

AGENDA

RETIREMENT BOARD MEETING

REGULAR MEETING
June 8, 2016
8:00 a.m.
Open Session Begins at 10:00 a.m.

Retirement Board Conference Room The Willows Office Park 1355 Willow Way, Suite 221 Concord, California

THE RETIREMENT BOARD MAY DISCUSS AND TAKE ACTION ON THE FOLLOWING:

- 1. Pledge of Allegiance.
- 2. Accept comments from the public.
- 3. Approve minutes from the March 24 and April 13, 2016 meetings.
- 4. Routine items for June 8, 2016.
 - a. Approve certifications of membership.
 - b. Approve service and disability allowances.
 - c. Accept disability applications and authorize subpoenas as required.
 - d. Approve death benefits.
 - e. Accept Asset Allocation Report

CLOSED SESSION

5. The Board will go into closed session under Gov. Code Section 54957 to consider recommendations from the Medical Advisor and/or staff regarding the following disability retirement applications:

	<u>Member</u>	<u>Type Sought</u>	<u>Recommendation</u>
a.	Linda Hewitt	Service Connected	Service Connected
b.	Bryan Michaud	Service Connected	Service Connected

6. The Board will continue in closed session under Gov. Code Section 54957 to evaluate the performance of the following public employee:

Title: Chief Executive Officer

The Retirement Board will provide reasonable accommodations for persons with disabilities planning to attend Board meetings who contact the Retirement Office at least 24 hours before a meeting.

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7. CONFERENCE WITH LABOR NEGOTIATOR (Government Code Section 54957.6)

Agency designated representative: Joe Wiley, CCCERA's Chief Negotiator

Unrepresented Employee: Chief Executive Officer

8. CONFERENCE WITH LABOR NEGOTIATOR (Government Code Section 54957.6)

Agency designated representative: Joe Wiley, CCCERA's Chief Negotiator

Employee Organization: AFSCME Local 2700

9. The Board will continue in closed session under Gov. Code Section 54957 to consider the Hearing Officer's recommendation regarding the disability application for David Besag.

OPEN SESSION

- 10. Presentation from Segal Consulting: Actuarial Experience Study.
- 11. Consider and take possible action to adopt the actuarial demographic assumption changes and explicit administrative expense load recommended by Segal Consulting in its Actuarial Experience Study; which changes and recommendations would then be utilized in the December 31, 2015 actuarial valuation report.
- 12. Legislative Update.
- 13. Consider authorizing the attendance of Board and/or staff:
 - a. 2016 Public Funds Forum, Robbins Geller Rudman & Dowd, September 6-8, 2016, Park City, UT.
 - b. Annual Bancfund Limited Partners Retreat, Carpenter Community Bancfund, September 29-30, 2016, Newport Beach, CA.
 - c. CRCEA Fall Conference, CRCEA, October 17-19, 2016, Walnut Creek, CA.
- 14. Miscellaneous
 - a. Staff Report
 - b. Outside Professionals' Report
 - c. Trustees' comments

The Retirement Board will provide reasonable accommodations for persons with disabilities planning to attend Board meetings who contact the Retirement Office at least 24 hours before a meeting.

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Meeting Date
06/08/16
Agenda Item
#3

MINUTES

RETIREMENT BOARD MEETING MINUTES

SPECIAL BOARD MEETING March 24, 2016 9:00 a.m. Retirement Board Conference Room The Willows Office Park 1355 Willow Way, Suite 221 Concord, California

Present: Candace Andersen, Scott Gordon, Brian Hast, Jerry Holcombe, Louie Kroll, John

Phillips, Gabe Rodrigues, Todd Smithey, Jerry Telles and Belinda Zhu (Deputy

Treasurer, present and voting in Russell Watts's absence)

Absent: Debora Allen and William Pigeon

Staff: Gail Strohl, Chief Executive Officer, Timothy Price, Chief Investment Officer; Karen

Levy, General Counsel; Wrally Dutkiewicz, Compliance Officer; and Christina Dunn,

Administrative/HR Manager

Outside Professional Support: Representing:

Harvey Leiderman Reed Smith LLP

Edward Hoffman Verus Consulting Group

1. Pledge of Allegiance

Kroll led all in the *Pledge of Allegiance*.

2. Accept comments from the public

No members of the public offered comment.

CLOSED SESSION

The Board moved into closed session pursuant to Govt. Code Section 54956.81.

The Board moved into open session.

3. There was no reportable action related to Govt. Code Section 54956.81.

4. <u>Presentation and recommendation from Verus on proposed structure and guidelines of Transition Management Program</u>

Hoffman gave an overview of the Transition Management Program. He reviewed the differences between legacy managers, target managers, and transition managers including their accountability, alignment of interests, expertise, execution, project management, analysis & reporting and commission rates.

He reviewed the quantitative and qualitative factors each transition manager was evaluated on including their business models, access to liquidity, transparency, fees, potential conflicts of interest and prior regulatory events. He noted State Street and Vertas are not normally included in their searches.

There was a discussion on who would make the selections: the Board, Staff and/or Verus. Hoffman noted the master agreements would be between the vendors and the Board. Strohl asked for a sample pre-trade analysis to use for illustrative purposes.

Hoffman also reviewed Verus' pre-trade analysis recommendations.

5. <u>Consider and take possible action to adopt Verus recommendations regarding Transition</u> <u>Management Program</u>

A motion was made to hire the managers recommended on page 17: Penserra, Russell and Vertas for direct and indirect US equity; BlackRock, Citigroup and Russell for direct non-US equity, indirect non-US equity, and US fixed income; and Citigroup and Russell for complex multi-asset class, and give staff discretion to utilize the best qualified for each trade. The motion was withdrawn.

It was M/S/C to authorize a search for one or more transition managers to provide transition management services for one or more asset class, subject to the CCCERA Investment Policy and Guidelines and Procurement of Products and Services Policy. (Yes: Andersen, Gordon, Hast, Holcombe, Phillips, Rodrigues, Smithey, Telles and Zhu)

6. <u>Presentation and recommendation from Verus on proposed structure and vendor for Cash Overlay Program</u>

Hoffman gave an overview of the Cash Overlay Program including the challenges and possible solutions. He stated the idea of a Cash Overlay Program is that there is cash sitting in the account and Cash Overlay Managers provide us with a convenient, low-cost way of getting exposure like the rest of the portfolio without buying and investing in those strategies. We would be getting exposure through futures contracts. He highlighted cash equitization, passive rebalancing and duration matching and the situations when they would be used.

He reviewed two Cash Overlay providers; Parametric Portfolio Associates, LLC and Russell Investments including ownership, fees, risks, reporting, advantages and considerations. He also reviewed forward contracts and futures contracts and their similarities.

7. Consider and take possible action to approve guidelines for Cash Overlay Program

After a lengthy discussion, it was M/S/C to authorize a search for a cash overlay program, subject to the CCCERA Investment Policy and Guidelines and Procurement of Products and Services Policy. (Yes: Andersen, Gordon, Hast, Holcombe, Phillips, Rodrigues, Smithey, Telles and Zhu)

8. Consider and take possible action to select Cash Overlay manager

This item was continued to a future meeting.

9. <u>Presentation and recommendation from Verus on proposed vendor for Transaction Cost</u> <u>Analysis services</u>

Hoffman reported that they are no longer recommending that the Board authorize staff to negotiate an agreement not to exceed \$10,000 annually. They are only recommending entering into a free trial

engagement and that while the trial is being conducted, a preliminary review of an agreement with Zeno be undertaken and that the standard agreement be shared with legal counsel while the pricing arrangement for the services is being determined.

10. Consider and take possible action to retain Zeno Consulting for Transaction Cost Analysis services

It was M/S/C to approve the Verus recommendation and authorize the CEO to enter into a free trial engagement with Zeno Consulting for transaction cost analysis services. Pending the outcome of that trial engagement, potentially return to the Board with a recommendation to engage with Zeno on a retainer basis. (Yes: Andersen, Gordon, Hast, Holcombe, Phillips, Rodrigues, Smithey, Telles and Zhu)

11. Miscellaneous

(a) Staff Report –

Strohl reported SACRS begins on May 10th and to contact CCCERA staff to pre-register for the Ethics Session; She reported on CCCERA employee retirements – Marge Rosenberg, Active Member Counselor, retired on March 1 after 4 years of service with the County and 14 years of service with CCCERA; Nannette Mendoza, Accounting Specialist III, is retiring on March 31 after 27 years of service with CCCERA; and Lori Giacomelli, Retiree Member Counselor, is retiring on April 2 after 27 years of service with CCCERA. She expressed her appreciation for their service to CCCERA. CCCERA employee Sylvia Seremak unexpectedly passed away on March 19 and we had a grief counselor on site. She would like to adjourn the meeting in her memory.

<u>Dutkiewicz</u> gave an update on the lookback project noting the on-call pay differential for the retirees in the Hazardous Materials Specialist classifications are under legal review and will be brought to a future meeting.

<u>Price</u> distributed a memo on staff's assessment of the personnel turnovers at Angelo Gordon noting that another senior staff person is departing which makes 4 in the past 6 months. They currently have no recommendation but they are evaluating the impact. Hoffman noted there have been 9 senior staff departures in the past year.

(b) Outside Professionals' Report -

<u>Leiderman</u> reported the Illinois Supreme Court held that the Chicago Pension Reform was unconstitutional and in violation of employees vested rights by increasing member contributions and decreasing COLA's; and, he should have a date from the Court of Appeals in early May for the AB197 case.

(c) Trustees' comments -

<u>Hast</u> stated nobody in the County knows where to file Form 700. Levy and Dunn stated the Retirement Board members file with the Elections Department and CCCERA staff and consultants such as money managers file with the Clerk of the Board.

<u>Telles</u> reported the Retirees Support Group (RSG) reached a settlement agreement with the County regarding health care. He was pleased the Board of Supervisor's went with Twa's recommendation that will guarantee retirees health care for life. Andersen noted this only applies to current retirees.

<u>Phillips</u> congratulated Telles and Kroll for being re-elected to their current retirement seats since they ran unopposed. Gordon noted Andersen is also running unopposed for her seat on the Board of Supervisors.

		n memory of recently deceased CCCERA employee Sylv Holcombe, Phillips, Rodrigues, Smithey, Telles and Zhu)
John Phillips, Chairman Scott Gordon, Secretary	John Phillins Chairman	Scott Gordon, Secretary



Meeting Date
06/08/16
Agenda Item
#3

MINUTES

RETIREMENT BOARD MEETING MINUTES

REGULAR MEETING April 13, 2016 9:00 a.m. Retirement Board Conference Room
The Willows Office Park
1355 Willow Way, Suite 221
Concord, California

Present: Debora Allen, Candace Andersen, Scott Gordon, Brian Hast, Jerry Holcombe, Louie

Kroll, John Phillips, William Pigeon, Gabe Rodrigues, Todd Smithey, Jerry Telles and

Russell Watts

Absent: None

Staff: Gail Strohl, Chief Executive Officer; Karen Levy, General Counsel; Wrally Dutkiewicz,

Compliance Officer; Christina Dunn, Administrative/HR Manager; Tim Hoppe,

Retirement Services Manager; and Alexis Cox, Member Services Manager

Outside Professional Support: Representing:

Harvey Leiderman Reed Smith LLP

Susan Hastings Laughlin, Falbo, Levy & Moresi LLP

1. Pledge of Allegiance

Kroll led all in the *Pledge of Allegiance*.

2. Recognition of Son Lu for 10 years of service and Lori Epstein for 5 years of service

Phillips recognized and congratulated Son Lu for his 10 years of service and Lori Epstein for her 5 years of service.

3. Accept comments from the public

No member of the public offered comment.

4. Approval of Minutes

It was M/S/C to approve the minutes of the January 27 and February 10, 2016 meetings with corrections to the February 10, 2016 minutes as follows: On pages 2 and 3, the spelling of the speaker is Beth Bartke, not Parke; on page 3, third paragraph, the fourth sentence was divided into two sentences. (Yes: Andersen, Gordon, Hast, Holcombe, Phillips, Rodrigues, Smithey, Telles and Watts).

5. Routine Items

It was M/S/C to approve the routine items of the April 13, 2016 meeting. (Yes: Andersen, Gordon, Hast, Holcombe, Phillips, Rodrigues, Smithey, Telles and Watts)

Allen and Pigeon were present for subsequent discussion and voting.

CLOSED SESSION

The Board moved into closed session pursuant to Govt. Code Section 54957, 54957.6, 54956.9(d)(2) and 54956.9(d)(1).

The Board moved into open session.

- **6.** It was M/S/C to accept the Medical Advisor's recommendation and grant the following disability benefits:
 - a. Daryl Chilimidos Service Connected (Yes: Allen, Andersen, Gordon, Hast, Phillips, Rodrigues, Smithey, Telles and Watts)
 - b. Jessica Fliehmann Service Connected (Yes: Allen, Andersen, Gordon, Hast, Phillips, Rodrigues, Smithey, Telles and Watts)

7. CONFERENCE WITH LABOR NEGOTIATORS

(Government Code Section 54957.6)

Agency designated representative:

Gail Strohl, Chief Executive Officer

Unrepresented Employees: All CCCERA unrepresented positions

There was no reportable action related to Govt. Code Section 54957.6.

- **8.** There was no reportable action related to Govt. Code Section 54957.
- 9. This item was referred back to the Administrative Law Judge with instructions.
- 10. This item was referred back to the Administrative Law Judge with instructions.
- 11. There was no reportable action related to Govt. Code Section 54956.9(d)(2).
- 12. There was no reportable action related to Govt. Code Section 54956.9(d)(1)

13. Consider and take possible action regarding non-service connected disability retirement allowance of deceased member Vonley Honey

Hoppe gave a brief overview of the item noting this disability is related to an Active Death form on file.

It was M/S/C that the member was permanently unable to engage in any substantial gainful employment and grant a non-service connected disability retirement, effective December 24, 2015 for Vonley Honey and grant the member's beneficiary benefits pursuant to Government Code Section 31762 (Optional Settlement allowance for the life of the named beneficiary). (Yes: Allen, Andersen, Gordon, Hast, Phillips, Rodrigues, Smithey, Telles and Watts)

14. Consider and take possible action to approve revised agreement with the Office of Administrative Hearings for disability and non-disability hearings

Strohl reviewed the background of this item noting we are currently at midpoint of the \$48,000 agreement. She reported the original agreement was for disability hearings only and now includes non-disability hearings and is recommending an increase in the agreement.

After a discussion on the concerns with the service at the Office of Administrative Hearings, it was M/S/C to approve and authorize the Chief Executive Officer to execute an amendment to the contract with the Office of Administrative Hearings increasing the contract amount to \$96,000 in order to continue to provide administrative hearings services with regard to disability and non-disability matters, through July 25, 2018. (Yes: Allen, Andersen, Gordon, Hast, Phillips, Rodrigues, Smithey, Telles and Watts)

The Board directed staff to provide the Office of Administrative Hearings instructions on the level of service they expect and for staff to explore other options for conducting hearings.

15. Update on Angelo Gordon personnel changes

Youngman gave an update on the recent senior level personnel changes at Angelo Gordon including the impact to Angelo Gordon as well as the impact on CCCERA's investments. Staff does not recommend that Angelo Gordon be placed on the watch list at this time; however, staff will continue to monitor Angelo Gordon.

16. Consider and take possible action to place Wellington on a watch list

Chu reported Rick Wurster, portfolio Manager of Wellington's Real Total Return (RTR) strategy, will be leaving Wellington in early April. He noted Wurster was directly involved with CCCERA's portfolio. CCCERA invested in RTR in 2012 as part of our Real Asset program and currently has \$175 million invested in the strategy's commingled fund. Staff recommends placing Wellington on watch immediately due to personnel changes.

After discussion, it was M/S/C to place Wellington on the Watch List due to personnel changes. (Yes: Allen, Andersen, Gordon, Hast, Phillips, Rodrigues, Smithey, Telles and Watts)

17. Update regarding the elimination of IRS Letter of Determination 5-year Cycle Filing Process

Levy reported the IRS has announced the elimination of the 5-year filing cycle process for plans seeking a letter of determination of tax qualified status. The IRS issued guidance providing that expiration dates on determination letters issued prior to January 4, 2016, are no longer operative. Instead, the most recent favorable letter received by CCCERA now has no expiration date.

Allen recognized Levy for all of her work over the years on the Letter of Determination process.

18. Consider and take possible action on SACRS Board of Directors Elections

It was M/S/C to approve the SACRS Nominating Committee recommendations as presented. (Yes: Allen, Andersen, Gordon, Hast, Phillips, Rodrigues, Smithey, Telles and Watts)

19. Consider and take possible action on SACRS Voting Proxy Form

It was M/S/C to authorize Smithey as the Voting Delegate to vote on behalf of CCCERA at the upcoming SACRS Conference. (Yes: Allen, Andersen, Gordon, Hast, Phillips, Rodrigues, Smithey, Telles and Watts)

It was M/S/C to authorize Rodrigues as the Alternate Voting Delegate to vote on behalf of CCCERA at the upcoming SACRS Conference. (Yes: Allen, Andersen, Gordon, Hast, Phillips, Rodrigues, Smithey, Telles and Watts)

20. Consider authorizing the attendance of Board and/or staff:

- a. It was M/S/C to authorize the attendance of 2 Board members and 1 staff member at the 2016 Annual Conference, Angelo Gordon & Co., May 4-5, 2016, New York, NY. (Yes: Allen, Andersen, Gordon, Hast, Phillips, Rodrigues, Smithey, Telles and Watts)
- b. It was M/S/C to authorize the attendance of all Board members and all appropriate staff at the Spring Conference, SACRS, May 10-13, 2016, Costa Mesa, CA. (Yes: Allen, Andersen, Gordon, Hast, Phillips, Rodrigues, Smithey, Telles and Watts)

21. Miscellaneous

(a) Staff Report -

<u>Strohl</u> reported there was training on integrity at the monthly All Staff meeting presented by the Compliance Officer and this month there will be a training on bullying; we are up and running using NeoGov for recruiting with the first recruitment being for the Accounting Manager and we will have 4-5 recruitments posted next month.

(b)	Outside Professionals'	Report -

None

(c) Trustees' comments –

<u>Telles</u> reported he attended the California Retired County Employees Association Spring Conference with Rodrigues and felt it was very informative. The Contra Costa County Retired Employees Association (CCCREA) is sponsoring the fall conference in October and Mike Sloan has extended an invitation to Board members for the first day.

<u>Phillips</u> reported on the Contra Costa Times editorial supporting Debora Allen for State Assembly. He reported he attended the Pension Bridge Conference with Rodrigues and Watts.

It was M/S/C to adjourn the meeting. Smithey, Telles and Watts)	(Yes: Allen, A	Andersen,	Gordon,	Hast,	Phillips,	Rodrigues,
John Phillips, Chairman	So	cott Gordo	n, Secreta	ıry		

CONTRA COSTA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

BOARD OF RETIREMENT



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Items requiring Board Action

A. Certifications of Membership – see list and classification forms.

B. Service and Disability Retirement Allowances:

		Effective	Option		
<u>Name</u>	<u>Number</u>	<u>Date</u>	<u>Type</u>	<u>Group</u>	<u>Selected</u>
Andelman, Ross	57253	1/9/16	SR	Tier II and III	Unmod
Callaway, Omar	69862	4/13/16	SR	Tier III	Option 4
Carmel, Debra	76485	2/12/16	SR	Tier I	Option 2
Dodson, Denece	70105	3/1/16	SR	Tier I	Unmod
Dudley, Carl	43412	3/15/16	SR	Tier III	Option 1
Ezra, David	68051	3/1/16	SR	Tier III	Unmod
Giacomelli, Lori	D4980	4/2/16	SR	Tier I	Unmod
Healy, Mary	51167	3/1/16	SR	Tier II	Unmod
Lueders, Mary	49698	3/30/16	SR	Tier III	Unmod
McGowan, Teresa	41813	3/1/16	SR	Tier II & III	Unmod
Medlock, Bobby	61176	1/29/16	SR	Tier II & III	Unmod
Netherton, Karen	68509	3/1/16	SR	Tier III	Unmod
Nixon, Donald	63157	2/20/16	SR	Tier III	Unmod
Notarmaso, Philip	D3406	2/17/16	SR	Tier 1	Unmod
Perry, Richard	D7830	3/16/16	SR	S/A	Unmod
Rhoads, Donald	D3406	2/18/16	SR	Tier I	Unmod
Riccobono, Sharon	25736	2/25/16	SR	Tier II & III	Unmod
Ridgle, Willis	43980	3/23/16	SR	Tier II & III	Unmod
Rodrigues, Carole	63869	3/5/16	SR	Tier III	Unmod
Sablan, Kathy	60275	3/31/16	SR	Tier III	Unmod
Steinbrecher, Carol	55075	3/8/16	SR	Tier I	Unmod
Tripp, Brian	68183	3/28/16	SR	S/A	Unmod
Valverde, Elvin	39785	2/19/16	SR	Tier II and III	Unmod
Wallgren, Linda	67654	3/10//16	SR	Tier III	Unmod
Weiss, Jennifer	55302	2/29/16	SR	Tier I	Unmod
Whatford, Robert	13785	3/1/16	SR	Tier I, II & III	Option 2

C. Disability Retirement Applications: The Board's Hearing Officer is hereby authorized to issue subpoenas in the following cases involving disability applications:

<u>Name</u>	<u>Number</u>	<u>Filed</u>	<u>Type</u>
Barksdale, Rhonda	48168	5/3/16	SCD
Eschliman, Sandra	60108	5/17/16	SCD/NSD
Harris, Toni	72333	5/13/16	SCD
Soltis, Dean	70780	5/17/16	SCD

KEY:

Group
I = Tier I
II = Tier II
III = Tier III
S/A = Safety Tier A
S/C = Safety Tier C

Option

* = County Advance
Selected w/option

Type

NSP = Non-Specified

SCD = Service Disability

SR = Service Retirement

NSD = Non-Service Disability

CONTRA COSTA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

BOARD OF RETIREMENT

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D. Deaths:

<u>Name</u>	Date of Death	Employer as of Date of Death
Behrens, Thelma	5/16/2016	Beneficiary
Davis, Florence	5/13/2016	Contra Costa County
Garcia, Joe	5/12/2016	Rodeo Sanitary District
Gonzaga, Dianna	5/8/2016	Contra Costa County
Graham, Constance	4/30/2016	Beneficiary
Gunn, Lawrence	4/29/2016	Contra Costa County & Beneficiary
Hannan, Lillian	5/21/2016	Beneficiary
Hasselwander, Susan	4/17/2016	Central Contra Costa Sanitary District
Hunter, Martin	2/19/2016	Beneficiary
Kilpatrick, Belinda	4/28/2016	Contra Costa County
Kinney, John	4/20/2016	Beneficiary
Klebold, Nada	5/1/2016	Contra Costa County
Lutovich, Gerald	4/29/2016	Contra Costa County
Matthews, Tina (Active)	5/7/2016	Contra Costa County
Parker, Brenda (Active)	5/2/2016	Contra Costa County
Pinto, Betty	4/23/2016	Beneficiary
Rampani, Nancy	5/5/2016	Superior Court of California County of Contra Costa
Scearcy, Timothy	4/21/2016	Contra Costa County
Stripe, Joyce	5/23/2016	Contra Costa County
Sylvia, Astrid	4/16/2016	Contra Costa County
Thomas, Donald	5/6/2016	Contra Costa County
Vesperman, Susan	5/2/2016	Contra Costa County
White, Lorna	1/22/2016	Contra Costa County
Yates, Ronald	4/21/2016	Contra Costa County

CERTIFICATION OF MEMBERSHIPS

Meeting Date
06/08/16
Agenda Item
#4a.

				#44.
Name	Employee Number	Tier	Membership Date	Employer
Adaan, Samira	75323	P5.2	04/01/16	Contra Costa County
Aguilar-Ortega, Reina	74956	III	04/01/16	Contra Costa County
Alghamdi, Ashley	83113	P5.2	04/01/16	Contra Costa County
Anderson, Beverly	83021	P5.2	04/01/16	Contra Costa County
Anino, Melissa	81762	P5.2	04/01/16	Contra Costa County
Artiga, Oscar	80129	P5.2	04/01/16	Contra Costa County
Avila, David	83078	P5.2	04/01/16	Contra Costa County
Awad, Lara	83069	P5.2	04/01/16	Contra Costa County
Ayzenberg, Alexander	83115	P5.2	04/01/16	Contra Costa County
Barker, Jamie	80537	P5.2	04/01/16	Contra Costa County
Beck, Angela	83067	P5.2	04/01/16	Contra Costa County
Beveridge, Deborah	83083	P5.2	04/01/16	Contra Costa County
Blunt Jr., Alphonso	80640	P5.2	04/01/16	Contra Costa County
Bowerman, Christopher	81161	P5.2	04/01/16	Contra Costa County
Bowes-Tobol, Mary	83141	P5.2	04/01/16	Contra Costa County
Callinan, Eddylynne	83022	P5.2	04/01/16	Contra Costa County
Carlson, Andrea	80108	P5.2	04/01/16	Contra Costa County
Case, Karen	83084	P5.2	04/01/16	Contra Costa County
Castillo III, Candelario	70052	111	04/01/16	Contra Costa County
Cuevas, Barbara	83030	P5.2	04/01/16	Contra Costa County
Dailey, Frederick	51805	P5.2	04/01/16	Contra Costa County
Dennison, Nicolette	83017	P5.2	04/01/16	Contra Costa County
Douangsawang, Shychai	83028	P5.2	04/01/16	Contra Costa County
Ellerbee, Michelle	83114	P5.2	04/01/16	Contra Costa County
Estrada Balczar, Claudia	79994	P5.2	04/01/16	Contra Costa County
Eufrasio, Brenda	83138	P5.2	04/01/16	Contra Costa County
Ferretti, Petra	81035	P5.2	04/01/16	Contra Costa County
Fortier, Rochelle	81386	P5.2	04/01/16	Contra Costa County
Galzotte, Charlotte	83020	P5.2	04/01/16	Contra Costa County
Garcia, Jerveen	82273	P5.2	04/01/16	Contra Costa County
Gaughen, Kathleen	83117	P5.2	04/01/16	Contra Costa County
Grays, Esther	81975	P5.2	03/01/16	Contra Costa County
Grimmond, Susan	81466	P5.2	04/01/16	Contra Costa County
Hallinan, David	81536	P5.2	04/01/16	Contra Costa County
Hart, Matthew	D3406	P4.3	04/01/16	Central Contra Costa Sanitary District
Jirjis, Vera	83102	P5.2	04/01/16	Contra Costa County
Johnson, Clayton	70598	P5.2	04/01/16	Contra Costa County
Juarez, Anthony	83116	P5.2	04/01/16	Contra Costa County
Kiel, James	82977	P5.2	04/01/16	Contra Costa County
Knight, Tiana	79521	P5.2	04/01/16	Contra Costa County
Lee-Kahane, Sylvia	83027	P5.2	04/01/16	Contra Costa County
Lonis, Themis	83048	S/E	04/01/16	Contra Costa County
Lopez, Kevan	83046	S/E	04/01/16	Contra Costa County

Key:

I = Tier I	P4.2 = PEPRA Tier 4 (2% COLA)	S/A = Safety Tier A				
II = Tier II	P4.3 = PEPRA Tier 4 (3% COLA)	S/C = Safety Tier C				
III = Tier III	P5.2 = PEPRA Tier 5 (2% COLA)	S/D = Safety Tier D				
	P5.3 = PEPRA Tier 5 (3% COLA)	S/E = Safety Tier E				

