUND CONTRIB	11/18/2015	0.00	262.21
025841	CK	11/18/2015	122613 DEIDRE K. SMITH	05-16		020716	VO	REFUND CONTRIB	11/18/2015	0.00	10,611.36
025842	CK	11/18/2015	124140 JULIAN SOLIS	05-16		020717	VO	REFUND CONTRIB	11/18/2015	0.00	694.98
025843	CK	11/18/2015	103236B1R FIDELITY INVESTMENTS	05-16		020718	VO	ROLLOVER	11/18/2015	0.00	80,445.53
025844	CK	11/18/2015	990002 ARTHUR E. GOULET	05-16		020719	VO	TRAVEL REIMB	11/18/2015	0.00	39.10
025845	CK	11/18/2015	990004 WILL HOAG	05-16		020720	VO	TRAVEL REIMB	11/18/2015	0.00	690.66
025846	CK	11/18/2015	AT&T AT & T MOBILITY	05-16		020721	VO	IT	11/18/2015	0.00	292.65
025847	CK	11/18/2015	BEARDSLEY NANCY T. BEARDSLEY, ESQ.	05-16		020722	VO	ADMIN EXP	11/18/2015	0.00	875.00
025848	CK	11/18/2015	BROWN BROWN ARMSTRONG	05-16		020723	VO	ADMIN EXP	11/18/2015	0.00	1,227.50
025849	CK	11/18/2015	CMP CMP & ASSOCIATES, INC	05-16		020724	VO	IT/PAS	11/18/2015	0.00	12,340.00
025850	CK	11/18/2015	COUNTY COUNTY COUNSEL	05-16		020725	VO	LEGAL FEES	11/18/2015	0.00	27,263.00

Check Nbr	Check Type	Check Date	Vendor ID / Vendor Name	Period To Post	Period Closed	Ref Nbr	Doc Type	Invoice Number	Invoice Date	Discount Taken	Amount Paid
025851	CK	11/18/2015	PRUDENTIAL PRUDENTIAL INSURANCE	05-16		020726	VO	INVESTMENT FEES	11/18/2015	0.00	218,015.92
025852	CK	11/18/2015	REAMS REAMS ASSET MANAGEMEN	05-16		020727	VO	INVESTMENT FEES	11/18/2015	0.00	125,405.00
025853	CK	11/18/2015	TWC TIME WARNER CABLE	05-16		020728	VO	IT	11/18/2015	0.00	452.57
025854	CK	11/18/2015	VITECH VITECH SYSTEMS GROUP, IN	05-16		020729	VO	PAS	11/18/2015	0.00	5,200.00
025855	CK	11/18/2015	VOLT VOLT	05-16		020730	VO	ADMIN EXP	11/18/2015	0.00	1,978.67
025856	CK	11/18/2015	VSG VSG HOSTING, INC	05-16		020731	VO	PAS	11/18/2015	0.00	19,500.00
025857	CK	11/18/2015	WOLTERS WOLTERS KLUWER LAW & B	05-16		020732	VO	ADMIN EXP	11/18/2015	0.00	287.61
025858	CK	11/25/2015	104238 TRACY TOWNER	05-16		020733	VO	TRAVEL REIMB	11/25/2015	0.00	18.00
025859	CK	11/25/2015	120283 JESS M. ANGELES	05-16		020734	VO	MILEAGE REIMB	11/25/2015	0.00	41.40
025860	CK	11/25/2015	124709 LINDA WEBB	05-16		020735	VO	TRAVEL REIMB	11/25/2015	0.00	323.62
025861	CK	11/25/2015	124968 DAN GALLAGHER	05-16		020736	VO	TRAVEL REIMB	11/25/2015	0.00	291.93
025862	CK	11/25/2015	990002 ARTHUR E. GOULET	05-16		020737	VO	TRAVEL REIMB	11/25/2015	0.00	1,059.34
025863	CK	11/25/2015	120506 CRAIG WINTER	05-16	05-16	020738	VO	TRAVEL REIMB	11/25/2015	0.00	238.39
025863	VC	11/30/2015	120506 CRAIG WINTER	05-16	05-16	020738	VO	TRAVEL REIMB	11/25/2015	0.00	-238.39

Check Nbr	Check Type	Check Date	Vendor ID / Vendor Name	Period To Post	Period Closed	Ref Nbr	Doc Type	Invoice Number	Invoice Date	Discount Taken	Amount Paid
									Check Total		**0.00**
025864	CK	11/25/2015	ACCESS ACCESS INFORMATION MAN	05-16		020739	VO	ADMIN EXP	11/25/2015	0.00	320.62
025865	CK	11/25/2015	ADP ADP, LLC	05-16		020740	VO	ADMIN EXP	11/25/2015	0.00	9,746.24
025866	CK	11/25/2015	AYALA IRENE P. AYALA	05-16		020741	VO	ADMIN EXP	11/25/2015	0.00	11,550.00
025867	CK	11/25/2015	CDW GOVERN CDW GOVERNMENT	05-16		020742	VO	IT	11/25/2015	0.00	2,500.00
025868	CK	11/25/2015	CUSTOM CUSTOM PRINTING	05-16		020743	VO	ADMIN EXP	11/25/2015	0.00	32.25
025869	CK	11/25/2015	MF M.F. DAILY CORPORATION	05-16		020744	VO	ADMIN EXP	11/25/2015	0.00	16,611.72
025870	CK	11/25/2015	SHRED-IT SHRED-IT USA LLC	05-16		020745	VO	ADMIN EXP	11/25/2015	0.00	130.40
025871	CK	11/25/2015	SMARTBEAR SMARTBEAR SOFTWARE, IN	05-16		020746	VO	PAS	11/25/2015	0.00	8,386.00
025872	CK	11/25/2015	VOLT VOLT	05-16		020747	VO	ADMIN EXP	11/25/2015	0.00	3,712.52
025873	CK	11/25/2015	WESTERN WESTERN ASSET MANAGEM	05-16		020748	VO	INVESTMENT FEES	11/25/2015	0.00	189,944.73
025874	CK	11/25/2015	IRS6 INTERNAL REVENUE SERVIC	05-16		020749	VO	GARNISHMENT	11/25/2015	0.00	321.00
025875	CK	11/25/2015	CALPERS CALPERS LONG-TERM	05-16		020750	VO	INSURANCE	11/25/2015	0.00	20,901.72
025876	CK	11/25/2015	CVMP COUNTY OF VENTURA	05-16		020751	VO	INSURANCE	11/25/2015	0.00	613,833.18

Check Nbr	Check Type	Check Date	Vendor ID / Vendor Name	Period To Post	Period Closed	Ref Nbr	Doc Type	Invoice Number	Invoice Date	Discount Taken	Amount Paid
025877	CK	11/25/2015	VCDSA VENTURA COUNTY DEPUTY	05-16		020752	VO	INSURANCE	11/25/2015	0.00	246,660.85
025878	CK	11/25/2015	VCPFF VENTURA COUNTY PROFES:	05-16		020753	VO	INSURANCE	11/25/2015	0.00	71,174.12
025879	CK	11/25/2015	VRSD VENTURA REGIONAL	05-16		020754	VO	INSURANCE	11/25/2015	0.00	7,926.64
025880	CK	11/25/2015	VSP VISION SERVICE PLAN - (CA)	05-16		020755	VO	INSURANCE	11/25/2015	0.00	10,115.22
025881	CK	11/25/2015	SEIU SEIU LOCAL 721	05-16		020756	VO	DUES	11/25/2015	0.00	379.50
025882	CK	11/25/2015	REAVC RETIRED EMPLOYEES' ASSC	05-16		020757	VO	DUES	11/25/2015	0.00	4,291.50
025883	CK	11/25/2015	CA SDU CALIFORNIA STATE	05-16		020758	VO	CRT ORDERED PMT	11/25/2015	0.00	1,052.47
025884	CK	11/25/2015	CHILD5 STATE DISBURSEMENT UNIT	05-16		020759	VO	CRT ORDERED PMT	11/25/2015	0.00	511.00
025885	CK	11/25/2015	CHILD9 SHERIDA SEGALL	05-16		020760	VO	CRT ORDERED PMT	11/25/2015	0.00	260.00
025886	CK	11/25/2015	CHILD21 OREGON DEPT OF JUSTICE	05-16		020761	VO	CRT ORDERED PMT	11/25/2015	0.00	171.74
025887	CK	11/25/2015	SPOUSE2 KELLY SEARCY	05-16		020762	VO	CRT ORDERED PMT	11/25/2015	0.00	1,874.00
025888	CK	11/25/2015	SPOUSE3 ANGELINA ORTIZ	05-16		020763	VO	CRT ORDERED PMT	11/25/2015	0.00	250.00
025889	CK	11/25/2015	SPOUSE4 CATHY C PEET	05-16		020764	VO	CRT ORDERED PMT	11/25/2015	0.00	550.00
025890	CK	11/25/2015	SPOUSE6 BARBARA JO GREENE	05-16		020766	VO	CRT ORDERED PMT	11/25/2015	0.00	675.00

Check Nbr	Check Type	Check Date	Vendor ID / Vendor Name	Period To Post	Period Closed	Ref Nbr	Doc Type	Invoice Number	Invoice Date	Discount Taken	Amount Paid
025891	CK	11/25/2015	SPOUSE7 MARIA G. SANCHEZ	05-16		020767	VO	CRT ORDERED PMT	11/25/2015	0.00	104.00
025892	CK	11/25/2015	SPOUSE5 SUZANNA CARR	05-16		020768	VO	CRT ORDERED PMT	11/25/2015	0.00	829.00
025893	ZC	11/30/2015	120506 CRAIG WINTER	05-16	05-16	020738	VO	TRAVEL REIMB	11/25/2015	0.00	238.39
025893	ZC	11/30/2015	120506 CRAIG WINTER	05-16	05-16	020769	AD	VOID	11/30/2015	0.00	-238.39
									Check Total		**0.00**
025894	CK	11/30/2015	120506 CRAIG WINTER	05-16		020770	VO	TRAVEL REIMB	11/30/2015	0.00	239.34

Check Count: 112

Acct Sub Total: **2,737,082.81**

Check Type	Count	Amount Paid
Regular	110	2,737,321.20
Hand	0	0.00
Electronic Payment	0	0.00
Void	1	-238.39
Stub	0	0.00
Zero	1	0.00
Mask	0	0.00
Total:	**112**	**2,737,082.81**

Company Disc Total **0.00** **Company Total** **2,737,082.81**

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
STATEMENT OF FIDUCIARY NET POSITION
OCTOBER 31, 2015 (UNAUDITED)

ASSETS

CASH & CASH EQUIVALENTS	$154,822,540
RECEIVABLES	
EMPLOYER/EMPLOYEE CONTRIBUTIONS	142
ACCRUED INTEREST AND DIVIDENDS	4,726,508
SECURITY SALES	89,473,348
MISCELLANEOUS	3,498
TOTAL RECEIVABLES	94,203,495
INVESTMENTS AT FAIR VALUE	
DOMESTIC EQUITY SECURITIES	127,025,138
DOMESTIC EQUITY INDEX FUNDS	1,201,134,266
INTERNATIONAL EQUITY SECURITIES	345,506,550
INTERNATIONAL EQUITY INDEX FUNDS	246,822,270
GLOBAL EQUITY	426,573,503
PRIVATE EQUITY	143,625,861
DOMESTIC FIXED INCOME - CORE PLUS	625,182,087
DOMESTIC FIXED INCOME - U.S. INDEX	140,946,933
GLOBAL FIXED INCOME	278,213,166
REAL ESTATE	349,536,974
ALTERNATIVES	368,105,160
CASH OVERLAY - PARAMETRIC	(2,111)
TOTAL INVESTMENTS	4,252,669,797
CAPITAL ASSET - SOFTWARE DEVELOPMENT	9,426,005
TOTAL ASSETS	4,511,121,838

LIABILITIES

SECURITY PURCHASES PAYABLE	106,743,607
ACCOUNTS PAYABLE	1,420,071
PREPAID CONTRIBUTIONS	110,186,925
TOTAL LIABILITIES	218,350,603
NET POSITION RESTRICTED FOR PENSIONS	$4,292,771,236

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR THE FOUR MONTHS ENDED OCTOBER 31, 2015 (UNAUDITED)

ADDITIONS	
CONTRIBUTIONS	
EMPLOYER	$54,802,315
EMPLOYEE	21,635,549
TOTAL CONTRIBUTIONS	**76,437,864**
INVESTMENT INCOME	
NET APPRECIATION IN FAIR VALUE OF INVESTMENTS	(89,967,085)
INTEREST INCOME	5,182,876
DIVIDEND INCOME	18,474,493
REAL ESTATE OPERATING INCOME, NET	4,031,165
SECURITY LENDING INCOME	56,529
TOTAL INVESTMENT INCOME	**(62,222,022)**
LESS INVESTMENT EXPENSES	
MANAGEMENT & CUSTODIAL FEES	3,739,378
SECURITIES LENDING BORROWER REBATES	14,225
SECURITIES LENDING MANAGEMENT FEES	15,678
TOTAL INVESTMENT EXPENSES	**3,769,281**
NET INVESTMENT INCOME	**(65,991,303)**
TOTAL ADDITIONS	**10,446,562**
DEDUCTIONS	
BENEFIT PAYMENTS	78,492,927
MEMBER REFUNDS	1,312,878
ADMINISTRATIVE EXPENSES	2,664,708
TOTAL DEDUCTIONS	**82,470,514**
NET INCREASE/(DECREASE)	**(72,023,952)**
NET POSITION RESTRICTED FOR PENSIONS	
BEGINNING OF YEAR	**4,364,795,188**
ENDING BALANCE	**$4,292,771,236**

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
INVESTMENTS AND CASH EQUIVALENTS
OCTOBER 31, 2015 (UNAUDITED)

EQUITY		
DOMESTIC EQUITY		
WESTERN ASSET INDEX PLUS	$127,025,138	$9,127,223
TOTAL DOMESTIC EQUITY	**127,025,138**	**9,127,223**
DOMESTIC INDEX FUNDS		
BLACKROCK - US EQUITY MARKET	1,154,966,579	0
BLACKROCK - EXTENDED EQUITY	46,167,687	1
TOTAL EQUITY INDEX FUNDS	**1,201,134,266**	**1**
INTERNATIONAL EQUITY		
SPRUCEGROVE	173,223,248	0
HEXAVEST	78,927,093	0
WALTER SCOTT	93,356,209	0
TOTAL INTERNATIONAL EQUITY	**345,506,550**	**0**
INTERNATIONAL INDEX FUNDS		
BLACKROCK - ACWIXUS	246,822,270	0
TOTAL INTERNATIONAL INDEX FUNDS	**246,822,270**	**0**
GLOBAL EQUITY		
GRANTHAM MAYO AND VAN OTTERLOO (GMO)	202,745,850	0
BLACKROCK - GLOBAL INDEX	223,827,653	0
TOTAL GLOBAL EQUITY	**426,573,503**	**0**
PRIVATE EQUITY		
ADAMS STREET	86,938,052	0
PANTHEON	13,307,352	0
HARBOURVEST	43,380,457	0
TOTAL PRIVATE EQUITY	**143,625,861**	**0**
FIXED INCOME		
DOMESTIC		
LOOMIS SAYLES AND COMPANY	67,834,644	3,817,666
REAMS	288,318,139	107
WESTERN ASSET MANAGEMENT	269,029,304	2,744,418
TOTAL DOMESTIC	**625,182,087**	**6,562,191**
DOMESTIC INDEX FUNDS		
BLACKROCK - US DEBT INDEX	140,946,933	0
TOTAL DOMESTIC INDEX FUNDS	**140,946,933**	**0**
GLOBAL		
LOOMIS SAYLES AND COMPANY	89,615,122	0
LOOMIS ALPHA	42,316,393	0
PIMCO	146,281,651	2,087,057
TOTAL GLOBAL	**278,213,166**	**2,087,057**

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
INVESTMENTS AND CASH EQUIVALENTS
OCTOBER 31, 2015 (UNAUDITED)

REAL ESTATE		
PRUDENTIAL REAL ESTATE	120,621,253	0
RREEF	2,279,961	0
UBS REALTY	226,635,760	0
TOTAL REAL ESTATE	**349,536,974**	**0**
ALTERNATIVES		
BRIDGEWATER	258,133,525	0
TORTOISE (MLP's)	109,971,635	2,198,126
TOTAL ALTERNATIVES	**368,105,160**	**2,198,126**
CASH OVERLAY - PARAMETRIC	**(2,111)**	**129,091,819**
IN HOUSE CASH		**5,756,122**
TOTAL INVESTMENTS AND CASH	**$4,252,669,797**	**$154,822,540**

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
INVESTMENTS AND CASH EQUIVALENTS
OCTOBER 31, 2015 (UNAUDITED)

EQUITY		
DOMESTIC EQUITY		
WESTERN ASSET INDEX PLUS	$127,025,138	$9,127,223
TOTAL DOMESTIC EQUITY	**127,025,138**	**9,127,223**
DOMESTIC INDEX FUNDS		
BLACKROCK - US EQUITY MARKET	1,154,966,579	0
BLACKROCK - EXTENDED EQUITY	46,167,687	1
TOTAL EQUITY INDEX FUNDS	**1,201,134,266**	**1**
INTERNATIONAL EQUITY		
SPRUCEGROVE	173,223,248	0
HEXAVEST	78,927,093	0
WALTER SCOTT	93,356,209	0
TOTAL INTERNATIONAL EQUITY	**345,506,550**	**0**
INTERNATIONAL INDEX FUNDS		
BLACKROCK - ACWIXUS	246,822,270	0
TOTAL INTERNATIONAL INDEX FUNDS	**246,822,270**	**0**
GLOBAL EQUITY		
GRANTHAM MAYO AND VAN OTTERLOO (GMO)	202,745,850	0
BLACKROCK - GLOBAL INDEX	223,827,653	0
TOTAL GLOBAL EQUITY	**426,573,503**	**0**
PRIVATE EQUITY		
ADAMS STREET	86,938,052	0
PANTHEON	13,307,352	0
HARBOURVEST	43,380,457	0
TOTAL PRIVATE EQUITY	**143,625,861**	**0**
FIXED INCOME		
DOMESTIC		
LOOMIS SAYLES AND COMPANY	67,834,644	3,817,666
REAMS	288,318,139	107
WESTERN ASSET MANAGEMENT	269,029,304	2,744,418
TOTAL DOMESTIC	**625,182,087**	**6,562,191**
DOMESTIC INDEX FUNDS		
BLACKROCK - US DEBT INDEX	140,946,933	0
TOTAL DOMESTIC INDEX FUNDS	**140,946,933**	**0**
GLOBAL		
LOOMIS SAYLES AND COMPANY	89,615,122	0
LOOMIS ALPHA	42,316,393	0
PIMCO	146,281,651	2,087,057
TOTAL GLOBAL	**278,213,166**	**2,087,057**

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
INVESTMENTS AND CASH EQUIVALENTS
OCTOBER 31, 2015 (UNAUDITED)

REAL ESTATE		
PRUDENTIAL REAL ESTATE	120,621,253	0
RREEF	2,279,961	0
UBS REALTY	226,635,760	0
TOTAL REAL ESTATE	**349,536,974**	**0**
ALTERNATIVES		
BRIDGEWATER	258,133,525	0
TORTOISE (MLP's)	109,971,635	2,198,126
TOTAL ALTERNATIVES	**368,105,160**	**2,198,126**
CASH OVERLAY - PARAMETRIC	**(2,111)**	**129,091,819**
IN HOUSE CASH		**5,756,122**
TOTAL INVESTMENTS AND CASH	**$4,252,669,797**	**$154,822,540**

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
SCHEDULE OF INVESTMENT MANAGEMENT FEES
FOR THE FOUR MONTHS ENDED OCTOBER 31, 2015 (UNAUDITED)

EQUITY MANAGERS	
DOMESTIC	
BLACKROCK - US EQUITY	$58,504
BLACKROCK - EXTENDED EQUITY	4,615
WESTERN ASSET INDEX PLUS	64,004
TOTAL	**127,123**
INTERNATIONAL	
BLACKROCK - ACWIXUS	21,785
SPRUCEGROVE	219,928
HEXAVEST	90,780
WALTER SCOTT	200,785
TOTAL	**533,278**
GLOBAL	
GRANTHAM MAYO VAN OTTERLOO (GMO)	404,533
BLACKROCK - GLOBAL INDEX	60,869
TOTAL	**465,402**
PRIVATE EQUITY	
ADAMS STREET	363,847
HARBOURVEST	152,755
PANTHEON	149,897
TOTAL	**666,499**
FIXED INCOME MANAGERS	
DOMESTIC	
BLACKROCK - US DEBT INDEX	24,034
LOOMIS, SAYLES AND COMPANY	70,799
REAMS ASSET MANAGEMENT	125,405
WESTERN ASSET MANAGEMENT	125,941
TOTAL	**346,179**
GLOBAL	
LOOMIS, SAYLES AND COMPANY	67,480
LOOMIS ALPHA	42,769
PIMCO	104,703
TOTAL	**214,953**
REAL ESTATE	
PRUDENTIAL REAL ESTATE ADVISORS	218,016
RREEF	9,846
UBS REALTY	533,465
TOTAL	**761,327**
ALTERNATIVES	
BRIDGEWATER	265,874
TORTOISE	160,466
TOTAL	**426,339**
CASH OVERLAY - PARAMETRIC	**36,329**

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
SCHEDULE OF INVESTMENT MANAGEMENT FEES
FOR THE FOUR MONTHS ENDED OCTOBER 31, 2015 (UNAUDITED)

SECURITIES LENDING	
BORROWERS REBATE	14,225
MANAGEMENT FEES	15,678
TOTAL	29,902
OTHER	
INVESTMENT CONSULTANT	70,750
INVESTMENT CUSTODIAN	91,199
TOTAL	161,949
TOTAL INVESTMENT MANAGMENT FEES	$3,769,281

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
STATEMENT OF FIDUCIARY NET POSITION
NOVEMBER 30, 2015 (UNAUDITED)

ASSETS

CASH & CASH EQUIVALENTS	$137,405,086
RECEIVABLES	
EMPLOYER/EMPLOYEE CONTRIBUTIONS	142
ACCRUED INTEREST AND DIVIDENDS	3,312,021
SECURITY SALES	68,368,179
MISCELLANEOUS	3,347
TOTAL RECEIVABLES	71,683,689
INVESTMENTS AT FAIR VALUE	
DOMESTIC EQUITY SECURITIES	125,823,962
DOMESTIC EQUITY INDEX FUNDS	1,208,514,956
INTERNATIONAL EQUITY SECURITIES	338,741,205
INTERNATIONAL EQUITY INDEX FUNDS	242,174,891
GLOBAL EQUITY	422,389,669
PRIVATE EQUITY	143,515,082
DOMESTIC FIXED INCOME - CORE PLUS	621,970,160
DOMESTIC FIXED INCOME - U.S. INDEX	140,579,284
GLOBAL FIXED INCOME	280,368,015
REAL ESTATE	349,536,974
ALTERNATIVES	369,905,872
CASH OVERLAY - PARAMETRIC	680
TOTAL INVESTMENTS	4,243,520,748
CAPITAL ASSET - SOFTWARE DEVELOPMENT	9,426,005
TOTAL ASSETS	4,462,035,528

LIABILITIES

SECURITY PURCHASES PAYABLE	86,355,681
ACCOUNTS PAYABLE	278,794
PREPAID CONTRIBUTIONS	96,013,971
TOTAL LIABILITIES	182,648,445
NET POSITION RESTRICTED FOR PENSIONS	$4,279,387,083

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR THE FIVE MONTHS ENDED NOVEMBER 30, 2015 (UNAUDITED)

ADDITIONS	
CONTRIBUTIONS	
EMPLOYER	$68,969,226
EMPLOYEE	27,106,229
TOTAL CONTRIBUTIONS	**96,075,455**
INVESTMENT INCOME	
NET APPRECIATION IN FAIR VALUE OF INVESTMENTS	(104,273,239)
INTEREST INCOME	6,489,927
DIVIDEND INCOME	19,165,540
REAL ESTATE OPERATING INCOME, NET	4,031,165
SECURITY LENDING INCOME	72,991
TOTAL INVESTMENT INCOME	**(74,513,616)**
LESS INVESTMENT EXPENSES	
MANAGEMENT & CUSTODIAL FEES	3,781,198
SECURITIES LENDING BORROWER REBATES	15,805
SECURITIES LENDING MANAGEMENT FEES	20,620
TOTAL INVESTMENT EXPENSES	**3,817,623**
NET INVESTMENT INCOME	**(78,331,239)**
TOTAL ADDITIONS	**17,744,216**
DEDUCTIONS	
BENEFIT PAYMENTS	98,218,956
MEMBER REFUNDS	1,848,620
ADMINISTRATIVE EXPENSES	3,084,745
TOTAL DEDUCTIONS	**103,152,321**
NET INCREASE/(DECREASE)	**(85,408,105)**
NET POSITION RESTRICTED FOR PENSIONS	
BEGINNING OF YEAR	**4,364,795,188**
ENDING BALANCE	**$4,279,387,083**

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
INVESTMENTS AND CASH EQUIVALENTS
NOVEMBER 30, 2015 (UNAUDITED)

EQUITY		
DOMESTIC EQUITY		
WESTERN ASSET INDEX PLUS	$125,823,962	$7,805,116
TOTAL DOMESTIC EQUITY	125,823,962	7,805,116
DOMESTIC INDEX FUNDS		
BLACKROCK - US EQUITY MARKET	1,161,554,130	0
BLACKROCK - EXTENDED EQUITY	46,960,825	1
TOTAL EQUITY INDEX FUNDS	1,208,514,956	1
INTERNATIONAL EQUITY		
SPRUCEGROVE	169,924,446	0
HEXAVEST	76,834,892	0
WALTER SCOTT	91,981,866	0
TOTAL INTERNATIONAL EQUITY	338,741,205	0
INTERNATIONAL INDEX FUNDS		
BLACKROCK - ACWIXUS	242,174,891	0
TOTAL INTERNATIONAL INDEX FUNDS	242,174,891	0
GLOBAL EQUITY		
GRANTHAM MAYO AND VAN OTTERLOO (GMO)	200,319,371	0
BLACKROCK - GLOBAL INDEX	222,070,298	0
TOTAL GLOBAL EQUITY	422,389,669	0
PRIVATE EQUITY		
ADAMS STREET	87,245,567	0
PANTHEON	13,307,352	0
HARBOURVEST	42,962,163	0
TOTAL PRIVATE EQUITY	143,515,082	0
FIXED INCOME		
DOMESTIC		
LOOMIS SAYLES AND COMPANY	67,243,104	3,734,287
REAMS	286,681,514	107
WESTERN ASSET MANAGEMENT	268,045,542	1,585,930
TOTAL DOMESTIC	621,970,160	5,320,325
DOMESTIC INDEX FUNDS		
BLACKROCK - US DEBT INDEX	140,579,284	0
TOTAL DOMESTIC INDEX FUNDS	140,579,284	0
GLOBAL		
LOOMIS SAYLES AND COMPANY	88,308,779	0
LOOMIS ALPHA	42,316,393	0
PIMCO	149,742,843	1,756,657
TOTAL GLOBAL	280,368,015	1,756,657

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
INVESTMENTS AND CASH EQUIVALENTS
NOVEMBER 30, 2015 (UNAUDITED)

REAL ESTATE		
PRUDENTIAL REAL ESTATE	120,621,253	0
RREEF	2,279,961	0
UBS REALTY	226,635,760	0
TOTAL REAL ESTATE	**349,536,974**	**0**
ALTERNATIVES		
BRIDGEWATER	266,686,400	0
TORTOISE (MLP's)	103,219,472	3,365,212
TOTAL ALTERNATIVES	**369,905,872**	**3,365,212**
CASH OVERLAY - PARAMETRIC	**680**	**113,467,690**
IN HOUSE CASH		**5,690,084**
TOTAL INVESTMENTS AND CASH	**$4,243,520,748**	**$137,405,086**

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
SCHEDULE OF INVESTMENT MANAGEMENT FEES
FOR THE FIVE MONTHS ENDED NOVEMBER 30, 2015 (UNAUDITED)

EQUITY MANAGERS	
DOMESTIC	
BLACKROCK - US EQUITY	$58,504
BLACKROCK - EXTENDED EQUITY	4,615
WESTERN ASSET INDEX PLUS	64,004
TOTAL	**127,123**
INTERNATIONAL	
BLACKROCK - ACWIXUS	21,785
SPRUCEGROVE	165,170
HEXAVEST	90,780
WALTER SCOTT	200,785
TOTAL	**478,520**
GLOBAL	
GRANTHAM MAYO VAN OTTERLOO (GMO)	501,111
BLACKROCK - GLOBAL INDEX	60,869
TOTAL	**561,980**
PRIVATE EQUITY	
ADAMS STREET	363,847
HARBOURVEST	152,755
PANTHEON	149,897
TOTAL	**666,499**
FIXED INCOME MANAGERS	
DOMESTIC	
BLACKROCK - US DEBT INDEX	24,034
LOOMIS, SAYLES AND COMPANY	70,799
REAMS ASSET MANAGEMENT	125,405
WESTERN ASSET MANAGEMENT	125,941
TOTAL	**346,179**
GLOBAL	
LOOMIS, SAYLES AND COMPANY	67,480
LOOMIS ALPHA	42,769
PIMCO	104,703
TOTAL	**214,953**
REAL ESTATE	
PRUDENTIAL REAL ESTATE ADVISORS	218,016
RREEF	9,846
UBS REALTY	533,465
TOTAL	**761,327**
ALTERNATIVES	
BRIDGEWATER	265,874
TORTOISE	160,466
TOTAL	**426,339**
CASH OVERLAY - PARAMETRIC	**36,329**

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
SCHEDULE OF INVESTMENT MANAGEMENT FEES
FOR THE FIVE MONTHS ENDED NOVEMBER 30, 2015 (UNAUDITED)

SECURITIES LENDING	
BORROWERS REBATE	15,805
MANAGEMENT FEES	20,620
TOTAL	36,426
OTHER	
INVESTMENT CONSULTANT	70,750
INVESTMENT CUSTODIAN	91,199
TOTAL	161,949
TOTAL INVESTMENT MANAGMENT FEES	$3,817,623

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
BUDGET SUMMARY FISCAL YEAR 2015-2016
November 2015 - 42% of Fiscal Year Expended

EXPENDITURE DESCRIPTIONS	Adopted 2015/2016 Budget	Adjusted 2015/2016 Budget	Nov-15	Year to Date Expended	Available Balance	Percent Expended
Salaries & Benefits:						
Salaries	$ 2,322,000.00	$ 2,322,000.00	$ 164,943.63	$ 826,414.42	$ 1,495,585.58	35.59%
Extra-Help	50,000.00	50,000.00	7,669.86	34,480.46	15,519.54	68.96%
Overtime	3,000.00	3,000.00	0.00	101.99	2,898.01	3.40%
Supplemental Payments	70,800.00	70,800.00	4,780.48	24,191.04	46,608.96	34.17%
Vacation Redemption	111,400.00	111,400.00	29,279.18	42,349.44	69,050.56	38.02%
Retirement Contributions	427,700.00	427,700.00	32,509.05	154,095.49	273,604.51	36.03%
OASDI Contributions	139,800.00	139,800.00	9,304.63	47,852.37	91,947.63	34.23%
FICA-Medicare	36,400.00	36,400.00	2,854.17	12,780.26	23,619.74	35.11%
Retiree Health Benefit	8,700.00	8,700.00	723.60	4,341.60	4,358.40	49.90%
Group Health Insurance	201,000.00	201,000.00	14,256.00	73,854.91	127,145.09	36.74%
Life Insurance/Mgmt	1,100.00	1,100.00	86.50	442.27	657.73	40.21%
Unemployment Insurance	2,900.00	2,900.00	200.66	1,004.64	1,895.36	34.64%
Management Disability Insurance	18,000.00	18,000.00	1,167.27	6,918.62	11,081.38	38.44%
Worker' Compensation Insurance	18,700.00	18,700.00	1,492.28	6,650.23	12,049.77	35.56%
401K Plan Contribution	47,500.00	47,500.00	3,422.83	16,791.11	30,708.89	35.35%
Transfers In	103,400.00	103,400.00	8,690.38	43,736.84	59,663.16	42.30%
Transfers Out	(103,400.00)	(103,400.00)	(8,690.38)	(43,736.84)	(59,663.16)	42.30%
Total Salaries & Benefits	$ 3,459,000.00	$ 3,459,000.00	$ 272,690.14	$ 1,252,268.85	$ 2,206,731.15	36.20%
Services & Supplies:						
Telecommunication Services - ISF	$ 36,500.00	$ 36,500.00	$ 2,941.82	$ 13,839.15	$ 22,660.85	37.92%
General Insurance - ISF	12,500.00	12,500.00	0.00	0.00	12,500.00	0.00%
Office Equipment Maintenance	2,000.00	2,000.00	0.00	0.00	2,000.00	0.00%
Membership and Dues	10,400.00	10,400.00	0.00	6,670.00	3,730.00	64.13%
Education Allowance	10,000.00	10,000.00	0.00	3,795.84	6,204.16	37.96%
Cost Allocation Charges	17,000.00	17,000.00	0.00	0.00	17,000.00	0.00%
Printing Services - Not ISF	4,300.00	4,300.00	2,382.63	2,758.89	1,541.11	64.16%
Books & Publications	2,500.00	2,500.00	287.61	337.61	2,162.39	13.50%
Office Supplies	20,000.00	20,000.00	424.28	5,163.59	14,836.41	25.82%
Postage & Express	60,000.00	60,000.00	10,910.49	15,208.79	44,791.21	25.35%
Printing Charges - ISF	13,300.00	13,300.00	0.00	0.00	13,300.00	0.00%
Copy Machine Services - ISF	6,500.00	6,500.00	0.00	0.00	6,500.00	0.00%
Board Member Fees	12,000.00	12,000.00	1,000.00	4,200.00	7,800.00	35.00%
Professional Services	1,002,300.00	1,002,300.00	55,793.46	345,185.01	657,114.99	34.44%
Storage Charges	4,500.00	4,500.00	320.62	1,334.48	3,165.52	29.66%
Equipment	5,000.00	5,000.00	0.00	0.00	5,000.00	0.00%
Office Lease Payments	205,200.00	205,200.00	16,611.72	83,058.60	122,141.40	40.48%
Private Vehicle Mileage	10,000.00	10,000.00	1,388.26	5,123.13	4,876.87	51.23%
Conference, Seminar and Travel	100,000.00	100,000.00	2,990.72	23,771.73	76,228.27	23.77%
Furniture	24,000.00	24,000.00	0.00	0.00	24,000.00	0.00%
Facilities Charges	6,900.00	6,900.00	556.50	881.50	6,018.50	12.78%
Judgement & Damages	0.00	0.00	0.00	1,838.57	(1,838.57)	#DIV/0!
Transfers In	10,900.00	10,900.00	918.34	4,621.81	6,278.19	42.40%
Transfers Out	(10,900.00)	(10,900.00)	(918.34)	(4,621.81)	(6,278.19)	42.40%
Total Services & Supplies	$ 1,564,900.00	$ 1,564,900.00	$ 95,608.11	$ 513,166.89	$ 1,051,733.11	32.79%
Total Sal, Ben, Serv & Supp	$ 5,023,900.00	$ 5,023,900.00	$ 368,298.25	$ 1,765,435.74	$ 3,258,464.26	35.14%
Technology:						
Computer Hardware	$ 91,600.00	$ 91,600.00	$ -	52,181.11	$ 39,418.89	56.97%
Computer Software	204,400.00	204,400.00	9,036.70	18,525.64	185,874.36	9.06%
Systems & Application Support	693,100.00	693,100.00	49,931.45	222,561.48	470,538.52	32.11%
Pension Administration System	2,660,500.00	2,660,500.00	59,437.50	1,083,695.25	1,576,804.75	40.73%
Total Technology	$ 3,649,600.00	$ 3,649,600.00	$ 118,405.65	$ 1,376,963.48	$ 2,272,636.52	37.73%
Contingency	$ 812,400.00	$ 812,400.00	$ -	$ -	$ 812,400.00	0.00%
Total Current Year	$ 9,485,900.00	$ 9,485,900.00	$ 486,703.90	$ 3,142,399.22	$ 6,343,500.78	33.13%

NEPC, LLC

YOU DEMAND MORE. So do we.SM

Ventura County Employees' Retirement Association

Asset Allocation Implementation Plan

December 21, 2015

Allan Martin, Partner
Dan LeBeau, Consultant
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CAMBRIDGE | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | SAN FRANCISCO

Objective of Today's Discussion

For the Board to consider and approve the recommended implementation plan.

Summary of Recommended Changes

	Prior Target	Recommended Target	Change
Cash	***0%***	***0%***	--
Large Cap Equity	27%	25%	-2.0%
Small/Mid Cap Equity	3%	3%	--
Int'l Developed Mkts Equity	12%	12%	--
Int'l Emerging Mkts Equity	2%	3%	1.0%
Global Equity	10%	10%	--
Total Public Equity	***54%***	***53%***	***-1.0%***
Private Equity	5%	10%	5.0%
Total Equity	***59%***	***63%***	***4.0%***
U.S. Treasuries	0%	2%	2.0%
Domestic Core Fixed Income	12%	10%	-2.0%
Global Core Fixed Income	5%	0%	-5.0%
Absolute Return Fixed Income	7%	8%	1.0%
Total Public Fixed Income	***24%***	***20%***	***-4.0%***
Real Estate	7%	7%	--
MLPs	4%	4%	--
Risk Parity	6%	6%	--
Total Other	**17%**	**17%**	**--**

		Prior Target	Recommended Target
5-7 Year	***Expected Return***	***6.0%***	***6.4%***
	Standard Deviation	***12.6%***	***13.1%***
	Sharpe Ratio	***0.34***	***0.35***
30 Year	***Expected Return***	***7.3%***	***7.7%***
	Standard Deviation	***12.6%***	***13.1%***
	Sharpe Ratio	***0.32***	***0.34***
	Estimated Fees	***0.29%***	***0.32%***

- **Modest Reduction in Public Equity Exposure**
  - Reflects lower return outlook after strong rally over recent years, as well as higher valuations
  - Reduction is moderated by stronger U.S. economic outlook
- **Increase Private Equity Allocation**
  - Accepting illiquidity for potentially higher returns
  - Includes Private Equity and Private Debt
- **Add Dedicated U.S. Treasuries Allocation**
  - Hedges equity risk
  - Liquid
  - No credit risk
  - Beneficiary of 'flight to quality'
- **Reduce Core Fixed Income Allocation**
  - Reduce interest rate/duration exposure in rising rate environment
- **Eliminate Global Bond Allocation**
  - U.K., Europe and Japan all with negative 10-year real yields

Summary of Recommended Implementation Plan

- **Approve recommended Private Equity pacing plan and provide guidance on how to proceed with implementation**
  - Fund of Funds, Fund of One, Full Discretionary, Discretion-in-a-box, One-off Manager Searches
- **Approve recommended strategy to allow PIMCO and Loomis Sayles to liquidate the global fixed income mandates that they currently manage on behalf of the Plan**
  - Complex portfolios that are global in nature and employ derivatives
  - Allowing managers to liquidate portfolios provides alignment of interest to get the best value possible so as to not impact other investors
  - Direct managers to begin liquidating portfolios when markets normalize after January 1, 2016
- **Approve recommended approach to implementing allocation to Treasuries**
  - Passive management
  - BlackRock is an existing manager for the Plan across several passive investment mandates
  - Proposed investment would cost 4 basis points, or approximately $33,000 on an $84 million investment (2% target)

VCERA Private Equity Plan

NEPC, LLC

NEPC Recommendation

- **NEPC recommends VCERA give consideration to committing approximately $130 million to private equity in the coming year.**

- **With the recent increase in the private equity allocation from 5% to 10%, commitments should increase.**

- **NEPC expects the program to hit its 10% target Net Asset Value (“NAV”) in the next 5-7 years.**

- **VCERA should maintain an active, annual commitment pace, being mindful of the Plan’s liquidity needs.**

Current Investment Program

- **Current Investment Status**
  - As of September 30, 2015, VCERA had made $292.5 million in commitments to three FoF managers
    - Adams Street Partners (“ASP”) –
      - $42.5 million commitment in 2010 to ASP U.S. Fund 2010
      - $25.5 million commitment in 2010 to ASP Non-U.S. Developed Fund 2010
      - $8.5 million commitment in 2010 to ASP Emerging Markets Fund 2010
      - $8.5 million commitment in 2010 to ASP Direct Fund 2010
      - $75 million commitment in 2013 to ASP Global Fund 2013
    - HarbourVest –
      - $67.5 million commitment in 2013 to Dover Street VIII (Secondaries Fund)
    - Pantheon –
      - $15.0 million in 2010 to Pantheon Global Secondary Fund IV
      - $50.0 million in 2014/2015 to Pantheon Global Secondary Fund V
  - Cash-adjusted NAV of $144.5 million represents approximately 3.4% of the total VCERA portfolio
  - The portfolio is diversified, with commitments to both U.S. and non-U.S. funds that includes a mix of primary, secondary, and co-investment funds

- **Private Equity Target Allocation**
  - Policy target of 10% of the total portfolio (up from 5% previously)
  - Current exposure of $296.3 million (current private equity NAV + uncalled commitments) represents approximately 7% of the total VCERA portfolio
    - We typically recommend clients overcommit to private equity at 1.5x the target weight, which suggests a commitment target of approximately 15%, or $631 million

												Since Inception		
Fund Name	Vintage Year	Initial Investment Date	Commitment	Capital Called to Date[1]	Outstanding Commitment[1]	Call Ratio	Interest Paid/(Rec'd)	Distributions to Date	Valuation	Total Value	Net Benefit	IRR	Distributions to Paid In Multiple (DPI)	Total Value to Paid In Multiple (TVPI)
Adams Street 2010 U.S. Fund	2010	5/21/2010	$42,500,000	$26,690,000	$15,810,000	63%	$15,213	$8,147,483	$30,489,272	$38,636,755	$11,931,542	15.7%	0.31x	1.45x
Adams Street 2010 Non-U.S. Dev. Mkts Fund	2010	5/21/2010	$25,500,000	$16,434,750	$9,065,250	64%	$1,589	$4,669,887	$14,278,525	$18,948,412	$2,512,073	6.9%	0.28x	1.15x
Adams Street 2010 Non-U.S. Emg Mkts Fund	2010	1/3/2011	$8,500,000	$5,729,000	$2,771,000	67%	$0	$314,436	$6,799,942	$7,114,378	$1,385,378	11.2%	0.05x	1.24x
Adams Street 2010 Direct Fund	2010	5/21/2010	$8,500,000	$7,837,000	$663,000	92%	$6,697	$3,071,561	$8,404,458	$11,476,019	$3,632,322	13.5%	0.39x	1.46x
Total Adams Street 2010	*2010*	*5/21/2010*	*$85,000,000*	*$56,690,750*	*$28,309,250*	*67%*	*$23,499*	*$16,203,367*	*$59,972,197*	*$76,175,564*	*$19,461,315*	*12.9%*	*0.29x*	*1.34x*
Adams Street 2013 Global Fund	2013	6/27/2013	$75,000,000	$27,337,500	$47,662,500	36%	$10,728	$222,166	$27,488,824	$27,710,990	$362,762	1.3%	0.01x	1.01x
HarbourVest - Dover Street VIII	2013	5/30/2013	$67,500,000	$40,500,000	$27,000,000	60%	$84,954	$13,605,665	$43,380,457	$56,986,122	$16,401,168	38.0%	0.34x	1.4x
Pantheon Global Secondary Fund IV	2010	8/20/2010	$15,000,000	$9,960,000	$5,040,000	66%	$0	$7,830,001	$6,920,072	$14,750,073	$4,790,073	17.1%	0.79x	1.48x
Pantheon Global Secondary Fund V	2015	2/26/2015	$50,000,000	$6,201,371	$43,798,629	12%	$29,922	$75,205	$6,726,156	$6,801,361	$570,069	8.2%	0.01x	1.09x
Total VCERA Private Equity Program	***--***	***5/21/2010***	***$292,500,000***	***$140,689,621***	***$151,810,379***	***48%***	***$149,103***	***$37,936,404***	***$144,487,706***	***$182,424,110***	***$41,585,387***	***16.0%***	***0.27x***	***1.3x***

1. Includes recycled/recallable distributions received to date.

Note: Private equity performance data is reported net of fees.

Distributions to Date shown for Pantheon Global Secondary Fund V includes management fee rebates paid to VCERA.

Performance shown is based on cash-adjusted market values as of 9/30/2015.

VCERA Private Equity Pacing Plan

Plan Overview and Assumptions

General Plan Assumptions

Total Plan Assets	$4,208
Total Private Equity Assets	$144
Private Equity Capital to be Funded	$152
Total Private Equity Exposure	$296
Total Private Equity Assets / Total Plan Assets	3.4%
Total Private Equity Exposure / Total Plan Assets	7.0%
Target Private Equity Allocation % (Current Target)	10.0%

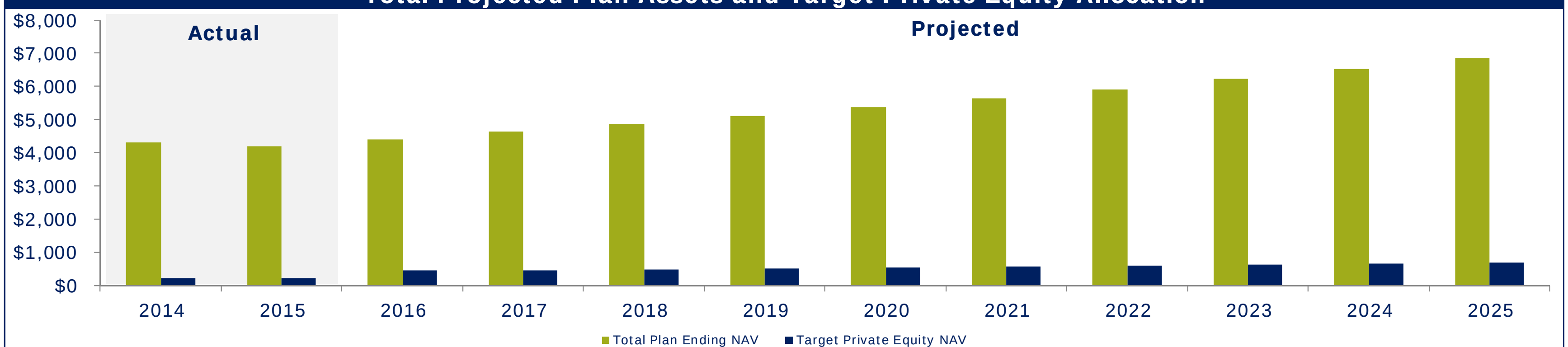
Plan Return Assumptions	2016	2017	2018
Net Growth Rate %	5.00%	5.00%	5.00%

Plan Data as of:	9/30/2015
Private Equity Data as of:	9/30/2015

Total Projected Plan Assets

	Actual		Projected									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Total Plan Net Growth Rate	9.7%	(2.8%)	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Total Plan Beginning NAV	$3,945	$4,328	$4,208	$4,419	$4,639	$4,871	$5,115	$5,371	$5,639	$5,921	$6,217	$6,528
Yearly Net Growth	$384	($120)	$210	$221	$232	$244	$256	$269	$282	$296	$311	$326
Total Plan Ending NAV	$4,328	$4,208	$4,419	$4,639	$4,871	$5,115	$5,371	$5,639	$5,921	$6,217	$6,528	$6,855
Target Private Equity Allocation	5.0%	5.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Target Private Equity NAV	$216	$210	$442	$464	$487	$511	$537	$564	$592	$622	$653	$685

Total Projected Plan Assets and Target Private Equity Allocation



Projected Commitment Pace

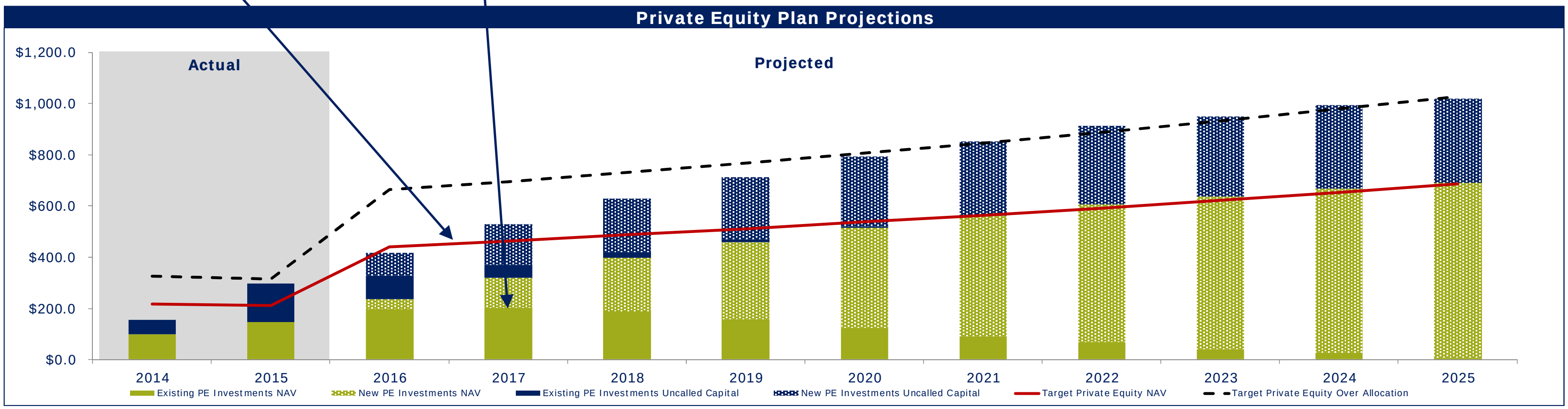
Private Equity Commitments by Vintage Year

Private Equity Commitments by Vintage Year

	Actual			More Certain			Less Certain						
Year	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Total Commitments	$143	$0	$50	$130	$150	$150	$150	$160	$160	$170	$170	$180	$180

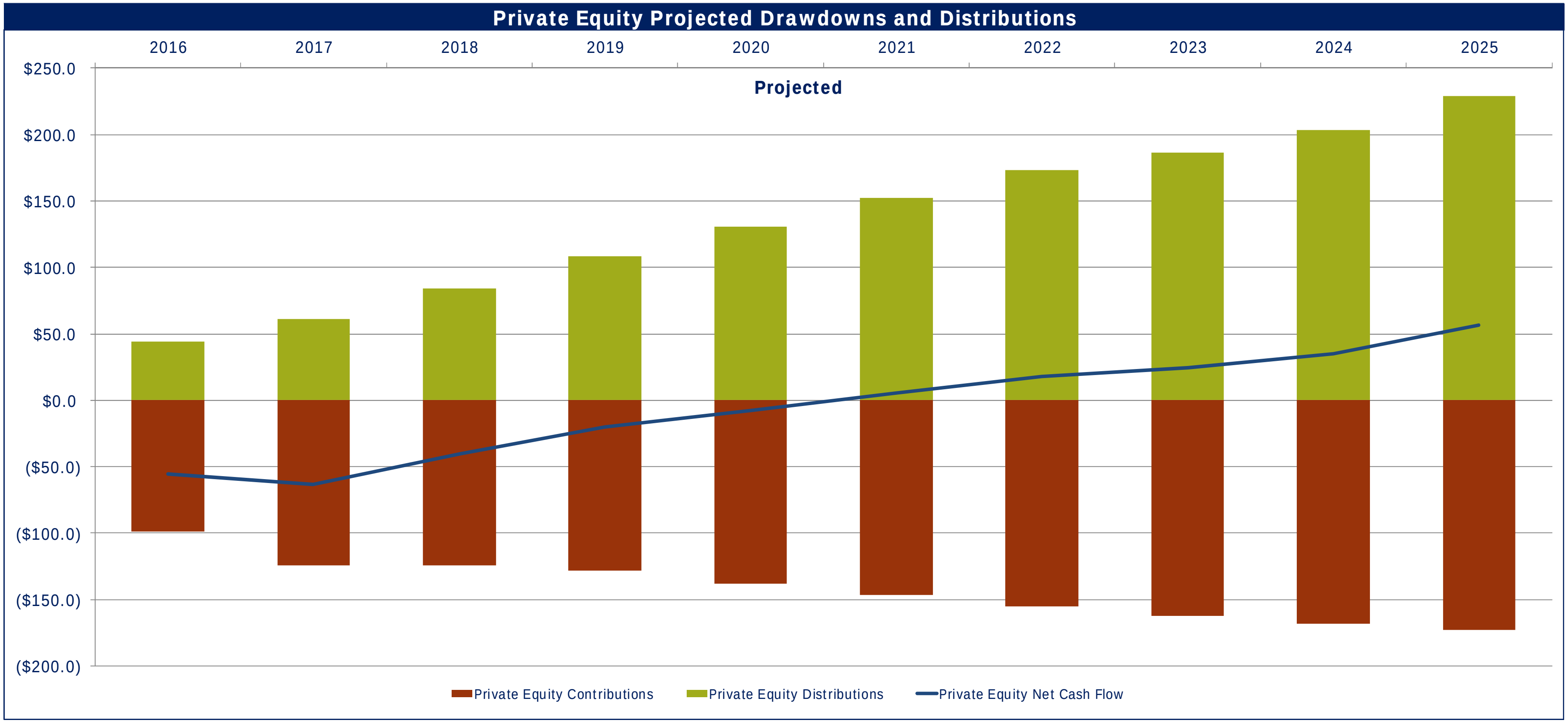
Fund and Private Equity Portfolio Projections

- **Red line** is the 10% target Private Equity allocation based on projected plan total NAV; **Black dashed line** is the 1.5x over-commitment.
- Goal is to keep private equity NAV (**green bars**) plus uncalled capital commitments (**blue bars**), between red line and black dashed line.



			Projected									
Year	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Private Equity NAV	$98	$144	$233	$317	$395	$457	$514	$561	$606	$636	$668	$688
Uncalled Capital Commitments	$54	$152	$183	$208	$234	$255	$278	$291	$305	$313	$325	$332
Private Equity NAV + Uncalled Capital Commitments	$151	$296	$416	$526	$629	$712	$792	$852	$911	$950	$993	$1,020
Target Private Equity NAV	$216	$210	$442	$464	$487	$511	$537	$564	$592	$622	$653	$685
Over-Commitment Pace	1.5x	1.50x	1.50x	1.50x	1.50x	1.50x	1.50x	1.50x	1.50x	1.50x	1.50x	1.50x
Target Private Equity Over Allocation	$325	$316	$663	$696	$731	$767	$806	$846	$888	$933	$979	$1,028
Beginning Plan NAV	$3,945	$4,328	$4,208	$4,419	$4,639	$4,871	$5,115	$5,371	$5,639	$5,921	$6,217	$6,528
Yearly Return	$384	($120)	$210	$221	$232	$244	$256	$269	$282	$296	$311	$326
Ending Plan NAV	$4,328	$4,208	$4,419	$4,639	$4,871	$5,115	$5,371	$5,639	$5,921	$6,217	$6,528	$6,855
Private Equity Percent of Total Plan Assets												
Private Equity NAV	2.3%	3.4%	5.3%	6.8%	8.1%	8.9%	9.6%	10.0%	10.2%	10.2%	10.2%	10.0%
Private Equity Uncalled Capital Commitments	1.2%	3.6%	4.1%	4.5%	4.8%	5.0%	5.2%	5.2%	5.2%	5.0%	5.0%	4.8%
NAV + Uncalled Capital Commitments	3.5%	7.0%	9.4%	11.3%	12.9%	13.9%	14.7%	15.1%	15.4%	15.3%	15.2%	14.9%
Target Private Equity Allocation	5.0%	5.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%

Private Equity Cash Flow Projections



	Projected									
Year	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Private Equity Contributions	($99)	($125)	($124)	($128)	($138)	($147)	($155)	($162)	($168)	($173)
Private Equity Distributions	$44	$61	$84	$108	$130	$152	$173	$186	$203	$229
Private Equity Net Cash Flow	($55)	($63)	($40)	($20)	($8)	$6	$18	$24	$35	$56

VCERA Private Equity Implementation Considerations

Building a Private Equity Program	
Plan Level	• Develop an Investment Policy • Prepare an Annual Investment Plan • Review and Select Investments • Monitor Investments
Investment Considerations	• Vintage year diversification is critical to the program's success • Strategy diversification will impact returns • Manager selection has a dramatic impact upon returns • Investors make a commitment to fund capital over a period of years • Management fees are generally charged on commitments not on the amounts funded; thus, the "J-Curve" impact • Strategy diversification will mitigate the "J-Curve" • Size of private equity commitments will impact the investment vehicle decision – fund of funds versus direct funds

Trustees' Decisions and Implementation Considerations	
Trustee Decisions & Investment Objectives	• Return objectives • Performance benchmarks • Current income and or capital appreciation • Risk and volatility tolerance • Liquidity requirements • Commitment pace - allocations and liquidity schedule of current private equity investments
Investment Thesis	• Short Term Investment Objective • Long-Term Objective • Opportunistic Objective
Investment Strategy	• Investment style: venture, growth, buyout, secondary, debt and special situations • Sector focus: technology, healthcare, consumer, financial, industrial, energy and others • Geographic / market focus: U.S. (domestic), Non-U.S. (international); Global; Regional
Market Opportunity / Vintage Year Considerations	• Acquisition / dispositions should be spread over "vintage" years and capitalize on market opportunities

Investment Framework and Planning: General Implementation Considerations

		Fund of Funds (Legacy or New Manager, P4)	Single Investor Fund (Fund of One)	Advisory Relationship (including discretion-in-a-box)	One-off Manager Searches
Governance	**Internal Decisions**	Staff/Board select or approve recommended manager, possibly choose strategy mix if fund allows customization	Staff/Board select or approve recommended manager, decide or give input to overall portfolio strategy	Staff/Board set portfolio strategy, potentially w/ input from general consultant; Staff/Board may also propose or approve direct funds	Staff/Board approves search criteria, timing , individual fund allocations (subject to available capacity)
	Outsourced Decisions	Once commitment is made, all investment responsibilities are outsourced to manager; Manager acts as fiduciary to pooled vehicle	Once manager and strategy are set, manager has full discretion and handles implementation and admin; Manager is fiduciary to investor	Advisor is responsible for sourcing pipeline, diligence, and fund recommendation or selection (non-discretion/discretion)	Consultant performs manager searches at the direction of board or staff; Staff has fiduciary liability
Implementation	**Sourcing Pipeline and Capacity**	Manager's responsibility, GP may periodically share information with staff	Manager's responsibility, may be consultative with staff	Advisor handles sourcing and negotiating capacity w/ GPs; staff may retain ability to approve or provide input on managers	Limited ability to build a pipeline, searches based on consultant mandate
	Due Diligence	Manager's responsibility	Manager's responsibility	Advisor's responsibility, in consultation with staff	Performed by consultant as directed by staff and/or board
	Portfolio Construction	Manager's responsibility, subsequent to initial investment choices	Manager's responsibility, potentially with input from board or staff	Advisor's responsibility in consultation with staff, roles negotiated at outset depending on level of discretion	Staff and/or board is responsible for decisions about investment pacing and portfolio construction
Administration	**Monitoring and Reporting**	Manager's responsibility, standardized across fund investors	Manager's responsibility, reporting may be customized to suit investor's needs	Monitoring and reporting may or may not be provided by advisor; roles negotiated at outset	Staff responsible for ongoing monitoring and reporting
	Capital Calls and Stock Liquidation	Manager's responsibility, reduced administrative burden to investor	Manager's responsibility, reduced administrative burden to investor	Staff is responsible for handling capital calls, liquidation of stock and distributions	Staff is responsible for handling capital calls, liquidation of stock and distributions
	Legal Support	Manager's responsibility	Manager's responsibility, limited input from board or staff required	Advisor's responsibility, limited input from staff required, or outside counsel handles all legal support	Staff or outside counsel handles all legal support
Fees	**Fees**	Generally based on subscribed/committed capital, or capital committed to investments	Flexible: may be based on capital committed to investments, or NAV	Flexible: may be based on capital committed to investments, or NAV; In-house administration costs	Pay per search or GP analysis; In-house administration costs

Source: Abbott Capital

VCERA Fixed Income Structure

Global Fixed Income Liquidation

- **NEPC recommends that PIMCO and Loomis Sayles actively liquidate the global fixed income portfolios themselves**
  - Complex portfolios that are global in nature and employ derivatives
  - Allowing managers to liquidate portfolios provides alignment of interest to get the best value possible so as to not impact other investors

- **Parametric does not recommend hedging out existing exposure due to costs associated with doing so**

- **As portfolios are liquidated, cash will be sent to Parametric and assets will be overlayed at the Total Fund level based on new asset allocation targets.**

Implementation of Treasuries Allocation

- **BlackRock is an existing manager for the Plan across several passive investment mandates**

- **Proposed BlackRock 20+ Year Treasury Bond Index**
  - 4 bps on the first $100 million
  - 2 bps on the next $400 million
  - 1 bps on assets over $500 million

Or…

- **Parametric is an existing manager for the Plan, responsible for managing the Plan's overlay mandate**

- **Parametric could establish the Plan's exposure to Treasuries via the overlay for a cost that would be similar to what BlackRock has proposed**

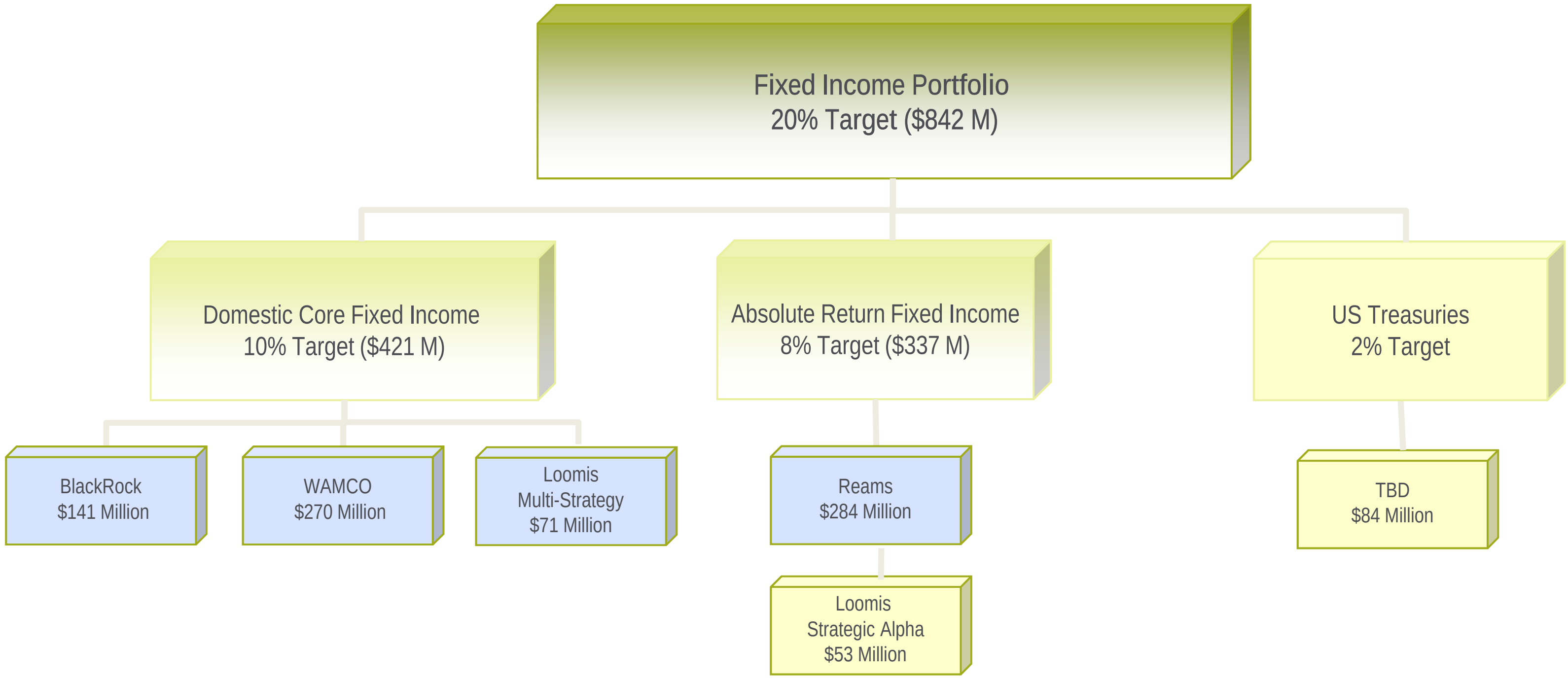
Existing Fixed Income Structure – As of 9/30/2015

Fixed Income Portfolio
24% Target – 24.2% Actual, $1.02 Billion

- **Domestic Core Fixed Income** – 12% Target – 11.5% Actual ($482 M)
  - BlackRock – $141 Million
  - WAMCO – $270 Million
  - Loomis Multi-Strategy – $71 Million
- **Absolute Return Fixed Income** – 7% Target – 6.8% Actual ($284 M)
  - Reams – $284 Million
- **Global Core Fixed Income** – 5% Target – 6.0% Actual ($254 M)
  - Loomis Global FI – $89 Million
  - PIMCO Global FI – $123 Million
  - Loomis Strategic Alpha – $42 Million

- **Eliminate Global Core Fixed Income allocation due to negative real yields in most developed countries abroad**
- **Barbell portfolio risk with defensive allocations to withstand range of outcomes**
- **Long Treasuries to balance structural shift to Absolute Return fixed income strategies**
  - Flexibility of Absolute Return strategies allows managers to dynamically allocate risk and take advantage of price dislocations across fixed income markets
  - Offers greater exposure to non-core sectors in a relatively benchmark agnostic approach
  - Targets high risk-adjusted returns versus Core Fixed Income
  - In liquidity constrained market, a flexible approach is preferred

Recommended Fixed Income Structure – As of 9/30/2015



Appendix:
Private Equity Market Update

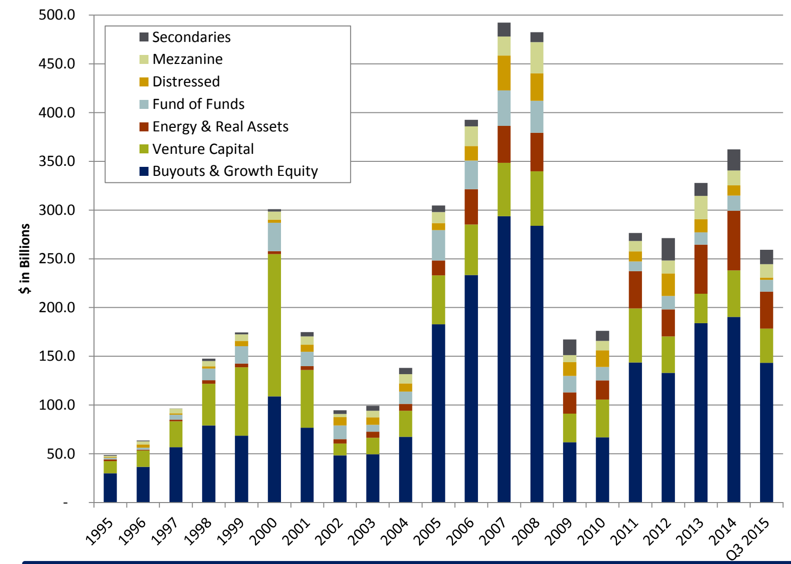
General Market Thoughts

- **Debt opportunities have normalized**
  - Rapid fundraising pace continues for high demand managers
  - However pace of fundraising did slow slightly in Q3
  - First and final closes following short fundraises are still common
  - Energy and real assets commitments have increased
  - Distressed fundraising well below prior levels
  - Asian private equity commitments have slowed
- **Private equity fundamentals**
  - US buyout deal value declined by 15% in Q3
  - Buyout valuations and transaction debt levels at pre-crisis high levels
  - Venture deal value increases to post-2000 record levels
  - Late stage investing stays high
  - Buyout exit volumes are still historically high but Venture exits are slowing
  - Mezzanine strategies have headwinds to targeted fund returns
- **Historical returns**
  - PE returns have generally been strong across strategies
  - Outside of energy, PE valuations have generally not adjusted for current public market dynamics

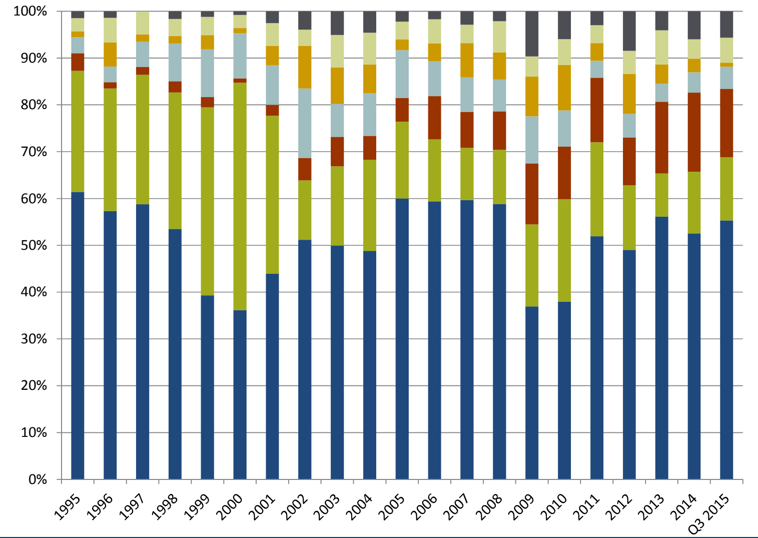
Private Equity Fundraising Through Q3 2015 Relatively Steady with 2014 but Slowdown in Q3

- **$74.6 billion was raised by new funds in Q3 2015, down from the prior quarter**
  - Represents a 25% decline from the $101.5 billion raised in Q2 2015, resulting from public equity market volatility and increased economic uncertainties
  - Overall fundraising pace through first three quarters is 72% of amount of new PE funds raised in 2014
  - A slow-down in fundraising may be helpful to reduce capital overhang & improve return outlook
- **Buyout and growth equity funds raised $45.3 billion (61%) in the 3rd quarter of 2015**
  - Through the first nine months of 2015, $143.4 billion of buyout & growth equity funds were raised
  - Annual pace is in line with the $180-190 billion that was raised in each of the past two years
- **Venture Capital raised $10.0 billion (13%) in Q3**
  - VC fundraising as a percent of total new PE funds is in line with historical post-dot com levels
- **Energy funds raised $7.8 billion (10%) in Q3**
  - Investors continuing to make tactical allocations in light of fall off in oil prices during last year
- **Distressed fundraising well below prior levels**
  - Despite economic uncertainties, only $2.2 billion of new distressed categories have been made in first nine months of 2015 (approximately 75% lower than 2014)

Global Private Equity Funds Raised



Allocation of Global Private Equity Funds Raised

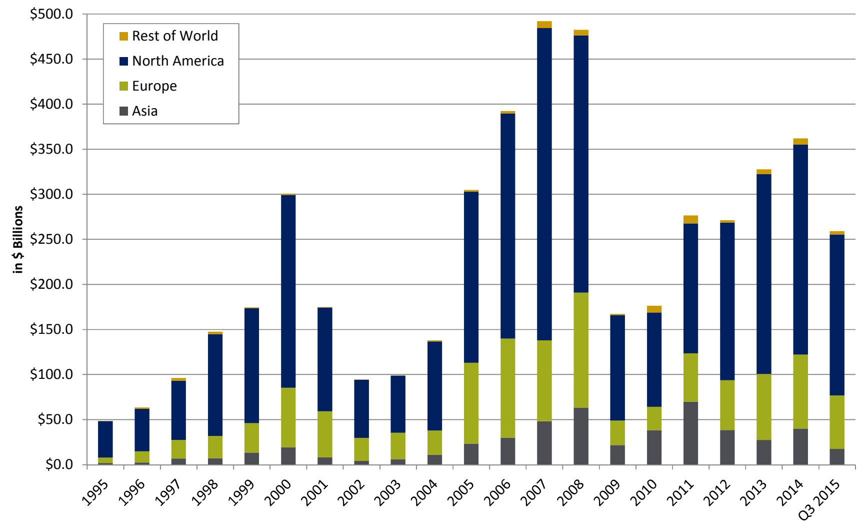


Source: Thomson Reuters

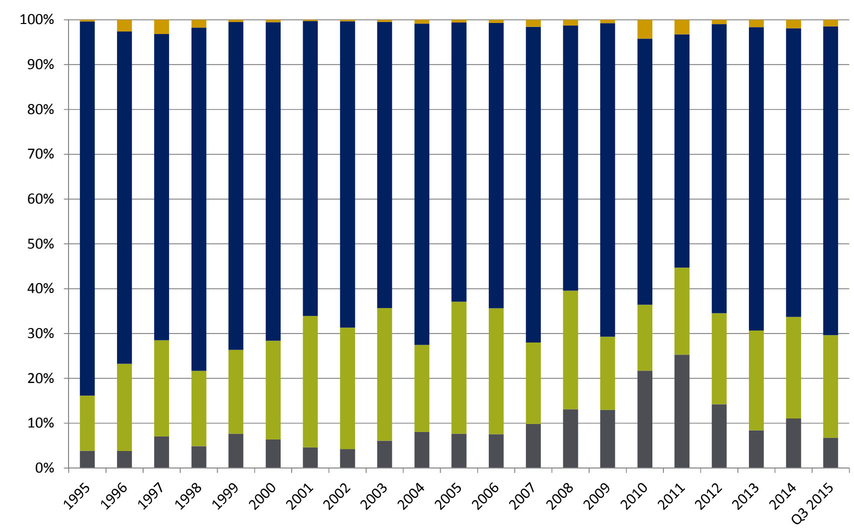
Private Equity Fundraising Through Q3 2015 Relatively Steady with 2014 but Slowdown in Q3

- **$179 billion of new commitments were to North American funds in the first nine months of 2015**
  - North American PE commitments are inline with last year, despite overall global PE fundraising slowing in Q3 2015
- **$59 billion to European managers comprised 23% of all new PE commitments through Q3 2015**
  - Annualized pace of new European commitments is slightly behind 2014
  - Fifteen pan-European buyout managers with closes on over $1 billion each raised over half of 2015 total
  - Approximately 70% of European funds raised were based in the United Kingdom
- **Asian private equity commitments slowed down in the first nine months of 2015**
  - $17 billion raised in 2015 represents 7% of total funds raised; down from 11% in 2014
  - At current pace, Asian PE commitments could be at lowest levels since 2009 and well below $40 billion annual average of the past 10 years
- **Rest of world PE commitments are also down in 2015, but not as much as Asia**

Global Private Equity Funds Raised



Allocation of Global Private Equity Funds Raised



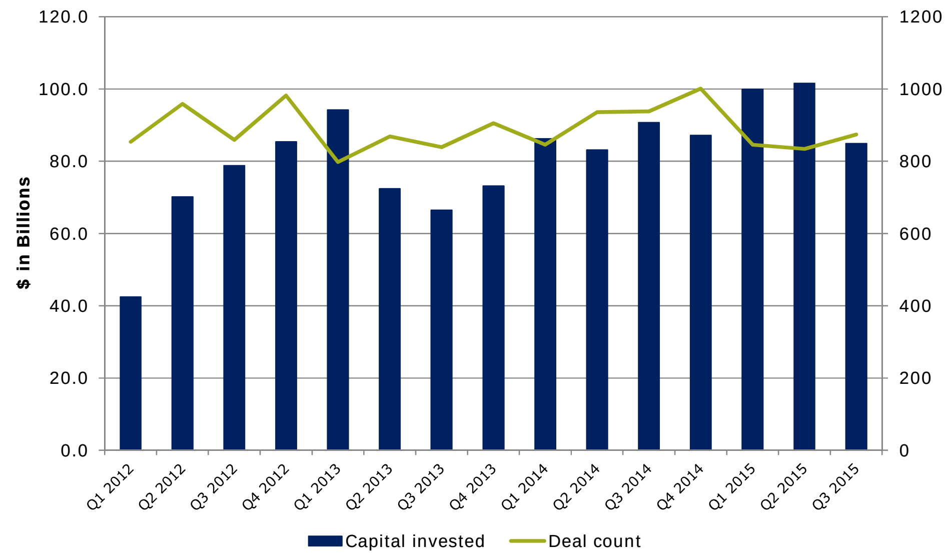
Source: Thomson Reuters

New Buyout Deal Volumes are Moderating against Backdrop of High Corporate M&A Activity

- **US buyout deal value declined by 15% in Q3 2015**
  - However, US buyout deal values still near highest levels since 2007
  - Cash and equity-rich corporations driving strong M&A activity & higher valuations
  - Buyout capital overhang is estimated to have increased to $487 billion due to lower amounts invested

