

California's Pension Crisis: Perspectives on CalPERS and San Jose Pension Plans

Stanford Institute for Economic Policy Research (SIEPR)

Funded by California Forward and
the Irvine Foundation

August 22, 2011

On-Going Stanford Research

- Principal Investigator is John Shoven
- Objectives:
 - Further refine research on funded status of state and local pension systems, reforms
 - Conduct community meetings to identify solutions, build consensus
- Deliverables
 - Preliminary report on statewide systems published in September
 - Final report including local systems before end of year
 - May amend this to produce stand-alone local reports

Outline

Public pensions 101

CalPERS

San Jose plans

Policy options

- Pensions 101
- CalPERS
- San Jose pension plans
- Policy options

Public Employee Pensions Defined

Public pensions 101

CalPERS

San Jose plans

Policy options

- **Virtually all in California are Defined Benefit**

- Guarantees minimum retirement income
- Based on three factors, e.g.

Years of service	Service retirement formula	Pensionable salary	Example annual benefit
30	2.7%@55	\$85,000	$30 * .027 * \$85,000 = \$68,850$

- **Other differences with private sector**

- Sometimes excludes social security benefits
- Pensionable salary may exceed final year's salary
- Annual COLAs are common
- Risk is borne almost entirely by pension plan, sponsoring agency, and taxpayers
- Governance
- Accounting

Public Employee Pension Mechanics, Accounting Assumptions, and Methods

Public pensions 101

CalPERS

San Jose plans

Policy options

- Assets are accumulated through employer and employee contributions and investment earnings
- Those assets pay benefits or pension system liabilities
- How we measure assets and liabilities can vary widely, especially when compared with private pension accounting

Assumption/ method	CalPERS	San Jose Federated	San Jose Police and Fire	Private sector
Asset smoothing/ corridor	15 years/20% corridor	5 years/none	5 years/20% corridor	2 years/10% corridor
Amortization period	30 years	30/20 years ¹	16 years	7 years
Investment rate of return/ discount rate	7.75%	7.95% ¹	7.75%	~6%

¹Balance of UAAL as of 6/30/09 amortized over a closed 30-year period. Additional gains or losses amortized over a closed 20-year period. Source: San Jose City Auditor.

²Declining to 7.75% next FY.

Discount Rate and Investment Return Assumptions Matter—A Lot

Public pensions 101

CalPERS

San Jose plans

Policy options

- Government Accounting Standards Board (GASB) requires discount rate = expected investment rate of return
- Discount rates
 - We use discount rates to assign a present value (PV) to future payments
 - What is the value today of a stream of *guaranteed* future payments?

What is the Appropriate Discount Rate?

Public pensions 101

CalPERS

San Jose plans

Policy options

- Most view public employee retirement income as contractually guaranteed
 - Case law suggests these can be modified only in extreme circumstances
- So fund liabilities are related to required payments to retirees, not investments or rates of return
 - E.g., if the fund's rate of return doubles, does the obligation to the retiree change?
 - Does the amount you owe on your fixed-rate mortgage change based on your investment returns?
- Virtually all economists argue for “risk-free” rate (~4.5-5.5% today) if goal is 100% repayment certainty

What Should We Assume for the Expected Rate of Return?

Public pensions 101

CalPERS

San Jose plans

Policy options

- How much will we earn over the long term?
 - Most public pension systems assume 7.5-8.0%
- Historical record suggests 6% is more realistic
 - Pension return “assumptions in my view are nuts.....”
—Warren Buffett¹
- Furthermore, we should use the Market Value to measure assets (MVA)

¹<http://reason.org/blog/show/warren-buffett-on-public-pensions> and <http://articles.latimes.com/2005/jan/23/business/fi-flan23/3>. Aired on CNBC 3/2/2011 8:30 EST

How Should We Measure Pension System Health?

Public pensions 101

CalPERS

San Jose plans

Policy options

- Funded ratio (assets/liabilities)
- Unfunded liabilities (UAAL) and/or unfunded liabilities per household
- Unfunded liabilities/payroll
- Outcomes vary with assumptions

How Healthy Is CalPERS Today?