CERTIFICATION OF MEMBERSHIPS

	Employee		Membership	
Name	Number	Tier	Date	Employer
Loredo Nungaray, Veronica	83065	P5.2	04/01/16	Contra Costa County
Loreto-Ashley, Valentina	78119	P5.3	04/01/16	Contra Costa County
Macagba, Jonathan	D3406	P4.3	04/01/16	Central Contra Costa Sanitary District
Manalili, Jeffrey	D9500	P5.3	04/01/16	Superior Courts
Martinez, Nicole	83131	P5.2	04/01/16	Contra Costa County
Mathes, Jayliana	82520	P5.2	02/01/16	Contra Costa County
McConney, Adam	83032	P5.2	04/01/16	Contra Costa County
McDade, Angelique	79641	P5.2	04/01/16	Contra Costa County
McGovern, Lynaire	80490	P5.2	04/01/16	Contra Costa County
Molina, Roxanne	83019	P5.2	04/01/16	Contra Costa County
Montero-Brambila, Marisol	80667	P5.3	04/01/16	Contra Costa County
Moore, Katrese	74362	P5.2	04/01/16	Contra Costa County
Moorkoth-Phelps, Priya	83133	P5.2	04/01/16	Contra Costa County
Nechita, Lydia	83035	P5.2	04/01/16	Contra Costa County
Ochoa, Liliana	80692	P5.2	04/01/16	Contra Costa County Contra Costa County
Osborn, Kristy	83130	P5.2		
, , , , , , , , , , , , , , , , , , ,			04/01/16	Contra Costa County
Ouziz, Marouane	D9500	P5.3	04/01/16	Superior Courts
Parbie, Eric	83149	P5.2	04/01/16	Contra Costa County
Pengel, Machtel	83008	P5.2	04/01/16	Contra Costa County
Poupich, Daniel	83047 76959	S/E P5.2	04/01/16	Contra Costa County
Rodrigues Redd, Deseanemoniqu Rodriguez, Milagros	83029	P5.2	03/01/16 04/01/16	In-Home Supportive Services (IHSS)
Rojas-Maglasang, Gina	71060	P5.2	04/01/16	Contra Costa County Contra Costa County
Rucki, Jamie	83137	P5.2	04/01/16	Contra Costa County Contra Costa County
Salgado, Socorro	77877	P5.2	01/01/16	Contra Costa County Contra Costa County
Samuels, Amy	83068	P5.2	04/01/16	Contra Costa County Contra Costa County
Selva Feustel, Yesenia	83147	P5.2	04/01/16	Contra Costa County
Shaver, Amy	78676	P5.2	04/01/16	Contra Costa County
Soto, Paola	83132	P5.2	04/01/16	Contra Costa County
Spurlock Jr., Gregory	71268	P5.2	04/01/16	Contra Costa County
Stringer, Krystle	83152	P5.2	04/01/16	Contra Costa County
Talavera, Luis	83088	P5.2	04/01/16	Contra Costa County
Terry, Natasha	83026	P5.2	04/01/16	Contra Costa County
Thames, Sharon	76848	P5.2	04/01/16	Contra Costa County
Turner, Stephanie	83099	P5.2	04/01/16	Contra Costa County
Wahba, Amal	83101	P5.2	04/01/16	Contra Costa County
Whitfield, Julie	82831	P5.2	04/01/16	Contra Costa County
Wise, Chelsey	83041	P5.2	04/01/16	Contra Costa County

rkey.						
I = Tier I	P4.2 = PEPRA Tier 4 (2% COLA)	S/A = Safety Tier A				
II = Tier II	P4.3 = PEPRA Tier 4 (3% COLA)	S/C = Safety Tier C				
III = Tier III	P5.2 = PEPRA Tier 5 (2% COLA)	S/D = Safety Tier D				
	P5.3 = PEPRA Tier 5 (3% COLA)	S/E = Safety Tier E				

TIER CHANGES

Name	Employee Number	Old Tier	New Tier	Effective Date	Employer	Reason for Change
Alcantara, Darren	82162	P5.2	S/E	4/1/2016	Contra Costa County	Recruit to Deputy Sheriff
Arevalo Jr., Jose	82294	P5.2	S/E	4/1/2016	Contra Costa County	Recruit to Deputy Sheriff
Bacheller-Green, Lavina	82507	p5.2	Ш	11/1/2015	Contra Costa County	Reciprocity
Boughtin, Casey	82164	P5.2	S/E	4/1/2016	Contra Costa County	Recruit to Deputy Sheriff
Brown, Chanmpagne	80337	P5.2	III	7/1/2014	Contra Costa County	Reciprocity
Calderon, Yoselin	82283	P5.2	S/E	4/1/2016	Contra Costa County	Recruit to Deputy Sheriff
Caruso, Charles	82338	P5.2	S/E	4/1/2016	Contra Costa County	Recruit to Deputy Sheriff
Chen, Wenkun	82289	P5.2	S/E	4/1/2016	Contra Costa County	Recruit to Deputy Sheriff
Cruz, David	82165	P5.2	S/E	4/1/2016	Contra Costa County	Recruit to Deputy Sheriff
Figaro, Rashad	82166	P5.2	S/E	4/1/2016	Contra Costa County	Recruit to Deputy Sheriff
Gallagher, Brandon	82297	P5.2	S/E	4/1/2016	Contra Costa County	Recruit to Deputy Sheriff
Gonzales, Adam	82355	P5.2	S/E	4/1/2016	Contra Costa County	Recruit to Deputy Sheriff
Green, Randolp	81266	S/E	S/A	3/1/2015	CCC Fire Protection District	Reciprocity
Hart, Norman	82296	P5.2	S/E	4/1/2016	Contra Costa County	Recruit to Deputy Sheriff
Kooy, Christopher	82293	P5.2	S/E	4/1/2016	Contra Costa County	Recruit to Deputy Sheriff
Krieg, John	82281	P5.2	S/E	4/1/2016	Contra Costa County	Recruit to Deputy Sheriff
Mojica, Yolanda	82174	P5.3	III	9/1/2015	Contra Costa County	Reciprocity
Nowlin, Thomas	82298	P5.2	S/E	4/1/2016	Contra Costa County	Recruit to Deputy Sheriff
Randhawa, Sumeet	81667	P5.2	S/E	4/1/2016	Contra Costa County	Recruit to Deputy Sheriff
Rios, Javier	82291	P5.2	S/E	4/1/2016	Contra Costa County	Recruit to Deputy Sheriff
Spiegel, Joseph	82161	P5.2	S/E	4/1/2016	Contra Costa County	Recruit to Deputy Sheriff
Valentine Jr., Quinton	82277	P5.2	S/E	4/1/2016	Contra Costa County	Recruit to Deputy Sheriff
Yarnell, Tiffany	82279	P5.2	S/E	4/1/2016	Contra Costa County	Recruit to Deputy Sheriff

Key:

I = Tier I	P4.2 = PEPRA Tier 4 (2% COLA)	S/A = Safety Tier A
II = Tier II	P4.3 = PEPRA Tier 4 (3% COLA)	S/C = Safety Tier C
III = Tier III	P5.2 = PEPRA Tier 5 (2% COLA)	S/D = Safety Tier D
	P5.3 = PEPRA Tier 5 (3% COLA)	S/E = Safety Tier E

ASSET ALLOCATION

Current Assets (Market Value)

\$7,245,966,000

Reporting Month End: April 30, 2016 Prepared By: Chih-Chi Chu

Jackson Square Partners (fka Delaware)

Emerald Advisors

Intech (Core) PIMCO Stocks+ Absolute Return

91/80/90 Meeting Date

Agenda Item #4e.

Total Domestic Equity

Pyrford (BMO)

Fotal International Equity

William Blair

JPMorgan Global Opportunities Artisan Global Opportunities First Eagle

Total Global Equity

Intech (Global Low Volatility)

Total Equity

AFL-CIO Housing Investment Trust

GSAM "Park" Portfolio PIMCO Total Return

Goldman Sachs Asset Management

Lord Abbett

Torchlight Debt Opportunity Funds **Total Domestic Fixed Income**

Allianz Global Investors (fka Nicholas Applegate) Total Global Fixed Income Lazard Asset Management

Total High Yield Fixed Income Wellington Real Total Return

PIMCO All Asset

Private Real Asset

Total Real Estate Total Real Asset

Total Alternative Investments

County Treasurer

State Street Bank

Total Market Opportunities Total Cash & Equivalents

UNDER REVIEW:

TOTAL ASSETS

Nogales Investors - Performance, Board Action 5/28/08 Wellington - Personnel Change, Board Action 4/13/16

% of 4.1% Target 27,94,506 Actual Assets Actual Course Over 14.9% Actual 27,94,506 Outsets 27,94,304 Outsets 0.03% Page 4.1% Actual 29,006,406 Actual 20,006,406	A	Д	၁	D	C-B	D-A	
Abserts Cluber	jo %	Target	Market	Actual	Over	Over	
297,084,606 325,032,000 449% 27,947,606 0.00% 297,084,606 290,1000 4.00% (6,981,606) (0,10%) 210,133,01 214,188,000 2.96% 4.034,986 0.010% 210,133,01 214,188,000 2.96% 4.034,986 0.010% 210,134,01 214,188,000 2.96% 4.034,986 0.010% 210,134,01 224,3938,000 3.45% (25,469,786 0.37% 210,133,01 223,182,860 3.45% 2.2,549,296 0.37% 210,133,01 223,182,860 3.45% 2.3,482,00 0.00% 289,838,640 314,014,000 3.67% 24,175,610 0.33% 289,838,640 314,014,000 3.19% 42,657,64 0.03% 289,838,640 314,014,000 3.19% 42,657,64 0.03% 289,838,640 314,014,000 3.19% 42,657,64 0.03% 289,838,640 314,014,000 3.19% 1,611,250,100 0.03% 289,838,640 314,019,000 3.19%<	Target	Assets	Value	Assets	(Under)	(Under)	Range
210,133,014 214,168,000 2.96% 4,034,966 0.010% 275,346,708 297,024,000 3.45% 4,034,986 0.05% 275,346,708 249,857,000 3.45% (25,489,708) 0.35% 0.31% 275,346,708 249,857,000 3.45% (25,489,708) 0.33% 0.32% 1,565,128,656 1,621,040,000 22.37% 23,482,802 0.26% 384,036,198 407,21,000 22.37% 23,482,802 0.26% 384,036,198 403,221,000 5.56% 19,134,802 0.26% 289,838,640 265,707,000 3.67% (24,131,640) 0.33% 289,838,640 265,707,000 11.19% 24,175,560 0.22% 289,838,640 305,851,000 4.22% 11,7782,182 0.22% 233,116,878 231,127,000 4.22% 17,782,182 0.22% 33,33,14,456 326,308,000 4.50% (7,066,356) (0.08% 11,494,193,200 1.362,292,000 4.50% (36,006,300) (1.20% 333,314,456 326,308,000 4.50% (36,006,300) (1.20% 362,298,300 326,2298,300 4.50% (36,006,300) (1.20% 362,298,300 326,2298,300 4.50% (36,006,300) (1.20% 362,298,300 326,2298,300 4.50% (36,006,300) (1.20% 362,298,300 326,2298,300 6.92% (36,006,300) (1.20% 362,298,300 326,2298,300 6.92% (1133,19,940) (0.56% 362,298,300 326,2298,300 6.92% (1133,19,940) (0.56% 362,298,300 326,2298,300 6.92% (1133,19,940) (0.56% 362,298,300 326,2298,300 6.92% (1133,19,170 0.25% 362,298,300 326,229,300 6.52% (1133,19,170 0.25% 362,298,300 37,90% 362,298,300 326,229,	4.1%	297,084,606	325,032,000	4.49%	27,947,394	0.39%	
210,133,014 214,168,000 2.96% 4,034,986 0.06% 275,346,708 227,942,000 4,11% 22,595,929 0.31% 275,346,708 249,857,000 3.45% 32,849,708 0.47% 249,857,000 3.37% 33,804,386 0.47% 0.47% 249,857,000 3.37% 33,804,386 0.47% 0.47% 0.28% 23,482,802 0.32% 384,036,198 407,519,000 5.56% 19,184,802 0.32% 289,838,640 265,707,000 11.19% 42,667,604 0.58% 289,838,640 265,707,000 11.19% 42,175,600 0.23% 289,838,640 265,707,000 11.29% 17,722,182 0.02% 239,116,878 23,446,000 12,55% 17,722,182 0.02% 239,116,878 234,640,000 12,55% 17,722,182 0.02% 24,000 0.00% 4000 0.00% 4000 0.00% 4000 0.00% 4000 0.00% 4000 0.00% 4000 0.00% 4000 0.00% 4000 0.00% 4000 0.00% 4000 0.00% 4000 0.00% 4000 0.00% 4000 0.00% 4000 0.00% 4000 0.00% 4000 4.80% 6.544,54,670 0.32% 0.02%	4.1%	297,084,606	290,103,000	4.00%	(6,981,606)	(0.10%)	
275,346,708 297,942,000 4.11% 22,595,292 0.31% 275,346,708 249,87,000 3.45% 22,595,292 0.31% 210,133,014 249,877,000 3.45% 22,595,292 0.31% 210,133,014 249,877,000 2.37% 3.849,880 0.77% 384,036,198 407,519,000 5.62% 23,482,802 0.32% 384,036,198 407,519,000 5.62% 23,482,802 0.32% 289,838,640 265,707,000 3.67% 24,175,360 0.32% 289,838,640 265,707,000 1.19% 42,667,601 0.52% 289,838,640 265,707,000 1.25% 17,723,182 0.22% 289,838,640 265,707,000 1.25% 17,723,180 0.22% 289,838,640 265,707,000 1.25% 17,723,180 0.22% 289,838,640 265,707,000 1.25% 17,723,180 0.12% 289,838,640 265,000 1.25% 17,636,130 0.16% 289,838,640 265,300 1.25%	2.9%	210,133,014	214,168,000	7.96%	4,034,986	%90.0	
275,346,708 249,857,000 3.45% (25,489,708) 0.35% 210,133,014 1,621,038,000 3.37% 33,804,986 0.47% 210,133,014 1,621,040,000 2.237% 55,911,344 0.77% 1,565,128,656 1,621,040,000 2.237% 55,911,344 0.77% 384,036,198 407,519,000 2.237% 55,811,340 0.28% 289,888,640 280,740,000 11.19% 42,657,604 0.59% 289,888,640 314,614,000 4.23% 24,175,560 0.22% 289,888,640 36,851,000 4.23% 24,175,560 0.22% 289,888,640 36,851,000 4.22% 16,012,360 0.22% 289,888,640 36,851,000 4.20% 17,782,182 0.25% 289,888,640 33,464,000 4.20% 11,782,182 0.11% 4,000 33,314,436 324,621,000 4.80% 10,182,000 1.00% 4,001 33,314,436 324,621,000 4.80% 10,186,000 1.28% 1,491,	3.8%	275,346,708	297,942,000	4.11%	22,595,292	0.31%	
1,565,128,656	3.8%	275,346,708	249,857,000	3.45%	(25,489,708)	(0.35%)	
1,565,128,656	2.9%	210,133,014	243,938,000	3.37%	33,804,986	0.47%	
384,036,198 407,519,000 5.62% 23,482,802 0.32% 384,036,198 403,221,000 5.56% 19,184,802 0.26% 768,072,396 810,740,000 11.19% 42,667,604 0.59% 289,838,640 365,851,000 3.67% (24,131,64) 0.22% 289,838,640 314,014,000 4.32% 1,726,102 0.02% 289,838,640 36,851,000 4.22% 16,012,360 0.22% 21,737,898 23,464,000 0.32% 1,726,102 0.02% 21,737,898 23,464,000 0.32% 1,738,182 0.25% 40,000 0.03% 4.000 0.00% 4,000 0.00% 405,774,006 348,159,000 1.88% (8,693,436) (0.12%) 133,314,436 324,621,000 1.88% (8,693,436) (0.10%) 137,673,354 11,828,000 1.88% (8,693,436) (0.10%) 11,449,193,200 1,362,047,000 1.88% (8,693,436) (0.50%) 11,449,193,200 1,605,892,0	21.6%	1,565,128,656	1,621,040,000	22.37%	55,911,344	0.77%	
384,036,198 403,221,000 5.56% 19,184,802 0.26% 1,000,2396 1,000,2396 1,000,2396 1,000,2396,238,640 305,851,000 4.33% 24,175,360 0.33% 229,838,640 305,851,000 4.33% 1,726,102 0.22% 21,737,898 23,464,000 0.32% 1,726,102 0.22% 239,116,878 239,116,878 231,127,000 4.86% (7,989,878) 0.11% 4,000 0.00% 4.86% (7,989,878) 0.11% 4,000 0.00% 4.86% (7,989,878) 0.11% 4,000 0.00% 4.86% (7,989,878) 0.11% 4,000 0.00% 4.86% (7,006,300 0.00% 1,344,436 326,303,000 4.86% (87,146,200) (1,20%) 1,344,436 326,303,000 4.86% (87,146,200) (1,20%) 1,344,436 326,303,000 4.86% (87,146,200) (1,20%) 1,344,444 131,828,000 1,362,047,000 1,82% (45,993,40) (1,20%) (1,20%) 1,449,193,200 1,362,047,000 1,82% (45,993,40) (1,20%) (1,2	5.3%	384,036,198	407,519,000	5.62%	23,482,802	0.32%	
768,072,396 810,740,000 11.19% 42,667,604 0.59% 289,888,640 265,707,000 3.67% (24,131,640) 0.33% 289,888,640 314,014,000 4.33% 24,175,360 0.22% 289,888,640 314,014,000 4.32% 1,726,102 0.02% 21,77,898 33,46,000 0.32% 1,726,102 0.02% 21,77,898 334,016,000 46,11% 116,361,30 1.61% 239,116,878 231,127,000 3.19% (7,989,878) 0.01% 405,774,096 348,159,000 4.80% (7,089,878) 0.01% 405,774,096 348,159,000 4.80% (7,064,436) 0.00% 405,774,096 348,159,000 4.80% (7,064,436) 0.01% 333,314,436 326,308,000 4.80% (8,693,436) 0.12% 1,749,193,200 1,362,047,000 18.80% (8,694,336) 0.12% 289,838,640 243,845,000 22.16% (145,993,404) 1.144 362,298,300 326,292,000	5.3%	384,036,198	403,221,000	5.56%	19,184,802	0.26%	
289,838,640 265,707,000 3.67% (24,131,640) (0.33%) 289,838,640 314,014,000 4.33% 24,175,360 0.32% 289,838,640 314,014,000 4.33% 24,175,360 0.02% 21,737,898 33,464,000 0.32% 11,726,102 0.02% 21,737,898 3,346,400 0.32% 11,726,102 0.02% 3,224,458,70 3,346,816,000 46.11% 116,361,130 1.61% 405,774,096 3,341,136 321,127,000 4.610 0.00% 405,774,097 324,621,000 4.80% (5,98,876) 0.01% 333,314,436 324,621,000 4.48% (8,693,436) (0.12%) 1,449,193,200 1,362,047,000 1.82% (1,284,346) (1,28% 1,449,193,200 1,362,292,000 4.50% (136,066,30) (1,58% 362,298,300 362,292,000 4.50% (36,066,30) (1,58% 4,440,193,031,4436 1,605,892,000 2.43% (114,236,150) (1,58% 54,344,745 <t< td=""><td>10.6%</td><td>768,072,396</td><td>810,740,000</td><td>11.19%</td><td>42,667,604</td><td>0.59%</td><td></td></t<>	10.6%	768,072,396	810,740,000	11.19%	42,667,604	0.59%	
289,838,640 314,014,000 4.33% 24,175,360 0.33% 289,838,640 305,851,000 4.22% 16,012,360 0.22% 21,737,898 23,464,000 0.32% 1,7782,182 0.02% 891,253,818 909,036,000 12.55% 17,782,182 0.02% 4,000 4,000 4,000 4,000 0.00% 4,05,774,96 348,159,000 4,80% (7,06,436) (0.11%) 405,774,96 324,621,000 4.80% (7,06,436) (0.10%) 333,314,436 324,621,000 4.88% (8,693,436) (0.10%) 1,449,193,200 1,362,047,000 1.82% (7,06,436) (0.10%) 1,449,193,200 1,362,047,000 1.88% (12,34,34,44) 1,665,892,000 4.50% (136,064,30) (1.26%) 1,739,031,840 1,665,892,000 2.43,845,000 3.37% (45,993,64) (0.63%) 362,298,300 362,298,300 326,292,000 4.50% (145,993,64) (0.63%) 54,344,745 176,003,00 <t< td=""><td>4.0%</td><td>289,838,640</td><td>265,707,000</td><td>3.67%</td><td>(24,131,640)</td><td>(0.33%)</td><td></td></t<>	4.0%	289,838,640	265,707,000	3.67%	(24,131,640)	(0.33%)	
289,838,640 305,851,000 4.22% 16,012,360 0.22% 21,737,898 23,464,000 0.32% 1,726,102 0.02% 891,253,818 909,036,000 12.55% 17,782,182 0.25% 3,224,454,870 3,340,816,000 46.11% 116,361,130 1.61% 239,116,878 231,127,000 3.19% (7,989,878) (0.11%) 405,774,096 348,159,000 4.80% (57,615,096) (0.80%) 333,314,436 324,621,000 4.48% (8,693,436) (0.12%) 137,673,354 131,828,000 1.82% (7,006,436) (0.12%) 137,673,354 131,828,000 1.82% (7,006,436) (0.12%) 1,449,193,200 1,362,047,000 18.80% (7,006,436) (0.12%) 289,838,640 243,845,000 3.37% (45,993,640) (0.50%) 362,298,300 326,292,000 4.50% (36,006,300) (0.50%) 54,344,745 176,003,000 2.43% (117,078,75) 1.68% 181,149,150	4.0%	289,838,640	314,014,000	4.33%	24,175,360	0.33%	
21,737,898 23,464,000 0.32% 1,726,102 0.02% 891,253,818 999,036,000 12.55% 17,782,182 0.25% 3,224,454,870 3,340,816,000 46.11% 116,361,130 1.61% 239,116,878 231,127,000 3.19% (7,989,878) (0.11%) 405,774,066 348,139,000 4.80% (87,615,066) (0.08%) 333,314,356 324,621,000 4.88% (8,693,36) (0.12%) 333,314,36 324,621,000 4.88% (8,693,436) (0.12%) 137,673,334 131,828,000 1.82% (5,845,34) (0.12%) 137,673,344 132,230,047,000 1.82% (5,845,34) (0.12%) 1,449,193,200 1,362,047,000 1.88% (87,146,200) (1.20%) 362,298,300 326,292,000 4.50% (36,006,300) (0.50%) 54,344,745 176,003,000 2.43% (114,236,150) (1.58%) 181,149,150 66,913,000 2.65% 45,29,700 0.65% 905,745,750	4.0%	289,838,640	305,851,000	4.22%	16,012,360	0.22%	
891,253,818 909,036,000 12.55% 17,782,182 0.25% 3,224,454,870 3,340,816,000 46.11% 116,361,130 1.61% 239,116,878 231,127,000 3.19% (7,989,878) (0.11%) 405,774,096 348,159,000 4.80% (57,615,096) 0.00% 405,774,096 348,159,000 4.80% (7,006,436) 0.00% 333,314,436 324,621,000 4.48% (8,693,436) 0.12% 333,314,436 324,621,000 4.48% (8,693,436) 0.10% 137,673,354 131,828,000 1.82% (7,006,436) 0.10% 1,449,193,000 1,362,047,000 1.88% (8,7146,200) (1.20%) 1,449,193,200 1,605,822,000 22.16% (133,139,840) (1.20%) 362,298,300 326,292,000 4.50% (36,006,300) (0.50%) 362,298,300 326,292,000 243% (114,236,150) (1.88%) 126,804,405 123,412,000 1.71% (2,892,405) (0.04%) 181,149,150 <td>0.3%</td> <td>21,737,898</td> <td>23,464,000</td> <td>0.32%</td> <td>1,726,102</td> <td>0.02%</td> <td></td>	0.3%	21,737,898	23,464,000	0.32%	1,726,102	0.02%	
3,224,454,870 3,340,816,000 46.11% 116,361,130 1.61% 239,116,878 231,127,000 3.19% (7,989,878) (0.11%) 405,774,096 348,159,000 4.80% (7,989,878) (0.11%) 40,000 4,000 0.00% 4,000 0.00% 333,314,436 324,621,000 4.88% (8,693,436) (0.12%) 137,673,354 131,828,000 1.82% (7,006,436) (0.10%) 1,449,193,200 1,362,047,000 1.82% (87,146,200) (1.20%) 1,449,193,200 1,605,892,000 22.16% (133,139,840) (0.63%) 1,739,031,840 1,605,892,000 4.50% (36,006,300) (1.20%) 362,298,300 326,292,000 4.50% (36,006,300) (0.50%) 126,804,405 123,912,000 4.50% (11,236,150) (1.58%) 126,804,405 123,912,000 1.226% (17,078,750) 0.06% 181,149,150 66,913,000 0.02% 4,529,700 0.05% 182,229,830	12.3%	891,253,818	000,036,000	12.55%	17,782,182	0.25%	
239,116,878 231,127,000 3.19% (7,989,878) (0.11%) 405,774,096 348,159,000 4.80% (57,615,096) 0.80%) 405,774,096 348,159,000 4.80% (8,693,436) (0.12%) 333,314,436 324,621,000 4.48% (8,693,436) (0.10%) 333,314,436 326,308,000 4.50% (7,006,436) (0.10%) 137,673,554 131,828,000 1.82% (5,845,354) (0.10%) 1,449,193,200 1,362,047,000 1.880% (87,146,200) (1.20%) 289,838,640 243,845,000 3.37% (45,993,640) (0.63%) 1,739,031,840 1,605,892,000 4.50% (36,006,300) (0.50%) 362,298,300 326,292,000 4.50% (36,006,300) (0.50%) 54,344,745 176,003,000 2.43% 121,658,255 1.68% 181,149,150 66,913,000 2.02% (114,236,150) 0.63% 905,745,750 888,667,000 12.26% (17,078,720) 0.63% 579,677,280<	44.5%	3,224,454,870	3,340,816,000	46.11%	116,361,130	1.61%	40% TO 55%
405,774,096 348,159,000 4.80% (57,615,096) (0.80%) 333,314,436 4,000 0.00% 4,000 0.00% 333,314,436 324,621,000 4.48% (8,693,436) (0.12%) 137,673,354 131,828,000 1.82% (5,845,354) (0.10%) 1,449,193,200 1,362,047,000 18.80% (87,146,200) (1.20%) 289,838,640 243,845,000 3.37% (45,993,640) (0.63%) 1,739,031,840 1,605,892,000 2.216% (133,139,840) (1.84%) 362,298,300 326,292,000 4.50% (36,006,300) (0.50%) 54,344,745 176,003,000 2.43% (114,236,150) (0.26%) 126,804,405 123,912,000 1.71% (2,892,405) (0.04%) 181,149,150 66,913,000 5.06% 4,529,700 0.06% 905,745,750 888,667,000 12.26% 45,448,720 0.63% 579,677,280 625,126,000 0.75% 45,448,720 0.63% 54,349,000	3.3%	239,116,878	231,127,000	3.19%	(7,989,878)	(0.11%)	
333,314,436 4,000 0.00% 4,000 0.00% 333,314,436 324,621,000 4.48% (8,693,436) (0.12%) 333,314,436 326,308,000 4.50% (7,006,436) (0.10%) 137,673,354 131,828,000 1.82% (5,845,354) (0.08%) 1,449,193,200 1,362,047,000 18.80% (87,146,200) (1.20%) 289,838,640 243,845,000 3.37% (45,993,640) (0.63%) 1,739,031,840 1,605,892,000 4.50% (36,006,300) (0.53%) 362,298,300 326,292,000 4.50% (36,006,300) (0.50%) 54,344,745 176,003,000 2.43% 121,658,255 1.68% 126,804,405 66,913,000 0.92% (114,236,150) (1.58%) 181,149,150 66,913,000 0.92% (17,078,750) 0.63% 56,229,830 36,229,830 56,328,000 0.75% 0.63% 579,677,280 625,126,000 12.26% (17,078,750) 0.63% 54,349,000 0.7	2.6%	405,774,096	348,159,000	4.80%	(57,615,096)	(0.80%)	
333,314,436 324,621,000 4.48% (8,693,436) (0.12%) 333,314,436 326,308,000 4.50% (7,006,436) (0.10%) 137,673,354 131,828,000 1.82% (5,845,354) (0.08%) 1,449,193,200 1,362,047,000 18.80% (87,146,200) (1.20%) 289,838,640 243,845,000 3.37% (45,993,640) (0.63%) 1,739,031,840 1,605,892,000 4.50% (36,006,300) (0.50%) 362,298,300 326,292,000 4.50% (133,139,840) (1.84%) 54,344,745 176,003,000 2.43% 121,658,255 1.68% 126,804,405 123,912,000 1.71% (2,892,405) (1.58%) 181,149,150 66,913,000 0.92% (114,236,150) (1.58%) 56,229,300 366,828,000 5.06% 4,529,700 0.63% 579,677,280 625,126,000 8.63% 45,448,720 0.63% 54,349,000 0.75% 13,119,170 0.02% 54,349,000 0.75% 1,766,170 0.02% 7,245,966,000 7,245,966,000	%0.0	0	4,000	0.00%	4,000	0.00%	
333,314,436 326,308,000 4.50% (7,006,436) (0.10%) 137,673,354 131,828,000 1.82% (5,845,354) (0.08%) 1,449,193,200 1,362,047,000 18.80% (87,146,200) (1.20%) 289,838,640 243,845,000 3.37% (45,993,640) (0.63%) 1,739,031,840 1,605,892,000 22.16% (133,139,840) (1.28%) 362,298,300 326,292,000 4.50% (36,006,300) (0.50%) 54,344,745 176,003,000 2.43% 121,658,255 1.68% 126,804,405 123,912,00 1.71% (2,892,405) (0.04%) 181,149,150 66,913,000 0.92% (114,236,150) 0.06% 362,298,300 366,828,000 5.06% 4,529,700 0.06% 579,677,280 625,126,000 12.26% (17,078,750) 0.63% 54,349,000 0.75% 13,766,170 0.02% 54,349,000 0.52% 1,766,170 0.02% 36,229,830 54,349,000 0.52% 1,7	4.6%	333,314,436	324,621,000	4.48%	(8,693,436)	(0.12%)	
137,673,354 131,828,000 1.82% (5,845,354) (0.08%) 1,449,193,200 1,362,047,000 18.80% (87,146,200) (1.20%) 289,838,640 243,845,000 3.37% (45,993,640) (0.63%) 1,739,031,840 1,605,892,000 22.16% (133,139,840) (1.84%) 362,298,300 326,292,000 4.50% (36,006,300) (0.50%) 54,344,745 176,003,000 2.43% 121,658,255 1.68% 126,804,405 123,912,000 1.71% (2,892,405) (0.04%) 181,149,150 66,913,000 0.92% (114,236,150) (1.58%) 362,298,300 366,828,000 5.06% 4,529,700 0.06% 579,677,280 625,126,000 12.26% (17,078,750) 0.63% 579,677,280 54,349,000 0.75% 13,19,170 0.25% 54,349,000 0.75% 1,766,170 0.02% 7,245,966,000 7,245,966,000 1,00% 0.52% 1,766,170 0.02%	4.6%	333,314,436	326,308,000	4.50%	(7,006,436)	(0.10%)	
1,449,193,200 1,362,047,000 18.80% (87,146,200) (1.20%) 289,838,640 243,845,000 3.37% (45,993,640) (0.63%) 1,739,031,840 1,605,892,000 22.16% (133,139,849) (1.84%) 362,298,300 326,292,000 4.50% (36,006,300) (0.50%) 54,344,745 176,003,000 2.43% 121,658,255 1.68% 126,804,405 123,912,000 1.71% (2,892,405) (0.04%) 181,149,150 66,913,000 0.92% (114,236,150) (1.58%) 362,298,300 366,828,000 5.06% 4,529,700 0.04%) 905,745,750 888,667,000 12.26% (17,078,750) 0.63% 54,349,000 0.75% 18,119,170 0.22% 36,229,830 54,349,000 0.75% 1,766,170 0.02% 7,245,966,000 7,245,966,000 0.652% 1,766,170 0.02%	1.9%	137,673,354	131,828,000	1.82%	(5,845,354)	(0.08%)	
289,838,640 243,845,000 3.37% (45,993,640) (0.63%) 1,739,031,840 1,605,892,000 22.16% (133,139,840) (1.84%) 362,298,300 326,292,000 4.50% (36,006,300) (0.50%) 54,344,745 176,003,000 2.43% 121,658,255 1.68% 126,804,405 123,912,000 1.71% (2,892,405) (0.04%) 181,149,150 66,913,000 0.92% (114,236,150) (1.58%) 362,298,300 366,828,000 5.06% 4,529,700 0.06% 905,745,750 888,667,000 12.26% (17,078,750) 0.63% 579,677,280 625,126,000 8.63% 45,448,720 0.63% 54,349,000 0.75% 13,119,170 0.25% 36,229,830 54,349,000 0.52% 1,766,170 0.02% 7,245,966,000 7,245,966,000 1,00% 0.65% 0.02%	20.0%	1,449,193,200	1,362,047,000	18.80%	(87,146,200)	(1.20%)	
1,739,031,840 1,605,892,000 4.50% (133,139,840) (1.84%) 362,298,300 326,292,000 4.50% (36,006,300) (0.50%) 54,344,745 176,003,000 2.43% 121,658,255 1.68% 126,804,405 123,912,000 1.71% (2,892,405) (0.04%) 181,149,150 66,913,000 0.92% (114,236,150) (1.58%) 362,298,300 366,828,000 5.06% 4,529,700 0.06% 905,745,750 888,667,000 12.26% (17,078,750) 0.63% 579,677,280 625,126,000 8.63% 45,448,720 0.63% 54,349,000 0.75% 18,119,170 0.25% 36,229,830 54,349,000 0.52% 1,766,170 0.02% 7,245,966,000 7,245,966,000 0.652% 0.653% 0.02%	4.0%	289,838,640	243,845,000	3.37%	(45,993,640)	(0.63%)	
362,298,300 326,292,000 4.50% (36,006,300) (0.50%) 362,298,300 326,292,000 4.50% (36,006,300) (0.50%) 54,344,745 176,003,000 2.43% 121,658,255 1.68% 126,804,405 123,912,000 0.92% (114,236,150) (0.04%) 181,149,150 66,913,000 5.06% 4,529,700 0.06% 905,745,750 888,667,000 12.26% (17,078,750) 0.63% 579,677,280 625,126,000 8.63% 45,448,720 0.63% 54,349,000 0.75% 18,119,170 0.25% 36,229,830 54,349,000 0.52% 1,766,170 0.02% 7,245,966,000 7,245,966,000 100% 0.52% 0.02%	24.0%	1,739,031,840	1,605,892,000	22.16%	(133,139,840)	(1.84%)	20% TO 30%
362,298,300 326,292,000 4.50% (36,006,300) (0.50%) 54,344,745 176,003,000 2.43% 121,658,255 1.68% 126,804,405 123,912,000 1.71% (2,892,405) (0.04%) 181,149,150 66,913,000 5.06% 4,529,700 0.06% 905,745,750 888,667,000 12.26% (17,078,750) 0.06% 579,677,280 625,126,000 8.63% 45,448,720 0.63% 54,349,000 0.75% 18,119,170 0.25% 36,229,830 54,349,000 0.75% 1,766,170 0.02% 7,245,966,000 7,245,966,000 100% 0.52% 0.02%	5.0%	362,298,300	326,292,000	4.50%	(36,006,300)	(0.50%)	
54,344,745 176,003,000 2.43% 121,658,255 1.68% 126,804,405 123,912,000 1.71% (2,892,405) (0.04%) 181,149,150 66,913,000 0.92% (114,236,150) (1.58%) 362,298,300 366,828,000 5.06% 4,529,700 0.06% 905,745,750 888,667,000 12.26% (17,078,750) (0.24%) 579,677,280 625,126,000 8.63% 45,448,720 0.63% 54,349,000 0.75% 18,119,170 0.25% 36,229,830 37,996,000 0.52% 1,766,170 0.02% 7,245,966,000 7,245,966,000 100% 0.63% 0.63%	2.0%	362,298,300	326,292,000	4.50%	(36,006,300)	(0.50%)	2% TO 9%
126,804,405 123,912,000 1.71% (2,892,405) 0.04% 181,149,150 66,913,000 0.92% (114,236,150) 1.58% 362,298,300 366,828,000 5.06% 4,529,700 0.06% 905,745,750 888,667,000 12.26% (17,078,750) (0.24%) 579,677,280 625,126,000 8.63% 45,448,720 0.63% 54,349,000 0.75% 18,119,170 0.25% 36,229,830 37,996,000 0.52% 1,766,170 0.02% 7,245,966,000 7,245,966,000 100% 0.60% 0.00%	%8.0	54,344,745	176,003,000	2.43%	121,658,255	1.68%	
181,149,150 66,913,000 0.92% (114,236,150) (1.58%) 362,298,300 366,828,000 5.06% 4,529,700 0.06% 905,745,750 888,667,000 12.26% (17,078,750) (0.24%) 579,677,280 625,126,000 8.63% 45,448,720 0.63% 54,349,000 0.75% 18,119,170 0.25% 36,229,830 37,996,000 0.52% 1,766,170 0.02% 7,245,966,000 7,245,966,000 100% 0.6% 0.0%	1.8%	126,804,405	123,912,000	1.71%	(2,892,405)	(0.04%)	
362,298,300 366,828,000 5.06% 4,529,700 0.06% 905,745,750 888,667,000 12.26% (17,078,750) (0.24%) 579,677,280 625,126,000 8.63% 45,448,720 0.63% 54,349,000 0.75% 18,119,170 0.25% 36,229,830 37,996,000 0.52% 1,766,170 0.02% 7,245,966,000 7,245,966,000 100% 0.65% 0.02%	2.5%	181,149,150	66,913,000	0.92%	(114,236,150)	(1.58%)	
905,745,750 888,667,000 12.26% (17,078,750) (0.24%) 579,677,280 625,126,000 8.63% 45,448,720 0.63% 54,349,000 0.75% 18,119,170 0.25% 36,229,830 37,996,000 0.52% 1,766,170 0.02% 7,245,966,000 7,245,966,000 100% 0 0 0	2.0%	362,298,300	366,828,000	5.06%	4,529,700	0.06%	0% TO 10%
579,677,280 625,126,000 8.63% 45,448,720 0.63% 54,349,000 0.75% 18,119,170 0.25% 36,229,830 54,349,000 0.75% 18,119,170 0.25% 7,245,966,000 7,245,966,000 100% 0 0	12.5%	905,745,750	888,667,000	12.26%	(17,078,750)	(0.24%)	10% TO 16%
36,229,830 54,349,000 0.75% 18,119,170 0.25% 36,229,830 37,996,000 0.52% 1,766,170 0.02% 7,245,966,000 7,245,966,000 100% 0 0	8.0%	579,677,280	625,126,000	8.63%	45,448,720	0.63%	5% TO 12%
36,229,830 54,349,000 0.75% 18,119,170 0.25% 36,229,830 37,996,000 0.52% 1,766,170 0.02% 7,245,966,000 7,245,966,000 100% 0 0%			- 000 000	%00.0			
36,229,830 54,349,000 0.75% 18,119,170 0.25% 36,229,830 37,996,000 0.52% 1,766,170 0.02% 7,245,966,000 7,245,966,000 100% 0 0%	31		000,640,40	0.13%	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
36,229,830 37,996,000 0.52% 1,766,170 0.02% 7,245,966,000 7,245,966,000 100% 0 0%	0.5%	36,229,830	54,349,000	0.75%	18,119,170	0.25%	0% TO 1%
7,245,966,000 7,245,966,000 100% 0	0.5%	36,229,830	37,996,000	0.52%	1,766,170	0.02%	0% TO 5%
	100.0%	7,245,966,000	7,245,966,000	100%	0	%0	

