



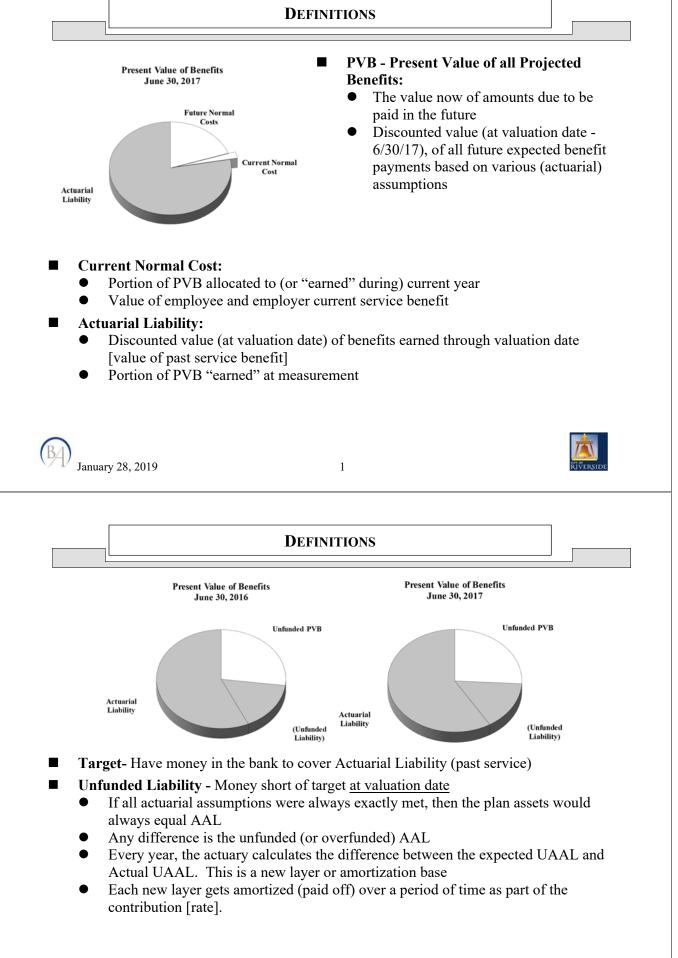
CalPERS Actuarial Issues – 6/30/17 Valuation Preliminary Results

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January 28, 2019

Contents	
Торіс	Page
Definitions	1
How We Got Here	3
CalPERS Changes	10
Miscellaneous Plan:	
Demographic Information	13
Plan Funded Status	17
Contribution Rates & Projections	21
Safety Plan:	
Demographic Information	35
Plan Funded Status	37
Contribution Rates & Projections	43
Combined Miscellaneous and Safety	57
Leaving CalPERS	59
PEPRA Cost Sharing	61
Paying Down the Unfunded Liability	63
Irrevocable Supplemental (§115) Pension trust	69





HOW WE GOT HERE

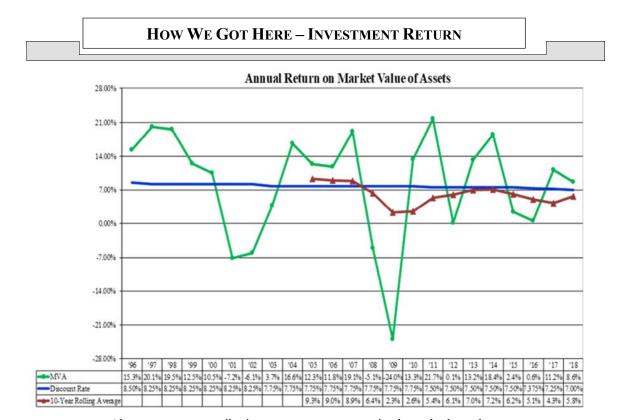
- Investment Losses
- CalPERS Contribution Policy
- Enhanced Benefits
- Demographics



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Above assumes contributions, payments, etc. received evenly throughout year.



HOW WE GOT HERE - OLD CONTRIBUTION POLICY

- Effective with 2003 valuations:
 - Slow (15 year) recognition of investment losses into funded status
 - Rolling 30 year amortization of all (primarily investment) losses
- Designed to:
 - First smooth rates and
 - Second pay off UAL
- Mitigated contribution volatility



January 28, 2019

5



HOW WE GOT HERE - ENHANCED BENEFITS

- At CalPERS, Enhanced Benefits implemented using all (future & prior) service
- Typically not negotiated with cost sharing
- City of Riverside

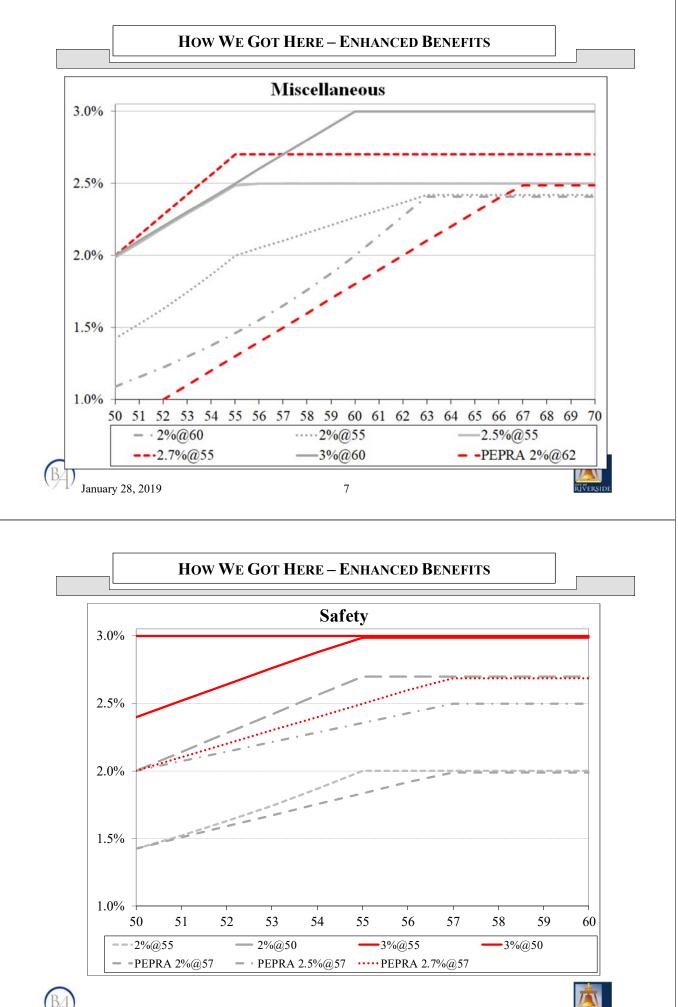
		Tier 1	Tier 2	PEPRA
•	Miscellaneous	2.7%@55 FAE1	2.7%@55 FAE3	2%@62 FAE3
•	Police Safety	3%@50 FAE1	3%@50 FAE3	2.7%@57 FAE3
	Fire Safety	3%@50 FAE1	3%@55 FAE3	2.7%@57 FAE3

• Note:

□ FAE1 is highest one year (typically final) average earnings

□ FAE3 is highest three years (typically final three) average earnings





- Around the State
 - Large retiree liability compared to actives
 - □ State average: 55% for Miscellaneous, 65% for Safety
 - Declining active population and increasing number of retirees
 - Higher percentage of retiree liability increases contribution volatility
- City of Riverside percentage of liability belonging to retirees:
 - Miscellaneous 61%
 - Safety 78%