Public pensions 101	CalPERS	San Jose plans	Policy options
Discount Rate/ Expected Rate of Return	Unfunded Liabilities (UAAL)	Funded Ratio (Market Assets/ Liabilities)	
4.38%	\$361B	40.0%	
6.20%	\$216B	52.3%	
7.75%	\$123B	66.0%	

Source: Author's estimates based on CalPERS reported market value of assets (\$237.5B) and estimated actuarial-accrued liabilities (\$360.0B) on June 30, 2011. 4.38% rate based on estimated 16 year TIPS rate and assumed inflation rate of 3%.

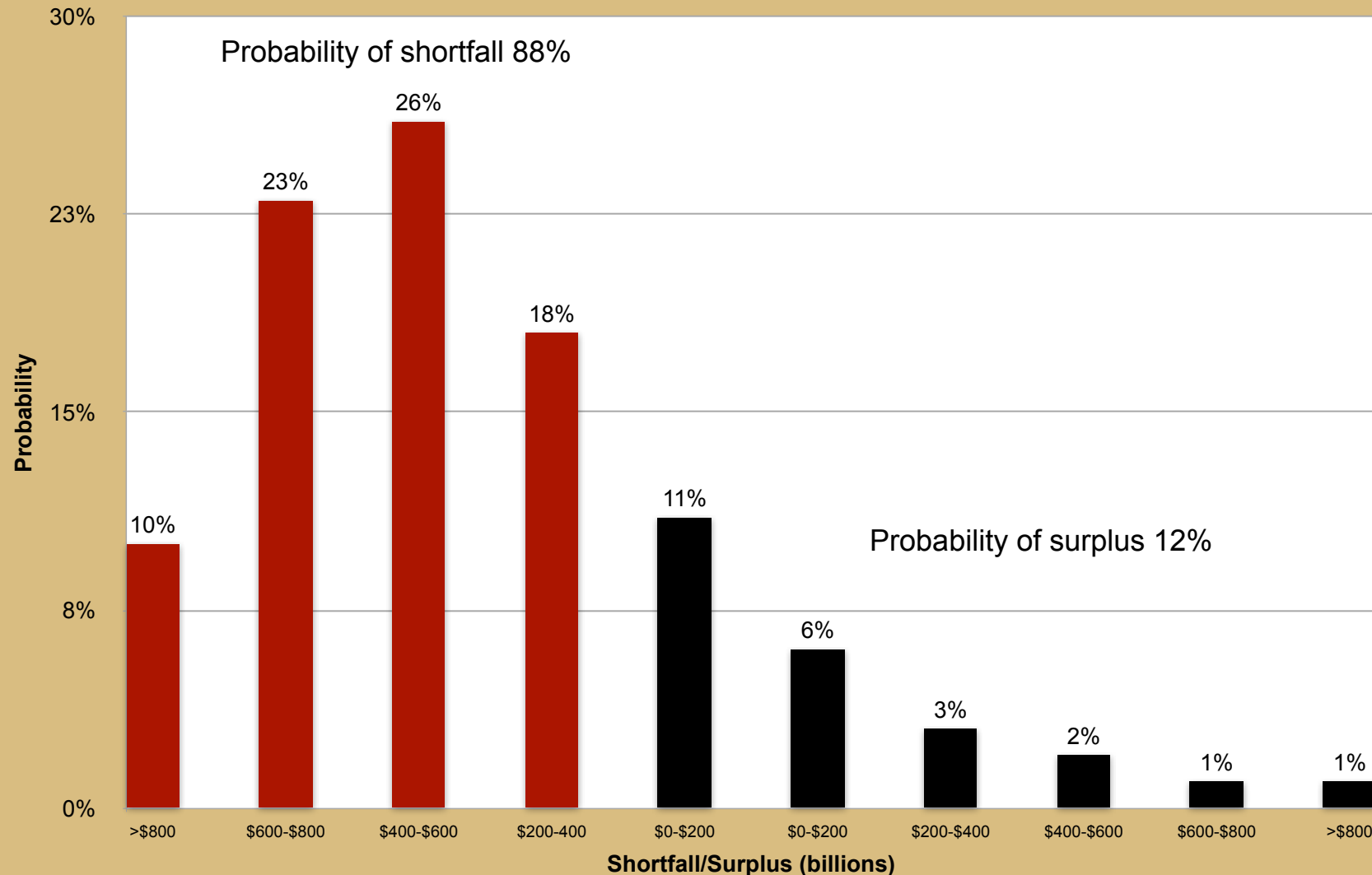
CalPERS Unlikely to Meet Obligations Even Under 7.75% Return Assumption

Public pensions 101

CalPERS

San Jose plans

Policy options



Source: Author's estimates based on CalPERS reported market value of assets (\$237.5B) and estimated actuarial-accrued liabilities (\$360.0B) on June 30, 2011. 7.75% assumed geometric rate of return; 12% standard deviation; 16 year average duration of liabilities. 10,000 draws.