- **Venture deal value increases to post-2000 record levels as late stage investing stays high**
  - Two year trend of higher amounts invested in venture capital continued through Q3 2015
  - However, number of new deals has been declining over the past 1-1/2 years, as larger late stage deals are receiving a greater portion of VC funding
  - There are an estimated 140 VC-backed companies with $1.0+ billion valuations (“Unicorns”); this is up from 75 one year ago

Global Buyout & Growth Equity Deals

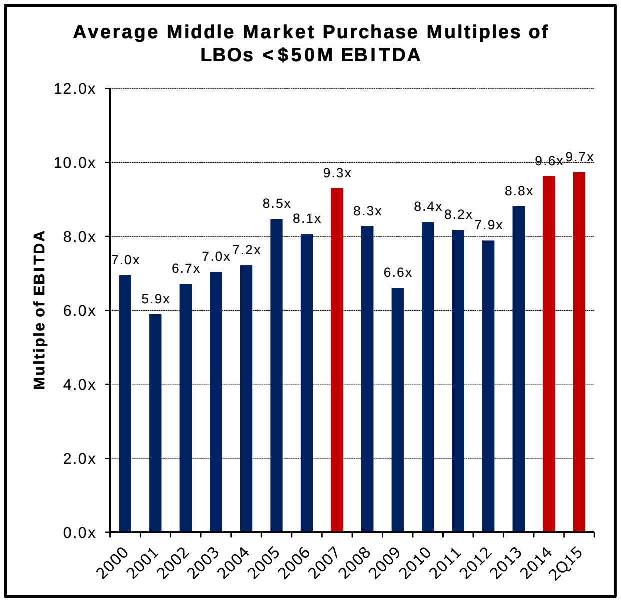


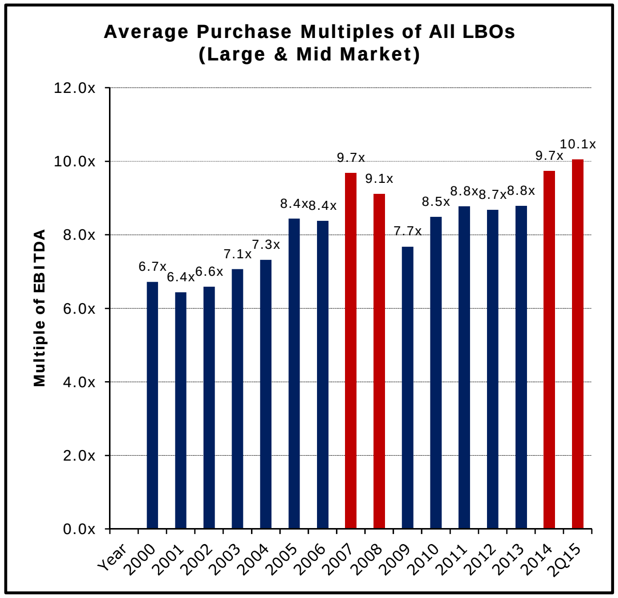
US Venture Capital Deals

Source: Buyouts: Preqin; Venture: PwC/NVCA MoneyTree™ Report based on data from Thomson Reuters

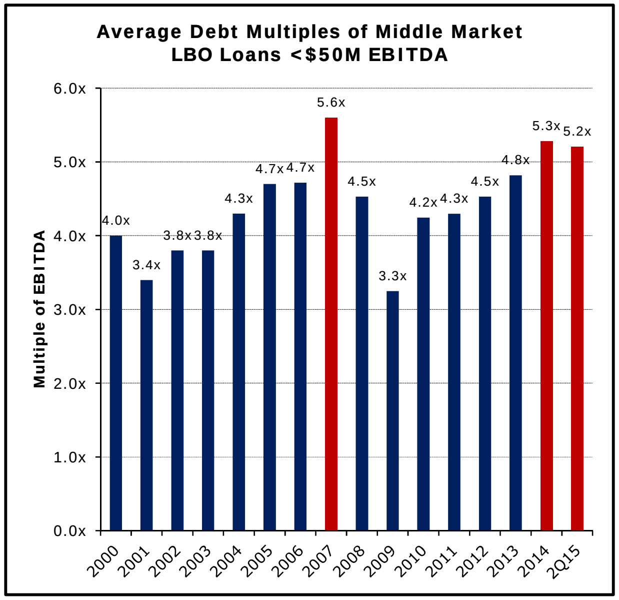
Buyout Valuations and Transaction Debt Levels Continue at Pre-Crisis High Levels

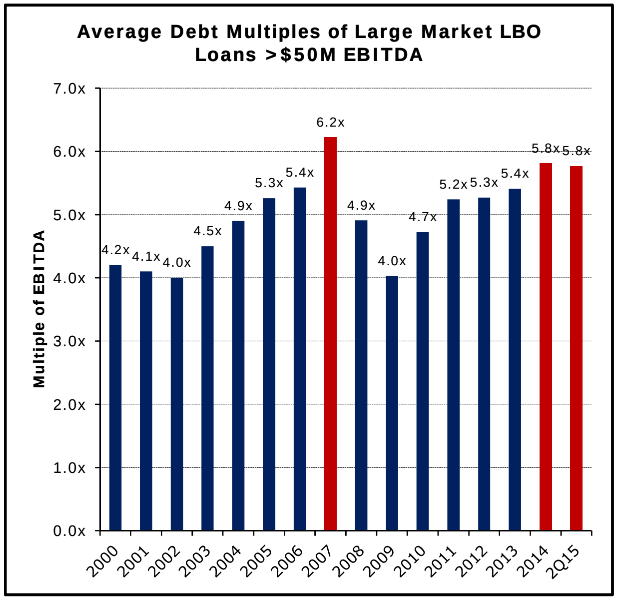
- **US buyout purchase multiples exceeded 10x EBITDA through the first half of 2015**
  - However, public equity market volatility may reduce purchase multiples in the remainder of the year
  - High multiples have not caused a pause for Strategic M&A but have led to a decline in the volume of new PE led deals





- **High yield markets are providing ample debt to support buyout deals**
  - Debt multiples have been exceeding 5x EBITDA
  - Mid-market debt levels have caught up with large market deals in past two years
  - Covenant-lite terms are prevalent across deal sizes





Source: S&P Capital IQ Leveraged Commentary Data

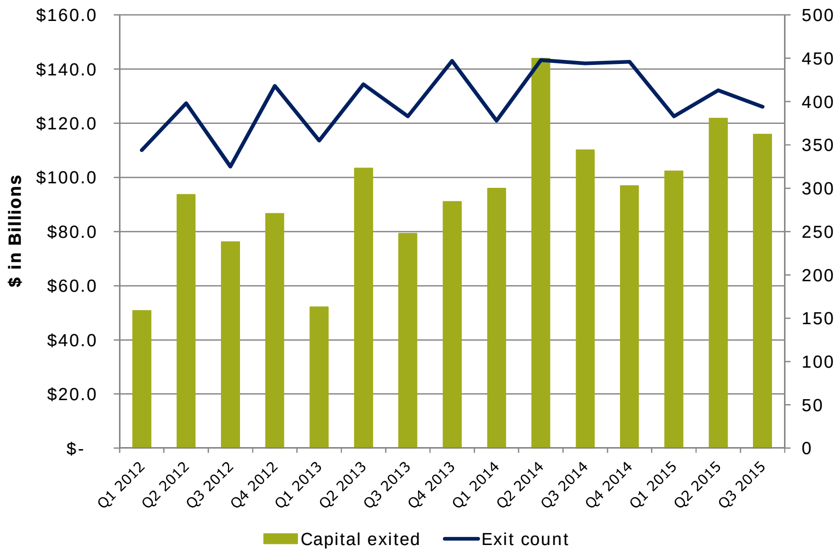
Buyout Exit Volumes in 2015 are still Historically High, but Venture Exits are Slowing

- **Buyout exits values and volume have been at elevated levels for the past three years**
  - Secondary buyouts (sale of a company from one firm to another) continue to account for approximately 30% of all exits
  - Trade sales rebounded to highest volume in past four years to nearly 60% of total exits as corporate M&A continues at post-crisis record levels
  - IPO volume of buyout deals declined as market volatility put several public offerings temporarily on hold

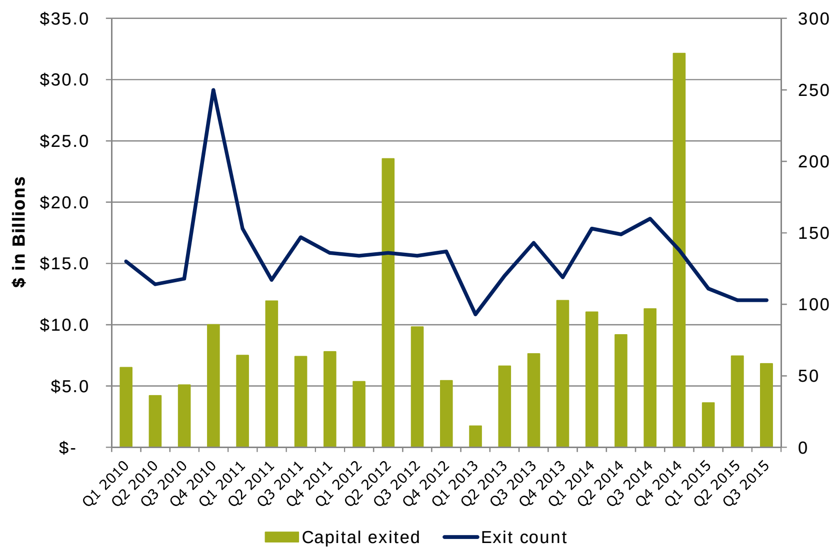
- **Venture IPO volume also pauses as public equity markets drop**
  - 13 venture-backed companies held IPOs during the quarter
  - Life science IPOs remain dominant, representing 10 of the 13 listings

- **Venture exits through M&A have been declining in 2015**
  - 258 venture-backed M&A exits occurred in the first 9 months of 2015; on pace to be 30% below 2014 volumes
  - Exit slowdown is contributing to rising number of $1B+ "unicorn" valuations

Global Buyout & Growth Equity Exits



US Venture Capital Exits



Source: Buyouts: Preqin; Venture: aggregate of IPO and disclosed M&A exits from PwC/NVCA MoneyTree™ Report based on data from Thomson Reuters

Global private equity returns were up 4.8% in Q2 2015, and up 12.6% over the past 10 years

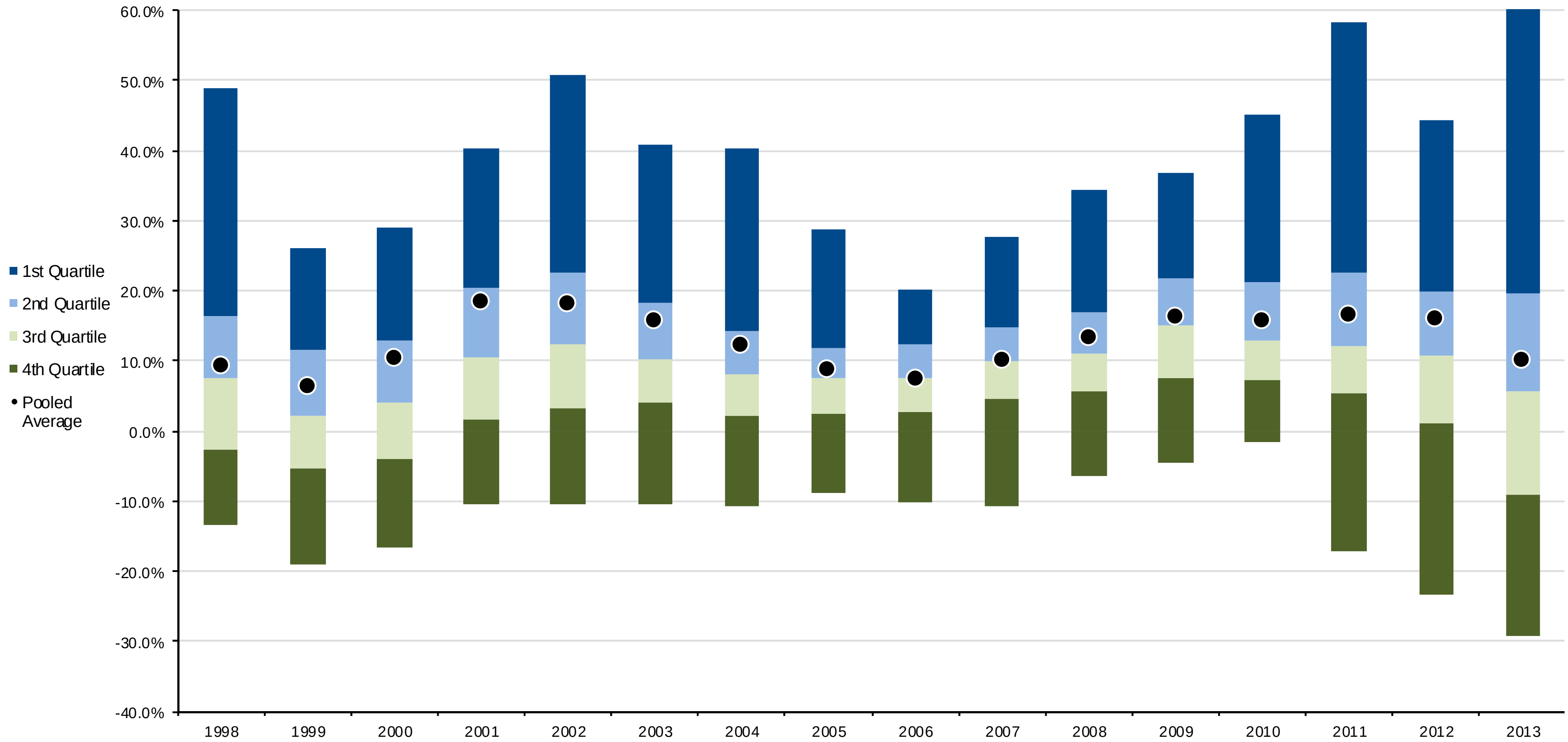
- **Global PE generated a 9.2% return for the past year ended Q2 2015**
  - Asia and Europe led the way with US PE lagging
- **Buyout returns were 8.1% for the past year ended Q2 2015**
  - Larger size = higher correlation to public markets
  - Smaller funds have outperformed over long term
- **Venture capital returns were 26.9% for the past year ended Q2 2015**
  - Highest of any strategy
  - Long-term return lags other strategies
- **10-year return for global PE is 12.6%**
  - Outperforming public equity indices over the long term across all geographies

All Private Equity	Q2 2015	1 Year	3 Year	5 Year	7 Year	10 Year
Global	4.8%	9.2%	14.9%	14.7%	8.6%	12.6%
United States	2.7%	12.0%	14.9%	15.5%	9.7%	13.0%
Europe	8.3%	-1.9%	10.7%	12.3%	3.3%	12.5%
Asia	5.0%	21.2%	17.2%	15.1%	11.4%	14.7%
Global by Strategy	**Q2 2015**	**1 Year**	**3 Year**	**5 Year**	**7 Year**	**10 Year**
Buyouts	5.3%	8.1%	15.3%	15.2%	8.3%	13.4%
Small (<$500M)	4.0%	5.3%	10.7%	12.5%	7.6%	15.0%
Medium ($500M-$3.0B)	4.0%	6.4%	12.7%	13.8%	7.9%	13.4%
Large & Mega (>$3.0B)	5.9%	9.0%	16.8%	16.0%	8.4%	12.8%
Growth Equity	5.0%	11.1%	15.4%	14.8%	10.3%	13.4%
Venture Capital	6.8%	26.9%	21.4%	19.1%	11.2%	11.5%
Mezzanine	3.6%	8.5%	11.4%	11.9%	9.1%	10.6%
Distressed	1.6%	4.2%	12.7%	11.9%	9.1%	10.7%
Energy	-0.4%	-15.9%	2.0%	8.1%	3.3%	13.0%
Secondaries	5.1%	10.9%	13.4%	14.5%	8.5%	12.7%
Primary FOFs	5.1%	12.5%	14.0%	13.9%	7.6%	10.6%
Public Indices	**Q2 2015**	**1 Year**	**3 Year**	**5 Year**	**7 Year**	**10 Year**
Russell 3000	0.1%	7.3%	17.7%	17.5%	9.7%	8.2%
MSCI EAFE	0.8%	-3.8%	12.5%	10.0%	2.4%	5.6%
MSCI EM	0.8%	-4.8%	4.1%	4.0%	1.2%	8.5%
Barclays High Yield	0.0%	-0.4%	6.8%	8.6%	9.4%	7.9%

Source: Pooled average and quartile IRRs from Cambridge Associates as of June 30, 2015, data as of 11/5/2015; Bloomberg for public indices

Global Private Equity IRRs by Vintage Year as of Q2 2015

IRR Quartile Analysis



Source: Pooled average and quartile IRRs from Cambridge Associates as of June 30, 2015, data as of 11/5/2015; performance of vintage years 2014 - 2015 not yet meaningful

NEPC Views of Current Private Equity Investment Landscape – Equity Oriented Strategies

Strategy	Viewpoints
Buyouts / Growth Equity	• With transaction multiples high, focus on those managers that have demonstrated an ability to remain disciplined on price • Seek managers with operational expertise, sector focus and which have demonstrated the ability to drive top and bottom line growth through improved operations • Near term USD strengthening followed by EURO recovery could lead to FX gains on new EURO PE commitments • Asia and emerging market PE environment reflects attractive relative valuations to the US with higher expected growth; consumer and rising middle class themes should benefit from major country reforms
Venture Capital	• De-emphasize traditional VC due to high valuation environment and long exit horizon • Continue relationships with out-performing managers and opportunistically build relationships • Better risk adjusted returns may exist via venture secondaries or late stage venture/growth equity investments
Secondaries	• With record volumes of transactions, increasing use of fund leverage and rising public equity valuations, opportunities to acquire portfolios at large discounts are shrinking • Invest with managers can minimize competition through complexity or small transactions for more attractive pricing
Distressed	• Distressed turnarounds or special situation funds can capitalize on the choppiness of the economic recovery and should be able to perform reasonably well in all economic cycles • Focus on those managers that have demonstrated an ability to remain disciplined on price • Consider managers who focus on smaller companies that may have difficulty financing their way out of problems
Energy	• Ongoing oil price dislocation provides opportunity to invest in energy PE at more attractive valuations and benefit from long-term price rebound • Potential for near term financial distress from highly levered businesses or underperforming assets should create new investment opportunities at attractive terms or valuations

NEPC Views of Current Private Equity Investment Landscape – Credit Oriented Strategies

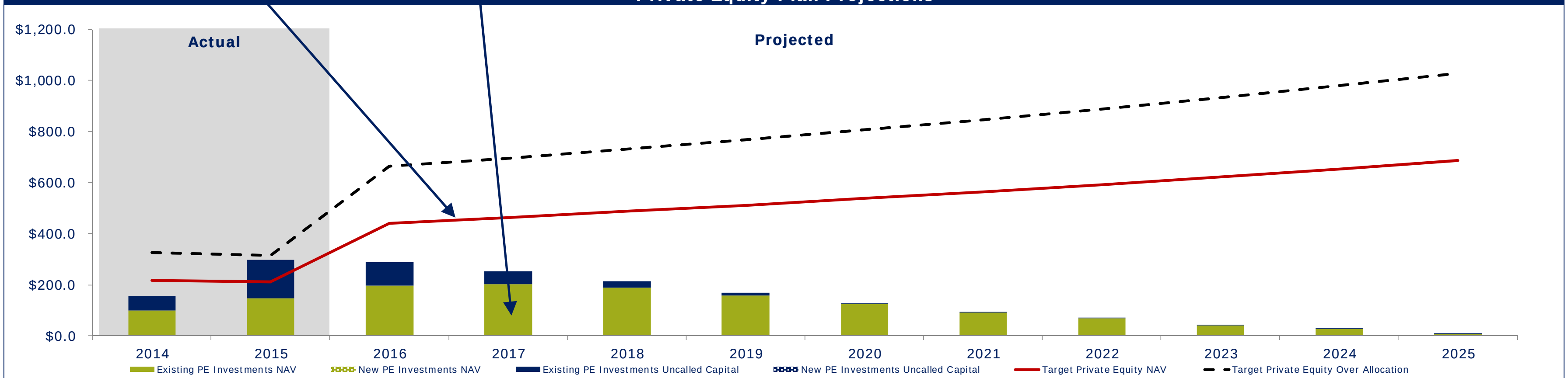
Strategy	Viewpoints
Distressed	• With leveraged loans continuing to trade close to par coupled with a distressed ratio of ~1% (% of loans trading below 80% of par) , continue to de-emphasize trading-focused strategies • Focus on multi-strategy managers to capitalize on choppy economic recovery or control oriented managers who can flex to buyout strategies should economic growth improve • Continued low oil prices and/or rising interest rates may lead to financial distress in over levered energy businesses and related service companies
Mezzanine	• Sourcing is a key differentiator as deal flow for many mezz funds are challenged by active high yield and senior debt/unitranche lenders • Prioritize experienced managers that have transaction flexibility across the capital structure and low historic loss rates • Focus on managers who have rationalized fund economics to reflect competitive subordinated lending environment and lower return expectations
Direct Lending	• Yields remain relatively attractive to traditional fixed income, but credit underwriting standards are loosening as more capital is raised for lending funds • Relative pricing inefficiencies with the US market make European middle market more attractive. Seek managers that have strong credit skills, deep relationship networks for sourcing and multi-jurisdictional transaction experience • For US exposure, focus on managers that are originating unsponsored transactions or sourcing sponsored transactions from less efficient channels
Opportunistic Credit	• Emphasize managers with flexible and opportunistic strategies allowing for investments in an assortment of securities, assets, and situations, and allowing them to dynamically react to changing market conditions • Managers who have a global footprint and can root out credit opportunities in complex situations should be able to generate attractive returns in the current low yield environment

Appendix:
“No More Commitments” Scenario

Fund and Private Equity Portfolio Projections – "No More Commitments" Scenario

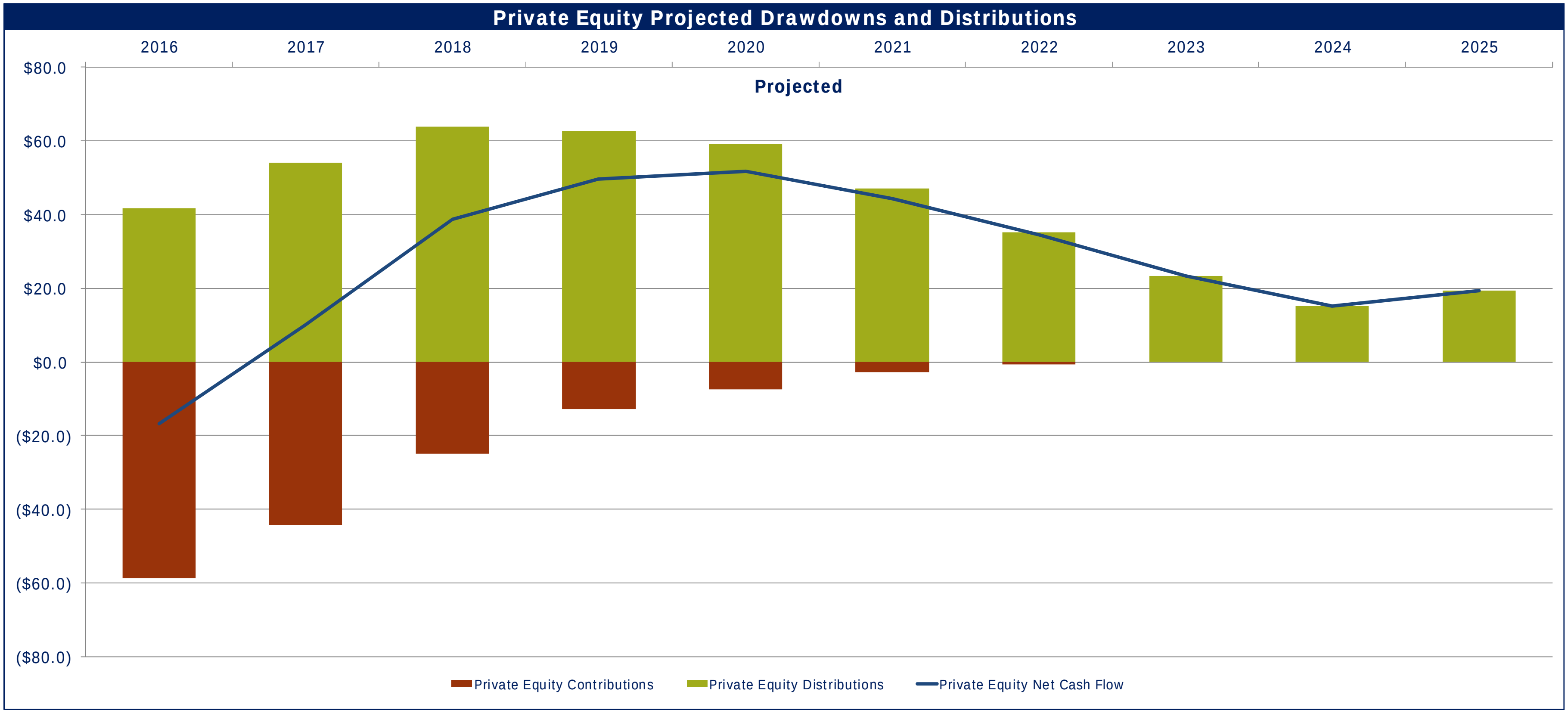
- **Red line** is the 10% target Private Equity allocation based on projected plan total NAV; **Black dashed line** is the 1.5x over-commitment.
- Goal is to keep private equity NAV (**green bars**) plus uncalled capital commitments (**blue bars**), between red line and black dashed line.

Private Equity Plan Projections



			Projected									
Year	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Private Equity NAV	$98	$144	$194	$201	$186	$155	$121	$88	$65	$39	$23	$4
Uncalled Capital Commitments	$54	$152	$93	$49	$24	$11	$4	$1	$0	$0	$0	$0
Private Equity NAV + Uncalled Capital Commitments	$151	$296	$288	$250	$210	$166	$125	$89	$65	$40	$23	$4
Target Private Equity NAV	$216	$210	$442	$464	$487	$511	$537	$564	$592	$622	$653	$685
Over-Commitment Pace	1.5x	1.50x	1.50x	1.50x	1.50x	1.50x	1.50x	1.50x	1.50x	1.50x	1.50x	1.50x
Target Private Equity Over Allocation	$325	$316	$663	$696	$731	$767	$806	$846	$888	$933	$979	$1,028
Beginning Plan NAV	$3,945	$4,328	$4,208	$4,419	$4,639	$4,871	$5,115	$5,371	$5,639	$5,921	$6,217	$6,528
Yearly Return	$384	($120)	$210	$221	$232	$244	$256	$269	$282	$296	$311	$326
Ending Plan NAV	$4,328	$4,208	$4,419	$4,639	$4,871	$5,115	$5,371	$5,639	$5,921	$6,217	$6,528	$6,855
Private Equity Percent of Total Plan Assets												
Private Equity NAV	2.3%	3.4%	4.4%	4.3%	3.8%	3.0%	2.3%	1.6%	1.1%	0.6%	0.4%	0.1%
Private Equity Uncalled Capital Commitments	1.2%	3.6%	2.1%	1.1%	0.5%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
NAV + Uncalled Capital Commitments	3.5%	7.0%	6.5%	5.4%	4.3%	3.3%	2.3%	1.6%	1.1%	0.6%	0.4%	0.1%
Target Private Equity Allocation	5.0%	5.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%

Private Equity Cash Flow Projections – “No More Commitments” Scenario



	Projected									
Year	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Private Equity Contributions	($59)	($44)	($25)	($13)	($7)	($3)	($1)	$0	$0	$0
Private Equity Distributions	$42	$54	$64	$63	$59	$47	$35	$23	$15	$19
Private Equity Net Cash Flow	($17)	$10	$39	$50	$52	$44	$35	$23	$15	$19

Appendix:
Disclaimers and Disclosures

Disclaimer

- **Past performance is no guarantee of future results.**
- **The opinions presented herein represent the good faith views of NEPC as of the date of this report and are subject to change at any time.**
- **Information used to prepare this report was obtained directly from the investment managers or custodians, and market index data was provided by other external sources. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.**
- **This report may contain confidential or proprietary information and may not be copied or redistributed to any party not legally entitled to receive it.**

Pacing Plan Disclaimers

- NEPC's private markets pacing analysis projects a potential level of future assets and cash flows for a single scenario based on a series of assumptions. This analysis is intended to help estimate future exposure levels. It is not a guarantee of future cash flows, appreciation or returns.
- The timing and amounts of projected future cash flows and market values of investments could vary significantly from the amounts projected in this pacing analysis due to manager-specific and industry-wide macroeconomic factors.
- Estimates of projected cash flows and market values for existing private markets commitments were made at the Fund level and do not incorporate any underlying portfolio company projections or analysis.
- The opinions presented herein represent the good faith views of NEPC as of the date of this report and are subject to change at any time.
- Data used to prepare this report was obtained directly from the investment managers and other third parties. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.
- This report may contain confidential or proprietary information and is intended only for the designated recipient(s). If you are not a designated recipient, you may not copy or distribute this document.

It is important that investors understand the following characteristics of non-traditional investment strategies including hedge funds and private equity:

1. **Performance can be volatile and investors could lose all or a substantial portion of their investment**
2. **Leverage and other speculative practices may increase the risk of loss**
3. **Past performance may be revised due to the revaluation of investments**
4. **These investments can be illiquid, and investors may be subject to lock-ups or lengthy redemption terms**
5. **A secondary market may not be available for all funds, and any sales that occur may take place at a discount to value**
6. **These funds are not subject to the same regulatory requirements as registered investment vehicles**
7. **Managers may not be required to provide periodic pricing or valuation information to investors**
8. **These funds may have complex tax structures and delays in distributing important tax information**
9. **These funds often charge high fees**
10. **Investment agreements often give the manager authority to trade in securities, markets or currencies that are not within the manager's realm of expertise or contemplated investment strategy**

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

1190 South Victoria Avenue, Suite 200
Ventura, CA 93003-6572

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http://www.ventura.org/vcera

December 21, 2015

Board of Retirement
Ventura County Employees' Retirement Association
1190 South Victoria Avenue, Suite 200
Ventura, CA 93003

SUBJECT: SPRUCEGROVE PERFORMANCE BENCHMARK CHANGE FROM MSCI EAFE INDEX TO MSCI ACWI ex- U.S.

Dear Board Members:

As a result of its review of Sprucegrove Investment Management, NEPC has recommended changing Sprucegrove's benchmark from MSCI EAFE to MSCI ACWI ex-U.S. As described in the attached NEPC report, the recommended benchmark is a more appropriate reflection of the manager's style. Staff concurs with NEPC's analysis and recommendation, and thus recommends that the Board approve the requested benchmark change.

RECOMMEND: APPROVE THE SPRUCEGROVE PERFORMANCE BENCHMARK CHANGE FROM MSCI EAFE INDEX TO MSCI ACWI ex- U.S.

Sincerely,

Dan Gallagher
Chief Investment Officer

NEPC, LLC

To: VCERA Board of Trustees

From: Allan Martin, Partner, Dan LeBeau, Consultant, and Tony Ferrara, CAIA, Senior Analyst

Date: December 21, 2015

Subject: Sprucegrove International Equities Review Memo

Recommendation

NEPC does not recommend any action related to Sprucegrove Investment Management Ltd. ("Sprucegrove") at this time. We do recommend that the Board consider changing the benchmark for the strategy from the MSCI EAFE Index (Net) to the MSCI ACWI ex-U.S. (Net).

It should be noted that Sprucegrove currently has a due diligence status of 'HOLD' at NEPC due to two changes to the investment team over the past 14 months. Please see the last page of this memo for NEPC's Due Diligence Recommendation Key.

Background

At the Board meeting held on November 16, 2015, the Board requested an evaluation of Sprucegrove due to an extended period of underperformance relative to its primary benchmark, the MSCI EAFE Index. Sprucegrove has been managing the Sprucegrove International Equities strategy for the Ventura County Employees' Retirement Association ("VCERA" or the "Plan) since March 2002. As of November 30, 2015, VCERA had approximately $170 million invested in the strategy, representing approximately 3.9% of plan assets. In aggregate, Sprucegrove currently manages approximately $13 billion in the strategy and the strategy is currently closed to new investors.

While the philosophy and process employed to construct the portfolio remain intact, there have been some changes to the team responsible for managing the portfolio over the past 14 months. While we ultimately believe that one of the changes was in the best interest of the firm/strategy and the other is not overly impactful to the team's process, we continue to monitor Sprucegrove for additional departures to determine whether or not any action is warranted.

On September 1, 2014, NEPC was notified that Co-President/Co-Portfolio Manager Peter Ellement resigned from the firm. Sprucegrove did not provide transparency into the exact reason for the departure other than there appeared to be some level of conflict between Mr. Ellement and other members of the firm. Shirley Woo was joined by Arjun Kumar as the Co-Portfolio Managers on the International Equities strategy going forward, and Craig Merrigan became the sole President of the firm. Sprucegrove and Mr. Ellement have since come to an agreement on a financial payout.

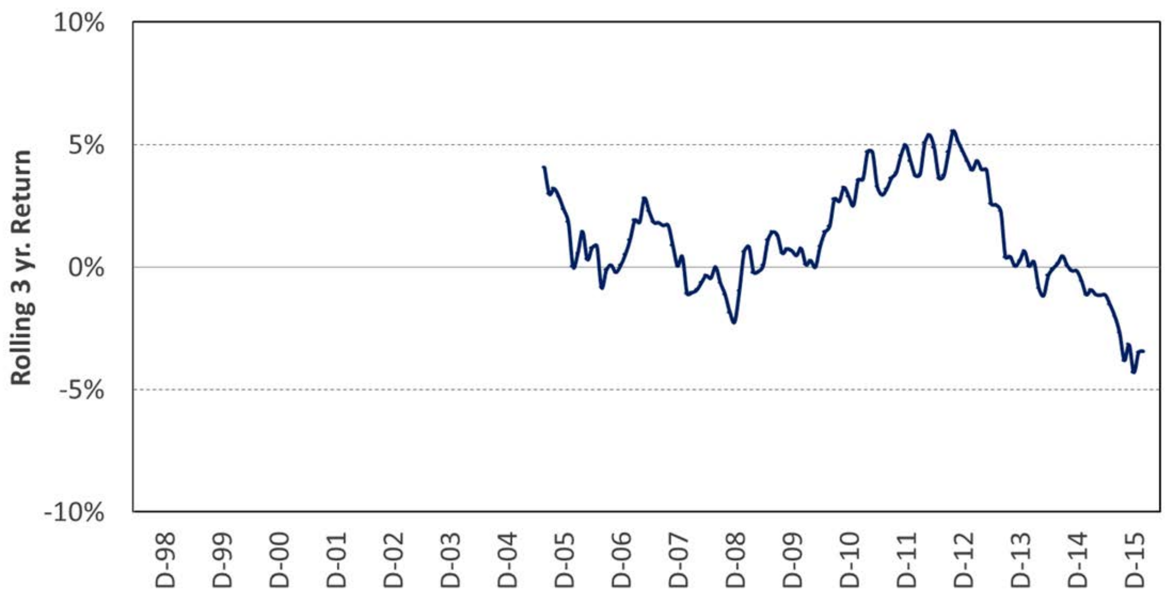
On September 14, 2015, NEPC was notified that Research Director and Portfolio Manager Alanna Marshall Lizzola had left the firm. Sprucegrove stated that they will not look outside of the firm for a permanent replacement of Ms. Lizzola, and her role as Research Director has been filled by Sabu Metha on an interim basis. Sabu is the firm's longest tenured analyst. Ms. Lizzola was an equity holder in the firm, and plans are in place to buy out her stake and redistribute the ownership to remaining partners. Shirley Woo and Arjun Kumar remain the co-Portfolio Managers for the International Equities strategy.

Performance

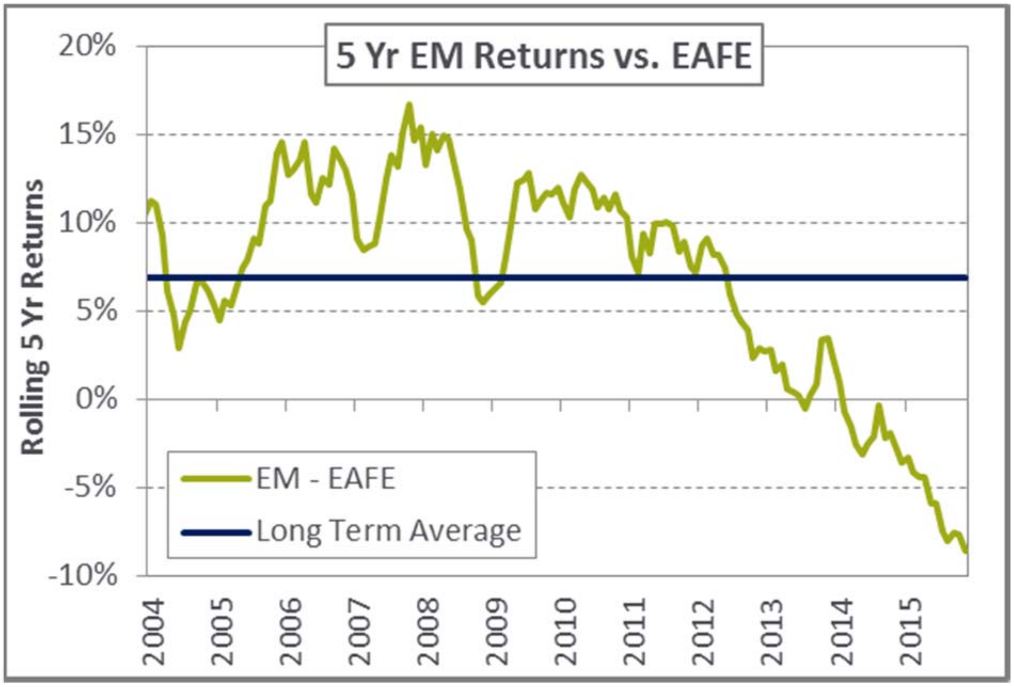
Sprucegrove's performance struggles over the past year have resulted in the portfolio now trailing its primary benchmark, the MSCI EAFE Index, net of fees, over all time periods reported as of September 30, 2015, except for the 10-year period and since inception. The strategy has outperformed the index by 50 bps and 120 bps, net of fees, over the last 10 years and since inception, respectively.

Sprucegrove (Net) vs. MSCI EAFE as of 9/30/2015

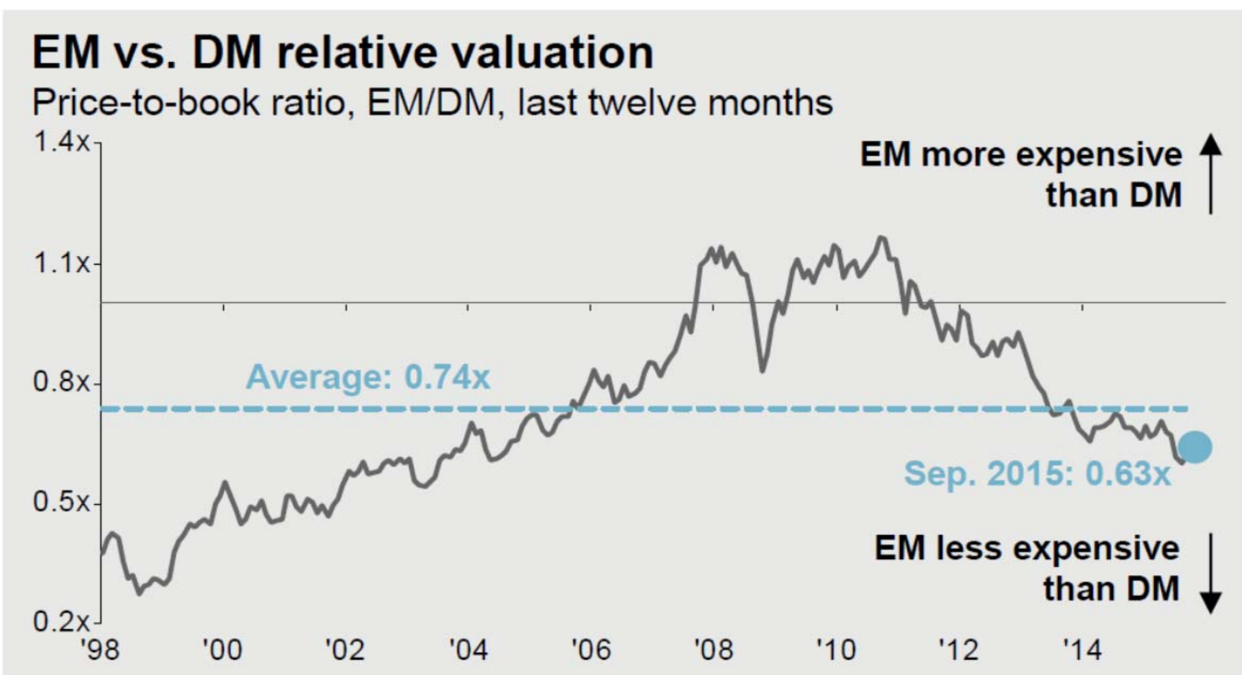
Exhibit 1



The portfolio's underperformance is largely explained by its allocation to emerging markets equities relative to the index. The MSCI EAFE Index does not include any exposure to emerging markets equities, while Sprucegrove can invest up to 20% of the portfolio's assets in emerging markets equities, and the portfolio has consistently maintained an average exposure of approximately 10% to emerging markets equities over time. This, coupled with the fact that Sprucegrove is a 'value' manager, has contributed significantly to the underperformance of the portfolio over the past eighteen months as not only have emerging markets equities struggled relative to developed markets, but value has struggled relative to growth within emerging markets (see below).



Source: MSCI, Bloomberg



Source: JP Morgan Asset Management

Performance Comparison
Sprucegrove (Net) vs. MSCI EAFE and MSCI ACWI ex-U.S. as of 9/30/2015

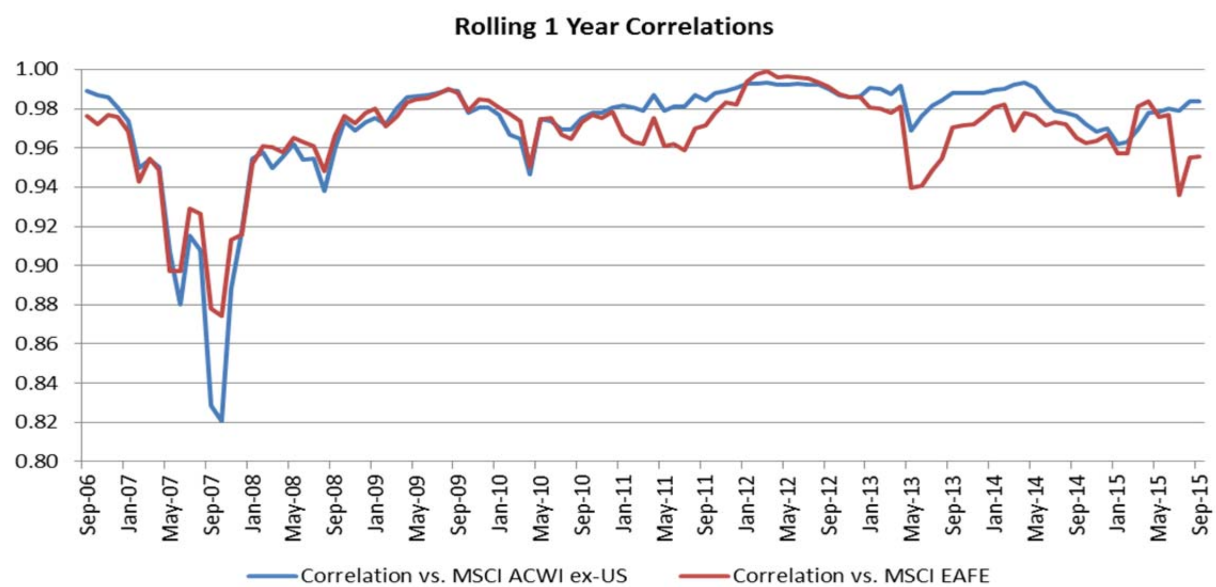
	Qtr	CYTD	1 Yr	3 Yr	5 Yr	10 Yr	Inception
Sprucegrove	-12.2%	-10.9%	-13.4%	2.2%	2.9%	3.5%	6.6%
MSCI EAFE	-10.2%	-5.3%	-8.7%	5.6%	4.0%	3.0%	5.4%
Excess Return	-2.0%	-5.6%	-4.7%	-3.4%	-1.1%	0.5%	1.2%

	Qtr	CYTD	1 Yr	3 Yr	5 Yr	10 Yr	Inception
Sprucegrove	-12.2%	-10.9%	-13.4%	2.2%	2.9%	3.5%	6.6%
MSCI ACWI ex-U.S.	-12.2%	-8.6%	-12.2%	2.3%	1.8%	3.0%	5.8%
Excess Return	0.0%	-2.3%	-1.2%	-0.1%	1.1%	0.5%	0.8%

The MSCI ACWI ex-U.S. index includes an allocation to emerging markets equities that has been in the range of 10%-20% historically. Below, we have provided some data to show how the Sprucegrove strategy compares to the MSCI EAFE and the MSCI ACWI ex-U.S.

Sprucegrove Benchmark Analysis - 10 Yrs as of September 30, 2015

Metric	Vs. MSCI EAFE	Vs. MSCI ACWI ex-US
Beta	.93	.90
Correlation	.98	.98
R-Squared	.96	.96



Conclusion

While performance for the Sprucegrove strategy has been disappointing over recent time periods, we believe it is largely explained by the fact that the portfolio has consistently maintained an allocation to emerging markets equities while its primary benchmark, the MSCI EAFE Index, has no allocation to emerging markets equities. In addition, Sprucegrove's value style has struggled over the past year as growth stocks have outperformed value stocks globally. We do not recommend any action at this time. We do recommend the Board consider adopting a new primary benchmark for the Sprucegrove portfolio that more accurately captures the opportunity set that Sprucegrove is seeking to exploit.

Appendix: NEPC Due Diligence Recommendation Key

NEPC Due Diligence Committee Recommendation Key	
No Action	Informational items have surfaced; no action is recommended.
Watch	Issues have surfaced to be concerned over; manager can participate in future searches, but current and prospective clients must be made aware of the issues.
Hold	Serious issues have surfaced to be concerned over; manager cannot participate in future searches unless a client specifically requests, but current and prospective clients must be made aware of the issues.
Client Review	Very serious issues have surfaced with an Investment Manager; manager cannot participate in future searches unless a client specifically requests. Current clients must be advised to review the manager.
Terminate	We have lost all confidence in the product; manager would not be recommended for searches and clients would be discouraged from using. The manager cannot participate in future searches unless a client specifically requests. Current clients must be advised to replace the manager.

NEPC, LLC

To:	VCERA Board of Trustees
From:	Allan Martin, Partner, Dan LeBeau, Consultant, and Tony Ferrara, CAIA, Senior Analyst
Date:	December 21, 2015
Subject:	GMO Global Equity Allocation Strategy Review Memo

Recommendation

NEPC does not recommend any action related to Grantham, Mayo, Van Otterloo & Co. LLC ("GMO") at this time.

It should be noted that GMO currently has a due diligence status of 'NO ACTION' at NEPC. Please see the last page of this memo for NEPC's Due Diligence Recommendation Key.

Background

At the Board meeting held on November 16, 2015, the Board requested an evaluation of GMO due to an extended period of underperformance relative to its primary benchmark, the MSCI All Country World Index ("ACWI"). GMO has been managing the GMO Global Equity Allocation strategy for the Ventura County Employees' Retirement Association ("VCERA" or the "Plan) since April 2005. As of November 30, 2015, VCERA had approximately $190 million invested in the strategy, representing approximately 4.5% of plan assets. In aggregate, GMO currently manages approximately $7.2 billion in the strategy and the strategy is currently open to new investors.

The philosophy and process employed to construct the portfolio remain intact, and there have not been any material changes to the team responsible for managing the portfolio. GMO leverages a multi-factor quantitative model in order to determine country allocations. From there, regional senior and experienced analysts/portfolio managers, which are split into three regional teams: Europe, Asia and the Americas, are given the freedom to conduct their own stock selection. The value add is a result of both the quantitative screen identifying attractive countries and the thorough due diligence performed at the security level by GMO's tenured team.

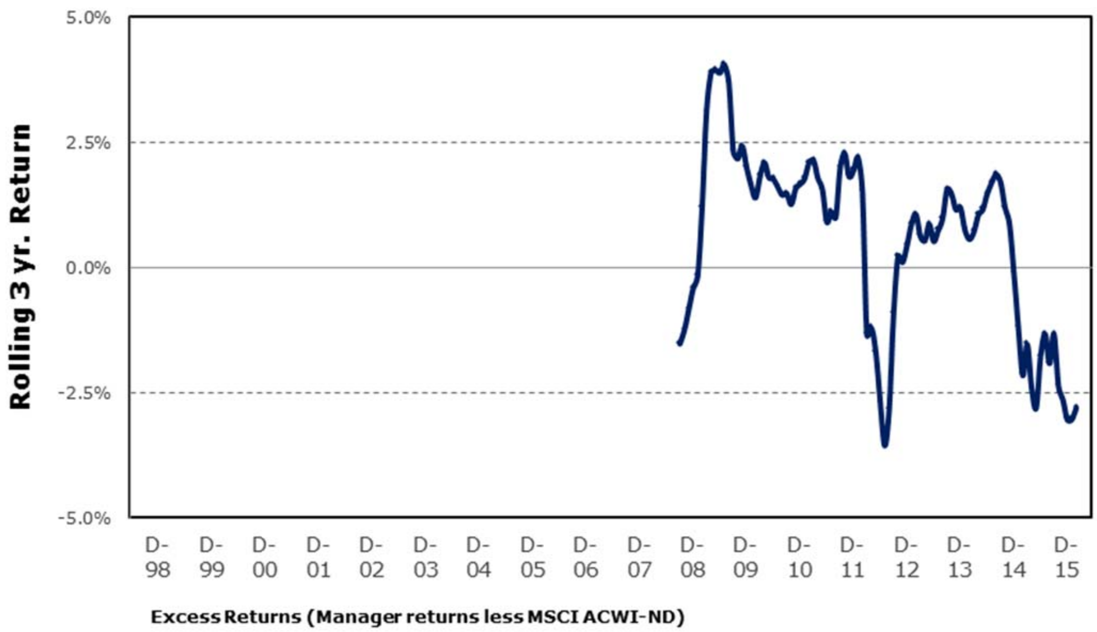
The underlying philosophy that is expressed across all of GMO's equity strategies is the belief that the pricing of assets and individual securities often deviates from the true intrinsic value of the asset class/security, but mean reverts to fair value (replacement cost) in the long run. Identifying attractively priced assets and then waiting for them to mean revert to fair value is critical to their ability to add value. Historically, this has led to extended periods of outperformance across their product suite vs. benchmarks, but has proven to add value of the long run.

Performance

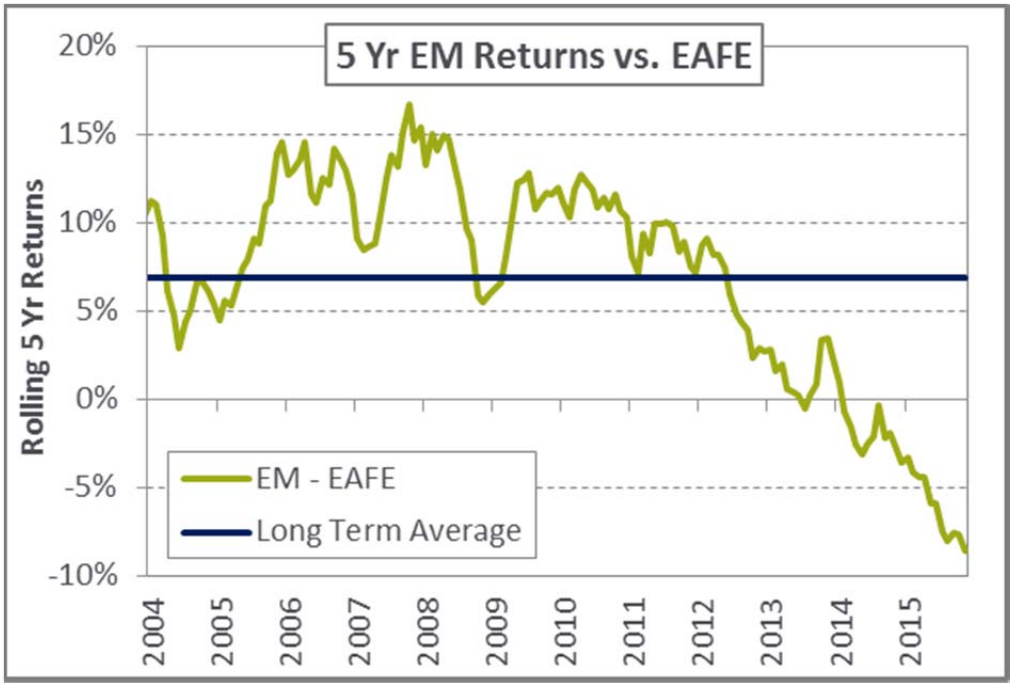
GMO's performance struggles over the past year have resulted in the portfolio now trailing its primary benchmark, the MSCI ACWI Index, net of fees, over all time periods reported as of September 30, 2015.

GMO (Net) vs. MSCI ACWI as of 9/30/2015

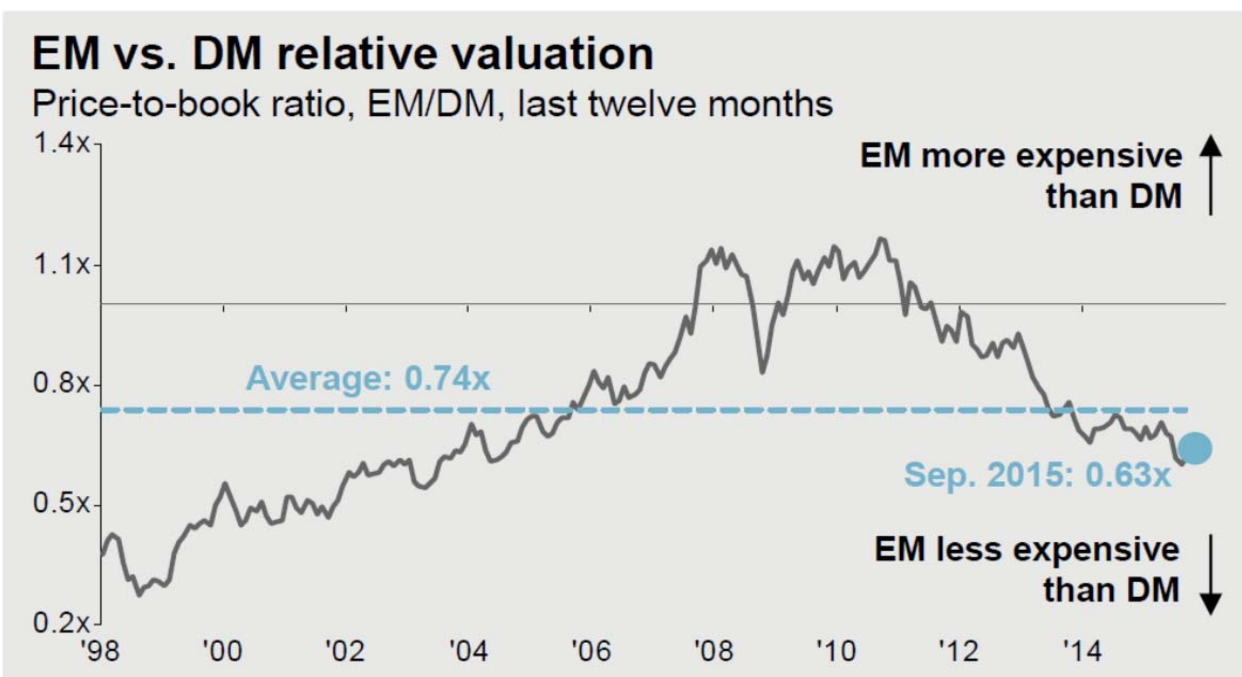
Exhibit 1



The portfolio's underperformance is largely explained by its allocation to emerging markets equities relative to the index. The MSCI ACWI Index includes exposure to emerging markets equities, which currently account for approximately 10% of the index and has been in the range of 0%-10% historically. As valuations within emerging markets equities were declining toward the end of 2014, GMO began increasing its weight to emerging markets equities, and currently has more than 20% of the portfolio allocated to emerging markets. The significant increase in the portfolio's exposure to emerging markets, coupled with the fact that GMO is a 'value' manager, has contributed significantly to the underperformance of the portfolio over the past twelve to eighteen months as not only have emerging markets equities struggled relative to developed markets, but value has struggled relative to growth within emerging markets (see below).



Source: MSCI, Bloomberg



Source: JP Morgan Asset Management

Performance Comparison
GMO (Net) vs. MSCI ACWI as of 9/30/2015

	Qtr	CYTD	1 Yr	3 Yr	5 Yr	10 Yr	Inception
GMO	-11.1%	-8.4%	-10.5%	4.1%	5.8%	4.4%	5.3%
MSCI ACWI	-9.4%	-7.0%	-6.7%	7.0%	6.8%	4.6%	5.4%
Excess Return	-1.7%	-1.4%	-3.8%	-2.9%	-1.0%	-0.2%	-0.1%

Conclusion

While performance for the GMO strategy has been disappointing over recent time periods, we believe it is largely explained by the fact that the portfolio significantly increased its exposure to emerging markets equities over the last year in response to what they view are an undervalued portion of the equity markets. In addition, GMO's value style has struggled over the past year as growth stocks have outperformed value stocks globally. We do not recommend any action at this time.

Appendix: NEPC Due Diligence Recommendation Key

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No Action	Informational items have surfaced; no action is recommended.
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NEPC, LLC

To: Ventura County Employees' Retirement Association

From: NEPC Research

Date: December 14, 2015

Subject: A Review of Rebalancing Approaches

Summary

Asset allocation can explain up to 90% of the variability of portfolio returns, and as such, it is one of the most important decisions a Board makes as it sets the strategic direction for the investment of the Plan's assets, resulting in asset class targets that maximize investment return expectations given an expected level of risk. When each asset class is invested at its target weight, the portfolio is said to be 'balanced'. Any deviation from the asset allocation targets resulting from market movements, gaps in implementation (ex. private markets), or expression of tactical views results in a portfolio that is 'imbalanced' and should be viewed as a change in the risk profile of the portfolio. Rebalancing policies provide guidelines for the 'rebalancing' of investments, which is the action/trading strategy of bringing a portfolio that has deviated from its target asset allocation back into line, resulting in the reestablishment of the portfolio's expected return given a level of risk.

An effective rebalancing policy adheres to the oldest and simplest theory in investing – "buy low, sell high". Though simple to say, it is enormously difficult to implement due to natural human emotions. As history has shown, market preferences for different asset classes always peak and wane. This historical fact allows for rebalancing to add value in addition to controlling risk. Continuously well-balanced portfolios will avoid an outperforming asset class "giving it all back" by "taking profits" before a potential market reversal. Simultaneously, an underperforming asset class will be at their full allocation, and thus well positioned for a potential rebound.

In the current environment, one of the key issues we are mindful of in shifting asset allocation is transaction costs. Heightened volatility and transaction costs are additional variables that need to be considered when making opportunistic shifts in asset allocation.

Rebalancing Approaches

The following examples have been summarized to give the Board an introduction to a broad range of rebalancing approaches that are pursued by institutional portfolios. Deciding not to rebalance is an active rebalancing decision, and is not prudent in the case of most investors. History has shown that rebalancing provides a mechanism to both control risk and add value at the Total Fund level.

It is important to note that Parametric is currently employing a 'Threshold' rebalancing policy for the Plan, which is consistent with the Board approved rebalancing policy.

Periodic Rebalancing
Portfolios are rebalanced to target allocations on a fixed schedule (ex. monthly, quarterly, annually, etc.). Asset classes that are overweight relative to target allocations are sold and rebalanced to asset classes that are underweight relative to target allocations.

Pros: Simplicity; Forces discipline
Cons: Depending on regularity of the rebalancing schedule, frequent, minor changes can be costly

Threshold Rebalancing
Portfolios are rebalanced back to target allocations after asset classes deviate from target allocations by more than the Board approved asset allocation target ranges (ex. +/- 5%).

Example: U.S. Large Cap Equity has a target allocation of 25% with a range of 20%-30%, but the market has caused the U.S. Large Cap Equity allocation to grow to 32%. Large cap stocks would be sold and other asset classes purchased until the original target allocation of 25% is reestablished.

Pros: Some variations allow for expression of tactical views; Allows portfolio to capture excess volatility
Cons: Long-term trending markets can result in changes that potentially limit the portfolio's ability to take advantage of upward trending markets and protect against downward trending markets

Volatility-Based Rebalancing
Portfolios are rebalanced back to target allocations based on the expected volatility of the portfolio as a whole. When expected volatility rises above or falls below a predetermined level of acceptable volatility, higher volatility asset classes are bought/sold and lower volatility asset classes are bought/sold in a manner consistent with bringing volatility back in line with Board approved parameters.

Pros: Flexibility allows for expression of tactical views
Cons: Complex; Reliant on accuracy of models predicting volatility

Dynamic Asset Allocation
Another approach to managing deviations from asset allocation targets is dynamic asset allocation, of which some variations are referred to as 'tactical rebalancing', but is not rebalancing in the traditional sense. The concept of rebalancing presupposes that there is a point of 'balance' (the adopted target asset allocation) that rebalancing is attempting to restore. Dynamic asset allocation is typically defined by establishing wide asset allocation target ranges to allow for significant flexibility in managing the portfolio's asset allocation, but the strategy does not require the reestablishment of 'balance', or the asset class targets resulting in the portfolio's expected return given a level of risk. Dynamic asset allocation is a value-added proposition that provides a mechanism to address portfolio drift through the expression of tactical views.

Pros: Flexibility allows for expression of tactical views; Ability to manage costs associated with rebalancing programs
Cons: Complex; Career Risk

We believe the ‘SMART Rebalancing’ strategy offered by Alpha Engine Global Investments Solutions LLC (“AEGIS”) is an example of a dynamic asset allocation strategy and not a rebalancing strategy, though the strategy is constrained by Board approved asset allocation target ranges. At the core of the program’s philosophy is the belief that dynamic asset allocation is more successful in adding value and protecting on the downside than the aforementioned rebalancing approaches. While being significantly more active than those approaches, the AEGIS strategy falls short of taking a constant rebalancing approach. AEGIS believes that alpha can be found by establishing both technical and fundamental indicators that trigger changes to a portfolio’s asset allocation.

Conclusion

We are continuing our analysis on rebalancing approaches for the Plan and plan to come back to the Board with a final recommendation some time during the first quarter of 2016.

NEPC, LLC

YOU DEMAND MORE. So do we.SM

Ventura County Employees' Retirement Association

Preliminary Performance Report
Month Ending November 30, 2015

Daniel LeBeau, Consultant
Allan Martin, Partner
Anthony Ferrara, CAIA, Senior Analyst

255 State Street, Boston, MA 02109 | TEL: 617.374.1300 | FAX: 617.374.1313 | www.nepc.com
BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | SAN FRANCISCO

Total Fund Performance Detail Net of Fees

Performance Summary

	Market Value ($)	% of Portfolio	Policy %	1 Mo (%)	3 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Return (%)	Since
Total Fund	**4,355,890,403**	**100.0**	**100.0**	**-0.6**	**2.0**	**0.2**	**-1.6**	**-0.6**	**8.5**	**8.6**	**5.9**	**7.9**	**Apr-94**
Policy Index				*-0.3*	*2.7*	*1.9*	*-0.5*	*1.4*	*9.0*	*8.6*	*6.1*	*8.0*	*Apr-94*
Over/Under				-0.3	-0.7	-1.7	-1.1	-2.0	-0.5	0.0	-0.2	-0.1	
Allocation Index				*-0.4*	*2.3*	*0.8*	*-1.2*	*0.1*	*8.2*	*8.1*	*5.7*	--	*Apr-94*
Total Fund ex Parametric	**4,239,668,523**	**97.3**	**--**	**-0.6**	**2.0**	**0.4**	**-1.5**	**-0.4**	**8.5**	**8.6**	**5.8**	**7.9**	**Apr-94**
Total Fund ex Private Equity	**4,212,640,015**	**96.7**	**--**	**-0.6**	**1.8**	**-0.1**	**-1.9**	**-0.9**	**7.6**	**--**	**--**	**8.9**	**Jan-12**
Policy Index				*-0.3*	*2.7*	*1.9*	*-0.5*	*1.4*	*9.0*	*8.6*	*6.1*	*9.8*	*Jan-12*
Over/Under				-0.3	-0.9	-2.0	-1.4	-2.3	-1.4			-0.9	
Total US Equity	**1,352,103,393**	**31.0**	**30.0**	**0.6**	**5.3**	**2.7**	**0.6**	**2.6**	**16.2**	**14.3**	**7.3**	**8.9**	**Dec-93**
Total U.S. Equity Benchmark				*0.6*	*5.2*	*2.5*	*0.5*	*2.5*	*15.9*	*14.1*	*7.7*	*9.2*	*Dec-93*
Over/Under				0.0	0.1	0.2	0.1	0.1	0.3	0.2	-0.4	-0.3	
BlackRock Equity Market Fund	1,161,554,130	26.7		0.6	5.3	2.7	0.7	2.7	16.0	14.2	--	7.1	Dec-07
Dow Jones U.S. Total Stock Market				*0.6*	*5.3*	*2.5*	*0.6*	*2.5*	*15.9*	*14.1*	*7.7*	*7.1*	*Dec-07*
Over/Under				0.0	0.0	0.2	0.1	0.2	0.1	0.1		0.0	
Western U.S. Index Plus	143,588,437	3.3		0.3	6.2	3.0	1.7	2.5	16.5	15.3	--	3.5	May-07
S&P 500				*0.3*	*6.1*	*3.0*	*1.8*	*2.7*	*16.1*	*14.4*	*7.5*	*5.9*	*May-07*
Over/Under				0.0	0.1	0.0	-0.1	-0.2	0.4	0.9		-2.4	
BlackRock Extended Equity Index	46,960,826	1.1		1.7	2.2	0.7	-3.9	1.7	15.4	12.9	8.4	11.7	Oct-02
Dow Jones U.S. Completion Total Stock Market				*1.7*	*2.1*	*0.5*	*-4.1*	*1.5*	*15.3*	*12.7*	*8.3*	*11.7*	*Oct-02*
Over/Under				0.0	0.1	0.2	0.2	0.2	0.1	0.2	0.1	0.0	

Policy Index: Currently, 30% Total U.S. Equity Benchmark, 19% Barclays Aggregate, 14% MSCI ACWI ex U.S., 10% MSCI ACWI, 5% Barclays Global Aggregate, 5% DJ U.S. Total Stock Market Index + 3%, 10% CPI+4% Index, and 7% NCREIF ODCE Real Estate Index

Total U.S. Equity Benchmark: The Benchmark is a dynamic hybrid using the respective managers' market value weights within the U.S. Equity component toward their benchmark. Prior to May 2013, the Dow Jones U.S. Total Stock Market Index. Prior to May 2007, the Russell 3000 Index

CPI+4% is estimated due to CPI monthly lag

Total Fund Performance Detail Net of Fees

	Market Value ($)	% of Portfolio	Policy %	1 Mo (%)	3 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Return (%)	Since
Total Non-US Equity	**580,916,096**	**13.3**	**14.0**	**-2.0**	**0.8**	**-3.2**	**-6.5**	**-6.1**	**3.8**	**3.6**	**3.6**	**6.1**	**Mar-94**
Total Non-US Equity Benchmark				-2.1	0.3	-3.9	-7.6	-7.3	3.3	3.0	3.6	4.8	Mar-94
Over/Under				0.1	0.5	0.7	1.1	1.2	0.5	0.6	0.0	1.3	
BlackRock ACWI ex-U.S. Index	242,174,891	5.6		-1.9	0.6	-2.9	-7.3	-6.1	3.9	3.4	--	0.9	Mar-07
MSCI ACWI ex USA				-2.1	0.3	-3.9	-7.6	-7.3	3.3	3.0	3.6	0.4	Mar-07
Over/Under				0.2	0.3	1.0	0.3	1.2	0.6	0.4		0.5	
Sprucegrove	169,924,446	3.9		-1.9	0.5	-6.1	-7.4	-8.8	3.2	3.9	4.0	6.9	Mar-02
MSCI EAFE				-1.6	0.8	0.5	-4.7	-2.9	6.6	5.5	3.6	5.8	Mar-02
Over/Under				-0.3	-0.3	-6.6	-2.7	-5.9	-3.4	-1.6	0.4	1.1	
MSCI ACWI ex USA				-2.1	0.3	-3.9	-7.6	-7.3	3.3	3.0	3.6	6.1	Mar-02
Hexavest	76,834,892	1.8		-2.7	-1.3	-1.1	-4.7	-5.0	5.0	--	--	3.2	Dec-10
MSCI EAFE				-1.6	0.8	0.5	-4.7	-2.9	6.6	5.5	3.6	4.0	Dec-10
Over/Under				-1.1	-2.1	-1.6	0.0	-2.1	-1.6			-0.8	
Walter Scott	91,981,866	2.1		-1.5	3.4	0.1	-3.8	-2.0	3.4	3.7	--	3.4	Dec-10
MSCI ACWI ex USA				-2.1	0.3	-3.9	-7.6	-7.3	3.3	3.0	3.6	1.5	Dec-10
Over/Under				0.6	3.1	4.0	3.8	5.3	0.1	0.7		1.9	
Total Global Equity	**422,389,669**	**9.7**	**10.0**	**-1.0**	**2.3**	**-1.9**	**-4.7**	**-4.4**	**7.7**	**7.3**	**4.2**	**4.9**	**May-05**
MSCI ACWI				-0.8	3.1	-0.6	-3.1	-2.5	9.2	8.0	5.2	6.0	May-05
Over/Under				-0.2	-0.8	-1.3	-1.6	-1.9	-1.5	-0.7	-1.0	-1.1	
BlackRock MSCI ACWI Equity Index	222,070,298	5.1		-0.8	3.2	-0.2	-3.0	-2.1	9.6	--	--	10.7	Jul-12
MSCI ACWI				-0.8	3.1	-0.6	-3.1	-2.5	9.2	8.0	5.2	10.3	Jul-12
Over/Under				0.0	0.1	0.4	0.1	0.4	0.4			0.4	
GMO Global Equity	200,319,371	4.6		-1.2	1.4	-3.6	-6.5	-6.8	5.9	6.7	5.0	5.7	Apr-05
MSCI ACWI				-0.8	3.1	-0.6	-3.1	-2.5	9.2	8.0	5.2	6.0	Apr-05
Over/Under				-0.4	-1.7	-3.0	-3.4	-4.3	-3.3	-1.3	-0.2	-0.3	

Total Non-U.S. Equity Benchmark: MSCI ACWI ex US Free, prior to May 2002, the MSCI EAFE

Total Fund Performance Detail Net of Fees

	Market Value ($)	% of Portfolio	Policy %	1 Mo (%)	3 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Return (%)	Since
Total Private Equity	**143,250,389**	**3.3**	**5.0**	**0.0**	**7.1**	**12.1**	**6.0**	**12.6**	**16.3**	**--**	**--**	**15.1**	**Jan-12**
DJ U.S. Total Stock Market Index + 3%				*0.8*	*6.0*	*5.3*	*1.8*	*5.6*	*19.4*	*17.5*	--	*19.5*	*Jan-12*
Over/Under				-0.8	1.1	6.8	4.2	7.0	-3.1			-4.4	
Adams Street Partners	87,245,561	2.0		0.0	4.7	7.4	2.9	8.5	14.1	--	--	13.6	Jan-12
DJ U.S. Total Stock Market Index + 3%				*0.8*	*6.0*	*5.3*	*1.8*	*5.6*	*19.4*	*17.5*	--	*19.5*	*Jan-12*
Over/Under				-0.8	-1.3	2.1	1.1	2.9	-5.3			-5.9	
Harbourvest	42,713,320	1.0		-0.2	10.5	24.9	10.5	24.9	--	--	--	21.9	Jul-13
DJ U.S. Total Stock Market Index + 3%				*0.8*	*6.0*	*5.3*	*1.8*	*5.6*	*19.4*	*17.5*	--	*16.5*	*Jul-13*
Over/Under				-1.0	4.5	19.6	8.7	19.3				5.4	
Pantheon Global Secondary Fund IV	13,291,507	0.3		0.0	13.1	7.9	13.1	5.4	13.1	--	--	10.1	Jan-12
DJ U.S. Total Stock Market Index + 3%				*0.8*	*6.0*	*5.3*	*1.8*	*5.6*	*19.4*	*17.5*	--	*19.5*	*Jan-12*
Over/Under				-0.8	7.1	2.6	11.3	-0.2	-6.3			-9.4	

Please Note:
Private Equity performance is shown on a time-weighted return basis. Values are cash adjusted with current month cash flows.

Private Equity Limited Partnership Performance

Fund Name	Vintage Year	Initial Investment Date	Commitment	Capital Called to Date[1]	Outstanding Commitment[1]	Call Ratio	Interest Paid/(Rec'd)	Distributions to Date	Valuation	Total Value	Net Benefit	Since Inception IRR	Since Inception Distributions to Paid In Multiple (DPI)	Since Inception Total Value to Paid In Multiple (TVPI)
Adams Street 2010 U.S. Fund	2010	5/21/2010	$42,500,000	$26,690,000	$15,810,000	63%	$15,213	$8,147,483	$30,489,272	$38,636,755	$11,931,542	15.7%	0.31x	1.45x
Adams Street 2010 Non-U.S. Dev. Mkts Fund	2010	5/21/2010	$25,500,000	$16,434,750	$9,065,250	64%	$1,589	$4,669,887	$14,278,525	$18,948,412	$2,512,073	6.9%	0.28x	1.15x
Adams Street 2010 Non-U.S. Emg Mkts Fund	2010	1/3/2011	$8,500,000	$5,729,000	$2,771,000	67%	$0	$314,436	$6,799,942	$7,114,378	$1,385,378	11.2%	0.05x	1.24x
Adams Street 2010 Direct Fund	2010	5/21/2010	$8,500,000	$7,837,000	$663,000	92%	$6,697	$3,071,561	$8,404,458	$11,476,019	$3,632,322	13.5%	0.39x	1.46x
Total Adams Street 2010	*2010*	*5/21/2010*	*$85,000,000*	*$56,690,750*	*$28,309,250*	*67%*	*$23,499*	*$16,203,367*	*$59,972,197*	*$76,175,564*	*$19,461,315*	*12.9%*	*0.29x*	*1.34x*
Adams Street 2013 Global Fund	2013	6/27/2013	$75,000,000	$27,337,500	$47,662,500	36%	$10,728	$222,166	$27,488,824	$27,710,990	$362,762	1.3%	0.01x	1.01x
HarbourVest - Dover Street VIII	2013	5/30/2013	$67,500,000	$40,500,000	$27,000,000	60%	$84,954	$13,605,665	$43,380,457	$56,986,122	$16,401,168	38.0%	0.34x	1.4x
Pantheon Global Secondary Fund IV	2010	8/20/2010	$15,000,000	$9,960,000	$5,040,000	66%	$0	$7,830,001	$6,920,072	$14,750,073	$4,790,073	17.1%	0.79x	1.48x
Pantheon Global Secondary Fund V	2015	2/26/2015	$50,000,000	$6,201,371	$43,798,629	12%	$29,922	$75,205	$6,726,156	$6,801,361	$570,069	8.2%	0.01x	1.09x
Total VCERA Private Equity Program	***--***	***5/21/2010***	***$292,500,000***	***$140,689,621***	***$151,810,379***	***48%***	***$149,103***	***$37,936,404***	***$144,487,706***	***$182,424,110***	***$41,585,387***	***16.0%***	***0.27x***	***1.3x***

1. Includes recycled/recallable distributions received to date.

Note: Private equity performance data is reported net of fees.

Distributions to Date shown for Pantheon Global Secondary Fund V includes management fee rebates paid to VCERA.

Performance shown is based on cash-adjusted market values as of 9/30/2015.

