Subject: request for additional information to support Monday Finance Committee analysis, discussion and recommendation

Hi Laurel
I've done a pretty thorough first read of the Item 2 Staff Report and Bartels report requesting a recommendation on an additional ADP strategy.

For the committee to consider the PARs 115 Pension Trust as an option, in my opinion they would also want to recommend an asset allocation for that additional contribution. To make this type of decision, the FC needs to consider the timing of when those assets would be accessed. Yet in the Staff Report there was no information or analysis that would allow the Committee to make a recommendation on the appropriate asset allocation in the case of the PARs 115 Pension Trust funding...this includes the timing as well as a profile of the 3 PARs options.

Also, it's unclear if the Town Staff is suggesting that the FC consider a "Fresh start amortization" as one of the Pension pre funding options included on Side 16. Could you clarify the Staff intent. If the Town Staff thinks the FC should consider "fresh start" as an option for "Additional CALPERS Contributions" as well as "targeting specific bases" prefunding , we'll need more information.

Lastly, slides 22 to 29 provide an example of how what you call "Rate Stabilization" would work for the Misc Plan. Would you please indicate what the dollars cost would be to "stabilize" the rates on each of those slides. Looking at contribution rates is a good start, but to understand the potential value of the PARs 115 Pension Trust and the dollars required, we should know what the dollar requirements will be to achieve the "stabilization" under this model.

I put " rate stabilization" in quotes because this implies some degree of certainty. All of the slides at at only "50 percentile". I think a more appropriate description would be "Rate Subsidy" because of the uncertainty around these numbers. In my opinion "rate stabilization" is a misleading description. There is no reason to believe the rates will be stabilized, only that they would be less than they would have been otherwise

Lastly, for your information and the information of the other Finance Committee members, based on the information on Slide 14 I computed the increased cost to be $35M (an average of $3.2M a year) for the 11 years after 2018/2019 for the combined plans...and that is at only "50 Percentile".

I look forward to seeing you Monday at 6:00.

Regards,
Terry Duryea

ATTACHMENT 2

Regarding Agenda items (2 and 3) for Town Finance Committee Meeting August 12, 2019.

I regret I am not able to attend to present these comments myself, but ask that you read and consider as part of your decision process. Also, encouraging to see Staff is asking the FC for guidance on these two critical issues. Looks like good collaboration and communication is working for us all.

Agenda Item 2
Question for FC - Place $8M ADP funds in CalPERS, 115 Fund or keep in internal funds?

> Rather than continue to place funds in the various Reserve Funds, for later shuffling, and which are only earning about 1.7% interest and, considering the Town is sitting on significant Reserves for catastrophic events, begin making monthly Additional Discretionary Payments (ADP's) into our Pension obligations NOW. And based on the Bartels Assoc. analysis, the better vehicle for the Town to use is directly into CalPERS, not the 115 Trust Account or the Reserve Funds we are using now due to the lower overall returns.
> And, begin the payments NOW, don't keep delaying as the compounding earnings are critical to the success of this plan. The key is to actually send the $, don't keep talking about it and don't let is sit in the Reserve earning only about 1.7%, as we have done the last few years.

Agenda Item 3
Socially Responsible Investment Guidelines,

> I agree with this proposal - Recommend to the Town Council these Proposed Revisions to the Town Investment Policy to Include Socially Responsible Investment Guidelines, as per the redline changes. I agree with not investing in a class of funds such as the payday loan type of funds as these seem predatory for folks in need and is not the message we want to communicate within our community.
>
> Thanks for the work you are doing, and keep it up!!!
>
> Lee Fagot 845 Lilac Way 95032

From: Phil Koen <pkoen@monteropartners.com>

Subject: Finance Committee Meeting - Agenda Item #2

Dear Members of the Finance Committee,

Unfortunately I will not be able to attend the meeting this evening. I did however want to share with you my thoughts and to advocate that the Finance Committee recommend to the Town Council to make an $8.4m additional discretionary payment to Calpers targeting the 2015 and 2016 loss bases in the Miscellaneous Pension Plan as shown on page 19 of the Bartel report.

I have also attached the schedule of amortization bases from the June 30, 2017 actuarial valuation so you can see the exact amount required to fully amortize these loss bases. The Bartel report shows that by paying off these bases, the Town will reduce future contributions by $11.7m. Of the three alternative uses for $8m examined by Bartels, the additional discretionary payment to Calpers will generate the greatest financial savings for the Town. The results that Bartel is showing for the Town is very similar to the results Bartel also computed for the City of Menlo Park. I have also attached the City of Menlo Park analysis for your review.

I have also attached an annotated copy of the Bartel report which includes my comments. As you read the report, it is very important that you keep the following in mind:

- **"Rate stabilization" is not the same as "contribution reduction".** The PARS rate stabilization strategy (see p 23) does not reduce the Calpers' required contributions to amortize the unfunded pension liabilities. The PARS strategy is designed to help the Town pay future required contributions by allowing the Town to draw from the trust account in future periods (see p 24). This is like using your investment account (assumed to earn 6%) by liquidating some of your investments at then current market value (there is considerable market risk in this strategy) and using the proceeds to help pay your current period mortgage payment (which has a 7%interest rate). The PARS Trust should produce a greater investment return **as compared** to the Town's general fund investment opportunities, but there is insufficient evidence to suggest that it will produce a return greater than Calpers (see page 17). In fact for the fiscal year ended June 30, 2019 the Town's PARS trust earned net of fees approximately 150 basis points less than Calpers reported returns for the same period.

- "Rate stabilization" refers to the percentage of payroll (i.e. rate) to pay the required Calpers contribution. However, since payroll is assumed to increase 3% per year, while the "rate" maybe stabilized, the actual dollars paid increases every year (see p 23). Rate stabilization is a budgeting tool but does nothing to accelerate the amortization of the unfunded pension liabilities and thereby create savings in the form of reduced future Calpers mandatory contributions.

- **With over $8m in cash (as reported by Staff) freely available to the Town, the Finance Committee should focus on what action can be taken to REDUCE the unfunded pension liabilities and capture the associated future contribution savings.** The future required contributions for both the safety and miscellaneous pension plans at the 50th percentile projection will increase from $5.3m in FY 19 to $10.3m in FY 30. At the 75th percentile projection it will be $13.3m in FY 30. **The only way to reduce the future contributions is to pay**

in more to the pension plans (see p20) today which in turn reduces the required amortization of the unfunded pension liability. This is like making an additional payment on your credit card over the required minimum payment.

- The unfunded pension liability is an estimate at a point in time and is heavily influenced by the discount rate used by Calpers. **Using the current discount rate of 7% the unfunded pension liability is currently estimated to be $57.6m (see p 2).** The June 30, 2017 valuation used a 7.25% discount rate. The impact of moving to the current 7% rate was to increase the Town's unfunded pension liability by $5.1m (see page 2). **Today, the total pension plans for the Town are only 69.6% funded**. The reduction in discount rate has material impact on the unfunded pension liability. To put this in perspective, on June 30, 2015 the Town reported the total unfunded pension liability was $39.2m. The Town's unfunded pension liabilities have grown 47% in 4 years. This is a cancer which needs to be addressed now.

- The discount rate is ultimately expected to decrease to approximately 6% as a result of Calpers risk mitigation policy. **Using a 6% rate, the unfunded pension liability is estimated to be $83.1m or only 61.4% funded (see page 2).** Therefore devising a strategy to address the uncontrolled growth in unfunded pension liabilities is extremely urgent. As the unfunded pension liability continues to increase, the required contribution to amortize these increases will also increase further straining the Town's financial resources perhaps to the breaking point.

- Bottom line the Bartel analysis presents a more optimistic view of future contribution rates since the analysis is based on a 7% discount rate vs. a 6% discount rate. Given that Calpers will be moving toward a 6% discount rate, **the probability that the projected contribution rates at the 50th percentile (remember there is a distribution of outcomes here) will actually be higher** is far greater than the probability they will be less. This will only put even more stress on the Town over the next 15 years.

- The efficiency of making an $8m payment to Calpers vs investing $8m in either the PARS Trust or paying $8m to CERBT is far superior. **A $1 paid to Calpers will yield $1.46 in contributions savings (p 19) while a $1 paid to PARS Trust will yield only $.64.**

- Based on the Bartel analysis, the Town should make the $8.4m payment to Calpers and pay down the 2015 and 2016 loss base identified on page 19. Please also refer to the amortization schedule that I have attached. This will yield the greatest reduction in future contributions and save the Town $11.7m in future contribution payments.

I want to thank the Staff for engaging Bartel in this discussion. It is critical that the Town address this issue. The unfunded pension liabilities are increasing and will continue to put increasing pressure on the Town financial resources. This is a fact.

Thank you.