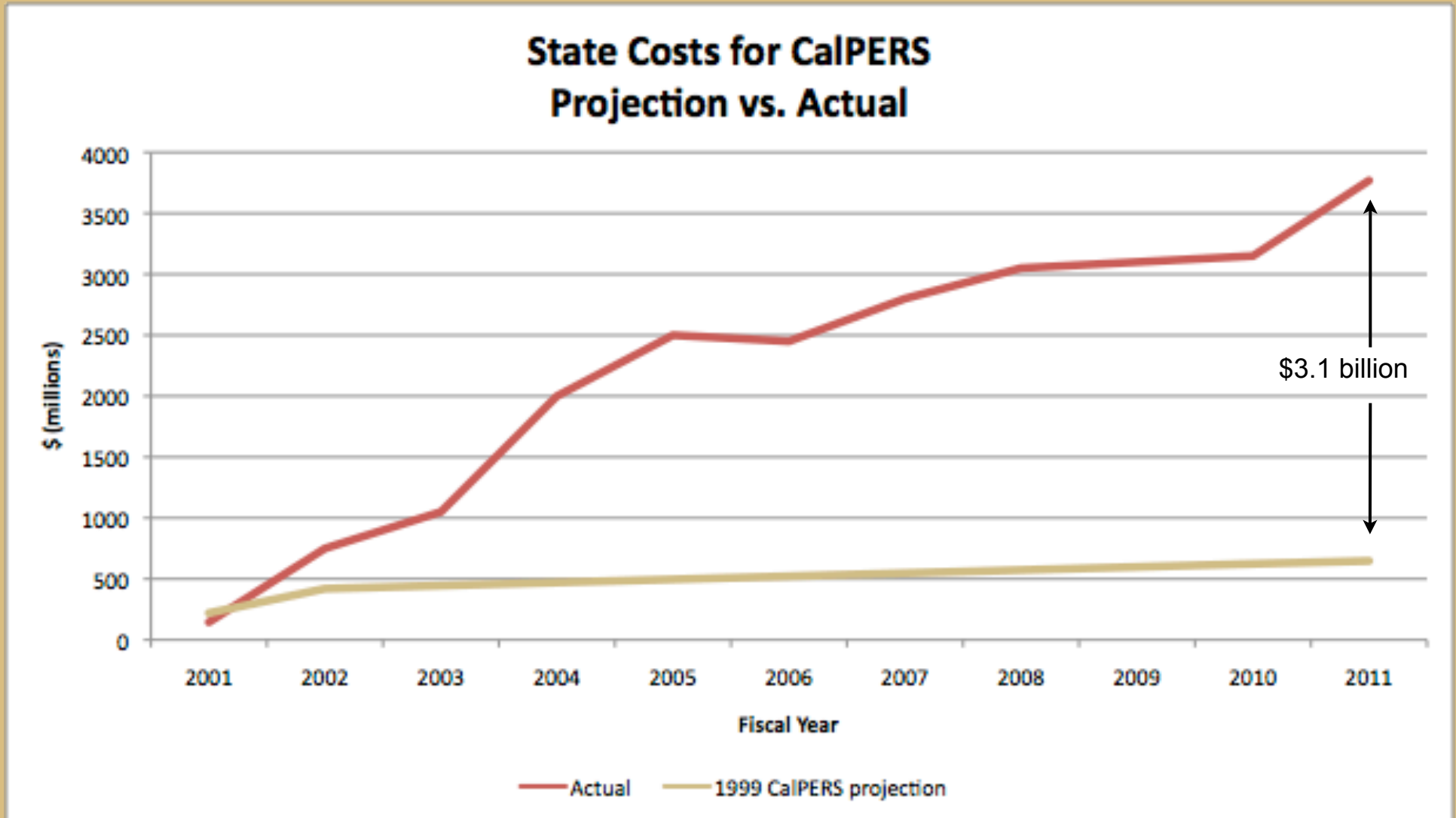
Failure to Hit Investment Mark Results in Shifts in Spending, Priorities

Public pensions 101

CalPERS

San Jose plans

Policy options



Source: Office of Governor Schwarzenegger (<http://gov.ca.gov/press-release/15551>), retrieved Sept. 9, 2010
Note: 2010-11 are estimates.