Ventura County Employees' Retirement Association

Total Fund Performance Detail Net of Fees

	Market Value ($)	% of Portfolio	Policy %	1 Mo (%)	3 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Return (%)	Since
Total US Fixed Income	**769,519,148**	**17.7**	**19.0**	**-0.4**	**0.4**	**1.1**	**0.4**	**0.8**	**1.4**	**4.1**	**5.8**	**6.1**	**Feb-94**
Barclays Aggregate				*-0.3*	*0.4*	*0.9*	*1.0*	*1.0*	*1.5*	*3.1*	*4.6*	*5.6*	*Feb-94*
Over/Under				-0.1	0.0	0.2	-0.6	-0.2	-0.1	1.0	1.2	0.5	
BlackRock U.S. Debt Fund	140,579,284	3.2		-0.3	0.4	0.9	1.0	1.1	1.6	3.2	4.7	5.5	Nov-95
Barclays Aggregate				*-0.3*	*0.4*	*0.9*	*1.0*	*1.0*	*1.5*	*3.1*	*4.6*	*5.4*	*Nov-95*
Over/Under				0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	
Western	270,587,719	6.2		-0.2	0.5	1.4	1.0	1.4	2.5	4.7	5.5	6.4	Dec-96
Barclays Aggregate				*-0.3*	*0.4*	*0.9*	*1.0*	*1.0*	*1.5*	*3.1*	*4.6*	*5.5*	*Dec-96*
Over/Under				0.1	0.1	0.5	0.0	0.4	1.0	1.6	0.9	0.9	
Reams	286,681,621	6.6		-0.6	0.5	1.4	0.2	0.6	0.1	3.5	5.9	5.7	Sep-01
Reams Custom Index				*0.0*	*0.1*	*0.3*	*0.1*	*0.3*	*0.0*	*2.2*	*4.2*	*4.4*	*Sep-01*
Over/Under				-0.6	0.4	1.1	0.1	0.3	0.1	1.3	1.7	1.3	
Barclays Aggregate				*-0.3*	*0.4*	*0.9*	*1.0*	*1.0*	*1.5*	*3.1*	*4.6*	*4.7*	*Sep-01*
Loomis Sayles Multi Strategy	71,670,524	1.6		-0.9	-1.1	-0.5	-1.9	-1.3	2.9	5.7	6.8	6.5	Jul-05
Loomis Custom Index				*-0.9*	*-0.4*	*-0.2*	*-0.9*	*-0.6*	*1.9*	*3.9*	*5.4*	*5.2*	*Jul-05*
Over/Under				0.0	-0.7	-0.3	-1.0	-0.7	1.0	1.8	1.4	1.3	
Barclays Govt/Credit				*-0.3*	*0.4*	*0.6*	*0.9*	*0.7*	*1.3*	*3.2*	*4.6*	*4.4*	*Jul-05*
Total Global Fixed Income	**252,761,735**	**5.8**	**5.0**	**-1.3**	**-0.8**	**-3.1**	**-0.9**	**-3.6**	**-1.3**	**--**	**--**	**-0.1**	**Jun-12**
Barclays Global Aggregate				*-1.7*	*-0.9*	*-3.7*	*-0.6*	*-4.3*	*-2.0*	*1.1*	*3.8*	*-0.9*	*Jun-12*
Over/Under				0.4	0.1	0.6	-0.3	0.7	0.7			0.8	
Loomis Sayles Global Fixed Income	88,308,779	2.0		-1.5	-1.1	-4.4	-1.3	-5.2	-2.2	--	--	-0.8	Jun-12
Barclays Global Aggregate				*-1.7*	*-0.9*	*-3.7*	*-0.6*	*-4.3*	*-2.0*	*1.1*	*3.8*	*-0.9*	*Jun-12*
Over/Under				0.2	-0.2	-0.7	-0.7	-0.9	-0.2			0.1	
PIMCO Global Fixed Income	122,401,040	2.8		-1.3	-0.7	-3.0	-0.4	-3.5	-1.5	--	--	-1.5	Sep-12
Barclays Global Aggregate				*-1.7*	*-0.9*	*-3.7*	*-0.6*	*-4.3*	*-2.0*	*1.1*	*3.8*	*-2.0*	*Sep-12*
Over/Under				0.4	0.2	0.7	0.2	0.8	0.5			0.5	
Loomis Strategic Alpha	42,051,916	1.0		-0.7	-0.6	-0.2	-1.5	-0.5	--	--	--	1.5	Jul-13
Barclays Global Aggregate				*-1.7*	*-0.9*	*-3.7*	*-0.6*	*-4.3*	*-2.0*	*1.1*	*3.8*	*-0.9*	*Jul-13*
Over/Under				1.0	0.3	3.5	-0.9	3.8				2.4	

Reams Custom Index: Merrill Lynch 3 Month Libor Constant Maturity Index, prior to February 2013 the Barclays Aggregate

Loomis Custom Index: 65% Barclays Aggregate, 30% Citigroup High Yield Market Index and 5% JPM Non-US Hedged Bond Index

Total Fund Performance Detail Net of Fees

	Market Value ($)	% of Portfolio	Policy %	1 Mo (%)	3 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Return (%)	Since
Total Real Estate	**349,536,974**	**8.0**	**7.0**	**0.0**	**3.6**	**9.7**	**3.6**	**13.0**	**11.2**	**12.0**	**4.7**	**7.9**	**Mar-94**
Total Real Estate Benchmark				*0.0*	*3.7*	*11.3*	*3.7*	*14.9*	*13.4*	*14.0*	*6.7*	*9.0*	*Mar-94*
Over/Under				0.0	-0.1	-1.6	-0.1	-1.9	-2.2	-2.0	-2.0	-1.1	
Prudential Real Estate	120,621,253	2.8		0.0	4.7	11.2	4.7	15.2	13.1	14.2	5.5	5.7	Jun-04
UBS Real Estate	226,635,760	5.2		0.0	3.2	8.8	3.2	11.9	10.2	10.7	6.0	7.5	Mar-03
RREEF	2,279,961	0.1		0.0	-5.3	8.5	-5.3	10.5	17.1	24.3	--	-4.9	Sep-07
Total Liquid Alternatives	**369,191,120**	**8.5**	**10.0**	**-2.8**	**-4.8**	**-11.8**	**-10.4**	**-13.9**	**--**	**--**	**--**	**3.0**	**Apr-13**
CPI + 4% (Unadjusted)				*0.3*	*0.7*	*4.9*	*1.3*	*4.7*	*5.1*	*5.7*	*5.9*	*4.9*	*Apr-13*
Over/Under				-3.1	-5.5	-16.7	-11.7	-18.6				-1.9	
Bridgewater All Weather Fund	262,606,109	6.0		-1.5	-0.2	-4.3	-4.8	-6.2	--	--	--	2.8	Aug-13
Tortoise Energy Infrastructure	106,585,012	2.4		-5.9	-14.5	-26.1	-21.8	-28.3	--	--	--	-1.5	Apr-13
Wells Fargo MLP Index				*-7.7*	*-15.7*	*-29.3*	*-24.1*	*-33.0*	*-2.0*	*3.5*	--	*-8.1*	*Apr-13*
Over/Under				1.8	1.2	3.2	2.3	4.7				6.6	
Overlay	**116,221,880**	**2.7**	**0.0**										
Parametric	116,221,880	2.7											

Total Real Estate Benchmark: NCREIF ODCE; prior to January 2006, the NCREIF Property Index

Real Estate managers and NCREIF ODCE are valued on a quarterly basis. Performance is not applicable in mid-quarter months, therefore 0% return is shown.

CPI+4% is estimated by carrying the last available month forward

Real Estate Valuation is as of 9/30/2015

Total Fund

Cash Flow Summary

Month Ending November 30, 2015

	Beginning Market Value	Withdrawals	Contributions	Net Cash Flow	Fees	Net Investment Change	Ending Market Value
Adams Street Partners	$86,938,046	-$554,985	$862,500	$307,515	$0	$0	$87,245,561
BlackRock ACWI ex-U.S. Index	$246,822,270	$0	$0	$0	-$21,848	-$4,647,379	$242,174,891
BlackRock Equity Market Fund	$1,154,966,579	$0	$0	$0	-$21,443	$6,587,551	$1,161,554,130
BlackRock Extended Equity Index	$46,167,688	$0	$0	$0	-$3,131	$793,138	$46,960,826
BlackRock MSCI ACWI Equity Index	$223,827,653	$0	$0	$0	-$9,069	-$1,757,354	$222,070,298
BlackRock U.S. Debt Fund	$140,946,933	$0	$0	$0	-$8,019	-$367,650	$140,579,284
Bridgewater All Weather Fund	$266,686,411	$0	$0	$0	-$88,043	-$4,080,302	$262,606,109
GMO Global Equity	$202,745,850	$0	$0	$0	-$91,813	-$2,426,480	$200,319,371
Harbourvest	$43,198,185	-$418,294	$0	-$418,294	$0	-$66,571	$42,713,320
Hexavest	$78,927,093	$0	$0	$0	-$29,778	-$2,092,201	$76,834,892
Loomis Sayles Global Fixed Income	$89,615,122	$0	$0	$0	-$22,077	-$1,306,343	$88,308,779
Loomis Sayles Multi Strategy	$72,292,260	$0	$0	$0	-$23,751	-$621,736	$71,670,524
Loomis Strategic Alpha	$42,316,393	$0	$0	$0	-$14,017	-$264,477	$42,051,916
Pantheon Global Secondary Fund IV	$13,291,507	$0	$0	$0	$0	$0	$13,291,507
Parametric	$132,999,488	-$21,220,243	$5,119,299	-$16,100,945	-$14,782	-$676,663	$116,221,880
PIMCO Global Fixed Income	$123,985,513	$0	$0	$0	-$34,767	-$1,584,473	$122,401,040
Prudential Real Estate	$120,621,253	$0	$0	$0	$0	$0	$120,621,253
Reams	$288,318,246	$0	$0	$0	-$42,085	-$1,636,625	$286,681,621
RREEF	$2,279,961	$0	$0	$0	$0	$0	$2,279,961
Sprucegrove	$173,223,248	$0	$0	$0	-$54,984	-$3,298,801	$169,924,446
Tortoise Energy Infrastructure	$113,174,738	$0	$0	$0	-$65,930	-$6,589,726	$106,585,012
UBS Real Estate	$226,635,760	$0	$0	$0	$0	$0	$226,635,760
Walter Scott	$93,356,209	$0	$0	$0	-$67,866	-$1,374,343	$91,981,866
Western	$271,040,169	$0	$0	$0	-$46,323	-$452,449	$270,587,719
Western U.S. Index Plus	$143,110,249	$0	$0	$0	-$30,449	$478,188	$143,588,437
Total	**$4,397,486,823**	**-$22,193,522**	**$5,981,799**	**-$16,211,724**	**-$690,176**	**-$25,384,697**	**$4,355,890,403**

Information Disclaimer and Reporting Methodology

Information Disclaimer

- Past performance is no guarantee of future results.
- All investments carry some level of risk. Diversification and other asset allocation techniques are not guaranteed to ensure profit or protect against losses.
- NEPC's source for portfolio pricing, calculation of accruals, and transaction information is the plan's custodian bank. Information on market indices and security characteristics is received from other sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.
- Some index returns displayed in this report or used in calculation of a policy, allocation or custom benchmark may be preliminary and subject to change.
- This report is provided as a management aid for the client's internal use only. Information contained in this report does not constitute a recommendation by NEPC.
- This report may contain confidential or proprietary information and may not be copied or redistributed to any party not legally entitled to receive it.

Reporting Methodology

- The client's custodian bank is NEPC's preferred data source unless otherwise directed. NEPC generally reconciles custodian data to manager data. If the custodian cannot provide accurate data, manager data may be used.
- Trailing time period returns are determined by geometrically linking the holding period returns, from the first full month after inception to the report date. Rates of return are annualized when the time period is longer than a year. Performance is presented gross and/or net of manager fees as indicated on each page.
- For managers funded in the middle of a month, the "since inception" return will start with the first full month, although actual inception dates and cash flows are taken into account in all Composite calculations.
- This report may contain forward-looking statements that are based on NEPC's estimates, opinions and beliefs, but NEPC cannot guarantee that any plan will achieve its targeted return or meet other goals.

BlackRock®

Ventura County Employees' Retirement Association

21 December 2015

Table of Contents

I. BlackRock Update

BlackRock at a glance

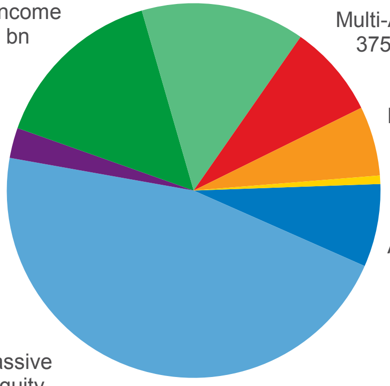
BlackRock Mission Statement

Create a better financial future for our clients by building the most respected investment and risk manager in the world

BlackRock facts *

- Established in 1988
- NYSE: BLK
- $4.51 trillion assets under management
- More than 12,000 employees
- More than 1,800 investment professionals
- Offices in over 30 countries
- 25 primary investment centers globally
- Clients in over 100 countries
- Over 700 iShares® ETFs
- Through BlackRock Solutions, the Firm provides risk management and enterprise investment services for over 200 clients
- Financial Markets Advisory business managed or advised on over $8 trillion in asset and derivative portfolios
- Transition Management team partners with clients to save costs and reduce risks when changing investment exposures

$4.51 trillion managed across asset classes



Assets as of 30 September 2015

[1] Includes commodity and currency mandates

* As of 30 September 2015

II. Relationship Summary

BlackRock Relationship Team

Function	Contact	Location	Telephone	Email
Institutional Client Business – Lead	Anthony Freitas, CFA, Managing Director	San Francisco	415-670-6251	tony.freitas@blackrock.com
Institutional Client Business	Laura Champion, Vice President	San Francisco	415-670-4841	laura.champion@blackrock.com
Institutional Client Business	Tom Holmes, Associate	San Francisco	415-670-4120	tom.holmes@blackrock.com

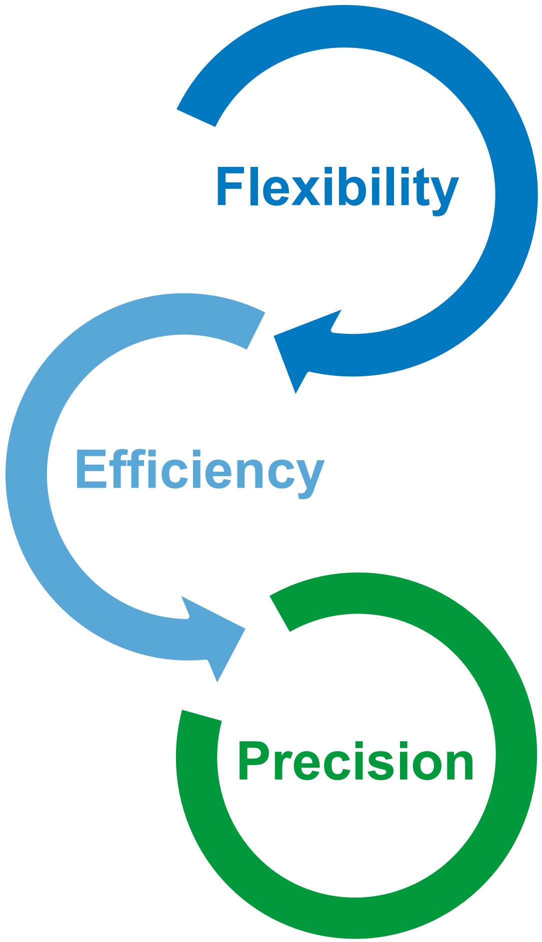
Ventura County Employees' Retirement Association Relationship Summary

As of 30 November 2015

Ventura County Employees' Retirement System	AUM
US Equity Market Fund (inception 6/02/2008)	**$1,161,554,097**
Extended Equity Market Fund (inception 9/30/2002)	**$46,960,825**
ACWI Equity Index Fund (inception 6/27/2012)	**$222,070,298**
ACWI ex-US IMI Index Fund (inception 5/30/2008)	**$242,174,891**
U.S. Debt Index Fund (inception 12/31/1995)	**$140,579,279**
Total AUM	***$1,813,339,390***

III. Beta Strategies Overview

BlackRock's βeta proposition



- Provide you with the broadest range of market exposures together with a flexible range of product features
- An evolving range of products and solutions designed to meet your needs today and in the future
- Partner with you to solve your unique investment challenges through our customisation and solutions capabilities

- Disciplined investment approach focused on delivering optimal tracking, enhanced returns and lowering the total cost of ownership
- Scale, breath and diversity of our clients and strategies allows us to minimise transaction costs and preserve the value of your investments
- Design products and solutions that consider all the factors that impact your investment results from tax-efficiency to access and liquidity.

- Our investment professionals leave 'no stone unturned' in delivering superior performance and reliable outcomes
- Unparalleled trading, risk and operational platform ensures we deliver precise tracking as well as enhanced returns
- Investment track record spanning four decades that has seen investors entrust us with $3 trillion of AUM

Delivering high quality, cost effective access to the broadest range of market opportunities

BlackRock's Beta Strategies Platform

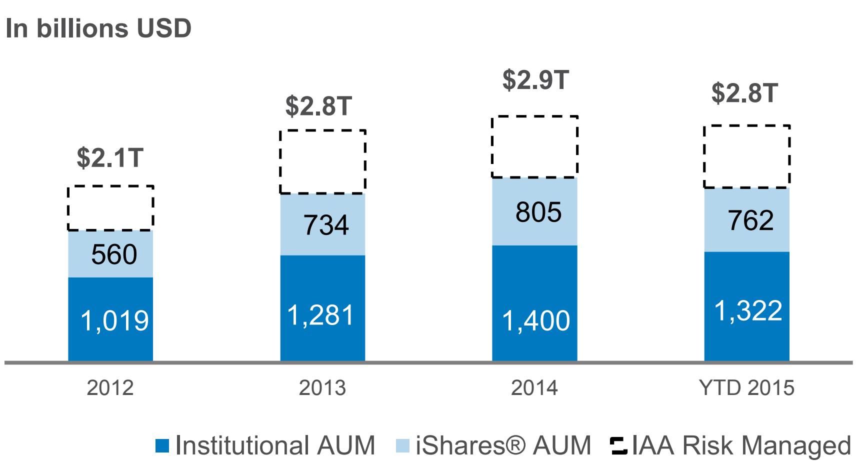
Global leader in Index Equity assets[1]

- We seek to deliver consistent performance with precise and reliable outcomes for our clients
- Thousands of skillful and thoughtful decisions made each year for swift response to market trends and client demands

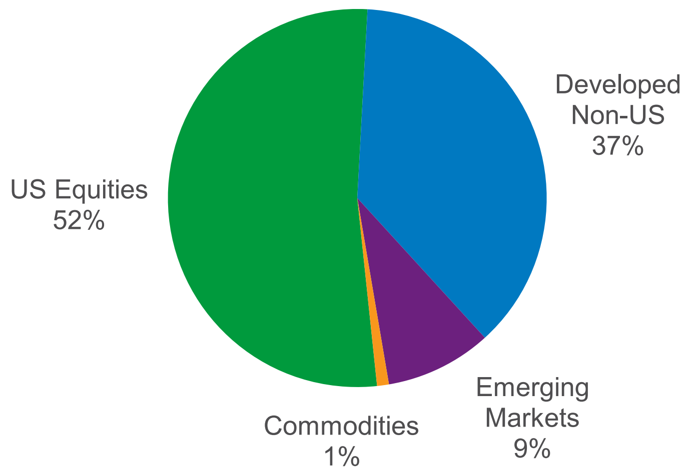
Extensive and flexible platform for beta strategies

- Over 2,000 funds managed against 650+ benchmarks
- Daily liquidity with T-1 notification (for US equities) and T-2 notification (for non US equities)[2]
- Modular fund structure and asset allocation platform facilitates custom and outcome oriented solutions

Total Beta Strategies risk managed assets of $2.8 trillion USD



Distribution of assets by region of mandate



Source: BlackRock, Inc. and its affiliates (together "BlackRock") as of 30 September 2015
1 In terms of AUM. Source: Pensions & Investments
2 Frontier markets commingled fund currently open bi-monthly

An extensive and flexible range of index capabilities

Exposures

Core Beta	Local Market	Key Developed Countries & Regions	Developed Investment Grade	Global Developed Markets				
Extended or Segmented Beta	EM & Frontier	Small Caps	High Yield	Countries & Sectors	Duration & Styles	Currency Hedged	ESG	Property & 'Alts' Assets
Smart Beta	Factor Strategies	Outcome Strategies	Reweighting Strategies					

Features

- Tax Efficiency
- Liquidity
- Daily Access
- Intra-Day Access
- Fixed or Variable Spreads
- Operating Model
- Distributing & Accumulating Options
- Shares Class Currency Options
- Governance (e.g. UCITS, ERISA)
- Local Registration

Vehicles

- Separate Accounts
- 40 Act Funds
- Life Funds
- Commingled Funds (UCITS, CTFs)
- ETFs

Matching the exposures you want with the features you need

Beta strategies continue to be a growing portion of client portfolios

Investors today are enhancing their passive allocations in three ways:

Comprehensive core

- Migrating to broader mandates — segregated index mandates are re-aggregated into one
- Going global — ACWI / ACWI IMI* is the fastest growing index strategy
- Moving EM into mainstream — no longer niche; gain EM exposure via global indices

Complementary styles

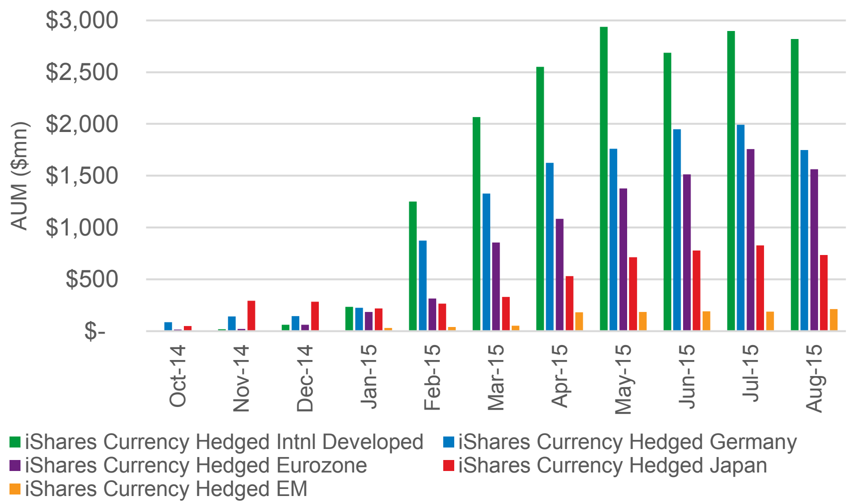
- Growing suite of smart beta offerings, complementing traditional indices
  - Certain equity risk factors proven to add value over the long term
    - Value
    - Quality
    - Momentum
    - Size

Customization

- Social & environmental investment considerations
  - Spurring a wide variety of societal outcomes with capital
  - Multi-faceted goals on top of financial return and risk
- Tax-sensitive investing

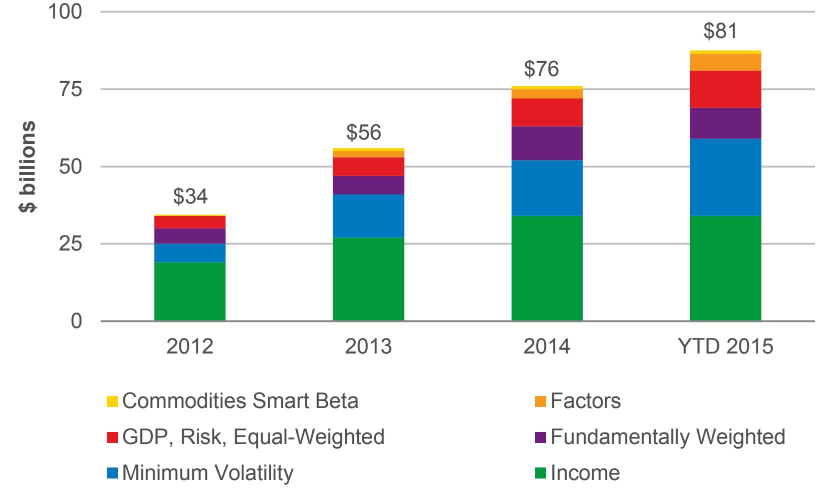
*All Country World Index Investable Market Index

Increase of currency hedged assets under management



Source: BlackRock, as of 31 August 2015. Above is display of Currency Hedged ETFs with longest track record. BlackRock offers multiple currency hedged vehicles, including: separate accounts, CTFs and ETFs.

Growth in smart beta long-only equity strategies over 4 years



Source: BlackRock smart beta (non-market cap weighted equity index strategies) assets under management. As of 31 August 2015.

Combining global capabilities with specialist knowledge

Indexed Assets
$2.9 trillion

Equity Beta Strategies
Amy Schioldager

Fixed Income Strategies
Tim Webb

Americas	EMEA	APAC	Americas	EMEA	APAC
90 Employees	*43 Employees*	*17 Employees*	*30 Employees*	*22 Employees*	*9 Employees*
Alan Mason *Head of Beta Strategies Americas*	Eleanor de Freitas *Head of Beta Strategies EMEA*	Kevin Hardy *Head of Beta Strategies APAC*	Scott Radell *Head of US Portfolio Solutions*	Michael Harper *Head of EMEA Portfolio Solutions*	Walter Toshi Baily *Head of Japan Portfolio Solutions*

Research | **Portfolio Management** | **Product strategy**

Other BlackRock Teams that support the portfolio management process

Trading • Risk & Quantitative Analysis • Onboarding • Portfolio Compliance
Proxy • Reconciliation • Accounting

Source: BlackRock, as of 30 June 2015

Beta Strategies: Americas Index Equity

Beta Strategies Leadership

Amy Schioldager
Global Head of Beta Strategies

Americas Index Equity

Alan Mason
Head of Americas Beta Strategies

Strategy

Corin Frost, CFA
Global Head of Index Product Strategy

Institutional

Christopher Bliss, CFA
Head of Institutional Portfolio Management

Index Asset Allocation

Amy Whitelaw
Head of Index Asset Allocation

Alternative

Creighton Jue, CFA
Head of Alternative Beta

Research

Matthew Lee, Ph.D.
Head of Research

Index Research

Stephanie Allen
Head of Index Research

US Strategy

Scott Dohemann, CFA
Head of US Index Strategy

North America

Peter Sietsema, CFA
Senior Portfolio Manager

International Developed

Rachel Aguirre
Senior Portfolio Manager

International Emerging

Matt Waldron, CFA
Senior Portfolio Manager

DB Index Allocation

Maya Tussing
Senior Portfolio Manager

Portfolio Management

North America	International Developed	International Emerging	Defined Benefit	Defined Contribution	Alternative
+7 Portfolio Managers	+7 Portfolio Managers	+5 Portfolio Managers	+3 Portfolio Managers	+6 Portfolio Managers	+8 Portfolio Managers

Research

Research Officer	Index Analyst
+2 Officer	+10 Analysts

U.S.

Cara Barr
Christian De Leon
Kristen Dickey
Timothy Murray, CFA
Jacqueline Wolk

EMEA

Rita Gemelou*
Andrew Graver*
Flora Herries*
Timothy Parsons*

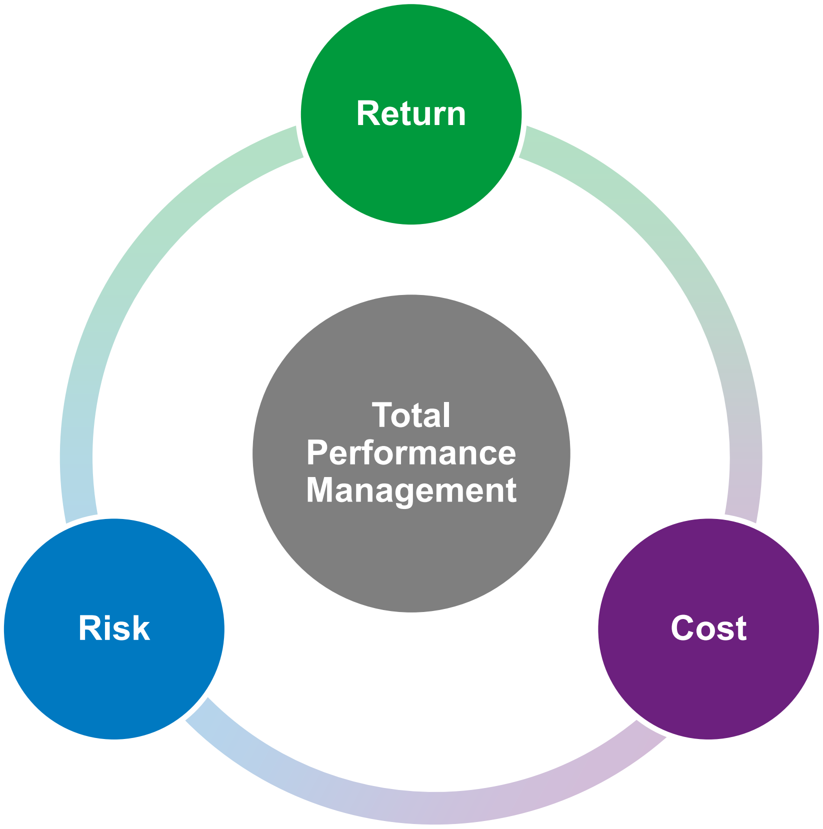
APAC

Ben Garland, CFA*
Colin Zhang*

As of September 2015
* Located outside of the US

Core investment philosophy of total performance management

We believe that superior investment outcomes are best achieved through a disciplined, objective process to manage return, risk and cost



Return

- Performance as planned with value-added portfolio management
- Flexible strategies and solutions

Risk

- Proprietary portfolio & risk management system helps manage investment and operational risk

Cost

- Trading cost integrated into portfolio construction using proprietary transaction cost models
- Potential for reduced transaction costs through netting of client flows
- Focus on best execution for all external trading, including FX

Our index investment management process is anything but passive

Deep expertise and investment skill underpin consistent historical performance

- BlackRock's beta portfolios are managed using a team approach to strategy, portfolio management, research, and trading

The ability to capture gains on hundreds of investment decisions adds up over time

- Portfolio managers' decision-making process involves deciding on corporate actions such as dividends, stock splits, spinoffs, rights offerings, and mergers & acquisitions

Detail-intensive investment decisions in pursuit of performance with precision and reliability

Benchmark Knowledge

- Analysis of forthcoming index changes
- Audit daily updates from index providers
- Develop trade strategies to thoughtfully incorporate index events

Portfolio Construction

- Teams of portfolio managers dedicated by region
- Supported by leading technology and risk models
- Rapid dividend reinvestment and cash equitization

Efficient Trading

- Industry's largest internal market place for netting client flows
- Best execution sought on all trades
- Economies of scale
- Dedicated trading research team

Performance & Oversight

- Daily review by portfolio managers
- Monthly Investment Review Committee
- Independent Risk & Quantitative Analysis Group

Risk Management

Leverage RQA and BlackRock's proprietary Aladdin® system to help identify, monitor and minimize risk

A focus on efficiency that goes beyond minimising costs

EFFICIENCY

Our extensive product offerings & global trading platform deliver the benefits of scale directly to clients

- Competitive custody and admin costs
- Carefully control fund turnover
- Ability to offset client sales and purchases
- Negotiate highly competitive trading terms

Maximise

Fund Tax Efficiency
Product Liquidity
Quality Trade Execution
Securities Lending

Fund Expenses
Trading Commissions
Transaction Taxes

Minimise

All the factors impacting your investment results are considered when designing our portfolios and products

- Tax efficient product options can significantly improve returns
- Well constructed tradeable portfolios keep entry and exit costs low
- Unmatched access to liquidity results in optimal trade execution
- Add incremental value to the fund through securities lending

We use our expertise to maximise the factors which will add value to your investment whilst using our scale to minimise the impact of costs

i. Portfolio Review

U.S. Equity Market Fund
Ventura County Employees' Retirement Association

As of 30 November 2015

Account value	$1,161,554,097

Gross total return in USD (annualized* %)

	Nov-15 %	Fiscal Q1 %	Fiscal YTD %	1-yr %	3-yr %	5-yr %	Since Inception %
Tracking difference (Gross vs. Benchmark)	0.02	0.05	0.10	0.19	0.13	0.13	0.10

* Period returns for less than a year are cumulative
** Client inception 2 June 2008
*** Fiscal year-end June 30
The Fund's net asset value does not include an accrual for the investment management fee but does include an accrual for fund level administrative costs and, if applicable, certain third party acquired fund fees and expenses. If the Fund's net asset value did include an accrual for the investment management fee, the Fund's returns would be lower. **Past performance is not necessarily an indicator of future performance.** Performance is for the US Equity Market Collective Trust Fund.

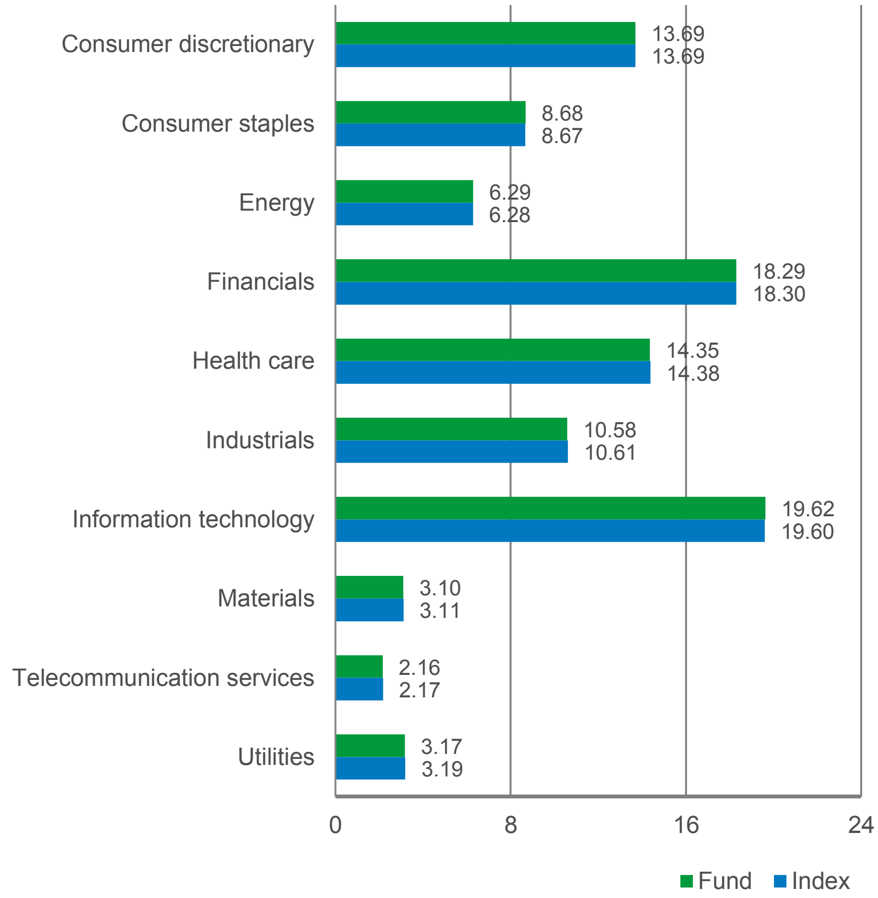
U.S. Equity Market Fund Characteristics

As of 30 September 2015

Characteristics	
Strategy	**Dow Jones U.S. Total Stock Market Index**
Total fund assets	$8.09B
Number of holdings	2,441

Top 10 holdings		
	Fund %	**Index %**
Apple Inc.	3.00	3.00
Microsoft Corporation	1.68	1.69
Exxon Mobil Corporation	1.47	1.48
Johnson & Johnson	1.23	1.23
General Electric Company	1.21	1.21
Berkshire Hathaway Inc. Class B	1.16	1.16
Wells Fargo & Company	1.14	1.14
JPMorgan Chase & Co.	1.07	1.07
Facebook, Inc. Class A	0.97	0.97
AT&T Inc.	0.95	0.95

Sector diversification



US-Eq-Mkt-A-Ch

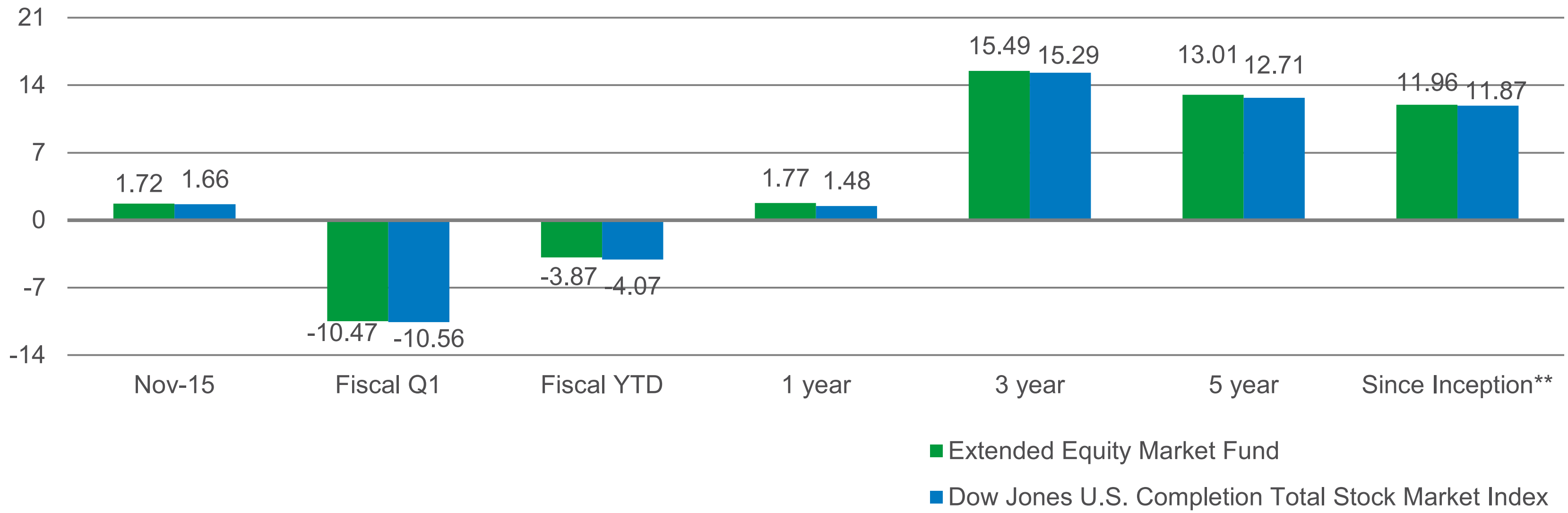
This information is unaudited and intended for analytical purposes only. The above information is based on the US Equity Market Collective Trust Fund 's portfolio characteristics. Sources: BlackRock, FactSet

Extended Equity Market Fund
Ventura County Employees' Retirement Association

As of 30 November 2015

Account value	$46,960,825

Gross total return in USD (annualized* %)



	Nov-15 %	Fiscal Q1 %	Fiscal YTD %	1-yr %	3-yr %	5-yr %	Since Inception %
Tracking difference (Gross vs. Benchmark)	0.06	0.09	0.20	0.29	0.20	0.30	0.09

* Period returns for less than a year are cumulative
** Client inception 30 September 2002
*** Fiscal year-end June 30
The Fund's net asset value does not include an accrual for the investment management fee but does include an accrual for fund level administrative costs and, if applicable, certain third party acquired fund fees and expenses. If the Fund's net asset value did include an accrual for the investment management fee, the Fund's returns would be lower. **Past performance is not necessarily an indicator of future performance.** Performance is for the Extended Equity Market Collective Trust Fund.

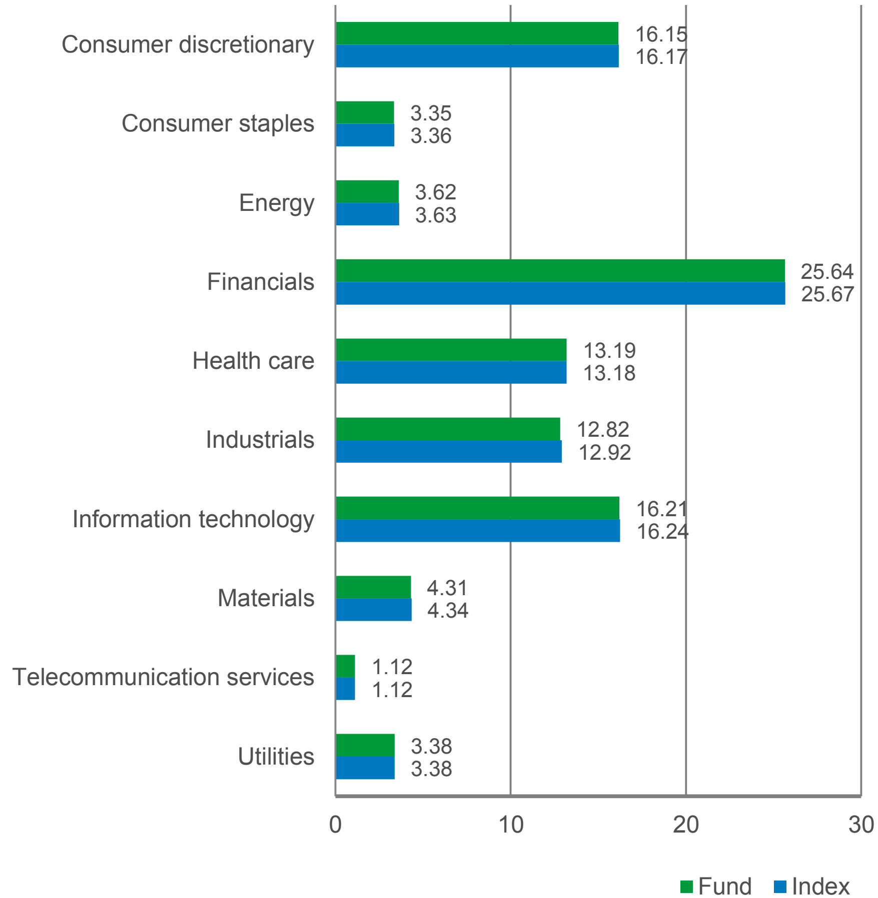
Extended Market Fund Characteristics

As of 30 September 2015

Characteristics	
Strategy	**Dow Jones U.S. Completion Total Stock Market Index**
Total fund assets	$9.38B
Number of holdings	2,789

Top 10 holdings	Fund %	Index %
Illumina, Inc.	0.62	0.62
Liberty Global Plc Class C	0.61	0.62
Tesla Motors, Inc.	0.59	0.59
LinkedIn Corporation Class A	0.54	0.54
Incyte Corporation	0.44	0.44
BioMarin Pharmaceutical Inc.	0.41	0.42
Twitter, Inc.	0.37	0.38
Las Vegas Sands Corp.	0.34	0.34
SBA Communications Corporation	0.33	0.33
Charter Communications, Inc. Class A	0.33	0.33

Sector diversification



Ext-Mkt-A-Ch

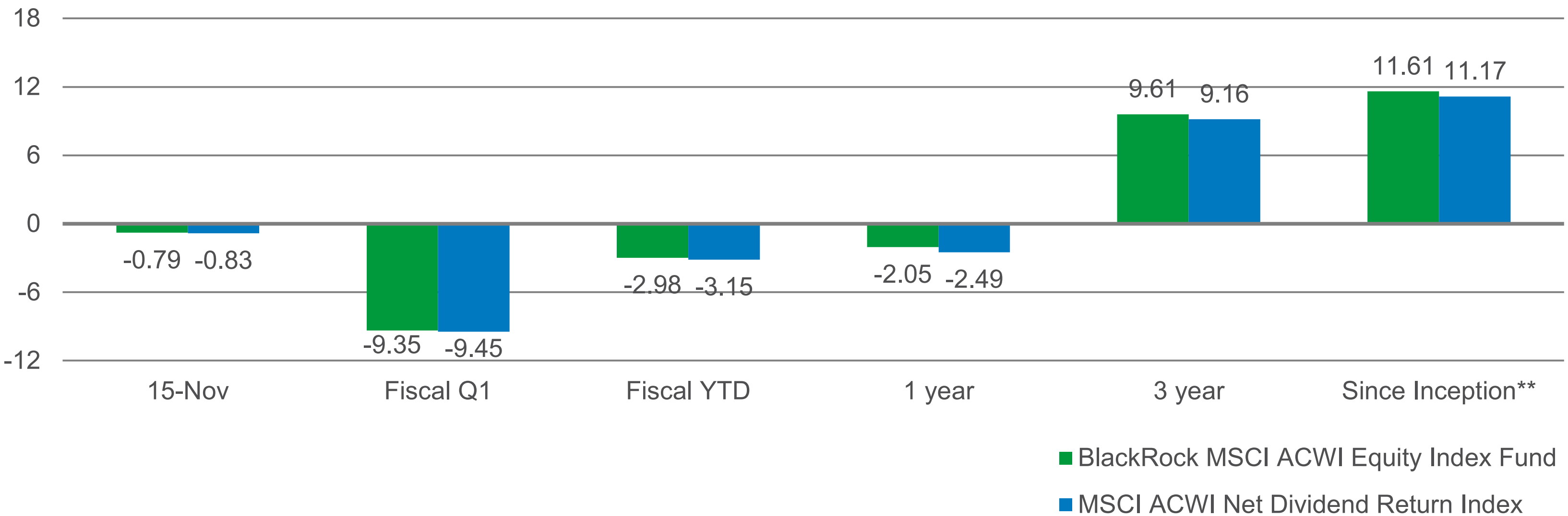
This information is unaudited and intended for analytical purposes only. The above information is based on the Extended Market Collective Trust Fund 's portfolio characteristics. Sources: BlackRock, FactSet

BlackRock MSCI ACWI Equity Index Fund
Ventura County Employees' Retirement Association

As of 30 November 2015

Account value	**$222,070,298**

Gross total return in USD (annualized* %)



	Nov-15 %	Fiscal Q1 %	Fiscal YTD %	1-yr %	3-yr %	Since Inception %
Tracking difference (Gross vs. Benchmark)	0.04	0.10	0.17	0.44	0.45	0.45

* Period returns for less than a year are cumulative
** Client inception 27 June 2012
*** Fiscal year-end June 30
The Fund's net asset value does not include an accrual for the investment management fee but does include an accrual for fund level administrative costs and, if applicable, certain third party acquired fund fees and expenses. If the Fund's net asset value did include an accrual for the investment management fee, the Fund's returns would be lower. **Past performance is not necessarily an indicator of future performance.** Performance is for the BlackRock MSCI ACWI Equity Index Collective Trust Fund.

BlackRock MSCI ACWI Equity Index Fund Characteristics

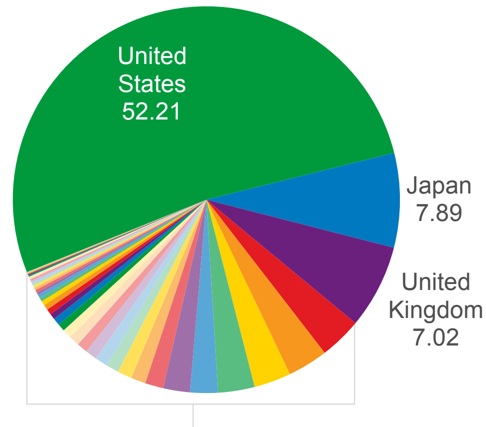
As of 30 September 2015

Characteristics	
Strategy	**MSCI ACWI Index℠**
Total fund value	$0.82B
Number of issues	2,506

Top 10 holdings

	Country	Weight (%)
Apple Inc.	United States	1.85
Microsoft Corporation	United States	0.99
Exxon Mobil Corporation	United States	0.91
Johnson & Johnson	United States	0.75
General Electric Company	United States	0.74
Wells Fargo & Company	United States	0.73
Nestle S.A.	Switzerland	0.72
JPMorgan Chase & Co.	United States	0.66
Novartis AG	Switzerland	0.62
Amazon.com, Inc.	United States	0.59

Country allocation (%)



France	3.52	Denmark	0.63	Turkey	0.14
Switzerland	3.36	Brazil	0.60	Chile	0.13
Germany	3.09	Mexico	0.48	Qatar	0.11
Canada	3.06	Belgium	0.47	United Arab Emirates	0.07
China	2.31	Singapore	0.44	Austria	0.06
Australia	2.23	Russia	0.38	Colombia	0.05
Korea	1.53	Malaysia	0.31	New Zealand	0.05
Taiwan	1.23	Finland	0.30	Portugal	0.05
Spain	1.21	Israel	0.22	Peru	0.04
Hong Kong	1.06	Thailand	0.22	Greece	0.03
Sweden	1.04	Indonesia	0.21	Czech Republic	0.02
Netherlands	0.99	Norway	0.20	Egypt	0.02
Italy	0.90	Philippines	0.15	Hungary	0.02
India	0.88	Poland	0.15		
South Africa	0.77	Ireland	0.14		

ACWI-Index-A-Ch

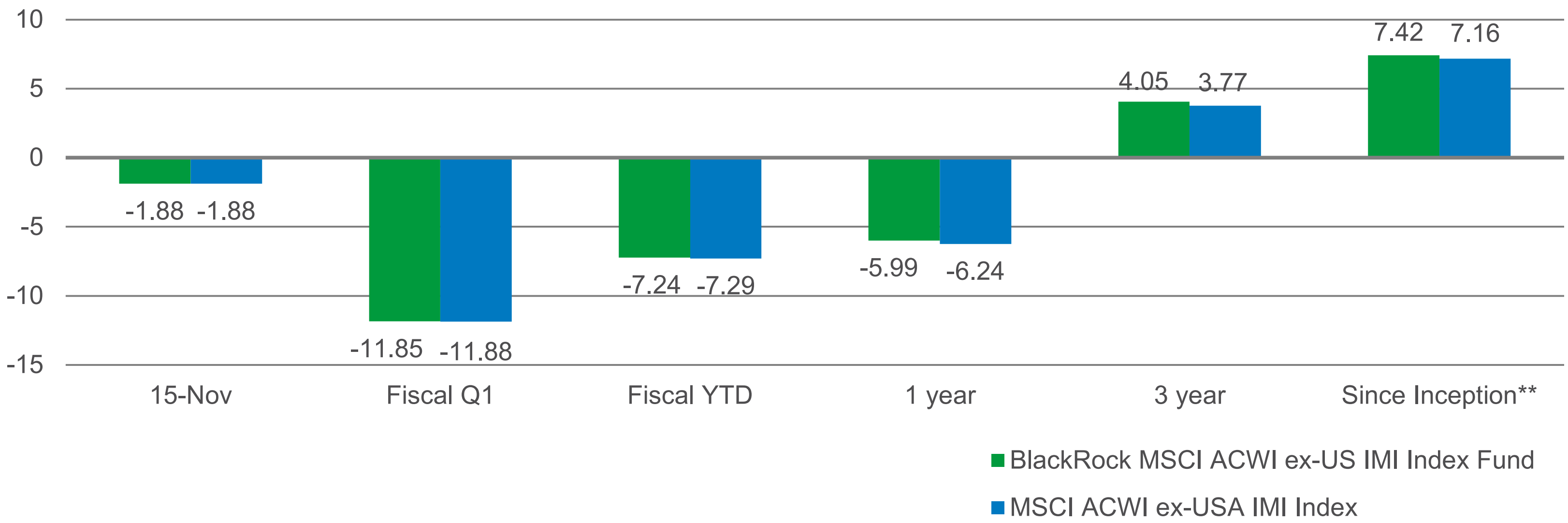
This information is unaudited and intended for analytical purposes only. The above information is based on the BlackRock MSCI ACWI Equity Index Collective Trust Fund 's portfolio characteristics. Sources: BlackRock, FactSet

BlackRock MSCI ACWI ex-US IMI Index Fund
Ventura County Employees' Retirement Association

As of 30 November 2015

Account value	**$242,174,891**

Gross total return in USD (annualized* %)



	Nov-15 %	**Fiscal Q1 %**	**Fiscal YTD %**	**1-yr %**	**3-yr %**	**Since Inception %**
Tracking difference (Gross vs. Benchmark)	0.00	0.03	0.05	0.25	0.28	0.26

* Period returns for less than a year are cumulative
** Client inception 30 May 2008
*** Fiscal year end June 30
The Fund's net asset value does not include an accrual for the investment management fee but does include an accrual for fund level administrative costs and, if applicable, certain third party acquired fund fees and expenses. If the Fund's net asset value did include an accrual for the investment management fee, the Fund's returns would be lower. **Past performance is not necessarily an indicator of future performance.** Performance is for the BlackRock MSCI ACWI ex-US IMI Index Collective Trust Fund.

BlackRock MSCI ACWI ex-US IMI Index℠ Fund Characteristics

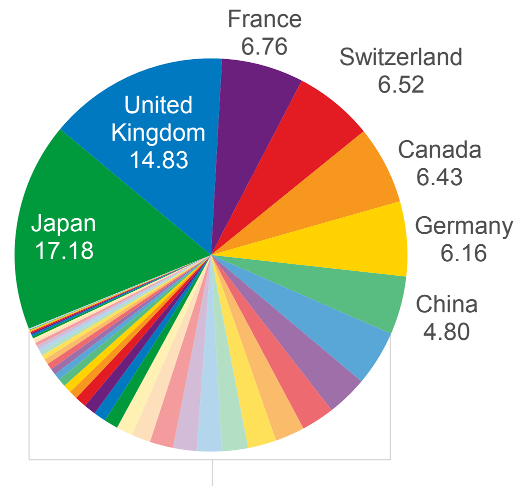
As of 30 September 2015

Characteristics	
Strategy	**MSCI ACWI ex-US IMI℠**
Total fund value	$5.85B
Number of issues in fund	6,162
Number of issues in index	6,082

Top 10 holdings

	Country	Weight (%)
Nestle S.A.	Switzerland	1.30
Novartis AG	Switzerland	1.12
Roche Holding Ltd Genusssch.	Switzerland	0.99
Toyota Motor Corp.	Japan	0.86
HSBC Holdings plc	United Kingdom	0.79
Sanofi	France	0.60
Samsung Electronics Co., Ltd.	Korea	0.57
Bayer AG	Germany	0.57
Novo Nordisk A/S Class B	Denmark	0.56
British American Tobacco p.l.c.	United Kingdom	0.55

Country allocation (%)



Australia	4.56	Singapore	0.99	Chile	0.25
Korea	3.36	Mexico	0.95	Qatar	0.21
Taiwan	2.73	Russia	0.70	Austria	0.20
Spain	2.43	Finland	0.68	New Zealand	0.18
Sweden	2.34	Malaysia	0.66	United Arab Emirates	0.16
Hong Kong	2.17	Norway	0.54		
Italy	2.03	Thailand	0.52	Portugal	0.12
Netherlands	1.94	Israel	0.51	Colombia	0.10
India	1.92	Indonesia	0.45	Egypt	0.07
South Africa	1.56	Ireland	0.37	Greece	0.07
Denmark	1.35	Poland	0.31	Peru	0.07
Brazil	1.15	Philippines	0.30	Hungary	0.05
Belgium	1.01	Turkey	0.29	Czech Republic	0.04

ACWI-ex-US-IMI-A-Ch

This information is unaudited and intended for analytical purposes only. The above information is based on the BlackRock ACWI ex-US IMI Index Collective Trust Fund 's portfolio characteristics. Sources: BlackRock, FactSet

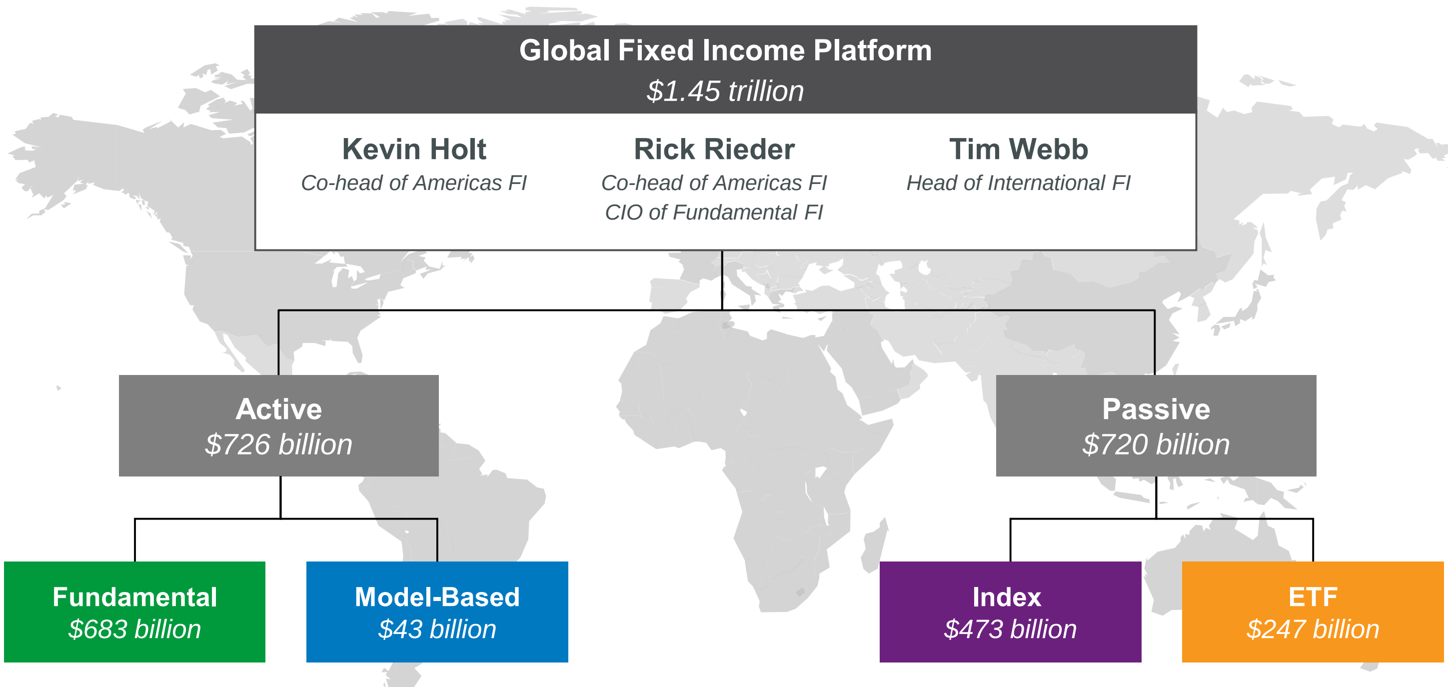
IV. Fixed Income Indexing Overview

Global fixed income platform provides greater access to investment opportunities

Benefits of BlackRock's breadth and depth

- **Talent:** 500+ fixed income professionals generate ideas and identify insights to create alpha opportunities
- **Trading:** Global execution platform provides deep market access
- **Technology:** Best-in-class analytics and risk management enables us to better understand and take risk in pursuit of alpha
- **Culture:** Fiduciary commitment to advising and serving clients drives our investment culture

Experienced leadership team oversees portfolio teams with decision-making autonomy



AUM in USD as of 30 September 2015; excludes fixed income alternative assets

BlackRock Model-Based North America Portfolio Solutions Team

The North America portfolio solutions team consists of 23 investment professionals

Scott Radell, CFA, Managing Director, is Head of US Fixed Income Portfolio Solutions within BlackRock's Model-Based Fixed Income Portfolio Management Group.

Mr. Radell's service with the firm dates back to 2003, including his years with Barclays Global Investors (BGI), which merged with BlackRock in 2009. At BGI, Mr. Radell was the Head of Portfolio Solutions, a group responsible for management and oversight of all US based active fixed income funds. Before founding the Portfolio Solutions Group, he was a portfolio manager responsible for BGI's active investment grade long-only and long/short cross-over portfolios. Prior to joining BGI, Scott served for over seven years as an analyst for corporate bond and Commercial Mortgage Backed Securities for Morgan Stanley Investment Management. Mr. Radell began his career as a fixed income client service and mortgage analysts at BARRA.

Mr. Radell earned a BA degree in quantitative economics and decision sciences from the University of California at San Diego in 1992.

Multi-Sector/Other

- **Scott Radell** — Sr. Portfolio Manager, Multi-Sector
- **Joel Silva** — Sr. Portfolio Manager, Municipals / Canada
- **Karen Uyehara** — Portfolio Manager, Multi-Sector
- **Tao Chen** — Portfolio Manager, Municipal Bonds
- **Rena Patel** — Portfolio Manager, Municipals
- **Jermaine Pierre** — Portfolio Manager, Canada
- **Jasmita Mohan** — Portfolio Manager, Multi-Sector
- **Lip Tong** — Portfolio Manager, Canada
- **Clay Armistead** — Portfolio Manager, Securitized Credit

Credit

- **David Dulski** — Portfolio Manager, Corporate Credit
- **Jonathan Graves** — Sr. Portfolio Manager, Corporate Credit
- **Allen Kwong** — Portfolio Manager, Corporate Credit
- **Eric Souders** — Portfolio Manager, Corporate Credit
- **Nicolas Giometti** — Jr Portfolio Manager, Corporate Credit
- **Elya Schwartzman** — Portfolio Manager, Corporate Credit
- **Jesse Kang** — Jr Portfolio Manager, Corporate Credit
- **Leo Landes** — Portfolio Manager, Corporate Credit

Rates/Mortgage/EM

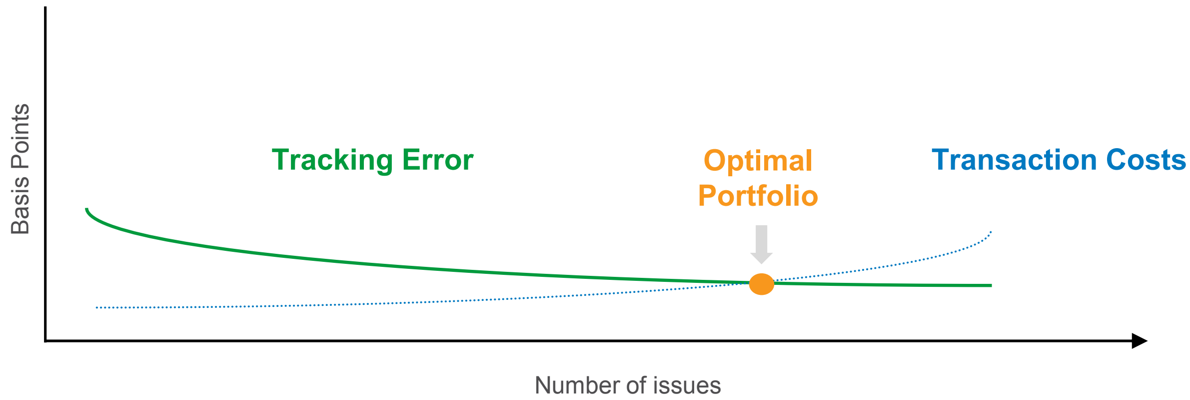
- **Jay Mauro** — Sr. Portfolio Manager, US Government Bonds
- **Mark Buell** — Portfolio Manager, US Government Bonds
- **Wes George** — Portfolio Manager, US Government Bonds
- **Parry Wang** — Portfolio Manager, Agency Mortgages
- **Daniel Ruiz** — Portfolio Manager, Emerging Markets
- **Gabe Shipley** — Portfolio Manager, Emerging Markets

As of 30 September 2015

Fixed Income indexing: different market, different strategy

Quantitative process balances tracking error & transaction costs

- Unlike equities, Fixed Income is not traded on exchanges
- Prohibitive costs, uncertain liquidity, and issue scarcity often makes perfect replication infeasible
- Index process optimizes marginal contribution to tracking error with T-Costs

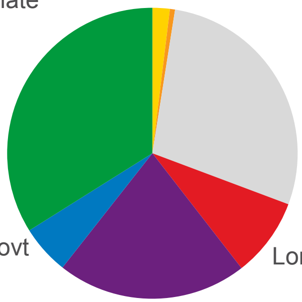


For illustrative purpose only.
Source: BlackRock

Modular Fund Design

BlackRock's modular fund design leverages our scale and facilitates crossing opportunities for clients

Barclays US Aggregate
Issues Fund: 7,594
Issues Benchmark: 9,590



Intermediate Government	Long Government	Intermediate Credit	Long Credit	Mortgage-Backed Securities	Asset-Backed Securities	CMBS
Issues Fund: 256	Issues Fund: 91	Issues Fund: 4,035	Issues Fund: 2,013	Issues Fund: 372	Issues Fund:161	Issues Fund: 357
Issues B'mark:769	Issues B'mark: 91	Issues B'mark: 4,282	Issues B'mark: 2,122	Issues B'mark: 372	Issues B'mark: 380	Issues B'mark: 1,568

Source: BlackRock; data as of 30 September 2015

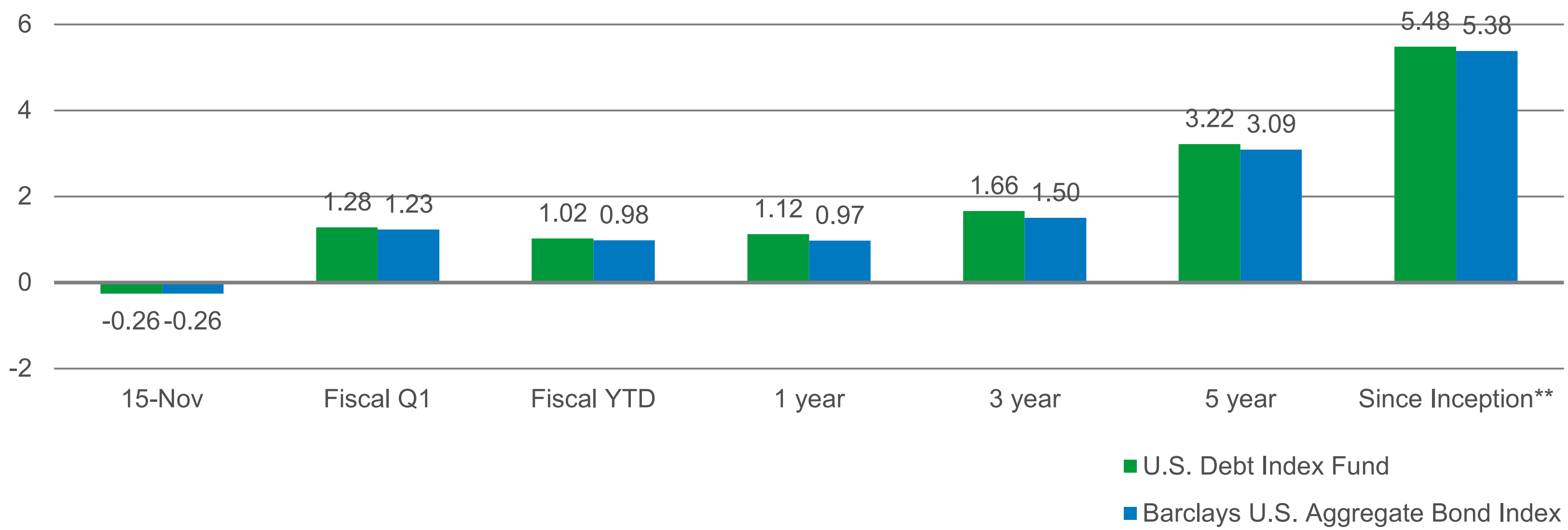
i. Portfolio Review

U.S. Debt Index Fund
Ventura County Employees' Retirement Association

As of 30 November 2015

Account value	**$140,579,279**

Gross total return in USD (annualized* %)



	Nov-15 %	Fiscal Q1 %	Fiscal YTD %	1-yr %	3-yr %	5-yr %	Since Inception %
Tracking difference (Gross vs. Benchmark)	0.00	0.05	0.04	0.15	0.16	0.13	0.10

* Period returns for less than a year are cumulative
** Client inception 31 December 1995
*** Fiscal year-end June 30
The Fund's net asset value does not include an accrual for the investment management fee but does include an accrual for fund level administrative costs and, if applicable, certain third party acquired fund fees and expenses. If the Fund's net asset value did include an accrual for the investment management fee, the Fund's returns would be lower. **Past performance is not necessarily an indicator of future performance.** Performance is for the US Debt Index Collective Trust Fund.

U.S. Debt Index Fund
Portfolio Profile

As of 30 November 2015

US Debt Index Fund	US Debt Index Fund	Barclays Aggregate Bond Index
Market value ($B)	7.54	18,204.83
# Issues	7,658	9,681
Characteristics		
Coupon (%)	3.27	3.19
Yield to maturity (YTM) (%)	2.43	2.44
Weighted avg life (yrs)	7.57	7.64
Effective duration (yrs)	5.25	5.25
Spread duration	3.72	3.73
Option adjusted spread (bps)	51	51
Convexity	0.07	0.06
Quality breakdown (mkt val %)		
AAA or above	72.27	72.37
AA	3.71	3.61
A	11.33	11.32
BBB	12.67	12.69
Below BBB	0.01	0.00

	US Debt Index Fund	Barclays Aggregate Bond Index
Sector breakdown (mkt val %)		
Treasury	36.12	36.18
Agencies	2.84	2.86
Financials	7.84	7.84
Industrials	14.57	14.56
Utilities	1.80	1.82
Non-US credit	4.80	4.76
Taxable munis	0.91	0.97
ABS	0.56	0.57
Mortgages	28.08	28.30
Hybrid ARM	0.27	0.22
CMBS	1.89	1.85
Foreign Government	0.00	0.07
Cash	0.32	0.00
Weighted avg life breakdown (mkt val %)		
0-1	1.81	0.20
1-2	11.82	11.91
2-3	6.99	9.92
3-5	26.02	26.40
5-7	19.56	17.13
7-10	19.62	20.05
10-20	3.25	3.33
20-30	10.46	10.56
30+	0.46	0.50

Data is for analytical purposes only. Index data points may differ to those published by the Index due to different classification criteria. Breakdowns may not sum to total due to rounding, exclusion of cash, STIF, and statistically immaterial factors. Past performance is not a reliable indicator of future results. The above information is based on the US Debt Index Collective Trust Fund's portfolio characteristics. Source: BlackRock

Appendix

i. Presenter Biographies

Presenter Biographies

Anthony R. Freitas, CFA, Managing Director, is a member of the US and Canada Institutional team within BlackRock's Institutional Client Business. He is responsible for developing and maintaining relationships with institutional investors, including public and private pension plans, foundations and endowments.

Prior to joining BlackRock in 2004, Mr. Freitas was with Deutsche Asset Management, most recently as Managing Director and Regional Manager for client service. From 1993 to 2000, he was with Boston Partners Asset Management L.P. Initially a vice president responsible for West Coast client service, he became a Principal in 1995. Mr. Freitas began his career at Callan Associates in 1986 as a pension fund consultant.

Mr. Freitas earned an BA degree in political science from the University of California at Berkeley in 1982 and an MBA in finance from San Francisco State University in 1985.

Timothy Murray, *CFA,* Director, is an Index Equity strategist within BlackRock's Beta Strategies Group.

Mr. Murray's service with the firm dates back to 2007, including his years with Barclays Global Investors (BGI), which merged with BlackRock in 2009. Prior to moving to his role as a product strategist, Mr. Murray was a senior portfolio manager and team leader in BlackRock's Institutional Index Equity Portfolio Management Group. Before joining BGI, Mr. Murray was a manager at State Street working with asset managers on trade processing and settlement. Prior to State Street, he was a financial advisor at Merrill Lynch.

Mr. Murray earned a BS degree in finance from California State University, Sacramento, in 2002, and an MBA degree from the University of California, Davis, in 2013.

Laura Champion, Vice President, is a member of the US and Canada Institutional team within BlackRock's Institutional Client Business. She is responsible for developing and maintaining relationships with institutional investors, including public and private pension plans, foundations and endowments.

Ms. Champion’s service with the firm dates back to 2011. Before assuming her current responsibilities, Ms. Champion previously worked as a Business Development Associate in iShares within the Wealth Advisory channel where she was responsible for developing and maintaining relationships with financial advisors across the retail business. Prior to joining BlackRock in 2011, Laura worked for Bank of America Merrill Lynch in Institutional Equity Research Sales in San Francisco where she focused on developing and maintaining relationships with institutional investors, corporate management teams and research analysts with an emphasis on regional roadshow coordination and marketing.

Ms. Champion received a B.A. in Global and International Studies and a B.A. in French Literature from the University of California Santa Barbara.

ii. Supplemental Performance

U.S. Equity Market Fund (the "Fund")
Ventura County Employees' Retirement Association

	U.S. Equity Market Fund	Dow Jones U.S. Total Stock Market Index	Tracking Difference
2008[1]	-7.25%	-7.24%	-0.01%
2009	-26.29	-26.39	0.10
2010	16.10	16.13	-0.03
2011	32.47	32.44	0.03
2012	4.16	3.97	0.19
2013	21.58	21.48	0.10
2014	25.12	25.03	0.09
2015	7.32	7.18	0.14
1 Yr[2]	2.69	2.50	0.19
3 Yrs Annualized	16.05	15.92	0.13
5 Yrs Annualized	14.23	14.10	0.13
Fiscal Year 2016			
Jul	1.65%	1.65%	0.00%
Aug	-5.97	-6.00	0.03
Sep	-2.94	-2.95	0.01
1st Qtr.	-7.22%	-7.27%	0.05%
Oct	7.91%	7.87%	0.04%
Nov	0.57	0.55	0.02
Dec			
2nd Qtr.			
Jan			
Feb			
Mar			
3rd Qtr.			
Apr			
May			
Jun			
4th Qtr.			
Fiscal YTD	0.68%	0.58%	0.10%
Last 3 months	5.34%	5.27%	0.07%
Last 6 months	-0.96	-1.13	0.17
Last 9 months	-0.17	-0.33	0.16
Last 12 months	2.69	2.50	0.19
Cumulative Since Inception	79.98%	78.73%	1.25%
Annualized Since Inception	8.16%	8.06%	0.10%

The Fund is managed by BTC. The information disclosed herein is for informational purposes only and may not be compliant with the requirements of Department of Labor Rule 404a-5. Plan sponsors and/or administrators seeking the requisite information to comply with Rule 404a-5 should contact their Account Manager.
As of 1/1/89, fund returns are based on NYSE closing prices. Prior returns were based on composite closing prices.
Prior to September 30, 2001, the benchmark return for the Dow Jones U.S. Total Stock Market Index was the US Equity Market Index.
Between September 30, 2001 and June 18, 2004 the benchmark was the Wilshire 5000.
The Fund is a privately offered collective investment fund maintained by BlackRock Institutional Trust Company, N.A. (BTC) and is available only to certain qualified employee benefit plans and governmental plans and not offered to the general public; a prospectus is not required and prices are not available in local publications. To obtain pricing information, please contact your local service representative.

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[1] Account Inception 06/02/08
[2] Performance figures are annualized as of fiscal year-end.