Phil Koen

Direct Payment to CalPERS

- Following example illustrates additional contribution of $1 million to CalPERS on June 30, 2019:
- Miscellaneous
  - Long Base: 2016 Gain/Loss
  - Short Base: 2003 Assumption Change
- Safety
  - Long Base: 2017 Non-Asset Gain/Loss and 2016 Asset Gain/Loss
  - Short Base: 2017 Fresh Start and 2014 Assumption Change
- Estimated Savings

	Miscellaneous	Safety
Short Base	**$1 million**	**$1 million**
$ Savings (000's)	$225	$660
PV Savings @ 3% (000's)	120	317
Long Base	**$1 million**	**$1 million**
$ Savings (000's)	$1,549	$1,560
PV Savings @ 3% (000's)	642	646

Payment to 115 Trust

	Miscellaneous	Safety
Trust Contributions	**$1 million**	**$1 million**
Trust Earnings	**5%**	**5%**
Trust Target		
- Target Rate	21.2%	61.9%
- 1st Year	2022/23	2028/29
- Last Year	2030/31[7]	2034/35
$ Savings (000's)	$409	$896
PV Savings @ 3% (000's)	170	315

[7] Except 2028/29 where the contribution rate is projected lower than the target rates.

Schedule of Amortization Bases

There is a two-year lag between the valuation date and the start of the contribution fiscal year.

- The assets, liabilities, and funded status of the plan are measured as of the valuation date: June 30, 2017.
- The required employer contributions determined by the valuation are for the fiscal year beginning two years after the valuation date: Fiscal Year 2019-20.

This two-year lag is necessary due to the amount of time needed to extract and test the membership and financial data, and the need to provide public agencies with their required employer contribution well in advance of the start of the fiscal year.

The Unfunded Accrued Liability (UAL) is used to determine the employer contribution and therefore must be rolled forward two years from the valuation date to the first day of the fiscal year for which the contribution is being determined. The UAL is rolled forward each year by subtracting the expected payment on the UAL for the fiscal year and adjusting for interest. The expected payment on the UAL for a fiscal year is equal to the Expected Employer Contribution for the fiscal year minus the Expected Normal Cost for the year. The Employer Contribution for the first fiscal year is determined by the actuarial valuation two years ago and the contribution for the second year is from the actuarial valuation one year ago. Additional discretionary payments are reflected in the Expected Payments column in the fiscal year they were made by the agency.

Reason for Base	Date Established	Ramp Up/Down 2019-20	Amortization Period	Balance 6/30/17	Expected Payment 2017-18	Balance 6/30/18	Expected Payment 2018-19	Balance 6/30/19	Scheduled Payment for 2019-20
ASSUMPTION CHANGE	06/30/03	No Ramp	6	$1,780,035	$266,995	$1,632,584	$273,196	$1,468,020	$280,479
METHOD CHANGE	06/30/04	No Ramp	7	$(166,052)	$(22,588)	$(154,698)	$(23,102)	$(141,989)	$(23,720)
BENEFIT CHANGE	06/30/07	No Ramp	9	$1,646,511	$190,679	$1,568,412	$194,828	$1,480,355	$200,062
ASSUMPTION CHANGE	06/30/09	No Ramp	12	$2,566,712	$247,607	$2,496,373	$252,637	$2,415,725	$259,458
SPECIAL (GAIN)/LOSS	06/30/09	No Ramp	22	$2,100,631	$142,257	$2,105,604	$144,524	$2,108,588	$148,467
SPECIAL (GAIN)/LOSS	06/30/10	No Ramp	23	$1,755,770	$116,186	$1,762,739	$117,992	$1,768,343	$121,214
ASSUMPTION CHANGE	06/30/11	No Ramp	14	$1,710,594	$150,016	$1,679,253	$152,924	$1,642,629	$157,063
SPECIAL (GAIN)/LOSS	06/30/11	No Ramp	24	$809,430	$52,416	$813,831	$53,210	$817,729	$54,664
PAYMENT (GAIN)/LOSS	06/30/12	No Ramp	25	$199,878	$12,683	$201,234	$12,870	$202,495	$13,222
(GAIN)/LOSS	06/30/12	No Ramp	25	$1,791,787	$113,697	$1,803,946	$115,376	$1,815,246	$118,531
(GAIN)/LOSS	06/30/13	100% →	26	$10,388,059	$419,466	$10,706,787	$567,711	$10,895,099	$729,061
ASSUMPTION CHANGE	06/30/14	80% ↗	17	$4,484,869	$166,960	$4,637,116	$255,108	$4,709,113	$349,398
(GAIN)/LOSS	06/30/14	80% ↗	27	$(7,403,556)	$(202,526)	$(7,730,575)	$(308,168)	$(7,971,898)	$(422,159)
(GAIN)/LOSS	06/30/15	60% ↗	28	$3,320,211	$46,754	$3,512,507	$94,780	$3,669,008	$146,078
ASSUMPTION CHANGE	06/30/16	40% ↗	19	$1,502,722	$(42,200)	$1,655,372	$31,238	$1,743,036	$64,186
(GAIN)/LOSS	06/30/16	40% ↗	29	$4,225,172	$0	$4,531,497	$62,882	$4,794,909	$129,230
ASSUMPTION CHANGE	06/30/17	20% ↗	20	$1,176,961	$(50,144)	$1,314,221	$(51,586)	$1,462,925	$27,570
(GAIN)/LOSS	06/30/17	20% ↗	30	$(1,513,779)	$0	$(1,623,528)	$0	$(1,741,234)	$(24,135)
TOTAL				**$30,375,955**	**$1,608,258**	**$30,912,675**	**$1,946,420**	**$31,138,099**	**$2,328,669**

Σ* $7,545 Σ* $8,463

Negative Amortization ⇒ Δ $918 K

TOWN OF LOS GATOS
MISCELLANEOUS AND SAFETY PENSION PLANS

BARTEL ASSOCIATES, LLC

CalPERS Actuarial Review
June 30, 2017 Actuarial Valuation

Bartel Associates, LLC
Joseph R. D'Onofrio, Assistant Vice President
Bianca Lin, Assistant Vice President
Katherine Moore, Associate Actuary
Matt Childs, Senior Actuarial Analyst
Wai Man Yam, Actuarial Analyst

August 12, 2019

CONTENTS

Valuation Results[1]

June 30, 2017

(Dollar Amounts in Thousands)

Employee Group	Misc	Safety	Total
■ **Participants**			
• Actives	111	36	147
• Transfers[2]	98	17	115
• Terminations[3]	79	1	80
• Retirees & Beneficiaries	228	73	301
• Total	516	127	643
■ **Funded Status**			
• Accrued Liability	$99,903	$84,807	$184,710
• Assets	69,527	62,719	132,246
• Unfunded Liability	30,376	22,089	52,465
• Funded Percent	69.6%	74.0%	71.6%
■ **Projected 2019/20 Payroll**	10,147	5,198	15,345
■ **Employer Contribution 2019/20**[4]			
• Dollar Amount (Estimated)[5]	3,366	2,673	6,039
• Percent of Payroll	33.2%	51.4%	39.4%

[1] Amounts in this report might not add due to rounding.
[2] "Transfers" are former employees working for another agency participating in a CalPERS pension plan.
[3] "Terminations" are former employees not working for an agency participating in a CalPERS pension plan.
[4] CalPERS results do not reflect Employee-Paid Member Contributions and Member Share of Employer Contributions, if any.
[5] CalPERS provides the Normal Cost as a percentage of payroll and the Unfunded Liability amortization payment as a dollar amount. CalPERS' Normal Cost estimate is based on payroll projected from 2016/17 to 2019/20 using the valuation's aggregate payroll increase assumption. The Town's budgeted amount may differ based on its expected 2019/20 payroll.