Private Market Investments As of April 30, 2016

NEAL ESTATE INVESTMENTS	Inception	Target	# of	Discretion	New Target	Funding	Market	% of	Outstanding
	Date	Termination	Extension	by GP/LP	Termination	Commitment	Value	Total Asset	Commitment
DLJ Real Estate Capital Partners, L.P. II	07/31/99	07/31/09	3rd 2 YR	LP	6/30/2015	40,000,000	3,010,000	0.04%	
DLJ Real Estate Capital Partners, L.P. III	06/30/05	06/30/14	1st 2 YR	GP	6/30/2016	75,000,000	45,351,000	0.63%	18,958,000
DLJ Real Estate Capital Partners, L.P. IV	12/31/07	09/30/16				100,000,000	81,296,000	1.12%	19,113,000
DLJ Real Estate Capital Partners, L.P. V	07/31/13	12/31/22				75,000,000	41,561,000	0.57%	39,072,000
Hearthstone Partners II	86/11/90	12/31/09				6,240,000	2345,0430	0.000	
Invesco IREF I	10/22/03	04/30/11	3rd 1 YR	GP	4/30/2014	50,000,000	6,187,000	%60.0	
Invesco IREF II	05/30/07	12/31/15				85,000,000	17,913,000	0.25%	
Invesco IREF III	08/01/13	08/01/20				35,000,000	22,953,000	0.32%	20,305,000
Invesco IREF IV	12/01/14	12/01/21				35,000,000	19,352,000	0.27%	19,223,000
Long Wharf FREG II	07/18/03	02/28/12	NOT DEF	LP	12/31/2014	50,000,000	794,000	0.01%	
Long Wharf FREG III	03/30/02	12/30/15				75,000,000	12,887,000	0.18%	
Long Wharf FREG IV	08/14/13	09/30/21				25,000,000	24,459,000	0.34%	
Oaktree Real Estate Opportunities Fund V	12/15/11	12/31/16				50,000,000	48,332,000	%29.0	
Oaktree Real Estate Opportunities Fund VI	09/30/13	09/30/20				80,000,000	99,415,000	1.37%	5,682,000
Oaktree Real Estate Opportunities Fund VII	02/28/15	02/28/23				65,000,000	0	%00.0	65,000,000
Siguler Guff Distressed Real Estate Opp. Fund	12/31/11	12/31/16				75,000,000	73,667,000	1.02%	13,243,000
Siguler Guff Distressed Real Estate Opp. Fund II	08/31/13	08/31/20				70,000,000	44,079,000	0.61%	46,305,000
Siguler Guff Distressed Real Estate Opp. II Co-Inv	01/31/16	01/31/23				25,000,000	10,000,000	0.14%	15,000,000
Paulson Real Estate Fund II	11/10/13	11/10/20				20,000,000	20,213,000	0.28%	3,574,000
Angelo Gordon Realty Fund VIII	12/31/11	12/31/18				80,000,000	66,724,000	0.92%	18,145,000
Angelo Gordon Realty Fund IX	10/10/14	10/10/22				65,000,000	9,100,000	0.13%	55,900,000
LaSalle Income & Growth Fund VI	01/31/12	01/31/19				75,000,000	91,111,000	1.26%	3,946,000
Adelante Capital Management (REIT)						0	92,500,000	1.28%	
INVESCO International REIT						0	57,801,000	0.80%	
						1,361,250,000	888,667,000	12.26%	343,466,000
	Outstanding	Outstanding Commitments	nts		•		343,466,000		
	Total					. "	1,232,133,000		
PRIVATE DEBT INVESTMENTS	Inception	Target	# 01	Discretion	Discretion New Target	Funding	Market	% Of	Outstanding
		Termination	Ext	by GP/LP	Termination	Commitment	Value	Total Asset	Commitment
Torchlight Debt Opportunity Fund II	09/28/06	09/30/16				128,000,000	54,730,000	%92.0	
Torchlight Debt Opportunity Fund III	80/08/60	09/30/16				75,000,000	10,309,000	0.14%	
Torchlight Debt Opportunity Fund IV	08/01/12	08/30/20				000,000,000	63,004,000	0.87%	0
Torchlight Debt Opportunity Fund V	12/31/14	09/17/22				75,000,000	3,785,000	0.05%	71,250,000
						338,000,000	131,828,000	1.82%	71,250,000
	Outstanding	Outstanding Commitments	nts				71,250,000		
	Total						203,078,000		

Private Market Investments As of April 30, 2016

ALTERNATIVE INVESTMENTS	Inception	Target	jo#				Market	% of	Outstanding
	Date	Termination	Extension	by GP/LP	Termination	ပိ	Value	Total Asset	Commitment
Adams Street Partners	12/22/95	INDEFINITE				180,000,000	132,958,000	1.83%	93,781,000
Adams Street Secondary II	12/31/08	12/31/20				30,000,000	23,037,000	0.32%	12,637,000
Adams Street Secondary V	10/31/12	10/31/22				40,000,000	18,365,000	0.25%	21,884,000
Adams Street Venture Innovation Fund	03/09/16	03/09/28				75,000,000	0	0.00%	75,000,000
Pathwav	11/09/98	05/31/21				125,000,000	59.259.000	0.82%	18,249,000
Dathway 2008	12/26/08	19/96/93				30,000,000	23 917 000	0.33%	7 396 000
1 attiway 4000	12/20/00	07/20/20				30,000,000	23,311,000	2,000	000,060,7
Pathway 6	05/24/11	05/24/26				40,000,000	27,391,000	0.38%	16,130,000
Pathway 7	02/07/13	02/07/23				70,000,000	28,808,000	0.40%	40,846,000
Pathway 8	11/23/15	11/23/25				20,000,000	4,075,000	%90.0	45,925,000
Siguler Guff CCCERA Opportunities	06/03/14	05/31/25				200,000,000	57,119,000	0.79%	145,858,000
EIF USPF I	11/08/02	11/08/12	3rd 1YR	LP	11/08/15	30,000,000	815,000	0.01%	0
EIF USPF II	06/15/05	06/15/15				50,000,000	39,090,000	0.54%	0
EIF USPF III	02/28/07	02/28/17				65,000,000	61,758,000	0.85%	0
EIF USPF IV	06/28/10	06/28/20				50,000,000	49,715,000	%69.0	2,519,000
Nogales investment	02/15/04	02/15/14			sold last inv.	15,600,000		1000	4
Bay Area Equity Fund	06/14/04	01/15/13	1st 2 YR	LP	1/15/2015	10,000,000	5.750.000	0.08%	0
Bay Area Equity Fund II	2/29/09	12/31/17				10,000,000	10,985,000	0.15%	514,000
Paladin III	11/30/07	12/31/17				25,000,000	21,002,000	0.29%	0
Carpenter Community BancFund	01/31/08	01/31/16				30,000,000	41,618,000	0.57%	1,479,000
Ocean Avenue Fund II	06/11/14	05/31/24				30,000,000	14.464,000	0.20%	14.884.000
Ocean Avenue Fund III	06/11/14	05/31/24				50,000,000	5,000,000	%20.0	45,000,000
						000 000	400,000	1000	000 000
						1,155,000,000	625,126,000	8.56%	542,102,000
	Outstanding	Outstanding Commitments	nts			•	542,102,000		
	Total					ı	1,167,228,000		
MARKET OPPORTUNITIES	Inception	Target	# of	Discretion	New Target	Funding	Market	Jo %	Outstanding
	Date	Termination	Extension	by GP/LP		Commitment	Value	Total Asset	Commitment
Oaktree Private Investment Fund 2009	02/28/10	01/31/17				40,000,000	22,996,000	0.32%	5,163,000
Angelo Gordon Energy Credit Opportunities	09/10/15	09/10/20				75,000,000	15,000,000	0.21%	60,000,000
						115,000,000	37,996,000	0.52%	65,163,000
	Outstanding	Outstanding Commitments	nts		-		65,163,000		
	Total					• •	103,159,000		
REAL ASSET INVESTMENTS	Inception	Target	# of	Discretion	New Target	Funding	Market	Jo %	Outstanding
	Date	Termination	Extension	by GP/LP	Termination	Commitment	Value	Total Asset	Commitment
Commonfund Capital Natural Resources IX	06/30/13	06/30/20				50,000,000	23,664,000	0.33%	26,125,000
Wastewater Opportunity Fund	12/31/15	11/30/22				25,000,000	1,165,000	0.02%	23,835,000
Aether III & III Surplus	11/30/13	11/30/20				75,000,000	41,584,000	0.57%	34,806,000
Aether IV	01/01/16	01/01/28				50,000,000	500,000	0.01%	49,500,000
ARES/EIF V	09/09/15	09/09/25				50,000,000	0	0.00%	50,000,000
						250,000,000	66,913,000	0.92%	184,266,000
	Outstanding	Outstanding Commitments	nts		-		184,266,000		
	Total					•	251,179,000		
Moderat value solume is the lotest andien encretes which and different located softes the andien encretes	v additional cani	to loolle ofter t	one original	10		u			

Market value column is the latest ending quarter plus any additional capital calls after the ending quarter.
The Target Termination column is the beginning of liquidation of the fund, however, some funds may be extended for an additional two or three years.



Meeting Date
06/08/16
Agenda Item
#10

MEMORANDUM

Date:

June 8, 2016

To:

CCCERA Board of Retirement

From:

Gail Strohl, Chief Executive Officer

Subject:

Consider and take possible action to adopt the actuarial demographic assumption changes and explicit administrative expense load recommended by Segal Consulting in its Actuarial Experience Study; which changes and recommendations would then be

utilized in the December 31, 2015 actuarial valuation report.

Background

CCCERA conducts an actuarial experience study every three years. The study includes a review of economic and demographic assumptions. At the April 27, 2016 Board meeting, the Board adopted economic assumption changes. At the June 8, 2016 Board meeting, there will be a consideration of proposed demographic assumption changes and an explicit administrative expense load. Segal Consulting will be presenting information and recommendations for both items. CCCERA currently implicitly funds administrative expenses through a reduction in the assumed investment return. The implementation of an explicit administrative expense load will increase the transparency of plan expenses and is the recommended approach.

Recommendation

Consider and take possible action to adopt the actuarial demographic assumption changes and explicit administrative expense load recommended by Segal Consulting in its Actuarial Experience Study; which changes and recommendations would then be utilized in the December 31, 2015 actuarial valuation report.



Contra Costa Employees' Retirement Association

Actuarial Experience Study

June 8, 2016

John Monroe, ASA Segal Consulting, San Francisco

Actuarial Assumptions

- Actuarial assumptions two kinds
 - Demographic
 - When benefits will be payable
 - Amount of benefits
 - Economic
 - How assets grow
 - How salaries increase

Demographic Assumptions

- Rates of "decrement"
 - Termination, mortality, disability, retirement
 - Termination
 - Withdrawal
 - Deferred vested
 - Mortality:
 - Before and after retirement.
 - Service connected or not
 - Service, disability, beneficiary
- Leave cashouts
- Service from unused sick leave conversion
- Percent married and member/spouse age difference
- Reciprocity
- Assumptions can be distinct for General and Safety

Economic Assumptions (discussed on April 27, 2016)

- ➤ Inflation component, plus COLA
- Investment return
 - Real return
- ➤ Salary increases
 - Real wage increases ("across the board")
 - Merit and promotion (included with demographic assumptions)

Selection of Actuarial Assumptions

- Objective, long term
- Recent experience of future expectations
 - Demographic: recent experience
 - Economic: not necessarily!
- Client specific or not
- Consistency among assumptions
- Desired pattern of cost incidence
 - Good assumptions produce level cost
 - Beware "results based" assumptions!

Always remember

$$C + I = B + E$$

Contributions + Investment Income equals

Benefit Payments + Expenses

- Actuarial valuation determines the current or "measured" cost, not the ultimate cost
- Assumptions and funding methods affect only the timing of costs

Setting Demographic Assumptions

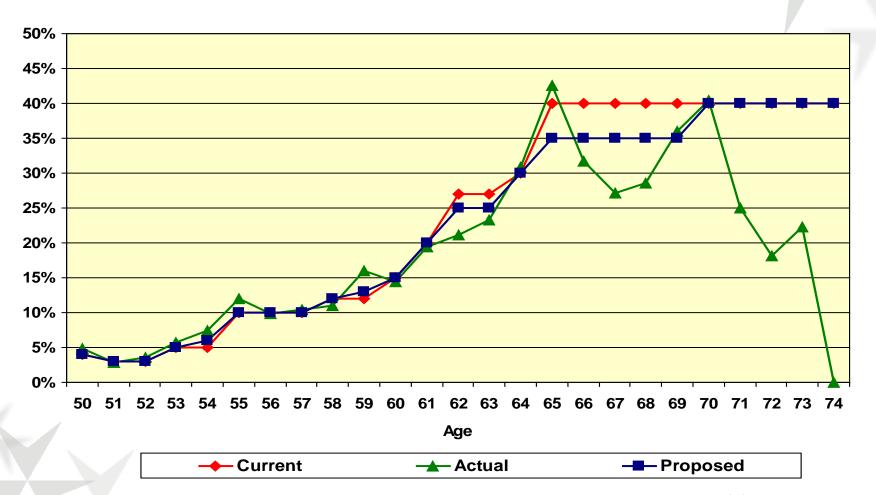
- To determine rates for each assumption we count the "decrements" and "exposures" for that event
 - Exposures = Number of employees who could have terminated, retired, etc.
 - Decrements = Number of employees who actually terminated, retired, etc.
 - This gives the "actual" decrement rates during the period
- Compare to the "current" assumed rates (or to expected number of decrements based on those current rates)
- Develop "proposed" new assumption based on both "current" assumption and recent "actual" experience
 - Weight the "actual" based on "credibility"

Setting Demographic Assumption – Retirement Rates

Retirement Rates from Experience Study

Chart 2

Retirement Rates - General Enhanced Tier 3 Members



Recommendations - Demographic

- Retirement rates:
 - Slightly later retirements overall for General members
 - Slightly earlier retirements overall for Safety members
- ➤ Termination rates:
 - Increase in termination rates
 - Maintain current assumption that member will choose a refund or deferred benefit based on which option is more valuable
- Disability incidence:
 - Decrease for General
 - Increase for Safety
- Leave Cashouts
 - Overall decreases in assumed leave cashouts
- Service from unused sick leave conversion
 - Overall decreases in assumed sick leave conversion

Setting Demographic Assumptions – Mortality

- Mortality Rates
 - Longer life expectancies
 - Mortality table
 - RP-2014: Headcount weighted vs. Benefit Weighted
 - The Society of Actuaries has published scales to estimate future mortality improvements:
 - Scale AA Has been standard since around 2000
 - » Does not accurately reflect recent improvements in mortality
 - Scale BB Interim standard scale issued in 2012
 - Scale MP-2014 Issued in October 2014
 - Scale MP-2015 Issued in October 2015

Setting Demographic Assumptions – Mortality

- Two ways to use mortality improvement scales to project future mortality improvements: Static or Generational
- >Static projection to a future year reflect mortality at a future date, not as of today
 - Preferable to have a margin of around 20%
 - Actual deaths during the study period should be around 20% greater than the expected deaths
 - Current assumption
 - RP-2000 with ages set back one year for General and two years for Safety, projected to 2030 with Scale AA

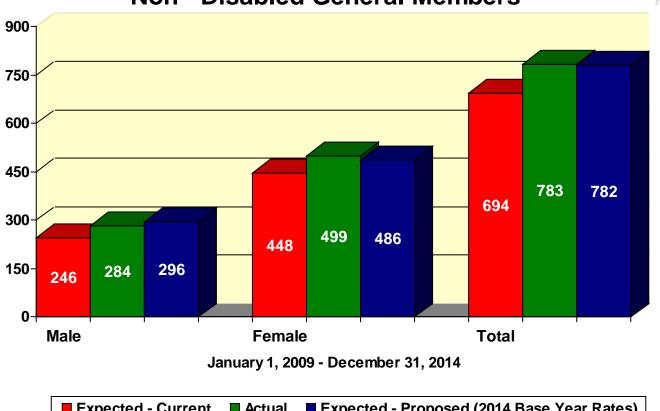
Recommended Demographic Assumptions – Mortality

- Recommend generational mortality
 - Each future year has its own mortality table that reflects the forecasted improvements at every age
 - Younger participants have more future mortality improvement built in than for older participants
 - Probability of dying depends not only on age and sex but also on what year it is
 - Headcount Weighted RP-2014, projected generationally using Scale MP-2015
 - Set back three years for Safety members
- > Exception is for member contribution rates for legacy tiers, determination of optional benefits and reserves
 - Use static projection for 20 years which approximates generational mortality

Setting Demographic Assumptions – Mortality Rates

Mortality Experience from Experience Study Chart 9

Post-Retirement Deaths Non - Disabled General Members



■ Expected - Current Actual **■** Expected - Proposed (2014 Base Year Rates)

Salary Increase Assumption

- >Three components: two "economic", one "demographic"
- Economic components adopted by Board in April
 - Price inflation: decrease from 3.00% to 2.75%
 - Real increases: decrease from 0.75% to 0.50%
- Promotional & Merit: demographic assumption analyzed in experience study
 - Varies based on years of service
 - Currently 9.50% (0-1 years) to 0.75% (8+ years) for General
 - Currently 10% (0-1 years) to 0.75% (6+ years) for Safety
 - Recommend increases for most years of service categories
- ➤ Net reduction in assumed future salary increases

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

- For funding, current investment return assumption is net of both investment and administrative expenses
- For financial reporting, GASB 67 and 68 require this assumption to be gross of administrative expense
- Advantages to using same assumption for funding and for financial reporting
 - Take advantage of consistency between new GASB rules and current funding practices
 - Consistency of liability and normal cost measures
- ➤ Board action in April 2014 secured these advantages for financial reporting
 - Deferred final action on whether to change treatment of administrative expenses for funding.