U.S. Equity Market Fund (the "Fund")

	U.S. Equity Market Fund	Dow Jones U.S. Total Stock Market Index	Tracking Difference
2005	6.48%	6.38%	0.10%
2006	15.78	15.77	0.01
2007	5.71	5.62	0.09
2008	-36.95	-37.23	0.28
2009	28.19	28.57	-0.38
2010	17.60	17.49	0.11
2011	1.22	1.08	0.14
2012	16.53	16.38	0.15
2013	33.52	33.47	0.05
2014	12.55	12.47	0.08
1 Yr[1]	2.69	2.50	0.19
3 Yrs Annualized	16.05	15.92	0.13
5 Yrs Annualized	14.23	14.10	0.13
10 Yrs Annualized	7.80	7.71	0.09
2015			
Jan	-2.77%	-2.78%	0.01%
Feb	5.81	5.80	0.01
Mar	-1.03	-1.03	0.00
1st Qtr.	1.82%	1.80%	0.02%
Apr	0.46%	0.46%	0.00%
May	1.38	1.39	-0.01
Jun	-1.63	-1.71	0.08
2nd Qtr.	0.18%	0.12%	0.06%
Jul	1.65%	1.65%	0.00%
Aug	-5.97	-6.00	0.03
Sep	-2.94	-2.95	0.01
3rd Qtr.	-7.22%	-7.27%	0.05%
Oct	7.91%	7.87%	0.04%
Nov	0.57	0.55	0.02
Dec			
4th Qtr.			
YTD 2015	2.70%	2.51%	0.19%
Last 3 months	5.34%	5.27%	0.07%
Last 6 months	-0.96	-1.13	0.17
Last 9 months	-0.17	-0.33	0.16
Last 12 months	2.69	2.50	0.19
Cumulative Since Inception[2]	3842.89%	3762.67%	80.22%
Annualized Since Inception	11.13%	11.06%	0.07%

General Notes:
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[1] Performance figures are annualized as of period end.
[2] Fund Inception 01/31/81

Extended Equity Market Fund (the "Fund")
Ventura County Employees' Retirement Association

	Fund	Dow Jones U.S. Completion Total Stock Market Index[2]	Tracking Difference
2003[1]	23.65%	24.23%	-0.58%
2004	28.73	28.53	0.20
2005	13.85	13.49	0.36
2006	14.50	14.03	0.47
2007	18.41	18.75	-0.34
2008	-11.19	-11.41	0.22
2009	-27.90	-27.54	-0.36
2010	23.98	24.27	-0.29
2011	39.38	39.19	0.19
2012	-1.60	-2.11	0.51
2013	25.57	25.11	0.46
2014	28.89	28.75	0.14
2015	6.29	6.18	0.11
1 Yr[3]	1.77	1.48	0.29
3 Yrs Annualized	15.49	15.29	0.20
5 Yrs Annualized	13.01	12.71	0.30
7 Yrs Annualized	17.74	17.71	0.03
10 Yrs Annualized	8.44	8.35	0.09
Fiscal Year 2016			
Jul	-0.15%	-0.12%	-0.03%
Aug	-5.80	-5.89	0.09
Sep	-4.83	-4.84	0.01
1st Qtr.	-10.47%	-10.56%	0.09%
Oct	5.57%	5.50%	0.07%
Nov	1.72	1.66	0.06
Dec			
2nd Qtr.			
Jan			
Feb			
Mar			
3rd Qtr.			
Apr			
May			
Jun			
4th Qtr.			
Fiscal YTD	-3.87%	-4.07%	0.20%
Last 3 months	2.20%	2.06%	0.14%
Last 6 months	-4.57	-4.80	0.23
Last 9 months	-3.12	-3.38	0.26
Last 12 months	1.77	1.48	0.29
Cumulative Since Inception	342.64%	337.81%	4.83%
Annualized Since Inception	11.96%	11.87%	0.09%
Annualized Risk	17.22%	17.15%	0.43%

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[1] Account Inception 09/30/02
[2] Prior to August 31, 2001, the benchmark return for the Dow Jones U.S. Completion Total Stock Market Index was the Extended Equity Market Index. Between September 30, 2001 and June 30, 2004 the benchmark was the Wilshire 4500.
[3] Performance figures are annualized as of fiscal year-end.

Extended Equity Market Fund (the “Fund”)

	Fund	Dow Jones U.S. Completion Total Stock Market Index[2]	Tracking Difference
1981[1]	0.48%	0.06%	0.42%
1982	15.60	16.47	-0.87
1983	24.05	23.61	0.64
1984	-1.38	-2.11	0.73
1985	31.42	31.36	0.06
1986	12.01	11.46	0.55
1987	-4.32	-4.08	-0.24
1988	20.72	20.09	0.63
1989	23.44	22.79	0.65
1990	-12.36	-13.58	1.22
1991	44.29	43.38	0.91
1992	13.72	12.59	1.13
1993	13.54	14.21	-0.67
1994	-3.22	-3.29	0.07
1995	33.65	33.73	-0.08
1996	18.52	18.23	0.29
1997	26.61	26.30	0.31
1998	7.55	7.16	0.39
1999	32.86	32.68	0.18
2000	-9.12	-9.58	0.46
2001	-6.65	-7.29	0.64
2002	-18.26	-17.80	-0.46
2003	43.36	43.84	-0.48
2004	18.24	17.94	0.30
2005	10.63	10.03	0.60
2006	15.31	15.28	0.03
2007	5.41	5.39	0.02
2008	-38.40	-39.03	0.63
2009	35.02	37.43	-2.41
2010	29.01	28.62	0.39
2011	-3.41	-3.76	0.35
2012	18.47	17.89	0.58
2013	38.27	38.05	0.22
2014	7.62	7.63	-0.01
1 Yr[3]	1.77	1.48	0.29
3 Yrs Annualized	15.49	15.29	0.20
5 Yrs Annualized	13.01	12.71	0.30
7 Yrs Annualized	17.74	17.71	0.03
10 Yrs Annualized	8.44	8.35	0.09
2015			
Jan	-1.86%	-1.89%	0.03%
Feb	6.04	6.03	0.01
Mar	1.23	1.23	0.00
1st qtr.	**5.34%**	**5.30%**	**0.04%**
Apr	-1.52%	-1.55%	0.03%
May	1.84	1.83	0.01
Jun	-0.73	-0.76	0.03
2nd qtr.	**-0.44%**	**-0.51%**	**0.07%**
Jul	-0.15%	-0.12%	-0.03%
Aug	-5.80	-5.89	0.09
Sep	-4.83	-4.84	0.01
3rd qtr.	**-10.47%**	**-10.56%**	**0.09%**
Oct	5.57%	5.50%	0.07%
Nov	1.72	1.66	0.06
Dec			
4th qtr.			
YTD 2015	**0.82%**	**0.51%**	**0.31%**
Last 3 months	**2.20%**	**2.06%**	**0.14%**
Last 6 months	**-4.57**	**-4.80**	**0.23**
Last 9 months	**-3.12**	**-3.38**	**0.26**
Last 12 months	**1.77**	**1.48**	**0.29**
Cumulative since Inception	**3828.52%**	**3542.91%**	**285.61%**
Annualized since Inception	**11.12%**	**10.87%**	**0.25%**
Annualized Risk	**17.78%**	**17.74%**	**0.56%**

General Notes:
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[1] Fund Inception 01/31/81
[2] Prior to August 31, 2001, the benchmark return for the Dow Jones U.S. Completion Total Stock Market Index was the Extended Equity Market Index. Between September 30, 2001 and June 30, 2004 the benchmark was the Wilshire 4500.
[3] Performance figures are annualized as of period end.

ACWI Equity Index Fund (the "Fund")
Ventura County Employees' Retirement Association

	Fund	MSCI ACWI Net Dividend Return Index	Tracking Difference
2012[1]	2.82%	2.82%	0.00%
2013	17.09	16.57	0.52
2014	23.32	22.95	0.37
2015	1.13	0.71	0.42
1 Yr[2]	-2.05	-2.49	0.44
3 Yrs Annualized	9.61	9.16	0.45
Fiscal Year 2016			
Jul	0.87%	0.87%	0.00%
Aug	-6.81	-6.86	0.05
Sep	-3.58	-3.62	0.04
1st Qtr.	-9.35%	-9.45%	0.10%
Oct	7.88%	7.85%	0.03%
Nov	-0.79	-0.83	0.04
Dec			
2nd Qtr.			
Jan			
Feb			
Mar			
3rd Qtr.			
Apr			
May			
Jun			
4th Qtr.			
Fiscal YTD	-2.98%	-3.15%	0.17%
Last 3 months	3.20%	3.08%	0.12%
Last 6 months	-5.23	-5.43	0.20
Last 9 months	-3.97	-4.32	0.35
Last 12 months	-2.05	-2.49	0.44
Cumulative Since Inception	45.67%	43.73%	1.94%
Annualized Since Inception	11.61%	11.17%	0.44%
Annualized Risk	10.22%	10.25%	0.14%

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[1] Account Inception 06/27/12
[2] Performance figures are annualized as of fiscal year-end.

MSCI ACWI Equity Index Fund (the "Fund")

	Fund	MSCI ACWI Net Dividend Return Index	Tracking Difference
2010[1]	**7.78%**	**7.57%**	**0.21%**
2011	**-6.85**	**-7.35**	**0.50**
2012	**16.65**	**16.13**	**0.52**
2013	**23.26**	**22.80**	**0.46**
2014	**4.60**	**4.16**	**0.44**
1 Yr[2]	**-2.05**	**-2.49**	**0.44**
3 Yrs Annualized	**9.61**	**9.16**	**0.45**
5 Yrs Annualized	**8.47**	**7.99**	**0.48**
2015			
Jan	-1.54%	-1.56%	0.02%
Feb	5.60	5.57	0.03
Mar	-1.50	-1.55	0.05
1st Qtr.	**2.42%**	**2.31%**	**0.11%**
Apr	2.94%	2.90%	0.04%
May	-0.07	-0.13	0.06
Jun	-2.32	-2.35	0.03
2nd Qtr.	**0.48%**	**0.35%**	**0.13%**
Jul	0.87%	0.87%	0.00%
Aug	-6.81	-6.86	0.05
Sep	-3.58	-3.62	0.04
3rd Qtr.	**-9.35%**	**-9.45%**	**0.10%**
Oct	7.88%	7.85%	0.03%
Nov	-0.79	-0.83	0.04
Dec			
4th Qtr.			
YTD 2015	**-0.15%**	**-0.57%**	**0.42%**
Last 3 months	**3.20%**	**3.08%**	**0.12%**
Last 6 months	**-5.23**	**-5.43**	**0.20**
Last 9 months	**-3.97**	**-4.32**	**0.35**
Last 12 months	**-2.05**	**-2.49**	**0.44**
Cumulative Since Inception	**50.79%**	**47.20%**	**3.59%**
Annualized Since Inception	**7.60%**	**7.14%**	**0.46%**
Annualized Risk	**14.41%**	**14.47%**	**0.17%**

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[1] Fund Inception 04/22/10
[2] Performance figures are annualized as of period end.

ACWI ex-US IMI Index Fund (the "Fund")
Ventura County Employees' Retirement Association

	Fund	MSCI ACWI ex-U.S. IMI Index	Tracking Difference
2012[1]	3.25%	3.26%	-0.01%
2013	14.20	13.91	0.29
2014	22.58	22.28	0.30
2015	-4.70	-4.97	0.27
1 Yr[2]	-5.99	-6.24	0.25
3 Yrs Annualized	4.05	3.77	0.28
Fiscal Year 2016			
Jul	-0.53%	-0.50%	-0.03%
Aug	-7.34	-7.37	0.03
Sep	-4.36	-4.40	0.04
1st Qtr.	-11.85%	-11.88%	0.03%
Oct	7.25%	7.24%	0.01%
Nov	-1.88	-1.88	0.00
Dec			
2nd Qtr.			
Jan			
Feb			
Mar			
3rd Qtr.			
Apr			
May			
Jun			
4th Qtr.			
Fiscal YTD	-7.24%	-7.29%	0.05%
Last 3 months	0.65%	0.59%	0.06%
Last 6 months	-9.73	-9.80	0.07
Last 9 months	-7.59	-7.81	0.22
Last 12 months	-5.99	-6.24	0.25
Cumulative Since Inception	27.77%	26.72%	1.05%
Annualized Since Inception	7.42%	7.16%	0.26%
Annualized Risk	11.59%	11.60%	0.09%

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[1] Account Inception 06/27/12
[2] Performance figures are annualized as of fiscal year-end.

ACWI ex-US IMI Index Fund (the "Fund")

	Fund	MSCI ACWI ex-U.S. IMI Index	Tracking Difference
2008[1]	-37.07%	-37.48%	0.41%
2009	43.27	43.60	-0.33
2010	12.90	12.73	0.17
2011	-14.05	-14.31	0.26
2012	17.36	17.04	0.32
2013	16.15	15.82	0.33
2014	-3.65	-3.89	0.24
1 Yr[2]	-5.99	-6.24	0.25
3 Yrs Annualized	4.05	3.77	0.28
5 Yrs Annualized	3.48	3.19	0.29
7 Yrs Annualized	9.43	9.24	0.19
2015			
Jan	-0.16%	-0.18%	0.02%
Feb	5.37	5.36	0.01
Mar	-1.48	-1.55	0.07
1st Qtr.	3.64%	3.55%	0.09%
Apr	5.21%	5.17%	0.04%
May	-1.24	-1.29	0.05
Jun	-2.68	-2.71	0.03
2nd Qtr.	1.12%	1.00%	0.12%
Jul	-0.53%	-0.50%	-0.03%
Aug	-7.34	-7.37	0.03
Sep	-4.36	-4.40	0.04
3rd Qtr.	-11.85%	-11.88%	0.03%
Oct	7.25%	7.24%	0.01%
Nov	-1.88	-1.88	0.00
Dec			
4th Qtr.			
YTD 2015	-2.78%	-3.03%	0.25%
Last 3 months	0.65%	0.59%	0.06%
Last 6 months	-9.73	-9.80	0.07
Last 9 months	-7.59	-7.81	0.22
Last 12 months	-5.99	-6.24	0.25
Cumulative Since Inception	11.71%	9.55%	2.16%
Annualized Since Inception	1.45%	1.19%	0.26%
Annualized Risk	20.63%	20.68%	0.19%

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[1] Fund Inception 03/20/08
[2] Performance figures are annualized as of period end.

U.S. Debt Index Fund (the "Fund")
Ventura County Employees' Retirement Association

	Fund	Barclays U.S. Aggregate Bond Index[2]	Tracking Difference
1996[1]	-1.11%	-1.21%	0.10%
1997	8.14	8.15	-0.01
1998	10.61	10.54	0.07
1999	3.17	3.15	0.02
2000	4.64	4.57	0.07
2001	11.38	11.23	0.15
2002	8.87	8.63	0.24
2003	10.47	10.40	0.07
2004	0.33	0.32	0.01
2005	6.85	6.80	0.05
2006	-0.76	-0.81	0.05
2007	6.21	6.12	0.09
2008	7.32	7.12	0.20
2009	6.15	6.05	0.10
2010	9.61	9.50	0.11
2011	4.03	3.90	0.13
2012	7.56	7.47	0.09
2013	-0.48	-0.69	0.21
2014	4.49	4.37	0.12
2015	1.99	1.86	0.13
1 Yr[3]	1.12	0.97	0.15
2 Yrs Annualized	3.26	3.10	0.16
3 Yrs Annualized	1.66	1.50	0.16
4 Yrs Annualized	2.61	2.49	0.12
5 Yrs Annualized	3.22	3.09	0.13
7 Yrs Annualized	4.81	4.69	0.12
10 Yrs Annualized	4.77	4.65	0.12
Fiscal Year 2016			
Jul	0.70%	0.70%	0.00%
Aug	-0.13	-0.14	0.01
Sep	0.71	0.68	0.03
1st Qtr.	1.28%	1.23%	0.05%
Oct	0.00%	0.02%	-0.02%
Nov	-0.26	-0.26	0.00
Dec			
2nd Qtr.			
Jan			
Feb			
Mar			
3rd Qtr.			
Apr			
May			
Jun			
4th Qtr.			
Fiscal YTD	1.02%	0.98%	0.04%
Last 3 months	0.46%	0.43%	0.03%
Last 6 months	-0.08	-0.12	0.04
Last 9 months	-0.21	-0.26	0.05
Last 12 months	1.12	0.97	0.15
Cumulative Since Inception	189.36%	183.79%	5.56%
Annualized Since Inception	5.48%	5.38%	0.10%
Annualized Risk	3.48%	3.47%	0.09%

[1] Account Inception 12/31/95
[2] 5/31/96 performance difference due to pricing changes in the Barclays Mortgage Index.
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[3] Performance figures are annualized as of fiscal year-end.

U.S. Debt Index Fund (the "Fund")

	Fund	Barclays U.S. Aggregate Bond Index[2]	Tracking Difference
1986[1]	5.69%	5.87%	-0.18%
1987	2.52	2.60	-0.08
1988	7.93	7.98	-0.05
1989	14.45	14.44	0.01
1990	8.89	8.96	-0.07
1991	16.03	16.00	0.03
1992	7.37	7.40	-0.03
1993	9.74	9.75	-0.01
1994	-2.94	-2.92	-0.02
1995	18.49	18.47	0.02
1996	3.73	3.63	0.10
1997	9.69	9.65	0.04
1998	8.78	8.69	0.09
1999	-0.83	-0.82	-0.01
2000	11.73	11.63	0.10
2001	8.64	8.44	0.20
2002	10.34	10.26	0.08
2003	4.22	4.10	0.12
2004	4.37	4.34	0.03
2005	2.47	2.43	0.04
2006	4.42	4.33	0.09
2007	7.07	6.97	0.10
2008	5.41	5.24	0.17
2009	6.01	5.93	0.08
2010	6.73	6.54	0.19
2011	7.89	7.84	0.05
2012	4.34	4.21	0.13
2013	-1.93	-2.02	0.09
2014	6.24	5.97	0.27
1 Yr[3]	1.12	0.97	0.15
2 Yrs Annualized	3.26	3.10	0.16
3 Yrs Annualized	1.66	1.50	0.16
4 Yrs Annualized	2.61	2.49	0.12
5 Yrs Annualized	3.22	3.09	0.13
7 Yrs Annualized	4.81	4.69	0.12
10 Yrs Annualized	4.77	4.65	0.12
2015			
Jan	2.10%	2.10%	0.00%
Feb	-0.92	-0.94	0.02
Mar	0.45	0.46	-0.01
1st Qtr.	1.62%	1.61%	0.01%
Apr	-0.29%	-0.36%	0.07%
May	-0.29	-0.24	-0.05
Jun	-1.09	-1.09	0.00
2nd Qtr.	-1.66%	-1.68%	0.02%
Jul	0.70%	0.70%	0.00%
Aug	-0.13	-0.14	0.01
Sep	0.71	0.68	0.03
3rd Qtr.	1.28%	1.23%	0.05%
Oct	0.00%	0.02%	-0.02%
Nov	-0.26	-0.26	0.00
Dec			
4th Qtr.			
YTD 2015	0.96%	0.88%	0.08%
Last 3 months	0.46%	0.43%	0.03%
Last 6 months	-0.08	-0.12	0.04
Last 9 months	-0.21	-0.26	0.05
Last 12 months	1.12	0.97	0.15
Cumulative Since Inception	663.02%	652.82%	10.20%
Annualized Since Inception	6.64%	6.59%	0.05%
Annualized Risk	3.87%	3.87%	0.09%

General Notes:

[1] Fund Inception 06/30/86

[2] 5/31/96 performance difference due to pricing changes in the Barclays Mortgage Index.

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Important Notes (cont'd)

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FII-0007

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
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http://www.ventura.org/vcera

December 21, 2015

Board of Retirement
Ventura County Employees' Retirement Association
1190 South Victoria Avenue, Suite 200
Ventura, CA 93003

SUBJECT: RECOMMENDED ADOPTION OF REMAINING PROPOSED ACTUARIAL ASSUMPTIONS

Dear Board Members:

At the May 18, 2015 business meeting, VCERA's actuary presented both the results of their triennial analysis of actuarial experience and their review of economic assumptions. Both reports contain recommended assumptions to be used in future valuations, beginning with the 2015 actuarial valuation. At that time, the Board adopted the recommended change to the investment return assumption after considerable discussion. However, the Board did not formally adopt the remaining recommendations. These recommended assumptions have been applied in the 2015 actuarial valuation.

Staff recommends that the Board formally adopt the new assumptions set forth in the experience analysis, as well as the remaining recommendations resulting from the review of economic actuarial assumptions.

RECOMMENDATION 1: ADOPT THE PROPOSED ACTUARIAL ASSUMPTIONS, CONTAINED IN THE 2015 TRIENNIAL ANALYSIS OF ACTUARIAL EXPERIENCE STUDY, TO BE USED IN FUTURE ACTUARIAL VALUATIONS BEGINNING WITH THE JUNE 30, 2015 ACTUARIAL VALUATION.

RECOMMENDATION 2: ADOPT THE PROPOSED ECONOMIC ASSUMPTIONS SET FORTH IN THE 2015 REVIEW ECONOMIC ASSUMPTIONS, WITH THE EXCEPTION OF THE INVESTMENT RETURN ASSUMPTION, WHICH WAS PREVIOUSLY ADOPTED ON MAY 18, 2015.

Staff will be happy to answer any questions regarding these recommendations at the December 21, 2015 business meeting.

Sincerely,

Linda Webb

Linda Webb
Retirement Administrator

Ventura County Employees' Retirement Association

ACTUARIAL EXPERIENCE STUDY

Analysis of Actuarial Experience During the Period July 1, 2011 through June 30, 2014

Segal Consulting

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April 14, 2015

Board of Retirement
Ventura County Employees' Retirement Association
1190 South Victoria Avenue, Suite 200
Ventura, CA 93003-6572

Re: Review of Non-economic Actuarial Assumptions for the June 30, 2015 Actuarial Valuation

Dear Members of the Board:

We are pleased to submit this report of our review of the actuarial experience of the Ventura County Employees' Retirement Association. This study utilizes the census data of the last four actuarial valuations to review plan experience during the period from July 1, 2011 through June 30, 2014. The study develops the proposed actuarial assumptions to be used in future actuarial valuations starting with the June 30, 2015 actuarial valuation.

Please note that we have also reviewed the economic assumptions. The economic actuarial assumption recommendations for the June 30, 2015 valuation are provided in a separate report.

We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

We look forward to reviewing this report with you and answering any questions you may have.

Sincerely,

Paul Angelo, FSA, MAAA, FCA, EA
Senior Vice President and Actuary

John W. Monroe, ASA, MAAA, EA
Vice President and Actuary

AW/bqb

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I. INTRODUCTION, SUMMARY, AND RECOMMENDATIONS

To project the cost and liabilities of the pension plan, assumptions are made about all future events that could affect the amount and timing of the benefits to be paid and the assets to be accumulated. Each year actual experience is compared against the projected experience, and to the extent there are differences, the future contribution requirement is adjusted.

If assumptions are modified, contribution requirements are adjusted to take into account a change in the projected experience in all future years. There is a great difference in both philosophy and cost impact between recognizing the actuarial deviations as they occur annually and changing the actuarial assumptions. Taking into account one year's gains or losses without making a change in the assumptions means that that year's experience is treated as temporary and that, over the long run, experience will return to what was originally assumed. Changing assumptions reflects a basic change in thinking about the future, and it has a much greater effect on the current contribution requirements than recognizing gains or losses as they occur.

The use of realistic actuarial assumptions is important in maintaining adequate funding, while paying the promised benefit amounts to participants already retired and to those near retirement. The actuarial assumptions used do not determine the "actual cost" of the plan. The actual cost is determined solely by the benefits and administrative expenses paid out, offset by investment income received. However, it is desirable to estimate as closely as possible what the actual cost will be so as to permit an orderly method for setting aside contributions today to provide benefits in the future, and to maintain equity among generations of participants and taxpayers.

This study was undertaken in order to review the demographic actuarial assumptions and to compare the actual experience with that expected under the current assumptions during the three-year experience period from July 1, 2011 through June 30, 2014. The study was performed in accordance with Actuarial Standard of Practice (ASOP) No. 35, "Selection of Demographic and Other Non-economic Assumptions for Measuring Pension Obligations" and ASOP No. 27 "Selection of Economic Assumptions for Measuring Pension Obligations." These Standards of Practice put forth guidelines for the selection of the various actuarial assumptions utilized in a pension plan actuarial valuation. Based on the study's results and expected future experience, we are recommending various changes in the current actuarial assumptions.

The economic assumptions are currently reviewed every three years at the same time as the non-economic assumptions. See the "Review of Economic Actuarial Assumptions for the June 30, 2015 Actuarial Valuation" that is provided in a separate report.

In this report we are recommending changes in the assumptions for retirement from active employment, percent married at retirement, average entry age for active members, average retirement age for deferred vested members, percent of members assumed to go on to work for a reciprocal system, reciprocal salary increases, pre-retirement mortality, healthy life post-retirement mortality, disabled life post-retirement mortality, turnover, disability (ordinary and duty), promotional and merit salary increases, and in-service redemptions.

Our recommendations for the major actuarial assumption categories are as follows:

Ref: Pg. 5

Retirement Rates – The probability of retirement at each age at which participants are eligible to retire.

Recommendation: Adjust the current retirement rates to those developed in Section III(B). Both General and Safety members are assumed to retire at slightly later ages.

Ref: Pg. 15
Pg. 23

Mortality Rates – The probability of dying at each age. Mortality rates are used to project life expectancies.

Recommendation: Decrease pre- and post-retirement mortality rates for non-disabled General and Safety members as developed in Section III(C). Increase mortality rates for disabled Safety members and decrease mortality rates for disabled General members as developed in Section III(D).

Ref: Pg. 28

Termination Rates – The probability of leaving employment at each age and receiving either a refund of contributions or a deferred vested retirement benefit.

Recommendation: Change the termination rates for both General and Safety members to those developed in Section III(E). Overall, the termination rates have been decreased. In addition, maintain the assumption that a member will choose between a refund of contributions and a deferred vested benefit based on which option is more valuable.

Ref: Pg. 36

Disability Incidence Rates – The probability of becoming disabled at each age.

Recommendation: Decrease the current disability rates for General and Safety members to those developed in Section III(F).

Ref: Pg. 41

Individual Salary Increases – Increases in the salary of a member between the date of the valuation to the date of separation from active service.

Recommendation: Change the promotional and merit increases to those developed in Section III(G). In general, future promotional and merit salary increases are slightly higher under the new assumptions. Overall, salary increase are slightly lower for both General and Safety members due to the lower price inflation assumption (as recommended in our separate review of economic assumptions).

Ref: Pg. 47 **In-Service Redemptions –** Additional pay elements that are expected to be received during the member's final average earnings period.

Recommendation: Decrease the current in-service redemption assumptions for non-PEPRA General Tier 1 and non-PEPRA Safety to those developed in Section III(H).

Ref: Pg. 48 **Average Entry Age (for member contributions) –** Used for determining contribution rates for members hired after November 1974.

Recommendation: Decrease the current average entry age assumption for General members and maintain the current average entry age assumption for Safety members as developed in Section III(I).

We have estimated the impact of proposed assumption changes as if they were applied to the June 30, 2014 actuarial valuation. Please note that the rates shown below do not reflect the 50/50 sharing of Normal Cost for non-PEPRA Tiers. If all of the proposed demographic assumption changes were implemented, the average employer rate would have increased by 1.57% of compensation. The average member rate would have increased by 0.05% of compensation. Of the various demographic assumption changes, the most significant cost impact is from the mortality assumption change.

If all of the proposed economic assumptions (recommended in a separate report) were implemented (including the proposed change to an explicit administrative expense load), the average employer rate would have increased by 1.88% of compensation and the average member rate would have been increased by 0.15%. Of the various economic assumption changes, the most significant cost impact is from the investment return assumption change from 7.75% net of administrative expenses to 7.50% gross of administrative expenses.

Therefore, the estimated cost impact of all proposed assumption changes (both demographic and economic) is 3.45% of compensation for the average employer rate, where the Normal Cost rate increased by 0.20%, the UAAL amortization rate increased by 2.70% and the explicit administrative expense load is 0.55%. The average member rate would have increased by 0.20% of compensation, including the explicit administrative load of 0.15%. The allocation of the explicit administrative expense load between employers and members is discussed in the economic assumptions report.

Section II provides some background on basic principles and the methodology used for the experience study and for the review of the demographic actuarial assumptions. A detailed discussion of each assumption and reasons for the proposed changes is found in Section III. Section IV shows the cost impact of the proposed assumption changes.

II. BACKGROUND AND METHODOLOGY

In this report, we analyzed the "demographic" or "non-economic" assumptions only. Our analysis of the "economic" assumptions for the June 30, 2015 valuation is provided in a separate report. Demographic assumptions include the probabilities of certain events occurring in the population of members, referred to as "decrements," e.g., termination from service, disability retirement, service retirement, and death after retirement. We also review the individual salary increases net of inflation (i.e., the promotional and merit assumptions) in this report.

Demographic Assumptions

In order to determine the probability of an event occurring, we examine the "decrements" and "exposures" of that event. For example, taking termination from service, we compare the number of employees who actually terminate in a certain age and/or service category (i.e., the number of "decrements") with those "who could have terminated" (i.e., the number of "exposures"). For example, if there were 500 active employees in the 20-24 age group at the beginning of the year and 50 of them terminate during the year, we would say the probability of termination in that age group is 50 ÷ 500 or 10%.

The reliability of the resulting probability is highly dependent on both the number of decrements and the number of exposures. For example, if there are only a few people in a high age category at the beginning of the year (number of exposures), we would not lend as much credibility to the probability of termination developed for that age category, especially if it is out of line with the pattern shown for the other age groups. Similarly, if we are considering the death decrement, there may be a large number of exposures in, say, the age 20-24 category, but very few decrements (actual deaths); therefore, we would not be able to rely heavily on the probability developed for that category.

One reason we use several years of experience for such a study is to have more exposures and decrements, and therefore more statistical reliability. Another reason for using several years of data is to smooth out fluctuations that may occur from one year to the next. However, we also calculate the rates on a year-to-year basis to check for any trend that may be developing in the later years.

III. ACTUARIAL ASSUMPTIONS

A. ECONOMIC ASSUMPTIONS

The economic assumptions are currently reviewed every three years at the same time as the non-economic assumptions. See the separate reported titled "Review of Economic Actuarial Assumptions for the June 30, 2015 Actuarial Valuation".

B. RETIREMENT RATES

The age at which a member retires from service (i.e., who did not retire on a disability pension) will affect both the amount of the benefits that will be paid to that member as well as the period over which funding must take place.

The table on the following page shows the observed service retirement rates for non-PEPRA General members based on the actual experience over the past three years. The observed service retirement rates were determined by comparing those members who actually retired from service to those eligible to retire from service. This same methodology is followed throughout this report and was described in Section II. Also shown are the current assumed rates and the rates we propose:

Non-PEPRA General Tiers

Age	Current Rate of Retirement	Actual Rate of Retirement	Proposed Rate of Retirement
Under 50	0.00%	66.67%	0.00%
50	3.00	2.46	2.50
51	3.00	1.93	2.50
52	4.00	1.94	3.00
53	4.00	3.49	3.50
54	6.00	3.38	4.00
55	6.00	4.02	4.50
56	7.00	3.17	5.00
57	8.00	4.44	6.00
58	10.00	6.34	8.00
59	10.00	6.21	8.00
60	14.00	10.06	12.00
61	18.00	11.76	15.00
62	22.00	23.77	22.00
63	20.00	18.33	20.00
64	25.00	19.14	22.00
65	35.00	27.97	30.00
66	35.00	34.58	35.00
67	35.00	23.44	35.00
68	25.00	51.06	35.00
69	20.00	29.41	20.00
70	20.00	27.27	20.00
71	20.00	14.71	20.00
72	20.00	13.64	20.00
73	20.00	7.14	20.00
74	40.00	0.00	30.00
75 & Over	100.00	16.00	100.00

As shown above, we are recommending decreases in most of the retirement rates for non-PEPRA General members.

Chart 1 that follows later in this section compares actual experience with the current and proposed rates of retirement for non-PEPRA General members.

The following table shows the observed retirement rates for non-PEPRA Safety members over the past three years. Also shown are the current assumed rates and the rates we propose:

Non-PEPRA Safety Tiers

Age	Current Rate of Retirement	Actual Rate of Retirement	Proposed Rate of Retirement
Under 40	0.00%	0.00%	0.00%
40	1.00	50.00	1.00
41	1.00	0.00	1.00
42	1.00	4.00	1.00
43	1.00	2.86	1.00
44	1.00	0.00	1.00
45	1.00	0.00	1.00
46	1.00	0.00	1.00
47	1.00	0.00	1.00
48	1.00	0.00	1.00
49	1.00	2.56	1.50
50	2.00	3.36	2.50
51	2.00	1.64	2.00
52	4.00	1.61	3.00
53	6.00	1.92	4.00
54	18.00	16.35	17.00
55	25.00	16.84	22.00
56	20.00	25.00	22.00
57	20.00	21.28	20.00
58	18.00	21.88	19.00
59	25.00	19.35	22.00
60	25.00	18.18	22.00
61	30.00	21.43	25.00
62	40.00	36.36	35.00
63	50.00	16.67	40.00
64	50.00	14.29	40.00
65 & Over	100.00	100.00	100.00

Overall, we are recommending decreases in the retirement rates for non-PEPRA Safety members.

Chart 2 compares actual experience with the current and proposed rates for non-PEPRA Safety members.

Note that effective January 1, 2013, new PEPRA formulas were implemented for PEPRA General and PEPRA Safety Tiers. For these new tiers we do not have any experience from the past three years to propose new rates based on actual retirements from members of those tiers. However, we have recommended changes to the retirement assumptions at some ages for PEPRA members based on our recommended assumptions for non-PEPRA members.

The following are the current and proposed rates of retirement for PEPRA General and Safety members:

General and Safety PEPRA Tiers

Age	Current General PEPRA Tiers	Proposed General PEPRA Tiers	Current Safety PEPRA Tiers	Proposed Safety PEPRA Tiers
50	0.00%	0.00%	4.00%	5.00%
51	0.00	0.00	2.00	2.00
52	2.00	2.00	5.00	4.00
53	2.00	2.00	8.00	6.00
54	3.00	2.50	18.00	16.00
55	5.00	4.00	20.00	20.00
56	5.00	4.50	20.00	20.00
57	6.00	5.00	18.00	18.00
58	7.00	6.00	18.00	18.00
59	8.00	7.00	30.00	25.00
60	10.00	9.00	30.00	25.00
61	12.50	11.00	30.00	25.00
62	20.00	20.00	50.00	40.00
63	20.00	20.00	50.00	40.00
64	20.00	18.00	50.00	40.00
65	25.00	20.00	100.00	100.00
66	30.00	30.00	100.00	100.00
67	30.00	30.00	100.00	100.00
68	30.00	30.00	100.00	100.00
69	30.00	30.00	100.00	100.00
70	50.00	50.00	100.00	100.00
71	50.00	50.00	100.00	100.00
72	50.00	50.00	100.00	100.00
73	50.00	50.00	100.00	100.00
74	50.00	50.00	100.00	100.00
75 & Over	100.00	100.00	100.00	100.00

Chart 3 compares the current rates with the proposed rates of retirement for PEPRA General members.

Chart 4 compares the current rates with the proposed rates of retirement for PEPRA Safety members.

Deferred Vested Members

In prior valuations, deferred vested General and Safety members were assumed to retire at age 58 and 54, respectively. The average age at retirement over the prior three years was 59 for General and 54 for Safety. We recommend increasing the General assumption to age 59 and maintaining the Safety assumption at age 54.

Reciprocity

It was also assumed that 50% of inactive General and 65% of inactive Safety deferred vested participants would be covered under a reciprocal retirement system and receive 4.50% annual salary increases from termination until their date of retirement. As of June 30, 2014, about 52% of the total General deferred vested members and 63% of the total Safety deferred vested members have gone on to be covered by a reciprocal retirement system. As a result, we recommend maintaining the reciprocal assumption at 50% for General members and decreasing the assumption to 60% for Safety members. This recommendation takes into account the experience of all deferred vested members as of June 30, 2014 instead of just new deferred vested members during the three-year period. This is because there is a lag between a member's date of termination and the time that it is known if they have reciprocity with a reciprocal retirement system.

Based on our recommended salary increase assumptions, we propose that the current 4.50% annual salary increase assumption for reciprocal members be reduced from 4.50% to 4.00% to anticipate salary increases from termination from VCERA to the expected date of retirement.

Survivor Continuance Under Unmodified Option

In prior valuations, it was assumed that 70% of all active male members and 50% of all active female members would be married or have an eligible domestic partner when they retired. We reviewed experience for new retirees during the three-year period and determined the actual percentage of these new retirees that had an eligible spouse or eligible domestic partner at the time of retirement. The results of that analysis are shown below.

New Retirees – Actual Percent with Eligible Spouse or Domestic Partner

Year Ending June 30	Male	Female
2012	71%	55%
2013	64%	52%
2014	53%	58%
Total	63%	55%

According to experience of members who retired during the last three years, about 63% of all male members and 55% of all female members were married or had a domestic partner at retirement. However, we note that the 2014 percentage for males of 53% appears to be unusually low. We recommend maintaining the assumption at 70% for male members and increasing the assumption to 55% for female members.

Since the value of the survivor's benefit is dependent on the survivor's age and sex, we must also have assumptions for the age and sex of the survivor. Based on the experience during the three-year period and studies done for other retirement systems, we believe that it is reasonable to continue to assume a three-year age difference for the survivors age as compared to the member's age.

Since the majority of survivors are expected to be of the opposite sex, even with the inclusion of domestic partners, we will continue to assume that the survivor's sex is the opposite of the member.

The proposed assumption for the age of the survivor and recommended assumption are shown below. These assumptions will continue to be monitored in future experience studies.

Survivor Ages – Current Assumptions

	Survivor's Age as Compared to Member's Age	
Beneficiary Sex	Current Assumption	Recommended Assumption
Male	3 years older	No change
Female	3 years younger	No change

Chart 1

Retirement Rates - Non-PEPRA General Members

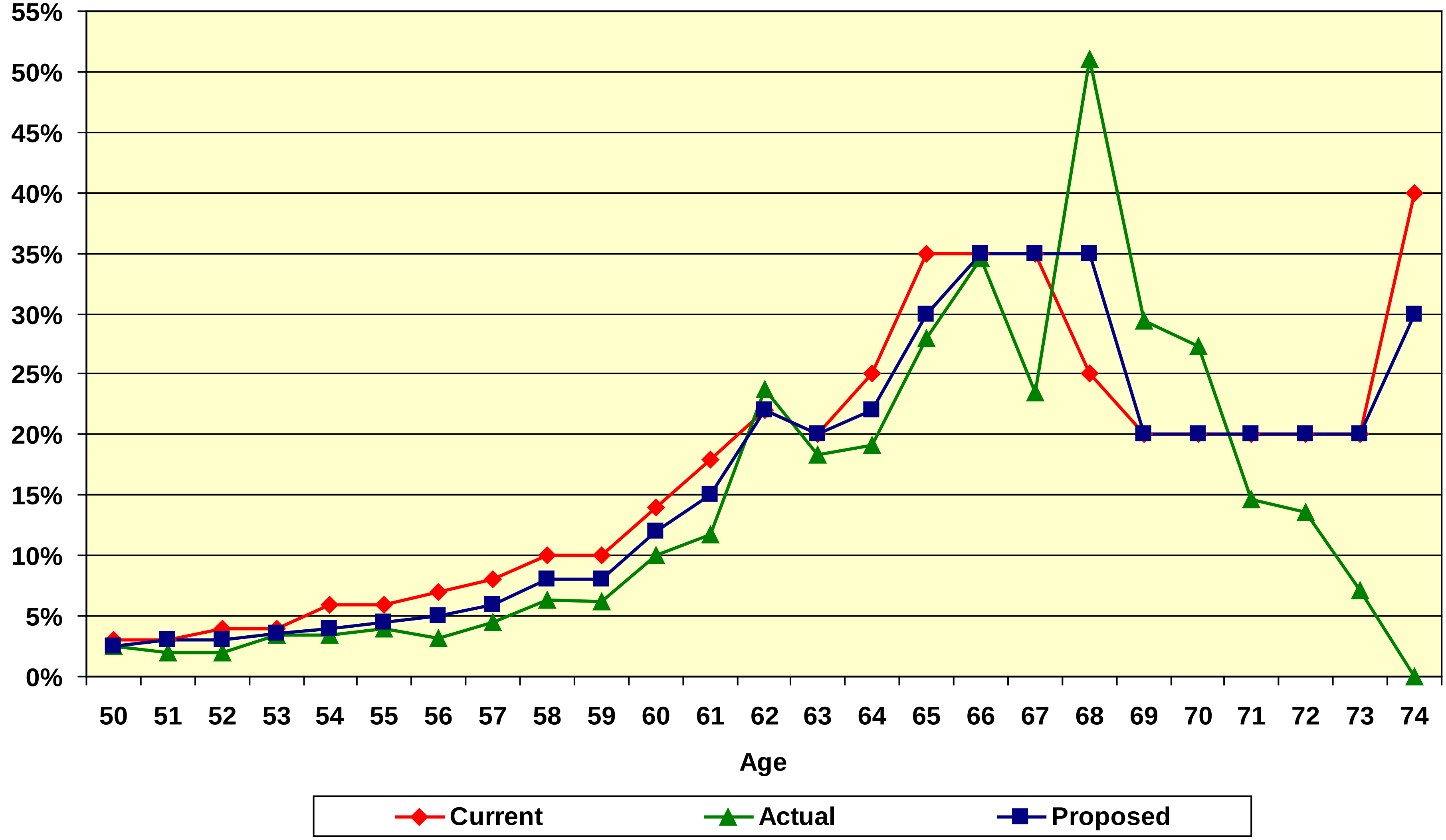


Chart 2
Retirement Rates - Non-PEPRA Safety Members

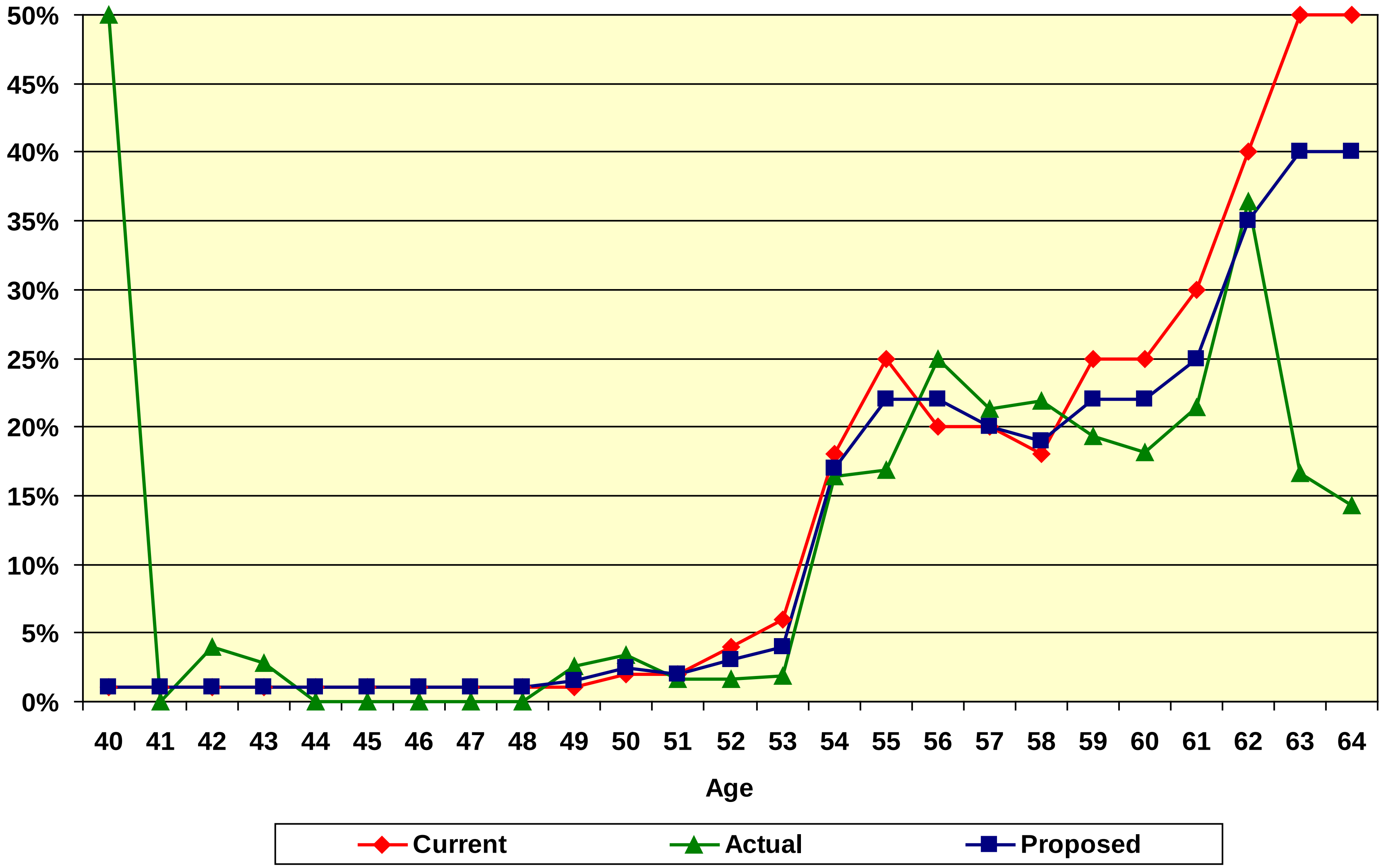


Chart 3
Retirement Rates - PEPRA General Members

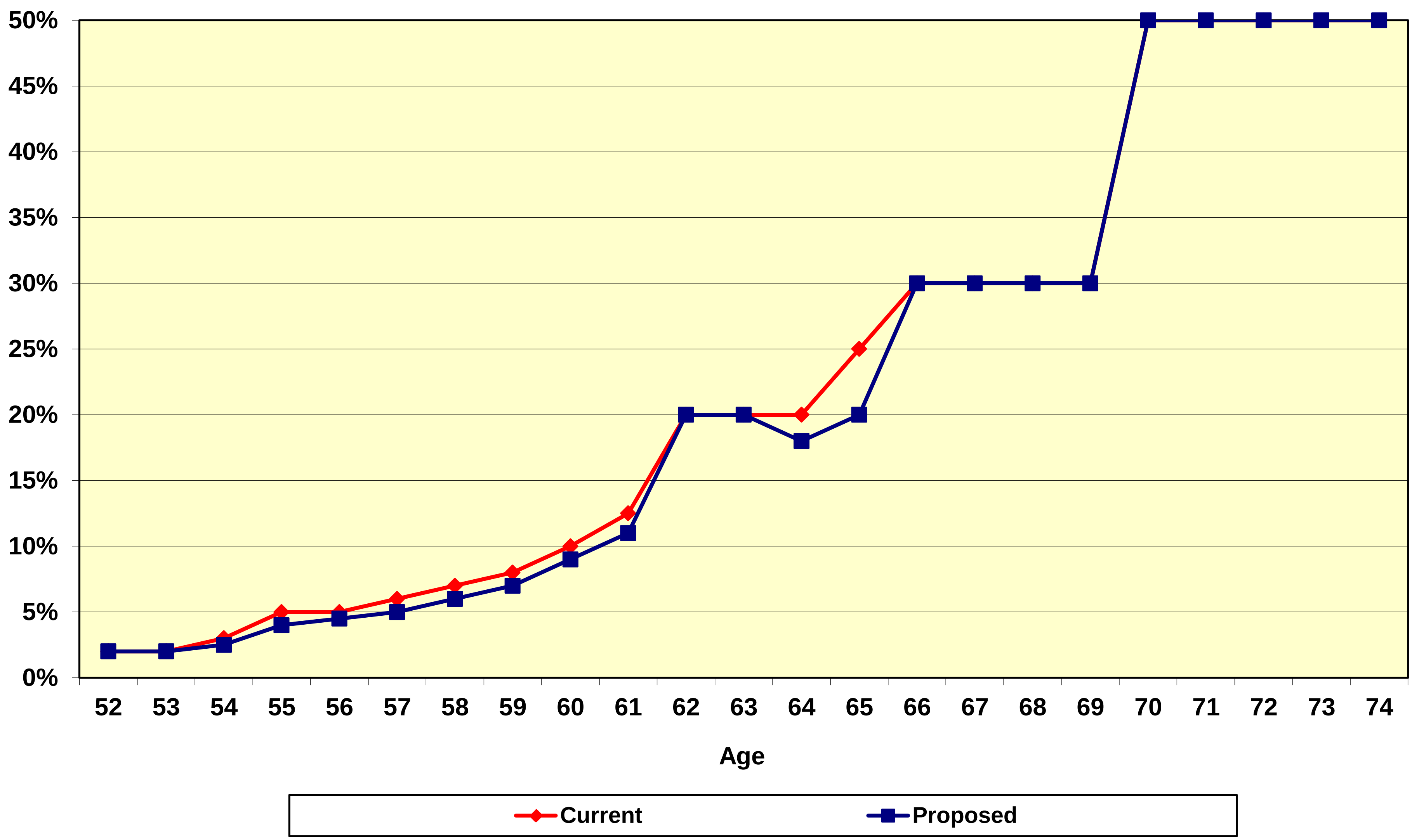
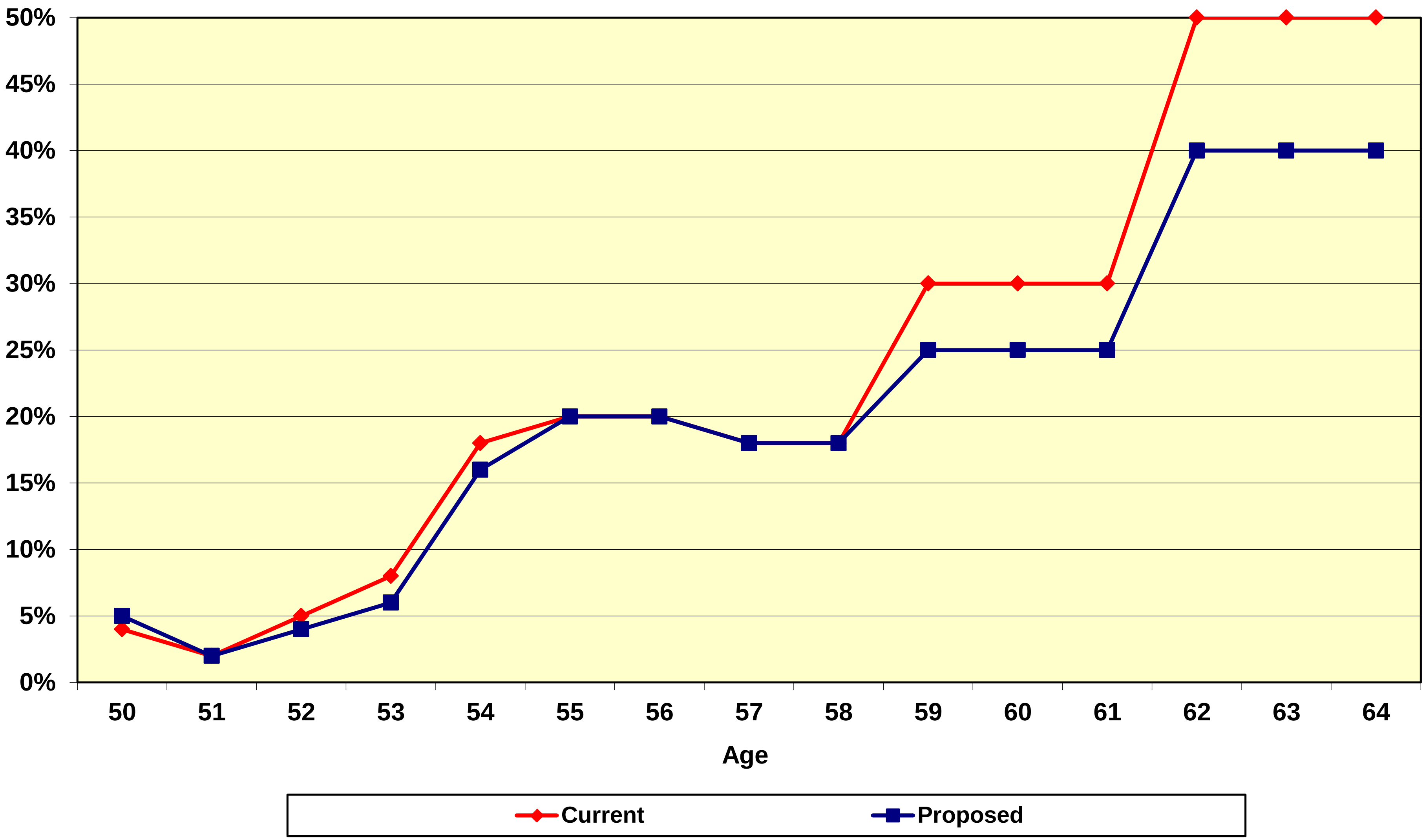


Chart 4
Retirement Rates - PEPRA Safety Members



C. MORTALITY RATES - HEALTHY

The "healthy" mortality rates project what proportion of members will die before retirement as well as the life expectancy of a member who retires from service (i.e., who did not retire on a disability pension). The table currently being used for both General and Safety post-service retirement mortality rates is the RP-2000 Combined Healthy Mortality Table (separate tables for males and females) projected with Scale AA to 2025 with ages set back one year. Beneficiaries are assumed to have the same mortality of a General member of the opposite sex who has taken a service (non-disability) retirement.

Recent changes to ASOP 35 have increased the actuary's responsibility to reflect and to disclose an allowance for future mortality improvement in this assumption. Ways to reflect anticipated future mortality improvement include:

- Age adjustments – A standard table is used without projection but with age adjustments ("set back" or "set forward") chosen as to forecast fewer deaths than the current experience level, thus implicitly allowing for future mortality improvement.
- Projection to a future year – The same mortality table is used for future years, but that table is intended to be reflective of mortality at some particular future year, not as of the current year.
- Generational mortality – Each future year has its own mortality table that reflects the forecasted improvements. In effect, this means that younger participants have more future mortality improvement built in than older participants do.

Historically, we have used age adjustments, but in the previous study we also included a projection to a future year when setting mortality assumptions for VCERA. In particular, the RP-2000 Combined Healthy Mortality Table was projected to the year 2025 and then we applied an age adjustment similar to the one described in the first bullet so that actual deaths would be at least 10% greater than those assumed.

Pre-Retirement Mortality

The number of deaths among active and deferred vested members is not large enough to provide a statistically credible basis for a specific pre-retirement mortality analysis. Therefore, we continue to propose that pre-retirement mortality follow the same tables used for post-retirement mortality. In addition, based on experience from the last three years of 23 total deaths, none were due to service connected (duty) causes. For that reason, we recommend maintaining the current assumption that all pre-retirement deaths are assumed to be ordinary (non-duty) based on recent data.

Post-Retirement Mortality (Service Retirements)

Our analysis starts with a table that shows among all service retired members, the actual deaths compared to the expected deaths under the current assumptions for the last three years. We also show the deaths under proposed assumptions based on using a methodology generally consistent with prior years. As noted above, in prior years we have generally set the mortality assumption so that actual deaths will be at least 10% greater than those assumed. We are recommending continuation of that methodology in this experience study. However, as discussed later in this section, the Board should be aware that a future recommendation may include the use of a generational mortality table.

	General – Healthy			**Safety – Healthy**		
	Current Expected Deaths	Actual Deaths	Proposed Expected Deaths	Current Expected Deaths	Actual Deaths	Proposed Expected Deaths
Male	106	95	86	21	15	15
Female	131	143	124	1	1	1
Total	237	238	210	22	16	16
Actual / Expected	100%		113%	73%		100%

Chart 5 compares actual to expected deaths for General members under the current and proposed assumptions over the last three years. Experience shows that there was one more death than predicted by the current table.

Chart 6 has the same comparison for Safety members. Experience shows that there were fewer deaths than predicted by the current table.

For General service retirees the ratio of actual to expected deaths was 100%. We recommend changing the current table to the RP-2000 Combined Healthy Mortality Table (separate tables for males and females) projected with Scale BB to 2035 with ages set back one year for males and set forward one year for females. This will bring the actual to expected ratio to 113%. This is consistent with ASOP 35 as we are continuing to include about a 10% margin in the rates to anticipate expected future improvement in life expectancy.

For Safety service retirees the ratio of actual to expected deaths was 73%. We recommend changing the current table to the RP-2000 Combined Healthy Mortality Table (separate tables for males and females) projected with Scale BB to 2035 with ages set back three years for both males and females. This will bring the actual to expected ratio to 100%. The aggregate actual to expected ratio is 112% when combining with General members. We will continue to closely monitor this assumption in future studies.

Chart 7 shows the life expectancies (i.e., expected future lifetime) under the current and the proposed tables for General members.

Chart 8 shows the same information for Safety members.

As mentioned earlier, we want to make the Board aware that a future recommendation might be for the use of a generational mortality table. While the use of generational mortality tables is under considerable discussion as an emerging practice within the actuarial profession, to date it is still uncommon for public sector retirement plans to actually use a generational mortality table. However, we anticipate that actuarial practice will continue to move in this direction, for reasons we will now discuss.

A generational mortality table provides dynamic projections of mortality experience for each cohort of retirees. For example, the mortality rate for someone who is 65 next year will be slightly less than for someone who is 65 this year. In general, using generational mortality anticipates increases in the cost of the Plan over time as participants' life expectancies are projected to increase. This is in contrast to updating a static mortality assumption with each experience study as we have proposed in this and prior experience studies.

Using generational mortality rather than static mortality incorporates a more explicit assumption for future mortality improvement. Accordingly, the goal is to start with a mortality table that closely matches the current experience (without a margin for future mortality improvement), and then reflect mortality improvement by projecting lower mortality rates in future years. That is why, for an illustrative generational mortality table that we developed for the Plan, the current actual to expected ratio shown in the tables below is only around 100%. In future years these ratios would remain around 100%, as long as actual mortality improved at the same rates as anticipated in the generational mortality tables.

	General – Healthy			**Safety – Healthy**		
	Expected Deaths	Actual Deaths	Proposed Expected Deaths*	Expected Deaths	Actual Deaths	Proposed Expected Deaths**
Male	106	95	93	21	15	16
Female	131	143	143	1	1	1
Total	237	238	236	22	16	17
Actual / Expected	100%		101%	73%		94%

* *For illustration purposes only and shown for the RP-2000 Combined Healthy Mortality Table projected to 2013 (middle year of the experience study period) with Scale BB, with age set back three years for males and no age set back for females.*

** *For illustration purposes only and shown for the RP-2000 Combined Healthy Mortality Table projected to 2013 (middle year of the experience study period) with Scale BB, with ages set back five years for males and females.*

Note that using generational mortality increases current liabilities and costs more than using static mortality but should result in fewer changes (and cost increases) in later years. For example, the generational mortality table developed above would increase the total (employer and member) contribution rate by about 1.5% of compensation more than the updated static table that we are recommending.[1]

Note that there are currently unresolved issues regarding how generational mortality tables would be used in determining member contribution rates, optional forms of payments and reserve values. These issues would need to be addressed for VCERA before using a generational mortality table.

Mortality Table for Member Contributions

We recommend that the mortality table used for determining contributions for General members be changed from RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2025 set back one year weighted 35% male and 65% female to the RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2035 set back one year for males and set forward one year for females weighted one-third male and two-third female. This is based on the proposed valuation mortality table for General members and the actual sex distribution of General members.

For Safety members, we recommend the mortality table be changed from the RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2025 set back one year weighted 80% male and 20% female to the RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2035 set back three years weighted 80% male and 20% female. This is based on the proposed valuation mortality table for Safety members and the actual sex distribution of Safety members.

[1] These cost increases reflect the hypothetical adoption of generational mortality for both healthy and disabled retirees.

Chart 5
Post - Retirement Deaths
Non - Disabled General Members

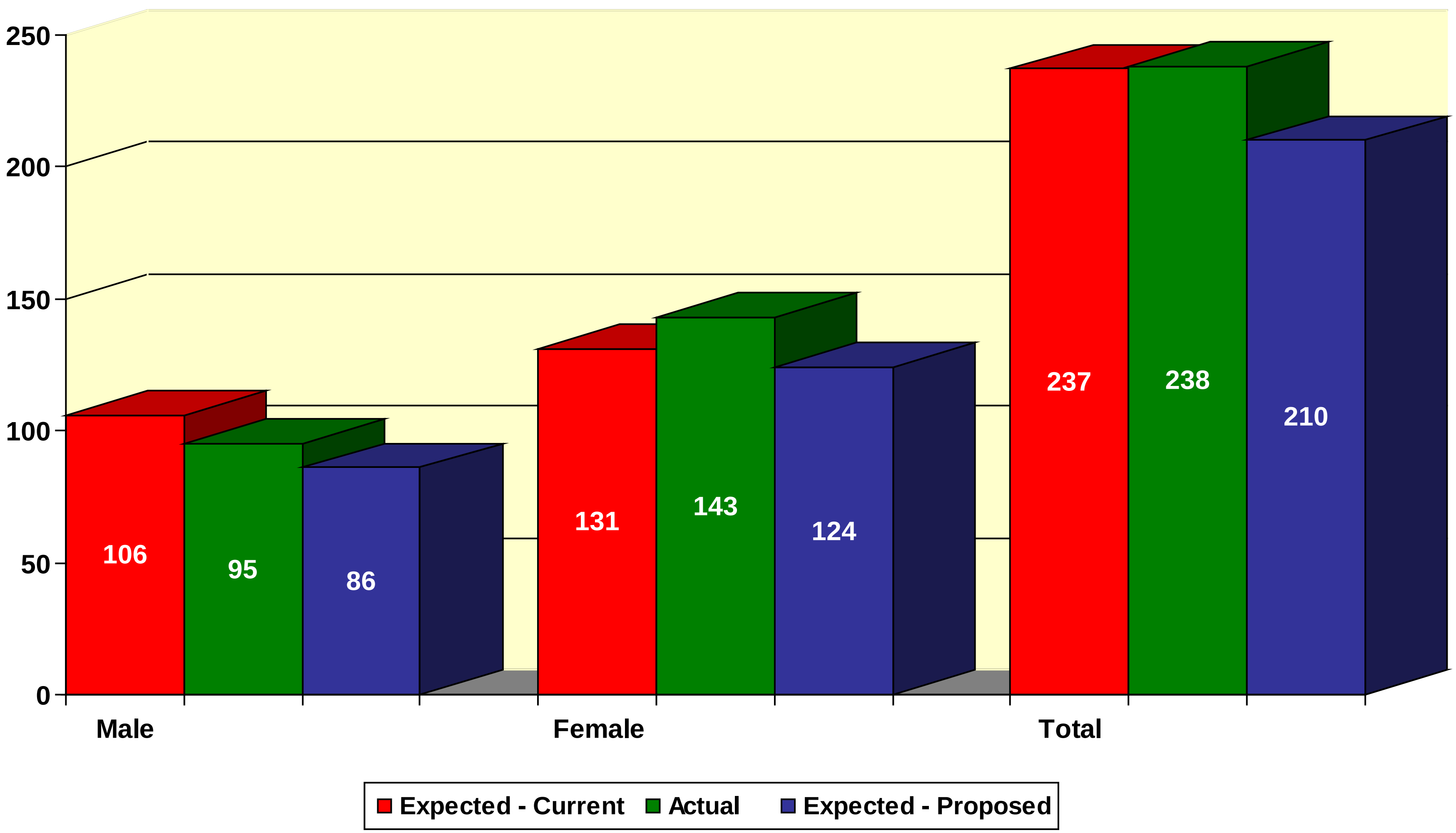


Chart 6
Post - Retirement Deaths
Non - Disabled Safety Members

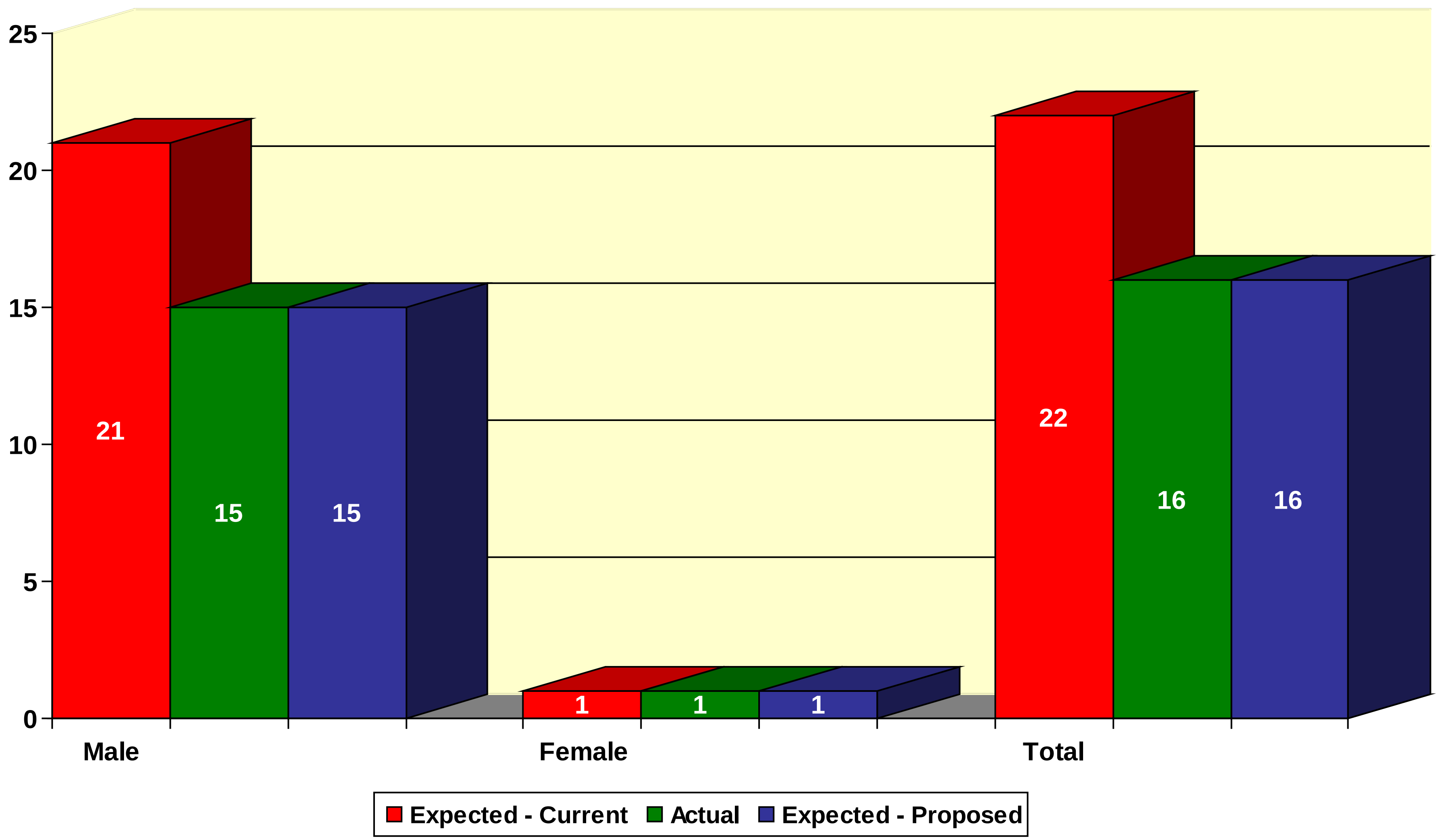


Chart 7
Life Expectancies
Non - Disabled General Members

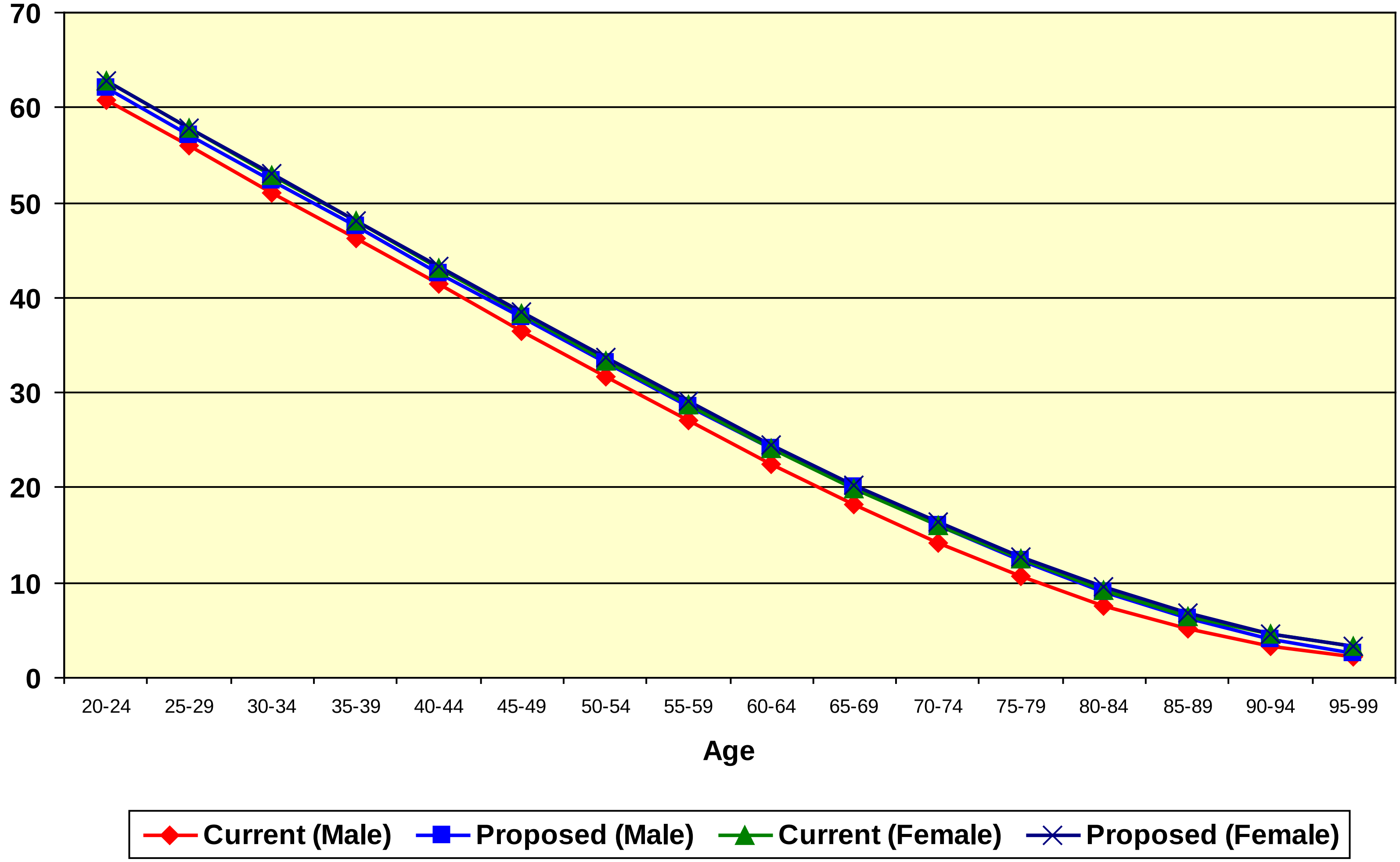
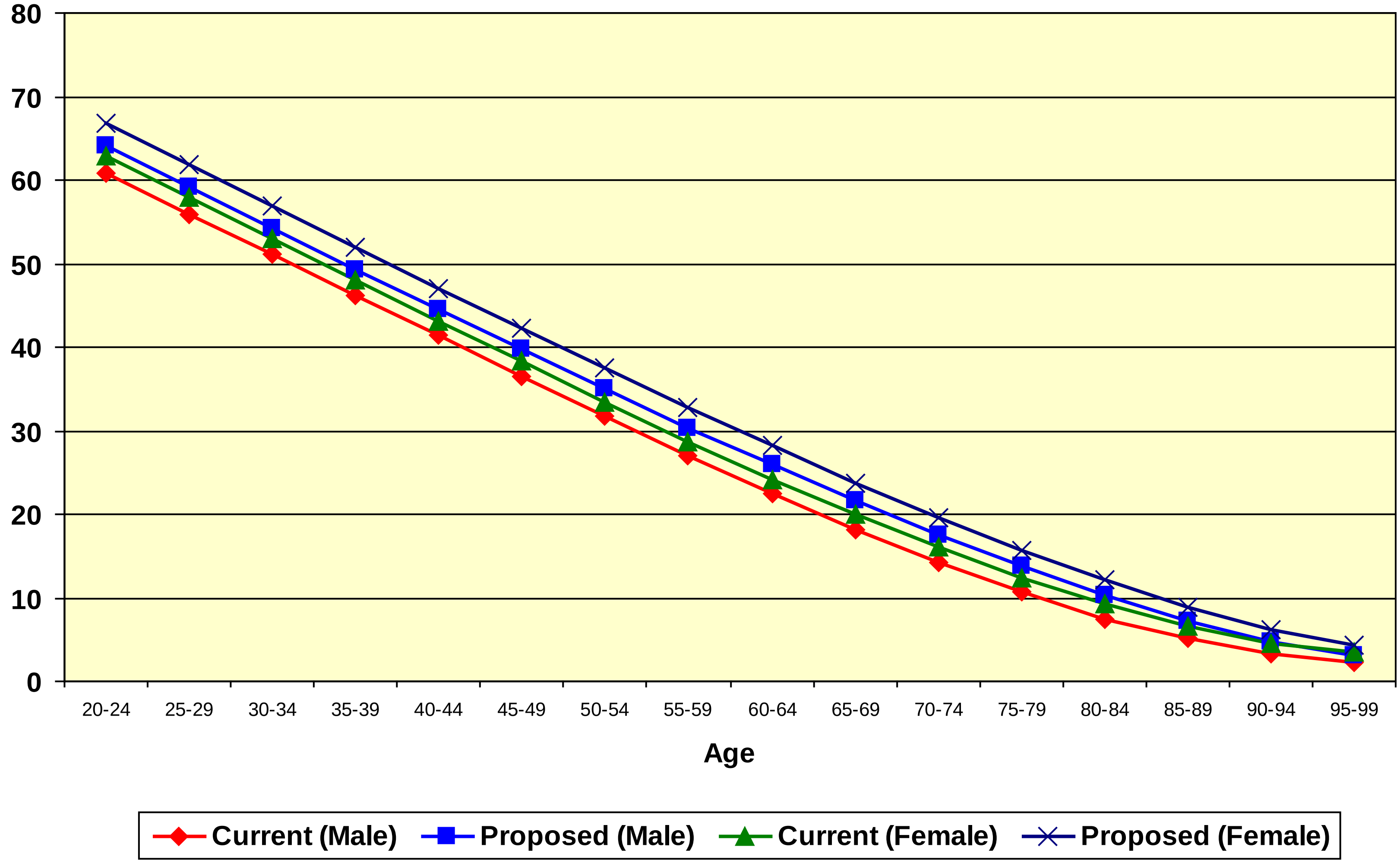


Chart 8
Life Expectancies
Non - Disabled Safety Members



D. MORTALITY RATES - DISABLED

Since mortality rates for disabled members can vary from those of healthy members, a different mortality assumption is often used. For General members, the table currently being used is the RP-2000 Combined Healthy Mortality Table (separate tables for males and females) projected with Scale AA to 2025 with ages set forward five years for males and seven years for females. For Safety members, the table currently being used is the RP-2000 Combined Healthy Mortality Table (separate tables for males and females) projected with Scale AA to 2025 with ages set back one year for both males and females.

The number of actual deaths compared to the number expected for the last three years has been as follows:

	General – Disabled			**Safety – Disabled**		
	Current Expected Deaths	Actual Deaths	Proposed Expected Deaths	Current Expected Deaths	Actual Deaths	Proposed Expected Deaths
Male	17	17	16	13	19	15
Female	26	26	23	1	1	1
Total	43	43	39	14	20	16
Actual / Expected	100%		110%	143%		125%

Based on this experience, we recommend that the mortality table for General members be changed to the RP-2000 Combined Healthy Mortality Table (separate tables for males and females) projected with Scale BB to 2035 with ages set forward six years for males and set forward eight years for females. We recommend that the mortality table for Safety members be changed to the RP-2000 Combined Table (separate tables for males and females) projected with Scale BB to 2035 with ages set forward two years.

Chart 9 compares actual to expected deaths under both the current and proposed assumptions for disabled General members over the last three years. Experience shows that there were exactly the same number of deaths as predicted by the current table. Our recommendation for General members incorporates a margin for future mortality improvement.

Chart 10 has the same comparison for Safety members. Although experience shows that there were more deaths than predicted by the current table, our recommendation for Safety members still incorporates a reduced but sufficient margin for future mortality improvement.

Chart 11 shows the life expectancies under both the current and proposed tables for General members.

Chart 12 shows the same information for Safety members.