Valuation Results

Discount Rate Sensitivity - June 30, 2017 Valuation

(Dollar Amounts in Thousands)

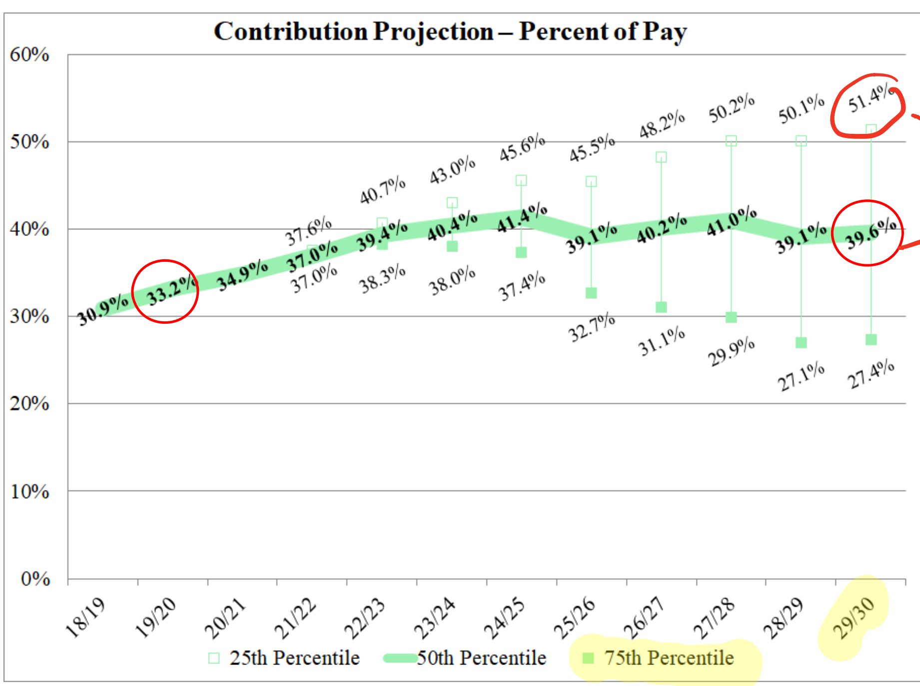
Funded Percent	Ongoing Plan Discount Rate[6]		
	7.25%	7.00%	6.00%
■ **Miscellaneous**			
• Accrued Liability	$99,903	$102,599	$115,979
• Assets	69,527	69,527	69,527
• Unfunded Liability	30,376	33,073	46,452
• Funded Percent	69.6%	67.8%	59.9%
■ **Safety**			
• Accrued Liability	$84,807	$87,274	$99,376
• Assets	62,719	62,719	62,719
• Unfunded Liability	22,089	24,555	36,657
• Funded Percent	74.0%	71.9%	3.1%
■ **Total**			
• Accrued Liability	$184,710	$189,873	$215,354
• Assets	132,246	132,246	132,246
• Unfunded Liability	52,465	57,628	83,109
• Funded Percent	71.6%	69.6%	61.4%

[6] At its 2017 Asset Liability Management Workshop, CalPERS stated it expected returns to average 6.1% annually for 10 years and 8.3% annually after 10 years, resulting in a blended expected return of 7.0%. It phased in a discount rate reduction over 3 years from 7.50% for the 6/30/15 valuation to 7.00% for the 6/30/18 valuation. The discount rate is ultimately expected to decrease to about 6.00% as a result of CalPERS' risk mitigation policy.

Asset Allocation
Approved Changes

- **Risk Mitigation - 2019 Valuation**
  - Move to more conservative investment portfolio over time
    - Target lower investment risk due to increasing plan maturity
    - Lower discount rate when investment return is greater than assumed
    - Reduce exposure to higher risk investments
    - Lower probability benefit payments will exceed contributions and earnings
    - Lessen impact of investment losses as a percentage of payroll
    - Gradual phase-in avoids immediate large contribution increase
    - Reduces impact of future investment gains on employer contributions
  - Discount rate likely to go from 7% to 6% over 20+ years
  - Effective with 6/30/19 valuations for 2021/22 contributions

Miscellaneous Plan



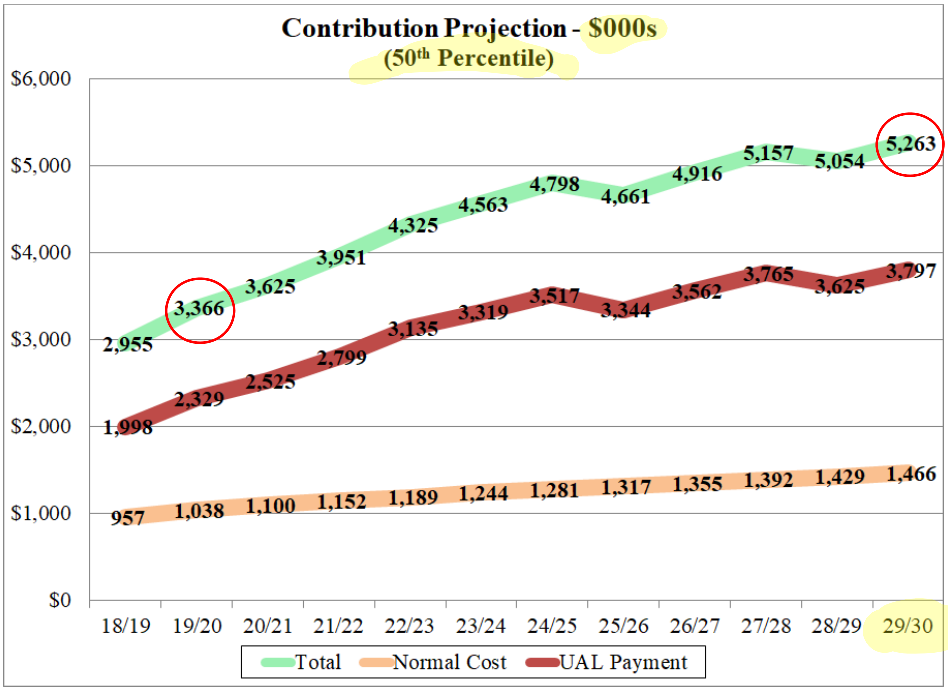
$6,831

$5,263

Page 10

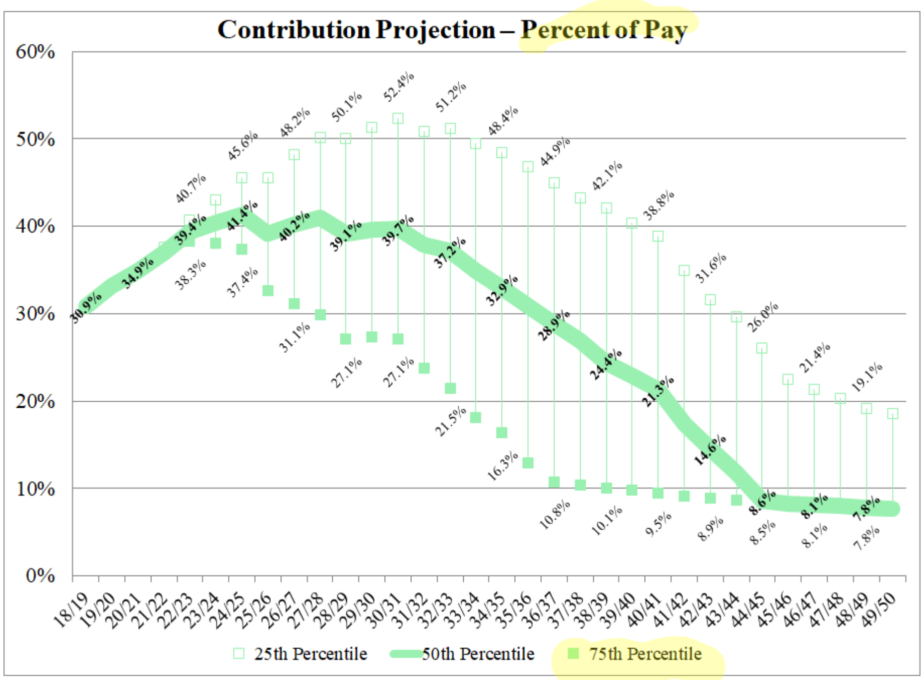
Where Are We Going?

Miscellaneous Plan



Where Are We Going?

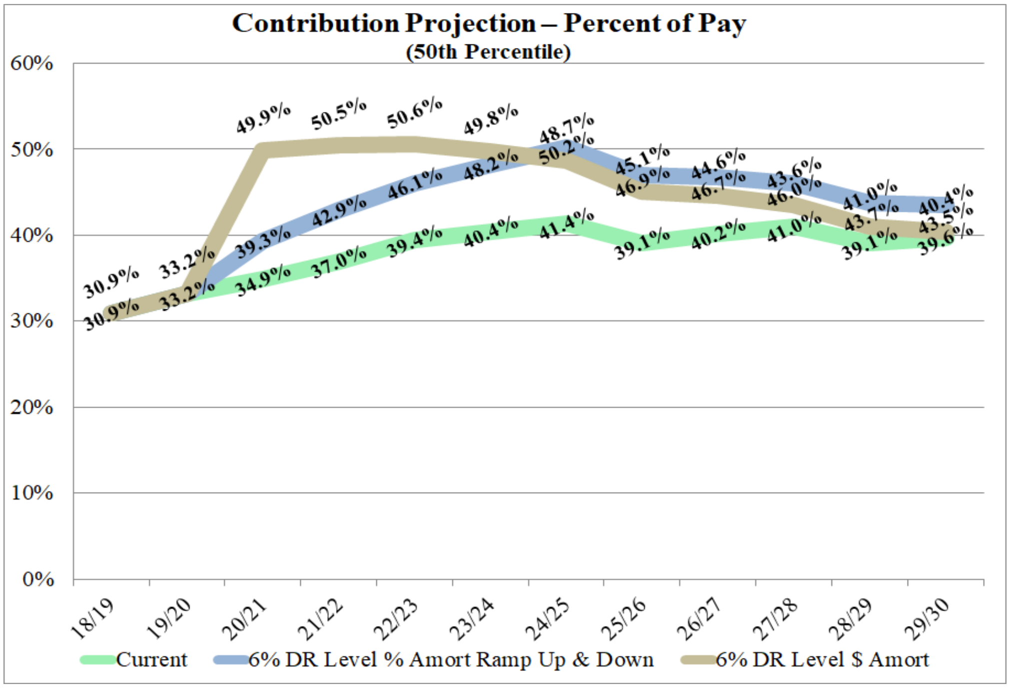
Miscellaneous Plan



Page 11

WHERE ARE WE GOING?