Investment Return Assumption for Financial Reporting vs Funding

- ➤ Board action in April 2014 (what was called "Option B")
 - For financial reporting, use same value for investment return assumption as used for funding, but treat that value as gross of administrative expenses
 - Continue to set investment return assumption for funding on a net of administrative expenses basis
 - Pending review at next full experience study (i.e., 2016)
- Open policy question: should the investment return assumption for funding be set gross of administrative expenses? (what was called "Option A")
 - Add explicit contribution load for administrative expenses
 - Note: no action is needed or recommended on assumption used for financial reporting

Investment Return for Funding: Implicit vs Explicit **Funding of Administrative Expenses**

- Current approach implicitly funds administrative expenses through a reduction in the assumed investment return
 - Lack of transparency compared to more explicit expense loading
- Administrative expenses funded implicitly by employer and employees (see next slide)
 - Difficult to precisely determine current implicit cost sharing
- >Also, current implicit method may "overcharge" for administrative expenses
 - 0.11% of assets not the same as a 0.11% change in investment return assumption
 - 0.11% of assets is about \$7 million annually or 1.0% of payroll
 - -0.11% change in return assumption increases contributions by about \$12 million annually or 1.7% of payroll

Investment Return for Funding: Implicit vs Explicit **Funding of Administrative Expenses**

- Under current "implicit" approach to funding administrative expenses, those expenses are funded by both employers and employees
 - Under "explicit" approach, need to allocate administrative expense load so as to approximate current implicit cost sharing
- Allocate explicit load to employer/employees based on portion of contributions paid by each
 - Employee NC, Employer NC, Employer UAAL payment
 - Based on Dec. 31, 2014 valuation, the 1.0% of payroll total expense load would be allocated:
 - 0.77% of pay for employers
 - 0.23% of pay for members

Investment Return Assumption for Funding

- ➤ Currently, the investment return assumption for funding is <u>net</u> of administrative expenses
 - See first column below
- ➤ Recommend introducing explicit administrative expense loading of 1.0% of payroll or \$7 million annually (allocated 0.77% employer/0.23% member)

 See second column below 	Currently Used for Funding	Recommended for Funding
Assumed Inflation	2.75%	2.75%
Portfolio Real Rate of Return	5.19%	5.19%
Assumed Expenses	(0.75%)	(0.64%)
Risk Adjustment	<u>(0.19%)</u>	(0.30%)
Assumed Investment Return	7.00%	7.00%
Confidence level	53%	54%
Administrative Expense Load	Not Applicable	1.0% of pay ★ Segal Consulting 19

Anticipated Impact on Valuation Results

Modeled as of December 31, 2014 for illustration

- Impact of all proposed assumption changes
 - Demographic, economic and administrative expense load
- ➤ Increase in Actuarial Accrued Liability (+\$87 million)
- ➤ Total increase in average employer rate (+2.46% of payroll)
 - Increase of 2.87% of payroll due to demographic assumptions (mainly due to mortality)
 - Decrease of 1.18% of payroll due to economic assumptions
 - Increase of 0.77% of payroll due to portion of explicit administrative expense allocated to employer
- Impacts vary separately by cost group
 - Impact for General cost groups usually 1% to 2% of pay
 - Impact for Safety cost groups usually 5% to 7% of pay

Anticipated Impact on Valuation Results

Modeled as of December 31, 2014 for illustration

- ➤ Total increase in average member rate (+0.09% of payroll)
 - Increase of 0.53% of payroll due to demographic assumptions (mainly due to mortality)
 - Decrease of 0.67% of payroll due to economic assumptions
 - Increase of 0.23% of payroll due to portion of explicit administrative expense allocated to member
- Impacts vary separately by cost group
 - Relatively small changes for many tiers
 - Impact is higher for tiers with the 2% COLA and some PEPRA tiers

Always remember

- Actuarial valuation determines the current or "measured" cost, not the ultimate cost
- Assumptions and funding methods affect only the timing of costs

Contra Costa County Employees' Retirement Association

ACTUARIAL EXPERIENCE STUDY

Analysis of Actuarial Experience During the Period January 1, 2012 through December 31, 2014

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100 Montgomery Street Suite 500 San Francisco, CA 94104-4308 T 415.263.8200 www.segalco.com

June 1, 2016

Board of Retirement Contra Costa County Employees' Retirement Association 1355 Willow Way, Suite 221 Concord, CA 94520

Re: Review of Demographic Actuarial Assumptions for the December 31, 2015 Actuarial Valuation

Dear Members of the Board:

We are pleased to submit this report of our review of the actuarial experience of the Contra Costa County Employees' Retirement Association. This study generally utilizes the census data for the period from January 1, 2012 through December 31, 2014. The study develops the proposed actuarial assumptions to be used in future actuarial valuations starting with the December 31, 2015 actuarial valuation.

Please note that we have also reviewed the economic assumptions. The economic actuarial assumption recommendations for the December 31, 2015 valuation were provided in a separate report issued on April 19, 2016.

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 Monroe, ASA, MAAA, EA Vice President and Actuary

JEM/hy

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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 assumptions, 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 year's experience was 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 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 January 1, 2012 through December 31, 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 near-term experience, we are recommending various changes in the current actuarial assumptions.

In this report we are recommending changes in the assumptions for retirement from active employment, pre-retirement mortality, healthy life post-retirement mortality, disabled life post-retirement mortality, turnover, disability incidence, promotional and merit salary increases, leave cashouts, sick leave conversion, spousal age difference, percent of members assumed to go on to work for a reciprocal system and reciprocal salary increases.

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

Ref: Pg. 6 **Retirement Rates** - The probability of retirement at each age at which participants are eligible to retire.

Recommendation: For active members, adjust the current retirement rates to those developed in Section III(B). General members are assumed to retire at slightly later ages overall while Safety members are assumed to retire at slightly earlier ages overall.

Ref: Pg. 24 **Mortality Rates** - The probability of dying at each age. Mortality rates are used to project life expectancies.

Recommendation: Change the current mortality tables to generational mortality tables as developed in Sections III(C) and III(D).

Ref: Pg. 39 **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 increased.

Ref: Pg. 46 Disability Incidence Rates - The probability of becoming disabled at each age.

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

Ref: Pg. 52 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). Overall, future salary increases due to promotional and merit increases are higher under the new assumptions for both General and Safety members. Overall, total assumed salary increases are lower for both General and Safety members due to the lower wage inflation assumption adopted by the Retirement Board in April 2016.

Ref: Pg. 58

Leave Cashouts – Additional pay elements that are expected to be received during the member's final average earnings period.

Recommendation: Adjust the current leave cashout assumptions to those developed in Section III(H). Overall, the leave cashout assumptions are slightly lower under the new assumptions.

Ref: Pg. 62 Service From Unused Sick Leave Conversion – Additional service that is expected to be received when the member retires due to conversion of unused sick leave.

Recommendation: Adjust the current sick leave conversion assumptions to those developed in Section III(I). Overall, the sick leave conversion assumptions are slightly lower under the new assumptions.

We have estimated the impact of the previously adopted economic assumption changes and proposed demographic assumption changes as if they were applied to the December 31, 2014 actuarial valuation. If all of the proposed demographic assumption changes were implemented, the Plan's average employer rate would have increased by 2.87% of compensation. The average member rate would have increased by 0.53% of compensation. Of the various demographic assumption changes, the most significant cost impact is from the change to use generational mortality tables.

The estimated cost impact of the <u>economic</u> assumptions previously adopted by the Board in April 2016 was a decrease of 1.18% of compensation for the average employer rate and 0.67% of compensation for the average member rate.

The estimated cost impact of the proposed change to an <u>explicit administrative expense load</u> is an increase of 0.77% of compensation for the employer rates and 0.23% of compensation for the member rates.

Therefore, the estimated cost impact of all adopted and proposed assumption changes (including demographic, economic and explicit administrative expense load) is an increase of 2.46% of compensation for the average employer rate, where the Normal Cost rate increased by 0.13%, the UAAL amortization rate increased by 1.56% and the explicit administrative expense load is 0.77%. The estimated increase in the average member rate is 0.09% of compensation, including the explicit administrative load of 0.23%. 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 December 31, 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 incidence, service retirement, and death after retirement. In addition to decrements, other demographic assumptions reviewed in this study include the percentage of members with a spouse or domestic partner, spousal age difference, leave cashouts, service from unused sick leave, percent of members assumed to go on to work for a reciprocal system and reciprocal salary increases. We also review the individual salary increases for active members 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 $50 \div 500$ 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 credence 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 demographic assumptions. See the separate reported titled "Review of Economic Actuarial Assumptions for the December 31, 2015 Actuarial Valuation" that was issued on April 19, 2016.

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 General Enhanced Tier 1 members based on the actual experience over the three-year period. 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 rates assumed and the rates we propose:

General Enhanced Tier 1

Age	Current Rate of Retirement	Actual Rate of Retirement	Proposed Rate of Retirement
Under 50	0.00%	100.00%	0.00%
50	5.00	5.45	5.00
51	4.00	1.96	4.00
52	6.00	4.84	5.00
53	6.00	3.39	5.00
54	12.00	15.79	14.00
55	20.00	18.42	20.00
56	20.00	18.84	20.00
57	20.00	27.14	20.00
58	22.00	8.70	20.00
59	25.00	32.14	25.00
60	30.00	23.81	28.00
61	35.00	38.64	35.00
62	35.00	37.50	35.00
63	35.00	23.81	30.00
64	35.00	17.65	30.00
65	40.00	23.08	35.00
66	40.00	37.50	40.00
67	40.00	33.33	40.00
68	40.00	66.67	40.00
69	40.00	0.00	40.00
70	100.00	33.33	50.00
71	100.00	0.00	50.00
72	100.00	0.00	50.00
73	100.00	0.00	50.00
74	100.00	0.00	50.00
75 & Over	100.00	0.00	100.00

As shown above, we are mostly recommending decreases in the retirement rates for General Enhanced Tier 1 members. We are also increasing the age at which 100% retirement is assumed from age 70 to age 75.

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

We observed that there were a significant number of retirements during 2012 and a much lower number of retirements in 2013. We believe at least some of this experience was the result of the passage of AB 197 and may not be representative of long-term retirement patterns. Our proposed retirement rates account for this by giving relatively less weight to actual experience.

The following table shows the observed retirement rates for General Enhanced Tier 3 members over the three-year period. Also shown are the current rates assumed and the rates that we propose:

General Enhanced Tier 3

Current Rate of	Actual Rate of	Proposed Rate of	
	Retirement	Retirement	
0.00%	50.00%	0.00%	
4.00	4.84	4.00	
3.00	2.91	3.00	
3.00	3.55	3.00	
5.00	5.76	5.00	
5.00	7.39	6.00	
10.00	12.01	10.00	
10.00	9.86	10.00	
10.00	10.46	10.00	
12.00	10.95	12.00	
12.00	16.01	13.00	
15.00	14.49	15.00	
20.00	19.48	20.00	
27.00	21.08	25.00	
27.00	23.24	25.00	
30.00	30.92	30.00	
40.00	42.54	35.00	
40.00	31.76	35.00	
40.00	27.08	35.00	
40.00	28.57	35.00	
40.00	36.00	35.00	
40.00	40.43	40.00	
40.00	25.00	40.00	
40.00	18.18	40.00	
40.00	22.22	40.00	
40.00	0.00	40.00	
100.00	38.46	100.00	
	Retirement 0.00% 4.00 3.00 3.00 5.00 5.00 10.00 10.00 12.00 12.00 15.00 20.00 27.00 27.00 30.00 40.00 40.00 40.00 40.00 40.00 40.00 40.00 40.00 40.00 40.00 40.00 40.00 40.00 40.00 40.00	Retirement Retirement 0.00% 50.00% 4.00 4.84 3.00 3.55 5.00 5.76 5.00 7.39 10.00 12.01 10.00 9.86 10.00 10.46 12.00 16.01 15.00 14.49 20.00 19.48 27.00 21.08 27.00 23.24 30.00 30.92 40.00 42.54 40.00 27.08 40.00 28.57 40.00 36.00 40.00 40.43 40.00 18.18 40.00 18.18 40.00 22.22 40.00 0.00	

Overall, we are recommending decreases in the retirement rates for General Enhanced Tier 3 members.

Chart 2 compares actual experience with the current and proposed rates of retirement for General Enhanced Tier 3 members.

The following table shows the observed retirement rates for Safety Enhanced Tier A members over the three-year period. Also shown are the current rates assumed and the rates we propose:

Safety Enhanced Tier A

Safety Enhanced Tiel A			
Age	Current Rate of Retirement	Actual Rate of Retirement	Proposed Rate of Retirement
Under 45	0.00%	4.92%	0.00%
45	2.00	8.33	4.00
46	2.00	4.11	3.00
47	7.00	13.25	10.00
48	7.00	12.50	10.00
49	20.00	35.00	25.00
50	25.00	38.64	30.00
51	25.00	33.33	30.00
52	25.00	26.09	25.00
53	25.00	22.64	25.00
54	25.00	25.00	25.00
55	30.00	25.00	28.00
56	25.00	6.67	25.00
57	25.00	26.67	25.00
58	35.00	38.46	35.00
59	35.00	0.00	35.00
60	40.00	38.46	35.00
61	40.00	22.22	35.00
62	40.00	50.00	35.00
63	40.00	25.00	35.00
64	40.00	80.00	50.00
65 & over	100.00	50.00	100.00

Overall, we are recommending increases in the retirement rates for Safety Enhanced Tier A members.

Chart 3 compares actual experience with the current and proposed rates of retirement for Safety Enhanced Tier A members.

The following table shows the current rates assumed and the rates we propose for Safety Enhanced Tier C members:

Safety Enhanced Tier C

	sarcty Emmanced Tier C	
Age	Current Rate of Retirement	Proposed Rate of Retirement
Under 45	0.00%	0.00%
45	1.00	2.00
46	1.00	1.00
47	3.00	4.00
48	3.00	4.00
49	10.00	12.00
50	15.00	18.00
51	15.00	18.00
52	15.00	15.00
53	15.00	15.00
54	15.00	15.00
55	20.00	18.00
56	15.00	15.00
57	15.00	15.00
58	25.00	25.00
59	25.00	25.00
60	35.00	30.00
61	35.00	30.00
62	35.00	30.00
63	35.00	30.00
64	35.00	40.00
65 & over	100.00	100.00

We recommend increasing retirement rates for some ages for Safety Enhanced Tier C members. There were no actual retirements during this period for members in this tier. We have based our recommended rates on a combination of the current assumption used for Safety Enhanced Tier C and the greater than expected actual retirement experience that occurred for Safety Enhanced Tier A members.

Chart 4 compares the current rates with the proposed rates of retirement for Safety Enhanced Tier C members.

The following table shows the current and proposed rates as well as the observed rates for General Nonenhanced members:

General Non-enhanced Tier 1

General Non-enhanced Tier 1			
Age	Current Rate of Retirement	Actual Rate of Retirement	Proposed Rate of Retirement
Under 50	0.00%	0.00%	0.00%
50	3.00	0.00	3.00
51	3.00	0.00	3.00
52	3.00	0.00	3.00
53	3.00	0.00	3.00
54	3.00	0.00	3.00
55	10.00	0.00	10.00
56	10.00	0.00	10.00
57	10.00	0.00	10.00
58	10.00	0.00	10.00
59	10.00	0.00	10.00
60	25.00	0.00	25.00
61	15.00	0.00	15.00
62	40.00	0.00	40.00
63	25.00	100.00	35.00
64	30.00	0.00	30.00
65	40.00	0.00	40.00
66	35.00	0.00	35.00
67	35.00	100.00	35.00
68	35.00	0.00	35.00
69	35.00	0.00	35.00
70	100.00	0.00	50.00
71	100.00	0.00	50.00
72	100.00	0.00	50.00
73	100.00	0.00	50.00
74	100.00	0.00	50.00
75 & over	100.00	0.00	100.00

For General Tier 1 members not covered under the enhanced benefit formulas, we are recommending some increases to the retirement rates. There is only a small group of members covered by the non-enhanced formulas. The proposed rates take into account a portion of the actual experience for this group. We are also increasing the age at which 100% retirement is assumed from age 70 to age 75.

Chart 5 compares actual experience with the current and proposed rates of retirement for General Nonenhanced Tier 1 members.

The following table shows the observed retirement rates for Safety Non-enhanced Tier A members. Also shown are the current rates assumed and the rates that we propose:

Safety Non-enhanced Tier A

Safety Non-enhanced Tiel A			
Age	Current Rate of Retirement	Actual Rate of Retirement	Proposed Rate of Retirement
Under 45	0.00%	0.00%	0.00%
45	0.00	0.00	0.00
46	0.00	0.00	0.00
47	0.00	0.00	0.00
48	0.00	0.00	0.00
49	0.00	0.00	0.00
50	5.00	0.00	5.00
51	4.00	0.00	4.00
52	4.00	0.00	4.00
53	5.00	0.00	5.00
54	5.00	33.33	8.00
55	6.00	50.00	10.00
56	8.00	100.00	10.00
57	12.00	0.00	12.00
58	18.00	0.00	18.00
59	20.00	0.00	20.00
60	20.00	0.00	20.00
61	20.00	0.00	20.00
62	20.00	0.00	20.00
63	20.00	0.00	20.00
64	100.00	0.00	100.00
65 & over	100.00	0.00	100.00

There is only a small group of members covered under the Safety Non-enhanced Tier A formula. We recommend increasing the retirement rates for Safety Non-enhanced Tier A members. The proposed rates take into account a portion of the actual experience for this group.

Chart 6 compares the current rates with the proposed rates of retirement for Safety Non-enhanced Tier A members.

Effective January 1, 2013, new PEPRA formulas were implemented for General and Safety. 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, similar to Safety Enhanced Tier C, we have based our recommended rates on a combination of the current assumption, the less than expected actual retirement experience that occurred for General Tier 3 Enhanced members and the greater than expected actual retirement experience that occurred for Safety Tier A Non-enhanced members.

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

PEPRA General and PEPRA Safety

		KA General and I El N	A Saicty	
Ago	Current PEPRA General	Proposed PEPRA General	Current PEPRA Safety	Proposed PEPRA Safety
Age			•	•
50	0.00%	0.00%	5.00%	5.00%
51	0.00	0.00	4.00	4.00
52	2.00	2.00	4.00	4.00
53	3.00	3.00	5.00	5.00
54	3.00	3.00	5.00	6.00
55	5.00	5.00	6.00	10.00
56	5.00	5.00	8.00	10.00
57	6.00	6.00	12.00	18.00
58	8.00	8.00	18.00	18.00
59	9.00	9.00	20.00	18.00
60	10.00	10.00	20.00	18.00
61	14.00	14.00	20.00	20.00
62	21.00	20.00	20.00	20.00
63	21.00	20.00	20.00	20.00
64	21.00	20.00	100.00	30.00
65	27.00	25.00	100.00	30.00
66	33.00	30.00	100.00	100.00
67	33.00	30.00	100.00	100.00
68	33.00	30.00	100.00	100.00
69	33.00	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 7 compares the current rates with the proposed rates of retirement for PEPRA General members. Chart 8 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 59 and 54, respectively. The average age at retirement over the prior three years was 58.4 for General and 53.7 for Safety. We recommend no change to this assumption.

Reciprocity

It was also assumed that 40% of inactive General and 60% of inactive Safety deferred vested members would be covered under a reciprocal retirement system and receive 5.25% salary increases from termination until their date of retirement. Based on the actual experience that 39% of all current General deferred vested members and 67% of all current Safety deferred vested members went on to be covered by a reciprocal retirement system, we recommend maintaining the current reciprocal assumption at 40% for General members and increasing the assumption for Safety members from 60% to 65%. Based on our recommended salary increase assumptions, we propose that the 5.25% salary increase assumption, which is used to anticipate salary increases from termination from CCCERA to the expected date of retirement, be reduced to 4.75% per annum.

Survivor Continuance Under Unmodified Option

In prior valuations, it was assumed that 75% 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 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	Male	Female
2012	71%	56%
2013	81%	56%
2014	72%	47%
Total	74%	53%

According to experience of members who retired during the last three years, about 74% of all male members and 53% of all female members were married or had a domestic partner at retirement. We recommend maintaining this assumption at 75% for male members and 50% 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 recommend the following:

- 1. Since the majority of survivors are of the opposite sex, we will continue to assume that the survivor's sex is the opposite of the member. These assumptions will continue to be monitored in future experience studies.
- 2. The current and proposed assumptions for the age of the survivor are shown below. These assumptions will continue to be monitored in future experience studies.

Survivor Ages as Compared to Member's Age

	<u> </u>	<u>. </u>	
D	Current	4 - 15	Recommended
Beneficiary Sex	Assumption	Actual Experience	Assumption
Male	3 years older	1.8 years older	2 years older
Female	3 years younger	2.4 years younger	3 years younger

Chart 1
Retirement Rates - General Enhanced Tier 1 Members

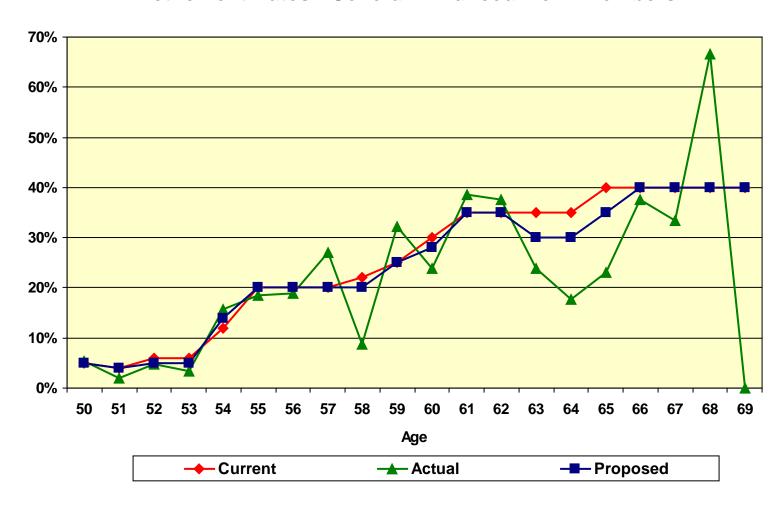


Chart 2
Retirement Rates - General Enhanced Tier 3 Members

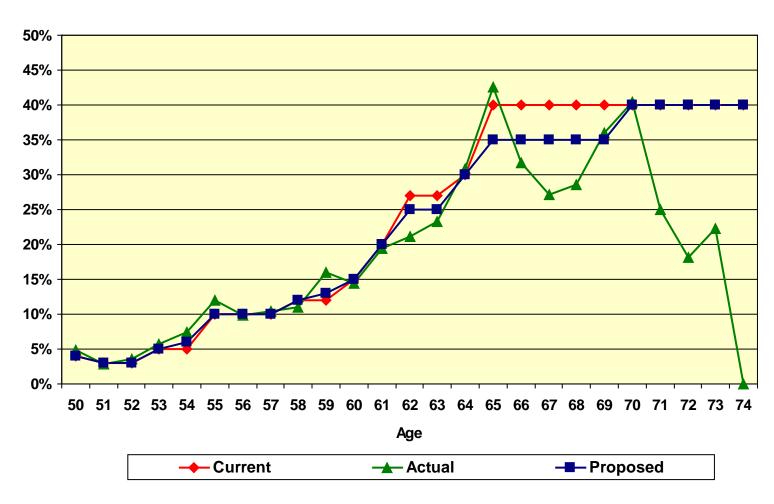


Chart 3
Retirement Rates - Safety Enhanced Tier A Members

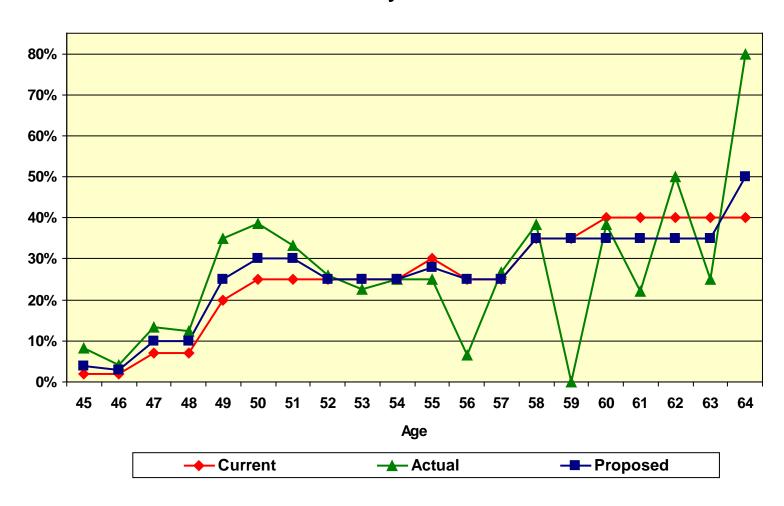


Chart 4
Retirement Rates - Safety Enhanced Tier C Members

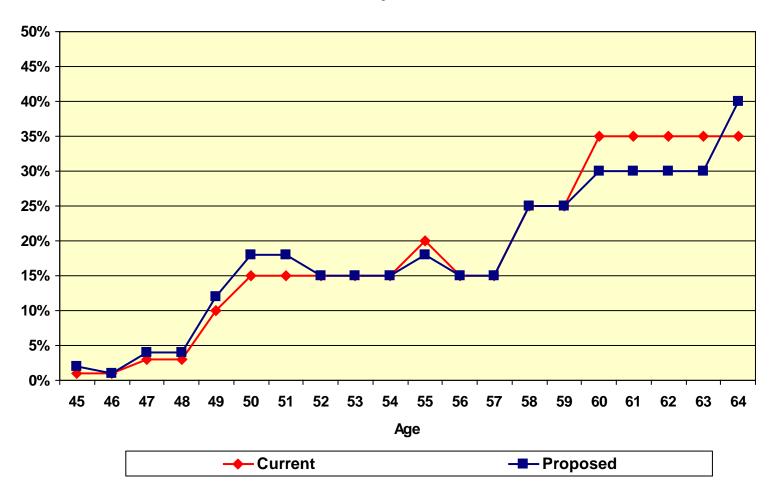


Chart 5
Retirement Rates - General Non-enhanced Tier 1 Members

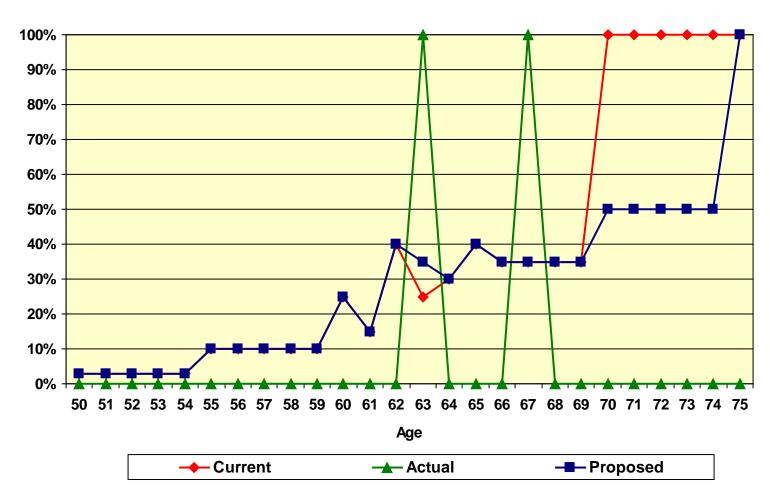


Chart 6
Retirement Rates - Safety Non-enhanced Tier A Members

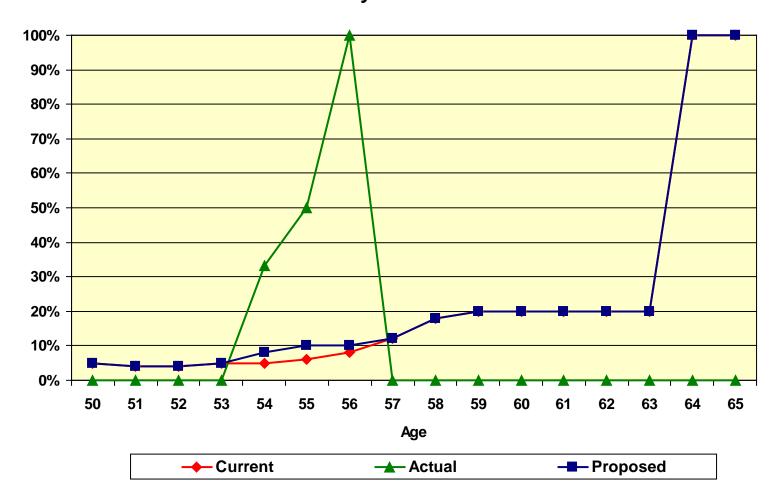


Chart 7 Retirement Rates - PEPRA General Members

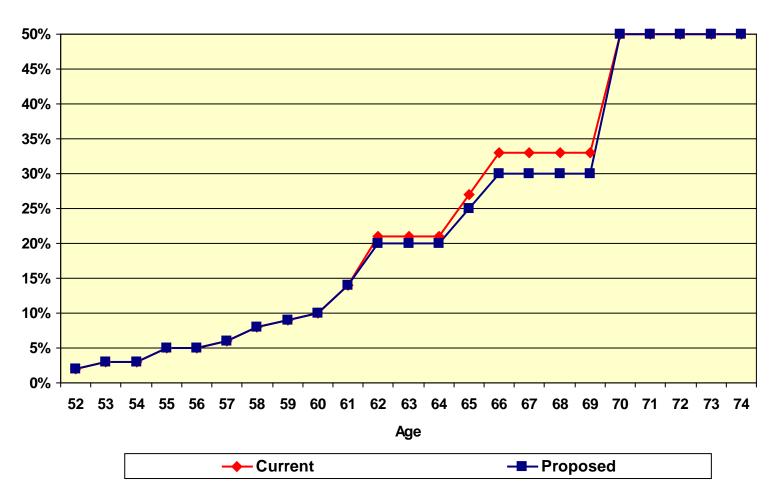
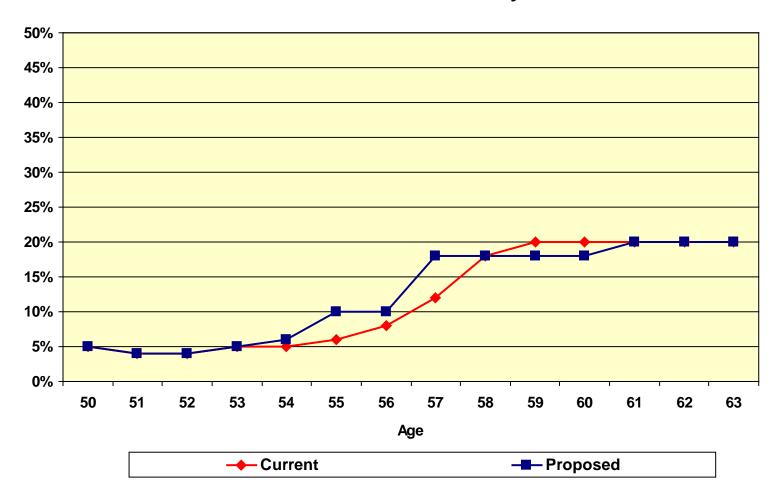