Chart 9
Post - Retirement Deaths
Disabled General Members

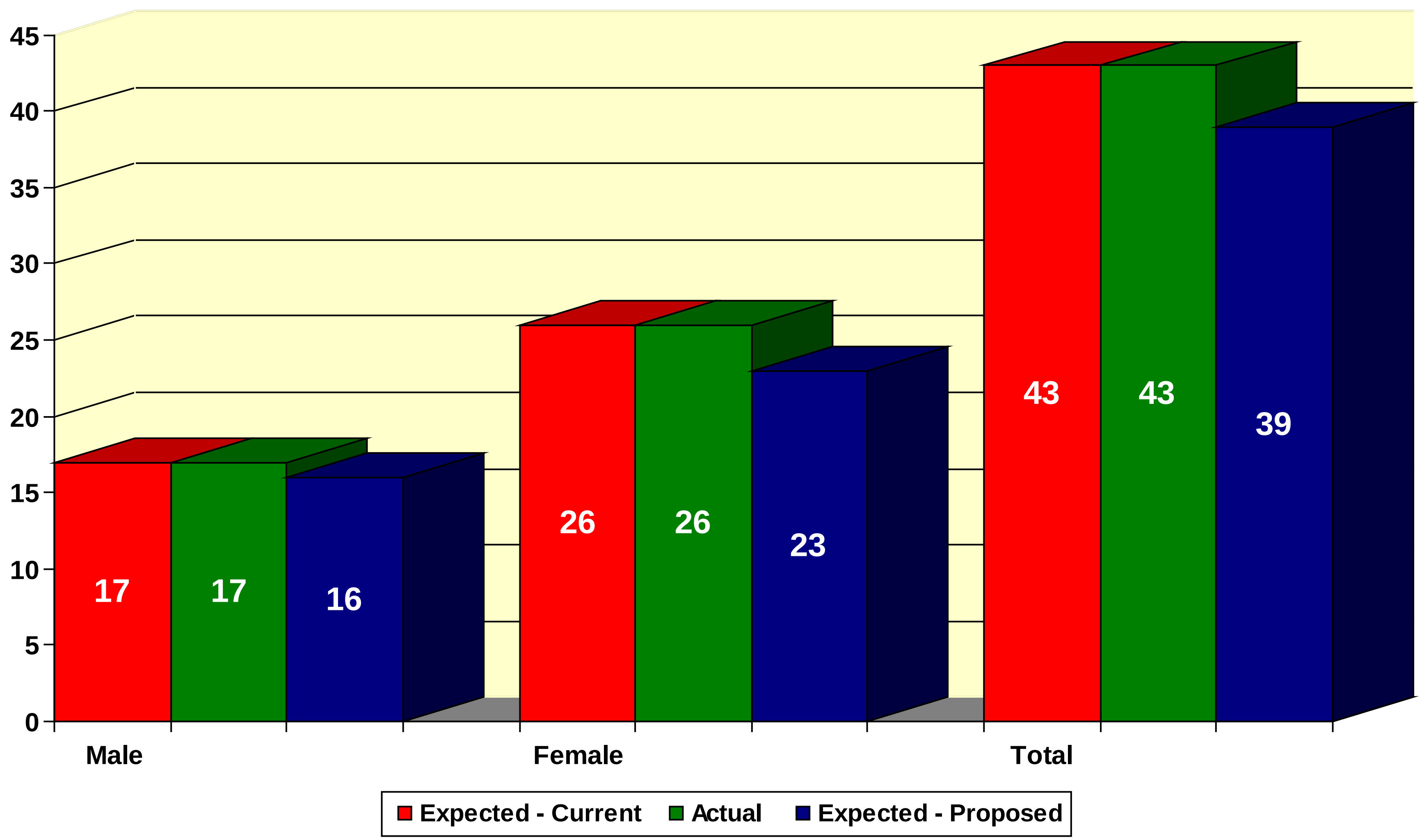


Chart 10
Post - Retirement Deaths
Disabled Safety Members

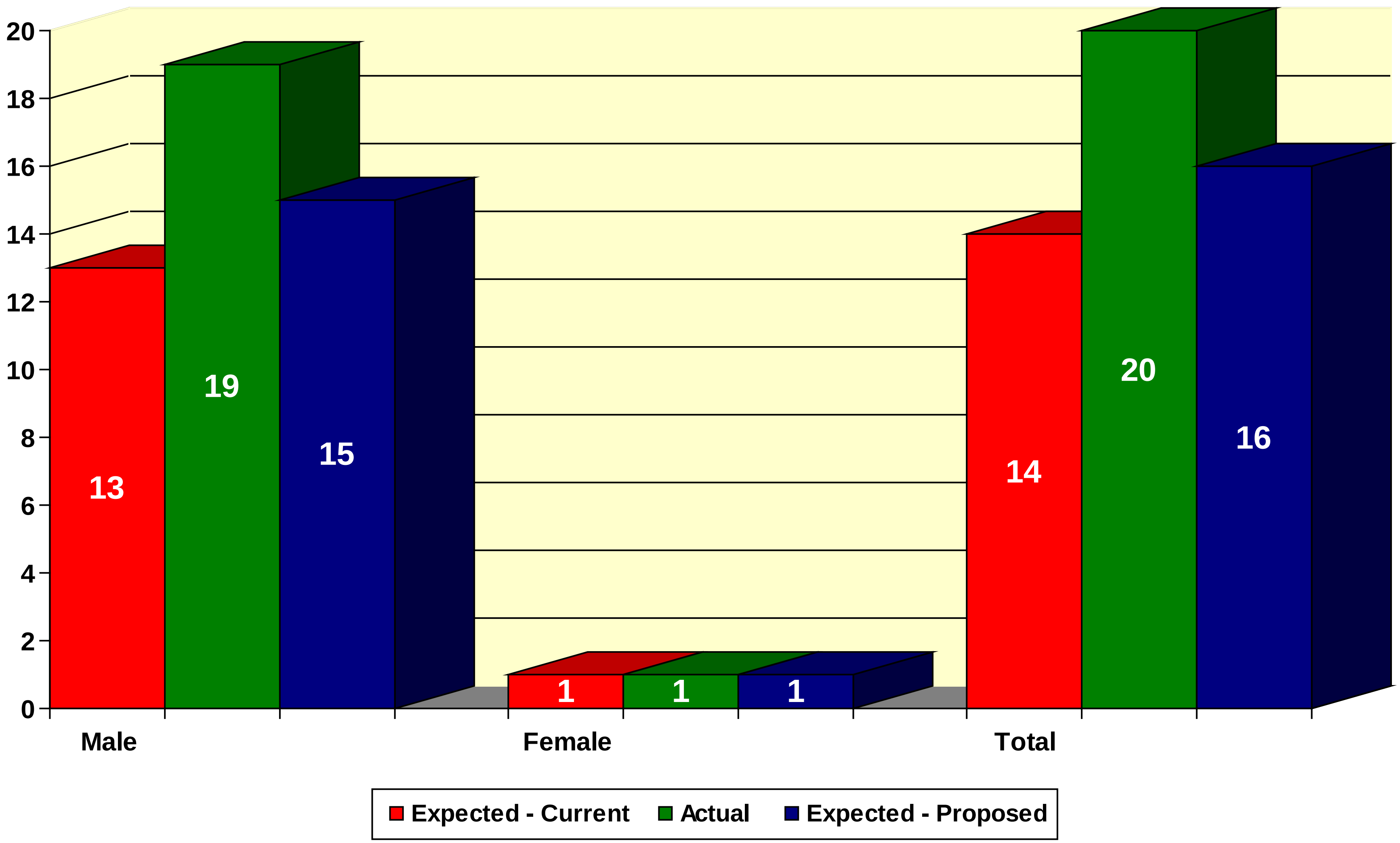


Chart 11
Life Expectancies
Disabled General Members

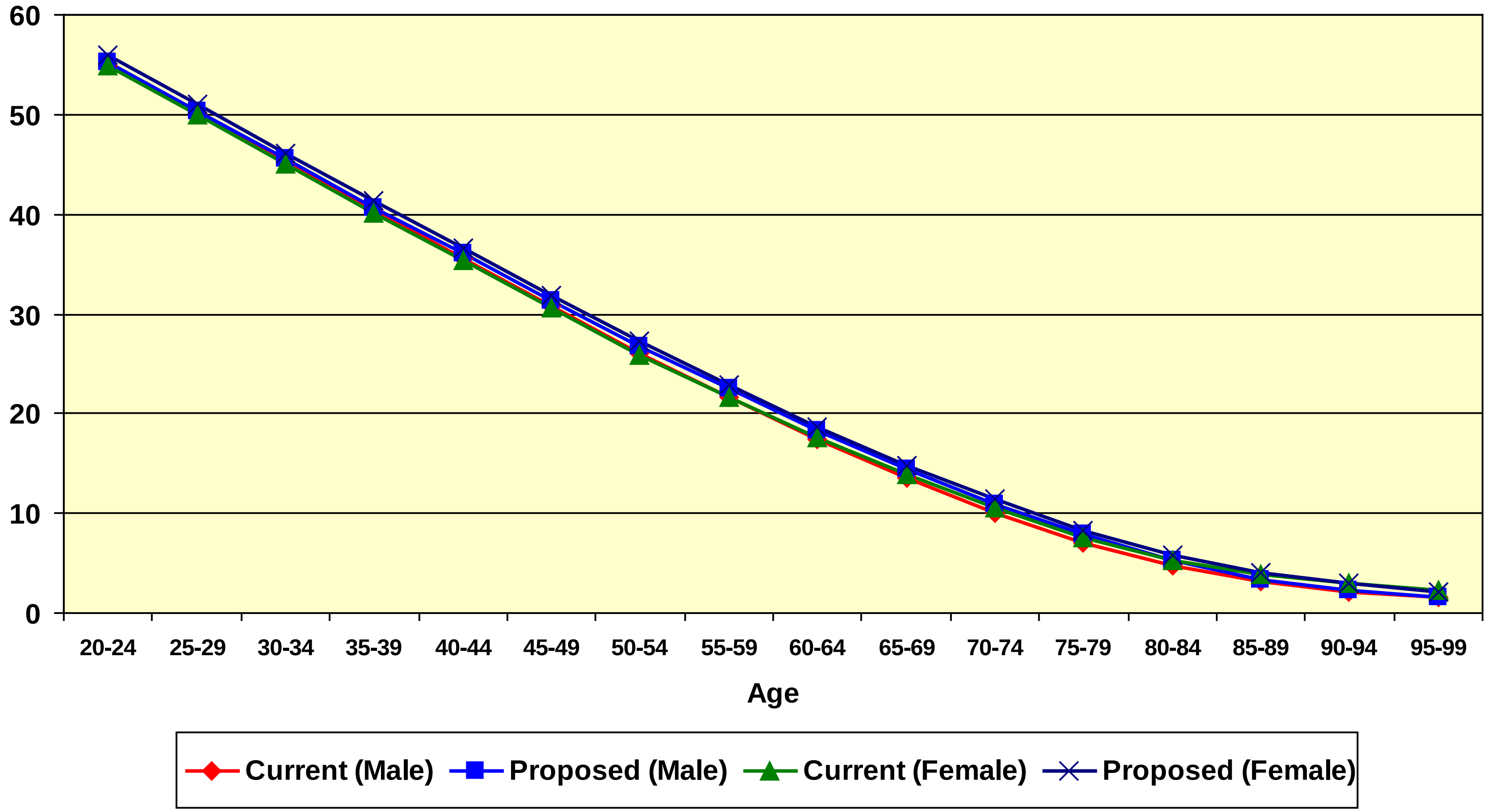
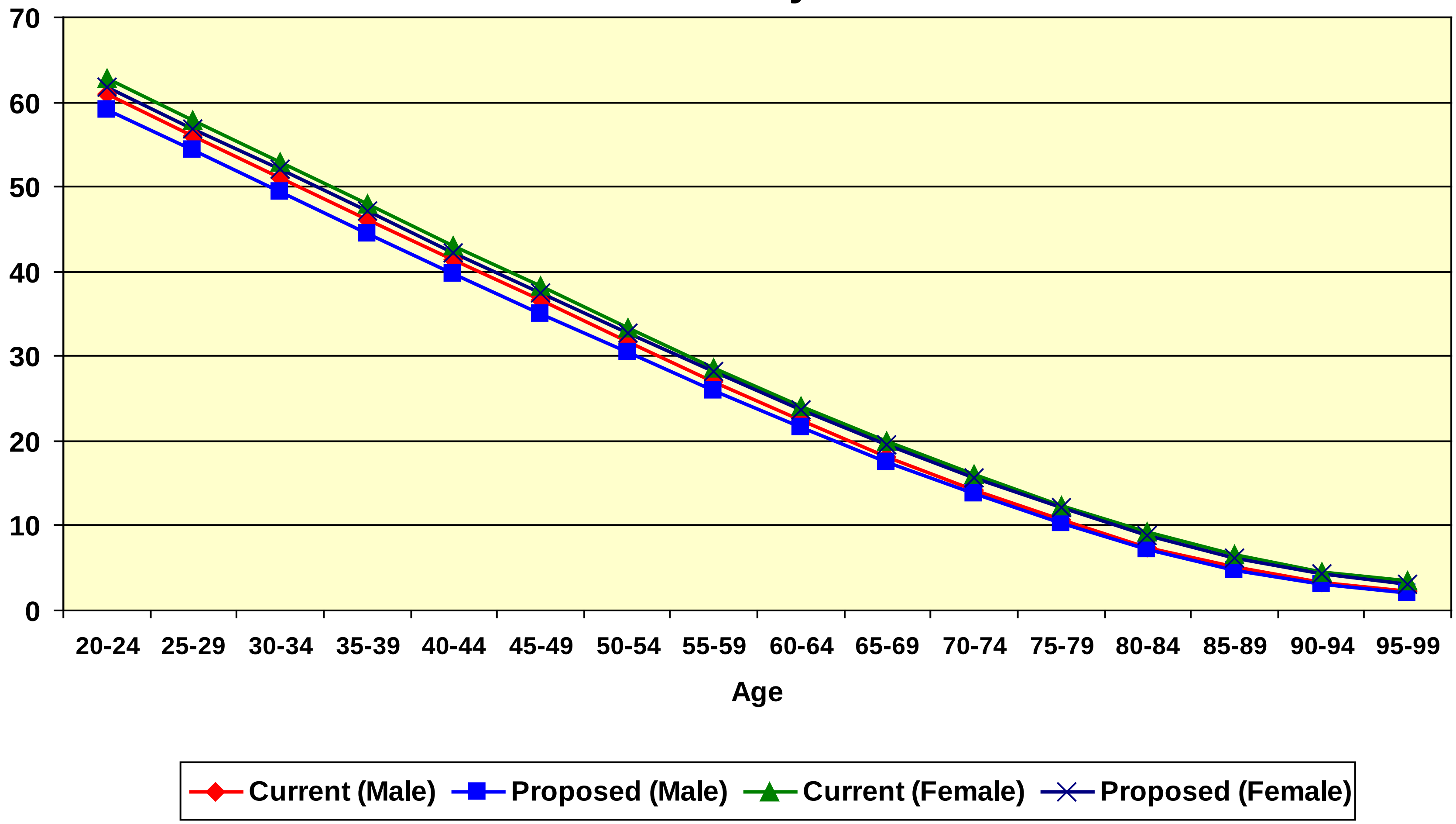


Chart 12
Life Expectancies
Disabled Safety Members



E. TERMINATION RATES

Termination rates include all terminations for reasons other than death, disability, or retirement. Under the current assumptions there is an overall incidence of termination assumed, combined with an assumption that a member will choose between a refund of contributions and a deferred vested benefit based on which option is more valuable. With this study, we continue to recommend that this same assumption structure be used.

Currently, the assumed termination rates are a function of a member's age for members with five or more years of service. Our experience review analyzed terminations both as a function of age and as a function of years of service. Our review found that while termination rates correlate with both years of service and age, we believe there is a stronger correlation with years of service. This is consistent with our experience from other systems.

As a result of this review, we recommend that the termination rate assumption be structured solely as a function of years of service.

The termination experience over the last three years for General and Safety members is shown by years of service in the following tables. Please note that we have excluded any members that were eligible for retirement. We also show the current and proposed assumptions.

Rates of Termination (General)

Years of Service	Current Rate*	Observed Rate	Proposed Rate
Less than 1	15.00%	12.80%	14.00%
1	10.00	9.81	10.00
2	8.00	8.20	8.00
3	7.00	6.16	7.00
4	6.00	6.15	6.00
5	3.56	4.32	4.00
6	3.38	2.76	3.75
7	3.21	4.03	3.50
8	3.07	2.44	3.50
9	3.30	2.28	3.25
10	3.75	3.68	3.25
11	3.65	2.66	3.00
12	3.55	3.21	3.00
13	3.49	1.82	2.75
14	3.38	2.53	2.75
15	3.22	2.89	2.50
16	3.17	3.07	2.50
17	2.99	1.31	2.25
18	2.93	0.76	2.00
19	2.81	0.85	2.00
20 or more	2.71	4.41	2.00

* *The rate shown for five or more years of service is an average rate developed from the current age based assumption for members in that service category.*

Rates of Termination (Safety)

Years of Service	Current Rate*	Observed Rate	Proposed Rate
Less than 1	12.00%	3.42%	10.00%
1	6.00	6.90	6.00
2	5.50	4.83	5.50
3	5.00	4.92	5.00
4	4.00	3.56	4.00
5	2.79	2.61	2.75
6	2.62	1.98	2.50
7	2.48	1.32	2.00
8	2.08	1.47	1.80
9	1.98	0.79	1.60
10	1.81	0.59	1.40
11	1.67	0.61	1.20
12	1.54	0.88	1.00
13	1.42	1.10	0.95
14	1.27	0.61	0.90
15	1.21	0.00	0.85
16	1.11	0.69	0.80
17	1.01	0.00	0.75
18	0.91	0.88	0.70
19	0.92	0.00	0.65
20 or more	0.54	100.00	0.60

* *The rate shown for or more five years of service is an average rate developed from the current age based assumption for members in that service category.*

It is important to note that not every service category has enough exposures and/or decrements such that the results in that category are statistically credible. This is mainly the case at the highest service categories since most members in those categories are eligible to retire and so have been excluded from our review of this experience. It is also the case in the tables that follow due to the even more limited experience regarding actual terminations.

Chart 13 compares actual to expected terminations over the past three years for both the current and proposed assumptions for General members.

Chart 14 graphs the same information as Chart 13, but for Safety members.

Chart 15 shows the actual termination rates over the past three years compared to the current and proposed assumptions for General members.

Chart 16 shows the same information as Chart 15, but for Safety members.

Based upon the recent experience, the termination rates for General members have been increased for those with 5 to 8 years of service and decreased for all other years of service categories. For Safety, we have decreased the termination rates at most years of service categories. Overall, for both General and Safety members, the proposed termination rates are lower than those under the current assumptions.

It is our understanding that General Tier 2 COLA members can elect a refund of all or a portion of their Tier 2 COLA member contributions and forgo the Tier 2 COLA upon retirement. Based on the data, about 97% of General Tier 2 COLA retirees during the three-experience period are receiving a COLA on their Tier 2 benefits. We will continue to assume that all members retiring with the Tier 2 COLA will elect to have the COLA applied to their benefit.

We will also continue to assume that termination rates are zero at any age where members are assumed to retire. In other words, at those ages, members will either retire in accordance with the retirement rate assumptions or continue working, rather than terminate and defer their benefit.

Chart 13
Actual Number of Terminations Compared to Expected - General Members

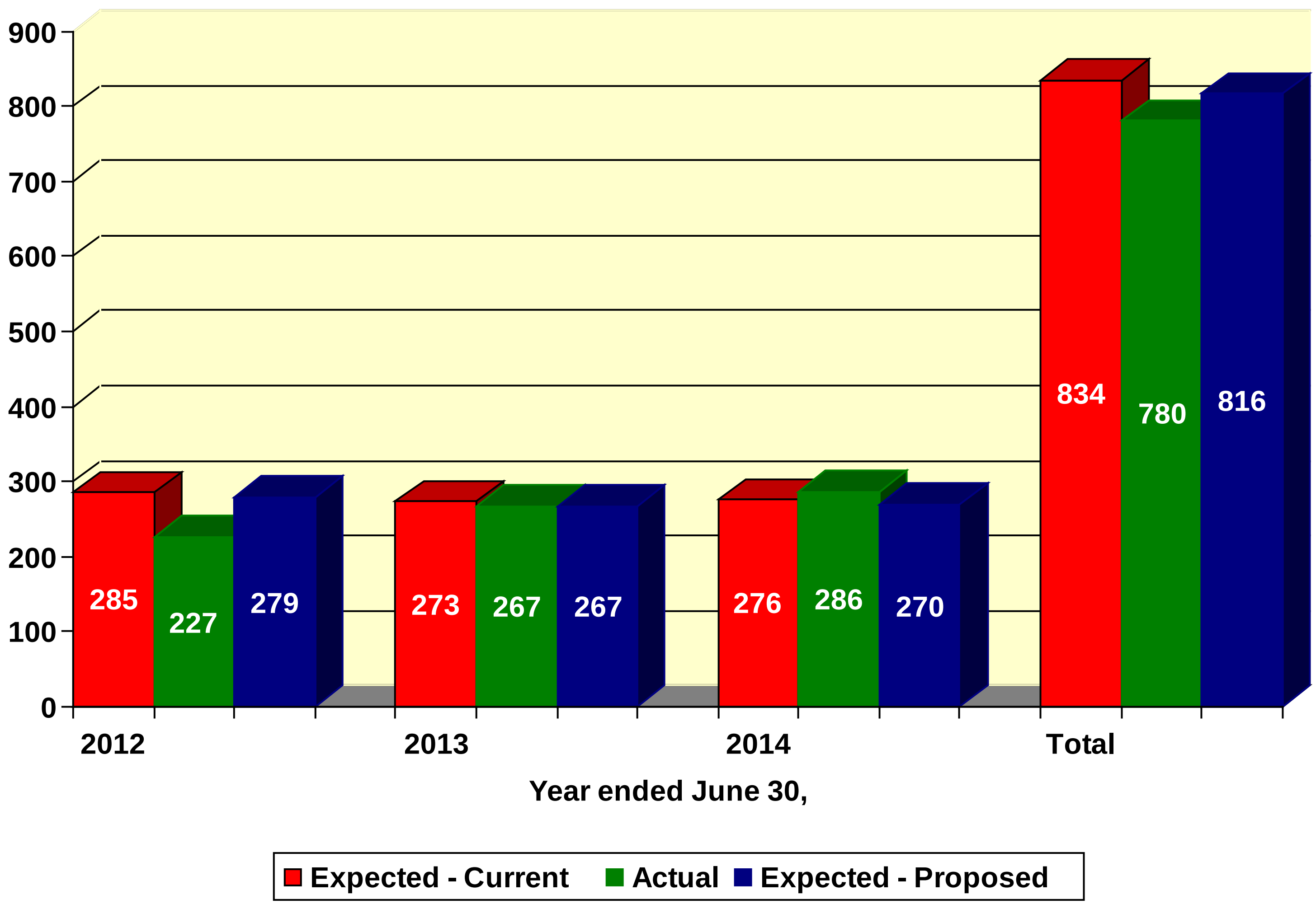


Chart 14
Actual Number of Terminations Compared to Expected - Safety members

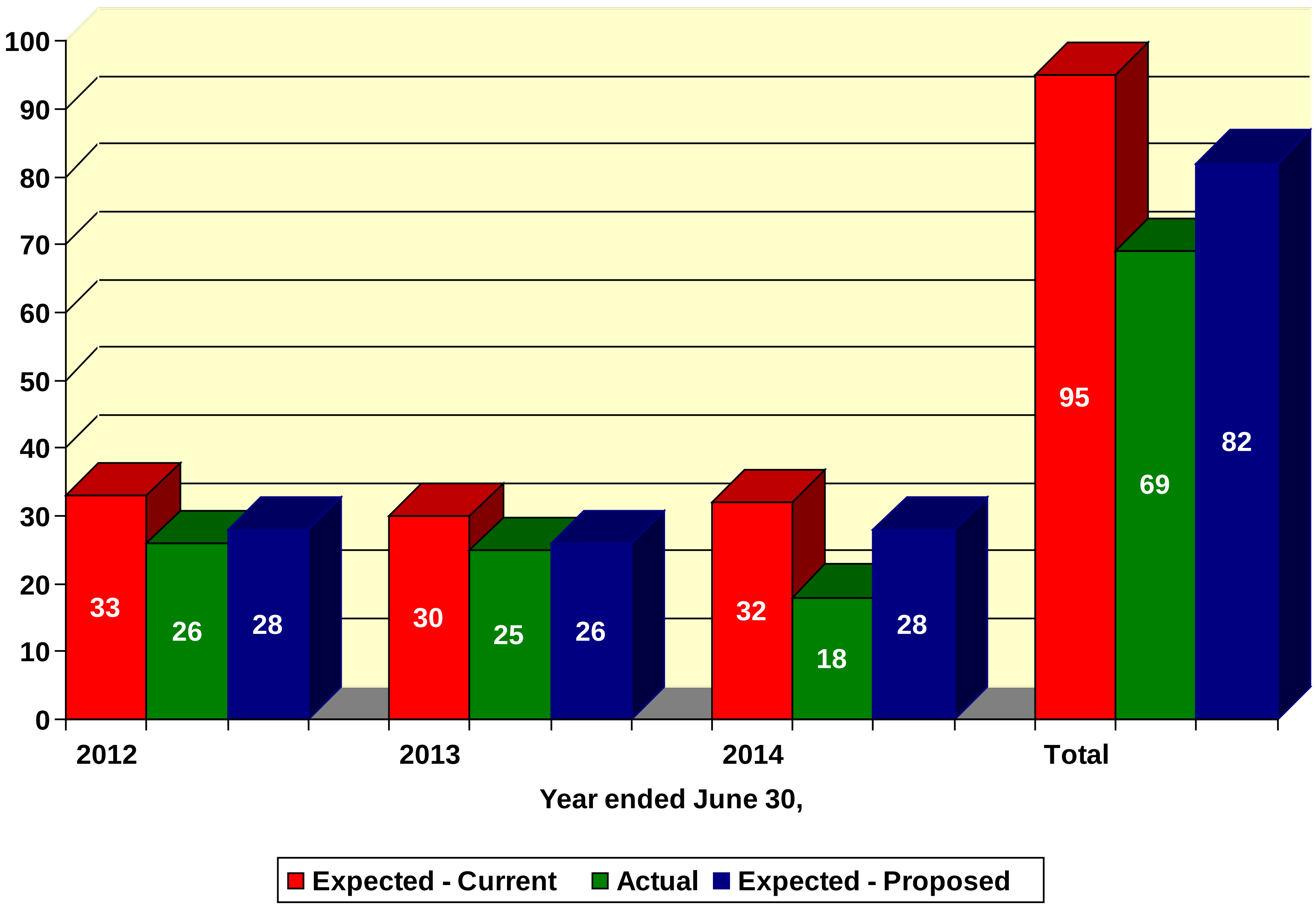


Chart 15
Termination Rates - General Members

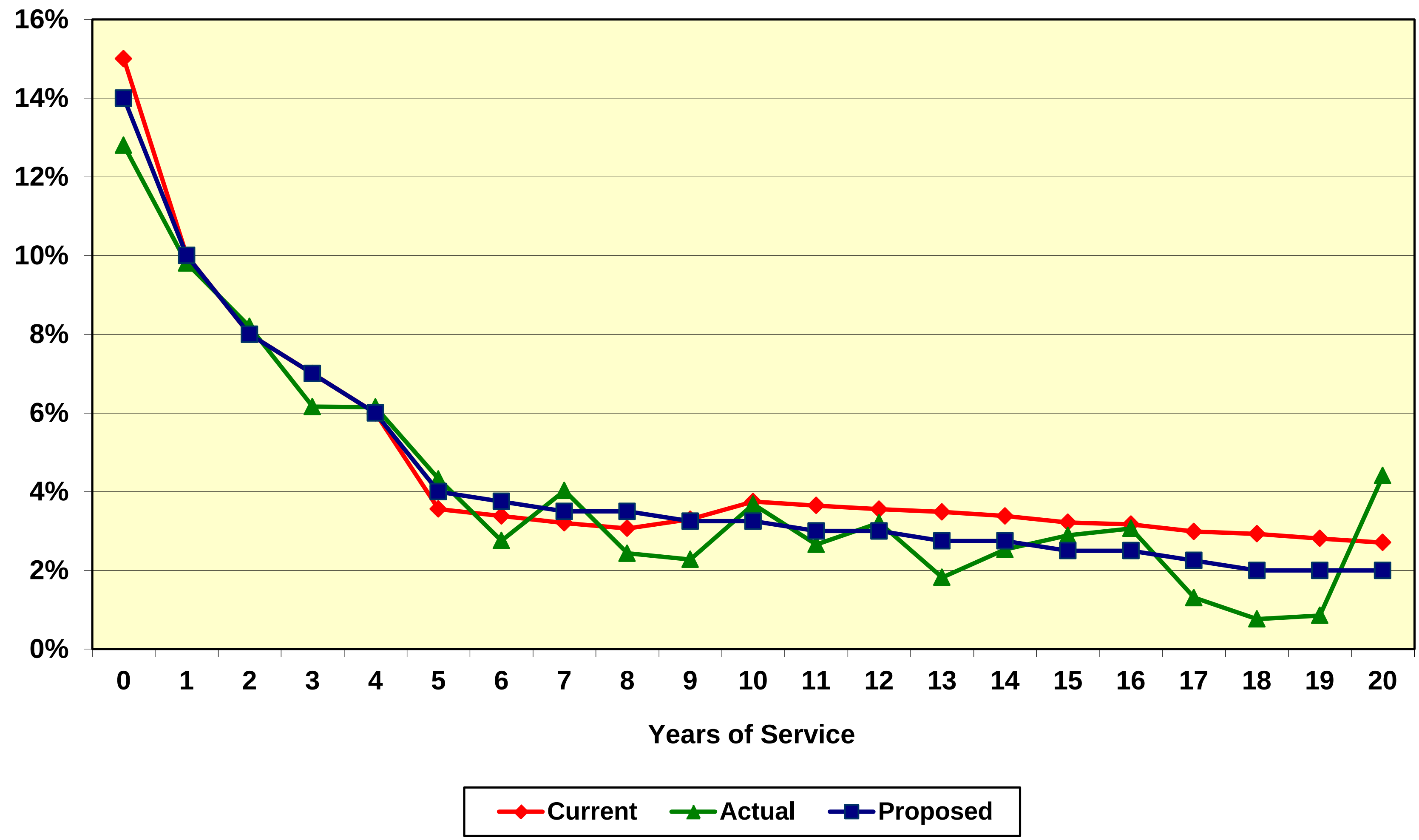
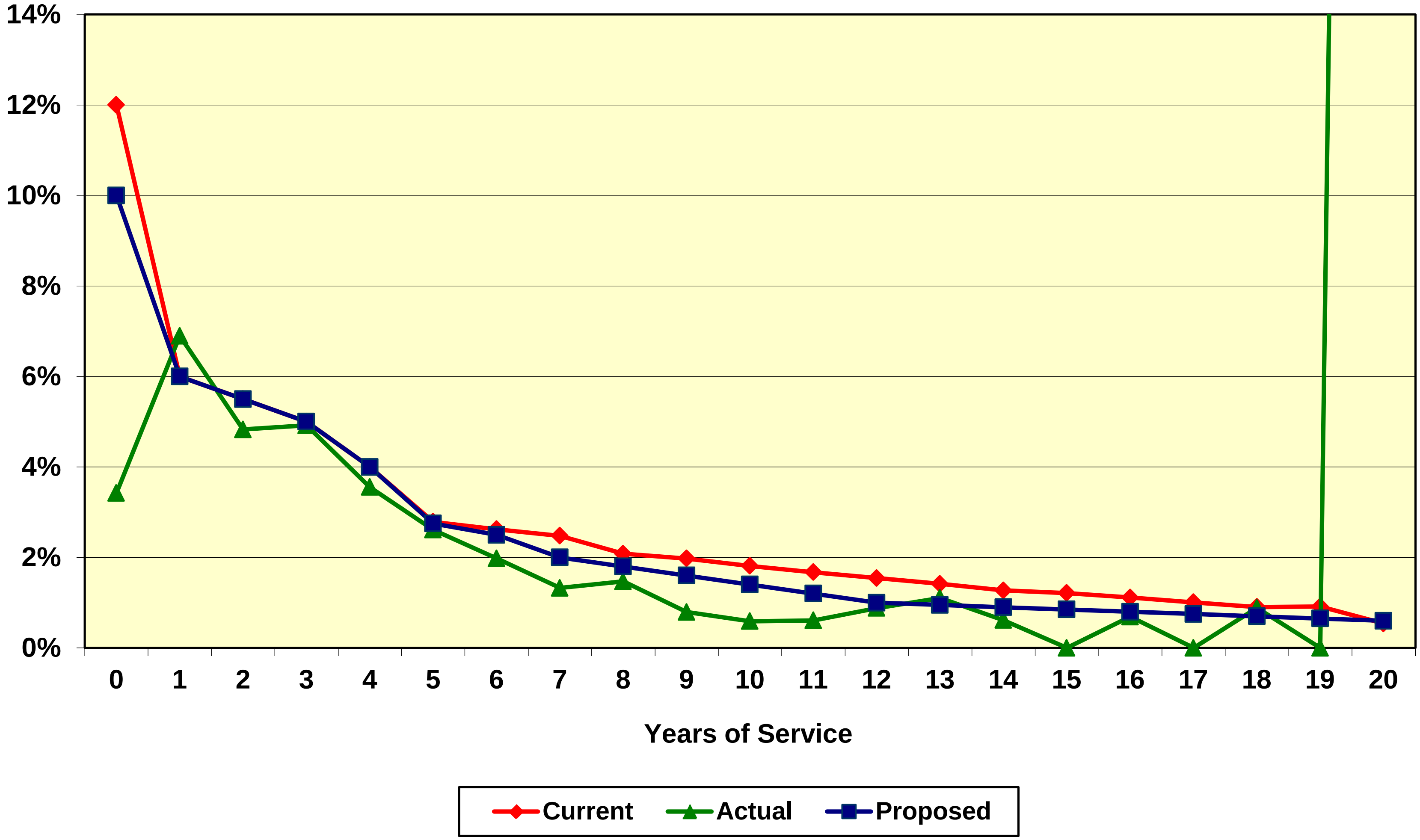


Chart 16
Termination Rates - Safety Members



F. DISABILITY INCIDENCE RATES

When a member becomes disabled, he or she may be entitled to at least a 50% pension (service connected disability), or a pension that depends upon the member's years of service (non-service connected disability). The following summarizes the actual incidence of combined service and non-service connected disabilities over the past three years compared to the current and proposed assumptions for both service connected and non-service connected disability incidence:

Rates of Disability Incidence (General)

Age	Current Rate*	Observed Rate	Proposed Rate
20 – 24	0.01%	0.00%	0.01%
25 – 29	0.02	0.00	0.02
30 – 34	0.05	0.00	0.05
35 – 39	0.10	0.05	0.10
40 – 44	0.15	0.12	0.15
45 – 49	0.25	0.26	0.25
50 – 54	0.50	0.22	0.35
55 – 59	0.60	0.25	0.45
60 – 64	0.75	0.50	0.60
65 – 69	1.00	0.18	0.75
70 – 74	1.00	0.80	1.00

***** *Total current rate for duty and non-duty disabilities.*

Rates of Disability Incidence (Safety)

Age	Current Rate*	Observed Rate	Proposed Rate
20 – 24	0.05%	0.00%	0.05%
25 – 29	0.20	0.00	0.15
30 – 34	0.30	0.29	0.30
35 – 39	0.60	0.13	0.40
40 – 44	1.10	0.23	0.70
45 – 49	1.20	0.90	1.00
50 – 54	2.50	0.51	1.80
55 – 59	4.00	3.51	3.60
60 – 64	5.00	7.89	6.00

***** *Total current rate for duty and non-duty disabilities.*

Chart 17 compares the actual number of duty and ordinary disabilities over the past three years to that expected under both the current and proposed assumptions. The proposed disability rates were adjusted to reflect the past three years experience. Overall, there are decreases in the rates proposed for both General and Safety members.

Chart 18 shows actual disability incidence rates, compared to the assumed and proposed rates for General members. Since 25% of disabled General members received a duty disability, we recommend reducing the current assumption from 40% to 35% of disabilities being entitled to a duty disability retirement. The remaining 65% of disabled General members are assumed to receive an ordinary disability retirement.

Chart 19 graphs the same information as Charts 18, but for Safety members. Since 97% of disabled Safety members received a duty disability, we recommend maintaining the current assumption that 90% of disabilities will receive a duty disability retirement. This recommendation is based partially on the fact that 79% of Safety members received a duty disability in the prior experience study period. The remaining 10% of disabled Safety members are assumed to receive an ordinary disability retirement.

Chart 17
Actual Number of Disabilities Compared to Expected

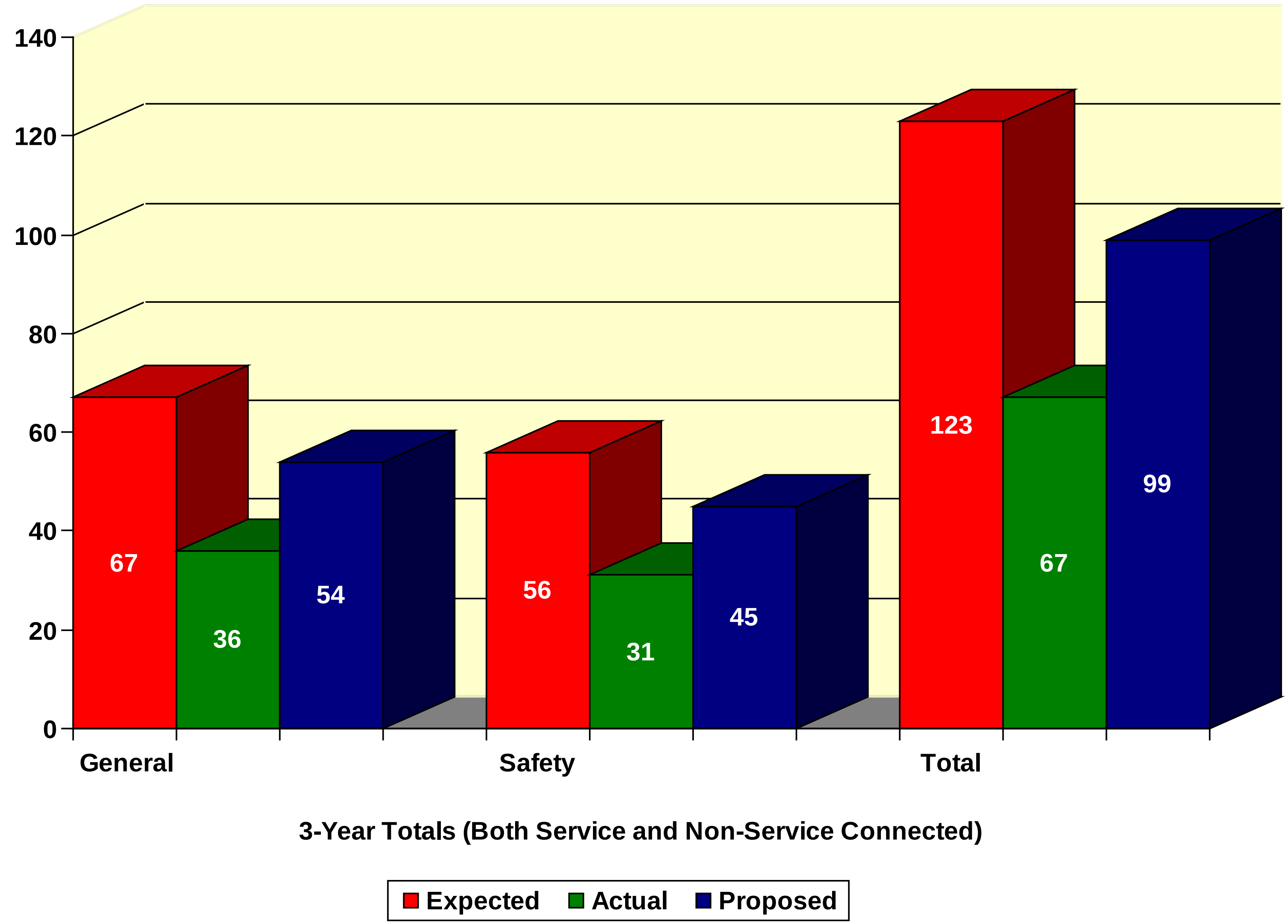


Chart 18
Disability Incidence Rates for General Members

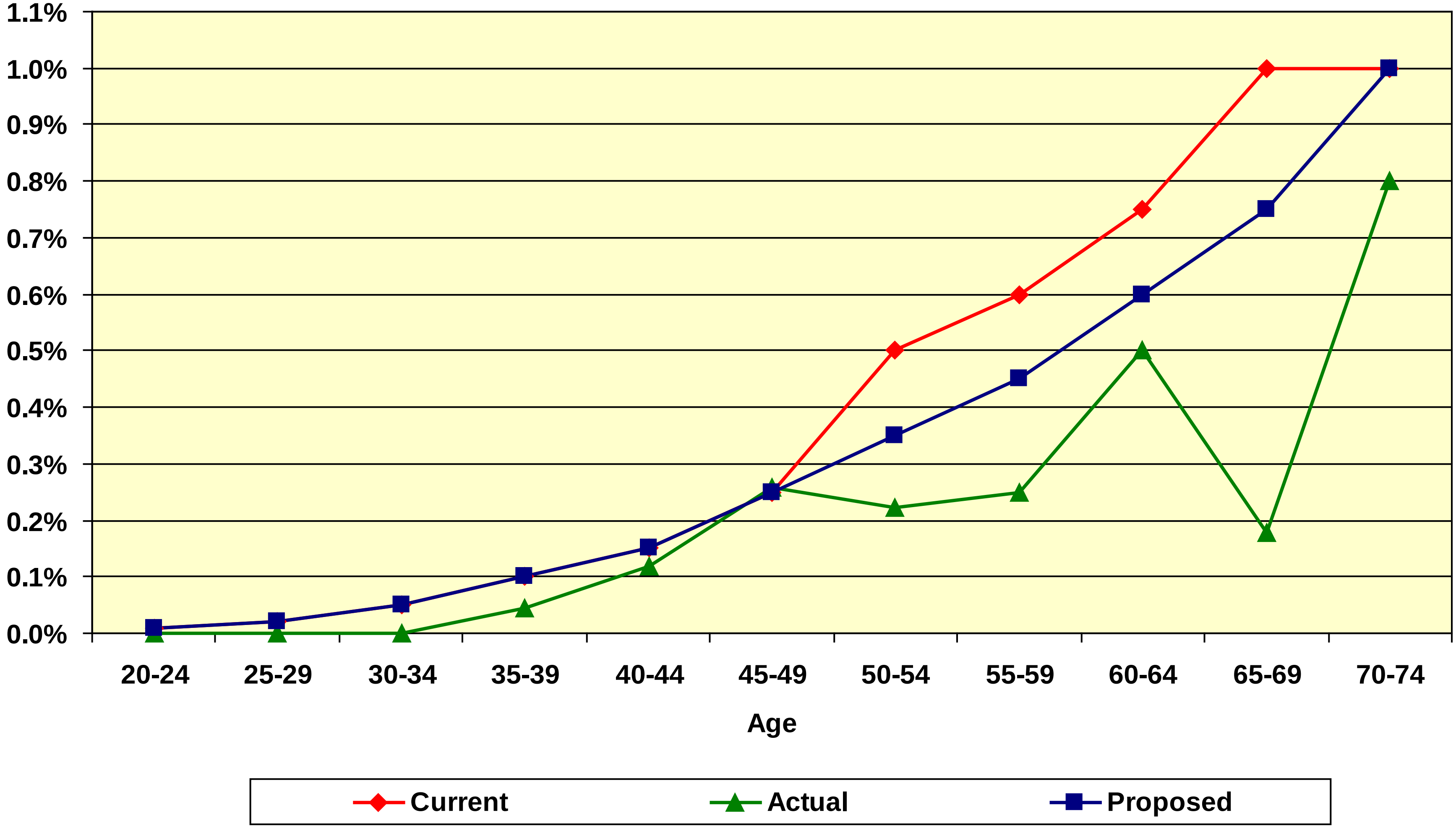
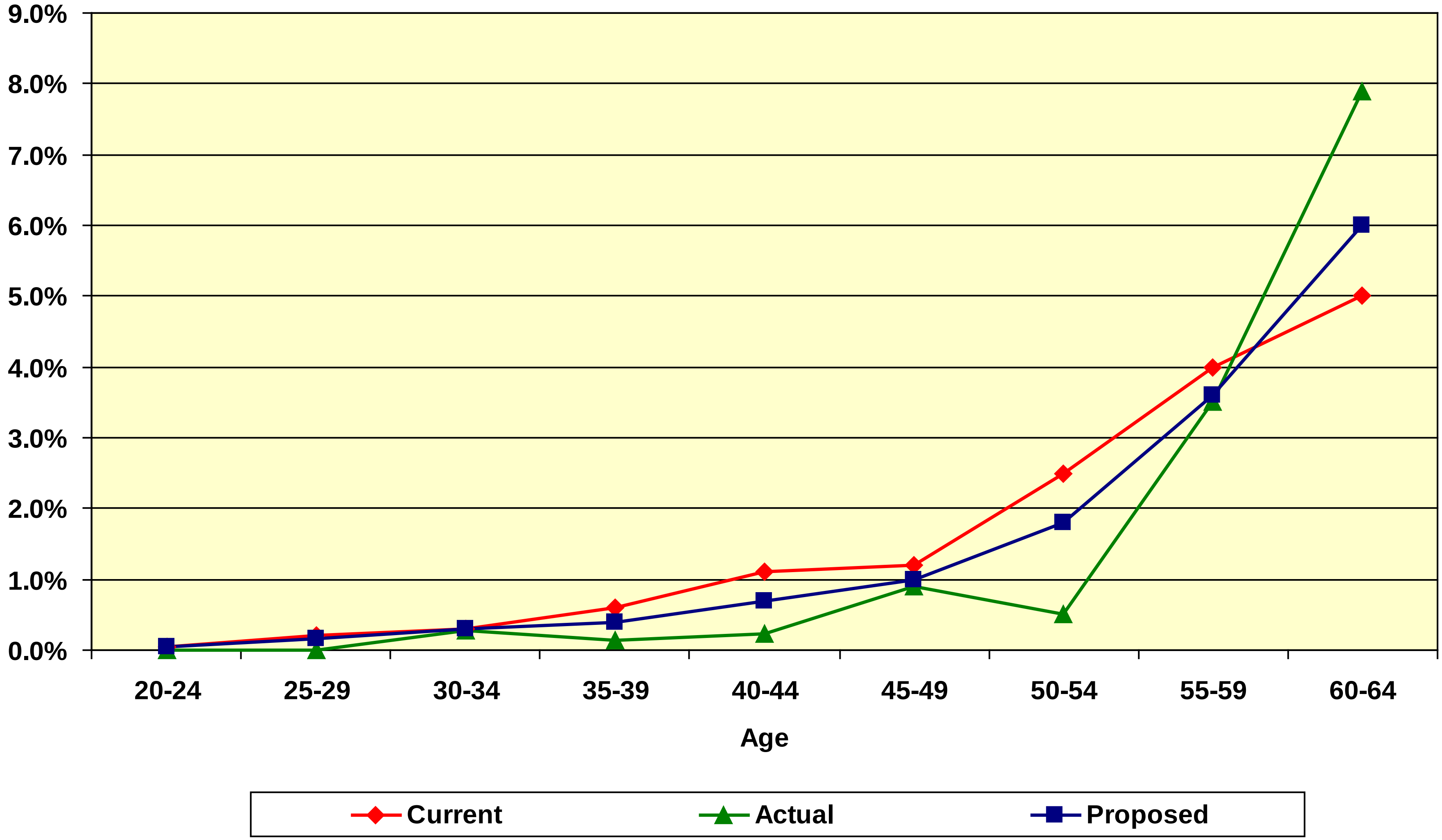


Chart 19
Disability Incidence Rates for Safety Members



G. PROMOTIONAL AND MERIT SALARY INCREASES

The Association's retirement benefits are determined in large part by a member's compensation just prior to retirement. For that reason, it is important to anticipate salary increases that employees will receive over their careers. These salary increases are made up of three components:

- Inflationary increases;
- Real "across the board" increases; and
- Promotional and merit increases.

The inflationary increases are assumed to follow the general annual price inflation assumption discussed in our separate economic assumptions report where we recommended a decrease in the inflation assumption from 3.25% to 3.00%. We also discussed in that report decreasing the annual "across the board" pay increase assumptions from 0.75% to 0.50%. Therefore, the total assumed inflation and real "across the board" pay increase (i.e., wage inflation) decreases from 4.00% to 3.50%. This is the annual rate of payroll growth at which payments to amortize the Unfunded Actuarial Accrued Liability (UAAL) are assumed to increase.

The annual promotional and merit increases are determined by measuring the actual increases received by members over the experience period, net of the inflationary and real "across the board" pay increases. Increases are measured separately for General and Safety members. This is accomplished by:

- Measuring each continuing member's actual salary increase over each year of the experience period;
- Excluding any members with increases of more than 50% or decreases of more than 10% during any particular year;
- Categorizing these increases according to member demographics;
- Removing the wage inflation component from these increases (assumed to be equal to the increase in the members' average salary during the year);
- Averaging these annual increases over the three-year experience period; and
- Modifying current assumptions to reflect some portion of these measured increases reflective of their "credibility."

Note that, to be consistent with other economic assumptions, these merit and promotional assumptions should be used in combination with the proposed 3.50% inflation and real "across the board" increases shown in our economic assumptions report.

The following table shows the General members' actual average promotional and merit increases by years of service over the three-year period from July 1, 2011 through June 30, 2014 along with the actual average increases based on a combination of increases in the current three-year period and those shown in the prior experience study. The current and proposed assumptions are also shown. The actual increases for the most recent three-year period and the prior three-year period were reduced by the actual average inflation plus "across the board" increase (i.e., wage inflation, estimated as the increase in average salaries) for each year over the three-year experience period (0.8% and 3.8% respectively, on average).

General

Years of Service	Current Assumptions	July 1, 2011 Through June 30, 2014 Average Promotional and Merit Increases	Actual Average Increases from Current and Prior Study	Proposed Assumptions
Less than 1	5.00%	7.65%	7.14%	6.00%
1	3.75	5.35	4.82	4.25
2	3.00	3.77	3.38	3.25
3	2.50	2.97	2.92	2.75
4	2.00	2.54	2.35	2.25
5	1.50	2.04	1.90	1.75
6	1.00	2.46	1.77	1.25
7	1.00	1.72	1.35	1.00
8	0.75	1.18	0.79	0.75
9	0.50	0.62	0.43	0.50
10	0.50	0.86	0.31	0.50
11	0.50	0.90	0.77	0.50
12	0.50	0.93	0.70	0.50
13	0.50	1.21	0.34	0.50
14	0.50	1.45	0.67	0.50
15	0.50	1.25	0.60	0.50
16	0.50	0.87	0.42	0.50
17	0.50	0.68	0.42	0.50
18	0.50	1.21	0.43	0.50
19	0.50	0.33	0.14	0.50
20 & over	0.50	0.33	-0.21	0.50

The following table provides the same information for Safety members. The actual average promotional and merit increases for the most recent three-year period and the prior three-year period were determined by reducing the actual average total salary increases by the actual average inflation plus "across the board" increase (i.e., wage inflation, estimated as the increase in average salaries) for each year over the three-year experience period (0.2% and 5.4% respectively, on average).

Safety

Years of Service	Current Assumptions	July 1, 2011 Through June 30, 2014 Average Promotional and Merit Increases	Actual Average Increases from Current and Prior Study	Proposed Assumptions
Less than 1	8.50%	7.29%	7.36%	8.00%
1	6.25	6.31	5.96	6.25
2	4.75	4.91	4.92	4.75
3	4.00	3.83	4.53	4.00
4	3.00	5.06	3.67	3.25
5	2.50	3.99	3.42	3.00
6	2.00	2.68	2.81	2.25
7	1.50	1.38	0.65	1.50
8	1.25	1.86	0.98	1.25
9	1.00	1.65	1.33	1.00
10	0.75	-0.21	0.51	0.75
11	0.75	0.88	0.53	0.75
12	0.75	0.24	0.70	0.75
13	0.75	1.03	1.08	0.75
14	0.75	0.93	0.63	0.75
15	0.75	1.32	1.37	0.75
16	0.50	0.64	0.04	0.50
17	0.50	0.91	0.14	0.50
18	0.50	1.46	0.88	0.50
19	0.50	1.36	0.22	0.50
20 & over	0.50	0.70	-0.29	0.50

Charts 20 and 21 provide a graphical comparison of the actual promotional and merit increases, compared to the proposed and current assumptions. The charts also show the actual promotional and merit increases based on an average of both the current and previous experience periods. This is discussed below. Chart 20 shows this information for General members and Chart 21 for Safety members.

We realize that the most recent three-year experience period may not be typically indicative of future long-term promotional and merit salary increases. This appears to be the case for both General and Safety members as they received virtually no "across the board" salary increases (based on the very low increase in average wages). Note that, in this situation, our model may lead to higher estimated promotional and merit increases. Therefore, we also examined the promotional and merit salary experience used in the prior experience study (which actually consisted of two years of experience). We believe that when the experience from the last two studies are combined into an average result it provides a more reasonable representation of potential future promotional and merit salary increases over the long term. Nevertheless, in our proposed changes to the promotional and merit increases, we have still given relatively less weight to the actual average increases experience during the last two studies.

Based on this experience, we are proposing slight increases in the promotional and merit salary increases for both General and Safety members. Overall, salary increases are lower for General and Safety members due to the lower price inflation and real "across the board" pay increase assumptions.

Chart 20
Promotional and Merit Salary Increase Rates - General Members

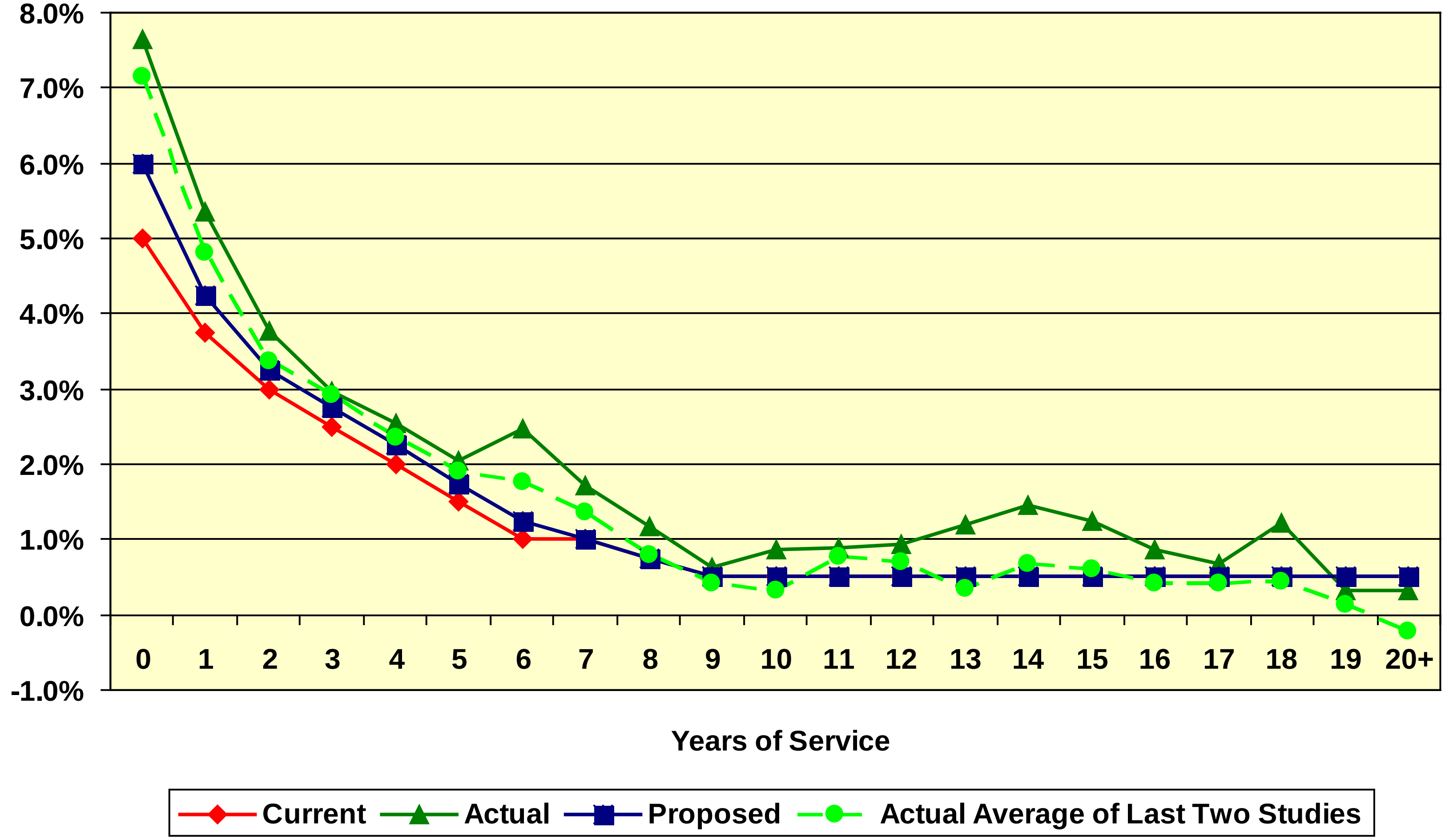
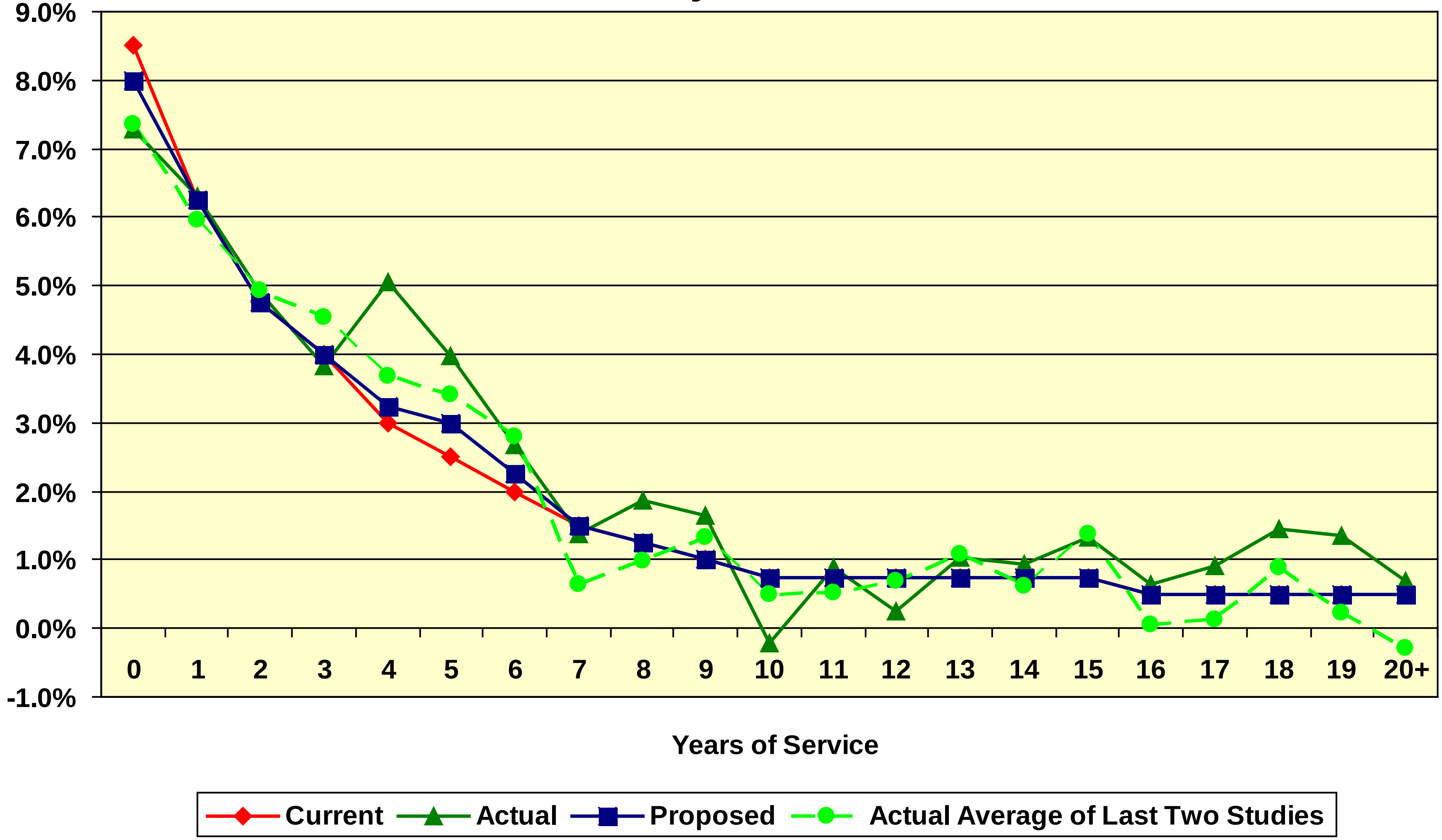


Chart 21
Promotional and Merit Salary Increase Rates - Safety Members



H. IN-SERVICE REDEMPTIONS

In 1998, the Board of Retirement, in the course of actions related to the Ventura Settlement, determined that several additional pay elements should be included as Earnable Compensation. These additional pay elements fall into two categories:

Ongoing Pay Elements – Those that are expected to be received relatively uniformly over a member's employment years; and

In-Service Redemption Elements – Those that are expected to be received only during the member's final average earnings pay period.

The first category is recognized in the actuarial calculations by virtue of being included in the current pay of active members. The second category requires a separate actuarial assumption to anticipate its impact on a member's retirement benefit.

In this study, we have collected data for the last three years to estimate in-service redemptions for non-PEPRA active members as a percentage of final average pay. The results are summarized in the following table:

	Actual Average In-Service Redemptions for Non-PEPRA Members		
Year	**General Tier 1**	**General Tier 2**	**Safety**
2012	9.42%	3.42%	6.92%
2013	6.63%	3.84%	7.73%
2014	5.38%	3.04%	7.63%
Average	7.13%	3.42%	7.38%
Current Assumptions	8.00%	3.50%	7.50%
Proposed Assumption	7.50%	3.50%	7.25%

For determining the cost of the basic benefit (i.e., non-COLA component), the cost of this pay element is currently recognized in the valuation as an employer only cost and does not affect member contribution rates.

Based on the data in the above table, the in-service redemption assumption has been maintained for General Tier 2 members and decreased for General Tier 1 members and Safety members.

I. AVERAGE ENTRY AGE (FOR MEMBER CONTRIBUTIONS)

The assumption for average entry age of active members is used in determining the rate at which members who were hired after November 1974 contribute. The current assumption is age 36 for General members and age 27 for Safety members. The actual average entry ages for all active members as of June 30, 2014 is age 35.2 for General members and age 27.1 for Safety members.

Based on this experience we recommend that the average entry age for General members used for determining member contribution rates be decreased from age 36 to age 35. For Safety members we recommend that the average entry age used for determining member contribution rates be maintained at age 27.

IV. COST IMPACT OF ASSUMPTION CHANGES

The tables below show the changes in the employer and member contribution rates due to the proposed assumption changes as if they were applied in the June 30, 2014 actuarial valuation. Please note that the rates shown below do not reflect the 50/50 sharing of Normal Cost for non-PEPRA Tiers. If all of the proposed assumption changes (both economic and demographic) were implemented, the Plan's average employer rate would have increased by 3.45% of compensation. The average member rate would have increased by 0.20% of compensation. The Plan's UAAL would have increased by $224 million. The results include the impact of the proposed change to an explicit administrative expense load that would increase total costs by 0.7% of payroll or $5 million annually. As discussed in the economic assumptions report, the cost associated with the administrative expense load has been allocated to both the employer and the member based on the components of the total contribution rate (before expenses) for the member and the employer.

Employer Contribution Rate Impact (% of Compensation)

Contributions	General Tier 1	General Tier 2	PEPRA General Tier 2	General Tier 2C	PEPRA General Tier 2C	Safety	PEPRA Safety	Overall
Normal Cost	0.44%	0.30%	0.15%	0.44%	0.27%	-0.30%	0.16%	0.20%
UAAL	2.11%	1.21%	1.21%	2.11%	2.11%	5.66%	5.66%	2.70%
Admin Expense	0.55%	0.55%	0.55%	0.55%	0.55%	0.55%	0.55%	0.55%
Total	3.10%	2.06%	1.91%	3.10%	2.93%	5.91%	6.37%	3.45%

Employer Contribution Rate Impact
(Estimated Annual Dollar Amounts in Thousands)

Contributions	General Tier 1	General Tier 2	PEPRA General Tier 2	General Tier 2C	PEPRA General Tier 2C	Safety	PEPRA Safety	Overall
Total	$305	$4,233	$222	$6,951	$689	$9,225	$237	$21,862

Member Contribution Rate Impact (% of Compensation)

Contributions	General Tier 1	General Tier 2	PEPRA General Tier 2	General Tier 2C	PEPRA General Tier 2C	Safety	PEPRA Safety	Overall
Total	0.16%	0.10%	0.30%	0.10%	0.30%	0.45%	0.31%	0.20%

Member Contribution Rate Impact
(Estimated Annual Dollar Amounts in Thousands)

Contributions	General Tier 1	General Tier 2	PEPRA General Tier 2	General Tier 2C	PEPRA General Tier 2C	Safety	PEPRA Safety	Overall
Total	$16	$209	$36	$228	$72	$719	$12	$1,292

If all of the proposed demographic assumption changes were implemented, the average employer rate would have increased by 1.57% of compensation. The average member rate would have increased by 0.05% of compensation. Of the various demographic assumption changes, the most significant cost impact is from the mortality assumption change.

If all of the proposed economic assumptions (recommended in a separate report) were implemented (including the proposed change to an explicit administrative expense load), the average employer rate would have increased by 1.88% of compensation and the average member rate would have been increased by 0.15%. Of the various economic assumption changes, the most significant cost impact is from the investment return assumption change from 7.75% net of administrative expenses to 7.50% gross of administrative expenses.

Therefore, the estimated cost impact of all proposed assumption changes (both demographic and economic) is 3.45% of compensation for the average employer rate, where the Normal Cost rate increased by 0.20%, the UAAL amortization rate increased by 2.70% and the explicit administrative expense load is 0.55%. The average member rate would have increased by 0.20% of compensation, including the explicit administrative load of 0.15%. The allocation of the explicit administrative expense load between employers and members is discussed in the economic assumptions report.

As noted earlier, the above results do not include 50/50 sharing of Normal Cost for non-PEPRA Tiers. If we include that provision, then the total increase in the Normal Cost of 0.25% would be shared 50/50 between the employers and the members (with the cost of the cessation of member contributions after 30 years of service allocated to the employer) and the allocation of the administrative expense load would be slightly different. This would shift about 0.07% of the average cost increase from the employers to the members.

APPENDIX A

CURRENT ACTUARIAL ASSUMPTIONS

Mortality Rates

Healthy:	For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2025 set back one year.
	For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2025 set back one year.
Disabled:	For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2025 set forward five years for males and seven years for females.
	For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2025 set back one year.
Beneficiaries:	Beneficiaries are assumed to have the same mortality as a General Member of the opposite sex who has taken a service (non-disability) retirement.
Member Contribution Rates:	For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2025 set back one year weighted 35% male and 65% female.
	For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2025 set back one year weighted 80% male and 20% female.

Termination Rates Before Retirement:

Rate (%)

Mortality

	General		Safety	
Age	**Male**	**Female**	**Male**	**Female**
25	0.03	0.01	0.03	0.01
30	0.04	0.02	0.04	0.02
35	0.06	0.03	0.06	0.03
40	0.09	0.04	0.09	0.04
45	0.10	0.07	0.10	0.07
50	0.13	0.10	0.13	0.10
55	0.19	0.19	0.19	0.19
60	0.40	0.39	0.40	0.39
65	0.79	0.76	0.79	0.76

All pre-retirement deaths are assumed to be non-duty related.

Termination Rates Before Retirement (continued):

	Rate (%) Disability	
Age	**General[1]**	**Safety[2]**
25	0.02	0.14
30	0.04	0.26
35	0.08	0.48
40	0.13	0.90
45	0.21	1.16
50	0.40	1.98
55	0.56	3.40
60	0.69	4.60
65	0.90	0.00
70	1.00	0.00

(1) 40% of General disabilities are assumed to be duty disabilities and the other 60% are assumed to be ordinary disabilities.

(2) 90% of Safety disabilities are assumed to be duty disabilities and the other 10% are assumed to be ordinary disabilities.

Termination Rates Before Retirement (continued):

Rate (%)

Withdrawal (< 5 Years of Service) *

Years of Service	General	Safety
0	15.00	12.00
1	10.00	6.00
2	8.00	5.50
3	7.00	5.00
4	6.00	4.00

Withdrawal (5+ Years of Service) *

Age	General	Safety
20	6.00	4.00
25	6.00	4.00
30	5.70	3.40
35	4.90	2.40
40	3.90	1.40
45	2.90	0.70
50	2.20	0.20
55	1.70	0.00
60	1.20	0.00
65	1.00	0.00
70	0.00	0.00

* The greater of a refund of member contributions and a deferred annuity is valued when a member withdraws.

No withdrawal is assumed after a member is first assumed to retire.

Retirement Rates:

Age	General Tier 1 and 2	PEPRA General Tier 1 and 2	Safety	PEPRA Safety
		Rate (%)		
40	0.00	0.00	1.00	0.00
41	0.00	0.00	1.00	0.00
42	0.00	0.00	1.00	0.00
43	0.00	0.00	1.00	0.00
44	0.00	0.00	1.00	0.00
45	0.00	0.00	1.00	0.00
46	0.00	0.00	1.00	0.00
47	0.00	0.00	1.00	0.00
48	0.00	0.00	1.00	0.00
49	0.00	0.00	1.00	0.00
50	3.00	0.00	2.00	4.00
51	3.00	0.00	2.00	2.00
52	4.00	2.00	4.00	5.00
53	4.00	2.00	6.00	8.00
54	6.00	3.00	18.00	18.00
55	6.00	5.00	25.00	20.00
56	7.00	5.00	20.00	20.00
57	8.00	6.00	20.00	18.00
58	10.00	7.00	18.00	18.00
59	10.00	8.00	25.00	30.00
60	14.00	10.00	25.00	30.00
61	18.00	12.50	30.00	30.00
62	22.00	20.00	40.00	50.00
63	20.00	20.00	50.00	50.00
64	25.00	20.00	50.00	50.00
65	35.00	25.00	100.00	100.00
66	35.00	30.00	100.00	100.00
67	35.00	30.00	100.00	100.00
68	25.00	30.00	100.00	100.00
69	20.00	30.00	100.00	100.00
70	20.00	50.00	100.00	100.00
71	20.00	50.00	100.00	100.00
72	20.00	50.00	100.00	100.00
73	20.00	50.00	100.00	100.00
74	40.00	50.00	100.00	100.00
75	100.00	100.00	100.00	100.00

Retirement Age and Benefit for Deferred Vested Members:	For deferred vested members, we make the following retirement assumption: General Age: 58 Safety Age: 54 We assume that 50% and 65% of future General and Safety deferred vested members, respectively, will continue to work for a reciprocal employer. For reciprocals, we assume 4.50% compensation increases per annum.

Future Benefit Accruals: 1.0 year of service per year.

Unknown Data for Members: Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.

Definition of Active Members: All active members of VCERA as of the valuation date.

Percent Married: 70% of male members and 50% of female members are assumed to be married at pre-retirement death or retirement. There is no explicit assumption for children's benefits.

Age of Spouse: Female (or male) spouses are 3 years younger (or older) than their spouses.

Net Investment Return: 7.75%, net of investment and administration expenses.

Member Contribution Crediting Rate: 3.25% (actual increase is based on projected long term ten-year Treasury rate).

Consumer Price Index: Increase of 3.25% per year; retiree COLA increases due to CPI are subject to a 3.0% maximum change per year for General Tier 1 and Safety. For General Tier 2, SEIU members receive a fixed 2% cost-of-living adjustment, not subject to changes in the CPI, that applies to future service after March 2003.

In-Service Redemptions:

Non-PEPRA Formulas

The following assumptions for in-service redemptions pay as a percentage of final average pay are used:

General Tier 1	8.00%
General Tier 2	3.50%
Safety	7.50%

For determining the cost of the basic benefit (i.e., non-COLA component), the cost of this pay element is currently recognized in the valuation as an employer only cost and does not affect member contribution rates.

PEPRA Formulas None

Salary Increases:

Annual Rate of Compensation Increase

Inflation: 3.25% per year; plus "across the board" salary increases of 0.75% per year; plus the following promotional and merit increases:

Years of Service	General	Safety
Less than 1	5.00%	8.50%
1	3.75	6.25
2	3.00	4.75
3	2.50	4.00
4	2.00	3.00
5	1.50	2.50
6	1.00	2.00
7	1.00	1.50
8	0.75	1.25
9	0.50	1.00
10	0.50	0.75
11	0.50	0.75
12	0.50	0.75
13	0.50	0.75
14	0.50	0.75
15	0.50	0.75
16	0.50	0.50
17	0.50	0.50
18	0.50	0.50
19	0.50	0.50
20 and Over	0.50	0.50

Increase in the Internal Revenue

Code Section 401(a)(17)
Compensation Limit: Increase of 3.25% per year from the valuation date.

Increase in Section 7522.10
Compensation Limit: Increase of 3.25% per year from the valuation date.

Average Entry Age for
Member Contribution Rates: For non-PEPRA members hired after November 1974, they will pay a contribution corresponding to a General and Safety member hired at entry age 36 and 27, respectively.

APPENDIX B

PROPOSED ACTUARIAL ASSUMPTIONS

Mortality Rates

Healthy:

For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2035 set back one year for males and set forward one year for females.

For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2035 set back three years.

Disabled:

For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2035 set forward six years for males and eight years for females.

For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2035 set forward two years.

Beneficiaries:

Beneficiaries are assumed to have the same mortality as a General Member of the opposite sex who has taken a service (non-disability) retirement.

Member Contribution Rates:

For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2035 set back one year for males and set forward one year for female weighted one-third male and two-third female.

For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2035 set back three years weighted 80% male and 20% female.

Termination Rates Before Retirement:

Rate (%)

Mortality

	General		Safety	
Age	**Male**	**Female**	**Male**	**Female**
25	0.03	0.02	0.03	0.02
30	0.04	0.03	0.03	0.02
35	0.06	0.05	0.05	0.03
40	0.09	0.07	0.08	0.05
45	0.13	0.11	0.11	0.08
50	0.18	0.17	0.16	0.12
55	0.29	0.25	0.24	0.18
60	0.48	0.39	0.41	0.27
65	0.77	0.72	0.64	0.44

All pre-retirement deaths are assumed to be non-duty related.

Termination Rates Before Retirement (continued):

	Rate (%)	
	Disability	
Age	General[1]	Safety[2]
25	0.02	0.11
30	0.04	0.24
35	0.08	0.36
40	0.13	0.58
45	0.21	0.88
50	0.31	1.48
55	0.41	2.88
60	0.54	5.04
65	0.69	0.00
70	0.90	0.00

(1) 35% of General disabilities are assumed to be duty disabilities and the other 65% are assumed to be ordinary disabilities.

(2) 90% of Safety disabilities are assumed to be duty disabilities and the other 10% are assumed to be ordinary disabilities.

Termination Rates Before Retirement (continued):

	Rate (%)	
	Withdrawal *	
Years of Service	General	Safety
Less than 1	14.00	10.00
1	10.00	6.00
2	8.00	5.50
3	7.00	5.00
4	6.00	4.00
5	4.00	2.75
6	3.75	2.50
7	3.50	2.00
8	3.50	1.80
9	3.25	1.60
10	3.25	1.40
11	3.00	1.20
12	3.00	1.00
13	2.75	0.95
14	2.75	0.90
15	2.50	0.85
16	2.50	0.80
17	2.25	0.75
18	2.00	0.70
19	2.00	0.65
20 or more	2.00	0.60

* The greater of a refund of member contributions and a deferred annuity is valued when a member withdraws.

No withdrawal is assumed after a member is first assumed to retire.

Retirement Rates:

Age	General Tier 1 and 2	PEPRA General Tier 1 and 2	Safety	PEPRA Safety
	Rate (%)			
40	0.00	0.00	1.00	0.00
41	0.00	0.00	1.00	0.00
42	0.00	0.00	1.00	0.00
43	0.00	0.00	1.00	0.00
44	0.00	0.00	1.00	0.00
45	0.00	0.00	1.00	0.00
46	0.00	0.00	1.00	0.00
47	0.00	0.00	1.00	0.00
48	0.00	0.00	1.00	0.00
49	0.00	0.00	1.50	0.00
50	2.50	0.00	2.50	5.00
51	2.50	0.00	2.00	2.00
52	3.00	2.00	3.00	4.00
53	3.50	2.00	4.00	6.00
54	4.00	2.50	17.00	16.00
55	4.50	4.00	22.00	20.00
56	5.00	4.50	22.00	20.00
57	6.00	5.00	20.00	18.00
58	8.00	6.00	19.00	18.00
59	8.00	7.00	22.00	25.00
60	12.00	9.00	22.00	25.00
61	15.00	11.00	25.00	25.00
62	22.00	20.00	35.00	40.00
63	20.00	20.00	40.00	40.00
64	22.00	18.00	40.00	40.00
65	30.00	20.00	100.00	100.00
66	35.00	30.00	100.00	100.00
67	35.00	30.00	100.00	100.00
68	35.00	30.00	100.00	100.00
69	20.00	30.00	100.00	100.00
70	20.00	50.00	100.00	100.00
71	20.00	50.00	100.00	100.00
72	20.00	50.00	100.00	100.00
73	20.00	50.00	100.00	100.00
74	30.00	50.00	100.00	100.00
75	100.00	100.00	100.00	100.00

Retirement Age and Benefit for Deferred Vested Members: For deferred vested members, we make the following retirement assumption:

General Age:	59
Safety Age:	54

We assume that 50% and 60% of future General and Safety deferred vested members, respectively, will continue to work for a reciprocal employer. For reciprocals, we assume 4.00% compensation increases per annum.