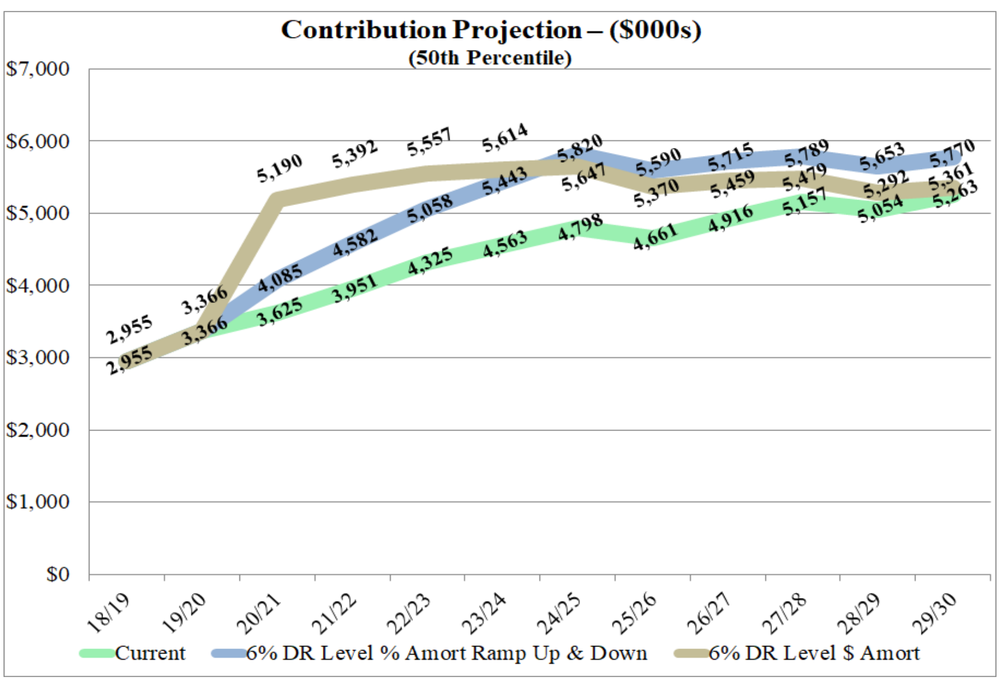
Miscellaneous Plan



August 12, 2019 7

WHERE ARE WE GOING?

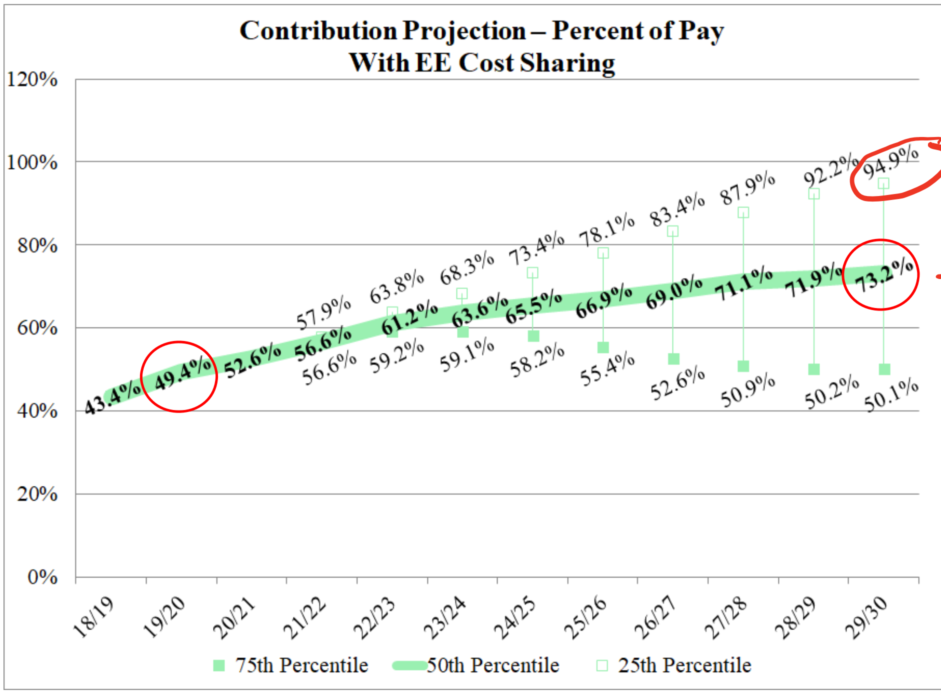
Miscellaneous Plan



August 12, 2019 8

Where Are We Going?

Safety Plan

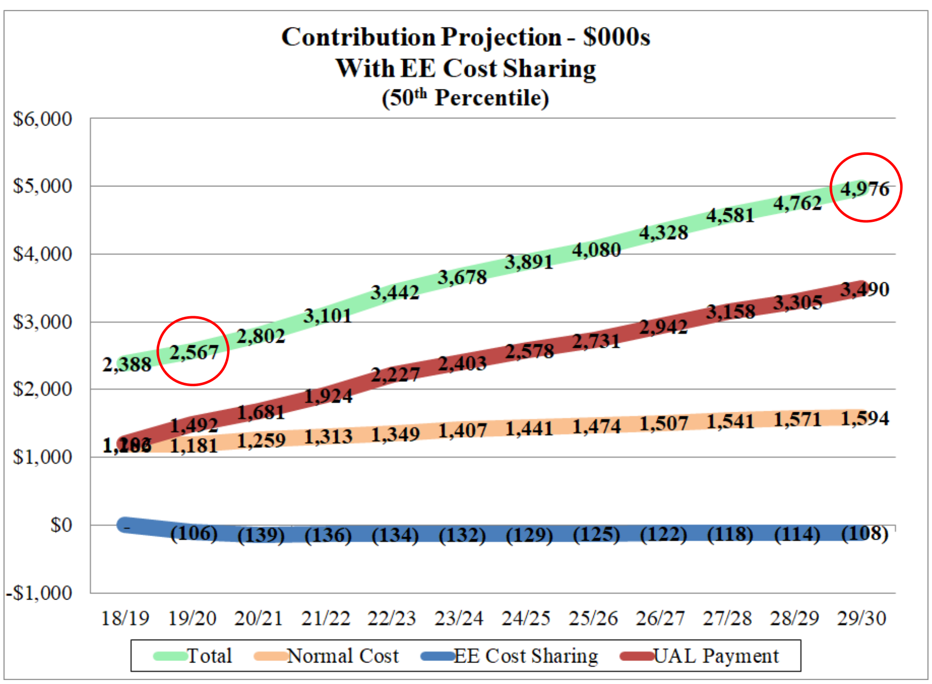


$6,451

$4976

Where Are We Going?