Chart 8
Retirement Rates - PEPRA Safety Members



C. MORTALITY RATES - HEALTHY

The "healthy" mortality rates project the life expectancy of a member who retires from service (i.e., who did not retire on a disability pension). Also, the "healthy" pre-retirement mortality rates project what proportion of members will die before retirement. The table currently being used for post-service retirement mortality rates is the RP-2000 Combined Healthy Mortality Table (separate tables for males and females) projected with Scale AA to 2030 with ages set back one year for General members and two years for Safety members. Beneficiaries are assumed to have the same mortality of a General member of the opposite sex who has taken a service (non-disabled) retirement.

The Society of Actuaries (SOA) has recently published the RP-2014 family of mortality tables and associated mortality improvement scales. Within that family of mortality tables, there are mortality rates developed for annuitants on a "headcount" weighted basis that weight all retirees at the same age the same way without regard to the level of benefits those annuitants are receiving from a retirement plan. Mortality rates are also developed for annuitants on a "benefit" weighted basis, with higher credibility assigned to experience from annuitants receiving larger benefits. The headcount-weighted basis is the more common practice currently and is the approach used by Segal in the past for its California public system clients (including CCCERA) and by other public sector actuaries in California.

As for the mortality improvement scales, they can be applied in one of two ways. Currently, the more common application is to use a "static" approach to anticipate a fixed level of mortality improvement for all annuitants receiving benefits from a retirement plan. This is in contrast to a "generational" approach where each future year has its own mortality table that reflects the forecasted improvements, using the published improvement scales. While the static approach is still most commonly used by Segal's California public system clients, the "generational" approach is becoming the emerging practice within the actuarial profession.

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 prior experience studies.

The SOA is in the process of collecting data from public sector plans so that they can develop mortality tables based on public sector experience comparable to the RP-2014 mortality tables developed using data collected from private and multi-employer plans. Furthermore, after publishing the two-dimensional MP-2014 mortality improvement scale, the SOA has replaced it with the two-dimensional MP-2015 mortality improvement scale to remove some of the conservatism built into the MP-2014 scale and to better reflect the most recent data on mortality improvement from the Social Security Administration.

We recommend that given the trend in the retirement industry to move towards generational mortality, it would be reasonable for the Board to adopt the Headcount-Weighted RP-2014 mortality table (adjusted for CCCERA experience), and project the mortality improvement generationally using the MP-2015 mortality improvement scale. Once the SOA has included data from public sector plans in developing the new tables, we will also include a discussion with the Board on whether to consider the benefit weighted mortality rates in a future experience study.

Note that in order to use more actual CCCERA experience in our analysis, we have used experience for a six-year period from both the current and the last two experience study periods to study this assumption.

In the table below, we have provided the approximate increase in the total employer and member contribution rates based on the different approaches to build in margin for future mortality improvements.

	Combined Employer and Member Impact
Headcount Weighted RP-2014 – Static approach with increased margin	1.5% of payroll
Benefit Weighted RP-2014 – Static approach with increased margin	2.8% of payroll
Headcount Weighted RP-2014 – Generational approach	2.7% of payroll
Benefit Weighted RP-2014 – Generational approach	4.1% of payroll

Pre-Retirement Mortality

In prior experience studies, the pre-retirement mortality rates for active members were set equal to the post-retirement mortality rates for retirees since the actual number of deaths among active

members was not large enough to provide a statistically creditable analysis. However, this approach is not compatible with our current proposal because the post-retirement RP-2014 Healthy Annuitant table does not include rates for ages below 50.

From the RP-2014 family of tables, we recommend that pre-retirement mortality follow the Headcount-Weighted RP-2014 Employee Mortality Table (separate tables for males and females) times 75%, projected generationally with the two-dimensional scale MP-2015, all to account for the lower incidences of observed pre-retirement death on the combined General and Safety workforce. All pre-retirement deaths are assumed to be ordinary (non-duty).

Post-Retirement Mortality (Service Retirements)

Our analysis starts with a table that shows, among all retired members, the actual deaths compared to the expected deaths under the current assumptions for the last six years. We also show the deaths under proposed assumptions. In prior years we have generally set the mortality assumption using a static mortality projection so that actual deaths will be at least 10% greater than those assumed. As noted above, we are recommending the use of a generational mortality table rather than static mortality. A generational mortality table 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 the current actual to expected ratio shown in the table below for General and Safety is 100% and 96%, respectively. 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. The actual deaths compared to the expected deaths under the current and proposed assumptions for the last six years are as follows:

	General – Healthy			Safety – Healthy		
Year	Expected Deaths	Actual Deaths	Proposed Expected Deaths	Expected Deaths	Actual Deaths	Proposed Expected Deaths
Male	246	284	296	72	86	86
Female	<u>448</u>	<u>499</u>	<u>486</u>	<u>10</u>	<u>6</u>	<u>10</u>
Total	694	783	782	82	92	96
Actual / Expected	113%		100%	112%		96%

For General members, the ratio of actual to expected deaths was 113%. We recommend updating the current table to the RP-2014 Headcount-Weighted Healthy Annuitant Mortality Table (separate tables for males and females) with no age adjustment, projected generationally with the two-dimensional mortality improvement scale MP-2015. This will bring the actual to expected ratio to 100%.

For Safety members, the ratio of actual to expected deaths was 112%. We recommend updating the current table to the RP-2014 Headcount-Weighted Healthy Annuitant Mortality Table (separate tables for males and females) with ages set back three years, projected generationally with the two-dimensional mortality improvement scale MP-2015. This will bring the actual to expected ratio to 96%.

All of this is consistent with ASOP 35 as we anticipate expected future improvement in life expectancy using the generational approach.

Chart 9 compares actual to expected deaths for General members under the current and proposed assumptions over the past six years. Experience shows that there were more deaths than predicted by the current table.

Chart 10 has the same comparison for Safety members. Experience shows that there were more deaths than predicted by the current table.

Chart 11 shows the life expectancies (i.e. expected future lifetime) under the current and the proposed tables for General members.

Chart 12 has the same information for Safety members.

The expected deaths (Charts 9 and 10) and life expectancies (Charts 11 and 12) under the proposed generational mortality table are based on mortality rates from 2014 which is the base year of the table. In practice, life expectancies will be increased after applying the mortality improvement scale.

Mortality Table for Member Contributions, Optional Forms of Payment and Reserves

There are administrative reasons why a generational mortality table may be difficult to implement for determining member contributions for legacy tiers, optional forms of payment and reserves. The emerging most common practice is to approximate the use of a generational mortality table by the use of a static table with projection of the mortality improvement over a period that is close to the duration of the benefit payments for active members. We would recommend the use of this approximation.

We recommend that the mortality table used for determining contributions for General members be updated from the RP-2000 Combined Healthy Mortality Table projected to 2030 with Scale AA set back one year, weighted 30% male and 70% female to the RP-2014 Headcount-Weighted Healthy Annuitant Mortality Table projected to 2034 with the two-dimensional mortality improvement scale MP-2015, weighted 30% male and 70% female. This is based on the proposed valuation mortality tables for General members and the actual sex distribution of General members.

For Safety members, we recommend the mortality table used for determining member contributions be changed from the RP-2000 Combined Healthy Mortality Table projected to 2030 with Scale AA set back two years, weighted 85% male and 15% female to the RP-2014 Headcount-Weighted Healthy Annuitant Mortality Table projected to 2034 with the two-dimensional mortality improvement scale MP-2015 set back three years, weighted 85% male and 15% female. This is based on the proposed valuation mortality tables for Safety members and the actual sex distribution of Safety members.

Chart 9 Post-Retirement Deaths Non - Disabled General Members

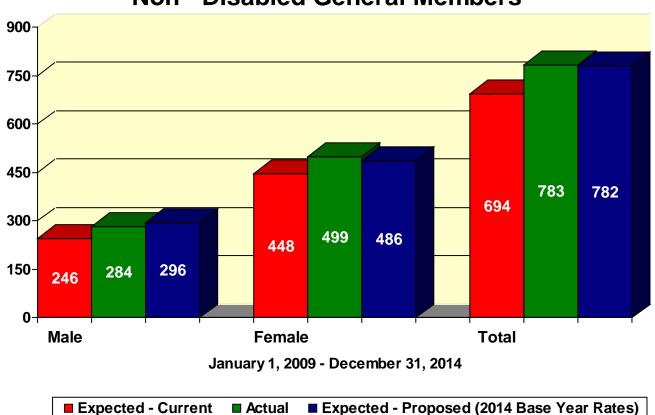


Chart 10
Post-Retirement Deaths
Non - Disabled Safety Members

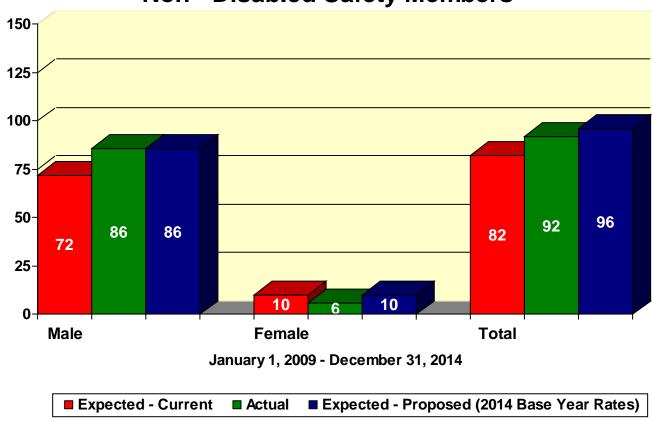


Chart 11
Life Expectancies
Non - Disabled General Members

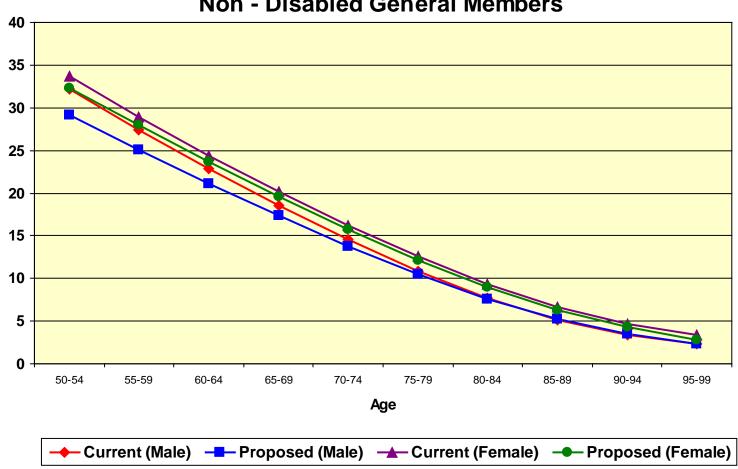
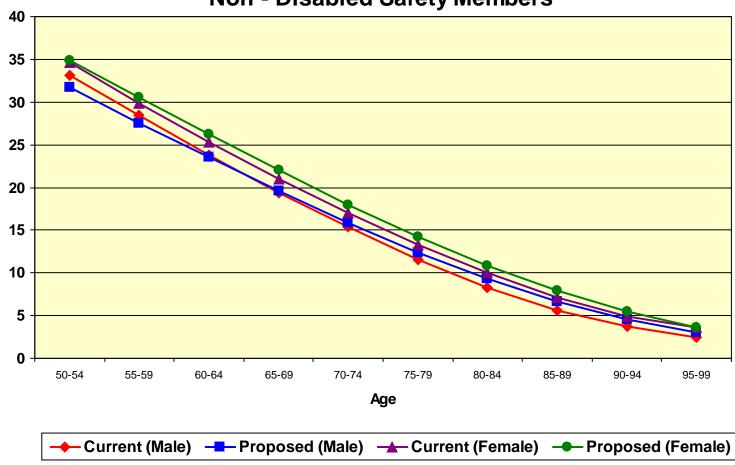


Chart 12
Life Expectancies
Non - Disabled Safety Members



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 projected with scale AA to 2030 (separate tables for males and females) set forward six years for males and seven years for females. For Safety members, the table currently being used is the RP-2000 Combined Healthy Mortality Table projected with scale AA to 2030 (separate tables for males and females) set forward three years for both males and females.

The number of actual deaths compared to the number expected under the current and proposed assumptions for the last six years are as provided in the table below.

	Ge	General – Disabled		Safety – Disabled		
	Expected Deaths	Actual Deaths	Proposed Expected Deaths	Expected Deaths	Actual Deaths	Proposed Expected Deaths
Male	36	40	44	43	51	52
Female	<u>64</u>	<u>73</u>	<u>70</u>	<u>2</u>	<u>1</u>	<u>3</u>
Total	100	113	114	45	52	55
Actual / Expected	113%		99%	116%		95%

Based on the actual experience, we recommend changing the mortality table for General disabled members to the RP-2014 Headcount-Weighted Healthy Annuitant Mortality Table (separate tables for males and females) set forward eight years, projected generationally with the two-dimensional mortality improvement scale MP-2015. This will bring the actual to expected ratio to 99%.

Based on the actual experience, we recommend changing the mortality table for Safety disabled members to the RP-2014 Headcount-Weighted Healthy Annuitant Mortality Table (separate tables for males and females) set forward three years, projected generationally with the two-dimensional mortality improvement scale MP-2015. This will bring the actual to expected ratio to 95%.

Chart 13 compares actual to expected deaths under both the current and the proposed assumptions for disabled General members over the last six years. Experience shows that there were more deaths than predicted by the current table.

Chart 14 compares actual to expected deaths under both the current and the proposed assumptions for disabled Safety members over the last six years. Experience shows that there were more deaths than predicted by the current table.

Chart 15 and 16 show the life expectancies under both the current and the proposed tables for General and Safety, respectively.

The expected deaths (Charts 13 and 14) and life expectancies (Charts 15 and 16) under the proposed generational mortality table are based on mortality rates from 2014 which is the base year of the table. In practice, life expectancies will be increased after applying the mortality improvement scale.

Chart 13
Post-Retirement Deaths
Disabled General Members

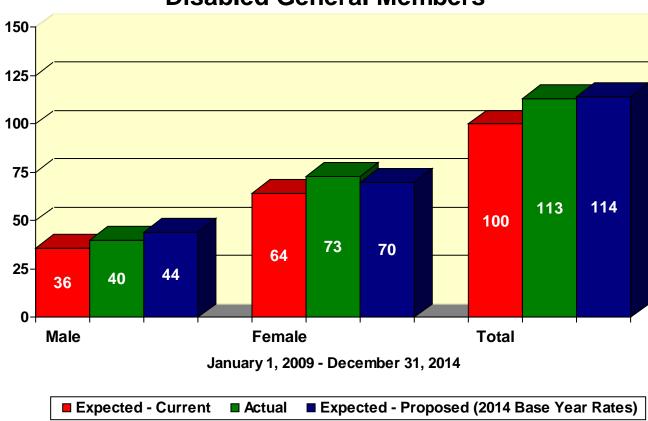


Chart 14
Post-Retirement Deaths
Disabled Safety Members

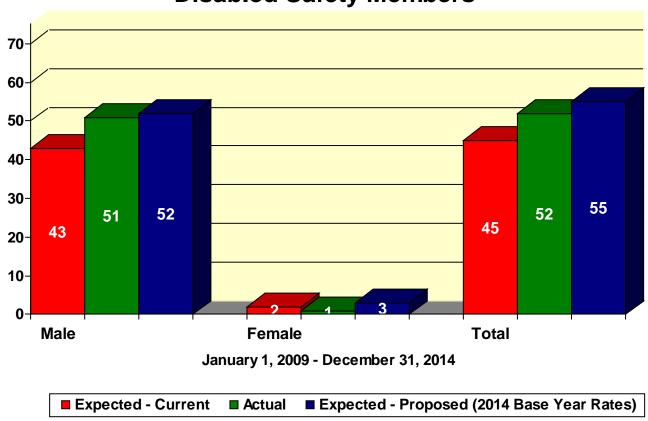


Chart 15
Life Expectancies
Disabled General Members

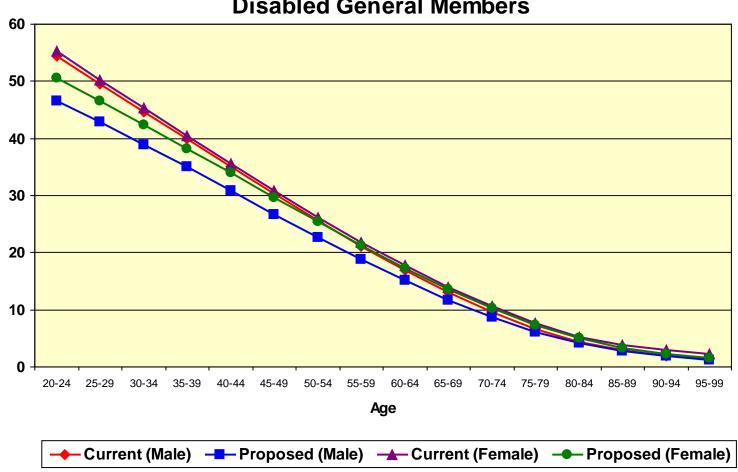
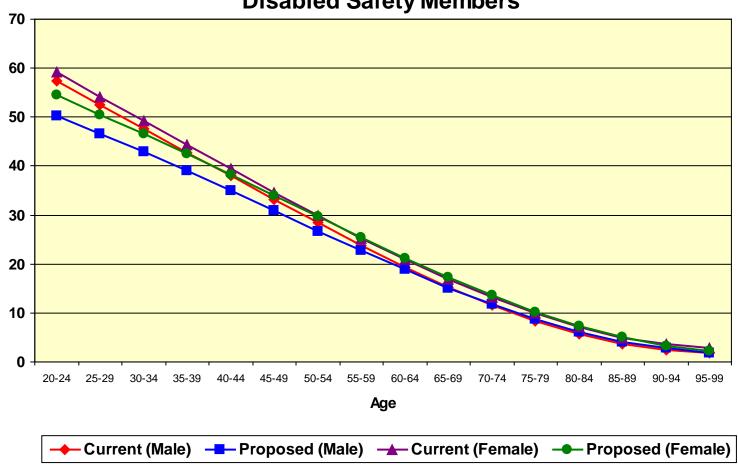


Chart 16
Life Expectancies
Disabled Safety Members



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 deferred vested benefit based on which option is more valuable. With this study, we continue to recommend that this same assumption structure be used.

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	13.50%	13.55%	13.50%
1	9.00	9.51	9.25
2	9.00	9.05	9.00
3	6.00	6.82	6.00
4	4.50	3.74	4.50
5	4.00	5.26	4.25
6	3.75	4.21	3.75
7	3.50	3.78	3.50
8	3.25	3.49	3.25
9	3.00	3.32	3.00
10	2.75	4.41	2.75
11	2.50	2.45	2.50
12	2.40	3.99	2.40
13	2.30	2.47	2.30
14	2.20	1.27	2.20
15	2.10	1.32	2.10
16	2.00	2.48	2.00
17	2.00	1.96	2.00
18	2.00	3.70	2.00
19	2.00	1.11	1.75
20 or more	2.00	1.40	1.50

Rates of Termination (Safety)

		` "	
Years of Service	Current Rate	Observed Rate	Proposed Rate
Less than 1	11.50%	15.05%	13.00%
1	6.50	16.47	8.00
2	5.00	9.73	7.00
3	4.00	6.62	5.50
4	3.50	3.90	3.75
5	3.00	3.46	3.25
6	2.75	4.48	3.00
7	2.50	3.37	2.75
8	2.25	2.56	2.50
9	2.00	4.55	2.25
10	1.90	0.00	2.00
11	1.80	1.65	1.90
12	1.70	0.47	1.80
13	1.60	1.63	1.70
14	1.50	0.65	1.60
15	1.40	0.81	1.50
16	1.30	1.87	1.40
17	1.20	2.02	1.30
18	1.10	1.45	1.20
19	1.00	0.00	1.10
20 or more	1.00	0.00	1.00

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. This is also the case in the tables that follow due to the even more limited experience regarding actual terminations.

Chart 17 compares actual to expected terminations over the past three years for both the current and proposed assumptions for General members.

Chart 18 graphs the same information as Chart 16, but for Safety members.

Chart 19 shows the current, along with the proposed termination rates for General members.

Chart 20 shows the same information as Chart 18, but for Safety members.

Based upon the recent experience, the termination rates for General members have been adjusted slightly. For Safety, there were more terminations than expected and we have increased the termination rates accordingly. Overall, for both General and Safety members, the proposed termination rates are higher than those under the current assumptions.

We will 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 17
Actual Number of Terminations Compared to Expected - General Members

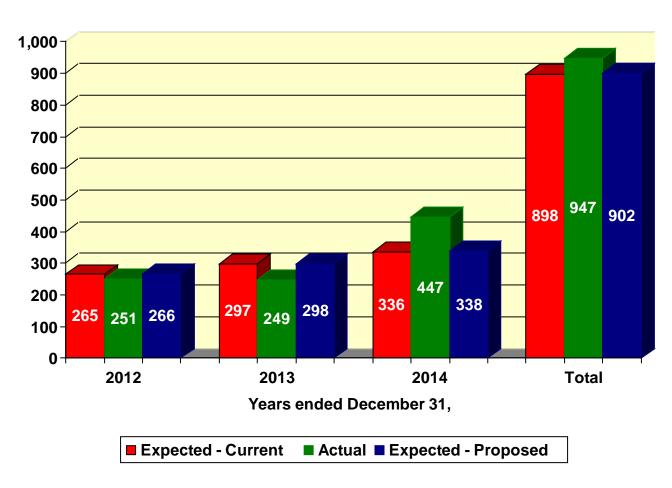


Chart 18
Actual Number of Terminations Compared to Expected - Safety Members

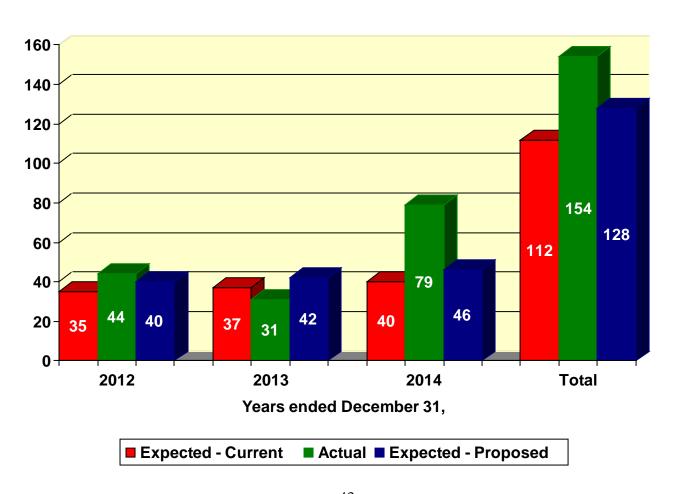


Chart 19 Termination Rates - General Members

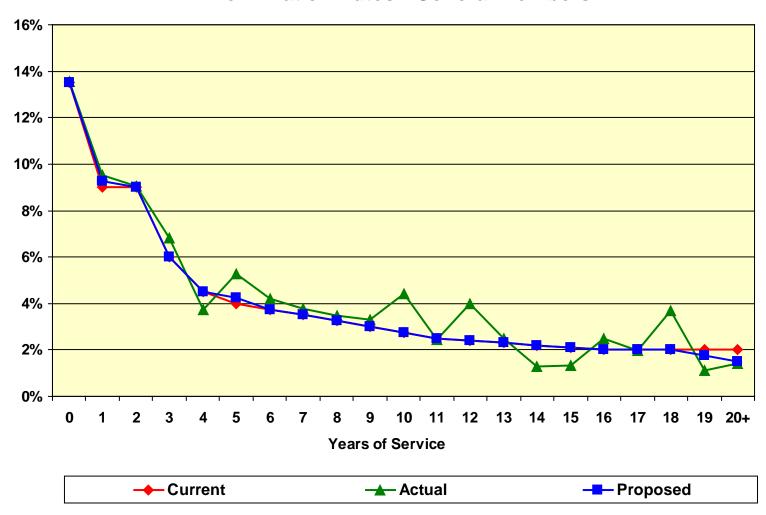
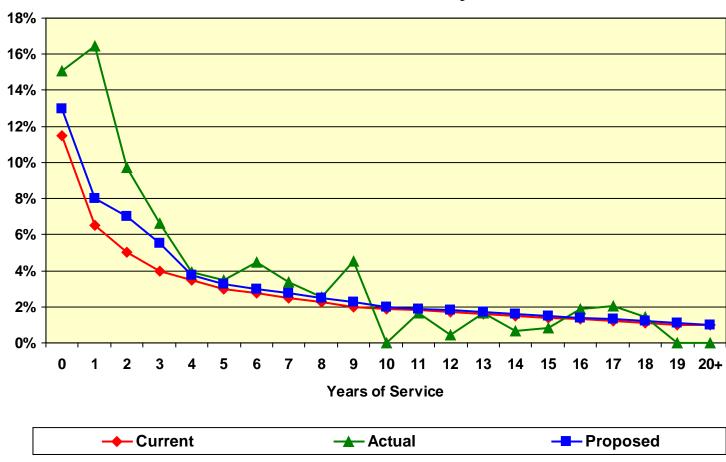


Chart 20 Termination Rates - Safety Members



F. DISABILITY INCIDENCE RATES

When a member becomes disabled, he or she may be entitled to at least a 50% of pay 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 combined service-connected and non-service connected disability incidence:

Rates of Disability Incidence (General Tier 1 and Tier 4)

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	0.00	0.10
40 - 44	0.20	0.39	0.30
45 - 49	0.40	0.00	0.40
50 - 54	0.60	0.97	0.60
55 – 59	0.70	0.25	0.60
60 - 64	0.70	0.00	0.60
65 - 69	0.70	0.00	0.60

^{*} Total rates for service and non-service connected disabilities.