San Jose Plans' 2010 Funded Ratios Ranged from 40 to 80 Percent

Public pensions 101	CalPERS		San Jose plans		Policy options
	Federated		Police and Fire		
Investment Rate of Return	Funded Ratio (Market)	Funded Ratio (Actuarial)	Funded Ratio (Market)	Funded Ratio (Actuarial)	
Risk free - Fed. 5.64% - Police/Fire 5.24%	40.8%	46.7%	45.2%	52.2%	
Historical average (6.2%)	44.9%	51.3%	53.2%	61.4%	
Reported - Fed. 7.95% ¹ - Police/Fire 7.75%	60.3%	68.9%	69.0%	79.8%	

¹Declining to 7.75% next FY.

Source: Author's estimates based on reported assets, liabilities. Risk-free based on estimated 18-year inflation-adjusted treasury rate (TIPS).

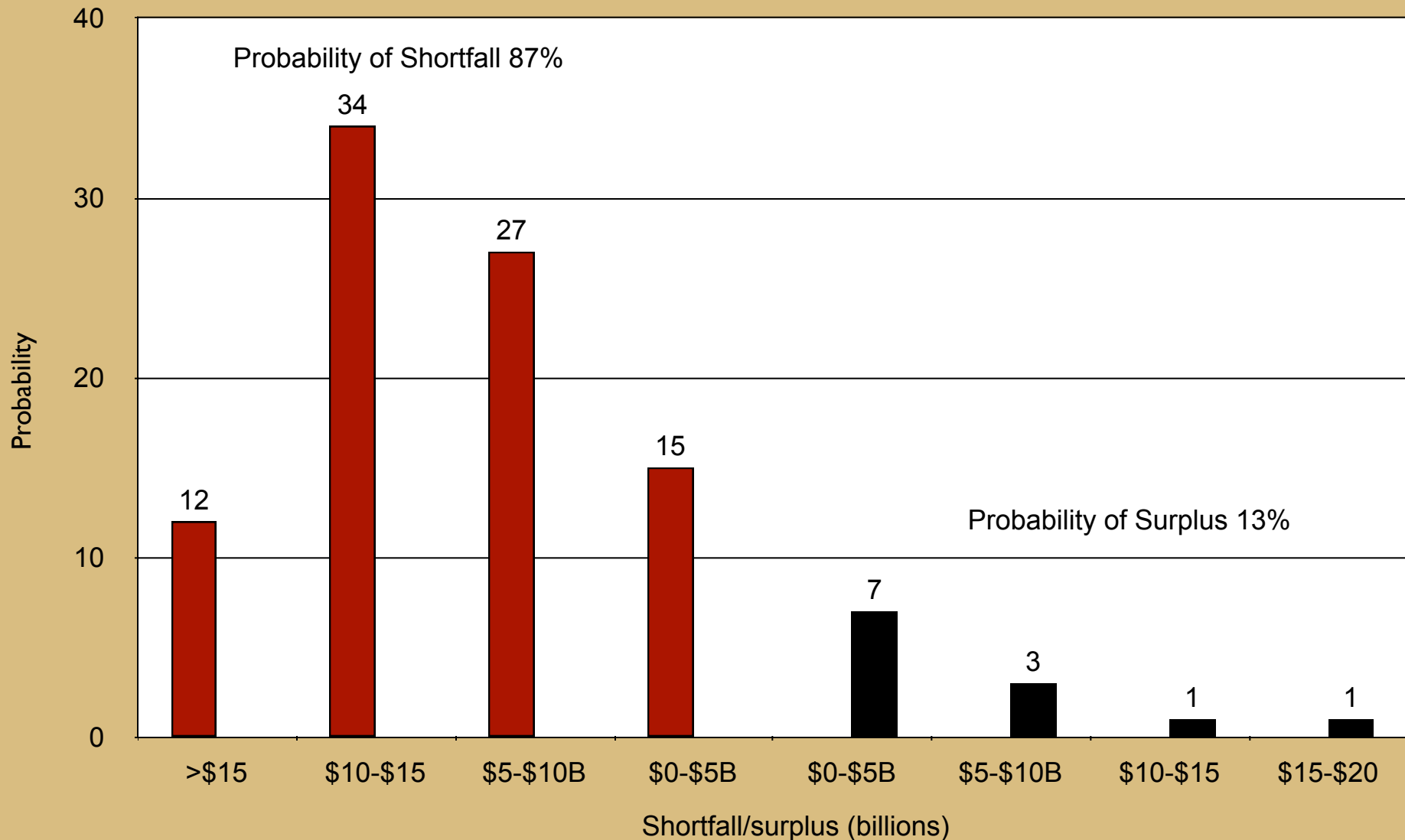
San Jose Unlikely to Meet Long-Term Obligations Even With 7.75% Investment Return