9



CALPERS CHANGES

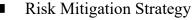
- Contribution policy changes:
 - No asset smoothing
 - No rolling amortization
 - 5-year ramp up
 - Included in 6/30/13 valuation (first impact 15/16 rates; full impact 19/20)
- Assumption changes:
 - Anticipate future mortality improvement
 - Other, less significant, changes
 - Included in 6/30/14 valuation (first impact 16/17 rates; full impact 20/21)
- CalPERS Board changed their discount rate:

	Rate	Initial Impact	Full Impact
• 6/30/16 valuation	7.375%	18/19	22/23
• 6/30/17 valuation	7.25%	19/20	23/24
• 6/30/18 valuation	7.00%	20/21	24/25

 December 2017: CalPERS Board selected asset allocation similar to current portfolio. No change to the discount rate



CALPERS CHANGES

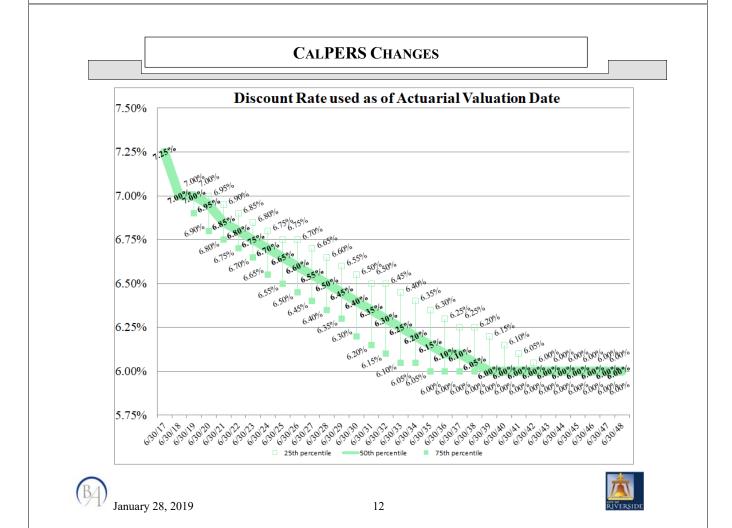


- Move to more conservative investments over time to reduce volatility
- Only when investment return is better than expected
- Lower discount rate in concert
- Essentially use $\approx 50\%$ of investment gains to pay for cost increases
- Likely get to 6.0% over 20+ years
- Risk mitigation suspended until 6/30/18 valuation
- February 2018 CalPERS adopted new amortization policy
 - Applies only to newly established amortization bases
 - ▶ Fixed dollar amortization rather than % pay
 - Amortize gains/losses over 20 rather than 30 years
 - ➢ 5-year ramp up (not down) for investment gains and losses
 - > No ramp up/down for other amortization bases
 - Minimizes total interest paid over time and pays off UAL faster
 - Effective June 30, 2019 valuation for 2021/22 contributions
 - Included in this study

January 28, 2019







	1997	2007	2016	2017
Actives				
■ Counts	1,375	1,636	1,536	1,599
■ Average				
• Age	45	43	45	45
City Service	12	10	11	11
PERSable Wages	\$ 44,800	\$ 62,600	\$ 73,600	\$ 74,200
Total PERSable Wages	61,600,000	102,400,000	113,100,000	118,600,000
Inactive Members				
■ Counts				
Transferred	1,000	866	693	668
Separated	372	527	624	657
Retired				
□ Service		1,590	1,608	1,673
Disability		208	159	161
Beneficiaries		327	273	280
□ Total	1,294	2,125	2,040	2,114
Average Annual City Provided Benefit				
for Service Retirees ¹	N/A	\$ 16,700	\$ 31,600	\$ 32,000

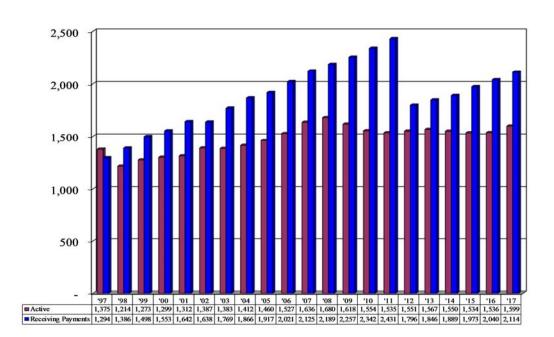
¹ Average City-provided pensions are based on City service & City benefit formula, and are not representative of benefits for long-service employees.

3**A)** January 28, 2019

13



SUMMARY OF DEMOGRAPHIC INFORMATION - MISCELLANEOUS



*Prior to 2012, inactives were counted separately for service with or without Social Security under different coverage groups.

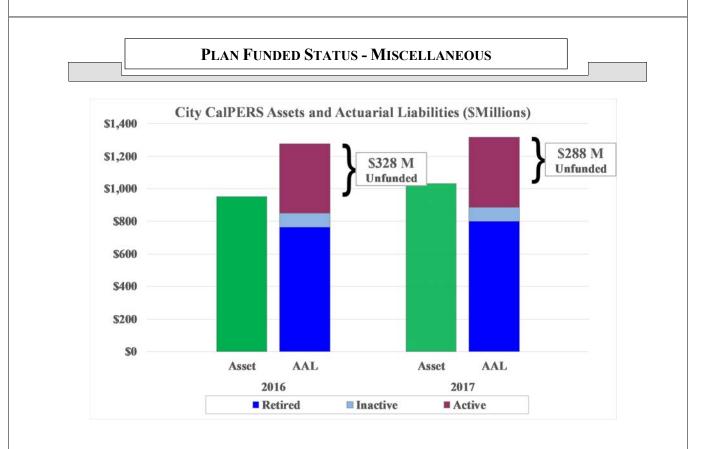


PLAN FUNDED STATUS - MISCELLANEOUS

	<u>June 30, 2016</u>	<u>June 30, 2017</u>
Active AAL	\$430,300,000	\$432,900,000
Retiree AAL	766,200,000	799,800,000
Inactive AAL	81,500,000	84,700,000
Total AAL	1,278,000,000	1,317,400,000
Assets	949,900,000	1,029,800,000
Unfunded Liability	328,100,000	287,600,000
Funded Ratio	74.3%	78.2%