Rates of Disability Incidence (General Tier 3 and Tier 5)

	•	,	*	
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	0.04	0.00	0.04	
35 - 39	0.06	0.00	0.06	
40 - 44	0.10	0.08	0.10	
45 - 49	0.15	0.16	0.15	
50 - 54	0.18	0.09	0.16	
55 - 59	0.23	0.17	0.22	
60 - 64	0.30	0.48	0.32	
65 - 69	0.40	0.00	0.32	

^{*} Total rates for service and non-service connected disabilities.

Rates of Disability Incidence (Safety)

Age	Current Rate*	Observed Rate*	Proposed Rate*
20 - 24	0.10%	0.00%	0.10%
25 - 29	0.30	0.00	0.30
30 - 34	0.50	0.48	0.50
35 - 39	0.60	0.52	0.60
40 - 44	0.70	0.54	0.70
45 - 49	1.10	1.34	1.20
50 - 54	3.50	5.23	4.00
55 - 59	4.50	6.54	5.00
60 - 64	5.00	4.62	5.00

^{*} Total rates for service and non-service connected disabilities.

Chart 21 compares the actual number of non-service connected and service connected 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 proposed for General Tier 1/Tier 4 and General Tier 3/Tier 5 and increases proposed for Safety.

Chart 22 shows actual disability rates, compared to the assumed and proposed rates for General Tier 1 and Tier 4 members. Since 57% of disabled General Tier 1 and Tier 4 members received a service connected disability, we recommend reducing the assumed proportion of members who will receive a service connected disability from 70% to 65%. The remaining 35% of General Tier 1 and Tier 4 disabled members will be assumed to receive a non-service connected disability.

Chart 23 graphs the same information as Chart 22, but for General Tier 3 and Tier 5 members. Since 24% of disabled General Tier 3 and Tier 5 members received a service connected disability, we recommend reducing the assumed proportion of members who will receive a service connected disability from 35% to 30%. The remaining 70% of General Tier 3 and Tier 5 disabled members will be assumed to receive a non-service connected disability.

Chart 24 graphs the same information as Charts 22 and 23, but for Safety members. Since 98% of disabled Safety members received a service connected disability, we recommend maintaining the current assumption that 100% of disabilities will receive a service connected disability retirement. This means that no non-service connected disabilities will be assumed for Safety members.

Chart 21 **Actual Number of Disabilities Compared to Expected**

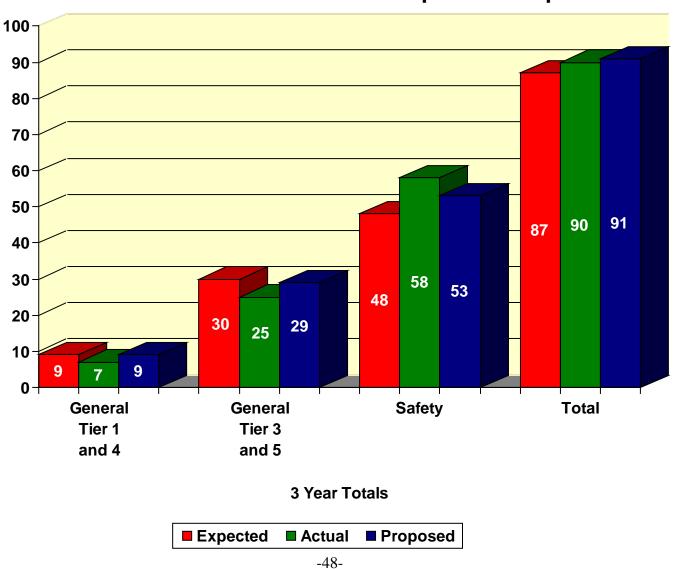


Chart 22
Disability Rates for General Tier 1 and Tier 4 Members

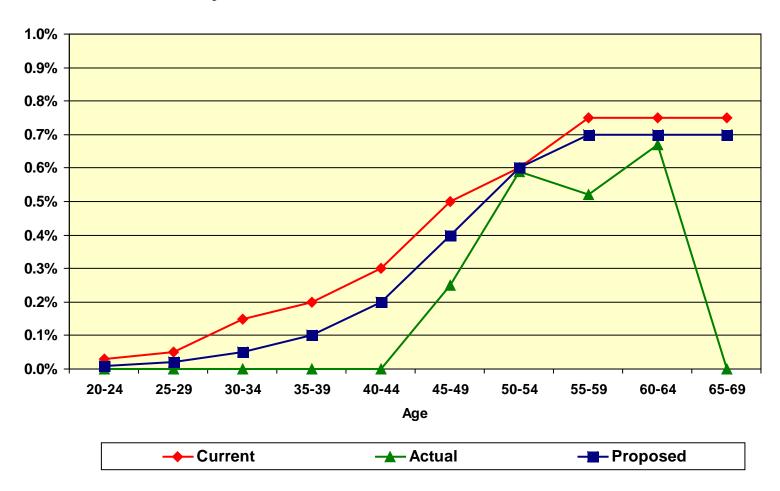


Chart 23
Disability Rates for General Tier 3 and Tier 5 Members

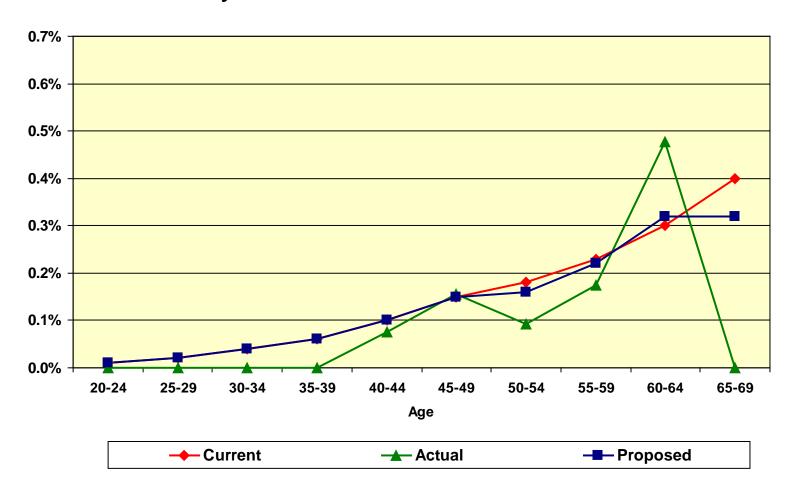
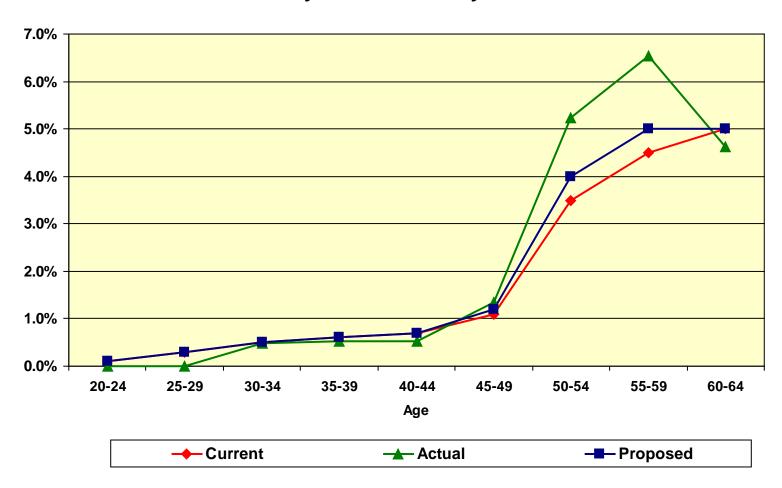


Chart 24 Disability Rates for Safety Members



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 assumption report. The Retirement Board adopted a decrease in this assumption from 3.25% to 2.75% on April 27, 2016. The Board also adopted a decrease in the annual "across the board" real pay increase assumption 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 3.25%. 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 actual average 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 25% 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 the other economic assumptions, these merit and promotional assumptions should be used in combination with the adopted 3.25% inflation and real "across the board" increase assumptions.

The following table shows the General members' actual average promotional and merit increases by years of service over the three-year period from January 1, 2012 through December 31, 2014 along with the actual average increases based on 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 experience study 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 each of the three-year experience periods (0.3% and -0.4% respectively, on average).

General

Years of Service	Current Assumptions	January 1, 2012 Through December 31, 2014 Average General Promotional and Merit Increases	Actual Average Increases from Current and Prior Study	Proposed Assumptions
Less than 1	9.50%	22.72%	21.75%	10.00%
1	6.50	7.12	9.92	7.25
2	4.75	5.95	6.23	5.25
3	3.25	4.38	4.92	3.75
4	2.25	3.67	4.12	2.75
5	1.50	3.28	3.28	2.25
6	1.25	2.84	2.88	1.75
7	1.00	2.26	2.35	1.50
8	0.75	2.12	1.92	1.25
9	0.75	2.45	2.39	1.20
10	0.75	2.90	2.77	1.15
11	0.75	1.54	1.61	1.10
12	0.75	1.79	1.72	1.00
13	0.75	1.46	1.49	0.90
14	0.75	1.53	1.90	0.80
15	0.75	1.96	1.88	0.75
16	0.75	1.20	1.54	0.75
17	0.75	1.26	1.44	0.75
18	0.75	1.33	1.68	0.75
19	0.75	1.67	1.88	0.75
20 or more	0.75	1.08	1.21	0.75

The following table provides the same information for Safety members. The actual average promotional and merit increases were determined by reducing the actual average total salary increases by the actual average inflation plus real "across the board" increase (i.e. wage inflation) for each year over each of the three-year experience periods (-0.8% and -0.9% respectively, on average). Since the actual increases were reduced by negative numbers, this results in an addition to the actual promotional and merit increases.

Safety

Years of Service	Current Assumptions	January 1, 2012 Through December 31, 2014 Average Safety Promotional and Merit Increases	Actual Average Increases from Current and Prior Study	Proposed Assumptions
Less than 1	10.00%	24.38%	20.86%	10.50%
1	6.50	7.65	9.83	7.25
2	5.25	6.58	6.54	5.75
3	4.00	5.07	5.18	4.50
4	2.25	2.45	3.18	3.00
5	1.00	2.48	2.51	1.75
6	0.75	2.14	1.94	1.25
7	0.75	1.68	1.58	1.20
8	0.75	1.84	1.67	1.15
9	0.75	1.94	1.76	1.10
10	0.75	1.57	1.73	1.05
11	0.75	2.22	1.90	1.00
12	0.75	1.94	1.66	0.95
13	0.75	2.17	1.69	0.85
14	0.75	3.01	2.46	0.80
15	0.75	3.02	2.83	0.75
16	0.75	1.78	2.25	0.75
17	0.75	1.58	1.83	0.75
18	0.75	1.80	1.94	0.75
19	0.75	2.92	2.49	0.75
20 or more	0.75	2.66	2.40	0.75

Charts 25 and 26 provide a graphical comparison of the actual promotional and merit increases, compared to the proposed 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 25 shows this information for General members and Chart 26 is for Safety members.

We realize that the most recent and the prior experience study period may not be indicative of typical future long-term promotional and merit salary increases. This appears to be the case for both General and Safety members as they received no "across the board" salary increases (based on the decrease in average wages). Note that in this situation our model may lead to higher estimated promotional and merit increases. Accordingly, in our proposed changes to the promotional and merit increases, we have given relatively less weight to the actual average increase experience during the last two studies.

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

Chart 25
Promotional and Merit Salary Increase Rates General Members

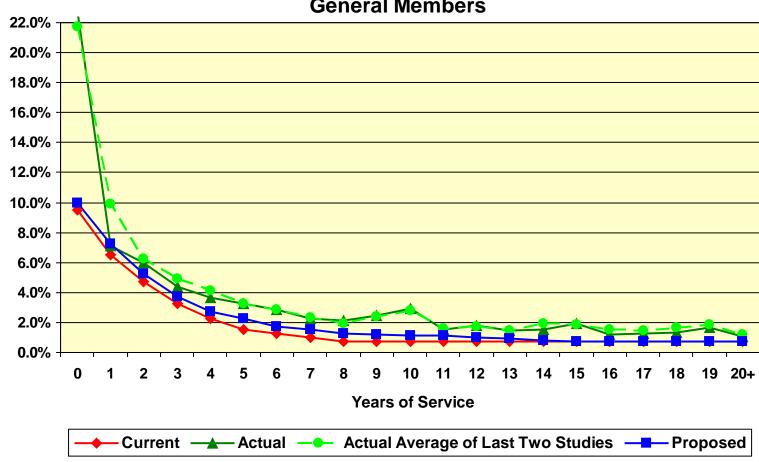
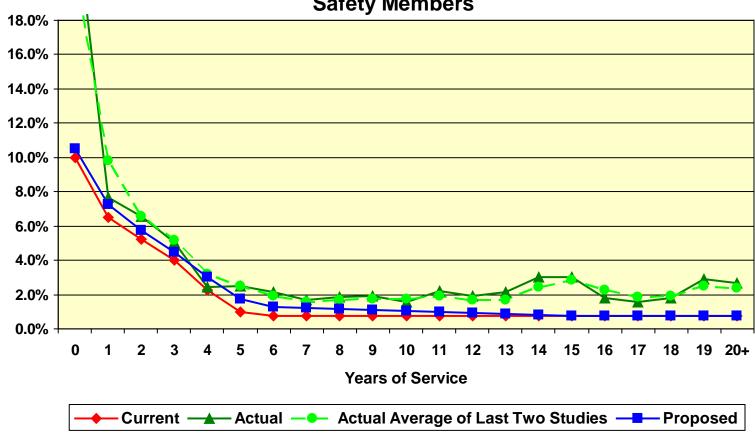


Chart 26
Promotional and Merit Salary Increase Rates Safety Members



H. LEAVE CASHOUTS

In 1998, the Board of Retirement, in the course of actions related to the Paulson 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
- ➤ Leave Cashout 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. Note that members in the PEPRA tiers do not have a leave cashout assumption, because leave cashout elements are not included in pensionable compensation under the PEPRA formulas.

AB 197 required CCCERA to implement a policy where certain terminal pay elements are no longer included in the determination of compensation for retirement purposes. This applies to all legacy tiers. In addition, the Board decided to discontinue "straddling" where employees could time their leave cashouts so that two leave cashouts would occur during their 12-month final average earnings period. The Board decided that only one such payment should be included on a prospective basis. We reviewed this assumption for the December 31, 2013 valuation in order to reflect AB 197 and the discontinuation of "straddling". We also recommended an assumption change to Safety Tier C in the December 31, 2014 valuation to reflect the most recent Memorandum of Understanding (MOU) and Resolutions applicable to employees in that tier.

In this study, we have collected data for the last three years to estimate leave cashouts for non-PEPRA members as a percentage of current pay. The results are summarized in the table that follows (which is followed by a key showing the employers in each cost group). This information reflects the hypothetical impact of AB 197 and the discontinuation of "straddling".

Based on the data in the table, we are recommending adjustments in the leave cashout assumptions for the December 31, 2015 valuation for most cost groups. Overall, the leave cashout assumptions are slightly lower under the new assumptions. The cost of this pay element is recognized in the valuation as an employer and member cost in both the basic and COLA components.

Leave Cashout as a Percentage of Final Average Pay (Excluding Such Leave Cashout) by Cost Group

Tier 2 Tier 3 Cost Group #1 Cost Group #2 Cost Group #2 Cost Group #3 Cost Group #4 Cost Group #5 Cost Group #6 Cost Group #7 Cost Group #8 Cost Group #9 Cost Group #10 Cost Group #11 Cost Group #12 Average Leave Cashout Cashout Cashout Cashout Cashout Cashout Cashout Cashout Year Cashout Cashout Cashout Cashout Cashout 2012 0.95% 0.64% 0.83% 8.40% 0.41% 1.91% 0.00% 0.60% 0.28% 0.00% 0.00% 3.35% 3.03% 0.64% 0.23% 0.42% 3.43% 0.00% 1.39% 0.39% 2013 1.22% 0.00% 2.16% 0.00% 0.00% 0.00% 2014 1.79% 0.65% 1.37% 0.00% 0.00% 0.00% 0.00% 0.96% 1.36% 0.00% 0.00% 1.38% 0.00% 1.09% 0.55% 0.89% 0.89% 0.48%0.00% 1.20% 0.80% 0.00% 0.00% 2.27% 1.82% Average 5.18% Retiring Member Count 2012 53 210 306 28 5 49 25 0 5 19 3 2 2 2013 31 101 145 11 0 0 40 6 1 2 9 3 3 4 0 9 2014 30 131 179 3 0 39 17 0 Total 114 442 630 48 10 128 48 1 10 32 5 Current Applies to all non-PEPRA members Assumptions 1.50% 0.50% 0.75% 6.50% 0.25% 1.50% 1.25% 0.75% 0.75% 0.00% 1.50% 3.00% 3.50% Proposed Applies to all non-PEPRA members 1.25% 0.50% 1.00% 5.50% 0.50% 1.00% 0.75% 1.00% 0.75% 0.00% 1.00% 2.50% 2.50% Assumptions

For retiring members with service in more than one tier, their Leave Cashout is determined separately for each tier's benefit and these amounts are allocated to each applicable cost group separately in this exhibit.

Summary of Cost Groups and Employers

GENERAL

Cost Group	Employer Name	Benefit Structure
(1)	County General	Tier 1 Enhanced/PEPRA Tier 4
	Local Agency Formation Commission	Tier 1 Enhanced/PEPRA Tier 4
	Contra Costa Mosquito and Vector Control District	Tier 1 Enhanced/PEPRA Tier 4
	Bethel Island Municipal District (Non-Integrated)	Tier 1 Enhanced/PEPRA Tier 4
	First 5-Children & Families Commission	Tier 1 Enhanced/PEPRA Tier 4
	Contra Costa County Employees' Retirement Association	Tier 1 Enhanced/PEPRA Tier 4
	Superior Court	Tier 1 Enhanced/PEPRA Tier 4
	East Contra Costa Fire Protection District (Non-Integrated)	Tier 1 Enhanced/PEPRA Tier 4
	Moraga-Orinda Fire District (Non-Integrated)	Tier 1 Enhanced/PEPRA Tier 4
	Rodeo-Hercules Fire Protection District (Non-Integrated)	Tier 1 Enhanced/PEPRA Tier 4
	San Ramon Valley Fire District (Non-Integrated)	Tier 1 Enhanced/PEPRA Tier 4
(2)	County General	Tier 3 Enhanced/PEPRA Tier 5
	In-Home Supportive Services Authority	Tier 3 Enhanced/PEPRA Tier 5
	Contra Costa Mosquito and Vector Control District	Tier 3 Enhanced/PEPRA Tier 5
	Superior Court	Tier 3 Enhanced/PEPRA Tier 5
(3)	Central Contra Costa Sanitary District (Non-Integrated)	Tier 1 Enhanced/PEPRA Tier 4
(4)	Contra Costa Housing Authority	Tier 1 Enhanced/PEPRA Tier 4
(5)	Contra Costa County Fire Protection District (Non-Integrated)	Tier 1 Enhanced/PEPRA Tier 4
(6)	Rodeo Sanitary District	Tier 1 Non-Enhanced/PEPRA Tier 4
	Byron Brentwood Cemetery	Tier 1 Non-Enhanced/PEPRA Tier 4

Summary of Cost Groups and Employers (continued)

SAFETY

Cost Group	Employer Name	Benefit Structure
(7)	County Safety	Tier A Enhanced/PEPRA Tier D
(8)	Contra Costa County Fire Protection District East Contra Costa Fire Protection District	Tier A Enhanced/PEPRA Tier D/E Tier A Enhanced/PEPRA Tier D
(9)	County Safety	Tier C Enhanced/PEPRA Tier E (Members hired on or after January 1, 2007)
(10)	Moraga-Orinda Fire District	Tier A Enhanced/PEPRA Tier D
(11)	San Ramon Valley Fire District	Tier A Enhanced/PEPRA Tier D
(12)	Rodeo-Hercules Fire Protection District	Tier A Non-Enhanced/PEPRA Tier D

I. SERVICE FROM UNUSED SICK LEAVE CONVERSION

At retirement, members can convert their unused sick leave to increase the service credit used in the calculation of their retirement benefit. The actuarial valuation anticipates this additional benefit using an assumption to estimate the proportional increase in service that will occur due to unused sick leave conversions.

In this study, we have collected data for the last three years to estimate sick leave converted to service credit as a percentage of total service credit (before including the sick leave converted to service credit) at retirement separately for General and Safety members as well as non-disabled and disabled members. The results are summarized in the following table:

	Non-Disable	ed Retirees	Disabled	Retirees
Year	General	Safety	General	Safety
2012	1.09%	1.76%	0.09%	1.84%
2013	0.74%	1.81%	0.01%	1.01%
2014	<u>0.94</u> %	<u>1.87</u> %	0.07%	<u>1.19%</u>
Weighted Average	0.95%	1.81%	0.06%	1.37%
Current Assumption	1.25%	2.00%	0.10%	1.25%
Proposed Assumption	1.20%	1.90%	0.08%	1.30%

Based on the data in the above table, we recommend that the current sick leave conversion assumptions be decreased for General non-disabled members, Safety non-disabled members, and General disabled members. We also recommend an increase in this assumption for Safety disabled members.

Pursuant to Section 31641.01, the cost of this benefit for the non-PEPRA tiers will be charged only to employers and will not affect member contribution rates.

IV. COST IMPACT OF ASSUMPTION CHANGES

The table on the following page shows the cost impact of proposed demographic assumption changes and the proposed explicit administrative expense load as if they were applied in the December 31, 2014 actuarial valuation along with the cost impact of changes in economic assumptions already adopted by the Board. If all of the proposed demographic assumption changes were implemented, the Plan's average employer rate would have increased by 2.87% of compensation. The average member rate would have increased by 0.53% of compensation. Of the various demographic assumption changes, the most significant cost impact is from the change to use generational mortality tables.

The estimated cost impact of the <u>economic</u> assumptions previously adopted by the Board in April was a decrease of 1.18% of compensation for the average employer rate and 0.67% of compensation for the average member rate.

The estimated cost impact of the proposed change to an <u>explicit administrative expense load</u> is an increase of 0.77% of compensation for the employer rates and 0.23% of compensation for the member rates. 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.

Therefore, the estimated cost impact of all adopted and proposed assumption changes (including demographic, economic and explicit administrative expense load) is an increase of 2.46% of compensation for the average employer rate, where the Normal Cost rate increased by 0.13%, the UAAL amortization rate increased by 1.56% and the explicit administrative expense load is 0.77%. The estimated increase in the average member rate is 0.09% of compensation, including the explicit administrative load of 0.23%.

The estimated increase in the Plan's Unfunded Actuarial Accrued Liability is \$86.8 million, which would cause the funded ratio to decrease from 81.7% to 80.8%.

Charts 27 through 38 show the member contribution rates from the December 31, 2014 actuarial valuation along with the member rates based on the proposed assumptions for legacy tiers. The member contribution rates for PEPRA tiers are shown following the charts.

•	, 2014 Current <i>A</i>	Assumptions	Proposed	Assumptions
Average Employer Contribution Rates ⁽¹⁾ :	<u> Garrone</u>	Estimated	Поросси	Estimated
General	Total Rate	Annual Amount	Total Rate	Annual Amount
Cost Group #1 – County and Small Districts (Tier 1 and 4)	33.14%	\$7,471,910	34.61%	\$7,761,228
Cost Group #2 – County and Small Districts (Tier 3 and 5)	29.36%	147,184,037	30.99%	154,802,596
Cost Group #3 – Central Contra Costa Sanitary District	55.71%	15,653,379	57.01%	15,960,439
Cost Group #4 – Contra Costa Housing Authority	41.76%	2,138,471	43.53%	2,220,449
Cost Group #5 – Contra Costa County Fire Protection District	31.59%	1,124,433	33.29%	1,179,493
Cost Group #6 – Small Districts (Non-Enhanced Tier 1 and 4)	26.62%	220,891	27.48%	227,356
Safety				
Cost Group #7 – County (Tier A and D)	77.77%	47,801,788	83.45%	51,033,855
Cost Group #8 – Contra Costa and East Fire Protection Districts	78.93%	24,149,147	86.58%	26,374,693
Cost Group #9 – County (Tier C and E)	70.63%	13,024,297	76.99%	14,178,590
Cost Group #10 – Moraga-Orinda Fire District	69.66%	4,887,061	75.29%	5,263,799
Cost Group #11 – San Ramon Valley Fire District	83.79%	13,965,831	87.68%	14,529,633
Cost Group #12 – Rodeo-Hercules Fire Protection District	89.27%	1,977,156	94.69%	2,087,564
All Employers combined	40.06%	\$279,598,401	42.52%	295,619,694
Average Member Contribution Rates ⁽¹⁾ :		Estimated		Estimated
General	Total Rate	Annual Amount	Total Rate	Annual Amoun
Cost Group #1 – County and Small Districts (Tier 1 and 4)	10.63%	\$2,396,574	10.55%	\$2,365,818
Cost Group #2 – County and Small Districts (Tier 3 and 5)	10.54%	52,834,487	10.69%	53,399,153
Cost Group #3 – Central Contra Costa Sanitary District	11.65%	3,273,422	11.52%	3,225,123
Cost Group #4 – Contra Costa Housing Authority	10.95%	560,790	11.04%	563,146
Cost Group #5 – Contra Costa County Fire Protection District	10.86%	386,572	10.77%	381,590
Cost Group #6 – Small Districts (Non-Enhanced Tier 1 and 4)	12.37%	102,637	12.41%	102,674
Safety				
Cost Group #7 – County (Tier A and D)	17.52%	10,768,805	17.48%	10,689,896
Cost Group #8 – Contra Costa and East Fire Protection Districts	17.19%	5,259,475	17.05%	5,193,908
Cost Group #9 – County (Tier C and E)	14.08%	2,596,473	14.74%	2,714,540
Cost Group #10 – Moraga-Orinda Fire District	17.10%	1,199,666	16.90%	1,181,541
Cost Group #11 – San Ramon Valley Fire District	17.28%	2,880,327	16.90%	2,800,534
Cost Group #12 – Rodeo-Hercules Fire Protection District	16.16%	357,914	16.04%	353,623
All Categories Combined	11.84%	\$82,617,142	11.93%	\$82,971,544

Based on projected payroll of \$697,831,837 under the current assumptions and \$695,217,574 under the proposed assumptions. These rates <u>do not</u> include any employer subvention of member contributions or any member subvention of employer contributions. The rates shown are averages based on all members regardless of their membership date.

Note: Pages 60 and 61 contain a summary that shows which employers are in each cost group.