Future Benefit Accruals: 1.0 year of service per year.

Unknown Data for Members: Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.

Definition of Active Members: All active members of VCERA as of the valuation date.

Percent Married: 70% of male members and 55% of female members are assumed to be married at pre-retirement death or retirement. There is no explicit assumption for children's benefits.

Age of Spouse: Female (or male) spouses are 3 years younger (or older) than their spouses.

Net Investment Return: 7.50%, net of investment expenses.

Administrative Expenses: 0.70% of payroll allocated to both employer and member based on the components of the total contribution rate (before expenses) for the employer and member.

Member Contribution Crediting Rate: 3.00% (actual increase is based on projected long term ten-year Treasury rate).

Consumer Price Index: Increase of 3.00% per year; retiree COLA increases due to CPI are subject to a 3.0% maximum change per year for General Tier 1 and Safety. For General Tier 2, SEIU members receive a fixed 2% cost-of-living adjustment, not subject to changes in the CPI, that applies to future service after March 2003.

In-Service Redemptions:

Non-PEPRA Formulas The following assumptions for in-service redemptions pay as a percentage of final average pay are used:

General Tier 1	7.50%
General Tier 2	3.50%
Safety	7.25%

For determining the cost of the basic benefit (i.e., non-COLA component), the cost of this pay element is currently recognized in the valuation as an employer only cost and does not affect member contribution rates.

PEPRA Formulas None

Salary Increases:

Annual Rate of Compensation Increase

Inflation: 3.00% per year; plus "across the board" salary increases of 0.50% per year; plus the following promotional and merit increases:

Years of Service	General	Safety
Less than 1	6.00%	8.00%
1	4.25	6.25
2	3.25	4.75
3	2.75	4.00
4	2.25	3.25
5	1.75	3.00
6	1.25	2.25
7	1.00	1.50
8	0.75	1.25
9	0.50	1.00
10	0.50	0.75
11	0.50	0.75
12	0.50	0.75
13	0.50	0.75
14	0.50	0.75
15	0.50	0.75
16	0.50	0.50
17	0.50	0.50
18	0.50	0.50
19	0.50	0.50
20 and Over	0.50	0.50

Increase in the Internal Revenue

Code Section 401(a)(17)
Compensation Limit: Increase of 3.00% per year from the valuation date.

Increase in Section 7522.10
Compensation Limit: Increase of 3.00% per year from the valuation date.

Average Entry Age for
Member Contribution Rates: For non-PEPRA members hired after November 1974, they will pay a contribution corresponding to a General and Safety member hired at entry age 35 and 27, respectively.

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

Review of Economic Actuarial Assumptions for the June 30, 2015 Actuarial Valuation

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MARCH 2015

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April 14, 2015

Board of Retirement
Ventura County Employees' Retirement Association
1190 South Victoria Avenue, Suite 200
Ventura, CA 93003-6572

**Re: Review of Economic Actuarial Assumptions
For the June 30, 2015 Actuarial Valuation**

Dear Members of the Board:

We are pleased to submit this report of our review of the June 30, 2015 economic actuarial assumptions for the Ventura County Employees' Retirement Association. This report includes our recommendations and the analysis supporting their development.

Please note that we have also reviewed the non-economic actuarial experience for the three-year period from July 1, 2011 to June 30, 2014. The non-economic actuarial assumption recommendations are provided in a separate report.

We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

We look forward to reviewing this report with you and answering any questions you may have.

Sincerely,

Paul Angelo, FSA, EA, MAAA, FCA Senior Vice President and Actuary	John Monroe, ASA, EA, MAAA Vice President and Actuary

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I. INTRODUCTION, SUMMARY, AND RECOMMENDATIONS

To project the cost and liabilities of the pension fund, assumptions are made about all future events that could affect the amount and timing of the benefits to be paid and the assets to be accumulated. Each year actual experience is compared against the projected experience, and to the extent there are differences, the future contribution requirement is adjusted.

If assumptions are changed, contribution requirements are adjusted to take into account a change in the projected experience in all future years. There is a great difference in both philosophy and cost impact between recognizing the actuarial deviations as they occur annually and changing the actuarial assumptions. Taking into account one year's gains or losses without making a change in the assumptions in effect assumes that the experience is treated as temporary and that, over the long run, experience is expected to return to what was originally assumed. Changing assumptions reflects a basic change in thinking about the future, and it has a much greater effect on the current contribution requirements than the gain or loss for a single year.

The use of realistic actuarial assumptions is important to maintain adequate funding, while fulfilling benefit commitments to participants already retired and to those near retirement. The actuarial assumptions do not determine the "actual cost" of the plan. The actual cost is determined solely by the benefits and administrative expenses paid out, offset by investment income received. However, it is desirable to estimate as closely as possible what the actual cost will be so as to permit an orderly method for setting aside contributions today to provide benefits in the future, and to maintain equity among generations of participants and taxpayers.

This study was undertaken in order to review the economic actuarial assumptions. The study was performed in accordance with Actuarial Standard of Practice (ASOP) No. 27,[1] "Selection of Economic Assumptions for Measuring Pension Obligations." This Standard of Practice puts forth guidelines for the selection of the economic actuarial assumptions utilized in a pension plan actuarial valuation.

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1 ASOP No. 27 was revised in September 2013 effective for measurement dates on or after September 30, 2014. Since the recommendations developed herein are intended for use starting with the June 30, 2015 valuation, this study was performed in accordance with ASOP 27 as constituted after the 2013 revisions to the ASOP.

We are recommending changes in the investment return, inflation and "across the board" salary increase assumptions. Our recommendations for the economic actuarial assumptions for the June 30, 2015 Actuarial Valuation are as follows:

Inflation – Future increases in the Consumer Price Index (CPI) which drives investment returns and active member salary increases, as well as cost-of-living adjustments (COLAs) for retirees.
Recommendation: Reduce the assumed rate of price inflation from 3.25% to 3.00% per annum.

Investment Return – The estimated average future net rate of return on current and future assets of the Association as of the valuation date. This rate is used to discount liabilities.
Recommendation: Reduce the current investment return assumption from 7.75% per annum to 7.50% per annum. The 7.50% recommendation would be consistent with the Board's past practice of having a margin for adverse deviation under the risk adjusted model used by Segal. We further recommend changing to an explicit treatment of administrative expenses in the selection of an investment return assumption for use both in funding and in financial reporting required by the Governmental Accounting Standards Board (GASB).

Individual Salary Increases – Increases in the salary of a member between the date of the valuation to the date of separation from active service. This assumption has three components:

- Inflationary salary increases,
- Real "across the board" salary increases, and
- Promotional and merit increases.

Recommendation: Reduce the current inflationary salary increase assumption from 3.25% to 3.00% and reduce the current real "across the board" salary increase assumption from 0.75% to 0.50%. This means that the combined inflationary and real "across the board" salary increases will decrease from 4.00% to 3.50%. Please note that the promotional and merit increase assumption currently ranges from 0.50% to 8.00% and is a function of a member's years of service. The proposed promotional and merit increase assumptions are provided as part of our triennial experience study of non-economic assumptions, along with the other recommended non-economic assumptions for the June 30, 2015 valuation.

Section II provides some background on basic principles and the methodology used for the review of the economic actuarial assumptions. A detailed discussion of each of the economic assumptions and reasons behind the recommendations is found in Section III. The cost impact of these proposed changes is included in our separate analysis of the "non-economic" assumptions for the June 30, 2015 valuation.

II. BACKGROUND AND METHODOLOGY

For this study, we analyzed "economic" assumptions only. Our analysis of the "non-economic" assumptions for the June 30, 2015 valuation is provided in a separate report. The primary economic assumptions are inflation, investment return and salary increases.

Economic Assumptions

Economic assumptions consist of:

Inflation – Increases in the price of goods and services. The inflation assumption reflects the basic return that investors expect from securities markets. It also reflects the expected basic salary increase for active employees and drives increases in the allowances of retired members.

Investment Return – Expected long term rate of return on the Association's investments after expenses. This assumption has a significant impact on contribution rates.

Salary Increases – In addition to inflationary increases, it is assumed that salaries will also grow by "across the board" real pay increases in excess of price inflation. It is also assumed that employees will receive raises above these average increases as they advance in their careers. These are commonly referred to as promotional and merit increases. Payments to amortize any Unfunded Actuarial Accrued Liability (UAAL) are assumed to increase each year by the price inflation rate plus any "across the board" real pay increases that are assumed.

The setting of these assumptions is described in Section III.

III. ECONOMIC ASSUMPTIONS

A. INFLATION

Unless an investment grows at least as fast as prices increase, investors will experience a reduction in the inflation-adjusted value of their investment. There may be times when "riskless" investments return more or less than inflation, but over the long term, investment market forces will generally require an issuer of fixed income securities to maintain a minimum return which protects investors from inflation.

The inflation assumption is long term in nature, so it is set using primarily historical information. Following is an analysis of 15 and 30 year moving averages of historical inflation rates:

Historical Consumer Price Index – 1930 to 2014

(U.S. City Average - All Urban Consumers)

	25th Percentile	Median	75th Percentile
15-year moving averages	2.6%	3.4%	4.6%
30-year moving averages	3.2%	4.1%	4.9%

The average inflation rates have continued to decline gradually over the last several years due to the relatively low inflationary period over the past two decades. Also, the later of the 15-year averages during the period are lower as they do not include the high inflation years of the mid-1970s and early 1980s.

In the 2013 public fund survey published by the National Association of State Retirement Administrators, the median inflation assumption used by 126 large public retirement funds in their 2012 valuations has decreased to 3.00% from the 3.25% used in the 2011 valuations. In California, CalPERS and LACERA have recently reduced their inflation assumptions to 2.75% and 3.00%, respectively.

VCERA's investment consultant, New England Pension Consultants (NEPC), anticipates an annual inflation rate of 3.25%. Note that, in general, the investment consultants' time horizon for this assumption is shorter than the time horizon we use for the actuarial valuation. We also note that the average inflation rate used by a sample of nine investment advisory firms is 2.53%.

To find a forecast of inflation based on a longer time horizon, we referred to the 2014 report on the financial status of the Social Security program. The projected average increase in the Consumer Price Index (CPI) over the next 75 years under the intermediate cost assumptions used in that report was 2.70%. We also compared the yields on the thirty-year inflation indexed U.S. Treasury bonds to comparable traditional U.S. Treasury bonds. As of January 2015, the difference in yields is 1.92%, which provides a measure of market expectations of inflation.

Based on all of the above information, we recommend that the current 3.25% annual inflation assumption be reduced to 3.00% for the June 30, 2015 actuarial valuation.

Retiree Cost-of-Living Increases

We also recommend maintaining the current assumptions to value the post-retirement COLA benefit at 3.00% per year for all General Tier 1 and Safety members. Note that General Tier 2 members with COLA provision are entitled to receive a fixed 2% COLA, not limited to actual changes in the CPI, that applies to future service after March 2003. The current and proposed COLA assumptions are shown below:

Maximum COLA for all General Tier 1 and Safety Members	Current Assumption	Proposed Assumption
3.00%	3.00%	3.00%

Note that in developing the COLA assumption, we also considered the results of a stochastic approach that would attempt to account for the possible impact of low inflation that could occur before COLA banks are able to be established for the member. Although the results of this type of analysis might justify the use of a lower COLA assumption, we are not recommending that at this time. The reasons for this conclusion include the following:

- The results of the stochastic modeling are significantly dependent on assuming that lower levels of inflation will persist in the early years of the projections. If this is not assumed, then the stochastic modeling will produce results similar to our proposed COLA assumptions.
- Using a lower long-term COLA assumption based on a stochastic analysis would mean that an actuarial loss would occur even when the inflation assumption of 3.00% is met in a year. We question the reasonableness of this result.

We do not see the stochastic possibility of COLAs averaging less than those predicted by the assumed rate of inflation as a reliable source of cost savings that should be anticipated in our COLA assumptions. Therefore, we continue to recommend setting the COLA assumptions based on the long-term annual inflation assumption, as we have in prior years.

B. INVESTMENT RETURN

The investment return assumption is comprised of two primary components, inflation and real rate of investment return, with adjustments for expenses and risk.

Real Rate of Investment Return

This component represents the portfolio's incremental investment market returns over inflation. Theory has it that, as an investor takes a greater investment risk, the return on the investment is expected to also be greater, at least in the long run. This additional return is expected to vary by asset class and empirical data supports that expectation. For that reason, the real rate of return assumptions are developed by asset class. Therefore, the real rate of return assumption for a retirement system's portfolio will vary with the Board's asset allocation among asset classes.

The following is the Association's current target asset allocation and the assumed real rate of return assumptions by asset class. The first column of real rate of return assumptions are determined by reducing NEPC's total return assumptions by their assumed 3.25% for inflation. The second column of returns (except for Private Debt/Credit Strategies, Absolute Return, Real Assets and Private Equity) represents the average of a sample of real rate of return assumptions. The sample includes the expected annual real rate of returns provided to us by NEPC and by eight other investment advisory firms retained by Segal's California public sector clients. We believe these assumptions reasonably reflect a consensus forecast of long term future real market returns.[2]

[2] Note that, just as for the inflation assumption, in general the time horizon used by the investment consultants in determining the real rate of return assumption is shorter than the time horizon encompassed by the actuarial valuation.

VCERA's Target Asset Allocation and Assumed Arithmetic Real Rate of Return Assumptions by Asset Class and for the Portfolio

Asset Class	Percentage of Portfolio	NEPC's Assumed Real Rate of Return[1]	Average Real Rate of Return from a Sample of Consultants to Segal's California Public Sector Clients[2]
Large Cap U.S. Equity	27.74%	5.58%	5.90%
Small Cap U.S. Equity	3.41%	6.39%	6.60%
Developed International Equity	14.73%	6.60%	6.95%
Emerging Market Equity	3.12%	8.80%	8.44%
U.S. Core Fixed Income	14.00%	0.97%	0.71%
Real Estate	7.00%	4.25%	4.65%
Private Debt/Credit Strategies	5.00%	6.01%	6.01%[3]
Absolute Return (Risk Parity)[4]	16.00%	4.13%	4.13%[3]
Real Assets (Master Limited Partnerships)[4]	4.00%	6.51%	6.51%[3]
Private Equity	5.00%	9.25%	9.25%[3]
Total Portfolio	100.00%	5.13%	5.26%

(1) *Derived by reducing NEPC's nominal rate of return assumptions by their assumed 3.25% inflation rate.*

(2) *These are based on the projected arithmetic real returns provided by the investment advisory firms serving the county retirement systems of Ventura, Alameda, Contra Costa, Sonoma, Mendocino, Kern, the LA City Employees' Retirement System, LA Department of Water and Power and the LA Fire & Police Pensions. These return assumptions are gross of any applicable investment expenses.*

(3) *For these asset classes, NEPC's assumption is applied in lieu of the average because there is a larger disparity in returns for these asset classes among the firms surveyed and using NEPC's assumption should more closely reflect the underlying investments made specifically for VCERA.*

(4) *These are categorized as "Liquid Alternatives" when reported to VCERA by NEPC.*

Please note that the above are representative of "indexed" returns and do not include any additional returns ("alpha") from active management. This is consistent with the revised Actuarial Standard of Practice No. 27, Section 3.8.3.d, which states:

> "Investment Manager Performance – Anticipating superior (or inferior) investment manager performance may be unduly optimistic (or pessimistic). The actuary should not assume that superior or inferior returns will be achieved, net of investment expenses, from an active investment management strategy compared to a passive investment management strategy unless the actuary

believes, based on relevant supporting data, that such superior or inferior returns represent a reasonable expectation over the measurement period."

The following are some observations about the returns provided above:

1. The investment consultants to our California public sector clients have each provided us with their expected real rates of return for each asset class, over various future periods of time. However, in general, the returns available from investment consultants are projected over time periods shorter than the durations of a retirement plan's liabilities.

2. Using a sample average of expected real rate of returns allows the Association's investment return assumption to reflect a broader range of capital market information and should help reduce year to year volatility in the investment return assumption.

3. Therefore, we recommend that the 5.26% portfolio real rate of return be used to determine the Association's investment return assumption. This is 0.05% lower than the return we used in 2012 to prepare the recommended investment return assumption. This difference is due to changes in the Association's target asset allocation (+0.33%) and changes in the real rate of return assumptions provided to us by the investment advisory firms (-0.38%).

Association Expenses

For funding purposes, the real rate of return assumption for the portfolio needs to be adjusted for investment expenses expected to be paid from investment income. As further discussed later in this report, current practice for VCERA also adjusts for expected administrative expenses. The following table provides these expenses in relation to the actuarial value of assets for the five years ending June 30, 2014.

Administrative and Investment Expenses as a Percentage of Actuarial Value of Assets
(All dollars in 000's)

FYE	Actuarial Value of Assets[1]	Administrative Expenses	Investment Expenses[2]	Administrative %	Investment %	Total %
2010	$3,134,978	$4,081	$6,256	0.13%	0.20%	0.33%
2011	3,236,217	4,387	7,404	0.14	0.23	0.36
2012	3,411,149	3,505	9,103	0.10	0.27	0.37
2013	3,633,626	3,944	9,901	0.11	0.27	0.38
2014	3,964,814	4,045	12,877	0.10	0.32	0.43
Average				0.12%	0.26%	0.37%

(1) *As of end of plan year.*

(2) *Excludes securities lending expenses. Because we do not assume any additional net return for this program, we effectively assume that any securities lending expenses will be offset by related income.*

The average expense percentage over this five-year period is 0.37%. Based on this experience, we have maintained the future expense assumption component at 0.40%. This assumption will be re-examined in subsequent assumption reviews as new data becomes available.

Note related to investment expenses paid to active managers – As cited in footnote 3, the 2014 revision to ASOP No. 27 indicates that the effect of an active investment management strategy should be considered "net of investment expenses".

We have not performed a detailed analysis to measure how much of the investment expenses paid to active managers might have been offset by additional returns ("alpha") earned by that active management. We do not believe that such a review would have a significant impact on the recommended investment return assumption developed using the above expense assumption. For now, we propose that any alpha that may be identified would be treated as an increase in the risk adjustment and corresponding confidence level. For example, 0.25% of alpha would increase the confidence level by 3% (see discussions that follow on definitions of risk adjustment and confidence level).

Adjustment to Exclude Administrative Expenses in Developing Investment Return Assumption for use in GASB Financial Reporting

In 2012, GASB adopted Statements 67 and 68 that replace Statements 25 and 27 for financial reporting purposes. GASB Statements 67 and 68 are effective for plan year 2013/2014 for the Retirement Association and fiscal year 2014/2015 for the employer.[3]

According to GASB, the investment return assumption for use in financial reporting purposes should be based on the long-term expected rate of return on a retirement system's investments and should be net of investment expenses but not of administrative expenses (i.e., without reduction for administrative expenses). As can be observed from the above development of the expense assumption, if the Board wishes to develop a single investment return assumption for both funding and financial reporting purposes, then it would be necessary to exclude the roughly 0.12% administrative expense from the above development and to develop a separate treatment of administrative expenses.

The issues associated with eliminating the consideration of administrative expenses when developing the investment return assumption used for funding, and the alternatives that are available to the Board in developing the investment return assumption for use in GASB financial reporting purposes are provided at the end of this Section. While we do recommend that the Board adopt an investment return for funding that is gross of administrative expenses (as discussed in the end of this Section), the preliminary discussion that follows has first been completed on a net of administrative expenses basis, to allow an "apples to apples" comparison with the current assumption.

Risk Adjustment

The real rate of return assumption for the portfolio generally is adjusted to reflect the potential risk of shortfalls in the return assumptions. The Association's asset allocation also determines this portfolio risk, since risk levels are driven by the variability of returns for the various asset classes and the correlation of returns among those asset classes. This portfolio risk is incorporated into the real rate of return assumption through a risk adjustment.

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3 The new Statements (67 and 68) will require more rapid recognition for investment gains or losses and much shorter amortization for actuarial gains or losses. Because of the more rapid recognition of those changes, retirement systems that have generally utilized the previous Statements (25 and 27) as a guideline to establish the employer's contribution amounts for both funding and financial reporting purposes would now have to prepare two sets of cost results, one for contributions and one for financial reporting under the new Statements.

The purpose of the risk adjustment (as measured by the corresponding confidence level) is to increase the likelihood of achieving the actuarial investment return assumption in the long term.[4] The 5.26% expected real rate of return developed earlier in this report was based on expected mean or average arithmetic returns. This means there is a 50% chance of the actual return in each year being at least as great as the average (assuming a symmetrical distribution of future returns). The risk adjustment is intended to increase that probability. This is consistent with our experience that retirement plan fiduciaries would generally prefer that returns exceed the assumed rate more often than not.

Three years ago, the Board adopted an investment return assumption of 7.75%. That return implied a risk adjustment of 0.41%, reflecting a confidence level of 54% that the actual average return over 15 years would not fall below the assumed return, assuming that the distribution of returns over that period follows the normal statistical distribution.[5]

In our model, the confidence level associated with a particular risk adjustment represents the likelihood that the actual average return would equal or exceed the assumed value over a 15-year period. For example, if we set our real rate of return assumption using a risk adjustment that produces a confidence level of 60%, then there would be a 60% chance (6 out of 10) that the average return over 15 years will be equal to or greater than the assumed value. The 15-year time horizon represents an approximation of the "duration" of the fund's liabilities, where the duration of a liability represents the sensitivity of that liability to interest rate variations.

If we use the same confidence level of 54% to set this year's risk adjustment, based on the current long-term portfolio standard deviation of 12.69% provided by NEPC, the corresponding risk adjustment would be 0.34%. Together with the other investment return components, this produces a net investment return assumption of 7.52%, which is lower than the current assumption of 7.75%.

Based on the general practice of using one-quarter percentage point increments for economic assumptions, we evaluated the effect on the confidence level of an alternative investment return assumption. In particular, a net investment return assumption of 7.50%, together with the other investment return components, would produce a risk adjustment of 0.36%, which corresponds to a confidence level of 54%.

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4 This type of risk adjustment is sometimes referred to as a "margin for adverse deviation".

5 Based on an annual portfolio return standard deviation of 13.50% provided by Hewitt Ennis Knupp in 2012. Strictly speaking, future compounded long-term investment returns will tend to follow a log-normal distribution. However, we believe the Normal distribution assumption is reasonable for purposes of setting this type of risk adjustment.

As we have discussed in prior years, the risk adjustment model and associated confidence level is most useful as a means for comparing how the Association has positioned itself relative to risk over periods of time.[6] The use of a 54% confidence level should be considered in context with other factors, including:

- As noted above, the confidence level is more of a relative measure than an absolute measure, and so can be reevaluated and reset for future comparisons.
- The confidence level is based on the standard deviation of the portfolio that is determined and provided to us by NEPC. The standard deviation is a statistical measure of the future volatility of the portfolio and so is itself based on assumptions about future portfolio volatility and can be considered somewhat of a “soft” number.
- A lower assumed level of inflation should reduce the overall risk of failing to meet the investment return assumption. Maintaining or even lowering the confidence level to some extent could be justified as consistent with the change in the inflation assumption.
- As with any model, the results of the risk adjustment model should be evaluated for reasonableness and consistency. This is discussed in the later section on “Comparison with Other Public Retirement Systems”.

Taking into account the factors above, our preliminary recommendation is to reduce the net investment return assumption from 7.75% to 7.50%. As noted above, this return implies a 0.36% risk adjustment, reflecting a confidence level of 54% that the actual average return over 15 years would not fall below the assumed return.

[6] In particular, it would not be appropriate to use this type of risk adjustment as a measure of determining an investment return rate that is “risk-free.”

Preliminary Recommended Investment Return Assumption

The following table summarizes the components of the preliminary investment return assumption developed in the previous discussion. For comparison purposes, we have also included similar values from the last study.

Calculation of Net Investment Return Assumption

Assumption Component	June 30, 2015 Preliminary Recommended Value	June 30, 2012 Adopted Value
Inflation	3.00%	3.25%
Plus Portfolio Real Rate of Return	5.26%	5.31%
Minus Expense Adjustment	(0.40%)	(0.40%)
Minus Risk Adjustment	(0.36%)	(0.41%)
Total	7.50%	7.75%
Confidence Level	54%	54%

Based on this analysis, our preliminary recommendation is that the investment return assumption be reduced from 7.75% per annum to 7.50% per annum. Our final recommendation follows later in this section after discussion regarding a change in how expected administration expenses are handled.

Comparison with Other Public Retirement Systems

One final test of the recommended investment return assumption is to compare it against those used by other public retirement systems, both in California and nationwide.

We note that a 7.50% investment return assumption is emerging as the common assumption among those California public sector retirement systems that have studied this assumption recently. In particular two of the largest California systems, CalPERS and LACERA, adopted a 7.50% earnings assumption. Note that CalPERS uses a lower inflation assumption of 2.75% while LACERA uses an inflation assumption of 3.00%. However, five County employees retirement systems (Orange, Contra Costa, Fresno, Mendocino and San Mateo) have recently adopted a 7.25% earnings assumption.

The following table compares the VCERA recommended net investment return assumptions against those of the nationwide public retirement systems that participated in the National Association of State Retirement Administrators (NASRA) 2013 Public Fund Survey:

Assumption	VCERA	NASRA 2013 Public Fund Survey		
		Low	Median	High
Net Investment Return	7.50%	6.50%	7.90%	8.50%

The detailed survey results show that of the systems that have an investment return assumption in the range of 7.50% to 7.90%, almost half of those systems have used an assumption of 7.50%. The survey also notes that several plans have reduced their investment return assumption during the last year, and others are considering doing so. State systems outside of California tend to change their economic assumptions slowly and so may lag behind emerging practices in this area.

In summary, we believe that both the risk adjustment model and other considerations indicate a lower earnings assumption. The recommended assumption of 7.50% continues to provide for some risk margin within the risk adjustment model as compared to three years ago and is consistent with the Association’s current practice relative to other public systems.

Developing an Investment Return Assumption for use in Accounting and Financial Reporting under GASB Statement 67 and 68

The Governmental Accounting Standards Board (GASB) has adopted Statements 67 and 68 that replace Statements 25 and 27 for financial reporting purposes. We now discuss the issues and policy alternatives available to VCERA in developing its investment return assumptions in a manner that will allow the Plan to maintain consistency in its liability measurements for funding and financial reporting purposes.

Background

GASB Statement 67 governs the Plan's financial reporting and is effective for plan year 2013/2014, while GASB Statement 68 governs the employers' financial reporting and is effective for fiscal year 2014/2015. The new Statements specify requirements for measuring both the pension liability and the annual pension expense incurred by the employers. The new GASB requirements are only for financial reporting and do not affect how the Plan determines funding requirements for its employer. Nonetheless, it is important to understand how the new financial reporting results will compare with the funding requirement results. The comparison between funding and GASB financial reporting results will differ dramatically depending on whether one is considering measures of the accumulated pension liability or measures of the current year annual pension contribution/expense:

- When measuring pension liability GASB will use the same actuarial cost method (Entry Age method) and the same type of discount rate (expected return on assets) as VCERA uses for funding. This means that the GASB "Total Pension Liability" measure for financial reporting will be determined on generally the same basis as VCERA's "Actuarial Accrued Liability" measure for funding. This is a generally favorable feature of the new GASB rules that should largely preclude the need to explain why VCERA has two different measures of pension liability. We note that the same is generally true for the "Normal Cost" component of the annual plan cost for both funding and financial reporting.

- When measuring annual pension expense, GASB will require more rapid recognition of investment gains or losses and much shorter amortization of changes in the pension liability (whether due to actuarial gains or losses, actuarial assumption changes or plan amendments). Because of GASB's more rapid recognition of those changes, retirement systems that have generally used the same "annual required contribution" amount for both funding (contributions) and financial reporting (pension expense) will now have to prepare and disclose two different annual cost results, one for contributions and one for financial reporting under the new GASB Statements.

This situation will facilitate the explanation of why the funding and financial reporting results are different: the liabilities and Normal Costs are generally the same, and the differences in annual costs are due to differences in how changes in liability are recognized. However, there is one other feature that will make the liability and Normal Cost measures different unless action is taken by VCERA.

Treatment of Expected Administrative Expenses when Measuring Liabilities

As noted above, according to GASB, the discount rate used for financial reporting purposes should be based on the long-term expected rate of return on a retirement system's investments, just as it is for funding. However, GASB requires that this assumption should be net of investment expenses but not net of administrative expenses (i.e., without reduction for administrative expenses). Currently, VCERA's investment return assumption used for the annual funding valuation is developed net of both investment and administrative expenses.

While VCERA could continue to develop its funding investment return assumption net of both investment and administrative expenses, that would mean that the Association would then have two slightly different investment return assumptions, one for funding and one for financial reporting. To avoid this apparent discrepancy and to maintain the consistency of liability and Normal Cost measures described above, we believe that it would be preferable to use the same investment return assumption for both funding and financial reporting purposes. This means that the assumption for funding purposes would be developed on a basis that is net of only investment expenses, with an explicit assumption for administrative expenses.

To review, using the same investment return assumption for both purposes would be easier for VCERA's stakeholders to understand and should result in being able to report VCERA's Actuarial Accrued Liability (AAL) for funding purposes as the Total Pension Liability (TPL) for financial reporting purposes.

Development of Investment Return Assumption For Funding on a Gross of Administrative Expenses Basis so the Same Assumption Can Also Be Used for Financial Reporting ("Option A")

If the Board wishes to develop a single investment return assumption for both funding and financial reporting purposes, then it would be necessary to exclude the administrative expense component of about 0.12% from development of the 7.50% investment return preliminary recommendation. Under this approach, because these economic assumptions are generally changed in ¼% increments, there would be no change in the recommended investment return assumption as developed earlier in this report. Instead, there would be an increase in the risk adjustment of 0.12%, with a corresponding increase in the confidence level from 54% to 55%.

Under this approach, there would also be an explicit loading for administrative expenses. There are various ways to set the explicit administrative expense load assumption, but ultimately the method should result in an assumption that is approximately equivalent to about $5 million annually, or 0.7% of payroll.

This approach and our final recommendation for the investment return assumption is presented in the following table.

Calculation of Net Investment Return Assumption

Assumption Component	June 30, 2015 Recommended Values if Used only for Funding (Net of Admin. Expenses)	June 30, 2015 Recommended Values for both Funding and Financial Reporting (Gross of Admin. Expenses)
Inflation	3.00%	3.00%
Plus Portfolio Real Rate of Return	5.26%	5.26%
Minus Expense Adjustment	(0.40%)	(0.28%)
Minus Risk Adjustment	(0.36%)	(0.48%)
Total	7.50%	7.50%
Confidence Level	54%	55%
Increase in combined Employer and Employee Contributions Due to Explicit Load for Administrative Expenses (Cost as % of Payroll)	Not Applicable	0.70% of pay

There is an additional complication associated with eliminating the administrative expenses in developing the investment return assumption used for funding that relates to the allocation of administrative expenses between the employers and employees:

1. Even though GASB requires the exclusion of the administrative expenses from the investment return assumption, such expense would continue to accrue for a retirement system. For private sector retirement plans, where the investment return is developed using an approach similar to that required by GASB (i.e., without deducting administrative expenses), contribution requirements are increased explicitly by the anticipated annual administrative expense. That approach is illustrated in the table above.

2. Under VCERA's current approach of subtracting the administrative expense in the development of the investment return assumption, such annual administrative expense is funded implicitly by effectively deducting it from future expected investment returns. Since an investment return

assumption net of investment and administrative expenses has been used historically to establish both the employer's and the employee's contribution requirements, these administrative expenses have been funded implicitly by both the employer and the employees.

3. A switch from the method described in (2) to the method described in (1) may require a new discussion on how to allocate administrative expenses between employers and employees, including possibly establishing a new method to allocate the anticipated annual administrative expense between them. Under current practice, part of the implicit funding of administrative expenses is in the Normal Cost and so is shared between the employer and the employees. However, the rest of the implicit expense funding is in the (Unfunded) Actuarial Accrued Liability, which is funded solely by the employers.

4. It is not straightforward to quantify precisely the current implicit sharing of administrative expenses between employers and employees. This means that an exact reproduction of that allocation on an explicit basis will be difficult to develop. This in turn means that VCERA would need to develop a new basis for sharing the cost of administrative expenses, one that if desired, approximately reproduces the current allocation. Alternatively, VCERA could decide to treat administrative expenses as a loading applied only to the employer contribution rates, which is the practice followed by private plans, both single employer and multi-employer.

5. As the Board is aware, legislative changes under AB 340 imposed major modifications to both the level of benefits and the cost-sharing of the funding of those benefits for county employees' retirement systems. Included in such modifications is the requirement (for future hires) to fund the Normal Cost on a 50:50 basis between the employer and the employee. As noted in (3) above, under current practice, part of the implicit funding of administrative expenses is in the Normal Cost and so would be shared between the employer and the employees. This would not necessarily continue when the administrative expense loading is developed separate from the Normal Cost.

If, as we recommend, the Board wishes to continue to develop a single investment return assumption for both funding and financial reporting purposes, it is our recommendation that the Board adopt a change in the funding of administrative expenses from the method described in (2) above with an implicit allocation of administrative expenses to the method described in (1) above with an explicit allocation of administrative expenses.

In addition, we recommend that the total explicit administrative expense load assumption be set at 0.70% of payroll, which is approximately equivalent to about 0.12% of assets or $5 million

annually. This assumption would be reviewed with each triennial experience study, along with the other economic assumptions.

The more significant issues mentioned in (3), (4) and (5) above concern whether or not the costs associated with the administrative expenses should continue to be allocated to both the employers and the employees. Unless the Board wishes to charge administrative expenses only to the employers, we propose a method whereby the costs associated with the explicit assumption for administrative expenses continue to be allocated to both employers and employees. We recommend a straightforward way to do that in a manner generally consistent with current practice, which is to allocate expenses based on the components of the total contribution rate (before expenses) for employers and employees. These components would be employee Normal Cost contributions, employer Normal Cost contributions and employer UAAL contributions. **Under this recommended approach, of the total administrative expenses of about $5 million or 0.70% of payroll, about $1.1 million or 0.15% of payroll would be allocated to the employees and $3.9 million or 0.55% of payroll would be allocated to the employers in the aggregate. This allocation would be based on the actual components in each valuation and could change slightly each year.**

Development of Investment Return Assumption for Funding on a Net of Administrative Expenses Basis but use that Same Assumption for Financial Disclosure Development ("Option B")

If the Board decides to leave the recommended investment return assumption of 7.50% on a net of administrative expense basis for funding purposes, we believe there still is a way to use that same 7.50% for financial reporting purposes under GASB. Under this approach, what appears to be the same 7.50% assumption would actually be used as two slightly different assumptions: 7.50% net of administrative expenses for funding, and 7.50% gross of administrative expenses for financial reporting. This would indirectly result in an increase in the margin for adverse deviation or "confidence level" associated with the use of the recommended 7.50% assumption from 54% as used for funding purposes to 55% only as used for financial reporting purposes.

The Board had previously adopted this Option B on an interim basis last year for use in performing the June 30, 2014 actuarial valuation and the June 30, 2014 GASB 67 report.

The following table summarizes the components of the investment return assumption under this approach, using the recommended 7.50% assumption for both funding (net of administration expenses) and financial reporting (gross of administration expenses), but with differing treatment of administrative expenses:

Calculation of Net Investment Return Assumption

Assumption Component	June 30, 2015 Recommended Values if Used only for Funding (Net of Admin. Expenses)	June 30, 2015 Alternative Values for Financial Reporting (Gross of Admin. Expenses)
Inflation	3.00%	3.00%
Plus Portfolio Real Rate of Return	5.26%	5.26%
Minus Expense Adjustment	(0.40%)	(0.28%)
Minus Risk Adjustment	(0.36%)	(0.48%)
Total	7.50%	7.50%
Confidence Level	54%	55%

Note that under both Option A and Option B the confidence level for financial reporting increases from 54% to 55% (because the risk adjustment increases from 0.36% to 0.48%). The difference is that under Option A the same confidence level increase would apply for funding purposes, along with the addition of an explicit loading on the contribution rates for administrative expenses.

C. SALARY INCREASE

Salary increases impact plan costs in two ways: (i) by increasing members' benefits (since benefits are a function of the members' highest average pay) and future normal cost collections; and (ii) by increasing total active member payroll which in turn generates lower UAAL contribution rates. These two impacts are discussed separately below.

As an employee progresses through his or her career, increases in pay are expected to come from three sources:

1. Inflation – Unless pay grows at least as fast as consumer prices grow, employees will experience a reduction in their standard of living. There may be times when pay increases lag or exceed inflation, but over the long term, labor market forces may require an employer to maintain its employees' standards of living.

   As discussed earlier in this report, we are recommending that the assumed rate of inflation be reduced from 3.25% to 3.00%. This inflation component is used as part of the salary increase assumption.

2. Real "Across the Board" Pay Increases – These increases are typically termed productivity increases since they are considered to be derived from the ability of an organization or an economy to produce goods and services in a more efficient manner. As that occurs, at least some portion of the value of these improvements can provide a source for pay increases. These increases are typically assumed to extend to all employees "across the board." The State and Local Government Workers Employment Cost Index produced by the Department of Labor provides evidence that real "across the board" pay increases have averaged about 0.5% - 0.7% annually during the last ten to twenty years.

   We also referred to the annual report on the financial status of the Social Security program published in July 2014. In that report, real "across the board" pay increases are forecast to be 1.1% per year under the intermediate assumptions.

   The real pay increase assumption is generally considered a more "macroeconomic" assumption, that is not necessarily based on individual plan experience. However, recent salary experience with public systems in California as well as anecdotal discussions with plans and plan sponsors indicate lower future real wage growth expectations for public sector employees.

Considering these factors, we recommend reducing the real "across the board" salary increase assumption from 0.75% to 0.50%. This means that the combined inflation and "across the board" salary increase assumption will decrease from 4.00% to 3.50%.

3. Promotional and Merit Increases – As the name implies, these increases come from an employee's career advances. This form of pay increase differs from the previous two, since it is specific to the individual. For VCERA, there are service-specific merit and promotional increases. These assumptions have been reviewed as part of our triennial experience study as of June 30, 2015.

   Recommended promotional and merit assumptions are provided as part of our triennial experience analysis.

All three of these forces will be incorporated into a salary increase assumption which is applied in the actuarial valuation to project future benefits and future normal cost contribution collections.

Active Member Payroll

Projected active member payrolls are used to develop the UAAL contribution rate. Future values are determined as a product of the number of employees in the workforce and the average pay for all employees. The average pay for all employees increases only by inflation and real "across the board" pay increases. The promotional and merit increases are not an influence, because this average pay is not specific to an individual.

We recommend that the active member payroll increase assumption be decreased from 4.00% to 3.50% annually, consistent with the combined inflation plus real "across the board" salary increase assumptions.

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VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

1190 South Victoria Avenue, Suite 200
Ventura, CA 93003-6572

(805) 339-4250 • Fax: (805) 339-4269
http://www.ventura.org/vcera

December 21, 2015

Board of Retirement
Ventura County Employees' Retirement Association
1190 South Victoria Avenue, Suite 200
Ventura, CA 93003

SUBJECT: DISTRIBUTION OF THE JUNE 30, 2015 ACTUARIAL VALUATION AND REVIEW

Dear Board Members:

Attached is the June 30, 2015 Actuarial Valuation (Valuation) that summarizes the actuarial data used, establishes the funding requirements for fiscal year 2016-2017 and analyzes the preceding year's actuarial experience.

VCERA is required to notify all employee organizations recognized by the County of Ventura of its receipt of the Valuation and shall provide a copy to each such organization at least 25 days prior to the Board taking any action.

Segal Consulting will be present at the January 26, 2015, business meeting to discuss and answer questions related to the June 30, 2014 Valuation. Please attempt to submit any questions that arise during your review of the Valuation to VCERA staff in advance of the January 26th meeting so that Segal Consulting may be prepared to answer your questions at the meeting.

RECOMMENDATION: ACCEPT RECEIPT OF THE JUNE 30, 2015 ACTUARIAL VALUATION AND DIRECT STAFF TO PROVIDE COPIES TO ALL EMPLOYEE ORGANIZATIONS RECOGNIZED BY THE COUNTY OF VENTURA.

Staff will be happy to answer any questions at the December 21, 2015 business meeting.

Sincerely,

Linda Webb

Linda Webb
Retirement Administrator

Ventura County Employees' Retirement Association

Actuarial Valuation and Review as of June 30, 2015

Segal Consulting

This report has been prepared at the request of the Board of Retirement to assist in administering the Fund. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Board of Retirement and may only be provided to other parties in its entirety. The measurements shown in this actuarial valuation may not be applicable for other purposes.

Segal Consulting

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T 415.263.8200 F 415.376.1167 www.segalco.com

December 11, 2015

Board of Retirement
Ventura County Employees' Retirement Association
1190 S. Victoria Avenue, Suite 200
Ventura, CA 93003-6572

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of June 30, 2015. It summarizes the actuarial data used in the valuation, establishes the funding requirements for fiscal 2016-2017 and analyzes the preceding year's experience.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the Plan. The census and financial information on which our calculations were based was provided by the Retirement Association. That assistance is gratefully acknowledged.

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and changes in plan provisions or applicable law.

The actuarial calculations were completed under the supervision of John Monroe, ASA, MAAA, Enrolled Actuary. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in the actuarial valuation is complete and accurate. Further, in our opinion, the assumptions as approved by the Board are reasonably related to the experience of and the expectations for the Plan.

We look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely,

Segal Consulting, a Member of The Segal Group, Inc.

By:

Paul Angelo, FSA, EA, MAAA, FCA
Senior Vice President and Actuary

John Monroe, ASA, EA, MAAA
Vice President and Actuary

AW/

SECTION 1

VALUATION SUMMARY

SECTION 2

VALUATION RESULTS

SECTION 3

SUPPLEMENTAL INFORMATION

SECTION 4

REPORTING INFORMATION

PURPOSE AND SCOPE

This report has been prepared by Segal Consulting to present a valuation of the Ventura County Employees' Retirement Association as of June 30, 2015. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits. The contribution requirements presented in this report are based on:

- The benefit provisions of the Retirement Association, as administered by VCERA;
- The characteristics of covered active members, terminated vested members, and retired members and beneficiaries as of June 30, 2015, provided by VCERA;
- The assets of the Plan as of June 30, 2015, provided by VCERA;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

One of the general goals of an actuarial valuation is to establish contributions which fully fund the system’s liabilities, and which, as a percentage of payroll, remain as level as possible for each generation of active members. Annual actuarial valuations measure the progress toward this goal, as well as test the adequacy of the contribution rates.

In preparing this valuation, we have employed generally accepted actuarial methods and assumptions to evaluate the Association’s assets, liabilities and future contribution requirements. Our calculations are based upon member data and financial information provided to us by the Association’s staff. This information has not been audited by us, but it has been reviewed and found to be consistent, both internally and with the prior year’s information.

Please note that the Actuarial Standards Board has adopted a revised Actuarial Standard of Practice (ASOP) No. 4 that provides guidelines for actuaries to follow when measuring pension obligations. For a plan such as that offered by the Retirement Association that may use undesignated excess earnings to provide supplemental benefits, the valuation report must indicate that the impact of any such future use of undesignated excess earnings on the future financial condition of the plan has not been explicitly measured or otherwise reflected in the valuation. However, it should be noted that under the Board’s Interest Crediting Policy, the balance of $885.6 million (negative) in the Contra Account has to be fully restored out of future excess earnings before any subsequent earnings can be used to provide for any supplemental benefits.

Ref: Pg. 59

The contribution requirements are determined as a percentage of payroll. The Association's employer rates provide for both normal cost and a contribution to amortize any unfunded or overfunded actuarial accrued liabilities. In 2004, the Board elected to amortize the Association's Unfunded Actuarial Accrued Liability (UAAL) as of June 30, 2004 over a declining 15-year period. Any change in the UAAL after June 30, 2004 is amortized over separate 15-year declining amortization periods.

Ref: Pgs. 42-45

Effective with the June 30, 2012 valuation, any change in the UAAL that arises due to assumption changes is amortized over separate 20-year declining amortization periods. Also, any change in the UAAL that arises due to retirement incentives is annualized over separate declining amortization period of up to 5 years. A schedule of current amortization amounts may be found in Section 3, Exhibit I.

The rates calculated in this report may be adopted by the Board for the fiscal year that extends from July 1, 2016 through June 30, 2017.

SIGNIFICANT ISSUES IN THIS VALUATION

The following key findings were the result of this actuarial valuation:

Ref: Pg. 51

- The results of this valuation reflect changes in the actuarial assumptions as recommended by Segal and adopted by the Board for the June 30, 2015 valuation. These changes were documented in our Actuarial Experience Study and are also outlined in Section 4, Exhibit II of this report. These assumption changes resulted in an increase in the average employer contribution rate of 2.66% of payroll and an increase in the average member rate of 0.06% of payroll.

Ref: Pg. 16

- In this report, the employer and member contribution rates shown in Chart 14a and Appendix A are now calculated based on a 50/50 sharing of Normal Cost for non-PEPRA Tiers. For purposes of these calculations, we have been previously directed by VCERA to assume that the cessation of member contributions after 30 years of service for non-PEPRA members continues per the County Employees Retirement Law (CERL) and that the cost associated with this provision is to be paid for by employers.

  The employer and member contribution rates calculated under the prior method (i.e., no 50/50 sharing of Normal Cost for non-PEPRA tiers) are shown in Appendix C and Appendix D, respectively.

Ref: Pg. 10

- The market value of assets earned a return of 2.0% for the July 1, 2014 to June 30, 2015 plan year. The valuation value of assets earned a return of 9.8% for the same period due to the deferral of most of the current year investment losses and the recognition of prior investment gains and losses. This resulted in an actuarial gain when measured against the assumed rate of return of 7.75% for the 2014/15 year. This actuarial investment gain decreased the average employer contribution rate by 1.05% of payroll.

Ref: Pg. 23
Ref: Pg. 41

- The ratio of the valuation value of assets to actuarial accrued liabilities increased from 82.7% to 83.1%. The Association's Unfunded Actuarial Accrued Liability (UAAL) increased from $820 million as of June 30, 2014 to $876 million as of June 30, 2015. This increase is primarily due to changes in actuarial assumptions offset to some extent by the investment gain (on the valuation value of assets) and lower than expected benefit increases for retirees and beneficiaries. A complete reconciliation of the Association's UAAL is provided in Section 3, Exhibit H.

Ref: Pg. 20

- The average employer rate decreased from 28.11% of payroll to 27.77% of payroll. This decrease is primarily due to the 50/50 sharing of Normal Cost for non-PEPRA Tiers, the investment gain (on the valuation value of assets) and lower than expected benefit increases for retirees and beneficiaries offset to some extent by changes in actuarial assumptions. A complete reconciliation of the Association's employer rate is provided in Section 2, Subsection D, Chart 15.

  As previously adopted by the Board, we have continued to calculate the Basic and COLA UAAL rates on a combined basis for all General Tiers. This results in more stable COLA UAAL rates for General Tier 1.

Ref: Pg. 21

- The average member rate increased from 8.61% of payroll in the June 30, 2014 valuation to 10.24% of payroll in the June 30, 2015 valuation. This increase was mainly the result of the 50/50 sharing of Normal Cost for non-PEPRA Tiers. A complete reconciliation of the member rate is provided in Section 2, Subsection D, Chart 16.

Ref: Pg. 5

- As indicated in Section 2, Subsection B, Chart 7 of this report, the net unrecognized investment gain as of June 30, 2015 is $54 million as compared to an unrecognized gain of $310 million in the June 30, 2014 valuation. This investment gain will be recognized in the determination of the actuarial value of assets for funding purposes over the next few years. This means that if the plan earns the current assumed rate of investment return of 7.50% per year (net of expenses) on a **market value** basis then the deferred gains will be recognized over the next few years as shown in the footnote to Chart 7.

- The June 30, 2015 unrecognized investment gains of $54 million represents about 1.2% of the market value of assets. Unless offset by future investment losses or other unfavorable experience, the recognition of the $54 million market gains is expected to have an impact on the Association's future funded ratio and average employer contribution rate. This potential impact may be illustrated as follows:

  - If the net deferred gains were recognized immediately in the valuation value of assets, the funded ratio would increase from 83.1% to 84.1%.

    For comparison purposes, if all the deferred gains in the June 30, 2014 valuation had been recognized immediately in the June 30, 2014 valuation, the funded ratio would have increased from 82.7% to 89.2%.

  - If the net deferred gains were recognized immediately in the valuation value of assets, the average employer rate would decrease from 27.77% to about 27.06% of payroll.

For comparison purposes, if all the deferred gains in the June 30, 2014 valuation had been recognized immediately in the June 30, 2014 valuation, the average employer rate would have decreased from 28.11% to about 23.90% of payroll.

- The actuarial valuation report as of June 30, 2015 is based on financial information as of that date. Changes in the value of assets subsequent to that date are not reflected. Declines in asset values will increase the actuarial cost of the Plan, while increases will decrease the actuarial cost of the Plan.

Impact of Future Experience on Contribution Rates

Future contribution requirements may differ from those determined in the valuation because of:

- Differences between actual experience and anticipated experience;
- Changes in actuarial assumptions or methods;
- Changes in statutory provisions; and
- Differences between the contribution rates determined by the valuation and those adopted by the Board.

Summary of Key Valuation Results (all dollar amounts in thousands)

	June 30, 2015		June 30, 2014	
Employer Contribution Rates: [1]	Total Rate	Estimated Annual Amount[2]	Total Rate	Estimated Annual Amount[2]
General Tier 1	23.85%	$2,060	22.93%	$2,293
General Tier 2	16.80%	35,864	18.07%	37,913
General PEPRA Tier 2	16.67%	3,666	16.63%	1,978
General Tier 2C[3]	20.52%	45,829	20.70%	47,340
General PEPRA Tier 2C[3]	20.33%	8,361	19.21%	4,603
General Combined	18.84%	95,780	19.43%	94,127
Safety	54.56%	88,725	53.87%	86,233
Safety PEPRA	52.77%	4,001	50.30%	1,913
Safety Combined	54.48%	92,726	53.79%	88,146
All Categories combined	27.77%	$188,506	28.11%	$182,273
Average Member Contribution Rates: [1][4]	Total Rate	Estimated Annual Amount[2]	Total Rate	Estimated Annual Amount[2]
General Tier 1	10.09%	$872	9.16%	$916
General Tier 2	7.16%	15,283	5.78%	12,129
General PEPRA Tier 2	7.03%	1,546	6.92%	823
General Tier 2C[3]	9.79%	21,861	8.41%	19,231
General PEPRA Tier 2C[3]	9.66%	3,972	9.55%	2,288
Safety	15.27%	24,832	12.40%	19,849
Safety PEPRA	14.68%	1,113	14.69%	559
All Categories combined	10.24%	$69,479	8.61%	$55,795

(1) *Before reflection of any member rate that may be "picked-up" by the employer. Contributions are assumed to be paid throughout the year.*

(2) *Based on projected compensation for each year shown.*

(3) *Throughout this report, this category represents those Tier 2 members who contribute a negotiated 2.63% of compensation for a fixed 2% COLA pursuant to Government Code 31627 that applies to service after March 2003.*

(4) *The non-refundability factors as of June 30, 2015 are 0.98 for General Tier 1 and Tier 2 (non-PEPRA) and 0.99 for Safety (non-PEPRA) compared to 0.97 for General Tier 1 and Tier 2 (non-PEPRA) and 0.99 for Safety (non-PEPRA) from June 30, 2014.*

Summary of Key Valuation Results (continued) (all dollar amounts in thousands)

	June 30, 2015	June 30, 2014
Funded Status:		
Actuarial accrued liability(AAL)[1]	$5,178,157	$4,731,016
Valuation value of assets (VVA)[1]	4,302,330	3,910,801
Market value of assets (MVA)	4,364,795	4,274,886
Funded percentage on VVA basis (VVA/AAL)	83.09%	82.66%
Funded percentage on MVA basis (MVA/AAL)	84.29%	90.36%
Unfunded actuarial accrued liability (UAAL) on VVA basis	$875,827	$820,215
Unfunded actuarial accrued liability (UAAL) on MVA basis	813,362	456,130
Key Assumptions:		
Interest rate	7.50%	7.75%
Inflation rate	3.00%	3.25%
Across the board salary increase	0.50%	0.75%

(1) *Excludes liabilities and assets held for supplemental medical benefit reserve and statutory contingency reserve.*

Summary of Key Valuation Demographic and Financial Data

	June 30, 2015	June 30, 2014	Percentage Change
Active Members:			
Number of members	8,299	8,210	1.1%
Average age	45.2	45.3	N/A
Average service	11.2	11.2	N/A
Projected total compensation	$678,705,846	$648,257,042	4.7%
Average projected compensation	$81,782	$78,959	3.6%
Retired Member and Beneficiaries:			
Number of members:			
Service retired	4,657	4,452	4.6%
Disability retired	834	837	-0.4%
Beneficiaries	847	832	1.8%
Total	6,338	6,121	3.5%
Average age	69.6	69.4	N/A
Average monthly benefit[1]	$2,936	$2,897	1.3%
Vested Terminated Members:			
Number of terminated vested members[2]	2,441	2,339	4.4%
Average age	46.2	46.2	N/A
Total Members:	17,078	16,670	2.4%
Summary of Financial Data (dollar amounts in thousands):			
Market value of assets	$4,364,795	$4,274,886	2.1%
Return on market value of assets	1.98%	18.06%	N/A
Actuarial value of assets	$4,311,131	$3,964,814	8.7%
Return on actuarial value of assets	8.60%	9.32%	N/A
Valuation value of assets	$4,302,330	$3,910,801	10.0%
Return on valuation value of assets	9.82%	8.13%	N/A

(1) *Excludes monthly benefits for vested fixed supplemental and supplemental medical benefit amounts.*

(2) *Includes terminated members with member contributions on deposit.*

Important Information about Actuarial Valuations

In order to prepare an actuarial valuation, Segal Consulting ("Segal") relies on a number of input items. These include:

- **Plan of benefits** Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan description in this report to confirm that Segal has correctly interpreted the plan of benefits.
- **Participant data** An actuarial valuation for a plan is based on data provided to the actuary by VCERA. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
- **Assets** This valuation is based on the market value of assets as of the valuation date, as provided by VCERA.
- **Actuarial assumptions** In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the plan's assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results, that does not mean that the previous assumptions were unreasonable.

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

- The valuation is prepared at the request of the VCERA. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- An actuarial valuation is a measurement of the plan's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

- If the Association is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Board should look to their other advisors for expertise in these areas.

As Segal Consulting has no discretionary authority with respect to the management or assets of VCERA, it is not a fiduciary in its capacity as actuaries and consultants with respect to VCERA.

A. MEMBER DATA

The Actuarial Valuation and Review considers the number and demographic characteristics of covered members, including active members, vested terminated members, retired members and beneficiaries.

This section presents a summary of significant statistical data on these member groups.

More detailed information for this valuation year and the preceding valuation can be found in Section 3, Exhibits A, B, and C.

A historical perspective of how the member population has changed over the past ten valuations can be seen in this chart.

CHART 1

Member Population: 2006 – 2015

Year Ended June 30	Active Members	Vested Terminated Members[1]	Retired Members and Beneficiaries	Total Non-Actives	Ratio of Non-Actives to Actives
2006	7,403	1,756	4,570	6,326	0.85
2007	7,653	1,864	4,770	6,634	0.87
2008	7,928	2,007	4,914	6,921	0.87
2009	8,045	2,055	5,041	7,096	0.88
2010	8,003	2,040	5,267	7,307	0.91
2011	8,040	2,097	5,481	7,578	0.94
2012	8,019	2,161	5,658	7,819	0.98
2013	8,068	2,249	5,888	8,137	1.01
2014	8,210	2,339	6,121	8,460	1.03
2015	8,299	2,441	6,338	8,779	1.06

(1) *Includes terminated members with member contributions on deposit.*

Active Members

Plan costs are affected by the age, years of service and compensation of active members. In this year's valuation, there were 8,299 active members with an average age of 45.2, average service of 11.2 years and average compensation of $81,782. The 8,210 active members in the prior valuation had an average age of 45.3, average service of 11.2 years and average compensation of $78,959.

Among the active members, there were none with unknown age.

Inactive Members

In this year's valuation, there were 2,441 members with a vested right to a deferred or immediate vested benefit or entitled to a return of their member contributions versus 2,339 in the prior valuation.

These graphs show a distribution of active members by age and by years of service.

CHART 2

Distribution of Active Members by Age as of June 30, 2015

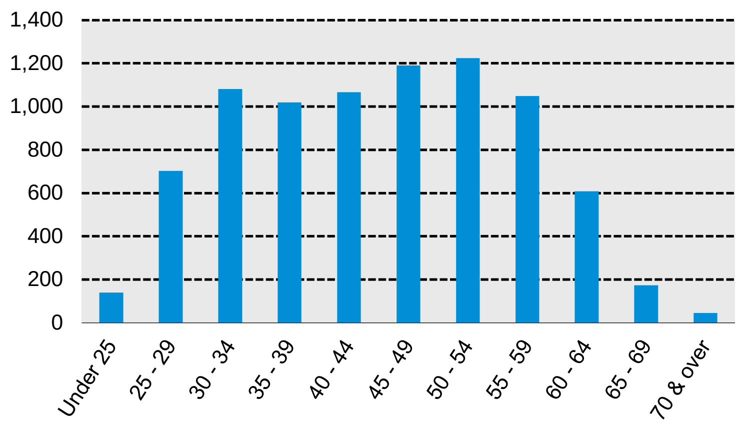
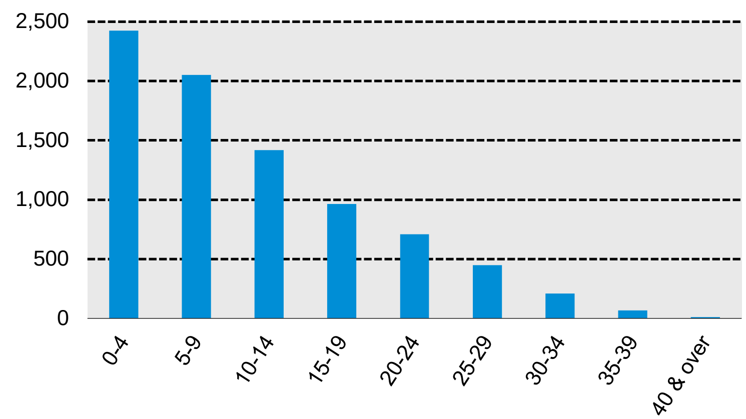


CHART 3

Distribution of Active Members by Years of Service as of June 30, 2015



Retired Members and Beneficiaries

As of June 30, 2015, 5,491 retired members and 847 beneficiaries were receiving total monthly benefits of $18,609,671. For comparison, in the previous valuation, there were 5,289 retired members and 832 beneficiaries receiving monthly benefits of $17,733,078. These monthly benefits exclude benefits for vested fixed supplemental and supplemental medical benefit amounts.

These graphs show a distribution of the current retired members based on their monthly amount and age, by type of pension.

CHART 4

Distribution of Retired Members by Type and by Monthly Amount as of June 30, 2015

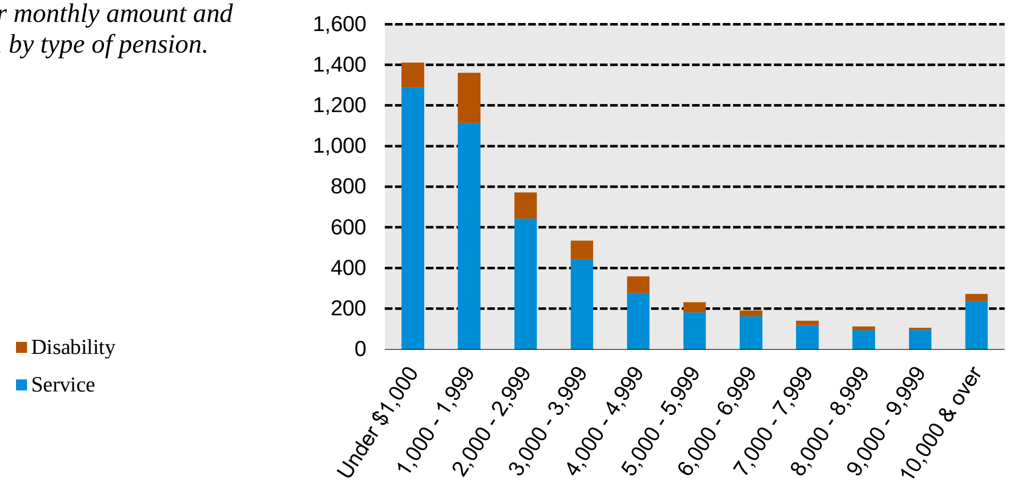
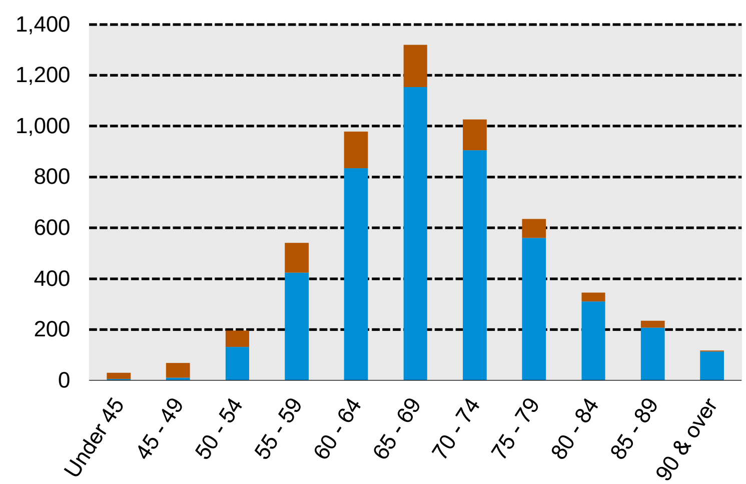


CHART 5

Distribution of Retired Members by Type and by Age as of June 30, 2015



B. FINANCIAL INFORMATION

Retirement plan funding anticipates that, over the long term, both contributions and net investment earnings (less investment fees and administrative expenses) will be needed to cover benefit payments.

Retirement plan assets change as a result of the net impact of these income and expense components. The adjustment toward market value shown in the chart is the “non-cash” earnings on investments implicitly included in the actuarial value of assets. Additional financial information, including a summary of these transactions for the valuation year, is presented in Section 3, Exhibits D and E.

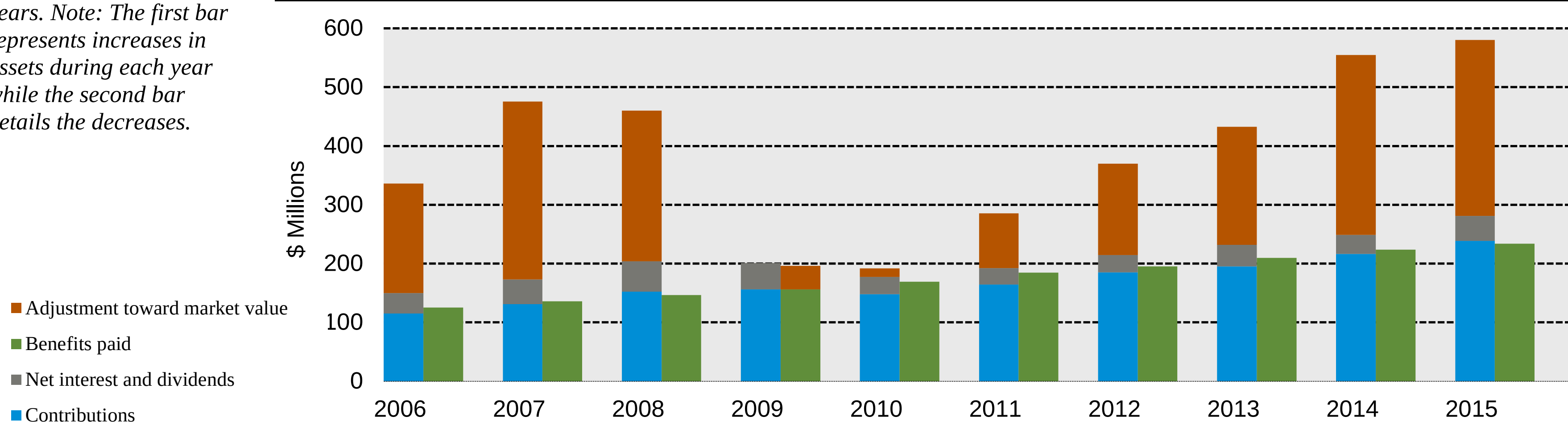
It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board of Retirement has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable.

The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

The chart depicts the components of changes in the actuarial value of assets over the last ten years. Note: The first bar represents increases in assets during each year while the second bar details the decreases.

CHART 6

Comparison of Increases and Decreases in the Actuarial Value of Assets for Years Ended June 30, 2006 – 2015



The chart shows the determination of the actuarial and valuation value of assets as of the valuation date.

CHART 7

Determination of Actuarial and Valuation Value of Assets for Year Ended June 30, 2015

Six Month Period From	To	Total Actual Market Return (net)	Expected Market Return (net)	Investment Gain (Loss)	Deferred Factor	Deferred Return*
6/2011 Combined net deferred loss**				($63,892,227)	0.1111	($7,098,426)
7/2011	12/2011	($156,476,001)	$127,074,122	(283,550,123)	0.2	(56,710,025)
1/2012	6/2012	203,623,364	120,287,707	83,335,657	0.3	25,000,697
7/2012	12/2012	230,080,850	128,592,180	101,488,670	0.4	40,595,468
1/2013	6/2013	203,932,155	137,287,941	66,644,214	0.5	33,322,107
7/2013	12/2013	405,462,695	140,757,243	264,705,452	0.6	158,823,272
1/2014	6/2014	249,072,466	155,947,487	93,124,979	0.7	65,187,485
7/2014	12/2014	1,675,147	165,579,616	(163,904,469)	0.8	(131,123,575)
1/2015	6/2015	83,151,071	165,743,013	(82,591,942)	0.9	(74,332,748)

1. Total Deferred Return	$53,664,255
2. Net Market Value of Assets	$4,364,795,188
3. a. Actuarial Value of Assets (Item 2 – Item 1)	$4,311,130,933
b. Ratio of Actuarial Value of Assets to Net Market Value of Assets (Item 3a / Item 2)	98.8%
4. Non-valuation reserves	
a. Supplemental Medical Benefit	$8,800,509
b. Statutory Contingency	0
c. Subtotal	$8,800,509
5. Valuation Value of Assets (Item 3a – Item 4c)	$4,302,330,424
6. Amount of Deferred Returns to be recognized in the following valuations:	
a. June 30, 2016	$8,752,061
b. June 30, 2017	64,226,947
c. June 30, 2018	28,931,225
d. June 30, 2019	(39,986,784)
e. June 30, 2020	(8,259,194)
f. Subtotal	$53,664,255

* *Recognition at 10% per six month period over 5 years.*

** *Net deferred loss as of June 30, 2011 was combined and will be recognized over 4.5 years in level semi-annual amounts.*

Note: Results may not add due to rounding.

CHART 8

Allocation of Valuation Value of Assets as of June 30, 2015

The calculation of the valuation value of assets from June 30, 2014 to June 30, 2015 by category is provided below:

	Allocated Assets for Funding			
	General			
	Tier I	Tier II	Safety	Total
1. Allocated Assets as of Beginning of Plan Year	$574,178,471	$1,614,671,867	$1,721,950,459	$3,910,800,797
2. Member Contributions	827,648	39,135,504	20,436,112	60,399,264
3. Member Buybacks	107,056	625,810	375,546	1,108,412
4. Employer Pick-up Contributions Credited to Member Account	47,078	1,230,961	893,055	2,171,094
5. Employer Contributions	2,773,795	82,819,838	89,505,917	175,099,550
6. Refunds of Member Contributions and Death Benefits Paid	298,575	4,404,986	568,672	5,272,233
7. Retiree Benefit Payments Excluding Supplemental Medical Payments	73,916,946	61,325,939	91,175,694	226,418,579
8. Subtotal (Items 1 + 2 + 3 + 4 + 5 – 6 – 7)	$503,718,527	$1,672,753,055	$1,741,416,723	$3,917,888,305
9. Weighted Average Fund Balance: Item 1 + ½ of (Items 2, 3, 4, 5) – ½ of (Items 6, 7)	538,948,499	1,643,712,461	1,731,683,591	3,914,344,551
10. Earnings Allocated in Proportion to Item 9	52,932,106	161,435,023	170,074,990	384,442,119
11. Valuation Value of Assets (Items 8 + 10)	$556,650,633	$1,834,188,078	$1,911,491,713	$4,302,330,424

Note: Results may not add due to rounding.

The market value, actuarial value, and valuation value of assets are representations of VCERA's financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the market value of assets, but with less volatility. The valuation value of assets is the actuarial value, excluding any non-valuation reserves. The valuation value of assets is significant because VCERA's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the unfunded actuarial accrued liability is an important element in determining the contribution requirement.

This chart shows the change in market value, actuarial value and valuation value over the past ten years.

CHART 9

Market Value, Actuarial Value and Valuation Value of Assets as of June 30, 2006 – 2015

C. ACTUARIAL EXPERIENCE

To calculate the required contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain) the contribution requirement will decrease from the previous year. On the other hand, the contribution requirement will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

The total experience gain was $109.6 million, a $81.1 million gain from investments and a $28.5 million gain from all other sources. The net experience variation from individual sources other than investments experience was 0.6% of the actuarial accrued liability. A discussion of the major components of the actuarial experience is on the following pages.

This chart provides a summary of the actuarial experience during the past year.

CHART 10

Actuarial Experience for Year Ended June 30, 2015

1.	Net gain from investments[1]	$81,080,000
2.	Net gain from other experience[2]	28,526,000
3.	Net experience gain: (1) + (2)	$109,606,000

(1) *Details in Chart 11.*

(2) *See Section 3, Exhibit H. Does not include the effect of plan or assumption changes, if any.*

Investment Rate of Return
A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on VCERA's investment policy. For valuation purposes, the assumed rate of return on the valuation value of assets is 7.75% (based on the June 30, 2014 valuation). The actual rate of return on the valuation value of assets for the 2014/2015 plan year was 9.82%.

Since the actual return for the year was greater than the assumed return, the VCERA experienced an actuarial gain during the year ended June 30, 2015 with regard to its investments.

This chart shows the gain/(loss) due to investment experience.

CHART 11

Investment Experience for Year Ended June 30, 2015 – Market Value, Actuarial Value and Valuation Value of Assets

	Market Value	Actuarial Value	Valuation Value
1. Actual return	$84,826,216	$341,233,326	$384,442,119
2. Average value of assets	4,277,427,418	3,967,356,053	3,914,344,551
3. Actual rate of return: (1) ÷ (2)	1.98%	8.60%	9.82%
4. Assumed rate of return	7.75%	7.75%	7.75%
5. Expected return: (2) x (4)	$331,500,625	$307,470,094	$303,361,703
6. Actuarial gain/(loss): (1) – (5)	($246,674,409)	$33,763,232	$81,080,416

Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart below shows the rate of return on an actuarial, valuation, and market basis for the last ten years.

CHART 12

Investment Return – Market Value, Actuarial Value and Valuation Value: 2006 – 2015

Year Ended June 30	Market Value Investment Return		Actuarial Value Investment Return		Valuation Value Investment Return	
	Amount	Percent	Amount	Percent	Amount	Percent
2006	$238,212,815	9.95%	$221,191,725	9.88%	$221,191,725	10.00%
2007	458,962,761	17.48	344,644,568	14.06	308,000,514	12.68
2008	(211,806,573)	(6.86)	307,776,354	11.01	310,176,628	11.32
2009	(628,718,568)	(21.86)	5,186,654	0.17	31,242,785	1.02
2010	343,005,717	15.33	43,756,165	1.41	43,756,185	1.42
2011	622,940,028	24.34	121,406,541	3.89	121,406,541	3.91
2012	47,147,363	1.49	184,787,098	5.72	184,909,716	5.75
2013	432,694,392	13.51	237,282,497	6.97	237,282,497	7.00
2014	654,535,161	18.06	338,343,729	9.32	294,307,214	8.13
2015	84,826,216	1.98	341,233,326	8.60	384,442,119	9.82
Five-Year Average Return		10.94%		7.05%		7.09%
Ten-Year Average Return		6.79%		6.92%		6.94%

Note: Each year’s yield is weighted by the average asset value in that year.

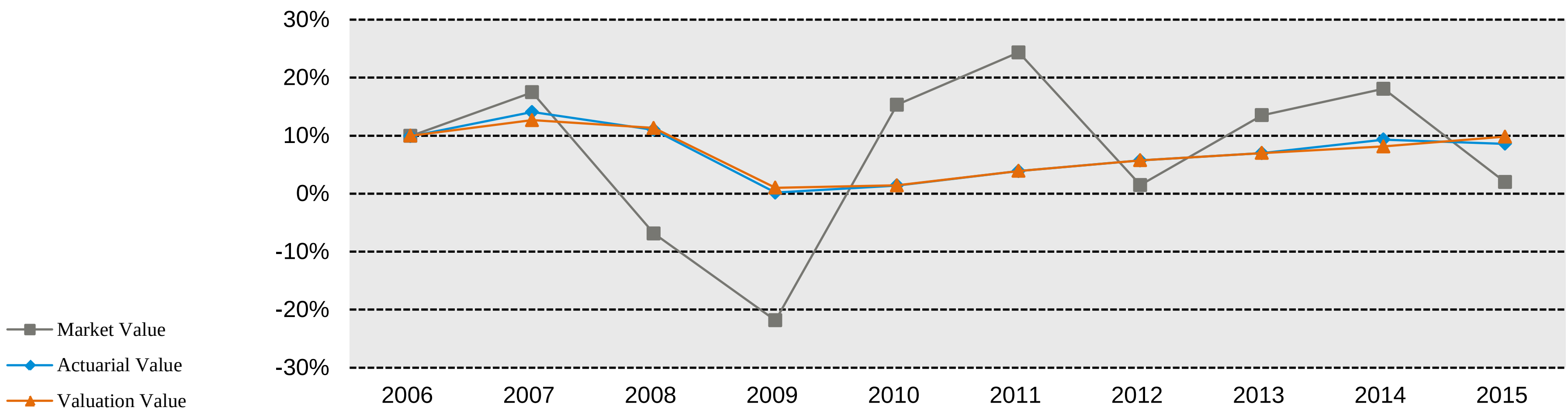
Segal Consulting

Subsection B described the actuarial asset valuation method that gradually takes into account fluctuations in the market value rate of return. The effect of this is to stabilize the actuarial rate of return, which contributes to leveling pension plan costs.

This chart illustrates how this leveling effect has actually worked over the years 2006 - 2015.

CHART 13

Market, Actuarial and Valuation Rates of Return for Years Ended June 30, 2006 - 2015



Other Experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- the extent of turnover among the participants,
- retirement experience (earlier or later than expected),
- mortality (more or fewer deaths than expected),
- the number of disability retirements,
- salary increases different than assumed, and
- COLA increases for retirees different than assumed.

The net gain from this other experience for the year ended June 30, 2015 amounted to $28.5 million which is 0.6% of the actuarial accrued liability. This gain was mainly due to lower than expected COLA increases for retirees and beneficiaries. See Exhibit H for a detailed development of the Unfunded Actuarial Accrued Liability.

D. EMPLOYER AND MEMBER CONTRIBUTIONS

Employer contributions consist of two components:

Normal Cost	The annual contribution rate that, if paid annually from a member's first year of membership through the year of retirement, would accumulate to the amount necessary to fully fund the member's retirement-related benefits. Accumulation includes annual crediting of interest at the assumed investment earning rate. The contribution rate is expressed as a level percentage of the member's compensation.
Contribution to the Unfunded Actuarial Accrued Liability (UAAL)	The annual contribution rate that, if paid annually over the UAAL amortization period, would accumulate to the amount necessary to fully fund the UAAL. Accumulation includes annual crediting of interest at the assumed investment earning rate. The contribution (or rate credit in the case of a negative unfunded actuarial accrued liability) is calculated to remain as a level percentage of future active member payroll (including payroll for new members as they enter the Association) assuming a constant number of active members. In order to remain as a level percentage of payroll, amortization payments (credits) are scheduled to increase at the combined annual inflation and "across the board" increases rate of 3.50%. The June 30, 2004 UAAL is being amortized over a 15-year declining period effective June 30, 2004. The change in UAAL that arises due to actuarial gains or losses or due to plan amendments (with the exception of retirement incentives) at each valuation is amortized over its own declining 15-year period. Effective with the June 30, 2012 valuation, any change in UAAL that arises due to changes in actuarial assumptions or methods is amortized over its own declining 20-year period and any change in UAAL due to retirement incentives is amortized over its own declining period of up to 5 years.
	VCERA's UAAL is determined separately for each tier depending on the assets and liabilities for that tier.
	Effective with the June 30, 2012 valuation, the Basic UAAL rate has been calculated on a combined basis for all General Tiers. Effective with the June 30, 2014 valuation, the COLA UAAL rate has been calculated on a combined basis for General Tiers that have a COLA. The recommended employer contribution rates determined under this

combined methodology are provided on Chart 14. For reference purposes only, Appendix E shows the employer contribution rates under the previous non-combined methodology.