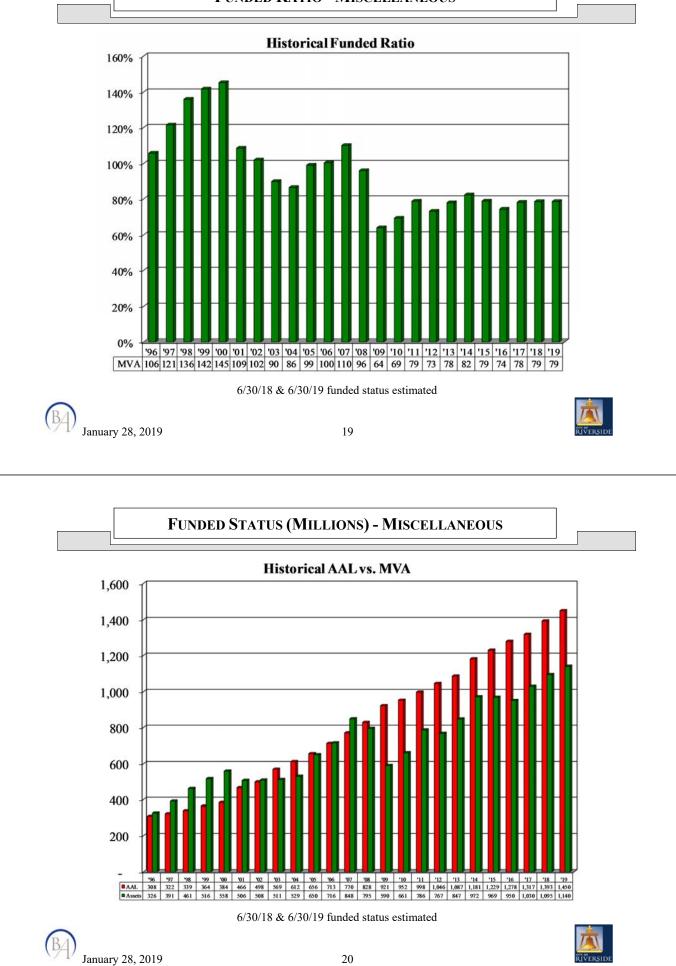


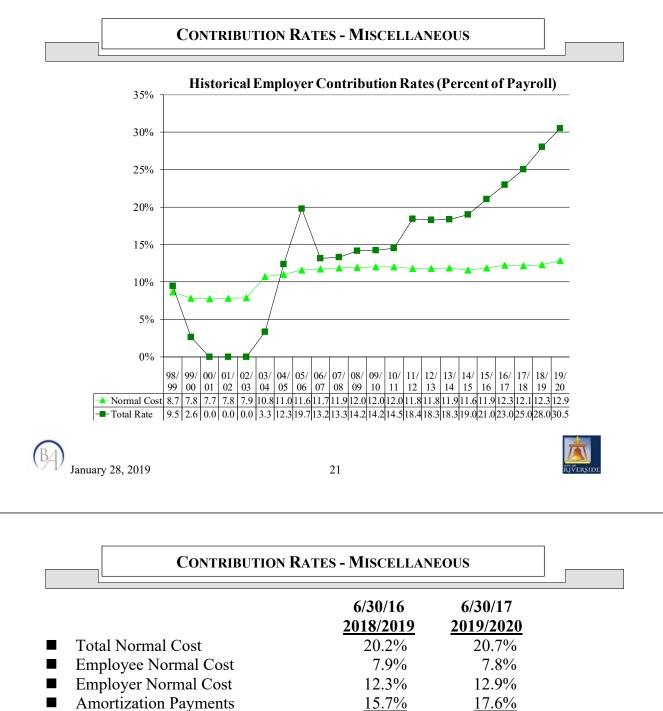


PLAN I	Funded Status - N	IISCELLANEOUS				
	Discount Rate S					
	June 30, 20	017				
Discount Rate						
	<u>7.25%</u>	<u>7.00%</u>	<u>6.00%</u>			
AAL	\$1,317,400,000	\$1,338,800,000	\$1,523,200,000			
Assets	1,029,800,000	1,029,800,000	1,029,800,000			
Unfunded Liability	287,600,000	309,000,000	493,400,000			
Funded Ratio	78.2%	76.9%	67.6%			
January 28, 2019	17		NIVERSIDE			
PLAN I	Funded Status - M	Í ISCELLANEOUS				
Unf	unded Accrued Lia	ability Changes				
Unfunded Accrued Li	ability on 6/30/16		\$328,100,000			
	ccrued Liability of	n 6/30/17	339,300,000			
	Accrued Liability of	n 6/30/17	339,300,000			
• Expected Unfunded A			339,300,000 00,000)			
Expected Unfunded AOther Changes	11.2% return for FY	(34,3				
 Expected Unfunded A Other Changes Asset Loss (Gain) (1 Assumption Changes Contribution & Exp 	1.2% return for FY	(34,3 2,00	00,000)			
 Expected Unfunded A Other Changes Asset Loss (Gain) (1 Assumption Changes 	11.2% return for FY erience Loss (Gain)	(34,3 2,00	00,000) 00,000			



FUNDED RATIO - MISCELLANEOUS





- **Amortization Payments** Total Employer Contribution Rate
- 2018/19 Employer Contribution Rate 28.0% Payroll > Expected (0.2%)Asset Method Change (5th Year) 1.6% 6/30/14 Assumption Change (4th Year) 1.2% 6/30/16 Discount Rate Change (2nd Year) 0.4% 6/30/17 Discount Rate & Inflation (1st Year) 1.0% Other (Gains)/Losses (1.5%)30.5%
- 2019/20 Employer Contribution Rate