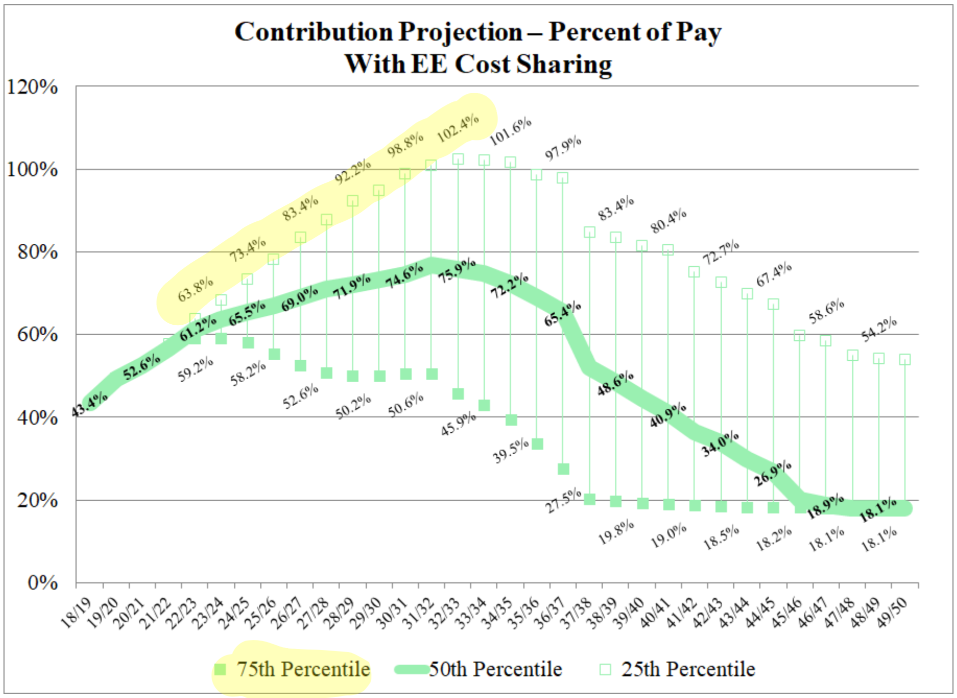
Safety Plan



Page 13

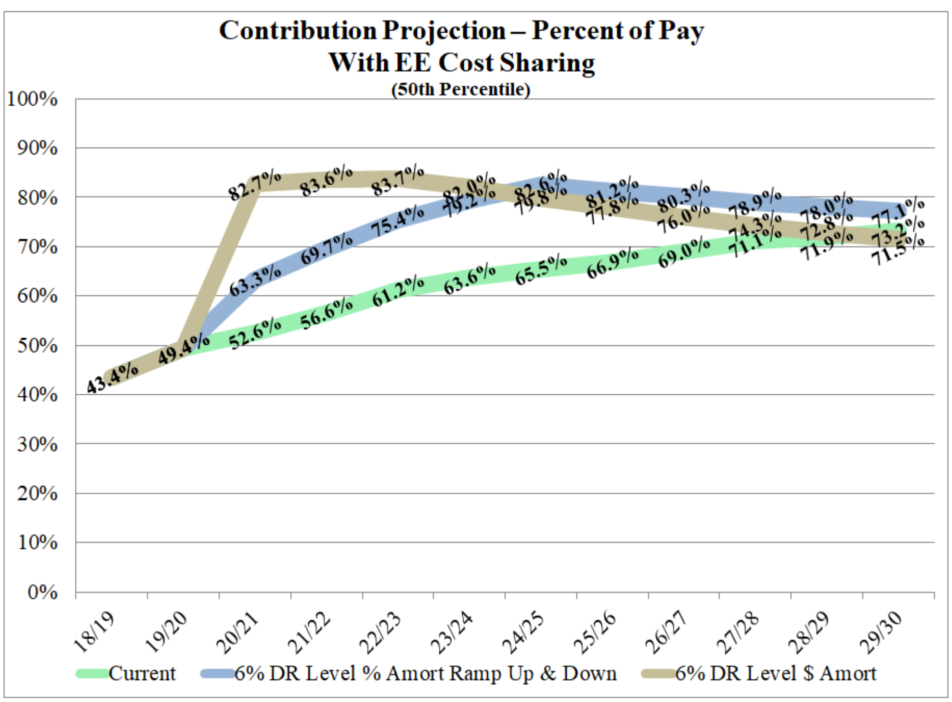
WHERE ARE WE GOING?

Safety Plan



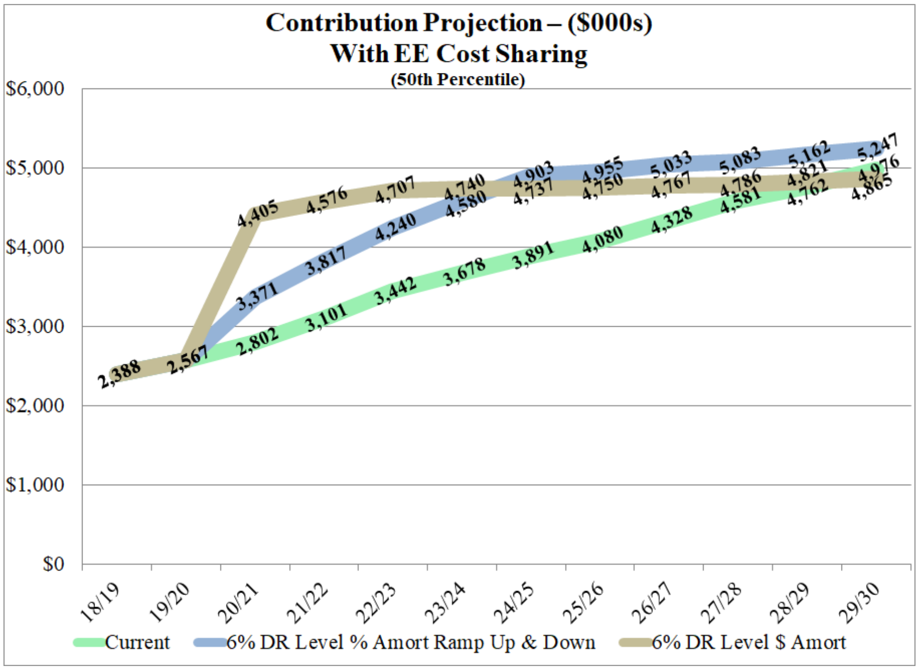
WHERE ARE WE GOING?

Safety Plan



Where Are We Going?

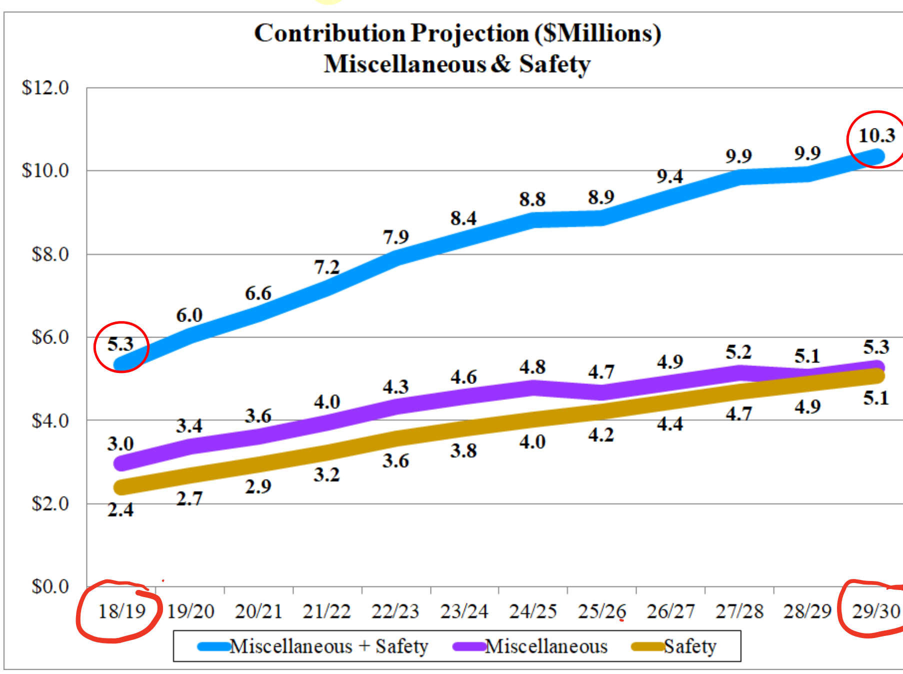
Safety Plan



Where Are We Going?

Combined Plans
(50th Percentile)

75th = $13.3M

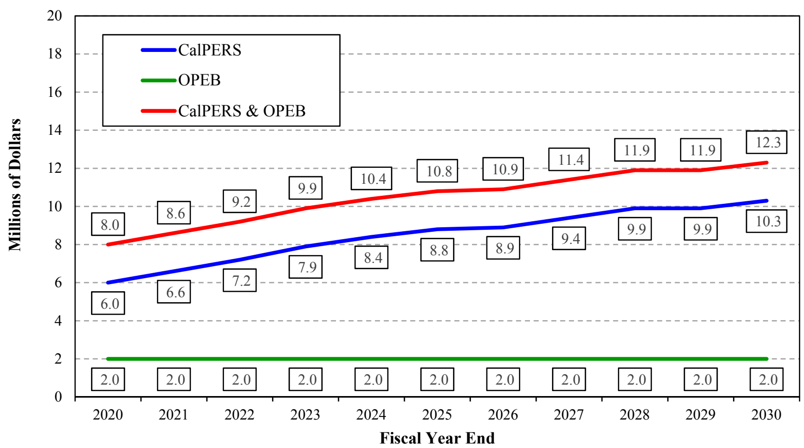


Page 15

WHERE ARE WE GOING?

CalPERS Pension & OPEB

Projected City Contributions
CalPERS Pension & OPEB



focus on this

flat

Note: CalPERS pension amounts for 2020/21 and later years were determined stochastically and are shown at the 50th percentile. OPEB ADC amounts are from a deterministic projection based on the 6/30/17 valuation using 3/31/19 plan assets of $16,733,632 projected to 6/30/19 using the CERBT #1 rate of return of 3.23% for the quarter ending 6/20/19 modified to reflect plan changes since the valuation date.

