CalPERS Contributions: What can you expect?

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CALPELRA 2017 Annual Conference

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by
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Agenda

- What Has Been Happening?
- What's on the Horizon?
- What Can You Do?

Quote of the Day

We cannot solve our problems with the same thinking we used when we created them.

Albert Einstein

What Has Been Happening?

Investment Return Expectations

- Capital market assumptions have been volatile recently
- Wilshire report (June '16) projected 10 year return of 6.2%
  - 1.6% annual inflation plus 4.6% real return
  - Long term expected returns are higher (7.8%)
- Discount rate assumption for actuarial valuations blends short-term and long-term expectations for both investment returns and inflation

Investment Return Expectations

Expected returns less than the discount rate means either;

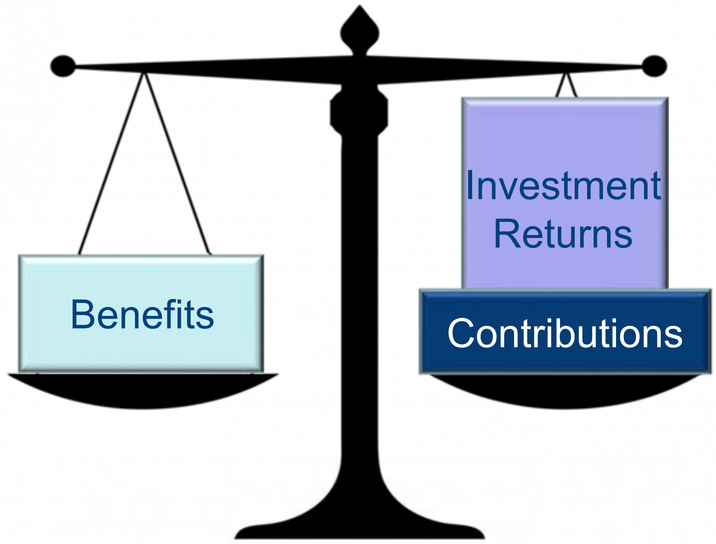
1. Future losses will outweigh future gains
   - Funded ratios will stagnate or deteriorate
   - Contributions requirements will steadily and perpetually rise

or

2. The discount rate will be reduced to match the expected return on assets
   - Contributions requirements increase immediately in a predictable pattern
   - Future losses will be expected to be offset by future gains

Investment Return Expectations

With either option, lower returns leads to higher contributions



Investment Return Expectations

On December 21, 2016, the Board chose a hybrid of Options 1 and 2 electing to reduce the discount rate in three steps.

- Board adopted 7.375% for 6/30/16 valuation
  - 7.25% for 6/30/17 valuation
  - 7.00% for 6/30/18 valuation
- Essentially living with the consequences of Option 1 for two more years then adopting Option 2
- Asset Liability Management workshop in November of 2017
  - full review of asset allocations, economic assumptions

Investment Return Expectations

- **A lower discount rate means:**
  - Higher normal cost as a percent of payroll
  - Higher accrued liabilities
  - Decreases to existing required payments toward existing amortization bases (because of lower interest charges)
  - Overall increase in total employer contribution requirements
- 5 Year Projection on Page 5 of June 30, 2016 Actuarial Valuation reflects all three discount rate changes

Dollar Billing

- Required contributions for Public Agencies are now provided in two pieces:
  1. **Normal Cost** – determined as a percentage of payroll
  2. **Unfunded Accrued Liability (UAL) Payment** – determined as a dollar amount
- UAL Payment can be prepaid in a single lump sum in July or paid monthly
- Total required contribution as a percentage of projected payroll is provided in valuation
- Additional UAL payments may be made at any time

Dollar Billing - Rationale

- Eliminates gains and losses from payroll growing faster or slower than expected
- Consistent with GASB accounting rules
  - Treats the UAL as employer debt
  - UAL amortization payment is not part of the “cost” of providing a pension to current employees, unrelated to current payroll
  - Pension expense is Normal Cost plus changes in the UAL due to plan changes, assumption changes and gains and losses plus INTEREST on the UAL
  - The UAL is on the balance sheet, no “cost” to paying it off

CalPERS Contributions : What can you expect?

What’s on the Horizon?