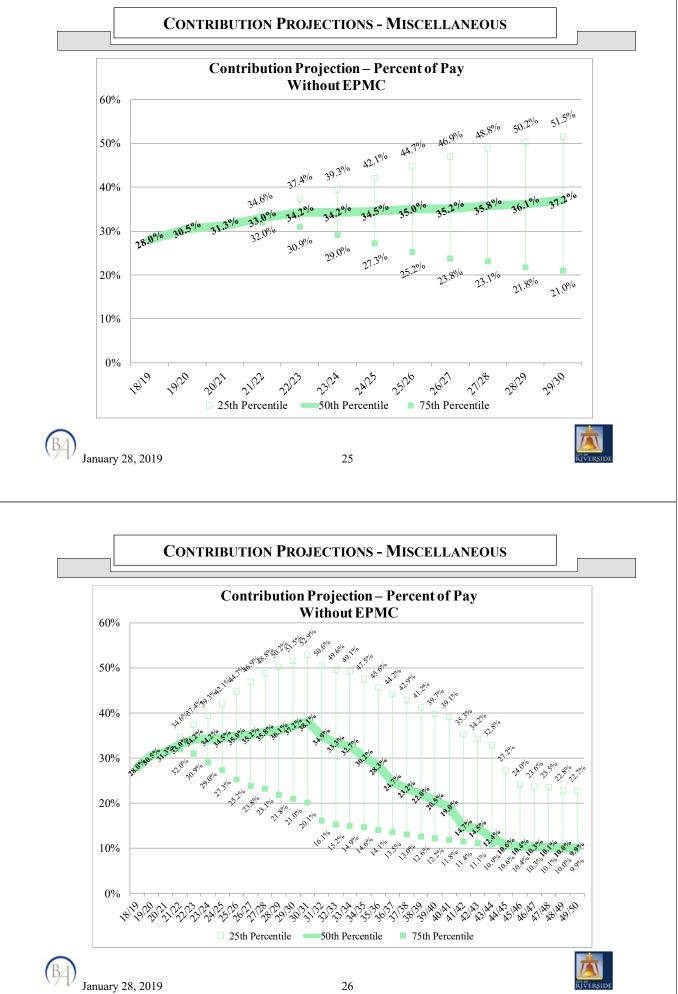


28.0%

30.5%

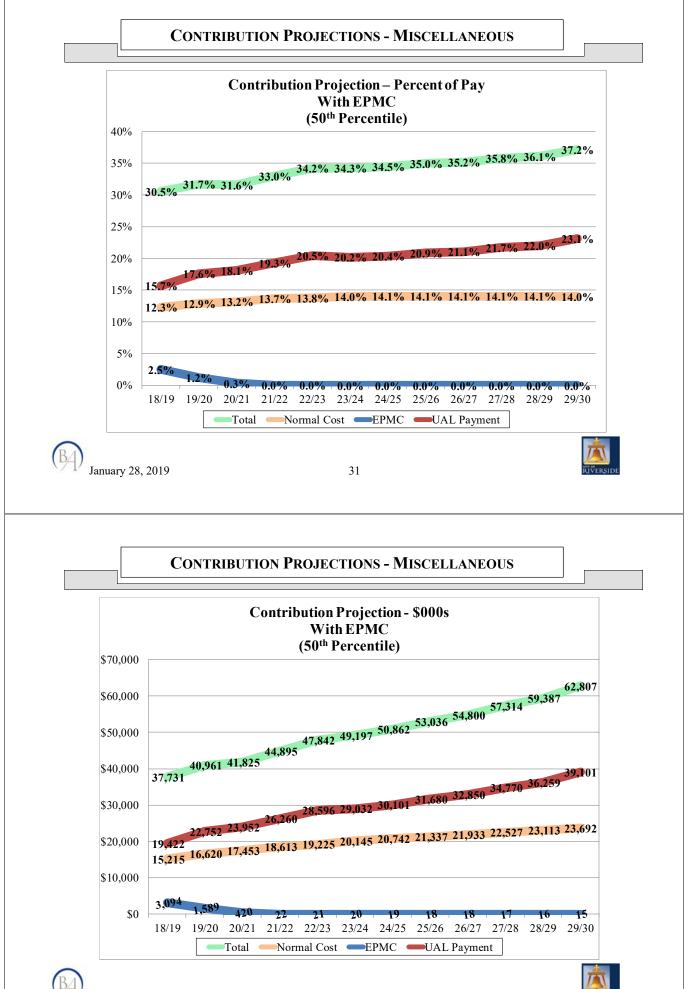
CONTRIBUTION PROJECTIONS - MISCELLANEOUS Market Value Investment Return: June 30, 2018 $8.6\%^2$ Future returns based on stochastic analysis using 1,000 trials 25th Percentile 50th Percentile 75th Percentile Single Year Returns at³ Current Investment Mix 0.1% 7.0% 14.8% 0.8% 6.0% Ultimate Investment Mix 11.4% Assumes investment returns will, generally be 6.5% (as compared to 7.0%) over the next 10 years and higher beyond that. Assumption Changes – Discount Rate Decrease to 7.0% by June 30, 2018 valuation Additional Discount Rate decreases due to Risk Mitigation policy. No Other: Gains/Losses, Method/Assumption Changes, Benefit Improvements Different from CalPERS projection based July 2018 CalPERS press release Nth percentile means N percentage of our trials result in returns lower than the indicated rates. January 28, 2019 23 **CONTRIBUTION PROJECTIONS - MISCELLANEOUS** New hire assumptions: 62.5% of 2018/19 new hires are PEPRA members and 37.5% are Classic members Percentage of PEPRA member future hires to increase from 62.5% to 100% over 15 years Tier 1 Employer Paid Member Contributions: SEIU: 2% prior to January 1, 2019, 1% from January 1, 2019 through ۲ January 1, 2020, and 0% thereafter Unrepresented: 6% from January 1, 2018 through January 1, 2019, 4% from January 1, 2019 through January 1, 2020, 2% from January 1, 2020 through January 1, 2021, and 0% thereafter Elected Officials: 8% IBEW: 6% from November 1, 2017 through November 1, 2018, 4% from November 1, 2018 through November 1, 2019, 2% from November 1, 2019 through November 1, 2020, and 0% thereafter Combined: 3.3% for 2018/19, 1.8% for 2019/20, 0.5% for 2020/21 and 0% for 2020/21 and thereafter



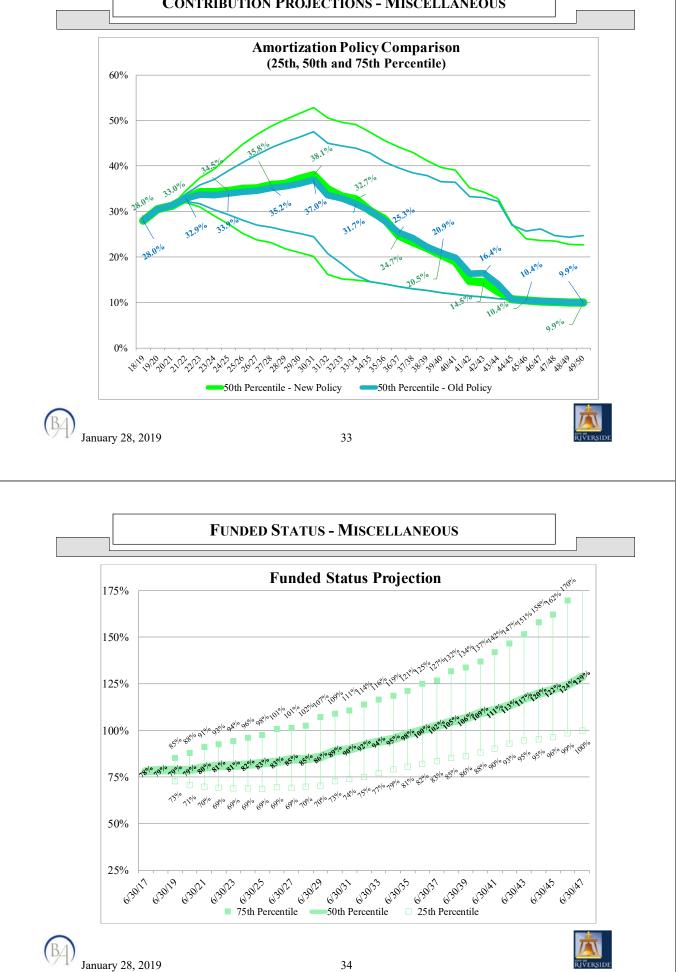












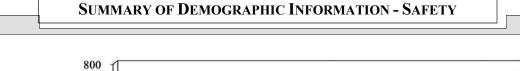
	1997	2007	2016	2017
Actives				
■ Counts	495	614	579	556
■ Average				
• Age	39	39	41	41
City Service	13	12	13	13
PERSable Wages	\$ 58,400	\$ 99,400	\$ 114,800	\$ 115,700
Total PERSable Wages	28,900,000	61,100,000	66,500,000	64,300,000
Inactive Members				
■ Counts				
• Transferred	52	90	91	90
Separated	54	60	67	75
• Retired				
□ Service		218	304	325
Disability		268	324	330
Beneficiaries		74	101	111
□ Total	400	560	729	766
Average Annual City Provided Benefit				
for Service Retirees ⁴	N/A	\$ 48,200	\$ 71,800	\$ 74,000

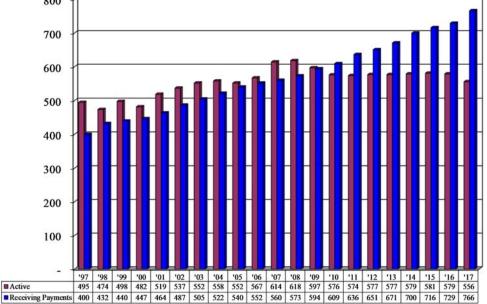
SUMMARY OF DEMOGRAPHIC INFORMATION - SAFETY

⁴ Average City-provided pensions are based on City service & City benefit formula, and are not representative of benefits for long-service employees.