Public pensions 101

CalPERS

San Jose plans

Policy options



Source: Author's estimates based on June 2010 Market Value of Assets (MVA), 7.7837% blended rate of return, 12% standard deviation; 3.675 blended inflation rate assumption, 18 year average duration of liabilities. 10,000 draws.

San Jose's Total Unfunded Liability Nearly \$4 Billion Using Mid-Case Assumptions

Public pensions 101	CalPERS	San Jose plans	Policy options
Assumptions	Asset valuation	Unfunded Liability	Unfunded Liability per Household
Risk free - Fed. 5.64% - Police/Fire 5.24%	Market	\$4.9 billion	\$16,000
	Actuarial	\$4.3 billion	\$14,200
Historical average (6.2%)	Market	\$3.8 billion	\$12,500
	Actuarial	\$3.3 billion	\$10,700
Reported - Fed. 7.95% ¹ - Police/Fire 7.75%	Market	\$2.0 billion	\$6,500
	Actuarial	\$1.4 billion	\$4,700

¹Declining to 7.75% next FY.

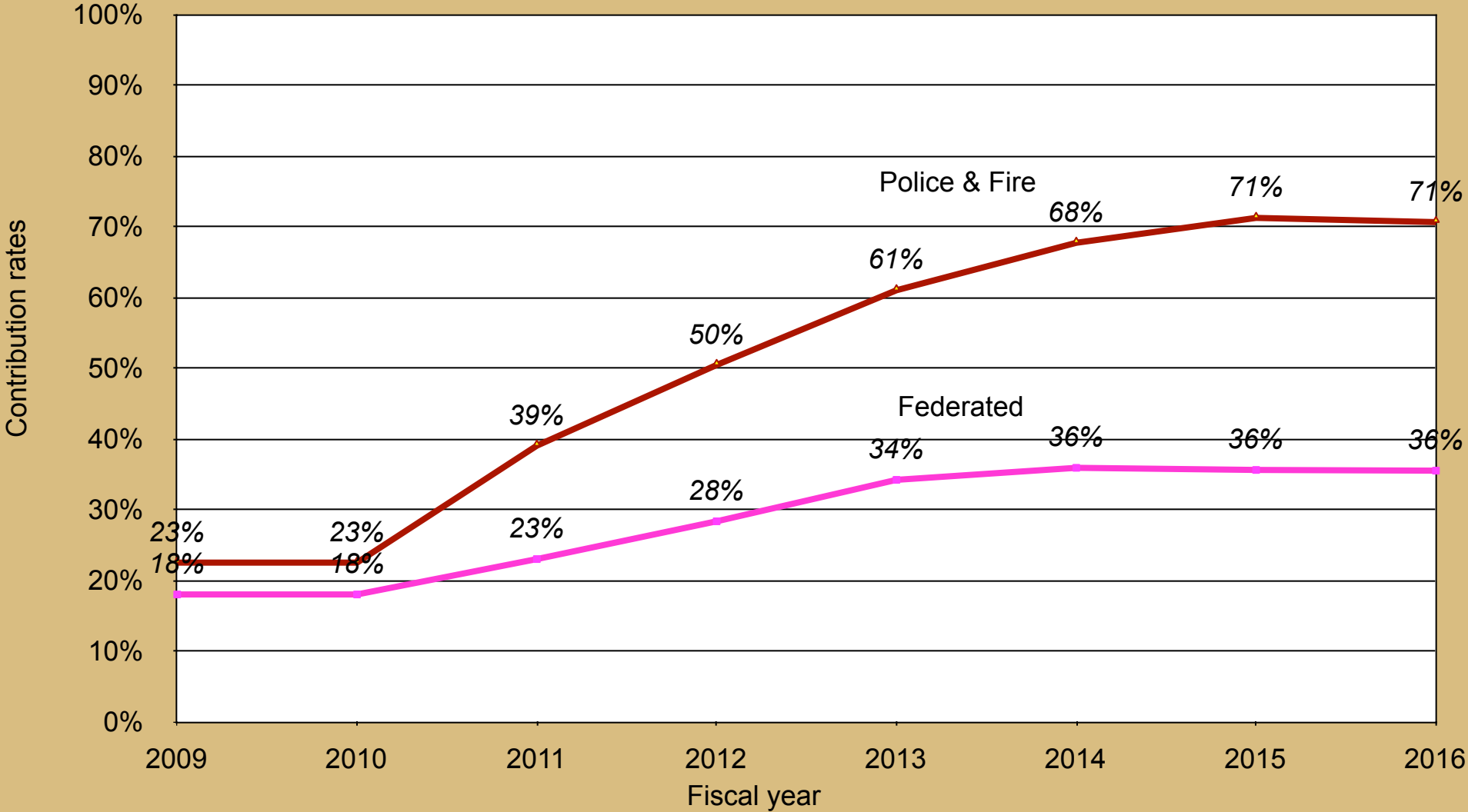
Source: Author's estimates based on 305,000 households in 2010.