Chart 27
General Cost Group #1 Members' Contribution Rates
For Members with Membership Dates before January 1, 2013

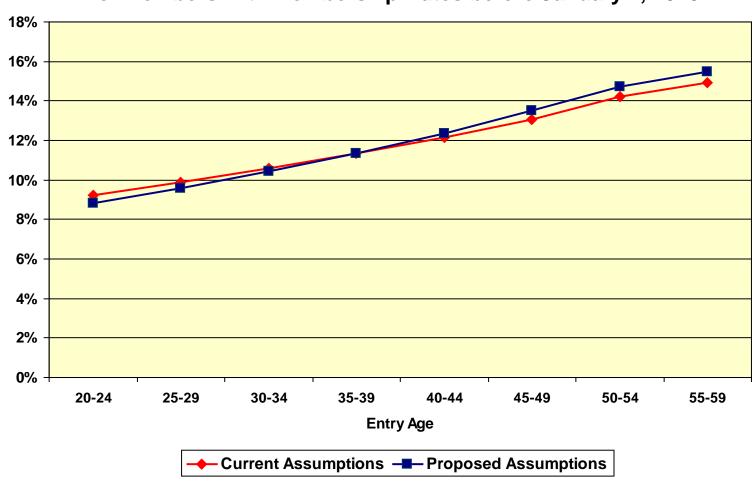


Chart 28
General Cost Group #2 Members' Contribution Rates
For Members with Membership Dates before January 1, 2013

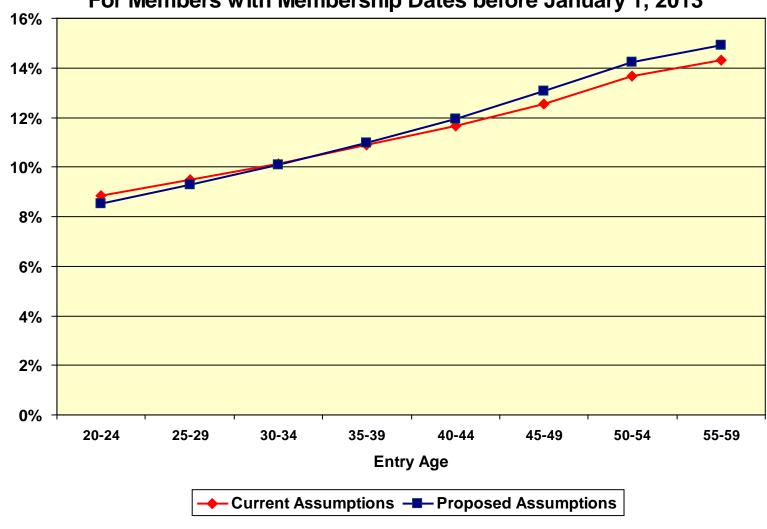


Chart 29
General Cost Group #3 Members' Contribution Rates
For Members with Membership Dates before January 1, 2013



Chart 30
General Cost Group #4 Members' Contribution Rates
For Members with Membership Dates before January 1, 2013

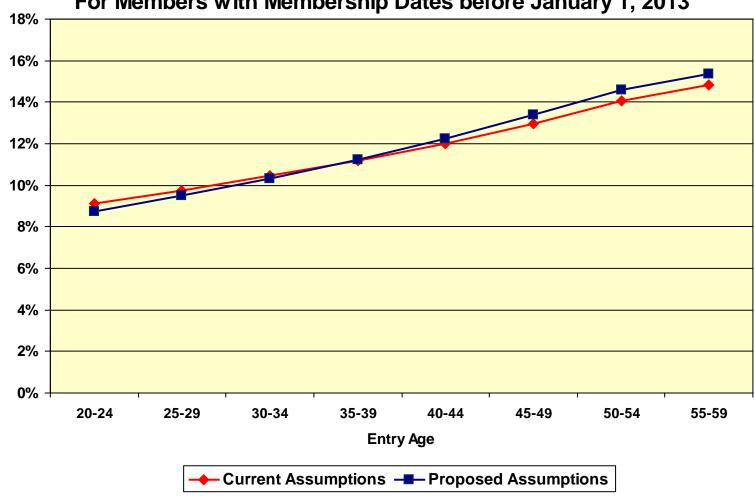


Chart 31

General Cost Group #5 Members' Contribution Rates

For Members with Membership Dates before January 1, 2013



Chart 32
General Cost Group #6 Members' Contribution Rates
or Members with Membership Dates before January 1, 2013



Chart 33
Safety Cost Group #7 Members' Contribution Rates
For Members with Membership Dates before January 1, 2013

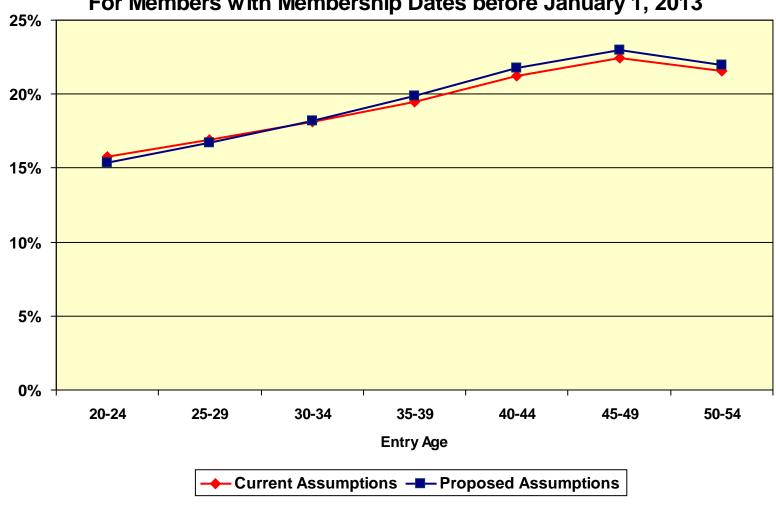


Chart 34
Safety Cost Group #8 Members' Contribution Rates
For Members with Membership Dates before January 1, 2013

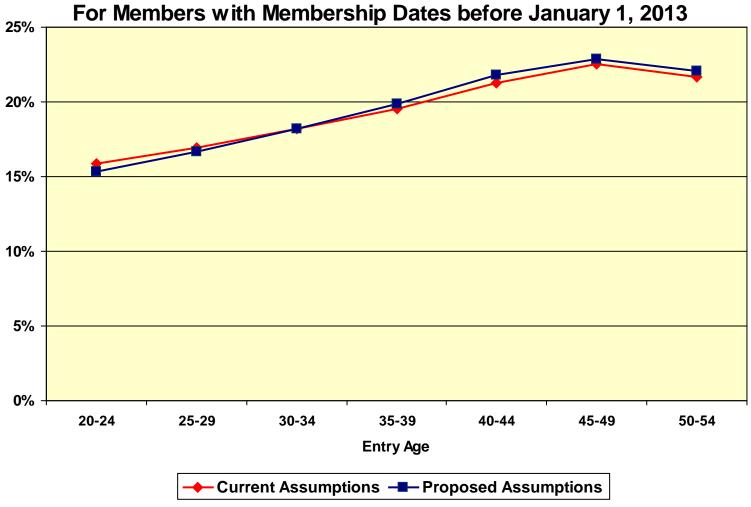


Chart 35
Safety Cost Group #9 Members' Contribution Rates
or Members with Membership Dates before January 1, 2013

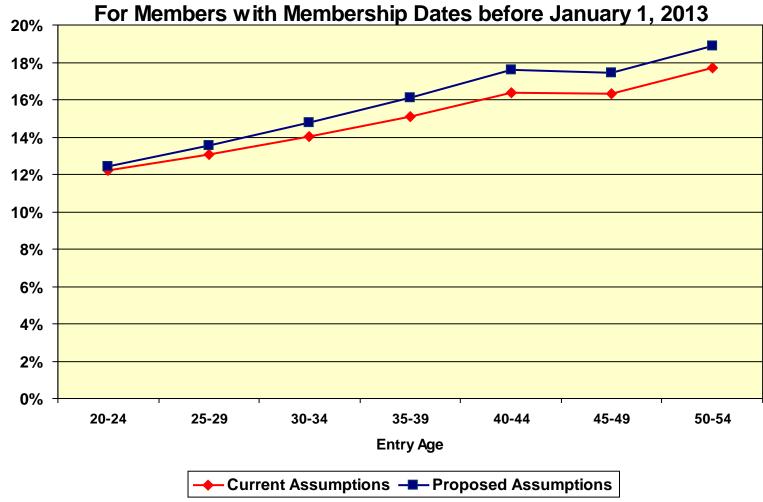


Chart 36
Safety Cost Group #10 Members' Contribution Rates
For Members with Membership Dates before January 1, 2013

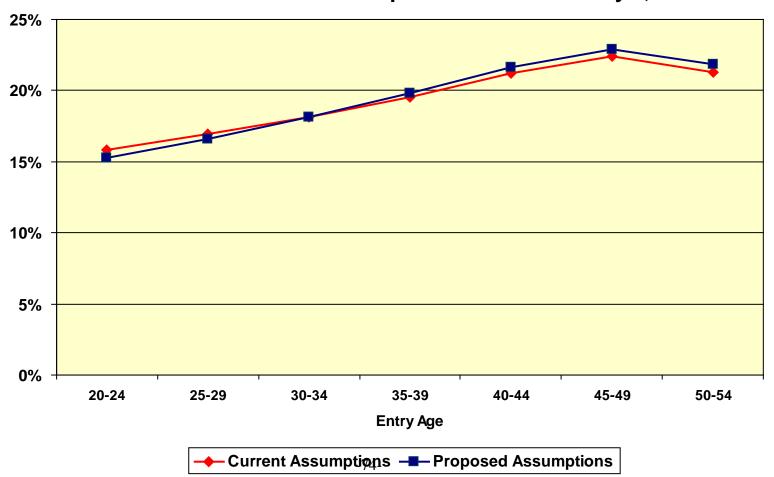
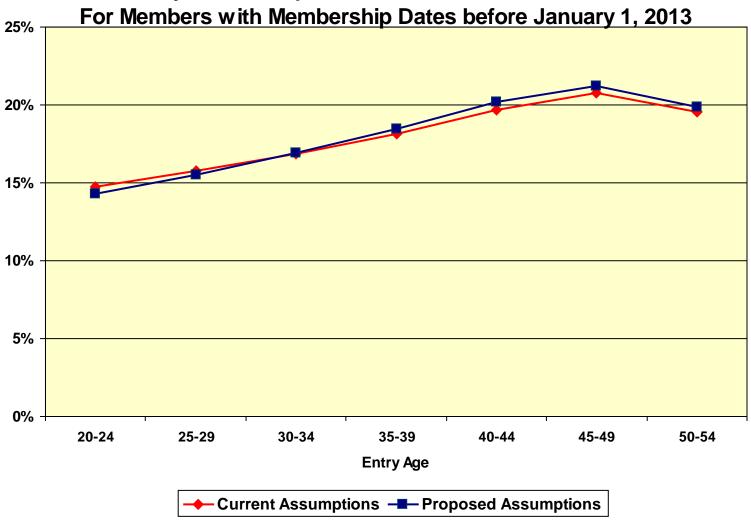


Chart 37
Safety Cost Group #11 Members' Contribution Rates
For Members with Membership Dates before January 1, 2013



Chart 38
Safety Cost Group #12 Members' Contribution Rates
For Members with Membership Dates before January 1, 2013



Member Contribution Rates for Members with Membership Dates on or after January 1, 2013

Member Contribution Rates for Members with Membership Dates on or after January 1, 2013

(Expressed as a Percentage of Monthly Payroll)

	Current Assumptions	Proposed Assumptions
Cost Group #1 – PEPRA Tier 4 (2% COLA)	10.01%	10.65%
Cost Group #1 – PEPRA Tier 4 (3% COLA)	10.94%	11.35%
Cost Group #2 - PEPRA Tier 5 (2% COLA)	8.73%	9.32%
Cost Group #2 - PEPRA Tier 5 (3%/4% COLA)	10.39%	10.86%
Cost Group #3 - PEPRA Tier 4 (3% COLA)	12.06%	12.35%
Cost Group #4 - PEPRA Tier 4 (3% COLA)	9.60%	10.02%
Cost Group #5 - PEPRA Tier 4 (2% COLA)	8.58%	9.20%
Cost Group #5 - PEPRA Tier 4 (3% COLA)	14.14%	14.40%
Cost Group #6 - PEPRA Tier 4 (3% COLA)	11.65%	12.06%
Cost Group #7 - PEPRA Tier D	22.68%	23.91%
Cost Group #8 - PEPRA Tier D	19.65%	20.45%
Cost Group #8 - PEPRA Tier E	15.95%	16.95%
Cost Group #9 - PEPRA Tier E	16.32%	17.34%
Cost Group #10 - PEPRA Tier D	18.10%	18.68%
Cost Group #11 - PEPRA Tier D	18.65%	19.26%
Cost Group #12 - PEPRA Tier D	16.53%	16.92%

Note: It is our understanding that in the determination of pension benefits under the PEPRA formulas, the compensation that can be taken into account for 2015 is equal to the Social Security Taxable Wage Base or \$117,020. (For an employer that is not enrolled in Social Security, the maximum amount is \$140,424 or 120% of the Social Security Taxable Wage Base). (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 A

CURRENT ACTUARIAL ASSUMPTIONS

Post-Retirement Mortality Rates:

Healthy: For General Members: RP-2000 Combined Healthy Mortality Table

projected to 2030 with Scale AA, set back one year.

For Safety Members: RP-2000 Combined Healthy Mortality Table

projected to 2030 with Scale AA, set back two years.

Disabled: For General Members: RP-2000 Combined Healthy Mortality Table

projected to 2030 with Scale AA, set forward six years for males and

set forward seven years for females.

For Safety Members: RP-2000 Combined Healthy Mortality Table

projected to 2030 with Scale AA, set forward three 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 to 2030 with Scale AA, set back one year, weighted 30%

male and 70% female.

For Safety Members: RP-2000 Combined Healthy Mortality Table projected to 2030 with Scale AA, set back two years, weighted 85%

male and weighted 15% female.

Termination Rates Before Retirement:

Rate (%)
Mortality

	Ge	neral	Sa	afety
Age	Male	Female	Male	Female
25	0.03	0.01	0.02	0.01
30	0.04	0.02	0.03	0.02
35	0.06	0.03	0.05	0.03
40	0.08	0.04	0.08	0.04
45	0.10	0.07	0.09	0.06
50	0.12	0.09	0.11	0.08
55	0.17	0.18	0.16	0.15
60	0.37	0.38	0.33	0.34
65	0.74	0.74	0.66	0.66

All pre-retirement deaths are assumed to be non-service connected.

Termination Rates Before Retirement (continued):

Rate (%)
Disability

Age	General Tier 1 and Tier 4 ⁽¹⁾	General Tier 3 and Tier 5 ⁽²⁾	Safety ⁽³⁾
20	0.01	0.01	0.02
25	0.02	0.02	0.22
30	0.04	0.03	0.42
35	0.08	0.05	0.56
40	0.16	0.08	0.66
45	0.32	0.13	0.94
50	0.52	0.17	2.54
55	0.66	0.21	4.10
60	0.70	0.27	4.80
65	0.70	0.36	5.00
70	0.70	0.44	5.00

⁽¹⁾ 70% of General Tier 1 and Tier 4 disabilities are assumed to be duty disabilities. The other 30% are assumed to be ordinary disabilities.

⁽²⁾ 35% of General Tier 3 and Tier 5 disabilities are assumed to be duty disabilities. The other 65% are assumed to be ordinary disabilities.

^{(3) 100%} of Safety disabilities are assumed to be duty disabilities.

Termination Rates Before Retirement (continued):

Rate (%)
Withdrawal*

Voore of Comice	Cofoty	
Years of Service	General	Safety
Less than 1	13.50	11.50
1	9.00	6.50
2	9.00	5.00
3	6.00	4.00
4	4.50	3.50
5	4.00	3.00
6	3.75	2.75
7	3.50	2.50
8	3.25	2.25
9	3.00	2.00
10	2.75	1.90
11	2.50	1.80
12	2.40	1.70
13	2.30	1.60
14	2.20	1.50
15	2.10	1.40
16	2.00	1.30
17	2.00	1.20
18	2.00	1.10
19	2.00	1.00
20 or more	2.00	1.00

^{*} The member is assumed to receive the greater of the member's contribution balance or a deferred retirement benefit. No withdrawal is assumed after a member is first assumed to retire.

Retirement Rates:

Rates (%)

Age	General Tier 1 (Enhanced)	General Tier 3 (Enhanced)	General Tier 1 (Non-enhanced)	PEPRA General Tiers 4 and 5
50	5.00	4.00	3.00	0.00
51	4.00	3.00	3.00	0.00
52	6.00	3.00	3.00	2.00
53	6.00	5.00	3.00	3.00
54	12.00	5.00	3.00	3.00
55	20.00	10.00	10.00	5.00
56	20.00	10.00	10.00	5.00
57	20.00	10.00	10.00	6.00
58	22.00	12.00	10.00	8.00
59	25.00	12.00	10.00	9.00
60	30.00	15.00	25.00	10.00
61	35.00	20.00	15.00	14.00
62	35.00	27.00	40.00	21.00
63	35.00	27.00	25.00	21.00
64	35.00	30.00	30.00	21.00
65	40.00	40.00	40.00	27.00
66	40.00	40.00	35.00	33.00
67	40.00	40.00	35.00	33.00
68	40.00	40.00	35.00	33.00
69	40.00	40.00	35.00	33.00
70	100.00	40.00	100.00	50.00
71	100.00	40.00	100.00	50.00
72	100.00	40.00	100.00	50.00
73	100.00	40.00	100.00	50.00
74	100.00	40.00	100.00	50.00
75	100.00	100.00	100.00	100.00

Retirement Rates:

Rates (%)

Safety Tier A (Enhanced)	Safety Tier C (Enhanced)	Safety Tier A (Non-enhanced)	PEPRA Safety Tiers D and E
2.00	1.00	0.00	0.00
2.00	1.00	0.00	0.00
7.00	3.00	0.00	0.00
7.00	3.00	0.00	0.00
20.00	10.00	0.00	0.00
25.00	15.00	5.00	5.00
25.00	15.00	4.00	4.00
25.00	15.00	4.00	4.00
25.00	15.00	5.00	5.00
25.00	15.00	5.00	5.00
30.00	20.00	6.00	6.00
25.00	15.00	8.00	8.00
25.00	15.00	12.00	12.00
35.00	25.00	18.00	18.00
35.00	25.00	20.00	20.00
40.00	35.00	20.00	20.00
40.00	35.00	20.00	20.00
40.00	35.00	20.00	20.00
40.00	35.00	20.00	20.00
40.00	35.00	100.00	100.00
100.00	100.00	100.00	100.00
	(Enhanced) 2.00 2.00 7.00 7.00 7.00 20.00 25.00 25.00 25.00 25.00 30.00 25.00 35.00 35.00 40.00 40.00 40.00 40.00 40.00	(Enhanced) (Enhanced) 2.00 1.00 2.00 1.00 7.00 3.00 7.00 3.00 20.00 10.00 25.00 15.00 25.00 15.00 25.00 15.00 25.00 15.00 25.00 15.00 25.00 15.00 25.00 15.00 25.00 15.00 35.00 25.00 35.00 25.00 40.00 35.00 40.00 35.00 40.00 35.00 40.00 35.00 40.00 35.00	(Enhanced) (Enhanced) (Non-enhanced) 2.00 1.00 0.00 2.00 1.00 0.00 7.00 3.00 0.00 20.00 10.00 0.00 25.00 15.00 5.00 25.00 15.00 4.00 25.00 15.00 5.00 25.00 15.00 5.00 25.00 15.00 5.00 30.00 20.00 6.00 25.00 15.00 8.00 25.00 15.00 8.00 25.00 15.00 12.00 35.00 25.00 18.00 35.00 25.00 20.00 40.00 35.00 20.00 40.00 35.00 20.00 40.00 35.00 20.00 40.00 35.00 20.00 40.00 35.00 20.00 40.00 35.00 20.00

Retirement Age and Benefit for Deferred Vested Members:

For deferred vested benefits, we make the following retirement assumption:

General Age: Age 59 Safety Age: Age 54

We assume that 40% and 60% of future General and Safety deferred vested members, respectively, will continue to work for a reciprocal employer. For reciprocals, we assume 5.25% compensation increases per annum.

Future Benefit Accruals:

1.0 year of service per year for the full-time employees. Continuation of current partial service accrual for part-time employees.

Unknown Data for Members:

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

Percent Married:

75% 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:

Females are 3 years younger than their spouses.

Offsets by Other Plans of the Employer for Disability Benefits:

The Plan requires members who retire because of disability from General Tier 3 and PEPRA General Tier 5 to offset the Plan's disability benefits with other Plans of the employer. We have not assumed any offsets in this valuation.

Leave Cashout Assumptions:

The following assumptions for leave cashouts as a percentage of final average pay are used:

General Tiers 1, 2 and 3 Safety Tiers A and C

	Membership Date before January 1, 2013
Cost Group 1:	1.50%
Cost Group 2:	0.50% for Tier 2
•	0.75% for Tier 3
Cost Group 3:	6.50%
Cost Group 4:	0.25%
Cost Group 5:	1.50%
Cost Group 6:	1.25%
Cost Group 7:	0.75%
Cost Group 8:	0.75%
Cost Group 9:	0.00%
Cost Group 10:	1.50%
Cost Group 11	3.00%
Cost Group 12:	3.50%

The cost of this pay element is recognized in the valuation as an employer and member cost in both basic and COLA components.

PEPRA General Tiers 4 and 5 PEPRA Safety Tiers D and E

None

Sick Leave Conversion:

The following assumptions for additional service converted due to accumulated sick leave as a percentage of service at retirement are used:

Service Retirements:

General: 1.25% Safety: 2.00%

Disability Retirements:

General: 0.10% Safety: 1.25%

Pursuant to Section 31641.01, the cost of this benefit for the non-PEPRA tiers will be charged only to employers and will not affect member contribution rates.

Net Investment Return:

7.25%, net of adminstration and investment expenses

Employee Contribution Crediting Rate:

7.25%, compounded semi-annually

Consumer Price Index:

Increase of 3.25% per year; retiree COLA increases due to CPI subject to a 3.00% maximum change per year except for Tier 3 and PEPRA Tier 5 disability benefits and Tier 2 benefits which are subject to a 4.00% maximum change per year (valued as a 3.25% increase). Safety Tier C benefits and benefits for PEPRA Tier 4 and Tier 5 members covered under certain memoranda of understanding are subject to a 2.00% maximum change per year.

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 merit and promotional increases:

Years of		~ .
Service	General	Safety
Less than 1	9.50%	10.00%
1	6.50	6.50
2	4.75	5.25
3	3.25	4.00
4	2.25	2.25
5	1.50	1.00
6	1.25	0.75
7	1.00	0.75
8	0.75	0.75
9	0.75	0.75
10	0.75	0.75
11	0.75	0.75
12	0.75	0.75
13	0.75	0.75
14	0.75	0.75
15	0.75	0.75
16	0.75	0.75
17	0.75	0.75
18	0.75	0.75
19	0.75	0.75
20 or more	0.75	0.75

APPENDIX B

PROPOSED ACTUARIAL ASSUMPTIONS

Post-Retirement Mortality Rates:

Healthy: For General Members: Headcount-Weighted RP-2014 Healthy

Annuitant Mortality Table, projected generationally with the two-

dimensional MP-2015 projection scale.

For Safety Members: Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table set back three years, projected generationally with the two-dimensional MP-2015 projection

scale.

Disabled: For General Members: Headcount-Weighted RP-2014 Healthy

Annuitant Mortality Table set forward eight years, projected generationally with the two-dimensional MP-2015 projection

scale.

For Safety Members: Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table set forward three years, projected generationally with the two-dimensional MP-2015 projection

scale.

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: Headcount-Weighted RP-2014 Healthy

Annuitant Mortality Table, projected to 2034 with the twodimensional MP-2015 projection scale, weighted 30% male and

70% female.

For Safety Members: Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table set back three years, projected to 2034 with the two-dimensional MP-2015 projection scale, weighted

85% male and 15% female.

Pre-Retirement Mortality Rates: Headcount-Weighted RP-2014 Employee Mortality Table times

75%, projected generationally with the two-dimensional MP-2015

projection scale.

Termination Rates Before Retirement:

Rate (%) Mortality

mortanty		
Age	Male	Female
25	0.05	0.02
30	0.05	0.02
35	0.05	0.03
40	0.06	0.04
45	0.09	0.06
50	0.16	0.10
55	0.26	0.16
60	0.42	0.23
65	0.73	0.33

All pre-retirement deaths are assumed to be non-service connected. Note that generational projections beyond the base year (2014) are not reflected in the above mortality rates.

Rate (%)
Disability

,		
General Tier 1 and Tier 4 ⁽¹⁾	General Tier 3 and Tier 5 ⁽²⁾	Safety ⁽³⁾
0.01	0.01	0.02
0.02	0.02	0.22
0.04	0.03	0.42
0.08	0.05	0.56
0.22	0.08	0.66
0.36	0.13	1.00
0.52	0.16	2.88
0.60	0.20	4.60
0.60	0.28	5.00
0.60	0.32	5.00
0.60	0.32	5.00
	Tier 1 and Tier 4 ⁽¹⁾ 0.01 0.02 0.04 0.08 0.22 0.36 0.52 0.60 0.60 0.60	Tier 1 and Tier 4 ⁽¹⁾ Tier 3 and Tier 5 ⁽²⁾ 0.01 0.01 0.02 0.02 0.04 0.03 0.08 0.05 0.22 0.08 0.36 0.13 0.52 0.16 0.60 0.20 0.60 0.28 0.60 0.32

^{65%} of General Tier 1 and Tier 4 disabilities are assumed to be duty disabilities. The other 35% are assumed to be ordinary disabilities.

⁽²⁾ 30% of General Tier 3 and Tier 5 disabilities are assumed to be duty disabilities. The other 70% are assumed to be ordinary disabilities.

^{(3) 100%} of Safety disabilities are assumed to be duty disabilities.

Termination Rates Before Retirement (continued):

Rate (%)
Withdrawal*

Withdrawai		
Years of Service	General	Safety
Less than 1	13.50	13.00
1	9.25	8.00
2	9.00	7.00
3	6.00	5.50
4	4.50	3.75
5	4.25	3.25
6	3.75	3.00
7	3.50	2.75
8	3.25	2.50
9	3.00	2.25
10	2.75	2.00
11	2.50	1.90
12	2.40	1.80
13	2.30	1.70
14	2.20	1.60
15	2.10	1.50
16	2.00	1.40
17	2.00	1.30
18	2.00	1.20
19	1.75	1.10
20 or more	1.50	1.00

^{*} The member is assumed to receive the greater of the member's contribution balance or a deferred retirement benefit. No withdrawal is assumed after a member is first assumed to retire.