January 28, 2019







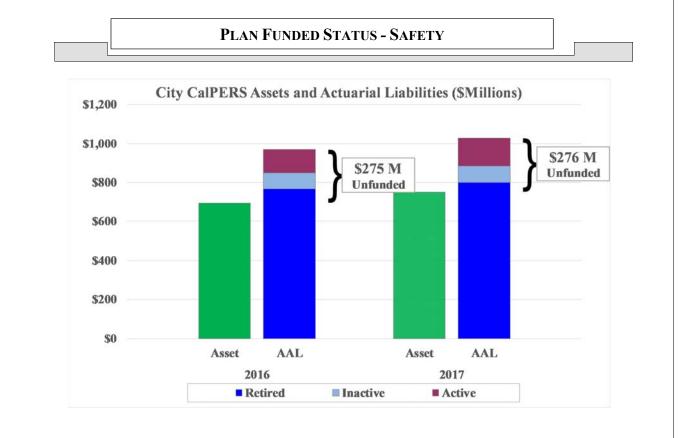




	June 30, 2016	June 30, 2017
Active AAL	\$121,200,000	\$143,100,000
Retiree AAL	766,200,000	799,800,000
Inactive AAL	81,500,000	84,700,000
Total AAL	968,900,000	1,027,600,000
Assets	693,800,000	751,700,000
Unfunded Liability	275,100,000	275,900,000
Funded Ratio	71.6%	73.2%









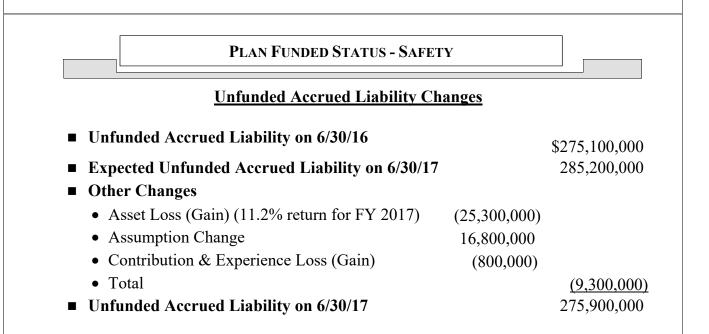
PLAN FUNDED STATUS - SAFETY

Discount Rate Sensitivity

June 30, 2017

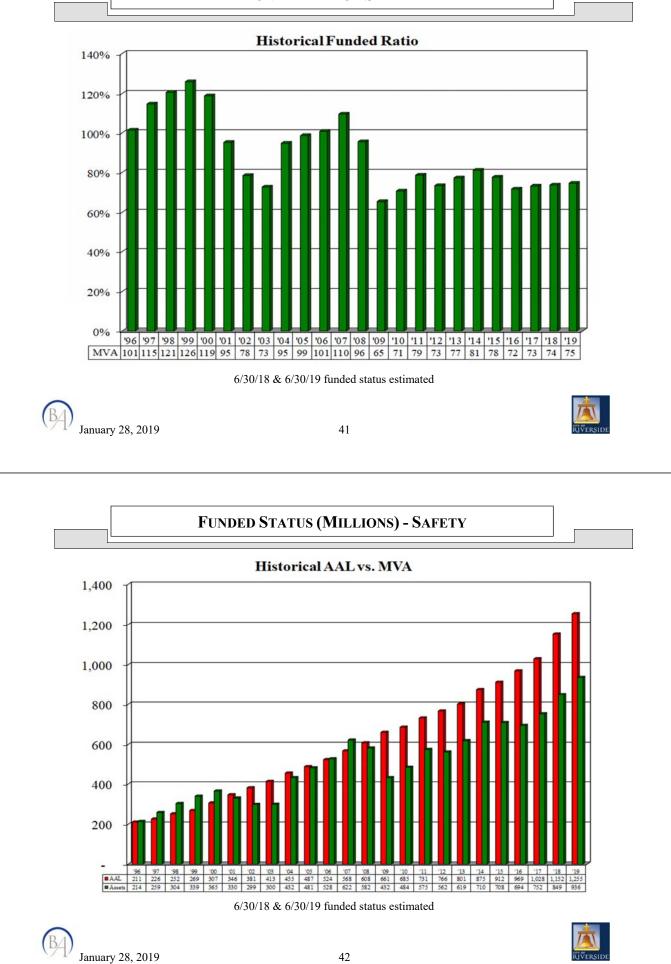
	Discount Rate			
	<u>7.25%</u>	<u>7.00%</u>	<u>6.00%</u>	
AAL	\$1,027,600,000	\$1,057,100,000	\$1,204,000,000	
Assets	751,700,000	751,700,000	751,700,000	
Unfunded Liability	275,900,000	305,400,000	452,300,000	
Funded Ratio	73.2%	71.1%	62.4%	

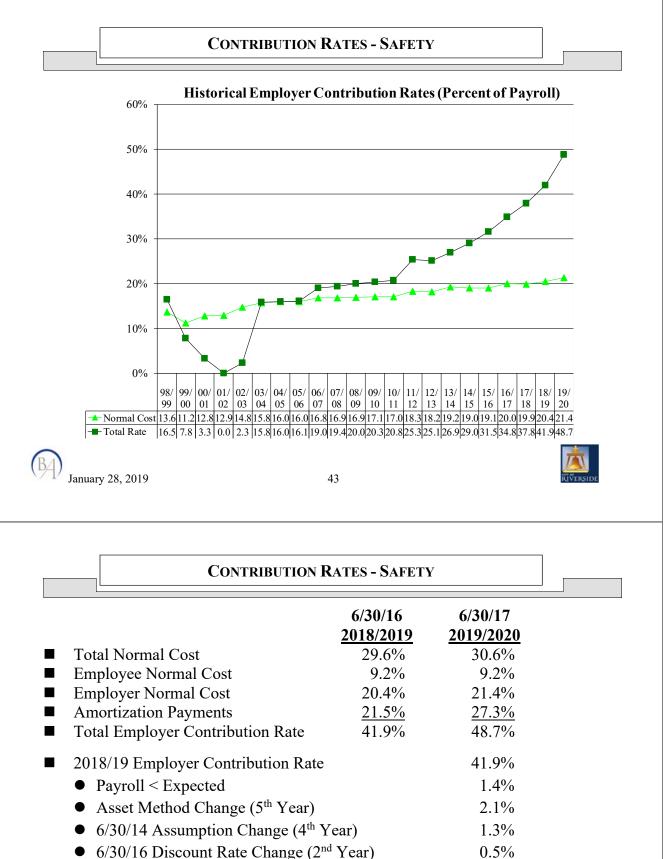






FUNDED RATIO - SAFETY





- 6/30/16 Discount Rate Change (2nd Year)
- 6/30/17 Discount Rate & Inflation (1st Year) 1.7% • Other (Gains)/Losses (0.2%)
- 2019/20 Employer Contribution Rate