HOW CAN WE PREFUND?

Additional Contributions[7]

Prefunding Options

- **General Fund or Internal Reserve**
  - Low risk and return
  - Flexible as to when and how used for CalPERS funding
  - Not restricted and can be used for other purposes
  - Not part of GASBS 68 assets for determining Net Pension Liability
- **Additional CalPERS Contributions**
  - Pay down a portion of the Unfunded Liability
    - Target specific bases (short or long)
    - Fresh start amortization (more stable contribution)
    - Saves 7% (discount rate) interest on CalPERS pension debt
  - Invested per CalPERS' investment policy
  - Contribution volatility remains
  - Employer required to pay Normal Cost when 100% funded

[7] Based on the 6/30/17 valuation using 3/31/19 plan assets of $16,733,632 projected to 6/30/19 using the CERBT #1 rate of return of 3.23% for the quarter ending 6/20/19.

Additional Contribution
Prefunding Options

- **Section 115 Trusts**
  - Generally greater risk and return than general fund but less than CalPERS
    - Agency chooses asset allocation
    - Consider risk tolerance and when funds are expected to be used
  - Flexible as to when and how used for CalPERS funding
    - Rate stabilization is a common objective
    - Paying of unfunded bases in the future
  - Avoids CalPERS overfunding due to required Normal Cost contributions
  - Asset restricted and can only be used for pension funding
  - Not part of GASBS 68 assets for determining Net Pension Liability
  - 115 Trust providers include:
    - PARS
    - Keenan
    - PFM
    - CalPERS California Employers' Pension Prefunding Trust[8]

[8] CEPPT has 2 funds with expected 10-year returns of 4% and 5%.

Additional Contribution
Prefunding Options

Risk is Highly correlated

Characteristics	General Fund	CalPERS	115 Trust
Investment Risk	Lower	No Choice	Flexible
Investment Return	Lower	Higher	Flexible
Restricted Use	No	Yes	Yes
Pay Off Specific Bases	Yes	Yes	Yes
Rate Stabilization	Yes	No	Yes
GASBS 68 Assets	No	Yes	No
Reduces Calpers Contribution	No	Yes	No

% only not $

CalPERS Contributions
Pay Off Targeted Unfunded Bases
Miscellaneous Example

Bases Targeted	Contribution Impact	Interest Savings
Shorter Bases	Immediate	Less
Longer Bases	Delayed	More

Bases Targeted	Initial Payment	Contribution Savings	Present Value (3% Discount Rate)
Shorter Bases[9]	$8,000,000	$3,701,000	$1,844,000
Longer Bases[10]	8,000,000	11,674,000	4,903,000

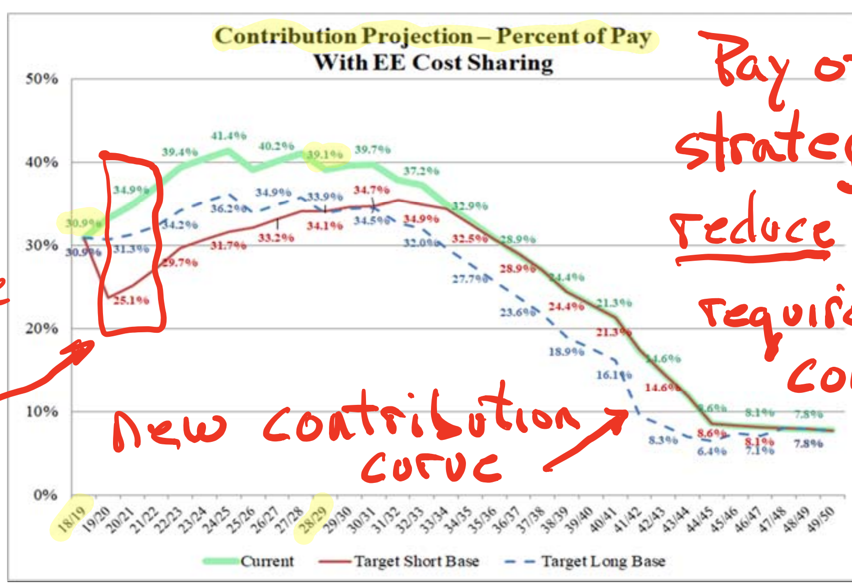
$1 → $1.46

See p20

Impact is immediate + grows

[9] 2003, 2009, 2011, and 2014 assumption change bases and 2007 benefit change base.
[10] 2015 and 2016 gain/loss bases.

CalPERS Contributions
Pay Off Targeted Unfunded Bases
Miscellaneous Example
50th Percentile



Pay off strategies reduce Calpers required contributions!

Immediate impact

New contribution curve

Section 115 Trust Contributions
Rate Stabilization Example

Assumptions	Misc	Misc
Initial Trust Balance	$8,000,000	$4,400,000
Future Contributions	0	0
Assumed Annual Earnings Rate	6.00%	6.00%
Maximum Budgeted Contribution Rate	31.5%	34.6%

Results - 50th Percentile	Misc	Misc
First Year Funds Are Used	2020/21	2021/22
Last Year Funds Are Used	2034/35	2032/33
Duration	15 years	12 years
Interest Savings	$5,130,000	$2,733,000
Present Value (3% Discount Rate)	2,402,000	1,265,000
Remaining Balance at 6/30/33	558,000	116,000

$1 → $.64

Section 115 Trust Contributions
Miscellaneous Plan Rate Stabilization Example - $8 Million
50th Percentile