The employer contribution rates shown in Chart 14a are now calculated based on a 50/50 sharing of Normal Cost for non-PEPRA Tiers. For purposes of these calculations, we have been previously directed by VCERA to assume that the cessation of member contributions after 30 years of service for non-PEPRA members continues per the County Employees Retirement Law (CERL) and that the cost associated with this provision is to be paid for by employers. Chart 14b contains the employer rates for the prior year under the prior methodology.

Member Contributions

Non-PEPRA Members

The non-PEPRA member contribution rates are provided in Appendix A. Please note that the member rates provided in the report are the full rate before reflecting any employer pickup. General Tier 2 members eligible for the fixed 2% cost-of-living benefit contribute a negotiated 2.63% of compensation per year towards the cost of that benefit.

Appendix C and Appendix D show the employer and member contribution rates based on the prior methodology as defined in Articles 6 and 6.8 of the 1937 Act for General members and Safety members. The basic contribution rate is determined so that the accumulation of a member’s basic contributions made in a given year until a certain age will be sufficient to fund an annuity at that age that is equal to 1/120 of Final Average Compensation for General members and 1/100 of Final Average Compensation for Safety members. That age is 55 for General Tier 1 members, 60 for General Tier 2 members and 50 for Safety members. It is assumed that contributions are made annually at the same rate, starting at entry age. In addition to their basic contributions, General Tier 1 and Safety members pay one-half of the total normal cost necessary to fund their cost-of-living benefits. Member contributions accumulate with interest at the lesser of the assumed investment earning rate or the rate on ten year U.S. Treasury notes. Any difference between the assumed investment earning rate and the actual interest crediting rate will be credited to the County Advance reserve. Please note that in calculating the basic member rate, we follow the Board’s past practice and have not included any in-service pay redemptions that may potentially increase a member's final average compensation and hence retirement benefit.

PEPRA Members

Pursuant to Section 7522.30(a) of the Government Code, members under PEPRA tiers are required to contribute at least 50% of the Normal Cost. In addition, there are certain additional requirements that would have to be met such as requiring the new employees to pay the contribution rate of "similarly situated employees", if it is greater. (reference: Section 7522.30(c)). We further understand that different rules may have to be applied for collectively bargained employees, non-represented, managerial or other supervisory employees. (reference: Section 7522.30(e)). In preparing the Normal Cost rates in this report, we have assumed that exactly 50% of the Normal Cost would be paid by the new members and we have taken into account in this valuation only the requirements of Section 7522.30(c), but not the requirements of Section 7522.30(e). The only exception to this is that we have also shown the PEPRA Tier 2 with COLA contribution rates including the member COLA contribution rate of 2.63% of compensation based on current bargaining agreements.

Also of note is that based on our discussions with VCERA, we have used the discretion made available by Section 31620.5(a) of AB 1380 to no longer round the PEPRA member's contribution rates to the nearest one quarter of one percent as was previously required by CalPEPRA. This is consistent with established practice for the Non-PEPRA plans and should allow for exactly one-half of the normal cost for the PEPRA plans to be paid by the employees and one-half by the employers. In addition, Section 31620.5(b) of AB 1380 also provides that the "one percent rule" under Section 7522.30(d) does not apply. This section formerly limited the circumstances under which the PEPRA member rate would change.

The PEPRA member contribution rates are provided in Appendix B.

Tier 2 COLA Procedures

This benefit has been valued consistent with the methodologies described in our October 9, 2006 report entitled "Funding Policies and Procedures for General Tier II COLA Benefit".

CHART 14a

Recommended Employer Contribution Rates (Dollar Amounts in Thousands) Based on 50/50 Sharing of Normal Cost for Non-PEPRA Tiers – Current Valuation Under Combined Methodology

	June 30, 2015 Actuarial Valuation					
	BASIC		COLA		TOTAL	
General Tier 1 Members	Rate	Estimated Annual Amount[1]	Rate	Estimated Annual Amount[1]	Rate	Estimated Annual Amount[1]
Normal Cost[2]	7.90%	$683	2.67%	$230	10.57%	$913
UAAL[3]	9.64%	833	3.64%	314	13.28%	1,147
Total Contribution	17.54%	$1,516	6.31%	$544	23.85%	$2,060
General Tier 2 Members w/o COLA						
Normal Cost	7.16%	$15,283	0.00%	$0	7.16%	$15,283
UAAL[3]	9.64%	20,581	0.00%	0	9.64%	20,581
Total Contribution	16.80%	$35,864	0.00%	$0	16.80%	$35,864
General PEPRA Tier 2 Members w/o COLA						
Normal Cost	7.03%	$1,546	0.00%	$0	7.03%	$1,546
UAAL[3]	9.64%	2,120	0.00%	0	9.64%	2,120
Total Contribution	16.67%	$3,666	0.00%	$0	16.67%	$3,666
General Tier 2 Members w/COLA						
Normal Cost [4]	7.16%	$15,988	0.08%	$179	7.24%	$16,167
UAAL[3][5]	9.64%	21,531	3.64%	8,131	13.28%	29,662
Total Contribution	16.80%	$37,519	3.72%	$8,310	20.52%	$45,829
General PEPRA Tier 2 Members w/COLA						
Normal Cost [4]	7.03%	$2,890	0.02%	$9	7.05%	$2,899
UAAL[3][5]	9.64%	3,964	3.64%	1,498	13.28%	5,462
Total Contribution	16.67%	$6,854	3.66%	$1,507	20.33%	$8,361
All General Members[6]						
Normal Cost	7.16%	$36,390	0.08%	$418	7.24%	$36,808
UAAL	9.64%	49,029	1.96%	9,943	11.60%	58,972
Total Contribution	16.80%	$85,419	2.04%	$10,361	18.84%	$95,780

CHART 14a (continued)

Recommended Employer Contribution Rates (Dollar Amounts in Thousands) Based on 50/50 Sharing of Normal Cost for Non-PEPRA Tiers – Current Valuation Under Combined Methodology

	June 30, 2015 Actuarial Valuation					
	BASIC		COLA		TOTAL	
Safety Members	Rate	Estimated Annual Amount[1]	Rate	Estimated Annual Amount[1]	Rate	Estimated Annual Amount[1]
Normal Cost[7]	11.63%	$18,913	4.84%	$7,870	16.47%	$26,783
UAAL	47.33%	76,968	-9.24%	-15,026	38.09%	61,942
Total Contribution	58.96%	$95,881	-4.40%	-$7,156	54.56%	$88,725
Safety PEPRA Members						
Normal Cost	10.40%	$789	4.28%	$324	14.68%	$1,113
UAAL	47.33%	3,589	-9.24%	-701	38.09%	2,888
Total Contribution	57.73%	$4,378	-4.96%	-$377	52.77%	$4,001
All Safety Members[6]						
Normal Cost	11.58%	$19,702	4.81%	$8,194	16.39%	$27,896
UAAL	47.33%	80,557	-9.24%	-15,727	38.09%	64,830
Total Contribution	58.91%	$100,259	-4.43%	-$7,533	54.48%	$92,726
All Categories Combined[6]						
Normal Cost	8.26%	$56,092	1.27%	$8,612	9.53%	$64,704
UAAL	19.09%	129,586	-0.85%	-5,784	18.24%	123,802
Total Contribution	27.35%	$185,678	0.42%	$2,828	27.77%	$188,506

(1) *Amounts are in thousands, assumed to be paid throughout the year, and are based on June 30, 2015 annual payroll (also in thousands) shown below:*

General Tier 1	$8,640
General Tier 2	213,455
General PEPRA Tier 2	21,992
General Tier 2C	223,301
General PEPRA Tier 2C	41,116
Safety	162,619
Safety PEPRA	7,582
Total	$678,705

(2) *The total employer rate has been adjusted by 0.48% to account for the cost associated with the cessation of member contributions after 30 years of service.*

(3) *Basic UAAL rates have been calculated on a combined basis for all General Tiers. COLA UAAL rates have been calculated on a combined basis for all General Tiers that have a COLA (excludes General Tier 2 without COLA and General PEPRA Tier 2 without COLA).*

(4) *Reflects General Tier 2 member COLA contribution rate of 2.63% based on current bargaining agreements.*

(5) *Includes 0.54% in COLA UAAL costs attributed to the first two years of service accrued for the fixed 2% COLA pursuant to Government Code 31627.*

(6) *These aggregated rates are provided for informational purposes only as we understand that the intent is to implement the tier specific rates, if possible.*

(7) *The total employer rate has been adjusted by 1.20% to account for the cost associated with the cessation of member contributions after 30 years of service.*

CHART 14b

Recommended Employer Contribution Rates (Dollar Amounts in Thousands) Without 50/50 Sharing of Normal Cost for Non-PEPRA Tiers – Prior Valuation Under Combined Methodology

	June 30, 2014 Actuarial Valuation[1]					
	BASIC		COLA		TOTAL	
General Tier 1 Members	Rate	Estimated Annual Amount[2]	Rate	Estimated Annual Amount[2]	Rate	Estimated Annual Amount[2]
Normal Cost	8.11%	$811	2.43%	$243	10.54%	$1,054
UAAL[3]	9.71%	971	2.68%	268	12.39%	1,239
Total Contribution	17.82%	$1,782	5.11%	$511	22.93%	$2,293
General Tier 2 Members w/o COLA						
Normal Cost	8.36%	$17,543	0.00%	$0	8.36%	$17,543
UAAL[3]	9.71%	20,370	0.00%	0	9.71%	20,370
Total Contribution	18.07%	$37,913	0.00%	$0	18.07%	$37,913
General PEPRA Tier 2 Members w/o COLA						
Normal Cost	6.92%	$823	0.00%	$0	6.92%	$823
UAAL[3]	9.71%	1,155	0.00%	0	9.71%	1,155
Total Contribution	16.63%	$1,978	0.00%	$0	16.63%	$1,978
General Tier 2 Members w/COLA						
Normal Cost [4]	8.36%	$19,117	-0.05%	-$115	8.31%	$19,002
UAAL[3][5]	9.71%	22,204	2.68%	6,134	12.39%	28,338
Total Contribution	18.07%	$41,321	2.63%	$6,019	20.70%	$47,340
General PEPRA Tier 2 Members w/COLA						
Normal Cost [4]	6.92%	$1,658	-0.10%	-$24	6.82%	$1,634
UAAL[3][5]	9.71%	2,326	2.68%	643	12.39%	2,969
Total Contribution	16.63%	$3,984	2.58%	$619	19.21%	$4,603
All General Members[6]						
Normal Cost	8.25%	$39,952	0.02%	$104	8.27%	$40,056
UAAL	9.71%	47,026	1.45%	7,045	11.16%	54,071
Total Contribution	17.96%	$86,978	1.47%	$7,149	19.43%	$94,127

CHART 14b (continued)

Recommended Employer Contribution Rates (Dollar Amounts in Thousands) Without 50/50 Sharing of Normal Cost for Non-PEPRA Tiers – Prior Valuation Under Combined Methodology

	June 30, 2014 Actuarial Valuation[1]					
	BASIC		COLA		TOTAL	
Safety Members	Rate	Estimated Annual Amount[2]	Rate	Estimated Annual Amount[2]	Rate	Estimated Annual Amount[2]
Normal Cost	13.97%	$22,362	4.29%	$6,868	18.26%	$29,230
UAAL	44.50%	71,233	-8.89%	-14,230	35.61%	57,003
Total Contribution	58.47%	$93,595	-4.60%	-$7,362	53.87%	$86,233
Safety PEPRA Members						
Normal Cost	10.60%	$403	4.09%	$156	14.69%	$559
UAAL	44.50%	1,692	-8.89%	-338	35.61%	1,354
Total Contribution	55.10%	$2,095	-4.80%	-$182	50.30%	$1,913
All Safety Members[6]						
Normal Cost	13.89%	$22,765	4.29%	$7,024	18.18%	$29,789
UAAL	44.50%	72,925	-8.89%	-14,568	35.61%	58,357
Total Contribution	58.39%	$95,690	-4.60%	-$7,544	53.79%	$88,146
All Categories Combined[6]						
Normal Cost	9.67%	$62,717	1.10%	$7,128	10.77%	$69,845
UAAL	18.50%	119,951	-1.16%	-7,523	17.34%	112,428
Total Contribution	28.17%	$182,668	-0.06%	-$395	28.11%	$182,273

(1) *Amounts are in thousands, assumed to be paid throughout the year, and are based on June 30, 2014 annual payroll (also in thousands) shown below:*

General Tier 1	$10,004
General Tier 2	209,847
General PEPRA Tier 2	11,899
General Tier 2C	228,670
General PEPRA Tier 2C	23,959
Safety	160,075
Safety PEPRA	3,803
Total	$648,257

(2) *Basic UAAL rates have been calculated on a combined basis for all General Tiers. COLA UAAL rates have been calculated on a combined basis for all General Tiers that have a COLA (excludes General Tier 2 without COLA and General PEPRA Tier 2 without COLA).*

(3) *Reflects General Tier 2 member COLA contribution rate of 2.63% based on current bargaining agreements.*

(4) *Includes 0.56% in COLA UAAL costs attributed to the first two years of service accrued for the fixed 2% COLA pursuant to Government Code 31627.*

(5) *These aggregated rates are provided for informational purposes only as we understand that the intent is to implement the tier specific rates, if possible.*

The employer contribution rates as of June 30, 2015 are based on all of the data described in the previous sections, the actuarial assumptions described in Section 4, and the Plan provisions adopted at the time of preparation of the Actuarial Valuation. They include all changes affecting future costs, adopted benefit changes, actuarial gains and losses and changes in the actuarial assumptions.

Reconciliation of Recommended Employer Contribution Rate

The chart below details the changes in the recommended average employer contribution rate from the prior valuation to the current year's valuation.

The chart reconciles the employer contribution from the prior valuation to the amount determined in this valuation.

CHART 15

Reconciliation of Recommended Average Employer Contribution Rate from June 30, 2014 to June 30, 2015 (Dollar Amounts in Thousands)

	Contribution Rate	Estimated Annual Dollar Cost[1]
Recommended Average Employer Contribution Rate as of June 30, 2014	28.11%	$182,273
Effect of investment gain[2]	(1.05)%	(7,126)
Effect of difference in actual versus expected contributions due to delay in implementation of contribution rates calculated in June 30, 2014 valuation	(0.01)%	(68)
Effect of difference in actual versus expected individual salary increases	0.22%	1,493
Effect of difference in actual versus expected total payroll growth	(0.16)%	(1,086)
Effect of lower than expected COLA benefit increase for retirees and beneficiaries	(0.61)%	(4,140)
Effect of 50/50 sharing of Normal Cost for non-PEPRA Tiers	(1.23)%	(8,348)
Effect of net other changes[3]	(0.16)%	7,454
Effect of actuarial assumption changes	2.66%	18,054
Total change	(0.34)%	$6,233
Recommended Average Employer Contribution Rate as of June 30, 2015	27.77%	$188,506

(1) *Based on projected payroll for each year.*

(2) *The Association's valuation value of assets earned 9.82% which was greater than the 7.75% assumed rate of return for 2014/15.*

(3) *Other differences in actual versus expected experience including mortality, disability, withdrawal, retirement and in-service redemption experience. Estimated annual dollar cost also reflects change in payroll from prior valuation.*

The member contribution rates as of June 30, 2015 are based on all of the data described in the previous sections, the actuarial assumptions described in Section 4, and the Plan provisions adopted at the time of preparation of the Actuarial Valuation.

Reconciliation of Recommended Member Contribution Rate

The chart below details the changes in the recommended average member contribution rate from the prior valuation to the current year's valuation.

The chart reconciles the member contribution from the prior valuation to the amount determined in this valuation.

CHART 16

Reconciliation of Recommended Average Member Contribution Rate from June 30, 2014 to June 30, 2015

(Dollar Amounts in Thousands)

	Contribution Rate	Estimated Annual Dollar Cost[1]
Recommended Average Member Contribution Rate in June 30, 2014 Valuation	8.61%	$55,795
Effect of changes in demographic profile of employee group[2]	0.01%	2,689
Effect of 50/50 sharing of Normal Cost for non-PEPRA Tiers	1.56%	10,588
Effect of actuarial assumption changes	0.06%	407
Total change	1.63%	$13,684
Recommended Average Member Contribution Rate in June 30, 2015 Valuation	10.24%	$69,479

(1) *Based on projected payroll for each year.*

(2) *Estimated annual dollar cost also reflects change in payroll from prior valuation.*

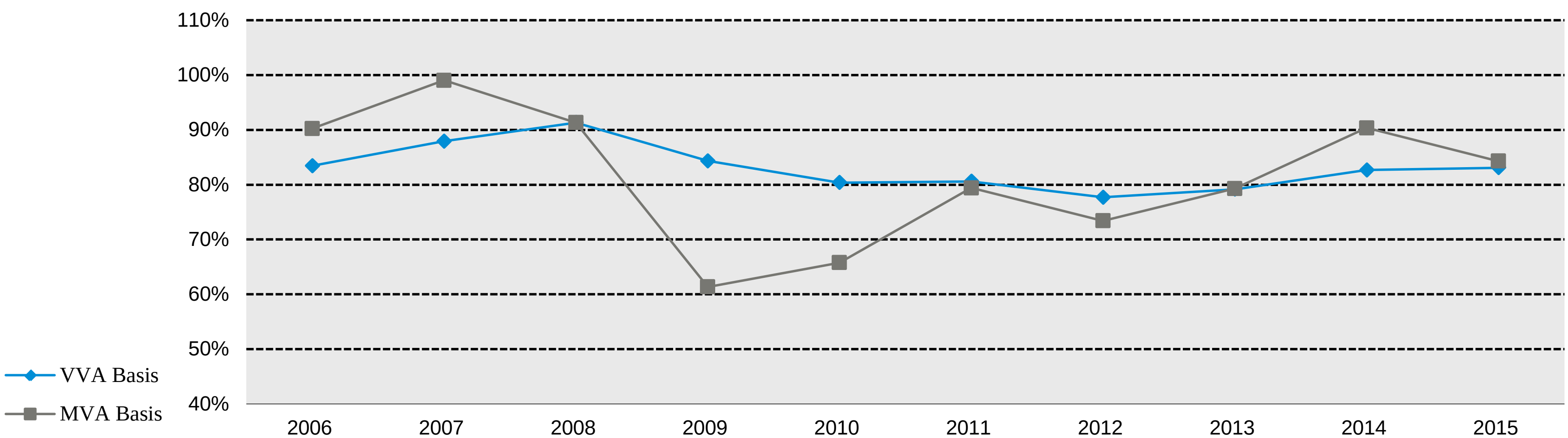
E. FUNDED RATIO

A commonly reported piece of information regarding the Plan’s financial status is the funded ratio. These ratios compare the valuation value of assets and market value of assets to the actuarial accrued liabilities of the Plan as calculated. High ratios indicate a well-funded plan with assets sufficient to cover the plan’s actuarial accrued liabilities. Lower ratios may indicate recent changes to benefit structures, funding of the plan below actuarial requirements, poor asset performance, or a variety of other factors. The chart below depicts a history of the funded ratio for this plan. Chart 18 on the next page shows the Plan’s schedule of funding progress for the last ten years.

The funded status measures shown in this valuation are appropriate for assessing the need for or amount of future contributions. However, they are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan’s benefit obligations. As the chart below shows, the measures are different depending on whether the valuation or market value of assets is used.

CHART 17

Funded Ratio for Plan Years Ending June 30, 2006 - 2015



Segal Consulting

CHART 18

Schedule of Funding Progress

Actuarial Valuation Date	Valuation Value of Assets[1] (a)	Actuarial Accrued Liability (AAL)[2] (b)	Unfunded/ (Overfunded) AAL (UAAL) (b) - (a)	Funded Ratio (a) / (b)	Projected Covered Payroll (c)	UAAL as a Percentage of Projected Covered Payroll [(b) - (a) / (c)]
06/30/2006	$2,430,048,000	$2,911,918,000	$481,870,000	83.45%	$519,145,000	92.82%
06/30/2007	2,736,558,000	3,112,583,000	376,025,000	87.92%	551,968,000	68.12%
06/30/2008	3,055,756,000	3,345,804,000	290,048,000	91.33%	599,173,000	48.41%
06/30/2009	3,090,148,000	3,663,701,000	573,553,000	84.34%	634,777,000	90.36%
06/30/2010	3,115,984,000	3,877,443,000	761,459,000	80.36%	654,829,000	116.28%
06/30/2011	3,220,388,000	3,995,352,000	774,964,000	80.60%	637,037,000	121.65%
06/30/2012	3,397,360,000	4,373,227,000	975,867,000	77.69%	633,848,000	153.96%
06/30/2013	3,621,709,000	4,575,063,000	953,354,000	79.16%	638,764,000	149.25%
06/30/2014	3,910,801,000	4,731,016,000	820,215,000	82.66%	648,257,000	126.53%
06/30/2015	4,302,330,000	5,178,157,000	875,827,000	83.09%	678,705,000	129.04%

(1) *Excludes assets for supplemental medical benefit reserve and statutory contingency reserve.*

(2) *Excludes liabilities held for supplemental medical benefit reserve and statutory contingency reserve.*

F. VOLATILITY RATIOS

Retirement plans are subject to volatility in the level of required contributions. This volatility tends to increase as retirement plans become more mature.

The Asset Volatility Ratio (AVR), which is equal to the market value of assets divided by total payroll, provides an indication of the potential contribution volatility for any given level of investment volatility. A higher AVR indicates that the plan is subject to a greater level of contribution volatility. This is a current measure since it is based on the current level of assets.

For VCERA, the current AVR is about 6.4. This means that a 1% asset gain/(loss) (relative to the assumed investment return) translates to about 6.4% of one-year's payroll. Since VCERA amortizes actuarial gains and losses over a period of 15 years, there would be a 0.6% of payroll decrease/(increase) in the required contribution for each 1% asset gain/(loss).

The Liability Volatility Ratio (LVR), which is equal to the Actuarial Accrued Liability divided by payroll, provides an indication of the longer-term potential for contribution volatility for any given level of investment volatility. This is because, over an extended period of time, the plan's assets should track the plan's liabilities. For example, if a plan is 50% funded on a market value basis, the liability volatility ratio would be double the asset volatility ratio and the plan sponsor should expect contribution volatility to increase over time as the plan becomes better funded.

The LVR also indicates how volatile contributions will be in response to changes in the Actuarial Accrued Liability due to actual experience or to changes in actuarial assumptions.

For VCERA, the current LVR is about 7.6. This is about 19% higher than the AVR. Therefore, we would expect that contribution volatility will increase over the long term.

This chart shows how the asset and liability volatility ratios have varied over time, both for the plan in total and separately for General and Safety.

CHART 19

Volatility Ratios for Years Ended June 30, 2009 – 2015

	Asset Volatility Ratios			Liability Volatility Ratios		
Year Ended June 30	**General**	**Safety**	**Total**	**General**	**Safety**	**Total**
2009	2.8	5.7	3.5	4.4	9.8	5.8
2010	3.1	6.3	3.9	4.4	10.1	5.9
2011	3.9	8.2	5.0	4.7	10.8	6.3
2012	3.8	8.7	5.1	5.1	12.3	6.9
2013	4.3	9.7	5.7	5.3	12.7	7.2
2014	4.9	11.5	6.6	5.4	12.9	7.3
2015	4.8	11.4	6.4	5.6	13.8	7.6

EXHIBIT A

Table of Plan Coverage

i. General Tier 1

Category	Year Ended June 30 2015	Year Ended June 30 2014	Change From Prior Year
Active members in valuation:			
Number	75	92	-18.5%
Average age	61.1	60.4	N/A
Average service	32.6	31.6	N/A
Projected total compensation(1)	$8,640,084	$10,004,102	-13.6%
Projected average compensation	$115,201	$108,740	5.9%
Account balances	$15,052,653	$17,403,435	-13.5%
Total active vested members	75	92	-18.5%
Vested terminated members(2)	55	58	-5.2%
Retired members:			
Number in pay status	1,474	1,508	-2.3%
Average age	75.3	74.8	N/A
Average monthly benefit(3)	$3,565	$3,481	2.4%
Disabled members:			
Number in pay status	110	115	-4.3%
Average age	73.5	72.7	N/A
Average monthly benefit(3)	$2,318	$2,293	1.1%
Beneficiaries:			
Number in pay status	346	359	-3.6%
Average age	79.7	79.0	N/A
Average monthly benefit(3)	$1,602	$1,551	3.3%

(1) *Calculated by increasing annualized bi-weekly compensation rates as of valuation date by one-half year of inflation and "across the board" salary increases.*

(2) *Includes terminated members with member contributions on deposit.*

(3) *Excludes vested fixed supplemental and supplemental medical benefit amounts.*

EXHIBIT A (continued)

Table of Plan Coverage

ii. General Tier 2

Category	Year Ended June 30 2015	Year Ended June 30 2014	Change From Prior Year
Active members in valuation:			
Number	5,494	5,825	-5.7%
Average age	47.9	47.3	N/A
Average service	12.3	11.5	N/A
Projected total compensation[1]	$436,756,384	$438,516,507	-0.4%
Projected average compensation	$79,497	$75,282	5.6%
Account balances	$375,523,585	$360,544,571	4.2%
Total active vested members	4,556	4,607	-1.1%
Vested terminated members[2]	1,933	1,925	0.4%
Retired members:			
Number in pay status	2,481	2,267	9.4%
Average age	67.8	67.6	N/A
Average monthly benefit[3]	$1,669	$1,585	5.3%
Disabled members:			
Number in pay status	336	337	-0.3%
Average age	63.6	62.9	N/A
Average monthly benefit[3]	$1,463	$1,436	1.9%
Beneficiaries:			
Number in pay status	274	256	7.0%
Average age	67.9	67.2	N/A
Average monthly benefit[3]	$806	$788	2.3%

(1) *Calculated by increasing annualized bi-weekly compensation rates as of valuation date by one-half year of inflation and "across the board" salary increases.*

(2) *Includes terminated members with member contributions on deposit.*

(3) *Excludes vested fixed supplemental and supplemental medical benefit amounts.*

EXHIBIT A (continued)

Table of Plan Coverage

iii. PEPRA General Tier 1

Category	Year Ended June 30: 2015	2014	Change From Prior Year
Active members in valuation:			
Number	0	0	N/A
Average age	N/A	N/A	N/A
Average service	N/A	N/A	N/A
Projected total compensation[1]	N/A	N/A	N/A
Projected average compensation	N/A	N/A	N/A
Account balances	N/A	N/A	N/A
Total active vested members	0	0	N/A
Vested terminated members[2]	3	5	-40.0%
Retired members:			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit[3]	N/A	N/A	N/A
Disabled members:			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit[3]	N/A	N/A	N/A
Beneficiaries:			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit[3]	N/A	N/A	N/A

(1) *Calculated by increasing annualized bi-weekly compensation rates as of valuation date by one-half year of inflation and "across the board" salary increases.*

(2) *Includes terminated members with member contributions on deposit.*

(3) *Excludes vested fixed supplemental and supplemental medical benefit amounts.*

EXHIBIT A (continued)

Table of Plan Coverage

iv. PEPRA General Tier 2

Category	Year Ended June 30 2015	Year Ended June 30 2014	Change From Prior Year
Active members in valuation:			
Number	1,209	755	60.1%
Average age	36.8	35.8	N/A
Average service	1.1	0.7	N/A
Projected total compensation[(1)]	$63,108,479	$35,858,216	76.0%
Projected average compensation	$52,199	$47,494	9.9%
Account balances	$5,968,682	$2,164,512	175.8%
Total active vested members	1	0	N/A
Vested terminated members[(2)]	149	64	132.8%
Retired members:			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit[(3)]	N/A	N/A	N/A
Disabled members:			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit[(3)]	N/A	N/A	N/A
Beneficiaries:			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit[(3)]	N/A	N/A	N/A

(1) *Calculated by increasing annualized bi-weekly compensation rates as of valuation date by one-half year of inflation and "across the board" salary increases.*

(2) *Includes terminated members with member contributions on deposit.*

(3) *Excludes vested fixed supplemental and supplemental medical benefit amounts.*

EXHIBIT A (continued)

Table of Plan Coverage

v. Safety

Category	Year Ended June 30: 2015	2014	Change From Prior Year
Active members in valuation:			
Number	1,405	1,471	-4.5%
Average age	42.5	41.9	N/A
Average service	15.4	14.6	N/A
Projected total compensation[(1)]	$162,618,523	$160,074,949	1.6%
Projected average compensation	$115,743	$108,820	6.4%
Account balances	$175,551,244	$161,930,571	8.4%
Total active vested members	1,245	1,274	-2.3%
Vested terminated members[(2)]	297	284	4.6%
Retired members:			
Number in pay status	702	677	3.7%
Average age	66.0	65.7	N/A
Average monthly benefit[(3)]	$7,153	$7,141	0.2%
Disabled members:			
Number in pay status	388	385	0.8%
Average age	63.7	63.4	N/A
Average monthly benefit[(3)]	$5,192	$5,044	2.9%
Beneficiaries:			
Number in pay status	227	217	4.6%
Average age	67.7	67.3	N/A
Average monthly benefit[(3)]	$2,896	$2,805	3.2%

(1) *Calculated by increasing annualized bi-weekly compensation rates as of valuation date by one-half year of inflation and “across the board” salary increases.*

(2) *Includes terminated members with member contributions on deposit.*

(3) *Excludes vested fixed supplemental and supplemental medical benefit amounts.*

EXHIBIT A (continued)

Table of Plan Coverage

vi. PEPRA Safety

Category	Year Ended June 30 2015	Year Ended June 30 2014	Change From Prior Year
Active members in valuation:			
Number	116	67	73.1%
Average age	29.3	28.9	N/A
Average service	1.2	0.7	N/A
Projected total compensation(1)	$7,582,376	$3,803,268	99.4%
Projected average compensation	$65,365	$56,765	15.2%
Account balances	$1,259,585	$335,236	275.7%
Total active vested members	0	0	N/A
Vested terminated members(2)	4	3	33.3%
Retired members:			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit(3)	N/A	N/A	N/A
Disabled members:			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit(3)	N/A	N/A	N/A
Beneficiaries:			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit(3)	N/A	N/A	N/A

(1) *Calculated by increasing annualized bi-weekly compensation rates as of valuation date by one-half year of inflation and "across the board" salary increases.*

(2) *Includes terminated members with member contributions on deposit.*

(3) *Excludes vested fixed supplemental and supplemental medical benefit amounts.*

EXHIBIT B

Members in Active Service and Projected Average Compensation as of June 30, 2015
By Age and Years of Service

i. General Tier 1

		Years of Service								
Age	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
25 - 29	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
30 - 34	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
35 - 39	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
40 - 44	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
45 - 49	1	- -	- -	1	- -	- -	- -	- -	- -	- -
	$183,798	- -	- -	$183,798	- -	- -	- -	- -	- -	- -
50 - 54	4	- -	- -	- -	1	1	1	- -	1	- -
	206,949	- -	- -	- -	$221,700	$294,646	$202,501	- -	$108,950	- -
55 - 59	26	- -	1	2	2	- -	2	2	16	1
	121,733	- -	$178,596	214,933	154,199	- -	218,447	$151,110	87,830	$103,804
60 - 64	34	- -	- -	2	2	5	1	3	13	8
	105,978	- -	- -	182,472	203,418	145,433	74,728	145,330	78,700	71,311
65 - 69	6	- -	- -	- -	1	1	1	- -	3	- -
	90,665	- -	- -	- -	84,896	130,408	50,309	- -	92,792	- -
70 & over	4	- -	- -	- -	- -	- -	- -	- -	1	3
	79,048	- -	- -	- -	- -	- -	- -	- -	53,506	87,562
Total	75	- -	1	5	6	7	5	5	34	12
	$115,201	- -	$178,596	$195,721	$170,305	$164,602	$152,887	$147,642	$84,389	$78,081

EXHIBIT B (continued)

Members in Active Service and Projected Average Compensation as of June 30, 2015
By Age and Years of Service

ii. General Tier 2

		Years of Service								
Age	**Total**	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40 & over**
Under 25	11	10	1	- -	- -	- -	- -	- -	- -	- -
	$52,163	$52,225	$51,542	- -	- -	- -	- -	- -	- -	- -
25 - 29	204	139	65	- -	- -	- -	- -	- -	- -	- -
	61,996	63,174	59,477	- -	- -	- -	- -	- -	- -	- -
30 - 34	595	210	328	57	- -	- -	- -	- -	- -	- -
	71,641	73,382	71,192	$67,804	- -	- -	- -	- -	- -	- -
35 - 39	636	130	284	170	52	- -	- -	- -	- -	- -
	76,287	74,761	77,099	76,983	$73,391	- -	- -	- -	- -	- -
40 - 44	687	113	234	190	120	27	3	- -	- -	- -
	80,088	76,052	80,579	79,840	84,468	$76,106	$70,107	- -	- -	- -
45 - 49	853	106	230	209	150	125	31	2	- -	- -
	81,926	74,002	79,006	82,522	88,797	84,740	82,372	$77,200	- -	- -
50 - 54	929	89	230	220	131	132	90	37	- -	- -
	81,962	76,962	77,022	84,044	83,482	84,812	85,998	86,938	- -	- -
55 - 59	862	76	185	179	131	123	96	63	9	- -
	84,199	74,893	81,495	80,679	85,574	88,176	88,936	94,812	$89,152	- -
60 - 64	519	51	119	101	86	84	43	31	4	- -
	82,643	80,171	81,851	77,858	83,768	80,310	89,773	93,513	122,501	- -
65 - 69	158	14	44	33	23	20	17	6	1	- -
	81,744	71,887	75,230	82,529	81,808	89,640	100,977	65,579	91,075	- -
70 & over	40	1	15	11	4	4	3	2	- -	- -
	73,967	50,181	77,086	68,331	66,747	96,153	67,774	72,819	- -	- -
Total	5,494	939	1,735	1,170	697	515	283	141	14	- -
	$79,497	$73,011	$76,767	$80,033	$84,320	$84,683	$87,709	$90,654	$98,818	- -

EXHIBIT B

Members in Active Service and Projected Average Compensation as of June 30, 2015
By Age and Years of Service

iii. PEPRA General Tier 2

		Years of Service								
Age	**Total**	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40 & over**
Under 25	97	97	- -	- -	- -	- -	- -	- -	- -	- -
	$38,574	$38,574	- -	- -	- -	- -	- -	- -	- -	- -
25 - 29	322	322	- -	- -	- -	- -	- -	- -	- -	- -
	48,629	48,629	- -	- -	- -	- -	- -	- -	- -	- -
30 - 34	253	253	- -	- -	- -	- -	- -	- -	- -	- -
	54,317	54,317	- -	- -	- -	- -	- -	- -	- -	- -
35 - 39	148	148	- -	- -	- -	- -	- -	- -	- -	- -
	54,834	54,834	- -	- -	- -	- -	- -	- -	- -	- -
40 - 44	113	113	- -	- -	- -	- -	- -	- -	- -	- -
	51,930	51,930	- -	- -	- -	- -	- -	- -	- -	- -
45 - 49	91	91	- -	- -	- -	- -	- -	- -	- -	- -
	58,796	58,796	- -	- -	- -	- -	- -	- -	- -	- -
50 - 54	73	73	- -	- -	- -	- -	- -	- -	- -	- -
	52,194	52,194	- -	- -	- -	- -	- -	- -	- -	- -
55 - 59	68	68	- -	- -	- -	- -	- -	- -	- -	- -
	62,382	62,382	- -	- -	- -	- -	- -	- -	- -	- -
60 - 64	35	35	- -	- -	- -	- -	- -	- -	- -	- -
	57,966	57,966	- -	- -	- -	- -	- -	- -	- -	- -
65 - 69	8	8	- -	- -	- -	- -	- -	- -	- -	- -
	65,492	65,492	- -	- -	- -	- -	- -	- -	- -	- -
70 & over	1	1	- -	- -	- -	- -	- -	- -	- -	- -
	27,280	27,280	- -	- -	- -	- -	- -	- -	- -	- -
Total	1,209	1,209	- -	- -	- -	- -	- -	- -	- -	- -
	$52,199	$52,199	- -	- -	- -	- -	- -	- -	- -	- -

EXHIBIT B (continued)

Members in Active Service and Projected Average Compensation as of June 30, 2015
By Age and Years of Service

iv. Safety

		Years of Service								
Age	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over
Under 25	7	7	- -	- -	- -	- -	- -	- -	- -	- -
	$94,444	$94,444	- -	- -	- -	- -	- -	- -	- -	- -
25 - 29	117	71	46	- -	- -	- -	- -	- -	- -	- -
	90,839	85,743	$98,705	- -	- -	- -	- -	- -	- -	- -
30 - 34	211	44	140	27	- -	- -	- -	- -	- -	- -
	100,687	92,138	103,614	$99,441	- -	- -	- -	- -	- -	- -
35 - 39	233	19	71	100	43	- -	- -	- -	- -	- -
	111,070	101,491	111,075	106,589	$125,716	- -	- -	- -	- -	- -
40 - 44	265	10	34	55	116	50	- -	- -	- -	- -
	116,645	113,402	108,915	103,842	119,141	$130,843	- -	- -	- -	- -
45 - 49	243	5	12	40	65	77	44	- -	- -	- -
	122,605	108,997	108,503	108,077	116,347	129,058	$139,156	- -	- -	- -
50 - 54	215	1	5	17	26	39	82	42	3	- -
	132,263	180,682	127,175	108,112	117,462	127,927	135,234	$148,892	$132,089	- -
55 - 59	92	3	3	2	8	16	27	20	13	- -
	131,589	139,358	136,470	91,407	103,069	123,882	133,086	130,620	160,267	- -
60 - 64	20	- -	5	2	1	4	5	1	2	- -
	135,818	- -	149,201	101,928	144,171	127,813	119,769	122,005	195,114	- -
65 - 69	2	- -	- -	- -	1	- -	1	- -	- -	- -
	120,922	- -	- -	- -	84,908	- -	156,935	- -	- -	- -
70 & over	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Total	1,405	160	316	243	260	186	159	63	18	- -
	$115,743	$93,807	$106,738	$105,361	$118,832	$128,829	$135,605	$142,665	$159,442	- -

EXHIBIT B

Members in Active Service and Projected Average Compensation as of June 30, 2015
By Age and Years of Service

v. PEPRA Safety

		Years of Service								
Age	**Total**	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40 & over**
Under 25	24	24	- -	- -	- -	- -	- -	- -	- -	- -
	$62,285	$62,285	- -	- -	- -	- -	- -	- -	- -	- -
25 - 29	60	60	- -	- -	- -	- -	- -	- -	- -	- -
	62,150	62,150	- -	- -	- -	- -	- -	- -	- -	- -
30 - 34	22	22	- -	- -	- -	- -	- -	- -	- -	- -
	62,846	62,846	- -	- -	- -	- -	- -	- -	- -	- -
35 - 39	2	2	- -	- -	- -	- -	- -	- -	- -	- -
	65,189	65,189	- -	- -	- -	- -	- -	- -	- -	- -
40 - 44	2	2	- -	- -	- -	- -	- -	- -	- -	- -
	87,664	87,664	- -	- -	- -	- -	- -	- -	- -	- -
45 - 49	2	2	- -	- -	- -	- -	- -	- -	- -	- -
	89,320	89,320	- -	- -	- -	- -	- -	- -	- -	- -
50 - 54	3	3	- -	- -	- -	- -	- -	- -	- -	- -
	120,417	120,417	- -	- -	- -	- -	- -	- -	- -	- -
55 - 59	1	1	- -	- -	- -	- -	- -	- -	- -	- -
	130,315	130,315	- -	- -	- -	- -	- -	- -	- -	- -
60 - 64	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
65 - 69	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
70 & over	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Total	116	116	- -	- -	- -	- -	- -	- -	- -	- -
	$65,365	$65,365	- -	- -	- -	- -	- -	- -	- -	- -

EXHIBIT C

Reconciliation of Member Data – June 30, 2014 to June 30, 2015

	Active Members	Vested Terminated Members[1]	Pensioners	Disableds	Beneficiaries	Total
Number as of June 30, 2014	8,210	2,339	4,452	837	832	16,670
New members	658	54	0	0	60	772
Terminations – with vested rights	-229	229	0	0	0	0
Contributions refunds	-102	-79	0	0	0	-181
Retirements	-238	-75	313	0	0	0
New disabilities	-9	-2	-10	21	0	0
Return to work	22	-21	-1	0	0	0
Died with or without beneficiary	-13	-3	-101	-22	-41	-180
Data adjustments	0	-1	4	-2	-4	-3
Number as of June 30, 2015	8,299	2,441	4,657	834	847	17,078

[1] *Includes terminated members with member contributions on deposit.*

EXHIBIT D

Summary Statement of Income and Expenses on an Actuarial Value Basis

	Year Ended June 30, 2015		Year Ended June 30, 2014	
Contribution income:				
Employer contributions	$175,099,550		$169,703,083	
Member contributions	63,678,770		46,674,443	
Contribution income		$238,778,320		$216,377,526
Investment income:				
Interest, dividends and other income	$60,743,969		$49,344,497	
Adjustment toward market value[1]	298,995,273		305,935,366	
Less investment and administrative fees	(18,505,915)		(16,936,134)	
Net investment income		$341,233,327		$338,343,729
Total income available for benefits		$580,011,647		$554,721,255
Less benefit payments		($233,695,213)		($223,532,290)
Change in reserve for future benefits		$346,316,434		$331,188,965

(1) *Equals the "non-cash" earnings on investments included in the Actuarial Value of Assets.*

EXHIBIT E

Summary Statement of Net Assets

	Year Ended June 30, 2015		Year Ended June 30, 2014	
Cash equivalents		$59,061,354		$63,604,211
Pension software development cost		9,426,005		6,459,436
Accounts receivable:				
Member and employer contributions	$6,872,228		$5,691,835	
Accrued interest and dividends	3,213,855		3,358,253	
Securities sold	38,357,646		23,833,386	
Other	32,056		16,979	
Total accounts receivable		$48,475,785		$32,900,453
Investments:				
Equities	$2,526,596,112		$2,490,857,698	
Fixed income	1,013,748,941		970,048,742	
Real estate	340,986,568		306,840,325	
Investments received on securities lending	63,260,292		62,402,546	
Others	415,341,030		428,072,939	
Total investments at market value		$4,359,932,943		$4,258,222,250
Total assets		$4,476,896,087		$4,361,186,350
Liabilities:				
Securities lending	($63,260,292)		($62,402,546)	
Security purchases	(46,451,889)		(21,181,466)	
Accounts payable	(2,361,658)		(2,689,643)	
Prepaid contributions	(27,060)		(26,831)	
Total liabilities		($112,100,899)		($86,300,486)
Net assets at market value		$4,364,795,188		$4,274,885,864
Net assets at actuarial value		$4,311,130,933		$3,964,814,499
Net assets at valuation value		$4,302,330,424		$3,910,800,797

EXHIBIT F

Actuarial Balance Sheet

An overview of the Plan's funding is given by an Actuarial Balance Sheet. In this approach, we first determine the amount and timing of all future payments that will be made by the Plan for current participants. We then discount these payments at the valuation interest rate to the date of the valuation, thereby determining their present value. We refer to this present value as the "liability" of the Plan.

Second, we determine how this liability will be met. These actuarial "assets" include the net amount of assets already accumulated by the Plan, the present value of future member contributions, the present value of future employer normal cost contributions, and the present value of future employer amortization payments for the unfunded actuarial accrued liability.

Actuarial Balance Sheet ($ in 000s)

Assets	June 30, 2015	June 30, 2014
1. Total valuation value of assets	$4,302,330	$3,910,801
2. Present value of future contributions by members	495,597	449,384
3. Present value of future employer contributions for:		
a. Entry age normal cost	$554,183	$514,554
b. Unfunded actuarial accrued liability	875,827	820,215
4. Total current and future assets	$6,227,937	$5,694,954

Liabilities	June 30, 2015	June 30, 2014
5. Present value of benefits for retirees and beneficiaries	$2,901,805	$2,646,710
6. Present value of benefits for vested terminated members	134,344	127,447
7. Present value of benefits for active members	3,191,788	2,920,797
8. Total liabilities	$6,227,937	$5,694,954

EXHIBIT G

Summary of Allocated Reserves

Reserves

	June 30, 2015	June 30, 2014
Member contributions reserve [1]	$647,597,355	$611,920,699
Employer advance reserve [1]	2,119,359,715	1,886,562,740
Offset: Interest crediting shortfall tracking account [1]	(885,633,697)	(889,356,718)
Retiree reserve [1]	2,269,554,677	2,150,677,421
Supplemental death benefit reserve [1]	14,301,038	13,897,630
Vested fixed supplemental ($108.44) reserve [1]	137,151,336	134,434,076
Undistributed earnings [1]	0	2,664,949
Valuation reserves	$4,302,330,424	$3,910,800,797
Supplemental medical ($27.50) reserve [2]	8,800,509	10,401,838
Contingency reserve [2]	0	43,611,864
Total reserves (actuarial value)	$8,800,509	$3,964,814,499
Market stabilization reserve [2]	53,664,255	310,071,365
Net market value	$4,364,795,188	$4,274,885,864

(1) *Included in valuation value of assets.*

(2) *Not included in valuation value of assets.*

EXHIBIT H

Development of Unfunded/(Overfunded) Actuarial Accrued Liability for Year Ended June 30, 2015

1.	Unfunded actuarial accrued liability at beginning of year		$820,215,000
2.	Total Normal Cost payable at middle of year		125,640,000
3.	Expected employer and member contributions		(238,068,000)
4.	Interest (whole year on (1) plus half year on (2) + (3))		59,644,000
5.	Expected unfunded actuarial accrued liability at end of year		$767,431,000
6.	Actuarial (gain)/loss due to all changes:		
	(a) Investment return	($81,080,000)	
	(b) Actual contributions more than expected[1]	(736,000)	
	(c) Higher than expected individual salary increases	17,095,000	
	(d) Lower than expected COLA benefit increase for retirees and beneficiaries	(47,218,000)	
	(e) Other experience	2,333,000	
	(f) Changes in actuarial assumptions	218,002,000	
	Total changes		$108,396,000
7.	Unfunded actuarial accrued liability at end of year		$875,827,000

Note: Net gain from other experience of $28.5 million (as shown on page 8) is equal to the sum of items: 6(b) through 6(e).

[1] *Including contribution gain from one-year delay in implementing lower contribution rates recommended in June 30, 2014 valuation.*

EXHIBIT I
Table of Amortization Bases

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Payment
General Tier 1	June 30, 2004	Restart of Amortization	$63,394,000	$31,876,000	4	$8,764,000
	June 30, 2005	Actuarial (Gain)/Loss	22,085,000	13,095,000	5	2,934,000
	June 30, 2006	Actuarial (Gain)/Loss	7,048,000	4,731,000	6	900,000
	June 30, 2006	Assumption Change	41,538,000	27,850,000	6	5,296,000
	June 30, 2007	Actuarial (Gain)/Loss	(19,901,000)	(14,685,000)	7	(2,437,000)
	June 30, 2008	Actuarial (Gain)/Loss	(18,128,000)	(14,419,000)	8	(2,132,000)
	June 30, 2009	Actuarial (Gain)/Loss	55,190,000	46,585,000	9	6,234,000
	June 30, 2009	Assumption Change	18,574,000	15,669,000	9	2,097,000
	June 30, 2010	Actuarial (Gain)/Loss	50,018,000	44,242,000	10	5,424,000
	June 30, 2011	Actuarial (Gain)/Loss	36,225,000	33,259,000	11	3,773,000
	June 30, 2012	Actuarial (Gain)/Loss	29,865,000	28,225,000	12	2,987,000
	June 30, 2012	Demographic Assumption Change	38,104,000	38,198,000	17	3,111,000
	June 30, 2012	Economic Assumption Change	19,517,000	19,566,000	17	1,593,000
	June 30, 2013	Actuarial (Gain)/Loss	31,670,000	30,661,000	13	3,048,000
	June 30, 2014	Actuarial (Gain)/Loss	16,119,000	15,901,000	14	1,494,000
	June 30, 2015	Actuarial (Gain)/Loss	8,457,000	8,457,000	15	754,000
	June 30, 2015	Assumption Change	47,959,000	47,959,000	20	3,491,000
				$377,170,000		$47,331,000

EXHIBIT I (continued)

Table of Amortization Bases

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Payment
General Tier 2	June 30, 2004	Restart of Amortization	$49,731,000	$25,013,000	4	$6,877,000
	June 30, 2005	Actuarial (Gain)/Loss	7,622,000	4,523,000	5	1,013,000
	June 30, 2006	Actuarial (Gain)/Loss	(9,108,000)	(6,111,000)	6	(1,162,000)
	June 30, 2006	Assumption Change	19,085,000	12,798,000	6	2,434,000
	June 30, 2006	Plan Provision Change	14,731,000	9,869,000	6	1,877,000
	June 30, 2007	Actuarial (Gain)/Loss	(39,508,000)	(29,157,000)	7	(4,839,000)
	June 30, 2008	Actuarial (Gain)/Loss	(34,794,000)	(27,670,000)	8	(4,092,000)
	June 30, 2009	Actuarial (Gain)/Loss	71,253,000	60,131,000	9	8,047,000
	June 30, 2009	Assumption Change	22,696,000	19,148,000	9	2,562,000
	June 30, 2010	Actuarial (Gain)/Loss	47,615,000	42,119,000	10	5,164,000
	June 30, 2011	Actuarial (Gain)/Loss	(6,949,000)	(6,400,000)	11	(726,000)
	June 30, 2012	Actuarial (Gain)/Loss	(18,106,000)	(17,114,000)	12	(1,811,000)
	June 30, 2012	Demographic Assumption Change	29,420,000	29,486,000	17	2,401,000
	June 30, 2012	Economic Assumption Change	32,874,000	32,965,000	17	2,685,000
	June 30, 2013	Actuarial (Gain)/Loss	(23,823,000)	(23,078,000)	13	(2,295,000)
	June 30, 2014	Actuarial (Gain)/Loss	(49,125,000)	(48,465,000)	14	(4,553,000)
	June 30, 2015	Actuarial (Gain)/Loss	(62,406,000)	(62,406,000)	15	(5,567,000)
	June 30, 2015	Assumption Change	50,090,000	50,090,000	20	3,646,000
				$65,741,000		$11,661,000

EXHIBIT I (continued)

Table of Amortization Bases

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Payment
Safety	June 30, 2004	Restart of Amortization	$210,319,000	$105,755,000	4	$29,076,000
	June 30, 2005	Actuarial (Gain)/Loss	19,142,000	11,353,000	5	2,544,000
	June 30, 2006	Actuarial (Gain)/Loss	3,418,000	2,286,000	6	435,000
	June 30, 2006	Assumption Change	42,167,000	28,273,000	6	5,376,000
	June 30, 2007	Actuarial (Gain)/Loss	(37,489,000)	(27,657,000)	7	(4,590,000)
	June 30, 2008	Actuarial (Gain)/Loss	(22,443,000)	(17,840,000)	8	(2,638,000)
	June 30, 2009	Actuarial (Gain)/Loss	78,157,000	65,960,000	9	8,827,000
	June 30, 2009	Assumption Change	49,982,000	42,182,000	9	5,645,000
	June 30, 2010	Actuarial (Gain)/Loss	108,448,000	95,941,000	10	11,763,000
	June 30, 2011	Actuarial (Gain)/Loss	8,879,000	8,160,000	11	926,000
	June 30, 2012	Actuarial (Gain)/Loss	(7,501,000)	(7,076,000)	12	(749,000)
	June 30, 2012	Demographic Assumption Change	55,513,000	55,660,000	17	4,533,000
	June 30, 2012	Economic Assumption Change	51,887,000	52,012,000	17	4,236,000
	June 30, 2013	Actuarial (Gain)/Loss	7,588,000	7,350,000	13	731,000
	June 30, 2014	Actuarial (Gain)/Loss	(54,478,000)	(53,739,000)	14	(5,048,000)
	June 30, 2015	Actuarial (Gain)/Loss	(55,657,000)	(55,657,000)	15	(4,965,000)
	June 30, 2015	Assumption Change	119,953,000	119,953,000	20	8,731,000
				$432,916,000		$64,833,000

EXHIBIT I (continued)

Table of Amortization Bases

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Payment
Total VCERA	June 30, 2004	Restart of Amortization	$323,444,000	$162,644,000	4	$44,717,000
	June 30, 2005	Actuarial (Gain)/Loss	48,849,000	28,971,000	5	6,491,000
	June 30, 2006	Actuarial (Gain)/Loss	1,358,000	906,000	6	173,000
	June 30, 2006	Assumption Change	102,790,000	68,921,000	6	13,106,000
	June 30, 2006	Plan Provision Change	14,731,000	9,869,000	6	1,877,000
	June 30, 2007	Actuarial (Gain)/Loss	(96,898,000)	(71,499,000)	7	(11,866,000)
	June 30, 2008	Actuarial (Gain)/Loss	(75,365,000)	(59,929,000)	8	(8,862,000)
	June 30, 2009	Actuarial (Gain)/Loss	204,600,000	172,676,000	9	23,108,000
	June 30, 2009	Assumption Change	91,252,000	76,999,000	9	10,304,000
	June 30, 2010	Actuarial (Gain)/Loss	206,081,000	182,302,000	10	22,351,000
	June 30, 2011	Actuarial (Gain)/Loss	38,155,000	35,019,000	11	3,973,000
	June 30, 2012	Actuarial (Gain)/Loss	4,258,000	4,035,000	12	427,000
	June 30, 2012	Demographic Assumption Change	123,037,000	123,344,000	17	10,045,000
	June 30, 2012	Economic Assumption Change	104,278,000	104,543,000	17	8,514,000
	June 30, 2013	Actuarial (Gain)/Loss	15,435,000	14,933,000	13	1,484,000
	June 30, 2014	Actuarial (Gain)/Loss	(87,484,000)	(86,303,000)	14	(8,107,000)
	June 30, 2015	Actuarial (Gain)/Loss	(109,606,000)	(109,606,000)	15	(9,778,000)
	June 30, 2015	Assumption Change	218,002,000	218,002,000	20	15,868,000
				$875,827,000		$123,825,000

EXHIBIT J

Section 415 Limitations

Section 415 of the Internal Revenue Code (IRC) specifies the maximum benefits that may be paid to an individual from a defined benefit plan and the maximum amounts that may be allocated each year to an individual's account in a defined contribution plan.

A qualified pension plan may not pay benefits in excess of the Section 415 limits. The ultimate penalty for non-compliance is disqualification: active participants could be taxed on their vested benefits and the IRS may seek to tax the income earned on the plan's assets.

In particular, Section 415(b) of the IRC limits the maximum annual benefit payable at the Normal Retirement Age to a dollar limit of $160,000 indexed for inflation. That limit is $210,000 for 2015 and 2016. Normal Retirement Age for these purposes is age 62. These are the limits in simplified terms. They must be adjusted based on each participant's circumstances, for such things as age at retirement, form of benefits chosen and after tax contributions. Limits are also affected by the "grandfather" election under Section 415(b)(10).

For non-PEPRA members, benefits in excess of the limits may be paid through a qualified governmental excess plan that meets the requirements of Section 415(m).

Legal Counsel's review and interpretation of the law and regulations should be sought on any questions in this regard.

Contribution rates determined in this valuation have not been reduced for the Section 415 limitations. Actual limitations will result in gains as they occur.

EXHIBIT K
Definitions of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Assumptions or Actuarial Assumptions: The estimates on which the cost of the Plan is calculated including:

(a) Investment return — the rate of investment yield that the Plan will earn over the long-term future;

(b) Mortality rates — the death rates of employees and pensioners; life expectancy is based on these rates;

(c) Retirement rates — the rate or probability of retirement at a given age;

(d) Turnover rates — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.

Normal Cost: The amount of contributions required to fund the cost allocated to the current year of service.

Actuarial Accrued Liability for Actives: The equivalent of the accumulated normal costs allocated to the years before the valuation date.

Actuarial Accrued Liability for Pensioners: The single sum value of lifetime benefits to benefits to existing pensioners. This sum takes account of life expectancies appropriate to the ages of the pensioners and the interest that the sum is expected to earn before it is entirely paid out in benefits.

Unfunded/(Overfunded) Actuarial Accrued Liability: The extent to which the actuarial accrued liability of the Plan exceeds (or is exceeded by) the assets of the Plan.

Amortization of the Unfunded/ (Overfunded) Actuarial Accrued Liability: Payments made over a period of years equal in value to the Plan's unfunded or overfunded actuarial accrued liability.

Investment Return: The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the market gains and losses to avoid significant swings in the value of assets from one year to the next.

Payroll or Compensation: Compensation Earnable and Pensionable Compensation expected to be paid to active members during the twelve months following the valuation date. Only Compensation Earnable and Pensionable Compensation that would possibly go into the determination of retirement benefits are included.

EXHIBIT I

Summary of Actuarial Valuation Results

The valuation was made with respect to the following data supplied to us:

1.	Retired members as of the valuation date (including 847 beneficiaries in pay status)		6,338
2.	Members inactive during year ended June 30, 2015 with vested rights[1]		2,441
3.	Members active during the year ended June 30, 2015		8,299

The actuarial factors as of the valuation date are as follows (amounts in 000s):

1.	Normal cost		$134,183
2.	Present value of future benefits		6,227,937
3.	Present value of future normal costs		1,049,780
4.	Actuarial accrued liability[2]		5,178,157
	Retired members and beneficiaries	$2,901,805	
	Inactive members with vested rights[1]	134,344	
	Active members	2,142,008	
5.	Valuation value of assets[2] ($4,364,795 at market value as reported by Retirement Association)		4,302,330
6.	Unfunded actuarial accrued liability		$875,827

(1) *Includes terminated members with member contributions on deposit.*

(2) *Excludes liabilities and assets held for supplemental medical benefit reserve and statutory contingency reserve.*

EXHIBIT I (continued)

Summary of Actuarial Valuation Results

The determination of the recommended average employer contribution is as follows (amounts in 000s):	**Dollar Amount**	**% of Payroll**
1. Total normal cost	$134,183	19.77%
2. Expected employee contributions	-69,479	-10.24%
3. Employer normal cost: (1) + (2)	$64,704	9.53%
4. Amortization of unfunded actuarial accrued liability	123,802	18.24%
5. Total recommended average employer contribution: (3) + (4)	$188,506	27.77%
6. Projected compensation	$678,705	

EXHIBIT II

Actuarial Assumptions and Methods

Rationale for Assumptions:	The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation is shown in the July 1, 2011 through June 30, 2014 Actuarial Experience Study and June 30, 2015 Economic Actuarial Assumptions Report both dated April 14, 2015. Unless otherwise noted, all actuarial assumptions and methods shown below apply to both PEPRA and Non-PEPRA members.
<u>Economic Assumptions</u>	
Net Investment Return:	7.50%, net of investment and administration expenses.
Member Contribution Crediting Rate:	3.00% (actual increase is based on projected long term ten-year Treasury rate).
Consumer Price Index:	Increase of 3.00% per year; retiree COLA increases due to CPI are subject to a 3.0% maximum change per year for General Tier 1 and Safety. For General Tier 2, SEIU members receive a fixed 2% cost-of-living adjustment, not subject to changes in the CPI, that applies to future service after March 2003.
Payroll Growth:	Inflation of 3.00% per year plus “across the board” real salary increases of 0.50% per year.
Increase in the Internal Revenue Code Section 401(a)(17) Compensation Limit:	Increase of 3.00% per year from the valuation date.
Increase in Section 7522.10 Compensation Limit:	Increase of 3.00% per year from the valuation date.

Demographic Assumptions

Mortality Rates:

Healthy:	For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2035 set back one year for males and set forward one year for females.
	For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2035 set back three years.
Disabled:	For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2035 set forward six years for males and eight years for females.
	For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2035 set forward two years.
Beneficiaries:	Beneficiaries are assumed to have the same mortality as a General Member of the opposite sex who has taken a service (non-disability) retirement.

The above mortality tables contain about a 10% margin, based on actual to expected deaths, as a provision appropriate to reasonably anticipate future mortality improvement, based on a review of mortality experience as of the measurement date.

Member Contribution Rates:	For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2035 set back one year for males and set forward one year for females weighted one-third male and two-thirds female.
	For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2035 set back three years weighted 80% male and 20% female.

Termination Rates Before Retirement:

	Rate (%) Mortality			
	General		Safety	
Age	Male	Female	Male	Female
25	0.03	0.02	0.03	0.02
30	0.04	0.03	0.03	0.02
35	0.06	0.05	0.05	0.03
40	0.09	0.07	0.08	0.05
45	0.13	0.11	0.11	0.08
50	0.18	0.17	0.16	0.12
55	0.29	0.25	0.24	0.18
60	0.48	0.39	0.41	0.27
65	0.77	0.72	0.64	0.44

All pre-retirement deaths are assumed to be non-duty related.

Termination Rates Before Retirement (continued):

	Rate (%)	
	Disability	
Age	General[1]	Safety[2]
25	0.02	0.11
30	0.04	0.24
35	0.08	0.36
40	0.13	0.58
45	0.21	0.88
50	0.31	1.48
55	0.41	2.88
60	0.54	5.04
65	0.69	0.00
70	0.90	0.00

(1) 35% of General disabilities are assumed to be duty disabilities and the other 65% are assumed to be ordinary disabilities.

(2) 90% of Safety disabilities are assumed to be duty disabilities and the other 10% are assumed to be ordinary disabilities.

Termination Rates Before Retirement (continued):

	Rate (%)	
	Withdrawal[1]	
Years of Service	**General**	**Safety**
Less than 1	14.00	10.00
1	10.00	6.00
2	8.00	5.50
3	7.00	5.00
4	6.00	4.00
5	4.00	2.75
6	3.75	2.50
7	3.50	2.00
8	3.50	1.80
9	3.25	1.60
10	3.25	1.40
11	3.00	1.20
12	3.00	1.00
13	2.75	0.95
14	2.75	0.90
15	2.50	0.85
16	2.50	0.80
17	2.25	0.75
18	2.00	0.70
19	2.00	0.65
20 or more	2.00	0.60

(1) The greater of a refund of member contributions and a deferred annuity is valued when a member withdraws.

No withdrawal is assumed after a member is first assumed to retire.

Retirement Rates (%):

Age	General Tier 1 and 2	PEPRA General Tier 1 and 2	Safety	PEPRA Safety
40	0.00	0.00	1.00	0.00
41	0.00	0.00	1.00	0.00
42	0.00	0.00	1.00	0.00
43	0.00	0.00	1.00	0.00
44	0.00	0.00	1.00	0.00
45	0.00	0.00	1.00	0.00
46	0.00	0.00	1.00	0.00
47	0.00	0.00	1.00	0.00
48	0.00	0.00	1.00	0.00
49	0.00	0.00	1.50	0.00
50	2.50	0.00	2.50	5.00
51	2.50	0.00	2.00	2.00
52	3.00	2.00	3.00	4.00
53	3.50	2.00	4.00	6.00
54	4.00	2.50	17.00	16.00
55	4.50	4.00	22.00	20.00
56	5.00	4.50	22.00	20.00
57	6.00	5.00	20.00	18.00
58	8.00	6.00	19.00	18.00
59	8.00	7.00	22.00	25.00
60	12.00	9.00	22.00	25.00
61	15.00	11.00	25.00	25.00
62	22.00	20.00	35.00	40.00
63	20.00	20.00	40.00	40.00
64	22.00	18.00	40.00	40.00
65	30.00	20.00	100.00	100.00
66	35.00	30.00	100.00	100.00
67	35.00	30.00	100.00	100.00
68	35.00	30.00	100.00	100.00
69	20.00	30.00	100.00	100.00
70	20.00	50.00	100.00	100.00
71	20.00	50.00	100.00	100.00
72	20.00	50.00	100.00	100.00
73	20.00	50.00	100.00	100.00
74	30.00	50.00	100.00	100.00
75	100.00	100.00	100.00	100.00

Retirement Age and Benefit for Deferred Vested Members:

For deferred vested members, we make the following retirement assumption:

General Age:	59
Safety Age:	54

We assume that 50% and 60% of future General and Safety deferred vested members, respectively, will continue to work for a reciprocal employer. For reciprocals, we assume 4.00% compensation increases per annum.

Future Benefit Accruals: 1.0 year of service per year.

Unknown Data for Members: Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.

Definition of Active Members: All active members of VCERA as of the valuation date.

Percent Married: 70% of male members and 55% of female members are assumed to be married at pre-retirement death or retirement. There is no explicit assumption for children's benefits.

Age of Spouse: Female (or male) spouses are 3 years younger (or older) than their spouses.

In-Service Redemptions:

Non-PEPRA Formulas

The following assumptions for in-service redemptions pay as a percentage of final average compensation are used:

General Tier 1	7.50%
General Tier 2	3.50%
Safety	7.25%

For determining the cost of the basic benefit (i.e., non-COLA component), the cost of this pay element is currently recognized in the valuation as an employer only cost and does not affect member contribution rates.

PEPRA Formulas

None

Individual Salary Increases:

Annual Rate of Compensation Increase

Inflation: 3.00% per year; plus "across the board" real salary increases of 0.50% per year; plus the following promotional and merit increases:

Years of Service	General	Safety
Less than 1	6.00%	8.00%
1	4.25	6.25
2	3.25	4.75
3	2.75	4.00
4	2.25	3.25
5	1.75	3.00
6	1.25	2.25
7	1.00	1.50
8	0.75	1.25
9	0.50	1.00
10	0.50	0.75
11	0.50	0.75
12	0.50	0.75
13	0.50	0.75
14	0.50	0.75
15	0.50	0.75
16	0.50	0.50
17	0.50	0.50
18	0.50	0.50
19	0.50	0.50
20 and Over	0.50	0.50

Average Entry Age for Member Contribution Rates:

For non-PEPRA members hired after November 1974, they will pay a contribution corresponding to a General and Safety member hired at entry age 35 and 27, respectively.

Actuarial Methods

Actuarial Cost Method: Entry Age Actuarial Cost Method. Entry Age is the age at the member's hire date. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are based on costs allocated as a level percentage of compensation, as if the current benefit formulas for each individual have always been in effect (i.e., "replacement life").

Actuarial Value of Assets: Market value of assets less unrecognized returns in each of the last ten semi-annual accounting periods. Unrecognized returns are equal to the difference between the actual market return and the expected return on market value and are recognized over a five-year period. Deferred gains and losses as of June 30, 2011 have been combined and will be recognized in equal amounts over a period of four and a half years from that date.

Valuation Value of Assets: Actuarial Value of Assets reduced by the value of the supplemental medical benefit reserve and statutory contingency reserve.

Amortization Policy: The UAAL, (i.e., the difference between the Actuarial Accrued Liability and the Valuation Value of Assets), as of June 30, 2011 shall continue to be amortized over separate 15-year period amortization layers based on the valuations during which each separate layer was previously established.

Any new UAAL as a result of actuarial gains or losses identified in the annual valuation as of June 30 will be amortized over a period of 15 years.

Any new UAAL as a result of change in actuarial assumptions or methods will be amortized over a period of 20 years.

Unless an alternative amortization period is recommended by the Actuary and accepted by the Board based on the results of an actuarial analysis:

i) with the exception noted in ii., below, the increase in UAAL as a result of any plan amendments will be amortized over a period of 15 years;

ii) the increase in UAAL resulting from a temporary retirement incentive, including the impact of benefits resulting from additional service permitted in Section 31641.04 of the 1937 CERL (Golden Handshake), will be funded over a period of up to 5 years.

The UAAL will be amortized over "closed" amortization periods so that the amortization period for each layer decreases by one year with each actuarial valuation.

The UAAL will be amortized as a level percentage of payroll so that the amortization amount in each year during the amortization period shall be expected to be a level percentage of covered payroll, taking into consideration the current assumption for general payroll increase.

If an overfunding exists (i.e., the total of all UAAL becomes negative so that there is a surplus), such surplus and any subsequent surpluses will be amortized over an "open" amortization period of 30 years. Any prior UAAL amortization layers will be considered fully amortized, and any subsequent UAAL, will be amortized over 15 years as the first of a new series of amortization layers.

These amortization policy components will apply separately to each of VCERA's UAAL cost groups.

Basic UAAL contribution rates have been calculated on a combined basis for all General Tiers. COLA UAAL contribution rates have been calculated on a combined basis for all General Tiers that have a COLA.

Changes in Actuarial Assumptions and Methods:

Based on the actuarial experience study, the following actuarial assumptions were changed. Previously these assumptions were as follows:

Economic Assumptions

Net Investment Return: 7.75%, net of investment and administration expenses.

Member Contribution Crediting Rate: 3.25% (actual increase is based on projected long term ten-year Treasury rate).

Consumer Price Index: Increase of 3.25% per year; retiree COLA increases due to CPI are subject to a 3.0% maximum change per year for General Tier 1 and Safety. For General Tier 2, SEIU members receive a fixed 2% cost-of-living adjustment, not subject to changes in the CPI, that applies to future service after March 2003.

<u>Changes in Actuarial Assumptions and Methods (previous assumptions continued):</u>

Payroll Growth:	Inflation of 3.25% per year plus "across the board" real salary increases of 0.75% per year.
Increase in the Internal Revenue Code Section 401(a)(17) Compensation Limit:	Increase of 3.25% per year from the valuation date.
Increase in the Section 7522.10 Compensation Limit:	Increase of 3.25% per year from the valuation date.

<u>Demographic Assumptions</u>

Mortality Rates:

Healthy:	For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2025 set back one year.
	For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2025 set back one year.
Disabled:	For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2025 set forward five years for males and seven years for females.
	For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2025 set back one year.
Beneficiaries:	Beneficiaries are assumed to have the same mortality as a General Member of the opposite sex who has taken a service (non-disability) retirement.

The above mortality tables contain about a 10% margin, based on actual to expected deaths, as a provision appropriate to reasonably anticipate future mortality improvement, based on a review of mortality experience as of the measurement date.

Member Contribution Rates:	For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2025 set back one year weighted 35% male and 65% female.
	For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2025 set back one year weighted 80% male and 20% female.

Changes in Actuarial Assumptions and Methods (previous assumptions continued):

Termination Rates Before Retirement:

Rate (%)
Mortality

	General		Safety	
Age	**Male**	**Female**	**Male**	**Female**
25	0.03	0.01	0.03	0.01
30	0.04	0.02	0.04	0.02
35	0.06	0.03	0.06	0.03
40	0.09	0.04	0.09	0.04
45	0.10	0.07	0.10	0.07
50	0.13	0.10	0.13	0.10
55	0.19	0.19	0.19	0.19
60	0.40	0.39	0.40	0.39
65	0.79	0.76	0.79	0.76

All pre-retirement deaths are assumed to be non-duty related.

Rate (%)
Disability

Age	General[1]	Safety[2]
25	0.02	0.14
30	0.04	0.26
35	0.08	0.48
40	0.13	0.90
45	0.21	1.16
50	0.40	1.98
55	0.56	3.40
60	0.69	4.60
65	0.90	0.00
70	1.00	0.00

(1) 40% of General disabilities are assumed to be duty disabilities and the other 60% are assumed to be ordinary disabilities.
(2) 90% of Safety disabilities are assumed to be duty disabilities and the other 10% are assumed to be ordinary disabilities.

Changes in Actuarial Assumptions and Methods (previous assumptions continued):

Termination Rates Before Retirement (continued):

Rate (%)

Withdrawal (< 5 Years of Service) *

Years of Service	General	Safety
0	15.00	12.00
1	10.00	6.00
2	8.00	5.50
3	7.00	5.00
4	6.00	4.00

Withdrawal (5+ Years of Service) [(1)]

Age	General	Safety
20	6.00	4.00
25	6.00	4.00
30	5.70	3.40
35	4.90	2.40
40	3.90	1.40
45	2.90	0.70
50	2.20	0.20
55	1.70	0.00
60	1.20	0.00
65	1.00	0.00
70	0.00	0.00

[(1)] The greater of a refund of member contributions and a deferred annuity is valued when a member withdraws.

No withdrawal is assumed after a member is first assumed to retire.

Changes in Actuarial Assumptions and Methods (previous assumptions continued):

Retirement Rates (%):

Age	General Tier 1 and 2	PEPRA General Tier 1 and 2	Safety	PEPRA Safety
40	0.00	0.00	1.00	0.00
41	0.00	0.00	1.00	0.00
42	0.00	0.00	1.00	0.00
43	0.00	0.00	1.00	0.00
44	0.00	0.00	1.00	0.00
45	0.00	0.00	1.00	0.00
46	0.00	0.00	1.00	0.00
47	0.00	0.00	1.00	0.00
48	0.00	0.00	1.00	0.00
49	0.00	0.00	1.00	0.00
50	3.00	0.00	2.00	4.00
51	3.00	0.00	2.00	2.00
52	4.00	2.00	4.00	5.00
53	4.00	2.00	6.00	8.00
54	6.00	3.00	18.00	18.00
55	6.00	5.00	25.00	20.00
56	7.00	5.00	20.00	20.00
57	8.00	6.00	20.00	18.00
58	10.00	7.00	18.00	18.00
59	10.00	8.00	25.00	30.00
60	14.00	10.00	25.00	30.00
61	18.00	12.50	30.00	30.00
62	22.00	20.00	40.00	50.00
63	20.00	20.00	50.00	50.00
64	25.00	20.00	50.00	50.00
65	35.00	25.00	100.00	100.00
66	35.00	30.00	100.00	100.00
67	35.00	30.00	100.00	100.00
68	25.00	30.00	100.00	100.00
69	20.00	30.00	100.00	100.00
70	20.00	50.00	100.00	100.00
71	20.00	50.00	100.00	100.00
72	20.00	50.00	100.00	100.00
73	20.00	50.00	100.00	100.00
74	40.00	50.00	100.00	100.00
75	100.00	100.00	100.00	100.00

Changes in Actuarial Assumptions and Methods (previous assumptions continued):

Retirement Age and Benefit for Deferred Vested Members:

For deferred vested members, we make the following retirement assumption:

General Age:	58
Safety Age:	54

We assume that 50% and 65% of future General and Safety deferred vested members, respectively, will continue to work for a reciprocal employer. For reciprocals, we assume 4.50% compensation increases per annum.

Percent Married:

70% of male members and 50% of female members are assumed to be married at pre-retirement death or retirement. There is no explicit assumption for children’s benefits.

In-Service Redemptions:

Non-PEPRA Formulas

The following assumptions for in-service redemptions pay as a percentage of final average pay are used:

General Tier 1	8.00%
General Tier 2	3.50%
Safety	7.50%

For determining the cost of the basic benefit (i.e., non-COLA component), the cost of this pay element is currently recognized in the valuation as an employer only cost and does not affect member contribution rates.

PEPRA Formulas

None

Changes in Actuarial Assumptions and Methods (previous assumptions continued):

Individual Salary Increases:

Annual Rate of Compensation Increase

Inflation: 3.25% per year; plus "across the board" real salary increases of 0.75% per year; plus the following promotional and merit increases:

Years of Service	General	Safety
Less than 1	5.00%	8.50%
1	3.75	6.25
2	3.00	4.75
3	2.50	4.00
4	2.00	3.00
5	1.50	2.50
6	1.00	2.00
7	1.00	1.50
8	0.75	1.25
9	0.50	1.00
10	0.50	0.75
11	0.50	0.75
12	0.50	0.75
13	0.50	0.75
14	0.50	0.75
15	0.50	0.75
16	0.50	0.50
17	0.50	0.50
18	0.50	0.50
19	0.50	0.50
20 and Over	0.50	0.50

Average Entry Age for Member Contribution Rates: For non-PEPRA members hired after November 1974, they will pay a contribution corresponding to a General and Safety member hired at entry age 36 and 27, respectively.