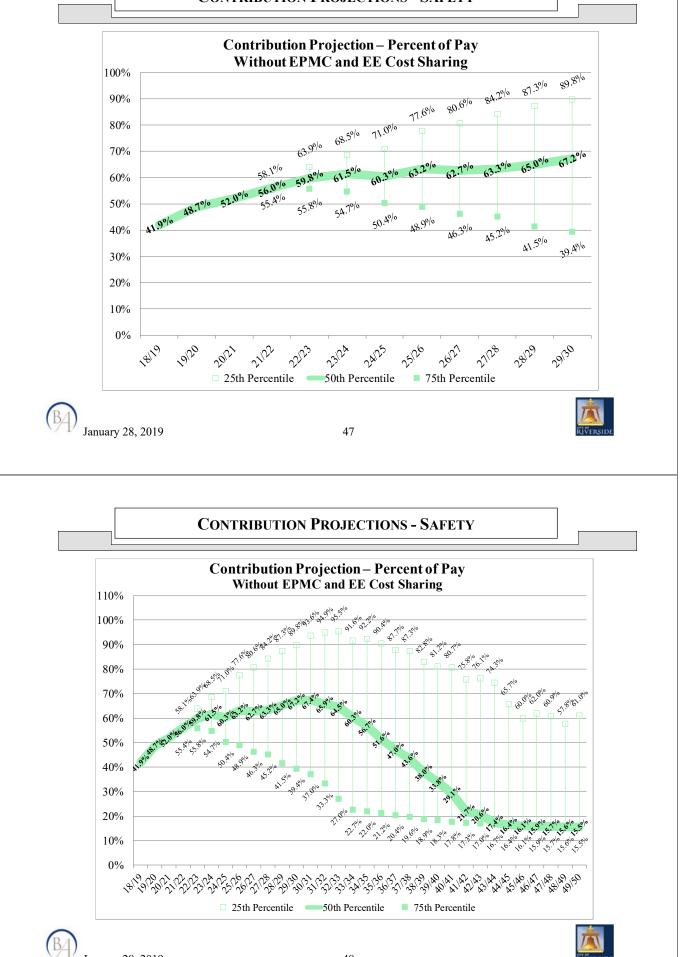


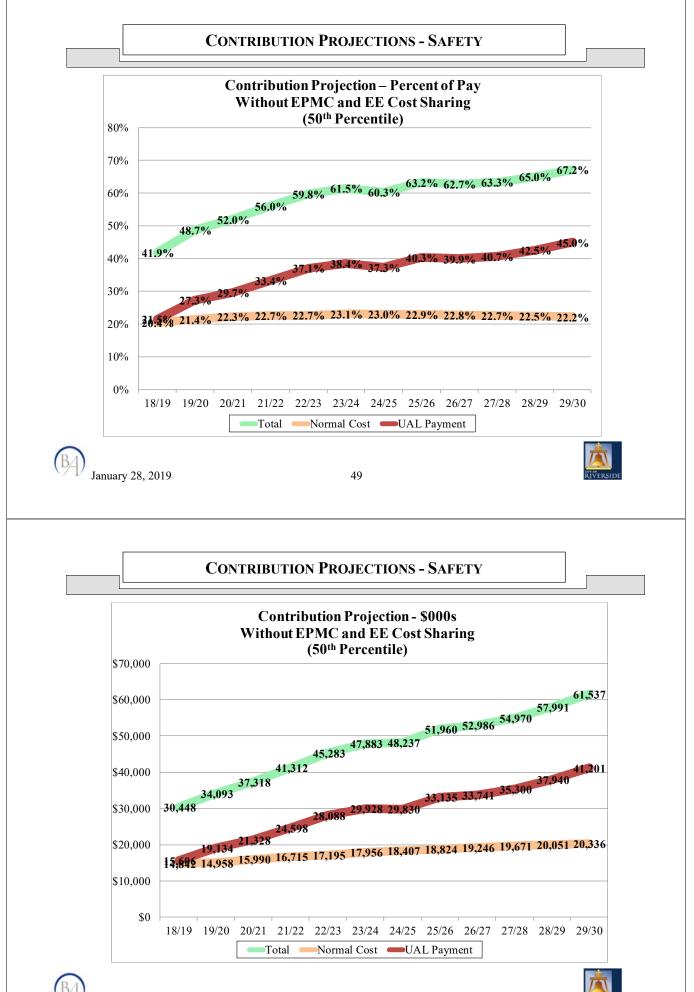
48.7%

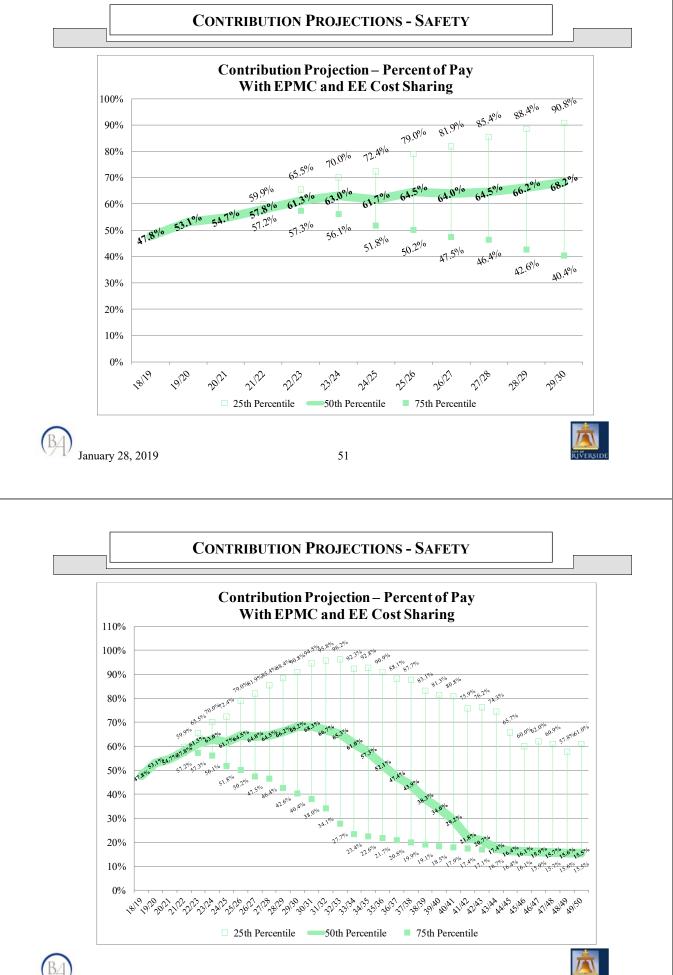
- **CONTRIBUTION PROJECTIONS SAFETY** Market Value Investment Return: June 30, 2018 8.6%⁵ Future returns based on stochastic analysis using 1,000 trials 25th Percentile 50th Percentile 75th Percentile Single Year Returns at⁶ Current Investment Mix 0.1% 7.0% 14.8% 0.8% 6.0% Ultimate Investment Mix 11.4% Assumes investment returns will, generally be 6.5% (as compared to 7.0%) over the next 10 years and higher beyond that. Assumption Changes – Discount Rate Decrease to 7.0% by June 30, 2018 valuation Additional Discount Rate decreases due to Risk Mitigation policy. No Other: Gains/Losses, Method/Assumption Changes, Benefit Improvements Different from CalPERS projection based July 2018 CalPERS press release Nth percentile means N percentage of our trials result in returns lower than the indicated rates. January 28, 2019 45 **CONTRIBUTION PROJECTIONS - SAFETY** New hire assumptions: 75.0% of 2018/19 new hires are PEPRA members and 25.0% are Classic members Percentage of PEPRA member future hires to increase from 75.0% to 100% over 5 years Tier 1 Employer Paid Member Contributions: 9% for all years Tier 1 Employee Cost Sharing: RPOA, RPOA Supervisory, and RPAA: 1.5% from January 1, 2018 through January 1, 2019, 3% from January 1, 2019 through January 1, 2020, 4.5% from January 1, 2020 through January 1, 2021, 6% thereafter RCFA: 2.5% from January 1, 2019 through January 1, 2020, 5% from
 - January 1, 2020 through January 1, 2021, 7% from January 1, 2021 through December 30, 2021, and 8% thereafter
 - Combined: 1.9% for 2018/19, 3.8% for 2019/20, 5.5% for 2020/21, 6.6% for 2021/22, 6.8% for 2022/23 and thereafter