Capital Market Assumptions/Asset Allocation

- Board adopted 10-year capital market assumptions in June 2017
- Capital market assumptions beyond 10 years are developed by the Actuarial Office
- Board reviewed asset allocation options in November 2017
- Board manages the investment risk, but the plan sponsors bear the risk
- Board will adopt asset allocation in December 2017
- The asset allocation chosen will determine the discount rate

Candidate Portfolios

	Portfolio			
	A	B	C	D
Global Equity Allocation (excludes private equity)	34%	42%	50%	59%
Expected Compound Return (1 - 10 years)	5.6%	5.8%	6.1%	6.4%
Long Term Expected Return (11 - 60 years)	7.8%	8.0%	8.3%	8.5%
Blended Return (1 - 60 years)	6.50%	6.75%	7.00%	7.25%
Expected Volatility	9.1%	10.2%	11.4%	12.8%

Candidate Portfolios

Recommended discount rates for candidate portfolios

- Portfolio A: 6.50% beginning with 6/30/2017 actuarial valuation
- Portfolio B: 6.75% beginning with 6/30/2017 actuarial valuation
- Portfolio C: 7.25% for 6/30/2017 actuarial valuation; 7.00% beginning with 6/30/2018 actuarial valuation
- Portfolio D: 7.25% beginning with 6/30/2017 actuarial valuation

Candidate Portfolios

Illustrative Financial Impact (% of payroll) *

	Portfolio			
	A	B	C	D
Public Agency - Safety	9.7%	4.7%	0.0%	-4.4%
Public Agency – Misc.	5.7%	2.8%	0.0%	-2.6%
Schools	5.1%	2.5%	0.0%	-2.3%

* Equal to change in Normal Cost (NC) plus change in Accrued Liability (AL) amortized over 20 years with no ramp. Changes in NC and AL are relative to "base" results reflecting proposed actuarial assumptions with a 7.000% discount rate.

Experience Study

- Review of all actuarial assumptions:
  - Mortality, move to new improvement scale MP-2016
  - Inflation, recommend reducing from 2.75% to 2.50%
  - Salary growth, tied to inflation and Seniority-Merit-Promotion
  - Retirement ,Termination and Disability Rates adjusted
- Analysis of past plan experience and trends
- Recommendations for future experience
- Modest impact on Accrued Liabilities and Normal Cost
- Board first reading November 2017, adoption December 2017

Impact of Assumption Changes

Category	Estimated Change in Total Normal Cost Rate (% of Payroll)	Ultimate Estimated Relative Change in Total Employer Required UAL Payments (% of UAL Dollar Payment)
Safety		
CPO	0.3% to 0.4%	(0.3%) to 2.0%
Fire	(0.5%) to (0.2%)	0.3% to 1.4%
Police	(0.3%) to 0.0%	0.5% to 2.0%
Miscellaneous		
3% at 60	(0.2%) to 0.6%	(2.2%) to (1.3%)
2.7% at 55	0.0% to 0.6%	(1.3%) to 4.3%
2.5% at 55	(0.2%) to 0.5%	(1.8%) to (1.0%)
2% at 55	(0.1%) to 0.4%	(0.9%) to 1.7%
2% at 60	(0.3%) to 0.0%	(5.5%) to (3.1%)
Schools	(0.1%)	0.3%

Amortization Policy

- Adopted by the CalPERS Board in April 2013
- Replaced 30-year “rolling” amortization
- Designed to pay down unfunded liability over finite period
- 5 year direct rate smoothing
  - 30 year closed amortization of experience gains/losses
  - 20 year closed amortization of assumption changes
  - Five year ramp up/down

Current Actuarial Amortization Policy

	Source				
	(Gain)/Loss		Assumption/ Method Change	Benefit Change	Golden Handshake
Driver	Investment	Non-investment			
Amortization Period	30 Years	30 Years	20 Years	20 Years	5 Years
Escalation Rate - Active Plans - Inactive Plans	 Payroll (3%) 0%	 3% 0%	 3% 0%	 3% 0%	 3% 0%
Ramp Up	5	5	5	0	0
Ramp Down	5	5	5	0	0

Guidance / Best Practices

- Recommended amortization periods
  - California Actuarial Advisory Panel (CAAP)
    - Gains/losses: 15-20 years
    - Assumption changes: no longer than 25 years
      - Ramp no longer than time until next review of assumptions
    - Benefit changes
      - Active: lesser of expected future service or 15 years
      - Retired: lesser of expected lifetime or 10 years
  - Government Finance Officers Association (GFOA)
    - No longer than 10 years for gains/losses for closed plans