Note: Unfunded liability per household rounded to nearest hundred dollars.

Shortfall Is Pushing Up Contribution Rates

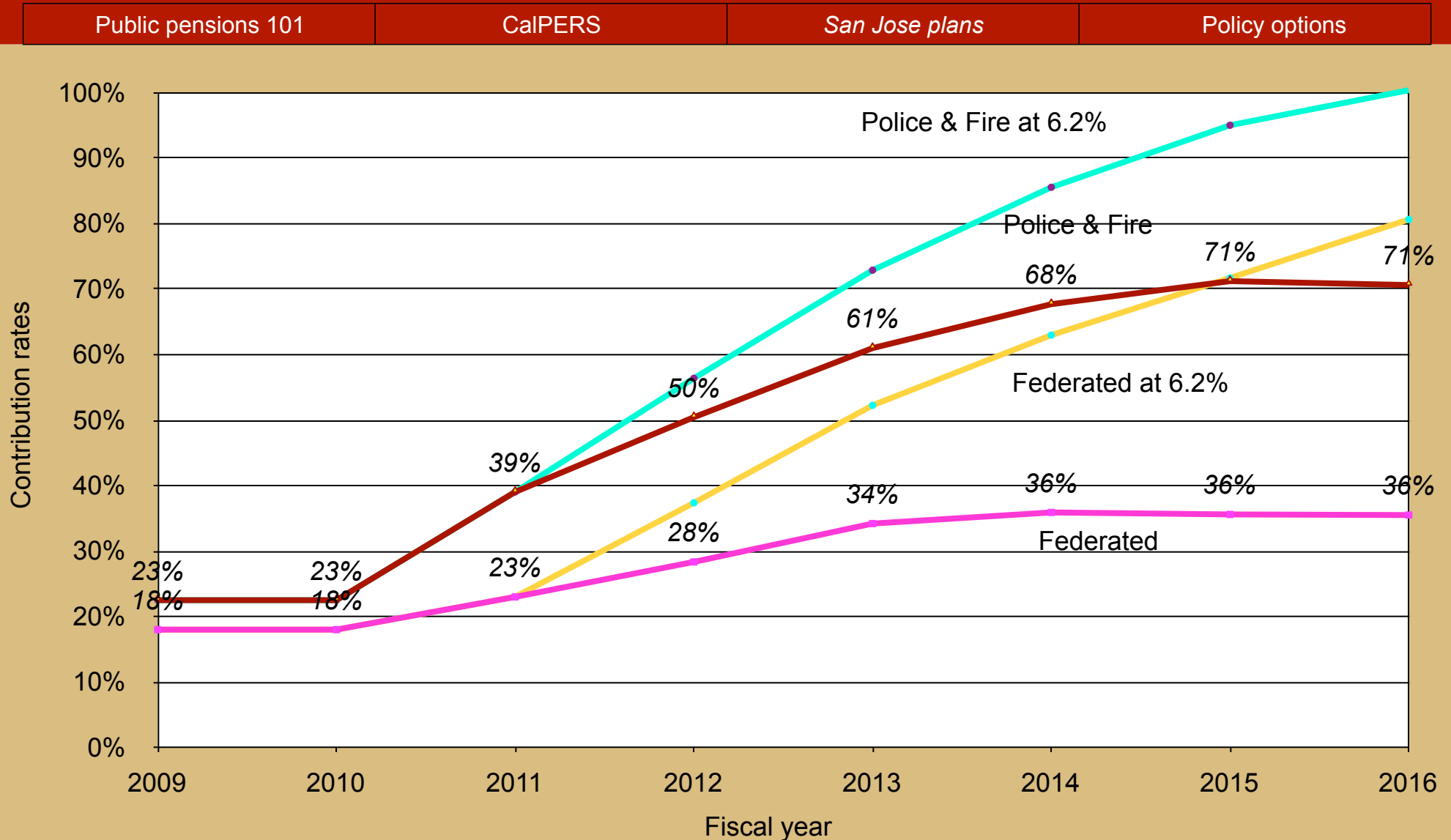
Declining Payroll Will Make These Even Higher