Retirement Rates:

Rates (%)

_		(/V)			
	Age	General Tier 1 (Enhanced)	General Tier 3 (Enhanced)	General Tier 1 (Non-enhanced)	PEPRA General Tiers 4 and 5
	50	5.00	4.00	3.00	0.00
	51	4.00	3.00	3.00	0.00
	52	5.00	3.00	3.00	2.00
	53	5.00	5.00	3.00	3.00
	54	14.00	6.00	3.00	3.00
	55	20.00	10.00	10.00	5.00
	56	20.00	10.00	10.00	5.00
	57	20.00	10.00	10.00	6.00
	58	20.00	12.00	10.00	8.00
	59	25.00	13.00	10.00	9.00
	60	28.00	15.00	25.00	10.00
	61	35.00	20.00	15.00	14.00
	62	35.00	25.00	40.00	20.00
	63	30.00	25.00	35.00	20.00
	64	30.00	30.00	30.00	20.00
	65	35.00	35.00	40.00	25.00
	66	40.00	35.00	35.00	30.00
	67	40.00	35.00	35.00	30.00
	68	40.00	35.00	35.00	30.00
	69	40.00	35.00	35.00	30.00
	70	50.00	40.00	50.00	50.00
	71	50.00	40.00	50.00	50.00
	72	50.00	40.00	50.00	50.00
	73	50.00	40.00	50.00	50.00
	74	50.00	40.00	50.00	50.00
	75	100.00	100.00	100.00	100.00

Retirement Rates:

Rates (%)

Safety Tier A (Enhanced)	Safety Tier C (Enhanced)	Safety Tier A (Non-enhanced)	PEPRA Safety Tiers D and E
4.00	2.00	0.00	0.00
3.00	1.00	0.00	0.00
10.00	4.00	0.00	0.00
10.00	4.00	0.00	0.00
25.00	12.00	0.00	0.00
30.00	18.00	5.00	5.00
30.00	18.00	4.00	4.00
25.00	15.00	4.00	4.00
25.00	15.00	5.00	5.00
25.00	15.00	8.00	6.00
28.00	18.00	10.00	10.00
25.00	15.00	10.00	10.00
25.00	15.00	12.00	18.00
35.00	25.00	18.00	18.00
35.00	25.00	20.00	18.00
35.00	30.00	20.00	18.00
35.00	30.00	20.00	20.00
35.00	30.00	20.00	20.00
35.00	30.00	20.00	20.00
50.00	40.00	100.00	30.00
100.00	100.00	100.00	30.00
100.00	100.00	100.00	100.00
	(Enhanced) 4.00 3.00 10.00 10.00 25.00 30.00 25.00 25.00 25.00 25.00 25.00 35.00 35.00 35.00 35.00 35.00 35.00 35.00 35.00 35.00	(Enhanced) (Enhanced) 4.00 2.00 3.00 1.00 10.00 4.00 10.00 4.00 25.00 12.00 30.00 18.00 25.00 15.00 25.00 15.00 25.00 15.00 25.00 15.00 25.00 15.00 25.00 15.00 35.00 25.00 35.00 30.00 35.00 30.00 35.00 30.00 35.00 30.00 35.00 30.00 35.00 30.00 35.00 30.00 35.00 30.00 35.00 30.00 35.00 30.00 35.00 30.00 35.00 30.00 35.00 30.00 35.00 30.00 35.00 30.00 35.00 30.00 35.00 30.00 35.0	(Enhanced) (Enhanced) (Non-enhanced) 4.00 2.00 0.00 3.00 1.00 0.00 10.00 4.00 0.00 10.00 4.00 0.00 25.00 12.00 0.00 30.00 18.00 5.00 30.00 18.00 4.00 25.00 15.00 4.00 25.00 15.00 5.00 25.00 15.00 8.00 28.00 18.00 10.00 25.00 15.00 10.00 25.00 15.00 12.00 35.00 25.00 18.00 35.00 25.00 20.00 35.00 30.00 20.00 35.00 30.00 20.00 35.00 30.00 20.00 35.00 30.00 20.00 35.00 30.00 20.00 35.00 30.00 20.00 35.00 30.00 20.00

Retirement Age and Benefit for Deferred Vested Members:

For deferred vested benefits, we make the following retirement assumption:

General Age: Age 59 Safety Age: Age 54

We assume that 40% and 65% of future General and Safety deferred vested members, respectively, will continue to work for a reciprocal employer. For reciprocals, we assume 4.75% compensation increases per annum.

Future Benefit Accruals:

1.0 year of service per year for the full-time employees. Continuation of current partial service accrual for part-time employees.

Unknown Data for Members:

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

Percent Married:

75% 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:

Male retirees are 3 years older than their spouses, and Female retirees are 2 years younger than their spouses.

Offsets by Other Plans of the Employer for Disability Benefits:

The Plan requires members who retire because of disability from General Tier 3 and PEPRA General Tier 5 to offset the Plan's disability benefits with other Plans of the employer. We have not assumed any offsets in this valuation.

Leave Cashout Assumptions:

The following assumptions for leave cashouts as a percentage of final average pay are used:

General Tiers 1, 2 and 3 Safety Tiers A and C

	Membership Date before January 1, 2013
Cost Group 1:	1.25%
Cost Group 2:	0.50% for Tier 2
•	1.00% for Tier 3
Cost Group 3:	5.50%
Cost Group 4:	0.50%
Cost Group 5:	1.00%
Cost Group 6:	0.75%
Cost Group 7:	1.00%
Cost Group 8:	0.75%
Cost Group 9:	0.00%
Cost Group 10:	1.00%
Cost Group 11	2.50%
Cost Group 12:	2.50%

The cost of this pay element is recognized in the valuation as an employer and member cost in both basic and COLA components.

PEPRA General Tiers 4 and 5 PEPRA Safety Tiers D and E

None

Service From Accumulated Sick Leave Conversion:

The following assumptions for service converted from accumulated sick leave as a percentage of service at retirement are used:

Service Retirements:

General: 1.20% Safety: 1.90%

Disability Retirements:

General: 0.08% Safety: 1.30%

Pursuant to Section 31641.01, the cost of this benefit for the non-PEPRA tiers will be charged only to employers and will not affect member contribution rates.

Net Investment Return:

7.00%, net of administration and investment expenses

Employee Contribution Crediting Rate:

7.00%, compounded semi-annually

Consumer Price Index:

Increase of 2.75% per year; retiree COLA increases due to CPI subject to a 3.00% maximum change per year (valued as a 2.75% increase) except for Tier 3 and PEPRA Tier 5 disability benefits and Tier 2 benefits which are subject to a 4.00% maximum change per year (valued as a 2.75% increase). Safety Tier C benefits, Safety Tier E benefits and benefits for PEPRA Tier 4 and Tier 5 members covered under certain memoranda of understanding are subject to a 2.00% maximum change per year. For members that have COLA banks, they are reflected in projected future COLA's.

Salary Increases:

Annual Rate of Compensation Increase

Inflation: 2.75% per year, plus "across the board" salary increases of 0.50% per year, plus the following merit and promotional increases:

Years of		
Service	General	Safety
Less than 1	10.00%	10.50%
1	7.25	7.25
2	5.25	5.75
3	3.75	4.50
4	2.75	3.00
5	2.25	1.75
6	1.75	1.25
7	1.50	1.20
8	1.25	1.15
9	1.20	1.10
10	1.15	1.05
11	1.10	1.00
12	1.00	0.95
13	0.90	0.85
14	0.80	0.80
15	0.75	0.75
16	0.75	0.75
17	0.75	0.75
18	0.75	0.75
19	0.75	0.75
20 or more	0.75	0.75

5412041v4/05337.107



Meeting Date
06/08/16
Agenda Item
#12

MEMORANDUM

Date:

June 8, 2016

To:

Board of Retirement

Gail Strohl, Chief Executive Officer

From:

Karen Levy, General Counsel

Subject:

Legislative Update

Recommendation

Receive and File.

Summary of Pending Legislation

The California State Legislature reconvened on January 4, 2016 for the 2015-16 legislative session. February 19, 2016 was the last day for bills to be introduced. August 31, 2016 is the last day for each house to pass bills, and September 30, 2016 is the last day for the Governor to sign or veto bills passed by the Legislature.

Set forth below is a summary of legislation of interest to CCCERA and its Board of Retirement.

AB 241 – Local Government: bankruptcy; retired employees; disclosure of names and mailing addresses

AB 241 would require local public entities to provide the name and mailing address of each retired employee (or employee's beneficiary) to organizations representing retired employees in municipal bankruptcy or similar proceedings. It would:

- Limit the organization to using the information for representation of the retired employee only; and
- Ensure that retirees have the opportunity to meaningfully participate in the legal processes of a local public entity filing bankruptcy.

If enacted, this bill would impact public entities such as CCCERA's participating employers in the event they are likely to become unable to meet their financial obligations and initiate a

neutral evaluation process as prescribed in Government Code Section 53760.3. If that occurs, they would be subject to the notification requirements set forth in this bill.

Status: Senate Committee on Governance and Finance.

AB 259 – Personal Information Privacy

AB 259 addresses an agency that owns computerized data that includes personal information (name in combination with social security number, driver's license number, financial account number and password, medical information, etc.) for any California resident. In the event of a breach in the security of that data, the agency would be required to:

- Provide notification of the breach to any California resident whose personal information may have been compromised; and
- Provide 12 months of complimentary identity theft protection services if the agency was the source of the breach and the breach compromised the person's social security number, driver's license number, or California identification card number.

If enacted, this bill would impact CCCERA to the extent its computerized data includes personal information and a security breach occurs.

Status: Senate Committee on Appropriations.

AB 537 – Public Employees' Benefits

AB 537 applies to any public agency, state employer, employee organization, or public employee. It would prohibit them from entering into a memorandum of understanding on or after January 1, 2016 that provides postemployment health care benefits to members without a strategy for permanently pre-funding such benefits.

If enacted, this bill would impact CCCERA as a district and an employer, to the extent it enters into an MOU on or after the effective date set forth in the bill that provides postemployment healthcare.

Status: Assembly Committee on Public Employees, Retirement and Social Security.

AB 1052 – Retirement Board Authority: Investments

AB 1052 would apply to the State Teachers' Retirement System (STRS) and the Public Employees' Retirement System (PERS) only. Currently, the California Constitution grants the retirement board of a public pension or retirement system plenary authority and fiduciary responsibility for investment of moneys and administration of the system. If enacted, AB 1052 would specify that, without regard to state contracting laws, the retirement board is authorized to contract for services for the investment of the fund or appoint investment managers to manage the assets of the fund under the terms and conditions and utilizing the processes the board deems necessary and consistent with its fiduciary duties, as specified. The bill would require the board's processes to be competitive, except as elected by the board, as specified. The retirement

board must monitor and assess investment managers so selected consistent with its fiduciary duties.

Status: Senate Committee on Appropriations.

AB 1640 – Retirement: Public Employees.

Would extend the exemption from The California Public Employees' Pension Reform Act of 2013 (PEPRA) for members who are in nationwide bargaining groups where: (1) the public employee's interests are protected under Section 5333(b) of Title 49 of the United States Code; and (2) the public employee became a member of a state or local public retirement system prior to December 30, 2014. Specifically, the bill would extend indefinitely the exemption from PEPRA for transit workers as their collective bargaining is subject to federal law. *Status:* Assembly Committee on Appropriations.

AB 1661 – Local Government: Sexual Harassment Training and Education.

Existing law requires CCCERA, as a local agency, to provide at least 2 hours of training and education regarding sexual harassment to all CCCERA supervisory employees. AB 1661 would additionally require CCCERA trustees to receive sexual harassment training and education. *Status:* Assembly Committee on Appropriations.

AB 1692 – County Employees' Retirement: Contra Costa County.

AB 1692 would only apply in Contra Costa County. Currently, Contra Costa County has a unique disability standard as compared to the rest of the CERL systems, which applies a "substantial gainful employment" standard for Tier III members. (Gov't Code Section 31720.1.) AB 1692 would authorize the Board of Supervisors of Contra Costa County to require the application of the Tier III disability standard (31720.1 substantial gainful employment), Tier III disability amounts and Tier III COLA amounts to general (non-safety) PEPRA members. The bill would only apply to general (non-safety) PEPRA members who work for the County and other agencies for whom the County Board of Supervisors is the governing body. *Status*: Assembly Committee on Public Employees, Retirement and Social Security, referred to Senate Committee on Public Employment and Retirement.

AB 1812 - Public Employees' Retirement.

Would limit a new employee's retirement benefits to \$100,000 per year in retirement systems that are not integrated with Social Security. If enacted, this bill would further lower the limits on retirement benefits imposed by PEPRA.

Status: Assembly Committee on Public Employees, Retirement and Social Security.

AB 1853 - County Employees' Retirement: Districts: Retirement System Governance.

AB 1853 is a SACRS sponsored bill that would authorize the retirement board of any retirement system operating under CERL to elect, by resolution, to be a district under the law. The bill would authorize a retirement board to adopt, by resolution, specified administrative provisions that would classify various personnel of the retirement system as employees of the retirement system and not employees of the county. In regard to county employees who would become retirement system employees, the bill would prescribe requirements in connection with their compensation, employment benefits and status.

Status: Assembly Committee on Public Employees, Retirement and Social Security.

AB 2113 - Counties: Officers: Qualifications For Office.

AB 2113 would require that a person holding an elected county or district office must be a registered voter in the county or district at the time of the person's nomination to that office. This requirement may be waived if the County Board of Supervisors finds that a waiver is in the best interest of the county or district.

Status: Assembly Committee on Local Government.

AB 2376 - County Employees' Retirement: Los Angeles County.

AB 2376 is a SACRS sponsored bill. It is a CERL omnibus bill that would provide that CERL systems could opt to accept electronic data from employers rather than a signed sworn statement from new members. The bill also contains a provision sponsored by the California Retired County Employees Association (CRCEA) which would expand the voting powers of an alternate retired member of a retirement board. Specifically, the alternate retired member would be able to vote whenever two elected board members were absent rather than the current restriction that allows the alternate retirement member to vote only in place of the regular retired member of the board. The bill also contains some LACERA specific items.

Status: Assembly Committee on Public Employees, Retirement and Social Security.

AB 2628 – Political Reform Act of 1974: Employment Restrictions.

The Political Reform Act of 1974 generally prohibits a public official, as defined, from making, participating in making, or using his or her official position to influence a governmental decision in which the official has a financial interest. The act also requires the disclosure of specified financial interests of certain public officials on a statement of economic interests, which is filed annually. The act imposes certain restrictions on post governmental employment of specified public officials of state and local agencies. AB 2628 would prohibit CCCERA trustees from maintaining employment with or acting as consultants to CCCERA for a period of one year after the end of the Board member's tenure on the Board. It would also require that Form 700 Statement of Economic Interest of Board and staff members who are Section 87200 filers be available on the CCCERA website.

Status: Assembly Committee on Appropriations.

AB 2833 – Public Retirement Systems: Funds: Disclosures.

This bill would apply to contracts entered into on and after January 1, 2017. It would require a public pension or retirement system to require alternative investment vehicles to make specified disclosures regarding fees, expenses, and the gross and net rate of return in connection with these vehicles and the underlying investments. The bill would require a public pension or retirement system to disclose the information received in connection with alternative investment vehicles at least once annually at a meeting open to the public.

Status: Assembly Committee on Appropriations.

ACA 3 – Public Employees' Retirement

This Assembly Constitutional Amendment ("ACA") to Article XVI, Section 17(h) would require that any future enhancement of a public employee's retirement benefits apply only to future service. It also specifies how changes in retirement membership classification or employment are to be applied. If a change to a member's retirement membership classification or a change in employment results in an enhancement in the retirement formula or retirement benefit applicable to that member, the enhancement would apply only to service performed on or after the operative date of the change and would not be applied to any service performed prior to the operative date of the change. Additionally, the bill would provide that specified cost-of-living adjustments are not enhancements of retirement benefits.

To become effective, a constitutional amendment proposed by the Legislature (rather than through initiative), must be adopted by a 2/3 vote of the Legislature and approved with an affirmative vote of the majority of the electorate.

Status: Assembly Committee on Public Employees, Retirement and Social Security. In committee: Set for second hearing. Failed passage. Reconsideration granted.

SB 1436 - Local agency meetings: local agency executive compensation: oral report of final action recommendation.

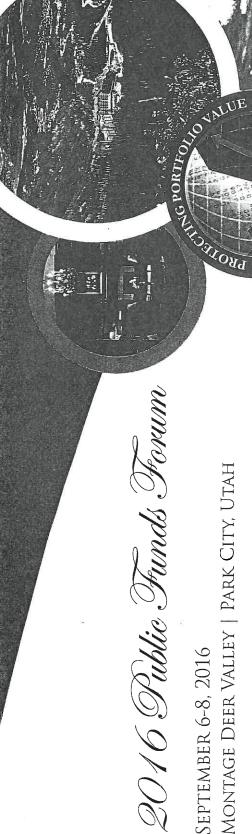
The Ralph M. Brown Act requires that all meetings of a legislative body of a local agency be open and public, except that closed sessions may be held under prescribed circumstances. The CCCERA Board may hold a closed session to consider the appointment, employment, evaluation of performance, discipline, or dismissal of a public employee, but generally prohibits the closed session from including discussion or action on proposed compensation. The Board may hold a closed session with CCCERA's designated representatives regarding the salaries, salary schedules, or compensation paid in the form of fringe benefits of its represented and unrepresented employees, but prohibits the closed session from including final action on the proposed compensation of one or more unrepresented employees. Lastly, the Board is prohibited

from calling a special meeting regarding the salaries, salary schedules, or compensation paid in the form of fringe benefits of CCCERA employees.

SB 1436 would require the Board, **prior** to taking final action, to orally report a summary of a recommendation for a final action on the salaries, salary schedules, or compensation paid in the form of fringe benefits of a local agency executive during the open meeting in which the final action is to be taken.

Status: Assembly Committee on Local Government

Meeting Date **06/08/16** Agenda Item #13a.



KOROA conference designed to train public fund representatives on practices to best fulfill Join us for the eighth annual Public Funds Forum, an invitation-only educational fiduciary duties, protect portfolio assets and create long-term value.

2016 Public Funds Forum

SEPTEMBER 6–8, 2016 — MONTAGE DEER VALLEY, PARK CITY, UTAH

The registration fee for the conference is \$825.

PAST DISTINGUISHED SPEAKERS INCLUDE:



Hillary Rodham Clinton Former Secretary of State and Former U.S. Senator from New York

President Bill Clinton 42nd President of the United States



Rudy Giuliani Former Mayor of New York City

General Colin Powell, USA (Ret.) 65th U.S. Secretary of State



Condoleezza Rice 66th U.S. Secretary of State



Mohamed A. El-Erian CEO and Co-Chief Investment Officer of PIMCO (2007-2014)





Journalist & Best-Selling Author of Flash Boys, Moneyball and The Blind Side Michael Lewis

Upon request and as legally permissible, conference fees may be waived subject to applicable gift and gratuity limitations.

For more information and to register, visit www.PublicFundsForum.com or call (310) 476-8108.

Robbins Geller Rudman & Dowd u.e

CARPENTER COMMUNITY BANCFUND ANNUAL BANCFUND LIMITED PARTNERS RETIMENTING Date NEWPORT BEACH, CALIFORNIA SEPTEMBER 29-30, 2016

06/08/16 Agenda Item #13h

PRELIMINARY AGENDA

SEPTEMBER 29, 2016 (THURSDAY)

MEET IN ISLAND HOTEL LOBBY FOR DEPARTURE TO BANK/HEADQUARTERS

2:00PM

BANK/HEADQUARTERS OFFICE TOUR AND MANAGEMENT PRESENTATIONS 2:30PM - 4:00PM

Transportation to the Island Hotel, Newport Beach

4:15PM - 4:45PM

WELCOME RECEPTION & DINNER

6:00PM - 8:00PM

SEPTEMBER 30, 2016 (FRIDAY)

CONTINENTAL BREAKFAST

8:00AM - 9:00AM

BANCFUND 2009-2016 STATUS REPORT

9:00AM - 12:00PM

LUNCH

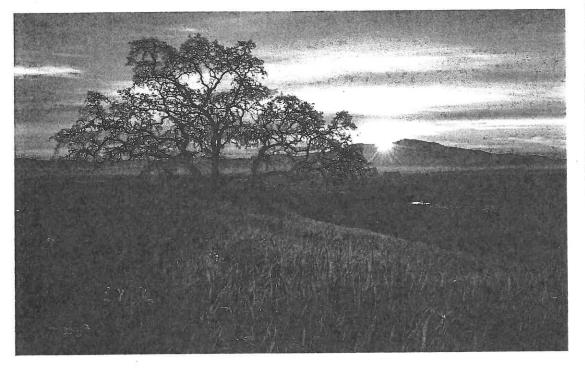
12:00PM - 1:00PM

ADJOURNED

Save these Dates! CRCEA Fall Conference October 17—19, 2016

Meeting Date 06/08/16 Agenda Item #13c.







1345 Treat Boulevard,

Walnut Creek, CA 94597

Telephone: (925) 934-2500

FAX: (925) 256-7233

\$139.00, plus tax, per night (includes two room suite, microwave, refrigerator, Wi-Fi, and full breakfast)

Valet parking with unlimited in and out privileges:

\$10.00/day. For online reservations, go to:

http://embassysuites.hilton.com/en/es/groups/personalized/S/ SFOPHES-CRC-20161015/index.jhtml



Hosted By

Contra

Costa County

Retired

Employees

Association (CCCREA)

Contact: Mike Sloan (925) 250-4796

http://www.cccrea.info cccreainfo@google.com

CRCEA/CONTRA COSTA COUNTY FALL CONFERENCE HOTEL COST UPDATE (\$139 vs. \$179 per night)

According to the CRCEA Conference Manual, the recommended number of rooms that should be booked by the hosting committee for each CRCEA conference is 75 rooms (25 Sunday, 25 Monday, and 25 Tuesday).

After the Kern County Conference, the CCCREA conference committee felt it would be prudent to book additional rooms. We contacted the Embassy Suites Hotel in Walnut Creek to ask them to increase our room count to 35 rooms per night for a total of 115 rooms. The response was "No problem, but the extra rooms will be \$179 per night." instead of the \$139 per night originally negotiated. Since they expect the hotel with be fully booked that week, they are unwilling to negotiate the price.

As of May 1st there are no more rooms left at the \$139 price, however I have been checking additional travel sites online, and the prices for this hotel fluctuate from \$139 to \$243, depending on the day, and sometimes even the time of day.

Since we have met our obligation for the minimum number of rooms booked, we do not need credit for any additional rooms. My recommendation is to go to one or more of the following sites and check their prices:

Tripadvisor.com
Booking.com
Hotel.com
Trivago.com
CSAA.com
AARP.com

I would even check the Walnut Creek Embassy Suites Hotel as I have found a price of \$160 for AAA members. Often they will offer a price guarantee, and match the lowest price you find. Ultimately, you are much better off booking with the hotel property if you can.

If you don't find what you want today, wait a couple of days and check again. If you find something below the \$179 price, book it! You have up until 24 hours before the conference to cancel the booking if you find you cannot attend.

SUNDAY, OCTOBER 16, 2016

2:00 p.m. - 6:00 p.m.

CONFERENCE REGISTRATION (Atrium)

5:00 p.m. – 7:00 p.m.

Hospitality Time Hosted By the Embassy Suites Hotel

All guests at the hotel are invited.

MONDAY, OCTOBER 17, 2016

6:00 a.m. – 8:30 a.m.

Complimentary Breakfast for Hotel Guests (Embassy Grill)

9:00 a.m. - 4:00 p.m.

Registration (In Front of Contra Costa Ballroom)

9:00 a.m. - 9:30 p.m.

Opening Session: (Contra Costa Ballroom)
Call to Order: Skip Murphy, CRCEA President

Invocation: (TBD)

Presentation of Colors: Contra Costa County Sheriff Honor Guard

National Anthem: (TBD)

Pledge of Allegiance: Mary Lou Williams

Roll Call of Counties: Virginia Adams, CRCEA Secretary

Introduction of First-Time Attendees: Skip Murphy, CRCEA President

9:30 a.m. - 10:00 a.m.

Key Note Speaker

John Chiang, California State Treasurer – "Secure California"

Introduction: Mike Sloan

10:00 a.m. - 10:20 a.m.

Morning Break

10:20 a.m. - 11:10 a.m.

Retirement Board Employees vs. County Employees

Gail Strohl, CEO, Contra Costa Co. Employees Retirement Assn.

Introduction: Jerry Telles

11:10 a.m. - 12:00 p.m.

Roundtable Discussion – Items of concern or interest to the entire

Association

12:00 p.m. - 1:00 p.m.

Lunch

1:00 p.m. - 2:00 p.m.

OPEN

2:00 p.m. - 3:00 p.m.

Presentation: ROSIE THE RIVITER

Speaker: (Who)
Introduction: (Who)

3:00 p.m. - 3:15 p.m.

Afternoon Break (Where, What, Sponsor)

3:15 p.m. - 4:30 p.m.

Presentation: "Trust Me! Estate Planning Tales of Sibling Rivalry, Lost

Treasures and the Missing Documents"
Speaker: Stephanie West - Attorney

Introduction: Mike Sloan

5:30	n.m.	-7	.nn	n m
9.00	P.III.	,	·UU	U.111.

Hospitality Reception (West Atrium)

All Attendees and Affiliate Members are invited to Attend

_			
1	:00	n	m

Dinner on Your Own

TUESDAY,	OCTOBER	18, 2016
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6:00	a.m.	-8	:30	a.m.
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Complimentary Breakfast for Hotel Guests in the (Embassy Grill)

8:00 a.m. - 2:00 p.m.

Registration (In Front of the Contra Costa Ballroom)

8:30 a.m. – 8:45 a.m.

Morning General Session (Contra Costa Ballroom)
Call to Order: E. F. (Skip) Murphy, CRCEA President

Announcements: (Conference Program Chair - Marilyn Cramlett)

8:45 a.m. - 9:30 a.m.

Presentation: ROAD SCHOLAR

Speaker: (Who)

Introduction: Maya Kennedy

9:30 a.m. - 10:15 a.m.

Presentation: Ask the Actuary Anything!

Speaker: Paul Angelo, Sr. Vice President & Actuary, Segal Consulting

Introduction: Mike Sloan

10:15 a.m. - 10:30 a.m.

Morning Break (SPONSOR)

10:30 - 10:50 a.m.

Introduction of Affiliates - Bill de la Garza, Chair

10:50 - 12:00 p.m.

Presentation: Age Well/Drive Smart (Part 1)

California CHP – Cindy Lima, Senior Volunteer Coordinator Officer John Fransen, CHP Public Information Officer

Introduction: Mike Sloan

12:00 p.m. - 1:00 p.m.

Lunch - On Your Own

1: 00 p.m. - 2:15 p.m.

Presentation: Age Well/Drive Smart (Part 2)

California CHP – Cindy Lima, Senior Volunteer Coordinator Officer John Fransen, CHP Public Information Officer

Introduction: Mike Sloan

2:15 p.m. - 3:00 p.m.

Legislative Report – Art Goulet, Chair, CRCEA Legislative Committee

3:00 p.m. - 3:15 p.m.

Afternoon Break (SPONSOR)

3:15 p.m. - 4:15 p.m.

Presentation: Ask the Attorney Anything!

Harvey Leiderman, Reed Smith, LLP

Introduction: Jerry Telles

4:15 p.m. - 5:30 p.m.

Breakout Sessions – Meetings of CRCEA Standing Committees If you are not assigned to a committee, feel free to sit-in on any

Committee of your choice.

5:30 p.m. – 7:00 p.m.

Hospitality Reception (West Atrium)

All Attendees and Affiliate Members are invited to attend

7:00 p.m. - 9:30 p.m.

Conference Banquet (Contra Costa Ballroom) Master of Ceremonies – Petrenya Boykins

Music and Dancing – Jim Anderson and the Rebels

Door Prize Drawings - Maria Catanese

WEDNESDAY, OCTOBER 19, 2016

6:00 a.m. - 8:00 a.m.

Complimentary Breakfast for Hotel Guests in the (Embassy Grill)

8:00 a.m. - 11:00 a.m.

Business Session: Contra Costa Ballroom

Call to Order: E. F. (Skip) Murphy, President, CRCEA

Announcements: Marilyn Cramlett – CCREA Program Chair Roll Call of Delegates: Virginia Adams, CRCEA Secretary

Approval of 2014 Fall Conference Minutes: President Murphy

Executive Committee Report: President Murphy Financial Report: Carlos Gonzalez, CRCEA Treasurer Committee Reports: CRCEA Standing Committee Chairs

> Nominating: Will Hoag, Ventura Affiliate: Bill de la Garza, Los Angeles Benefits: John Michaelson, San Bernardino

Bylaws: David Muir, Los Angeles

Communications/Intercom: Virginia Adams,

San Bernardino

Audit/Finance: Jerry Jacobs, Alameda Legislation: Art Goulet, Ventura

Membership: Rhonda Biesemeier, Stanislaus Retirement Security: Co Chairs – Mike DeBord, Sacramento and George Shoemaker, San Diego CalPERS Long Term Care Premium Increase Ad

Hoc Committee: David Muir, Los Angeles Conference: Mike Sloan, Contra Costa

Invitation to the 2017 Spring Conference: Retired Employees Association of Ventura County (REAVC):

Host Committee Chair (Nancy Settle)

(WHEN)
(WHERE) Hotel

Unfinished Business

New Business

Good of the Order

Closing Remarks: E. F. (Skip) Murphy, CRCEA President