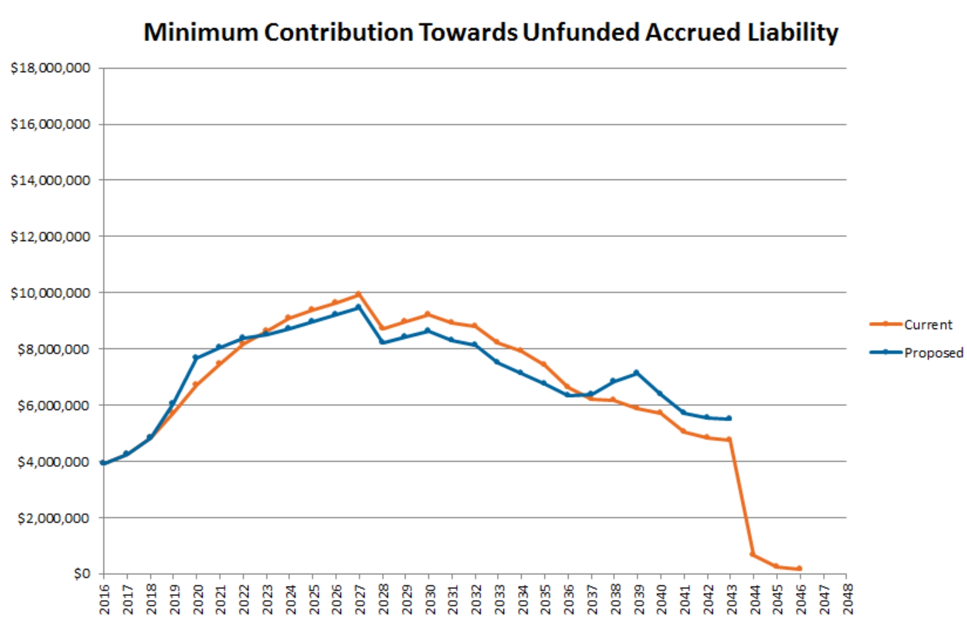
Proposed Actuarial Amortization Policy

	Source				
	(Gain)/Loss		Assumption/ Method Change	Benefit Change	Golden Handshake
Driver	Investment	Non-investment			
Amortization Period - Active Agencies - Inactive Agencies	20 Years Closed Period (15 Years or less)	20 Years Closed Period (15 Years or less)	20 Years Closed Period (15 Years or less)	20 Years	5 Years
Escalation Rate	0%	0%	0%	0%	0%
Ramp Up	5	0	0	0	0
Ramp Down	0	0	0	0	0

Proposed Actuarial Amortization Policy

- Designed to pay down unfunded liability during the career of the members who earned the benefit
- Changes would be prospective only
- No required change in how the current UAL is amortized

Impact of Proposed Policy on Typical Plan



What Can Agencies Do?

Funding Policy

- The GFOA recommends that every state and local government that offers defined benefit pensions formally adopt a funding policy that provides reasonable assurance that the cost of those benefits will be funded in an equitable and sustainable manner
- CalPERS determines the minimum required contribution, but agencies are free to contribute based on their own funding policies, subject to the minimum requirement

Minimum Required UAL Contribution

- Most plans have several amortization layers from various sources with different years remaining
- Page 15 shows the Schedule Amortization Bases
- Bottom row, right column shows the minimum required UAL contribution for the 2018-19 Fiscal Year
- Page 17 shows all future payments towards the current amortization bases

Minimum Required UAL Contribution (Page 15)