Public pensions 101	CalPERS	San Jose plans	Policy options
---------------------	---------	----------------	----------------



Source: The Segal Company, City of San Jose Police and Fire Department Retirement Plan (Pension Plan Only), Actuarial Valuation and Review as of June 30, 2010, Dec. 2010; Cheiron, Federated City Employees' Retirement System, June 30, 2010 Actuarial Valuation, Dec. 2010 and city staff inputs.

With Investment Return Assumptions of 6.2%, Police & Fire Contribution Rate Exceeds 100%



Source: Based on changes in investment/discount rates reported by The Segal Company, *City of San Jose Police and Fire Department Retirement Plan (Pension Plan Only), Actuarial Valuation and Review as of June 30, 2010*, Dec. 2010, p. ii and Cheiron, *Federated City Employees' Retirement System, June 30, 2010 Actuarial Valuation*, Dec. 2010, p. 15.

Note: Assumes five-year phase in of new, higher contribution rates from 2012-2016.

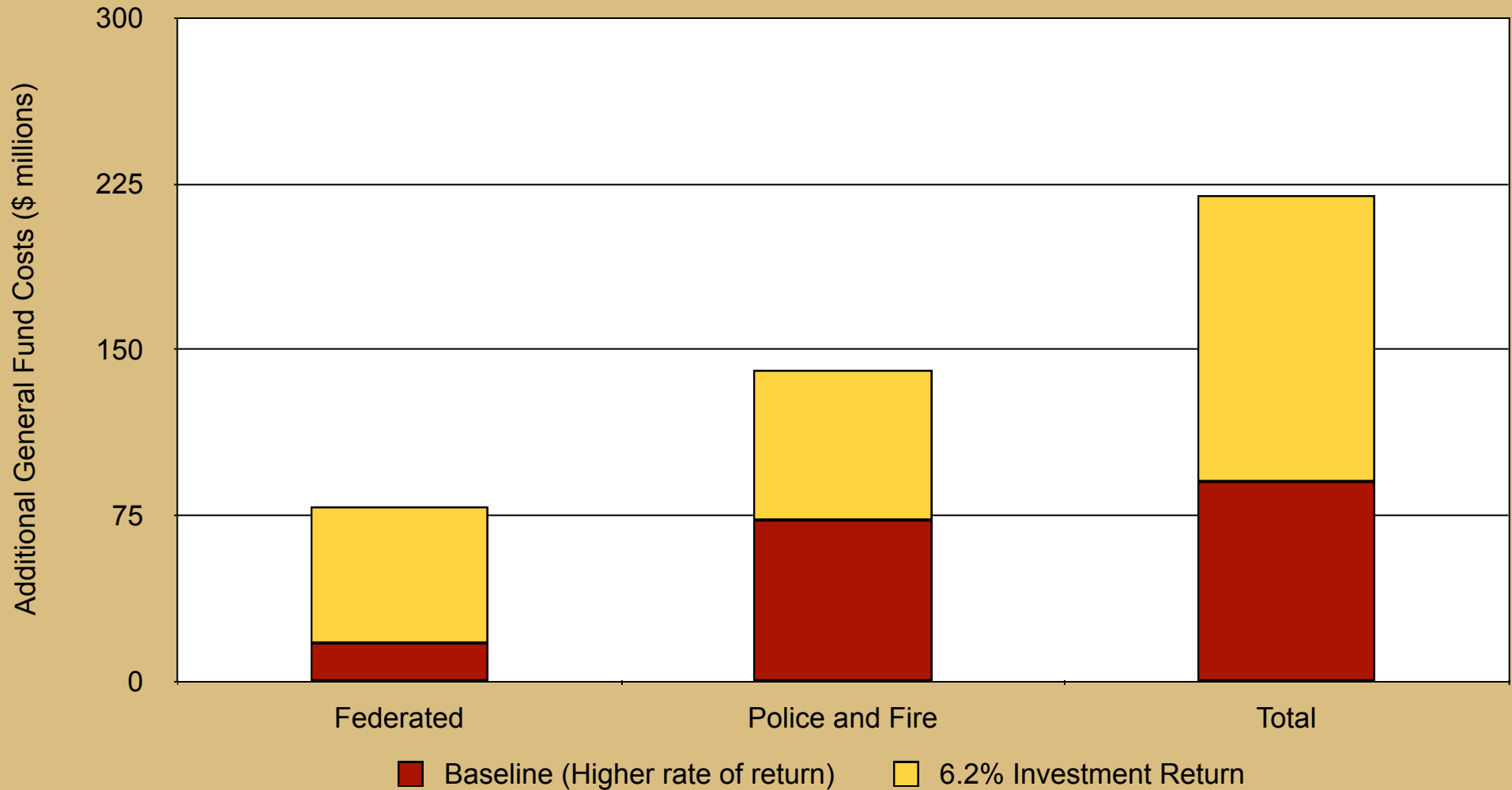
In Either Scenario, San Jose's General Fund Runs Short—Up to \$220 Million Per Year

Public pensions 101

CalPERS

San Jose plans

Policy options