EXHIBIT III

Summary of Plan Provisions

This exhibit summarizes the major provisions of the VCERA included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Membership Eligibility:	All regular employees of the County of Ventura or contracting district, scheduled to work 64 or more hours biweekly, are eligible to become a member of the Retirement Association subject to classification below:
General Tier 1	All General members with membership dates before June 30, 1979, plus Deputy Sheriff trainees and certain executive management with membership dates before January 1, 2013.
General Tier 2	All General members with membership dates on or after June 30, 1979 and before January 1, 2013, except as noted above for General Tier 1.
Safety	All Safety members with membership dates before January 1, 2013.
PEPRA General Tier 1	Deputy Sheriff trainees with membership dates on or after January 1, 2013 and before April 17, 2014.
PEPRA General Tier 2	All General members with membership dates on or after January 1, 2013, except as noted above for PEPRA General Tier 1.
PEPRA Safety	All Safety members with membership dates on or after January 1, 2013.
Final Compensation for Benefit Determination:	
General Tier 1 and Safety	Highest consecutive twelve months of compensation earnable (§31462.1)(FAC1).
General Tier 2	Highest consecutive thirty-six months of compensation earnable (§31462)(FAC3).
PEPRA General Tier 1, PEPRA General Tier 2 and PEPRA Safety	Highest consecutive thirty-six months of pensionable compensation (§7522.32) (FAS3).

Compensation Limit:	
General Tier 1, General Tier 2 and Safety	For members with membership dates on or after July 1, 1996, Compensation Earnable is limited to Internal Revenue Code Section 401(a)(17). The limit as of July 1, 2015 is $265,000. The limit is indexed for inflation on an annual basis.
PEPRA General Tier 1, PEPRA General Tier 2 and PEPRA Safety	Pensionable Compensation is limited to $117,020 for 2015 ($140,424, if not enrolled in Social Security). The limit is indexed for inflation on an annual basis.
Service:	Years of service. (Yrs)
Service Retirement Eligibility:	
General	Age 50 with 10 years of service, or age 70 regardless of service, or after 30 years, regardless of age (§31672).
Safety	Age 50 with 10 years of service, or age 70 regardless of service, or after 20 years, regardless of age (§31663.25).
PEPRA General	Age 52 with 5 years of service (§7522.20(a)) or age 70 regardless of service (§31672.3).
PEPRA Safety	Age 50 with 5 years of service (§7522.25(d)) or age 70 regardless of service (§31672.3).

Benefit Formula:

	Retirement Age	Benefit Formula
General Tier 1 (§31676.11)	50	(1.24%xFAC1 – 1/3x1.24%x$350x12)xYrs
	55	(1.67%xFAC1 – 1/3x1.67%x$350x12)xYrs
	60	(2.18%xFAC1 – 1/3x2.18%x$350x12)xYrs
	62	(2.35%xFAC1 – 1/3x2.35%x$350x12)xYrs
	65 or later	(2.61%xFAC1 – 1/3x2.61%x$350x12)xYrs

	Retirement Age	Benefit Formula
General Tier 2 (§31676.1)	50	(1.18%xFAC3 – 1/3x1.18%x$350x12)xYrs
	55	(1.49%xFAC3 – 1/3x1.49%x$350x12)xYrs
	60	(1.92%xFAC3 – 1/3x1.92%x$350x12)xYrs
	62	(2.09%xFAC3 – 1/3x2.09%x$350x12)xYrs
	65 or later	(2.43%xFAC3 – 1/3x2.43%x$350x12)xYrs

	Retirement Age	Benefit Formula
PEPRA General Tier 1 and PEPRA General Tier 2 (§7522.20(a))	52	(1.00%xFAS3 x Yrs)
	55	(1.30%xFAS3 x Yrs)
	60	(1.80%xFAS3 x Yrs)
	62	(2.00%xFAS3 x Yrs)
	65	(2.30%xFAS3 x Yrs)
	67 or later	(2.50%xFAS3 x Yrs)

	Retirement Age	Benefit Formula
Safety (Non-Integrated) (§31664)	50	(2.00%xFAC1xYrs)
	55	(2.62%xFAC1xYrs)
	60 or later	(2.62%xFAC1xYrs)

	Retirement Age	Benefit Formula
PEPRA Safety (§7522.25(d))	50	(2.00%xFAS3xYrs)
	55	(2.50%xFAS3xYrs)
	57 or later	(2.70%xFAS3xYrs)

Maximum Benefit:	
General Tier 1, General Tier 2 and Safety	100% of Highest Average Compensation (§31676.1, §31676.11, §31664)
PEPRA General Tier 1, PEPRA General Tier 2 and PEPRA Safety	None
Ordinary Disability:	
General Tier 1, General Tier 2, PEPRA General Tier 1 and PEPRA General Tier 2	
Eligibility	Five years of service (§31720).
Benefit Formula	1.5% per year of service. If the benefit does not exceed one-third of Final Compensation, the service is projected to 65, but total benefit cannot be more than one-third of Final Compensation (§31727).
Safety and PEPRA Safety	
Eligibility	Five years of service (§31720).
Benefit Formula	1.8% per year of service. If the benefit does not exceed one-third of Final Compensation, the service is projected to 55, but total benefit cannot be more than one-third of Final Compensation (§31727.2).
Line-of-Duty Disability:	
All Members	
Eligibility	No age or service requirements (§31720).
Benefit Formula	50% of the Final Compensation or 100% of Service Retirement benefit, if larger (§31727.4).
Pre-Retirement Death:	
All Members	
Less than Five Years of Service	Refund of employee contributions with interest, plus one month's compensation for each year of service to a maximum of six month's compensation (§31781). 50% of Final Compensation or 100% of Service Retirement benefit, if larger, payable to spouse if Line-of-Duty death (§31787).

	An additional lump sum benefit of one-year of compensation is paid if Line-of-Duty death for Safety member (§31787.6).
	OR
Five or More Years of Service	60% of the greater of Service Retirement or Ordinary Disability Retirement benefit payable to surviving eligible spouse (§31765.1, §31781.1), in lieu of above.
	An additional lump sum benefit of one-year of compensation is paid if Line-of-Duty death for Safety member (§31787.6).
Death After Retirement:	
All Members	
Service Retirement or Ordinary Disability Retirement	60% of member's unmodified allowance continued to eligible spouse (§31760.1). In addition, there is a $5,000 lump sum benefit payable to member's beneficiary (§31789.3). An eligible spouse is a surviving spouse who was married to the member at least two years prior to the date of death and has attained age 55 on or prior to the date of death (§31760.2, §31785.1).
Line-of-Duty Disability	100% of member's allowance continued to eligible spouse (§31786). In addition, there is a $5,000 lump sum benefit payable to member's beneficiary (§31789.3). An eligible spouse is a surviving spouse who was married to the member at least two years prior to the date of death and has attained age 55 on or prior to the date of death (§31786.1).
Withdrawal Benefits:	
Less than Five Years of Service	Refund of accumulated employee contributions with interest (§31628) or entitled to earned benefits commencing at anytime after eligible to retire (§31629.5).
Five or More Years of Service	If contributions left on deposit, entitled to earned benefits commencing at any time after eligible to retire (§31700).
Post-retirement	
Cost-of-Living Benefits:	
General Tier 1, Safety, PEPRA General Tier 1 and PEPRA Safety	Future changes based on Consumer Price Index to a maximum of 3% per year, excess "banked" (§31870.1).

General Tier 2 and PEPRA General Tier 2	SEIU members receive a fixed 2% cost-of-living adjustment, not subject to changes in the CPI, that applies to future service after March, 2003. This benefit has been valued consistent with the methodologies described in our October 9, 2006 report entitled “Funding Policies and Procedures for General Tier II COLA Benefit”.
Supplemental Benefit:	A supplemental benefit in the amount of $108.44 per month is paid to retirees and their survivors.
Member Contributions:	Please refer to Appendix A for the specific rates.
General Tier 1 and Safety	Provide for 50% of total Normal Cost.
General Tier 2	Provide for 50% of total basic Normal Cost. In addition, for General Tier 2 with COLA members, the current member COLA contribution rate of 2.63% of compensation has been reflected.
PEPRA General Tier 2	Provide for 50% of total basic Normal Cost. In addition, for General Tier 2 with COLA members, the current member COLA contribution rate of 2.63% of compensation has been reflected.
PEPRA Safety	Provide for 50% of total Normal Cost.
Other Information:	For Non-PEPRA members hired after November 1974, they will pay a contribution corresponding to a General and Safety member hired at entry age 35 and 27, respectively. Non-PEPRA Safety members with 30 or more years of service are exempt from paying member contributions. The same applies for Non-PEPRA General members hired on or before March 7, 1973.
Plan Provisions Not Valued:	The Board of Retirement has approved a Supplemental Medical Benefit. This benefit is funded from Undistributed Excess Earnings, paid from a reserve that is not included in the Valuation Value of Assets and is subject at all times to the availability of funds. The Supplemental Medical Benefit is $27.50 per month and is payable to virtually all retirees and beneficiaries.

Plan Changes:	There has been a change in plan provisions reflected since the previous actuarial valuation. Previously this plan provision was as follows:
Member Contributions:	
General Tier 1	
Basic	Provide for an average annuity at age 55 equal to 1/120 of FAC1 (§31621.1).
Cost-of-Living	Provide for one-half of future cost-of-living costs.
General Tier 2	
Basic	Provide for an average annuity at age 60 equal to 1/120 of FAC3 (§31621).
Cost-of-Living	Provide for a fixed 2% cost-of-living increase for SEIU members that applies to service after March 2003 (§31627). The contribution rate is currently a negotiated 2.63% of compensation.
Safety	
Basic	Provide for an average annuity at age 50 equal to 1/100 of FAC1 (§31639.25).
Cost-of-Living	Provide for one-half of future cost-of-living costs.

NOTE: *The summary of major plan provisions is designed to outline principle plan benefits as interpreted for purposes of the actuarial valuation. If the Association should find the plan summary not in accordance with the actual provisions, the Association should alert the actuary so they can both be sure the proper provisions are valued.*

Appendix A

Member Contribution Rates Based on 50/50 Sharing of Normal Cost for Non-PEPRA Tiers

	Basic		COLA		Total	
	First $350	Over $350	First $350	Over $350	First $350	Over $350
General Tier 1	5.08%	7.62%	1.73%	2.59%	6.81%	10.21%
General Tier 2 without COLA	4.86%	7.29%	0.00%	0.00%	4.86%	7.29%
General Tier 2 COLA	4.86%	7.29%	2.63%(1)	2.63%(1)	7.49%	9.92%
Safety	10.78%	10.78%	4.49%	4.49%	15.27%	15.27%

(1) *General Tier 2 members with COLA are required to pay COLA contributions of 2.63% of compensation based on current bargaining agreements.*

Appendix B

Member Contribution Rates for PEPRA Members

	Basic	COLA	Total
General Tier 2 without COLA	7.03%	0.00%	7.03%
General Tier 2 with COLA	7.03%	2.63%[1]	9.66%
Safety	10.40%	4.28%	14.68%

The PEPRA member contribution rate is 50% of the Normal Cost.

[1] *General Tier 2 members with COLA are required to pay COLA contributions of 2.63% of compensation based on current bargaining agreements.*

Note: It is our understanding that in the determination of pension benefits under the PEPRA tier formulas, the compensation that can be taken into account for 2015 is $117,020. (For an employer that is not enrolled in Social Security, the maximum amount is $140,424) (reference Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2015 (reference Section 7522.10(d)).

Appendix C

Employer Contribution Rates (Dollar Amounts in Thousands) Without 50/50 Sharing of Normal Cost for Non-PEPRA Tiers – Current Valuation Under Combined Methodology

	June 30, 2015 Actuarial Valuation					
	BASIC		COLA		TOTAL	
General Tier 1 Members	Rate	Estimated Annual Amount[1]	Rate	Estimated Annual Amount[1]	Rate	Estimated Annual Amount[1]
Normal Cost	8.43%	$728	2.63%	$228	11.06%	$956
UAAL[2]	9.64%	833	3.64%	314	13.28%	1,147
Total Contribution	18.07%	$1,561	6.27%	$542	24.34%	$2,103
General Tier 2 Members w/o COLA						
Normal Cost	8.54%	$18,229	0.00%	$0	8.54%	$18,229
UAAL[2]	9.64%	20,581	0.00%	0	9.64%	20,581
Total Contribution	18.18%	$38,810	0.00%	$0	18.18%	$38,810
General PEPRA Tier 2 Members w/o COLA						
Normal Cost	7.03%	$1,546	0.00%	$0	7.03%	$1,546
UAAL[2]	9.64%	2,120	0.00%	0	9.64%	2,120
Total Contribution	16.67%	$3,666	0.00%	$0	16.67%	$3,666
General Tier 2 Members w/COLA						
Normal Cost [3]	8.54%	$19,070	0.08%	$179	8.62%	$19,249
UAAL[2][4]	9.64%	21,531	3.64%	8,131	13.28%	29,662
Total Contribution	18.18%	$40,601	3.72%	$8,310	21.90%	$48,911
General PEPRA Tier 2 Members w/COLA						
Normal Cost [3]	7.03%	$2,890	0.02%	$9	7.05%	$2,899
UAAL[2][4]	9.64%	3,964	3.64%	1,498	13.28%	5,462
Total Contribution	16.67%	$6,854	3.66%	$1,507	20.33%	$8,361
All General Members[5]						
Normal Cost	8.35%	$42,463	0.08%	$416	8.43%	$42,879
UAAL	9.64%	49,029	1.96%	9,943	11.60%	58,972
Total Contribution	17.99%	$91,492	2.04%	$10,359	20.03%	$101,851

Appendix C (continued)

Employer Contribution Rates (Dollar Amounts in Thousands) Without 50/50 Sharing of Normal Cost for Non-PEPRA Tiers – Current Valuation Under Combined Methodology

	June 30, 2015 Actuarial Valuation					
	BASIC		COLA		TOTAL	
Safety Members	Rate	Estimated Annual Amount[1]	Rate	Estimated Annual Amount[1]	Rate	Estimated Annual Amount[1]
Normal Cost	13.48%	$21,921	4.39%	$7,139	17.87%	$29,060
UAAL	47.33%	76,968	-9.24%	-15,026	38.09%	61,942
Total Contribution	60.81%	$98,889	-4.85%	-$7,887	55.96%	$91,002
Safety PEPRA Members						
Normal Cost	10.40%	$789	4.28%	$324	14.68%	$1,113
UAAL	47.33%	3,589	-9.24%	-701	38.09%	2,888
Total Contribution	57.73%	$4,378	-4.96%	-$377	52.77%	$4,001
All Safety Members[5]						
Normal Cost	13.34%	$22,710	4.39%	$7,463	17.73%	$30,173
UAAL	47.33%	80,557	-9.24%	-15,727	38.09%	64,830
Total Contribution	60.67%	$103,267	-4.85%	-$8,264	55.82%	$95,003
All Categories Combined[5]						
Normal Cost	9.60%	$65,173	1.16%	$7,879	10.76%	$73,052
UAAL	19.09%	129,586	-0.85%	-5,784	18.24%	123,802
Total Contribution	28.69%	$194,759	0.31%	$2,095	29.00%	$196,854

(1) *Amounts are in thousands, assumed to be paid throughout the year, and are based on June 30, 2015 annual payroll (also in thousands) shown below:*

General Tier 1	$8,640
General Tier 2	213,455
General PEPRA Tier 2	21,992
General Tier 2C	223,301
General PEPRA Tier 2C	41,116
Safety	162,619
Safety PEPRA	7,582
Total	$678,705

(2) *Basic UAAL rates have been calculated on a combined basis for all General Tiers. COLA UAAL rates have been calculated on a combined basis for all General Tiers that have a COLA (excludes General Tier 2 without COLA and General PEPRA Tier 2 without COLA).*

(3) *Reflects General Tier 2 member COLA contribution rate of 2.63% based on current bargaining agreements.*

(4) *Includes 0.54% in COLA UAAL costs attributed to the first two years of service accrued for the fixed 2% COLA pursuant to Government Code 31627.*

(5) *These aggregated rates are provided for informational purposes only as we understand that the intent is to implement the tier specific rates, if possible.*

Appendix D

Member Contribution Rates Without 50/50 Sharing of Normal Cost for Non-PEPRA Tiers

General Tier 1 Members' Contribution Rates from the June 30, 2015 Actuarial Valuation
(Expressed as a Percentage of Monthly Payroll)

Calculated Under Recommended Assumptions

	Basic		COLA		Total	
Entry Age	First $350	Over $350	First $350	Over $350	First $350	Over $350
15	3.24%	4.86%	1.21%	1.82%	4.45%	6.68%
16	3.24%	4.86%	1.21%	1.82%	4.45%	6.68%
17	3.31%	4.96%	1.23%	1.85%	4.54%	6.81%
18	3.38%	5.06%	1.25%	1.89%	4.63%	6.95%
19	3.44%	5.17%	1.29%	1.92%	4.73%	7.09%
20	3.51%	5.27%	1.32%	1.97%	4.83%	7.24%
21	3.59%	5.38%	1.33%	2.00%	4.92%	7.38%
22	3.66%	5.49%	1.36%	2.04%	5.02%	7.53%
23	3.73%	5.60%	1.39%	2.08%	5.12%	7.68%
24	3.81%	5.71%	1.42%	2.13%	5.23%	7.84%
25	3.88%	5.82%	1.45%	2.17%	5.33%	7.99%
26	3.96%	5.94%	1.47%	2.21%	5.43%	8.15%
27	4.04%	6.06%	1.51%	2.26%	5.55%	8.32%
28	4.12%	6.18%	1.53%	2.30%	5.65%	8.48%
29	4.20%	6.30%	1.57%	2.35%	5.77%	8.65%
30	4.28%	6.42%	1.60%	2.40%	5.88%	8.82%
31	4.37%	6.55%	1.62%	2.44%	5.99%	8.99%
32	4.45%	6.68%	1.66%	2.49%	6.11%	9.17%
33	4.54%	6.81%	1.69%	2.54%	6.23%	9.35%
34	4.63%	6.95%	1.73%	2.59%	6.36%	9.54%
35	4.72%	7.08%	1.77%	2.65%	6.49%	9.73%
36	4.82%	7.22%	1.79%	2.70%	6.61%	9.92%
37	4.91%	7.37%	1.83%	2.74%	6.74%	10.11%
38	5.01%	7.51%	1.87%	2.81%	6.88%	10.32%

General Tier 1 Members' Contribution Rates from the June 30, 2015 Actuarial Valuation (Expressed as a Percentage of Monthly Payroll)

Calculated Under Recommended Assumptions

	Basic		COLA		Total	
Entry Age	**First $350**	**Over $350**	**First $350**	**Over $350**	**First $350**	**Over $350**
39	5.11%	7.66%	1.90%	2.86%	7.01%	10.52%
40	5.21%	7.82%	1.95%	2.92%	7.16%	10.74%
41	5.32%	7.98%	1.99%	2.98%	7.31%	10.96%
42	5.43%	8.14%	2.02%	3.04%	7.45%	11.18%
43	5.54%	8.32%	2.07%	3.10%	7.61%	11.42%
44	5.66%	8.50%	2.12%	3.17%	7.78%	11.67%
45	5.79%	8.69%	2.16%	3.24%	7.95%	11.93%
46	5.91%	8.87%	2.21%	3.31%	8.12%	12.18%
47	6.03%	9.04%	2.24%	3.37%	8.27%	12.41%
48	6.14%	9.21%	2.29%	3.43%	8.43%	12.64%
49	6.23%	9.35%	2.33%	3.49%	8.56%	12.84%
50	6.31%	9.47%	2.36%	3.53%	8.67%	13.00%
51	6.37%	9.56%	2.38%	3.56%	8.75%	13.12%
52	6.42%	9.62%	2.39%	3.59%	8.81%	13.21%
53	6.43%	9.64%	2.39%	3.59%	8.82%	13.23%
54 & Over	6.37%	9.55%	2.37%	3.56%	8.74%	13.11%

Interest: 7.50%
COLA: 3.00%
COLA Loading: 37.30%
Mortality: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2035 set back one year for males and set forward one year for females weighted one-third male and two-thirds female.
Salary Increase: See Exhibit II.

Note: All members hired after November 1974, will pay a contribution corresponding to entry age 35. These rates are determined before any pickups by the employer.

General Tier 2 Members' Contribution Rates from the June 30, 2015 Actuarial Valuation
(Expressed as a Percentage of Monthly Payroll)

Calculated Under Recommended Assumptions

	Basic Only			Basic Only	
Entry Age	**First $350**	**Over $350**	**Entry Age**	**First $350**	**Over $350**
16	2.66%	3.99%	38	4.13%	6.20%
17	2.72%	4.08%	39	4.21%	6.32%
18	2.77%	4.16%	40	4.29%	6.44%
19	2.83%	4.25%	41	4.38%	6.57%
20	2.89%	4.33%	42	4.47%	6.70%
21	2.95%	4.42%	43	4.55%	6.83%
22	3.01%	4.51%	44	4.65%	6.97%
23	3.07%	4.61%	45	4.74%	7.11%
24	3.13%	4.70%	46	4.84%	7.26%
25	3.20%	4.80%	47	4.94%	7.41%
26	3.26%	4.89%	48	5.05%	7.57%
27	3.33%	4.99%	49	5.15%	7.72%
28	3.39%	5.09%	50	5.25%	7.88%
29	3.46%	5.19%	51	5.35%	8.02%
30	3.53%	5.30%	52	5.44%	8.16%
31	3.60%	5.40%	53	5.51%	8.27%
32	3.67%	5.51%	54	5.57%	8.36%
33	3.75%	5.62%	55	5.61%	8.42%
34	3.82%	5.73%	56	5.63%	8.45%
35	3.89%	5.84%	57	5.61%	8.42%
36	3.97%	5.96%	58	5.81%	8.72%
37	4.05%	6.08%	59 & over	6.02%	9.03%

Interest: 7.50%

COLA: SEIU members contribute a negotiated 2.63% for a fixed 2% COLA pursuant to Government Code 31627.

Mortality: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2035 set back one year for males and set forward one year for females weighted one-third male and two-thirds female.

Salary Increase: See Exhibit II.

Note: All members hired after November 1974, will pay a contribution corresponding to entry age 35. These rates are determined before any pickups by the employer.

Safety Members' Contribution Rates from the June 30, 2015 Actuarial Valuation
(Expressed as a Percentage of Monthly Payroll)

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
15	7.74%	4.43%	12.17%
16	7.74%	4.43%	12.17%
17	7.74%	4.43%	12.17%
18	7.74%	4.43%	12.17%
19	7.74%	4.43%	12.17%
20	7.74%	4.43%	12.17%
21	7.74%	4.43%	12.17%
22	7.90%	4.52%	12.42%
23	8.07%	4.61%	12.68%
24	8.23%	4.71%	12.94%
25	8.40%	4.81%	13.21%
26	8.57%	4.91%	13.48%
27	8.75%	5.01%	13.76%
28	8.93%	5.11%	14.04%
29	9.12%	5.22%	14.34%
30	9.31%	5.33%	14.64%
31	9.51%	5.44%	14.95%
32	9.71%	5.56%	15.27%
33	9.93%	5.67%	15.60%
34	10.12%	5.79%	15.91%
35	10.32%	5.91%	16.23%
36	10.54%	6.02%	16.56%
37	10.76%	6.15%	16.91%
38	10.99%	6.29%	17.28%
39	11.24%	6.43%	17.67%
40	11.48%	6.56%	18.04%
41	11.71%	6.70%	18.41%
42	11.94%	6.83%	18.77%
43	12.12%	6.93%	19.05%
44	12.23%	7.00%	19.23%

Safety Members' Contribution Rates from the June 30, 2015 Actuarial Valuation
(Expressed as a Percentage of Monthly Payroll)

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
45	12.34%	7.06%	19.40%
46	12.40%	7.10%	19.50%
47	12.42%	7.11%	19.53%
48	12.33%	7.05%	19.38%
49 & Over	12.11%	6.92%	19.03%

Interest:	7.50%
COLA:	3.00%
COLA Loading:	57.20%
Mortality:	RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2035 set back three years weighted 80% male and 20% female.
Salary Increase:	See Exhibit II.

Note: All members hired after November 1974, will pay a contribution corresponding to entry age 27. These rates are determined before any pickups by the employers.

Appendix E

Employer Contribution Rates (Dollar Amounts in Thousands) For Reference Purposes Only – Current Valuation Based on 50/50 Sharing of Normal Cost for Non-PEPRA Tiers Under Non-Combined Methodology

	June 30, 2015 Actuarial Valuation					
	BASIC		COLA		TOTAL	
General Tier 1 Members	Rate	Estimated Annual Amount[(1)]	Rate	Estimated Annual Amount[(1)]	Rate	Estimated Annual Amount[(1)]
Normal Cost[(2)]	7.90%	$683	2.67%	$230	10.57%	$913
UAAL[(3)]	473.75%	40,932	74.06%	6,399	547.81%	47,331
Total Contribution	481.65%	$41,615	76.73%	$6,629	558.38%	$48,244
General Tier 2 Members w/o COLA						
Normal Cost	7.16%	$15,283	0.00%	$0	7.16%	$15,283
UAAL[(3)]	1.62%	3,458	0.00%	0	1.62%	3,458
Total Contribution	8.78%	$18,741	0.00%	$0	8.78%	$18,741
General PEPRA Tier 2 Members w/o COLA						
Normal Cost	7.03%	$1,546	0.00%	$0	7.03%	$1,546
UAAL[(3)]	1.62%	356	0.00%	0	1.62%	356
Total Contribution	8.65%	$1,902	0.00%	$0	8.65%	$1,902
General Tier 2 Members w/COLA						
Normal Cost [(4)]	7.16%	$15,988	0.08%	$179	7.24%	$16,167
UAAL[(3)(5)]	1.62%	3,617	1.34%	2,993	2.96%	6,610
Total Contribution	8.78%	$19,605	1.42%	$3,172	10.20%	$22,777
General PEPRA Tier 2 Members w/COLA						
Normal Cost [(4)]	7.03%	$2,890	0.02%	$9	7.05%	$2,899
UAAL[(3)(5)]	1.62%	666	1.34%	551	2.96%	1,217
Total Contribution	8.65%	$3,556	1.36%	$560	10.01%	$4,116
All General Members[(6)]						
Normal Cost	7.16%	$36,390	0.08%	$418	7.24%	$36,808
UAAL	9.64%	49,029	1.96%	9,943	11.60%	58,972
Total Contribution	16.80%	$85,419	2.04%	$10,361	18.84%	$95,780

Appendix E (continued)

Employer Contribution Rates (Dollar Amounts in Thousands) For Reference Purposes Only – Current Valuation Based on 50/50 Sharing of Normal Cost for Non-PEPRA Tiers Under Non-Combined Methodology

	June 30, 2015 Actuarial Valuation					
	BASIC		COLA		TOTAL	
Safety Members	Rate	Estimated Annual Amount[1]	Rate	Estimated Annual Amount[1]	Rate	Estimated Annual Amount[1]
Normal Cost[7]	11.63%	$18,913	4.84%	$7,870	16.47%	$26,783
UAAL	47.33%	76,968	-9.24%	-15,026	38.09%	61,942
Total Contribution	58.96%	$95,881	-4.40%	-$7,156	54.56%	$88,725
Safety PEPRA Members						
Normal Cost	10.40%	$789	4.28%	$324	14.68%	$1,113
UAAL	47.33%	3,589	-9.24%	-701	38.09%	2,888
Total Contribution	57.73%	$4,378	-4.96%	-$377	52.77%	$4,001
All Safety Members[6]						
Normal Cost	11.58%	$19,702	4.81%	$8,194	16.39%	$27,896
UAAL	47.33%	80,557	-9.24%	-15,727	38.09%	64,830
Total Contribution	58.91%	$100,259	-4.43%	-$7,533	54.48%	$92,726
All Categories Combined[6]						
Normal Cost	8.26%	$56,092	1.27%	$8,612	9.53%	$64,704
UAAL	19.09%	129,586	-0.85%	-5,784	18.24%	123,802
Total Contribution	27.35%	$185,678	0.42%	$2,828	27.77%	$188,506

(1) *Amounts are in thousands, assumed to be paid throughout the year, and are based on June 30, 2015 annual payroll (also in thousands) shown below:*

General Tier 1	$8,640
General Tier 2	213,455
General PEPRA Tier 2	21,992
General Tier 2C	223,301
General PEPRA Tier 2C	41,116
Safety	162,619
Safety PEPRA	7,582
Total	$678,705

(2) *The total employer rate has been adjusted by 0.48% to account for the cost associated with the cessation of member contributions after 30 years of service.*

(3) *Basic UAAL rates have not been calculated on a combined basis for all General Tiers.*

(4) *Reflects General Tier 2 member COLA contribution rate of 2.63% based on current bargaining agreements.*

(5) *Includes 0.54% in COLA UAAL costs attributed to the first two years of service accrued for the fixed 2% COLA pursuant to Government Code 31627.*

(6) *These aggregated rates are provided for informational purposes only as we understand that the intent is to implement the tier specific rates, if possible.*

(7) *The total employer rate has been adjusted by 1.20% to account for the cost associated with the cessation of member contributions after 30 years of service.*

Appendix E (continued)

Employer Contribution Rates (Dollar Amounts in Thousands) For Reference Purposes Only – Prior Valuation Without 50/50 Sharing of Normal Cost for Non-PEPRA Tiers Under Non-Combined Methodology

	June 30, 2014 Actuarial Valuation[1]					
	BASIC		COLA		TOTAL	
General Tier 1 Members	Rate	Estimated Annual Amount[2]	Rate	Estimated Annual Amount[2]	Rate	Estimated Annual Amount[2]
Normal Cost	8.11%	$811	2.43%	$243	10.54%	$1,054
UAAL[2]	369.07%	36,922	41.64%	4,165	410.71%	41,087
Total Contribution	377.18%	$37,733	44.07%	$4,408	421.25%	$42,141
General Tier 2 Members w/o COLA						
Normal Cost	8.36%	$17,543	0.00%	$0	8.36%	$17,543
UAAL[2]	2.13%	4,470	0.00%	0	2.13%	4,470
Total Contribution	10.49%	$22,013	0.00%	$0	10.49%	$22,013
General PEPRA Tier 2 Members w/o COLA						
Normal Cost	6.92%	$823	0.00%	$0	6.92%	$823
UAAL[2]	2.13%	253	0.00%	0	2.13%	253
Total Contribution	9.05%	$1,076	0.00%	$0	9.05%	$1,076
General Tier 2 Members w/COLA						
Normal Cost [3]	8.36%	$19,117	-0.05%	-$115	8.31%	$19,002
UAAL[2][4]	2.13%	4,871	1.14%	2,607	3.27%	7,478
Total Contribution	10.49%	$23,988	1.09%	$2,492	11.58%	$26,480
General PEPRA Tier 2 Members w/COLA						
Normal Cost [3]	6.92%	$1,658	-0.10%	-$24	6.82%	$1,634
UAAL[2][4]	2.13%	510	1.14%	273	3.27%	783
Total Contribution	9.05%	$2,168	1.04%	$249	10.09%	$2,417
All General Members						
Normal Cost	8.25%	$39,952	0.02%	$104	8.27%	$40,056
UAAL	9.71%	47,026	1.45%	7,045	11.16%	54,071
Total Contribution	17.96%	$86,978	1.47%	$7,149	19.43%	$94,127

Appendix E (continued)

Employer Contribution Rates (Dollar Amounts in Thousands) For Reference Purposes Only – Prior Valuation Without 50/50 Sharing of Normal Cost for Non-PEPRA Tiers Under Non-Combined Methodology

	June 30, 2014 Actuarial Valuation[1]					
	BASIC		COLA		TOTAL	
Safety Members	Rate	Estimated Annual Amount[2]	Rate	Estimated Annual Amount[2]	Rate	Estimated Annual Amount[2]
Normal Cost	13.97%	$22,362	4.29%	$6,868	18.26%	$29,230
UAAL	44.50%	71,233	-8.89%	-14,230	35.61%	57,003
Total Contribution	58.47%	$93,595	-4.60%	-$7,362	53.87%	$86,233
Safety PEPRA Members						
Normal Cost	10.60%	$403	4.09%	$156	14.69%	$559
UAAL	44.50%	1,692	-8.89%	-338	35.61%	1,354
Total Contribution	55.10%	$2,095	-4.80%	-$182	50.30%	$1,913
All Safety Members						
Normal Cost	13.89%	$22,765	4.29%	$7,024	18.18%	$29,789
UAAL	44.50%	72,925	-8.89%	-14,568	35.61%	58,357
Total Contribution	58.39%	$95,690	-4.60%	-$7,544	53.79%	$88,146
All Categories Combined						
Normal Cost	9.67%	$62,717	1.10%	$7,128	10.77%	$69,845
UAAL	18.50%	119,951	-1.16%	-7,523	17.34%	112,428
Total Contribution	28.17%	$182,668	-0.06%	-$395	28.11%	$182,273

(1) *Amounts are in thousands, assumed to be paid throughout the year, and are based on June 30, 2014 annual payroll (also in thousands) shown below:*

General Tier 1	$10,004
General Tier 2	209,847
General PEPRA Tier 2	11,899
General Tier 2C	228,670
General PEPRA Tier 2C	23,959
Safety	160,075
Safety PEPRA	3,803
Total	$648,257

(2) *Basic UAAL rates have not been calculated on a combined basis for all General Tiers.*

(3) *Reflects General Tier 2 member COLA contribution rate of 2.63% based on current bargaining agreements.*

(4) *Includes 0.56% in COLA UAAL costs attributed to the first two years of service accrued for the fixed 2% COLA pursuant to Government Code 31627.*

5401904v5/05325.002

Ventura County Employees' Retirement Association

Governmental Accounting Standards (GAS) 67 Actuarial Valuation as of June 30, 2015

This report has been prepared at the request of the Board of Retirement to assist VCERA in preparing items related to the pension plan in their financial report. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Board of Retirement and may only be provided to other parties in its entirety. The measurements shown in this actuarial valuation may not be applicable for other purposes.

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December 11, 2015

Board of Retirement
Ventura County Employees' Retirement Association
1190 S. Victoria Avenue, Suite 200
Ventura, CA 93003-6572

Dear Board Members:

We are pleased to submit this Governmental Accounting Standards (GAS) 67 Actuarial Valuation as of June 30, 2015. It contains various information that will need to be disclosed in order to comply with GAS 67.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist VCERA in preparing items related to the pension plan in their financial report. The census and financial information on which our calculations were based was prepared by VCERA. That assistance is gratefully acknowledged.

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and changes in plan provisions or applicable law.

The actuarial calculations were completed under the supervision of John Monroe, ASA, MAAA, Enrolled Actuary. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in the actuarial valuation is complete and accurate. Further, in our opinion, the assumptions as approved by the Board are reasonably related to the experience of and expectations for the Plan.

We look forward to reviewing this report with you and to answering any questions.

Sincerely,

Segal Consulting, a Member of The Segal Group, Inc.

By:

Paul Angelo, FSA, EA, MAAA, FCA
Senior Vice President and Actuary

John Monroe, ASA, EA, MAAA
Vice President and Actuary

AW/hy

5401905v3/05325.010

SECTION 1

VALUATION SUMMARY

SECTION 2

GAS 67 INFORMATION

SECTION 3

AICPA SCHEDULES

Purpose

This report has been prepared by Segal Consulting to present certain disclosure information required by Governmental Accounting Standards (GAS) 67 as of June 30, 2015. This valuation is based on:

- The benefit provisions of VCERA, as administered by the Board;
- The characteristics of covered active members, terminated vested members, and retired members and beneficiaries as of June 30, 2014, provided by VCERA;
- The assets of the Plan as of June 30, 2015, provided by VCERA;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

Significant Issues in Valuation Year

The following key findings were the result of this actuarial valuation:

- The Governmental Accounting Standards Board (GASB) rules only define pension liability and expense for financial reporting purposes, and do not apply to contribution amounts for pension funding purposes. Employers and plans can still develop and adopt funding policies under current practices.
- When measuring pension liability GASB uses the same actuarial cost method (Entry Age method) and the same type of discount rate (expected return on assets) as VCERA uses for funding. This means that the Total Pension Liability (TPL) measure for financial reporting shown in this report is determined on generally the same basis as VCERA's Actuarial Accrued Liability (AAL) measure for funding. We note that the same is generally true for the Normal Cost component of the annual plan cost for funding and financial reporting.
- The TPL and the Plan's Fiduciary Net Position include liabilities and assets held for the Supplemental Medical ($27.50) Reserve. The TPL only includes a liability up to the amount in the Supplemental Medical ($27.50) Reserve. This is because we understand that the Supplemental Medical ($27.50) benefit is a nonvested benefit and once the reserve is depleted no further benefits would need to be paid.

- The Net Pension Liability (NPL) is equal to the difference between the TPL and the Plan's Fiduciary Net Position. The Plan's Fiduciary Net Position is equal to the market value of assets and therefore, the NPL measure is very similar to an Unfunded Actuarial Accrued Liability (UAAL) on a market value basis.
- For this report, the reporting date for the Plan is June 30, 2015. The NPL was measured as of June 30, 2015. The Plan's Fiduciary Net Position was valued as of the measurement date while the TPL was determined based upon rolling forward the results of the actuarial valuation as of June 30, 2014. In addition, any changes in actuarial assumptions or plan provisions that occurred between the valuation date and the measurement date have been reflected.
- The NPL increased from $553 million as of June 30, 2014 to $855 million as of June 30, 2015 primarily due to the 1.98% return on the market value of assets during 2014/2015 that was less than the assumed return of 7.75% and changes in actuarial assumptions. The $855 million was measured using the new actuarial assumptions (see additional discussions below) and the NPL would have been lower by about $235 million if measured using the old assumptions. Changes in these values during the last two fiscal years ending June 30, 2015 and June 30, 2014 can be found in Exhibit 3.
- The discount rate originally used to determine the TPL and NPL as of June 30, 2015 and 2014 was 7.75%, following the same assumptions used by the Association in the pension funding valuations as of June 30, 2014 and June 30, 2013. However, as the Retirement Board adopted a new discount rate of 7.50% (together with a new inflation assumption of 3.00%) for use in the pension funding valuation as of June 30, 2015, we have reflected the impact of this assumption change by (1) revaluing the TPL as of June 30, 2014 (before the roll forward) using the new actuarial assumptions and (2) using this revalued TPL in rolling forward the results from June 30, 2014 to June 30, 2015. The detailed calculations of the discount rate of 7.50% used in calculation of the TPL and NPL as of June 30, 2015 can be found in Exhibit 5 of Section 2. Various other information that is required to be disclosed can be found throughout Exhibits 1 through 4 in Section 2.
- Section 3 contains two schedules that the American Institue of Certified Public Accountants (AICPA) recommends be prepared by cost sharing pension plans. These two schedules contain summary information related to GAS 68 and are based on many of the results shown earlier in this report. The first schedule shows the method used for allocating the NPL along with the NPL amounts allocated amongst all of the employers in VCERA. The second schedule is a summary that shows the allocated NPL, deferred outflows and inflows of resources and pension expense by employer. Further information regarding GAS 68 including additional information that employers will need to disclose will be provided in a separate report that is anticipated to be completed during the first quarter of 2016.

Summary of Key Valuation Results

	2015	2014
Disclosure elements for fiscal year ending June 30:		
Service cost[1]	$124,407,916	$122,896,442
Total Pension Liability	5,219,335,149	4,828,039,882
Plan's Fiduciary Net Position	4,364,795,188	4,274,885,864
Net Pension Liability	854,539,961	553,154,018
Schedule of contributions for fiscal year ending June 30:		
Actuarially determined contributions	$173,269,000	$161,247,000
Actual employer contributions	$173,269,000	$161,247,000
Contribution deficiency (excess)	0	0
Demographic data for plan year ending June 30:[2]		
Number of retired members and beneficiaries	6,338	6,121
Number of vested terminated members[3]	2,441	2,339
Number of active members	8,299	8,210
Key assumptions:		
Investment rate of return	7.50%	7.75%
Inflation rate	3.00%	3.25%
Projected salary increases[4]	4.00% - 11.50%, varying by service, including inflation	4.50% - 12.50%, varying by service, including inflation

(1) *Please note that service cost is always based on the previous year's assumptions, meaning each of these values is based on the assumptions as of the preceding June 30.*

(2) *Data as of June 30, 2014 is used in the measurement of the TPL as of June 30, 2015.*

(3) *Includes terminated members with member contributions on deposit.*

(4) *Includes inflation at 3.00% plus real across-the-board salary increases of 0.50% plus merit and longevity increases for June 30, 2015 and includes inflation at 3.25% plus real across-the-board salary increases of 0.75% plus merit and longevity increases for June 30, 2014.*

Important Information about Actuarial Valuations

In order to prepare an actuarial valuation, Segal Consulting ("Segal") relies on a number of input items. These include:

- **Plan of benefits** Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan description in this report (as well as the plan summary included in our funding valuation report) to confirm that Segal has correctly interpreted the plan provisions.
- **Participant data** An actuarial valuation for a plan is based on data provided to the actuary by VCERA. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
- **Assets** This valuation is based on the market value of assets as of the valuation date, as provided by VCERA.
- **Actuarial assumptions** In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the plan's assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results, that does not mean that the previous assumptions were unreasonable.

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

- The valuation is prepared at the request of the Board to assist VCERA in preparing items related to the pension plan in their financial reports. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- An actuarial valuation is a measurement of the plan's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

- If VCERA is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Board should look to their other advisors for expertise in these areas.

As Segal Consulting has no discretionary authority with respect to the management or assets of VCERA, it is not a fiduciary in its capacity as actuaries and consultants with respect to VCERA.

EXHIBIT 1

General Information – "Financial Statements", Note Disclosures and Required Supplementary Information for a Cost-Sharing Pension Plan

Plan Description

Plan administration. The Ventura County Employees' Retirement Association (VCERA) was established by the County of Ventura in 1947. VCERA is administered by the Board of Retirement and governed by the County Employees' Retirement Law of 1937 (California Government Code Section 31450 et. seq.) and the California Public Employees' Pension Reform Act of 2013 or "PEPRA" (California Government Code Section 7522 et. seq.). VCERA is a cost-sharing multiple employer public employee retirement system whose main function is to provide service retirement, disability, death and survivor benefits to the safety and general members employed by the County of Ventura. VCERA also provides retirement benefits to the employee members of the Ventura County Courts, Air Pollution Control District, and the Ventura Regional Sanitation District.

The management of VCERA is vested with the VCERA Board of Retirement. The Board consists of nine members and two alternates. The County Treasurer is a member of the Board of Retirement by law. Four members are appointed by the Board of Supervisors, one of whom may be a County Supervisor. Two members are elected by the general membership; one member and one alternate are elected by the safety membership, one member and one alternate are elected by the retired members of the Association. All members of the Board of Retirement serve terms of three years except for the County Treasurer whose term runs concurrent with his term as County Treasurer.

Plan membership. At June 30, 2015, pension plan membership consisted of the following:

Retired members or beneficiaries currently receiving benefits	6,338
Vested terminated members entitled to but not yet receiving benefits(1)	2,441
Active members	8,299
Total	17,078

(1) *Includes terminated members with member contributions on deposit.*

Note: Data as of June 30, 2015 is not used in the measurement of the TPL as of June 30, 2015.

Benefits provided. VCERA provides service retirement, disability, death and survivor benefits to eligible employees. All permanent employees of the County of Ventura or contracting districts who work a regular schedule of 64 or more hours per bi-weekly pay period become members of VCERA upon appointment. There are separate retirement plans for safety and general member employees. Safety membership is extended to those involved in active law enforcement, fire suppression, and probation. Any new Safety Member who becomes a member on or after January 1, 2013 is designated PEPRA Safety. All other employees are classified as general members. There are four tiers applicable to general members. Those hired prior to June 30, 1979, and certain management personnel who entered service prior to October 16, 2001, are included in Tier 1. Those hired after that date are included in Tier 2. New Members employed after January 1, 2013 are designated as PEPRA Tier 1 or 2.

General members prior to January 1, 2013, are eligible to retire once they attain the age of 70 regardless of service or at age 50 and have acquired 10 or more years of retirement service credit. A member with 30 years of service is eligible to retire regardless of age. General members who are first hired on or after January 1, 2013, are eligible to retire once they have attained the age of 70 regardless of service or at age 52, and have acquired five or more years of retirement service credit.

Safety members prior to January 1, 2013, are eligible to retire once they attain the age of 70 regardless of service or at age 50 and have acquired 10 or more years of retirement service credit. A member with 20 years of service is eligible to retire regardless of age. Safety members who are first hired on or after January 1, 2013, are eligible to retire once they have attained the age of 70 regardless of service or at age 50, and have acquired five or more years of retirement service credit.

The retirement benefit the member will receive is based upon age at retirement, final average compensation, years of retirement service credit and retirement plan and tier.

General member benefits for Tier 1 and Tier 2 are calculated pursuant to the provisions of sections 31676.11 and 31676.1, respectively. The monthly allowance is equal to 1/90th of the first $350 of final compensation, plus 1/60th of the excess final compensation times years of accrued retirement service credit times age factor from either section 31676.11 (Tier 1) or 31676.1 (Tier 2). General member benefits for those who are first hired on or after January 1, 2013, are calculated pursuant to the provision California Government Code Section 7522.25(d). The monthly allowance is equal to the final compensation multiplied by years of accrued retirement credit multiplied by the age factor from section 7522.20(a).

Safety member benefits are calculated pursuant to the provisions of California Government Code Section 31664. The monthly allowance is equal to 1/50th of final compensation times years of accrued retirement service credit times age factor from Section 31664. For those Safety member benefits first hired on or after January 1, 2013, are calculated pursuant to the provision California Government Code Section 7522.25(d). The monthly allowance is equal to the final compensation multiplied by years of accrued retirement credit multiplied by the age factor from section 7522.25(d).

For members with membership dates before January 1, 2013, the maximum monthly retirement allowance is 100% of final compensation. There is no final compensation limit on the maximum retirement benefit for members with membership dates on or after January 1, 2013. However, the maximum amount of compensation earnable that can be taken into account for 2015 for members with membership dates on or after July 1, 1996 but before January 1, 2013 is $265,000. For members with membership dates on or after January 1, 2013 the maximum amount of pensionable compensation that can be taken into account for 2015 is equal to $117,020 for those enrolled in Social Security ($140,424 for those not enrolled in Social Security). These limits are adjusted on an annual basis. Members are exempt from paying member contributions and employers are exempt from paying employer contributions on compensation in excess of the annual cap.

Final average compensation consists of the highest 12 consecutive months for a Safety or Tier 1 General member and the highest 36 consecutive months for a Tier 2, PEPRA Tier 1 and 2, General and PEPRA Safety member.

The member may elect an unmodified retirement allowance, or choose an optional retirement allowance. The unmodified retirement allowance provides the highest monthly benefit and a 60% continuance to an eligible surviving spouse. An eligible surviving spouse is one married to the member at least two years prior to the date of death and has attained age 55 on or prior to the date of death. There are four optional retirement allowances the member may choose. Each of the optional retirement allowances requires a reduction in the unmodified retirement allowance in order to allow the member the ability to provide certain benefits to a surviving spouse or named beneficiary having an insurable interest in the life of the member.

VCERA provides an annual cost-of-living benefit to Safety and Tier 1 General member retirees. The cost-of-living adjustment, based upon the Consumer Price Index for the Los Angeles, Riverside, Orange County area, is capped at 3.0%. Certain Tier 2 general member retirees receive a fixed 2% cost-of-living adjustment pursuant to collective bargaining agreements.

The County of Ventura and contracting districts contribute to the retirement plan based upon actuarially determined contribution rates adopted by the Board of Retirement. Employer contribution rates are adopted annually based upon recommendations received from VCERA's actuary after the completion of the annual actuarial valuation. The average employer contribution rate as of June 30, 2015 for 2014-2015 (based on the June 30, 2013 valuation) was 28.21% of compensation.

Members are required to make contributions to VCERA regardless of the retirement plan or tier in which they are included. The average member contribution rate as of June 30, 2015 for 2014-2015 (based on the June 30, 2013 valuation) was 8.58% of compensation.

EXHIBIT 2

Net Pension Liability

The components of the Net Pension Liability are as follows:

	June 30, 2015	June 30, 2014
Total Pension Liability	$5,219,335,149	$4,828,039,882
Plan's Fiduciary Net Position	(4,364,795,188)	(4,274,885,864)
Net Pension Liability	$854,539,961	$553,154,018
Plan's Fiduciary Net Position as a percentage of the Total Pension Liability	83.63%	88.54%

The Net Pension Liability (NPL) was measured as of June 30, 2015 and 2014. The Plan's Fiduciary Net Position (plan assets) was valued as of the measurement date while the Total Pension Liability (TPL) was determined based upon rolling forward the TPL from actuarial valuations as of June 30, 2014 and 2013, respectively.

Plan provisions. The plan provisions used in the measurement of the NPL are the same as those used in the VCERA actuarial valuations as of June 30, 2015 and 2014. The TPL and the Plan's Fiduciary Net Position include liabilities and assets held for the Supplemental Medical ($27.50) Reserve.

Actuarial assumptions and methods. The TPL as of June 30, 2015 was measured by (1) valuing the TPL as of June 30, 2014 (before the roll forward) to include the following actuarial assumptions that the Retirement Board has adopted for use in the pension funding valuation as of June 30, 2015 and (2) using this TPL in rolling forward the results from June 30, 2014 to June 30, 2015. In particular, the following actuarial assumptions were applied to all periods included in the June 30, 2015 measurement:

Inflation	3.00%
Salary increases	4.00% to 11.50%, varying by service, including inflation
Investment rate of return	7.50%, net of pension plan investment expense, including inflation
Other assumptions	Same as those used in June 30, 2015 funding valuation

The TPL as of June 30, 2014 was measured as of June 30, 2013 used the same actuarial assumptions in the pension funding valuation as of June 30, 2014 and rolled forward the results from June 30, 2013 to June 30, 2014. In particular, the following actuarial assumptions were applied to all periods included in the June 30, 2014 measurement:

Inflation	3.25%
Salary increases	4.50% to 12.50%, varying by service, including inflation
Investment rate of return	7.75%, net of pension plan investment expense, including inflation
Other assumptions	Same as those used in June 30, 2014 funding valuation

The Entry Age Actuarial Cost Method used in VCERA's annual actuarial valuation has also been applied in measuring the service cost and TPL with one exception. For purposes of measuring the service cost and TPL, we have reflected the same plan provisions used in determining the member's Actuarial Present Value of Projected Benefits. This is different from the version of this method applied in VCERA's annual funding valuation, where the Normal Cost and Actuarial Accrued Liability are determined as if the current benefit accrual rate had always been in effect.

The long-term expected rate of return on pension plan investments was determined in 2015 using a building-block method in which expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. These returns are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage, adding expected inflation and subtracting expected investment expenses and a risk margin. The target allocation and projected arithmetic real rates of return for each major asset class, after deducting inflation but before investment expenses, used in the derivation of the long-term expected investment rate of return assumption are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Large Cap U.S. Equity	27.74%	5.90%
Small Cap U.S. Equity	3.41%	6.60%
Developed International Equity	14.73%	6.95%
Emerging Market Equity	3.12%	8.44%
U.S. Core Fixed Income	14.00%	0.71%
Real Estate	7.00%	4.65%
Private Debt/Credit Strategies	5.00%	6.01%
Absolute Return (Risk Parity)	16.00%	4.13%
Real Assets (Master Limited Partnerships)	4.00%	6.51%
Private Equity	5.00%	9.25%
Total	100.00%	

Discount rate: The discount rates used to measure the TPL were 7.50% and 7.75% as of June 30, 2015 and June 30, 2014, respectively. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at the current contribution rates and that employer contributions will be made at rates equal to the actuarially determined contribution rates. For this purpose, only employer contributions that are intended to fund benefits for current plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs for future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, the Plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments for current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the TPL as of both June 30, 2015 and June 30, 2014.

Sensitivity of the Net Pension Liability to changes in the discount rate. The following presents the NPL of the VCERA as of June 30, 2015, calculated using the discount rate of 7.50%, as well as what the VCERA's NPL would be if it were calculated using a discount rate that is 1-percentage-point lower (6.50%) or 1-percentage-point higher (8.50%) than the current rate:

	1% Decrease (6.50%)	Current Discount Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability as of June 30, 2015	$1,554,738,840	$854,539,961	$283,351,531

EXHIBIT 3

Schedules of Changes in Net Pension Liability – Last Two Fiscal Years

	2015	2014
Total Pension Liability		
1. Service cost	$124,407,916	$122,896,442
2. Interest	366,917,714	355,299,273
3. Change of benefit terms	0	0
4. Differences between expected and actual experience	(101,178,076)	(48,740,356)
5. Changes of assumptions	234,842,926	0
6. Benefit payments, including refunds of member contributions	(233,695,213)	(223,532,290)
7. Net change in Total Pension Liability	$391,295,267	$205,923,069
8. Total Pension Liability – beginning	4,828,039,882	4,622,116,813
9. Total Pension Liability – ending	$5,219,335,149	$4,828,039,882
Plan's Fiduciary Net Position		
10. Contributions – employer	$175,099,550	$169,703,083
11. Contributions – plan members	63,678,770	46,674,443
12. Net investment income	88,680,323	658,579,885
13. Benefit payments, including refunds of member contributions	(233,695,213)	(223,532,290)
14. Administrative expense	(3,854,106)	(4,044,724)
15. Other expenses	0	0
16. Net change in Plan's Fiduciary Net Position	$89,909,324	$647,380,397
17. Plan's Fiduciary Net Position – beginning	4,274,885,864	3,627,505,467
18. Plan's Fiduciary Net Position – ending	$4,364,795,188	$4,274,885,864
19. Net Pension Liability – ending (9) – (18)	$854,539,961	$553,154,018
20. Plan's Fiduciary Net Position as a percentage of the Total Pension Liability	83.63%	88.54%
21. Covered employee payroll[1]	$665,086,000	$642,779,000
22. Plan's Net Pension Liability as percentage of covered employee payroll	128.49%	86.06%

[1] *Covered employee payroll represents compensation earnable and pensionable compensation. Only compensation earnable and pensionable compensation that would possibly go into the determination of retirement benefits are included.*

Notes to Schedule:

Benefit changes: None

EXHIBIT 4

Schedule of Employer's Contributions – Last Ten Fiscal Years

Year Ended June 30	Actuarially Determined Contributions[1][2]	Contributions in Relation to the Actuarially Determined Contributions[2]	Contribution Deficiency (Excess)	Covered-Employee Payroll[3]	Contributions as a Percentage of Covered Employee Payroll
2006	$74,373,000	$74,373,000	$0	$478,053,000	15.56%
2007	86,455,000	86,455,000	0	519,145,000	16.65%
2008	104,429,000	104,429,000	0	551,968,000	18.92%
2009	105,278,000	105,278,000	0	599,173,000	17.57%
2010	97,324,000	97,324,000	0	634,777,000	15.33%
2011	111,585,000	111,585,000	0	654,829,000	17.04%
2012	132,386,000	132,386,000	0	637,037,000	20.78%
2013	142,370,000	142,370,000	0	632,146,000	22.52%
2014	161,247,000	161,247,000	0	642,779,000	25.09%
2015	173,269,000	173,269,000	0	665,086,000	26.05%

See accompanying notes to this schedule on next page.

(1) *All "Actuarially Determined Contributions" through June 30, 2014 were determined as the "Annual Required Contribution" under GAS 25 and 27.*

(2) *Actuarially Determined Contributions exclude employer paid member contributions.*

(3) *Covered employee payroll represents compensation earnable and pensionable compensation. Only compensation earnable and pensionable compensation that would possibly go into the determination of retirement benefits are included.*

Notes to Exhibit 4

Methods and assumptions used to establish "actuarially determined contribution" rates:

Valuation date	Actuarially determined contribution rates are calculated as of June 30, two years prior to the end of the fiscal year in which contributions are reported
Actuarial cost method	Entry Age Actuarial Cost Method
Amortization method	Level percent of payroll
Remaining amortization period	15 years for UAAL as of June 30, 2004. Any changes in UAAL after June 30, 2004 are separately amortized over a 15-year closed period effective with that valuation. Effective June 30, 2012, any changes in UAAL due to actuarial gains or losses or due to plan amendments (with the exception of a change due to retirement incentives) will be amortized over a 15-year closed period effective with that valuation (up to a 5-year closed period for retirement incentives). Any change in UAAL due to changes in actuarial assumptions or methods will be amortized over a 20-year closed period effective with that valuation.
Asset valuation method	Market value of assets less unrecognized returns in each of the last ten semi-annual accounting periods. Unrecognized returns are equal to the difference between the actual market return and the expected return on market value and are recognized over a five-year period. The Actuarial Value of Assets is reduced by the value of the supplemental medical benefit reserve and statutory contingency reserve. Deferred gains and losses as of June 30, 2011 have been combined and will be recognized in equal amounts over a period of four and a half years from that date.

Actuarial assumptions:	June 30, 2015	June 30, 2014
Investment rate of return	7.50%, net of pension plan administration and investment expenses, including inflation	7.75%, net of pension plan administration and investment expenses, including inflation
Inflation rate	3.00%	3.25%
Real across-the-board salary increase	0.50%	0.75%
Projected salary increases[1]	General: 4.00% to 9.50% and Safety: 4.00% to 11.50%	General: 4.50% to 9.00% and Safety: 4.50% to 12.50%
Cost of living adjustments	For General Tier 1 and Safety, 3% (actual increases are contingent upon CPI increases with a 3.00% maximum). For General Tier 2, SEIU members receive a fixed 2% cost-of-living adjustment not subject to CPI increases that applies to future service after March 2003.	For General Tier 1 and Safety, 3% (actual increases are contingent upon CPI increases with a 3.00% maximum). For General Tier 2, SEIU members receive a fixed 2% cost-of-living adjustment not subject to CPI increases that applies to future service after March 2003.
Other assumptions	Same as those used in the June 30, 2015 funding actuarial valuation	Same as those used in the June 30, 2014 funding actuarial valuation

(1) *Includes inflation at 3.00% plus real across-the-board salary increases of 0.50% plus merit and longevity increases for June 30, 2015 and includes inflation at 3.25% plus real across-the-board salary increases of 0.75% plus merit and longevity increases for June 30, 2014.*

EXHIBIT 5

Projection of the Pension Plan's Fiduciary Net Position for Use in Calculation of Discount Rate as of June 30, 2015

($ in millions)

Year Beginning July 1	Projected Beginning Plan Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Plan Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
2014	$4,275	$239	$234	$4	$89	$4,365
2015	4,365	238	258	4	327	4,668
2016	4,668	240	274	4	349	4,978
2017	4,978	235	292	4	371	5,288
2018	5,288	234	310	5	394	5,601
2019	5,601	189	326	5	415	5,873
2020	5,873	183	345	5	434	6,140
2021	6,140	164	365	6	453	6,387
2022	6,387	178	384	6	471	6,647
2023	6,647	190	404	6	490	6,917
2039	8,483	39	686	8	612	8,441
2040	8,441	36	697	8	608	8,381
2041	8,381	33	707	8	603	8,302
2042	8,302	30	716	7	597	8,206
2043	8,206	28	724	7	590	8,092
2088	4,404	5	25	4	329	4,710
2089	4,710	5	19	4	353	5,044
2090	5,044	5	15	5	378	5,408
2091	5,408	5	11	5	405	5,803
2092	5,803	6	8	5	435	6,230
2124	58,482	53	0 *	53	4,386	62,868
2125	62,868 **					
2125 Discounted Value:	21 **					

* Less than $1 M, when rounded.

** $62,868 million when discounted with interest at the rate of 7.50% per annum has a value of $21 M as of June 30, 2014.

EXHIBIT 5

Projection of the Pension Plan's Fiduciary Net Position for Use in Calculation of Discount Rate as of June 30, 2015

($ in millions) - continued

Notes:

(1) Amounts may not total exactly due to rounding.

(2) Amounts shown in the year beginning July 1, 2014 row are actual amounts, based on the unaudited financial statements provided by VCERA.

(3) Years 2024-2038, 2044-2087, and 2093-2123 have been omitted from this table.

(4) Column (a): Except for the "discounted value" shown for 2125, none of the projected beginning Plan Fiduciary Net Position amounts shown have been adjusted for the time value of money.

(5) Column (b): Projected total contributions include employee and employer normal cost rates applied to closed group projected payroll (based on covered active members as of June 30, 2014), plus employer contributions to the unfunded actuarial accrued liability. Contributions are assumed to occur halfway through the year, on average.

(6) Column (c): Projected benefit payments have been determined in accordance with paragraph 39 of GASB Statement No. 67, and are based on the closed group of active, inactive vested, retired members, and beneficiaries as of June 30, 2014. The projected benefit payments reflect the cost of living increase assumptions used in June 30, 2014 valuation report and include projected benefits associated with the Supplemental Medical ($27.50) Reserve.

(7) Column (d): Projected administrative expenses are calculated as approximately 0.09% of the projected beginning Plan Fiduciary Net Position amount. The 0.09% portion was based on the actual fiscal year 2014/2015 administrative expenses (unaudited) as a percentage of the actual beginning Plan Fiduciary Net Position as of July 1, 2014. Administrative expenses are assumed to occur halfway through the year, on average.

(8) Column (e): Projected investment earnings are based on the assumed investment rate of return of 7.50% per annum.

(9) As illustrated in this Exhibit, the Plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments for current Plan members. In other words, there is no projected "cross-over date" when projected benefits are not covered by projected assets. Therefore, the long-term expected rate of return on Plan investments of 7.50% per annum was applied to all periods of projected benefit payments to determine the Total Pension Liability as of June 30, 2015 shown earlier in this report, pursuant to paragraph 44 of GASB Statement No. 67.

EXHIBIT A

Schedule of Employer Allocations as of June 30, 2015

July 1, 2014 to June 30, 2015

Actual Compensation by Employer and Tier

Employer ID	Employer	General Tier 1 and 2	General Tier 1 and 2 %	Safety Tier	Safety Tier %	Total Compensation	Total %
01	County of Ventura	$454,174,372	91.765%	$170,152,580	100.000%	$624,326,953	93.872%
10	Ventura County Courts	$31,371,348	6.339%	$0	0.000%	$31,371,348	4.717%
11	Ventura County Air Pollution Control Department	$4,438,999	0.897%	$0	0.000%	$4,438,999	0.667%
22	Ventura Regional Sanitation District	$4,948,334	1.000%	$0	0.000%	$4,948,334	0.744%
	Total	$494,933,054	100.000%	$170,152,580	100.000%	$665,085,634	100.000%

Allocation of June 30, 2015 Net Pension Liability (NPL)

Employer ID	Employer	General Tier 1 and 2	General Tier 1 and 2 %	Safety Tier	Safety Tier %	Total NPL	Employer Allocation Percentage
01	County of Ventura	$353,661,207	91.765%	$469,140,362	100.000%	$822,801,569	96.286%
10	Ventura County Courts	24,428,566	6.339%	0	0.000%	24,428,566	2.859%
11	Ventura County Air Pollution Control Department	3,456,606	0.897%	0	0.000%	3,456,606	0.404%
22	Ventura Regional Sanitation District	3,853,220	1.000%	0	0.000%	3,853,220	0.451%
	Total	$385,399,599	100.000%	$469,140,362	100.000%	$854,539,961	100.000%

Notes:

Actual July 1, 2014 through June 30, 2015 compensation information was provided by VCERA.

The Net Pension Liability (NPL) for each tier is the Total Pension Liability (TPL) minus the Plan's Fiduciary Net Position. The TPL for each tier is obtained from internal valuation results based on the actual particpants in each tier. The Plan's Fiduciary Net Position for each tier was determined by adjusting each tier's internally tracked valuation value of assets (which is used to determine employer contribution rates by tier) by the ratio of the total VCERA Plan's Fiduciary Net Position to total VCERA valuation value of assets. Based on this methodology, any non-valuation reserves (such as the $27.50 Supplemental Medical Benefit) are allocated amongst the tiers based on each tier's valuation value of assets.

The Safety Tier only has one employer (County of Ventura), so all of the NPL for that tier is allocated to the County.

For the two other tiers that have multiple employers, the NPL is allocated based on the actual compensation for each employer in the tier during the period ending on the measurement date within the tier.

- Calculate ratio of employer's compensation to the total compensation for the tier.
- This ratio is multiplied by the NPL for the tier to determine the employer's proportionate share of the NPL for the tier.
- If the employer is in several tiers, the employer's total allocated NPL is the sum of its allocated NPL from each tier.
- Proportionate share of total plan NPL is then the ratio of the employer's total allocated NPL to the total NPL of all employers.
- In this allocation, General Tier 1 and 2 were treated as one tier (combined) consistent with the determination of the Basic UAAL rate in the actuarial valuation.

For purposes of the above results, the reporting date for the employer under GAS 68 is June 30, 2016. The reporting date and measurement date for the plan under GAS 67 are assumed to be June 30, 2015. Consistent with the provisions of GAS 68, the assets and liabilities measured as of June 30, 2015 are not adjusted or "rolled forward" to June 30, 2016 for employer reporting under GAS 68. Other results, such as the total deferred inflows and outflows would also be allocated based on the same proportionate shares determined above.

EXHIBIT B

Schedule of Pension Amounts by Employer as of June 30, 2015

Deferred Outflows of Resources	**County of Ventura**	**Ventura County Courts**	**Ventura County Air Pollution Control Department**	**Ventura Regional Sanitation District**	**Total for All Employers**
Differences Between Expected and Actual Experience	$0	$0	$0	$0	$0
Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	186,926,348	5,549,750	785,281	875,385	194,136,764
Changes of Assumptions	182,635,907	5,422,368	767,257	855,293	189,680,825
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	724,193	330,390	78,895	93,300	1,226,778
Total Deferred Outflows of Resources	$370,286,448	$11,302,508	$1,631,433	$1,823,978	$385,044,367
Deferred Inflows of Resources					
Differences Between Expected and Actual Experience	$107,805,383	$3,200,688	$452,893	$504,858	$111,963,822
Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	218,308,382	6,481,466	917,118	1,022,349	226,729,315
Changes of Assumptions	0	0	0	0	0
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	457,052	718,458	51,268	0	1,226,778
Total Deferred Inflows of Resources	$326,570,817	$10,400,612	$1,421,279	$1,527,207	$339,919,915
Net Pension Liability as of June 30, 2014	$531,314,302	$16,984,027	$2,338,931	$2,516,758	$553,154,018
Net Pension Liability as of June 30, 2015	$822,801,569	$24,428,566	$3,456,606	$3,853,220	$854,539,961
Pension Expense					
Proportionate Share of Plan Pension Expense	$86,237,104	$2,560,336	$362,283	$403,853	$89,563,576
Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	32,656	(70,024)	11,920	25,448	0
Total Employer Pension Expense	$86,269,760	$2,490,312	$374,203	$429,301	$89,563,576

EXHIBIT B

Schedule of Pension Amounts by Employer as of June 30, 2015 – continued

Notes:

Amounts shown in this exhibit excluding the differences between employer contributions and proportionate share of contributions were allocated by employer based on the Employer Allocation Percentage calculated in Exhibit A.

In determining the pension expense:

- Any differences between projected and actual investment earnings on pension plan investments are recognized over a period of five years beginning with the year in which they occur.
- Differences between expected and actual experience and between employer contributions and proportionate share of contributions are recognized over the average of the expected remaining service lives of all employees that are provided with pensions through VCERA determined as of June 30, 2014 (the beginning of the measurement period ending June 30, 2015) and is 5.20 years.

The average of the expected remaining service lives of all employees was determined by:

- Calculating each active employees' expected remaining service life as the present value of $1 per year of future service at zero percent interest.
- Setting the remaining service life to zero for each nonactive or retired members.
- Dividing the sum of the above amounts by the total number of active employee, nonactive and retired members.

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
1190 South Victoria Avenue, Suite 200
Ventura, CA 93003-6572
(805) 339-4250 • Fax: (805) 339-4269
http://www.ventura.org/vcera

December 21, 2015

Board of Retirement
Ventura County Employees' Retirement Association
1190 South Victoria Avenue, Suite 200
Ventura, CA 93003

SUBJECT: STATEMETN OF INTENT TO APPOINT PERSONNEL PURSUANT TO AB 1291; DESIGNATION OF ADDITIONAL REPRESENTATIVE FOR LABOR NEGOTIATIONS WITH PROSPECTIVE UNREPRESENTED EMPLOYEES

Dear Board Members:

As you know, Chair Towner has worked with all parties to accomplish successful implementation of AB 1291. He has talked to staff members, County leadership and outside counsel as part of these efforts.

Staff recommends (1) formalizing the Board's intent to appoint personnel pursuant to AB 1291, and (2) formalizing Chair Towner's role as a labor negotiator to establish his authority to negotiate with prospective unrepresented employees on behalf of the Board. This will add him to the list of previously designated representatives, which includes Kelly Shirk as well as Ashley Dunning and John Kennedy of Nossaman, LLC. This recommendation is intended to comply with Government Code section 54957.6, which requires designation of representatives in open session prior to the closed session.

RECOMMENDATION: **(1) ANNOUNCE BOARD'S INTENT TO APPOINT PERSONNEL PURSUANT TO AB 1291, AND (2) DESIGNATE CHAIR TOWNER AS A BOARD REPRESENTATIVE FOR LABOR NEGOTIATIONS WITH PROSPECTIVE UNREPRESENTED EMPLOYEES FOR THE PURPOSES OF AB 1291 IMPLEMENTATION.**

Staff will be happy to answer any questions at the December 21, 2015 business meeting.

Sincerely,

Linda Webb

Linda Webb
Retirement Administrator

CALAPRS
EDUCATION · COMMUNICATION · NETWORKING
California Association of Public Retirement Systems

UCLA Anderson
EXECUTIVE EDUCATION

JANUARY 27-29, 2016

LOS ANGELES, CA

Advanced Principles of Pension Management

for Trustees

FOR THE CALIFORNIA ASSOCIATION OF PUBLIC RETIREMENT SYSTEMS

Advanced Principles of Pension Management

for Trustees

A CALAPRS EDUCATION PARTNERSHIP WITH UCLA ANDERSON SCHOOL OF MANAGEMENT

ADVANCED PRINCIPLES OF PENSION MANAGEMENT

Public pension system trustees are being challenged over system funding, accounting practices, actuarial assumptions, benefit administration, executive leadership, and transparency in the conduct of the systems' business. Training has been provided for new trustees, but CALAPRS has recognized the need for veteran trustees to be exposed to some of the best thinking and education to enhance their service to their retirement systems, the members and retirees, and the public entities and citizens that rely on, and support, public pension systems in California.

The **CALAPRS Principles of Pension Management** programs are designed to help public pension trustees ask and answer the tough questions. The Advanced course is about finding out what it will take to govern ever more effectively in the 21st century, how we can build organizations that truly stand the test of time, and how we can be open to strategic possibilities. This is the gift of governance that defines the course.

THE PROGRAM

As a public pension trustee, you are faced as never before with vastly increased challenges, unprecedented scrutiny, and evolving issues. Moreover, areas such as actuarial assumptions, accounting requirements, and risk management are rapidly changing. To address these developments, the course adopts a multi-functional perspective on the issues effectively integrating ethics, compliance, enterprise risk management, and sustainability into the view.

PARTICIPANTS | WHO IS RIGHT FOR THE PROGRAM?

The Advanced Principles Program is designed for an elite group of senior trustees who are proven board leaders. Successful applicants will have held a position on a pension board for at least one or two terms prior to their current term. The **CALAPRS Principles of Pension Management at Stanford/Pepperdine** is a prerequisite (requirement) to attend this course.

CURRICULUM | YOUR COURSE OF STUDY

Over the course of two days, you will be immersed in a powerful learning process—acquiring the skills you need to lead your organizations effectively, strategically, and ethically. The Program's proven, multifaceted educational approach fosters the professional, intellectual, and personal development required to govern at the board level.

The 2016 Program will cover:

- **Competencies of Effective Trustees**
- **Effective Board Leadership**
- **Rethinking Board Governance**
- **Advanced Actuarial Principles**
- **Practical Investment Policy Setting**
- **Dealing with Funding Issues**

THE LEARNING MODEL

Developed in an education partnership between CALAPRS and the world-renowned faculty of UCLA Anderson School of Business, the **Advanced Principles Program** provides a unique, interactive learning opportunity for experienced public pension administrators and trustees.

Why UCLA?

UCLA Anderson School of Business is the leading provider of advanced learning opportunities that strengthen the leadership capacity of both individuals and their organizations. Unlike any other, UCLA Anderson's Executive Education learning model immerses California's veteran public pension trustees in a transformational experience that transcends the acquisition of knowledge, skills, and tools—and fosters professional, intellectual, and personal development.

Case Method

The case method is one of the most effective tools for learning governance and leadership principles—especially to practicing trustees. Case studies offer multiple levels of learning, compelling participants to identify relevant issues and to apply practical governance lessons to their own organizations. Cases provide an opportunity to study and discuss issues and challenges faced by public pension trustees in the real world – and imbibed frameworks and theories in the context of practice.

Participants will receive a Certificate of Completion for this program.

Interaction

Every facet of this Program —from participant selection, to amphitheater classroom seating, to learning group design, to social activities—is carefully crafted to promote dynamic interchange and shared learning among accomplished peers from our diverse membership. The intellectual stimulation of learning in the company of peers is one of the most rewarding aspects of the program experience, and most participants establish a network of friendships and business contacts that last a lifetime.

Learning Commitment

Active involvement in all classroom sessions, case discussions, and other program activities is expected. Participants devote considerable time and intellect to the learning experience, putting in long days and evenings. Therefore, they must be free of outside responsibilities during the two days of the program.

THE FACULTY

The Advanced Principles Program is taught by the world class UCLA Anderson faculty including **Alfred E. Osborne,** *Faculty Director.*

PROGRAM DATES

January 27-29, 2016

TUITION

Program tuition will be $3,100 for CALAPRS members and $3,400 for non-members and will include all lodging, meals, and materials. Tuition must be paid in full by January 15, 2016.

ACCOMMODATIONS

Program tuition includes all meals and lodging on the nights of January 27 and 28, 2016 at the UCLA Guest House, located at 330 Charles E. Young Drive East, Los Angeles, CA 90095. To ensure full participation, all participants are required to stay on-site in the lodging provided.

REGISTRATION

Since space is limited, systems will be able to enroll one Trustee as Delegate and submit additional applications to be accepted if vacancies remain. Applications must be received by **December 23, 2015**.

Advanced Principles of Pension Management for Trustees

January 27-29, 2016 Los Angeles, CA

APPLICATION FOR ENROLLMENT

Due by December 23, 2015

Each system may enroll one Trustee as a "Delegate" and designate one additional Trustee as "1st Alternate" with the remainder as "2nd Alternate". Delegates will be admitted first. If vacancies remain, 1st Alternates will be admitted in the order received, followed by 2nd Alternates. **Applications must be received by [Extended Deadline] December 23, 2015**. Accepted applicants will be notified via email between December 16-18, 2015 or upon receipt thereafter.

Applicant Qualifications

This program is designed for senior trustees who are proven board leaders and have held a position on a pension board for at least one or two terms prior to their current term. **The CALAPRS Principles of Pension Management for Trustees at Stanford/Pepperdine is a required prerequisite for this course.**

Applicant Information

Trustee's Name (*for certificate/name badge*):______________________________

Retirement System:______________________________

Trustee Type: ❒ Elected ❒ Appointed ❒ Ex-Officio Date Became a Trustee:__________ Date Term Expires:__________

Trustee's Mailing Address:______________________________

Trustee's Phone:______________________________ Trustees' Email:______________________________

Emergency Contact (*name, phone):*______________________________

Dietary Restrictions (*if any):*______________________________

Administrative Contact (*name, email)*:______________________________

❒ **Email** a digital copy of Trustee's biography (≤150 words) to register@calaprs.org for printing in the attendee binder.

Applicant Signature

If admitted, I agree to attend the Advanced Principles program in full and acknowledge that missing one or more sessions may result in forfeiture of my Certificate of Completion, as determined by the Faculty.

Trustee Signature *(required)*______________________________Date:__________

Administrator Approval

Applicant Designation: ❒ Delegate ❒ 1st Alternate ❒ 2nd Alternate

Administrator Name:______________________________Email:______________________________

Administrator Signature *(required):*______________________________

Tuition Payment

❒ $3,100 CALAPRS Member ❒ $3,400 Non-member

Program tuition must be paid in full by January 15, 2016. Tuition includes all meals, materials, and mandatory lodging for all participants for the nights of January 27 and 28 in the UCLA Guest House. Payable by check only made out and mailed to "CALAPRS". A separate invoice will not be sent.

Attendees will be asked to walk approximately 0.5 miles between the Guest House and classroom on campus. If, due to a disability, you have any special needs, call 415-764-4860 to let us know. We will do our best to accommodate them.

CALAPRS
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California Association of Public Retirement Systems

Mail, email or fax form and payment to
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