Reason for Base	Date Established	Amorti-zation Period	Balance 6/30/16	Expected Payment 2016-17	Balance 6/30/17	Expected Payment 2017-18	Balance 6/30/18	Scheduled Payment for 2018-19
FRESH START	06/30/06	20	$(3,311,095)	$(235,714)	$(3,311,037)	$(242,786)	$(3,303,646)	$(246,956)
BENEFIT CHANGE	06/30/07	10	$10,181,451	$1,100,913	$9,791,546	$1,133,941	$9,338,661	$1,158,611
BENEFIT CHANGE	06/30/09	12	$206,116	$19,859	$200,739	$20,455	$194,347	$20,881
ASSUMPTION CHANGE	06/30/09	13	$3,969,431	$363,876	$3,885,121	$374,792	$3,783,282	$382,406
SPECIAL (GAIN)/LOSS	06/30/09	23	$3,323,633	$219,674	$3,341,121	$226,264	$3,353,069	$229,870
SPECIAL (GAIN)/LOSS	06/30/10	24	$1,969,169	$127,364	$1,982,418	$131,184	$1,992,686	$133,223
ASSUMPTION CHANGE	06/30/11	15	$3,372,180	$283,301	$3,327,316	$291,800	$3,270,337	$297,456
SPECIAL (GAIN)/LOSS	06/30/11	25	$(459,988)	$(29,153)	$(463,703)	$(30,028)	$(466,786)	$(30,483)
PAYMENT (GAIN)/LOSS	06/30/12	26	$216,749	$13,478	$218,768	$13,882	$220,517	$14,087
(GAIN)/LOSS	06/30/12	26	$27,322,920	$1,698,945	$27,577,506	$1,749,913	$27,798,054	$1,775,756
(GAIN)/LOSS	06/30/13	27	$15,502,390	$423,575	$16,206,775	$654,422	$16,723,899	$885,706
ASSUMPTION CHANGE	06/30/14	18	$13,477,593	$256,717	$14,205,550	$528,837	$14,705,219	$808,039
(GAIN)/LOSS	06/30/14	28	$(12,188,347)	$(171,430)	$(12,909,599)	$(353,145)	$(13,495,746)	$(537,353)
(GAIN)/LOSS	06/30/15	29	$5,884,876	$(37,121)	$6,357,351	$89,520	$6,733,443	$181,480
ASSUMPTION CHANGE	06/30/16	20	$3,665,476	$(158,207)	$4,099,742	$(162,953)	$4,570,953	$86,157
(GAIN)/LOSS	06/30/16	30	$8,647,172	$54,262	$9,228,674	$0	$9,909,289	$137,348
TOTAL			**$81,779,726**	**$3,930,339**	**$83,738,289**	**$4,426,099**	**$85,327,578**	**$5,296,228**

2016 UAL

Projected 2018 UAL

Required UAL Contribution

- If the current minimum payment is less than interest on the UAL, the UAL will be projected to grow
- The payments change due to the 3% escalator, the ramp, and the change in discount rate

30-year Amortization Schedule (Page 17)

Date	Current Amortization Schedule* Balance	Payment	Alternate Schedules: 20 Year Amortization Balance	Payment	15 Year Amortization Balance	Payment
6/30/2018	85,327,578	5,296,228	85,327,578	6,378,449	85,327,578	7,761,041
6/30/2019	86,132,435	6,0[illegible]792	85,011,016	6,569,803	83,578,348	7,993,873
6/30/2020	86,163,981	6,71[illegible]892	84,472,824	6,766,897	81,458,848	8,233,689
6/30/2021	85,563,583	7,256,535	83,690,707	6,969,903	78,934,532	8,480,699
6/30/2022	84,354,433	7,725,[illegible]87	82,[illegible]550	7,179,001	75,968,091	8,735,120
6/30/2023	82,569,860	7,957,[illegible]63	81,29[illegible]273	7,394,371	72,519,239	8,997,174
6/30/2024	80,413,505	8,196,3[illegible]2	79,629,68[illegible]	7,616,202	68,544,490	9,267,089
6/30/2025	77,850,744	8,442,2[illegible]4	77,610,321	7,844,688	63,996,911	9,545,102
6/30/2026	74,844,181	8,695,55[illegible]	75,205,267	[illegible],080,028	58,825,867	9,831,455
6/30/2027	71,353,437	8,956,42[illegible]	72,378,976	8,3[illegible]2,429	52,976,733	10,126,399
6/30/2028	67,334,938	7,668,035	69,093,065	8,572,[illegible]02	46,390,600	10,430,191
6/30/2029	64,355,127	7,898,078	65,306,103	8,829,265	39,003,944	10,743,096
6/30/2030	60,917,178	8,105,247	60,973,375	9,094,143	30,748,283	11,065,389
6/30/2031	57,011,008	7,786,830	56,046,636	9,366,967	21,549,802	11,397,351
6/30/2032	53,146,708	7,613,027	50,473,845	9,647,976	11,32[illegible]947	11,739,271
6/30/2033	49,177,513	6,958,355	44,198,874	9,937,416		
6/30/2034	45,593,973	6,596,630	37,161,201	10,235,538		
6/30/2035	42,120,973	6,206,938	29,295,579	10,542,604		
6/30/2036	38,795,648	5,787,924	[illegible]0,531,681	10,858,883		
6/30/2037	35,659,269	5,810,485	[illegible]0,793,711	11,184,649		
6/30/2038	32,268,207	6,275,222				
6/30/2039	28,145,483	6,463,480				
6/30/2040	23,523,632	6,657,382				
6/30/2041	18,359,995	5,966,433				
6/30/2042	13,531,513	5,788,604				
6/30/2043	8,531,200	5,747,511				
6/30/2044	3,204,696	1,476,841				
6/30/2045	1,910,712	920,517				
6/30/2046	1,097,769	836,091				
6/30/2047	312,356	323,669				
Totals		186,226,050		171,391,314		144,346,939
Interest Paid		100,898,472		86,063,736		59,019,361
Estimated Savings				14,834,736		41,879,111