Contribution as a % is flat

Rate stabilization doesn't reduce Calpers required contribution

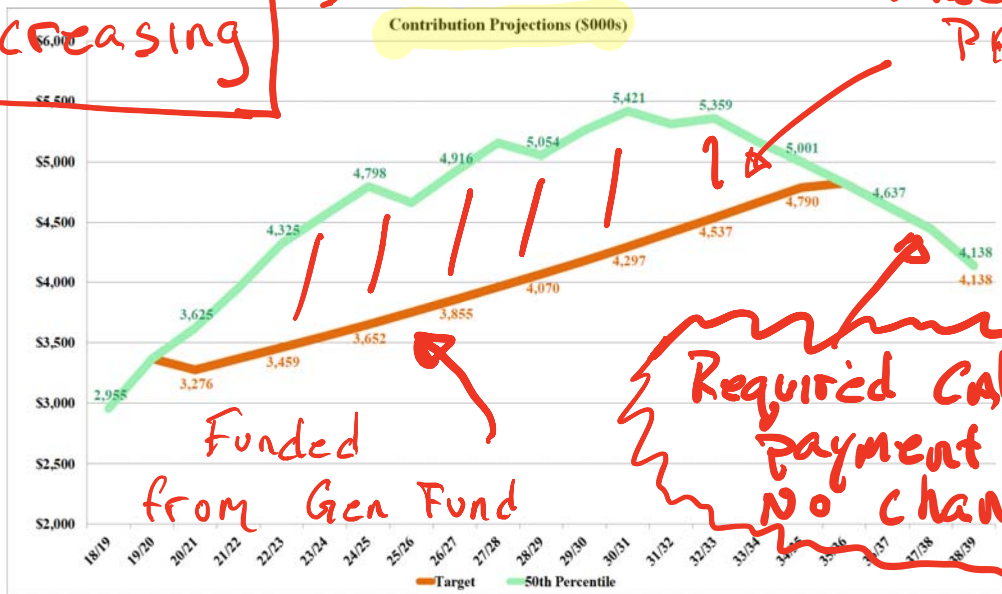
Section 115 Trust Contributions

Miscellaneous Plan Rate Stabilization Example - $8 Million

50th Percentile

$ contribution is increasing

Funded from PARS



Funded from Gen Fund

Required Calpers payment - No change

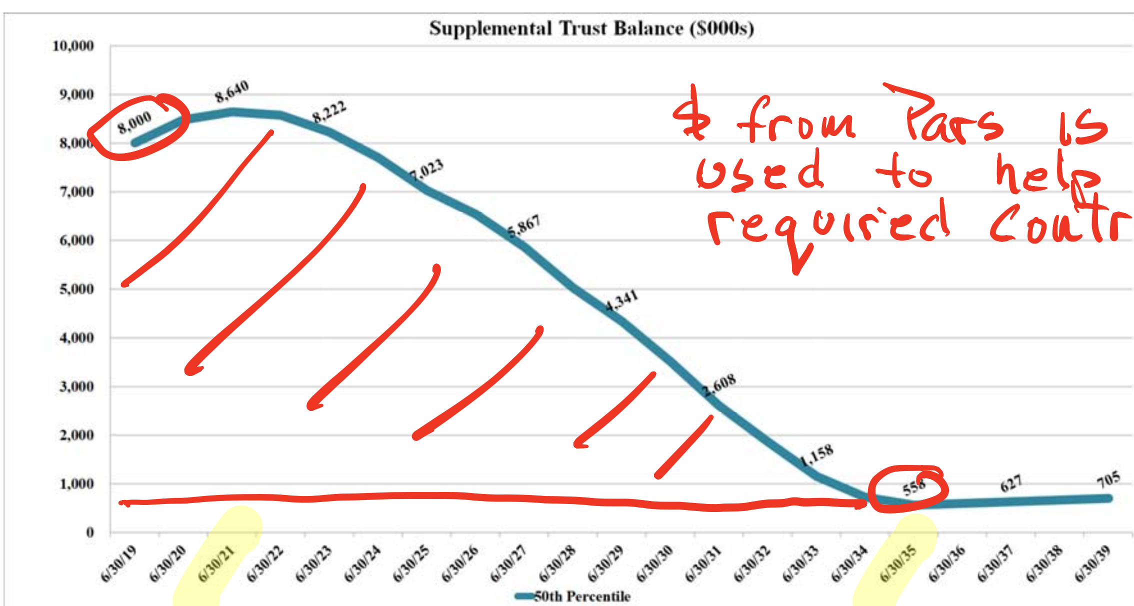
HOW CAN WE PREFUND?