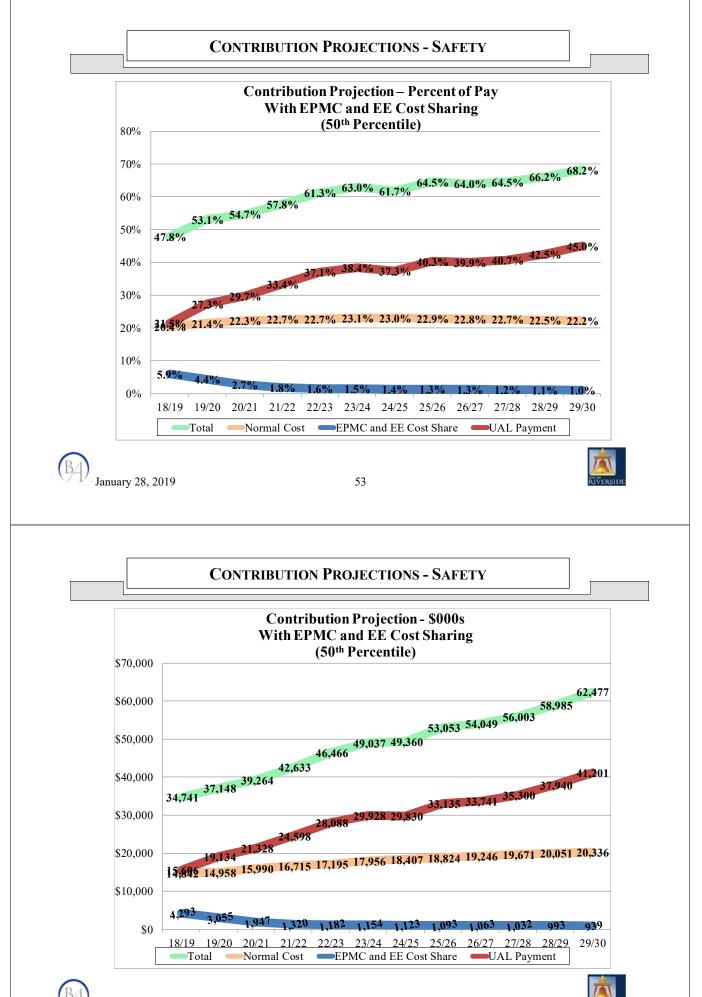




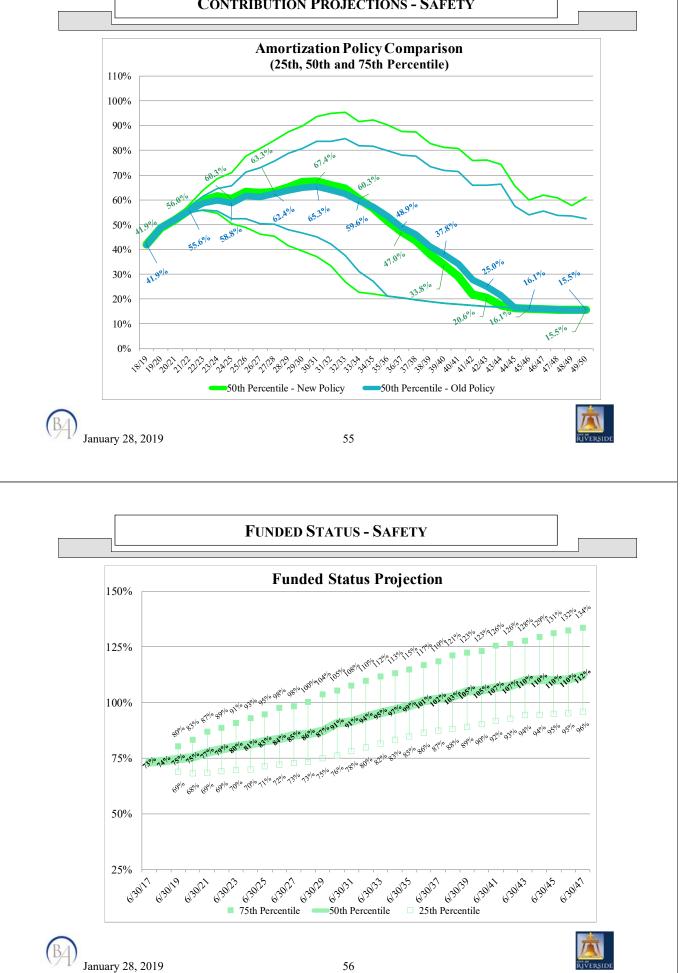


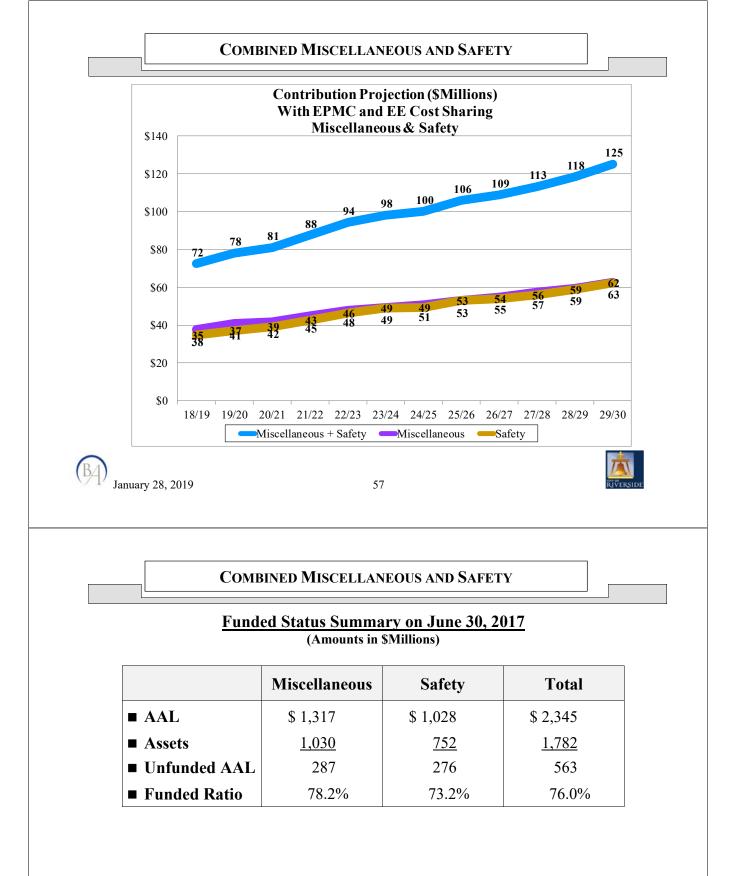














LEAVING CALPERS

- Participation in CalPERS is governed by State law and CalPERS rules
 - The following are considered "withdrawing" from CalPERS:
 - Exclude new hires from CalPERS & giving them a different pension
 - Stop accruing benefits for current employees
- "Withdrawal" from CalPERS:
 - Treated as plan termination
 - Liability increased for conservative investments
 - Liability increased for future demographic fluctuations
 - Liability must be funded immediately by withdrawing agency
 - Otherwise, retiree benefits are cut



59

LEAVING CALPERS

CalPERS Termination Estimates on June 30, 2017 (Amounts in Millions)

	Ongoing Plan	Termination Basi			
Discount Rate	7.25%	1.75%	3.00%		
Miscellaneous					
Actuarial Accrued Liability	\$ 1,317	\$ 2,316	\$ 2,060		
Assets	<u>1,030</u>	<u>1,030</u>	<u>1,030</u>		
Unfunded AAL (UAAL)	287	1,286	1,030		
Safety					
Actuarial Accrued Liability	\$ 1,028	\$ 2,015	\$ 1,790		
Assets	<u>752</u>	<u>752</u>	<u>752</u>		
Unfunded AAL (UAAL)	276	1,263	1,038		
Total					
Unfunded AAL (UAAL)	563	2,549	2,068		
Funded Ratio	76.0%	41.1%	46.3%		



PEPRA COST SHARING

- Target of 50% of total normal cost for everyone
- New members must pay greater of 50% of total normal cost or bargained amount if higher
- Employer cannot pay any part of *new member* required employee contributions
- Employer may impose current employees pay 50% of total normal cost (limited to 8% of pay for Miscellaneous and 12% for Safety) if not agreed through collective bargaining by 1/1/18
- Miscellaneous Plan:

	<u>Classic Members</u>		<u>New Members</u>
	Tier 1	Tier 2	PEPRA
	2.7%@55 FAE1	2.7%@55 FAE3	<u>2%@62 FAE3</u>
• Employer Normal Cost	13.6%	16.7%	7.54%
• Member Normal Cost	<u>8.0%</u>	<u>8.0%</u>	<u>7.75%</u>
 Total Normal Cost 	21.6%	24.7%	15.29%
• 50% Target	10.8%	12.4%	7.65%

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January 28, 2019



61

PEPRA COST SHARING

Safety Plan:

	•	<u>Classic Members</u>		New Members
		Tier 1	Tier 2	PEPRA
		<u>3%@50 FAE1</u>	<u>3%@50 FAE37</u>	2.7%@57 FAE3
۲	Employer Normal Cost	21.9%	25.3%	12.23%
۲	Member Normal Cost	<u>9.0%</u>	<u>9.0%</u>	12.25%
ullet	Total Normal Cost	30.9%	34.3%	24.48%
•	50% Target	15.5%	17.2%	12.24%



PAYING DOWN THE UNFUNDED LIABILITY & RATE STABILIZATION

- Where do you get the money from?
- How do you use the money?



/ January 28, 2019

63

WHERE DO YOU GET THE MONEY FROM?

POB:

• Usually thought of as interest arbitrage between expected earnings and rate paid on POB

- No guaranteed savings
- PEPRA prevents contributions from dropping below normal cost
 Savings offset when investment return is good
- GFOA Advisory
- Borrow from General Fund similar to State
- One time payments
 - Council resolution to use a portion of one time money, e.g.
 - \square 1/3 to one time projects
 - \Box 1/3 to replenish reserves and
 - \Box 1/3 to pay down unfunded liability



How Do You Use the Money?



- Typically used for rate stabilization
- Restricted investments:
 - \Box Likely low (0.5%-1.0%) investment returns
 - □ Short term/high quality, designed for preservation of principal
- Assets can be used by Council for other purposes
- Does not reduce Unfunded Liability



January 28, 2019

65

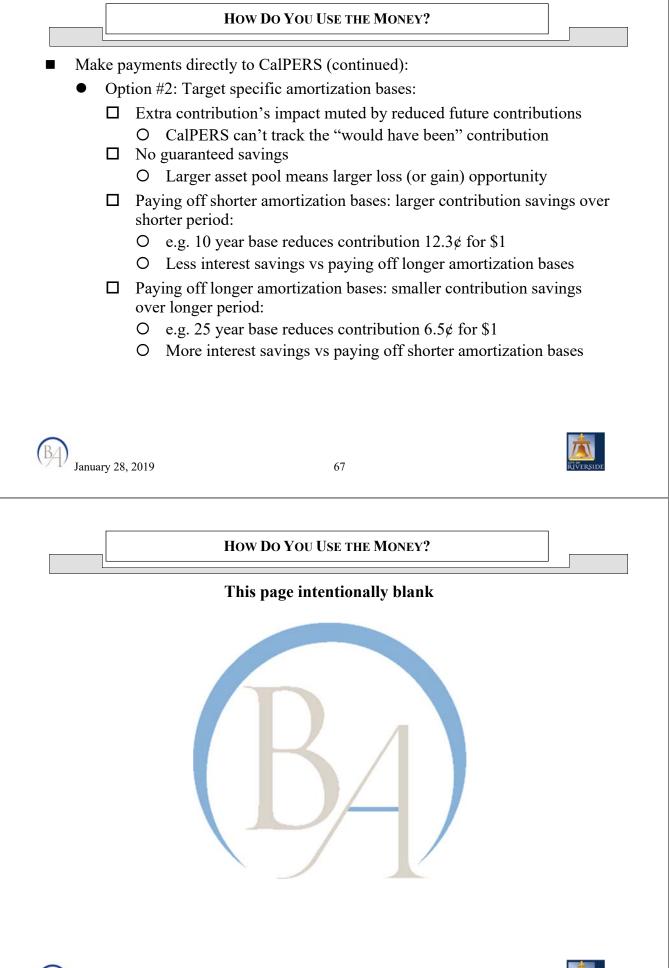


HOW DO YOU USE THE MONEY?

Make payments directly to CalPERS:

- Likely best long-term investment return
- Must be considered an irrevocable decision
 - □ Extra payments cannot be used as future "credit"
 - D PEPRA prevents contributions from dropping below normal cost
- Option #1: Request shorter amortization period (Fresh Start):
 - □ Higher short term payments
 - □ Less interest and lower long term payments
 - Likely cannot revert to old amortization schedule
 - O Savings offset when investment return is good (PEPRA)





- Can only be used to:
 - Reimburse City for CalPERS contributions
 - Make payments directly to CalPERS
- Investments significantly less restricted than City investment funds
 - Fiduciary rules govern Trust investments
 - Usually, designed for long term returns
- Assets don't count for GASB accounting
 - Are considered Employer assets
- Over 100 trusts established, mostly since 2015
 - Trust providers: PARS, PFM, Keenan
 - California Employers' Pension Prefunding Trust (CEPPT) is coming



69

- More flexibility than paying CalPERS directly
 - City decides if and when and how much money to put into Trust
 - City decides if and when and how much to withdraw to pay CalPERS or reimburse Agency
- Funding strategies typically focus on
 - Reducing the unfunded liability
 - \Box Fund enough to make total CalPERS UAL = 0
 - □ Make PEPRA required payments from Trust when overfunded
 - Stabilizing contribution rates
 - □ Mitigate expected contribution rates to better manage budget
 - Combination
 - □ Use funds for rate stabilization/budget predictability
 - □ Target increasing fund balance to pay off UAL sooner



- Consider:
 - How much can you put into Trust?
 - \Box Initial seed money?
 - □ Additional amounts in future years?
 - When do you take money out?
 - □ Target budget rate?
 - □ Year target budget rate kicks in?
 - O Before or after CalPERS rate exceeds budgeted rate?



71



IRREVOCABLE SUPPLEMENTAL (§115) PENSION TRUST

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Direct Payment to CalPERS

- Following example illustrates additional contribution of \$10 million to CalPERS on June 30, 2019:
- Miscellaneous
 - Long Base: 2016 Gain/Loss (29 years amortization)
 - Short Base: 2009 Assumption Change (12 years amortization)
- Safety
 - Long Base: 2016 Gain/Loss (29 years amortization)
 - Short Bases: 2003 Benefit Change (5 years amortization), Arnett Case (6 years amortization) and 2004 Benefit Change (7 years amortization)
- Estimated Savings

	Miscellaneous	Safety
Short Base	\$10 million	\$10 million
\$ Savings (000's)	\$4,957	\$2,104
PV Savings @ 3% (000's)	2,473	1,128
Long Base	\$10 million	\$10 million
\$ Savings (000's)	\$15,382	\$15,382
PV Savings @ 3% (000's)	6,383	6,383



January 28, 2019



IRREVOCABLE SUPPLEMENTAL (§115) PENSION TRUST

Payment to 115 Trust

	Miscellaneous	Safety
Trust Contributions	\$10 million	\$10 million
Trust Earnings	5%	5%
Trust Target		
- Target Rate	34.6%	63.7%
- 1st Year	2025/26	2025/26
- Last Year	2031/32	2032/33
\$ Savings (000's)	\$6,827	\$7,336
PV Savings @ 3% (000's)	2,481	2,700