* This schedule does not reflect the impact of adopted discount rate changes that will become effective beyond June 30, 2016. For Projected Employer Contributions, please see Page 5.

Minimum required UAL contribution for the 2018-19 Fiscal Year (matches Page 15)

- Shows all future payments towards current amortization bases
- This schedule does not include future estimated bases for future assumption changes
- This schedule does NOT match projections on Page 5

Projected Employer Contributions (Page 5)

	Required Contribution	Projected Future Employer Contributions (Assumes 7.375% Return for Fiscal Year 2016-17)					
Fiscal Year	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Normal Cost %	20.950%	21.9%	23.8%	23.8%	23.8%	23.8%	23.8%
UAL Payment	5,296,228	6,122,000	6,862,000	7,690,000	8,463,000	9,028,000	9,513,000
*Total as a % of Payroll**	*48.7%*	*53.0%*	*57.7%*	*60.6%*	*63.2%*	*64.6%*	*65.5%*
Projected Payroll	*19,094,642*	*19,667,481*	*20,257,505*	*20,865,231*	*21,491,188*	*22,135,923*	*22,800,000*

80% increase over six years

- Projections are, by their nature, not a guarantee of future results
- The projections assume that all actuarial assumptions will be exactly realized
- Other plans will show increases greater or less than 80%

Accelerated Funding

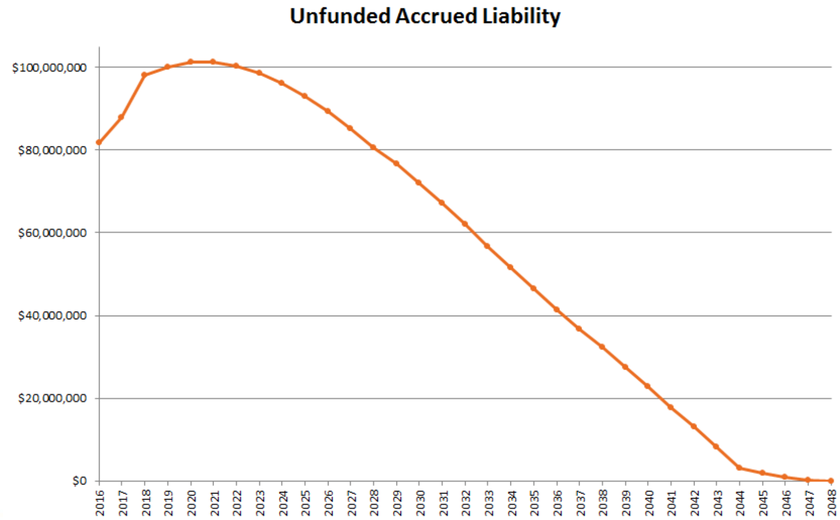
- Multiple ways to do it – employer option
  - Additional discretionary payment
  - Change amortization bases (fresh start, shorten periods)
- Additional discretionary payment
  - Apply payments in excess of minimum to existing bases
  - Allows employer to determine contribution pattern
  - Flexible