Section 115 Trust Contributions

Miscellaneous Plan Rate Stabilization Example - $8 Million

50th Percentile

$ from Pars is used to help pay required contribution

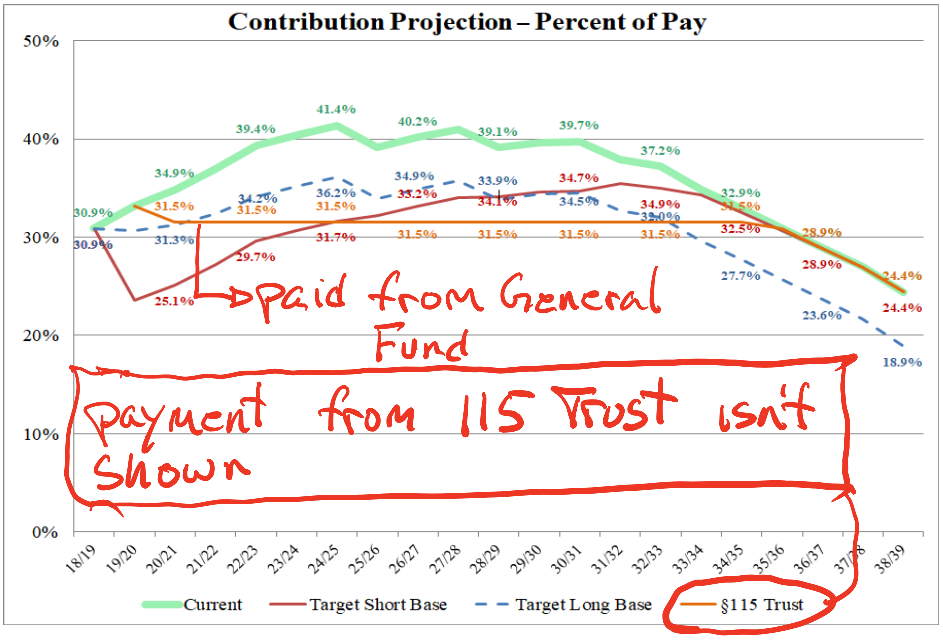


Page 20

Section 115 Trust Contributions

Miscellaneous Plan Rate Stabilization Example - $8 Million

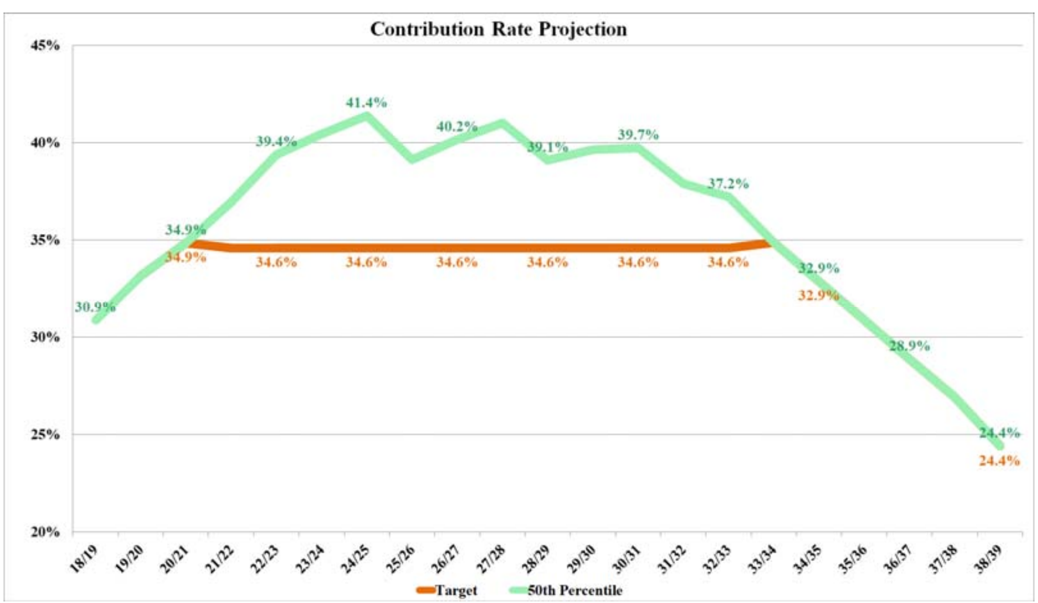
50th Percentile



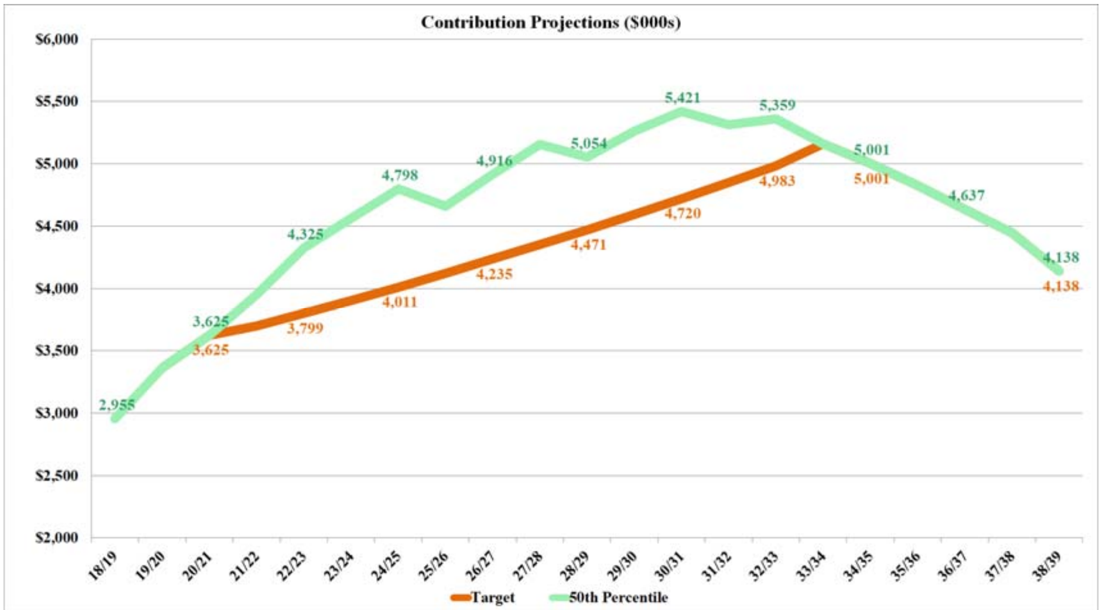
Section 115 Trust Contributions

Miscellaneous Plan Rate Stabilization Example - $4.4 Million

50th Percentile

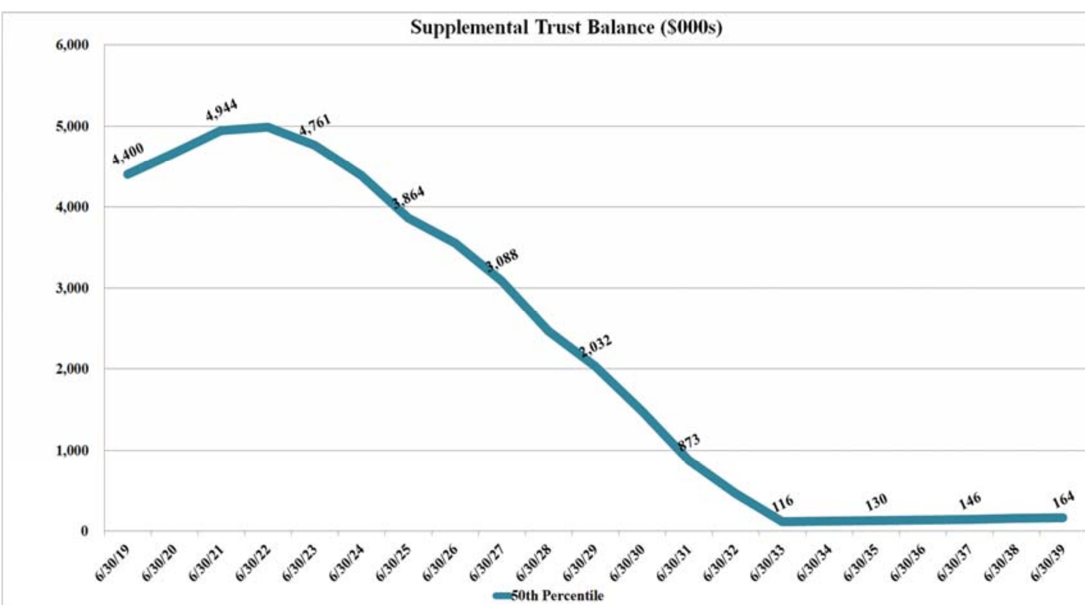


Section 115 Trust Contributions
Miscellaneous Plan Rate Stabilization Example - $4.4 Million
50th Percentile



HOW CAN WE PREFUND?

Section 115 Trust Contributions
Miscellaneous Plan Rate Stabilization Example - $4.4 Million
50th Percentile

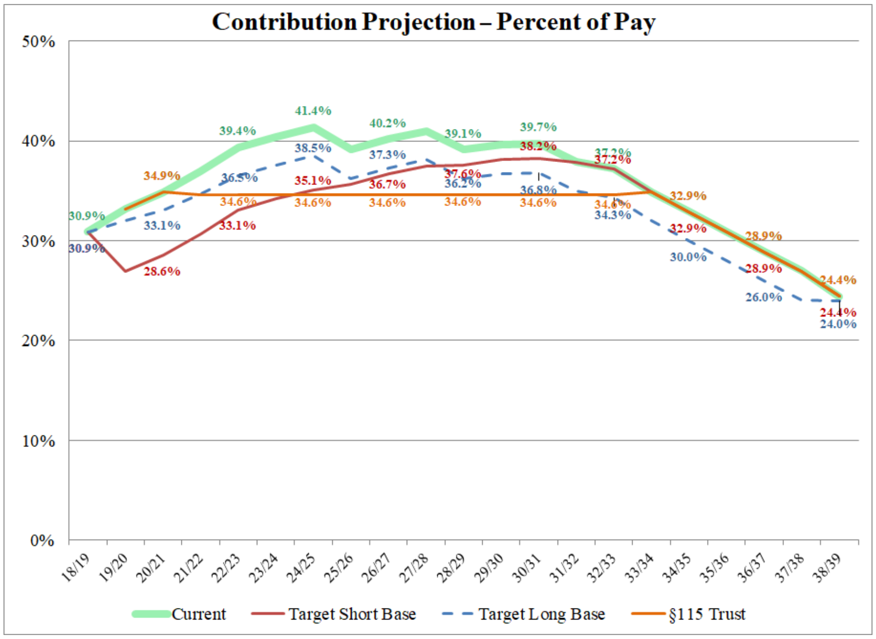


How Can We Prefund?

Section 115 Trust Contributions

Miscellaneous Plan Rate Stabilization Example - $4.4 Million

50th Percentile



How Can We Prefund?

OPEB Plan

Contribution Projection - Full ADC Funding - CERBT #1[11]

(Amounts in 000's)

Fiscal Year End	Prior Plan			New Plan		
	ADC[12]	BOY UAAL[13]	BOY Fund%	ADC	BOY UAAL	BOY Fund%
2019	$2,050	$10,242	61%	$1,991	$10,242	61%
2020	2,110	10,154	64%	1,996	10,154	64%
2021	2,173	10,044	66%	2,004	10,044	66%
2022	2,237	9,908	69%	2,007	9,908	68%
2023	2,304	9,744	71%	2,012	9,744	70%
2024	2,373	9,549	73%	2,019	9,549	72%
2025	2,444	9,319	75%	2,024	9,319	74%
2026	2,517	9,050	77%	2,028	9,050	76%
2027	2,593	8,739	79%	2,033	8,739	78%
2028	2,671	8,382	81%	2,034	8,382	79%

[11]Based on the 6/30/17 valuation study (12/10/18) using 6/30/18 plan assets of $16,276,565 projected to 6/30/19 using the assumed CERBT #1 return of 6.75% for 2018/19 and the PEMHCA minimum amount for new hires. Prior plan actives assumed to have a Normal Cost Percentage of 8.8%. New hires assumed to have a Normal Cost Percentage of 1.7%. The prior plan participation assumption is 100% for covered actives and 90% for waived actives. The new plan participation assumption is 60% for covered actives and 50% for waived actives. The projection assumes no retirees from new hires over the projection period. New hires are projected to account for 47% of projected payroll in 2028.

[12] ADC amounts are from a deterministic projection.

[13] UAAL is amortized over 20 years for 2018/19 and is projected to be fully funded on 6/30/38. "BOY" means "Beginning of Year."

CERBT Target Investment Allocations

CERBT Investment Strategy	CERBT #1	CERBT #2	CERBT #3
Global Equity	59%	40%	22%
Fixed Income	25%	43%	49%
TIPS	5%	5%	16%
REITs	8%	8%	8%
Commodities	3%	4%	5%
Total	100%	100%	100%
Long-Term Expected Real Return	4.14%	3.54%	2.83%
Long-Term Inflation Assumption	2.75%	2.75%	2.75%
Assumed Investment Expenses	(0.04%)	(0.04%)	(0.04%)
Long-Term Expected Nominal Return	6.85%	6.25%	5.54%
Recommended Discount Rate	6.75%	6.25%	5.50%

OPEB Plan

Contribution Projection - Full ADC Funding - New Plan[14]

(Amounts in 000's)

Fiscal Year End	CERBT #1			CERBT #3		
	ADC[15]	BOY UAAL[16]	BOY Fund%	ADC	BOY UAAL	BOY Fund%
2019	$1,991	$10,242	61%	$2,520	$14,637	52%
2020	1,996	10,154	64%	2,527	14,455	56%
2021	2,004	10,044	66%	2,537	14,239	59%
2022	2,007	9,908	68%	2,542	13,988	62%
2023	2,012	9,744	70%	2,550	13,696	64%
2024	2,019	9,549	72%	2,558	13,361	67%
2025	2,024	9,319	74%	2,566	12,979	69%
2026	2,028	9,050	76%	2,571	12,545	71%
2027	2,033	8,739	78%	2,577	12,057	73%
2028	2,034	8,382	79%	2,579	11,507	75%

[14] Based on the 6/30/17 valuation study (12/10/18) using 6/30/18 plan assets of $16,276,565 projected to 6/30/19 using the assumed CERBT #1 and CERBT #3 rates of return of 6.75% and 5.50% for 2018/19.
[15] ADC amounts are from a deterministic projection.
[16] UAAL is amortized over 20 years for 2018/19 and is projected to be fully funded on 6/30/38.

OPEB Plan[17]

Contribution Projection - Full ADC Funding - New Plan - Additional $8 Million

(Amounts in 000's)

Fiscal Year End	New Plan CERBT #1			Additional $8 Million[18]		
	ADC[19]	BOY UAAL[20]	BOY Fund%	ADC	BOY UAAL	BOY Fund%
2019	$ 1,991	$ 10,242	61%	$ 1,991	$ 10,242	61%
2020	1,959	9,662	65%	1,355	1,662	94%
2021	1,967	9,572	68%	1,345	1,640	94%
2022	1,970	9,456	70%	1,329	1,615	95%
2023	1,975	9,310	72%	1,315	1,586	95%
2024	1,981	9,133	74%	1,301	1,552	95%
2025	1,987	8,921	75%	1,286	1,513	96%
2026	1,990	8,671	77%	1,268	1,468	96%
2027	1,994	8,378	79%	1,250	1,416	96%
2028	1,995	8,041	80%	1,228	1,357	97%

[17] Based on the 6/30/17 valuation using 3/31/19 plan assets of $16,733,632 projected to 6/30/19 using the CERBT #1 rate of return of 3.23% for the quarter ending 6/20/19.
[18] Additional $8 million assumed contributed to the OPEB trust on 6/30/19.
[19] ADC amounts are from a deterministic projection.
[20] UAAL is amortized over 20 years for 2018/19 and is projected to be fully funded on 6/30/38.

76.8%

19,809

13,668

6,141

This page intentionally blank

Page 25