Accelerated Funding

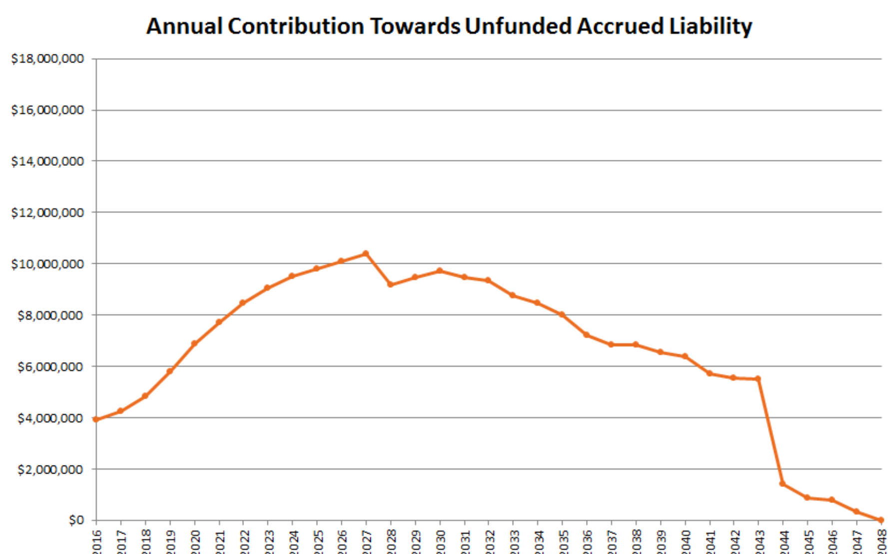
- Change amortization bases
  - Fresh start existing bases, shorten existing individual bases, and/or combine/split existing bases
  - Must pay off bases faster than existing schedule
  - Creates new, higher minimum UAL payment
  - Significant long-term savings
  - Inflexible, irreversible

Accelerated Funding - Example

Using the same example plan from slides 28-30



Accelerated Funding - Example



Accelerated Funding - Example

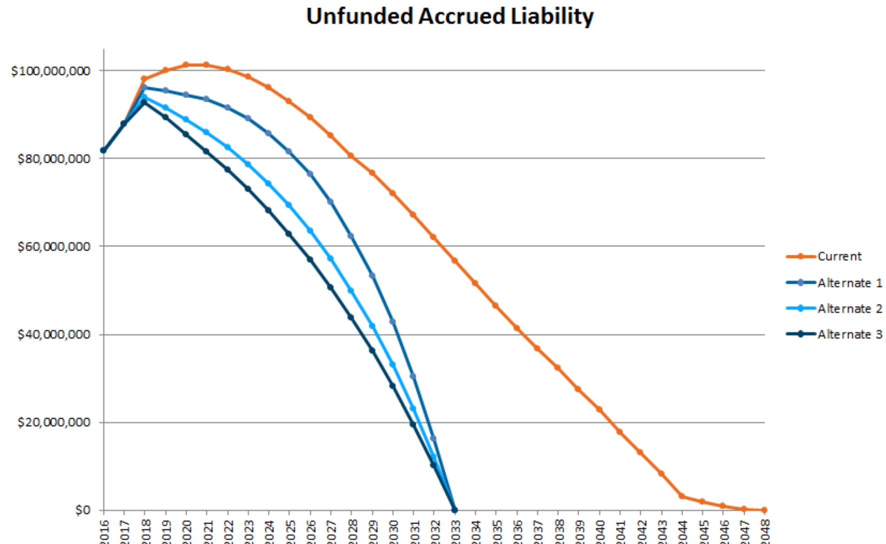
- In its simplest form a funding policy can be thought of in terms of three parameters
  1. Initial payment
  2. Escalation rate (if any)
  3. Number of payments
- By picking two parameters the third can be calculated

Accelerated Funding - Example

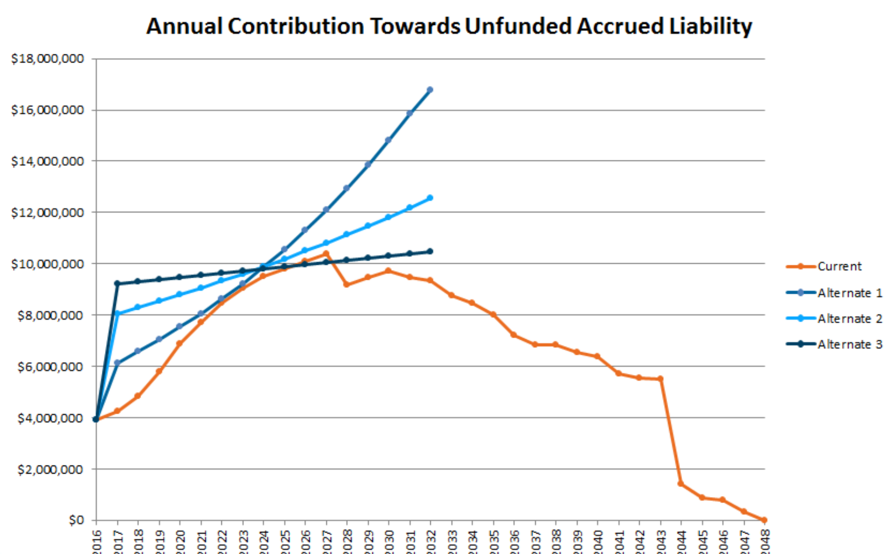
- Pick two parameters and solve for the third

	Alternate 1	Alternate 2	Alternate 3
Initial Payment	Interest on UAL	131% of Interest	150% of interest
Escalation Rate	7%	3%	0.86%
Years	17	17	17

Accelerated Funding - Example



Accelerated Funding - Example



Accelerated Funding - Example

	CalPERS Minimum	Alternate 1	Alternate 2	Alternate 3
Initial Payment	69% of Interest	Interest on UAL	131% of Interest	150% of interest
Escalation Rate	Varies	7%	3%	0.86%
Years	32	17	17	17
Total Payments	$217,188,222	175,110,727	166,128,731	161,348,550
Saving		$42,077,495	$51,059,491	$55,839,672

Accelerated Funding

- Discuss with your CalPERS Actuary
  - they will explain options and show financial impacts
- Help us understand your goals
- CalPERS will prepare paperwork and payment instructions
  - need payment amount & payment date
- New amortization schedules show up in next valuation report

Other Resources

See May 2017 issue of CSMFO Magazine

FEATURED STORY

Budgeting Straight Through a Fiscal Crisis

Impending CalPERS Cost Run Up

Dan Matusiewicz, Finance Director, City of Newport Beach

Written By
Dan Matusiewicz

My general philosophy is to take incremental steps each year to build prudent reserves and strategic savings programs to insulate your agency from a fiscal crisis, thereby causing the least organizational disruption possible. With appropriate discipline, you do not always need to take drastic action to sail through a fiscal crisis. I say budget straight through a "fiscal crisis," but budgeting in good times should not be that much different from the difficult years.

While it may be a populist view that governments should be as nimble as private sector companies, the fact of the matter is that there are too many legal and political barriers for governments to execute strategies and tactics as quickly. I am not going to address the unwieldly nature of governments, but I liken governments to an aircraft carrier of sorts, with all the accompanying ropes, chains and anchors. It takes four nautical miles at full reverse (all propellers are spinning against the ship's forward momentum) to bring an aircraft carrier to a full and complete stop. That is why it is imperative for the ship's captain and crew to plan and carry out maneuvers, course directions and complete stops well in advance of the present moment, with multiple contingency plans in place. In my view, budgeting for governments requires similar planning.

While the PERF is on track to meet or beat its target earnings rate for 2017, CalPERS own investment consultants expect that the PERF will only earn 6.1% on average over the next ten years.

I have always maintained that a good finance director never runs out of money. I would recommend setting resources aside today for those programs, projects and liabilities that will result cash flows in the later years. Therefore, before a surplus is available for appropriation, survey the funding status of your agency's contingency reserves and potential liabilities. If the basic need to be a financially prudent organization have not yet been meet, I would recommend that surplus NOT be declared available to fund new shiny projects. The same goes for your revenue estimates. Survey the status of your reserves each year. To the extent your revenue estimates reveal an increase, recommend to your governing body to fill your financial prudence buckets first.

Impending CalPERS Cost Run Up

Organizational disruption is not always avoidable and agencies should be prepared to take immediate action in the midst of or in the wake of an impending crisis. The primary impetus for this article is planning for the impending California Public Employees Retirement Systems (CalPERS) pension crisis today. Advance planning would have been better yesterday but let us start with what we know today.

Recent Results:

- 2015 CalPERS Public Employee Retirement Fund (PERF) investment earnings amounted to 2.4%, resulting in a 5.1% experience loss that has started to affect the 2017-18 minimum contribution rates.
- 2016 PERF investment earnings amount to .6% resulting in a loss of 6.9% that will start affecting the 2018-19 minimum contribution rates.
- Pressure to reduce the assumed discount rate resulted in:
  - A reduction of the current 7.5% discount rate to 7.375% effective in the 2016 actuarial valuation which will start to impact the minimum contribution rates in 2018-19

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Questions & Comments