Source: Based on reported contribution rates from The Segal Company, *City of San Jose Police and Fire Department Retirement Plan (Pension Plan Only), Actuarial Valuation and Review as of June 30, 2010*, Dec. 2010, p. ii and Cheiron, *Federated City Employees' Retirement System, June 30, 2010 Actuarial Valuation*, Dec. 2010, p. 15. Assumes 50% of Federated retirement paid from non-General Fund.

Optimistic Case Requires 11% General Fund Budget Reduction; Middle Case 27% by 2016

Public pensions 101

CalPERS

San Jose plans

Policy options

Investment Return Assumption	Required Reduction	Share of 2011-2012 Budget
Reported - Fed. 7.95% ¹ - Police/Fire 7.75%	\$90.4 million	11.0%
Historical average (6.2%)	\$219.7 million	26.8%

¹Declining to 7.75% next FY.

Source: Author's estimates based on five-year budget projections contained in 2011-2012 City Manager's Budget Request & 2012-2016 Five-Year Forecast and Revenue Projections, Feb. 2011, p. II-3. Estimated covered payroll based on annual projected Salaries and other compensation.

Large Cuts Are Required Across General Fund Budget Categories

Public pensions 101	CalPERS	San Jose plans	<i>Policy options</i>
---------------------	---------	----------------	-----------------------

Category	2011-2012 planned expenditures (\$ millions)	Example sub-categories and amounts (\$ millions)
Total general government departments	\$69.3	<ul style="list-style-type: none"> -City attorney \$9.3 -City auditor \$2.0 -Economic development \$5.3 -Finance \$11.7 -Human resources \$6.0 -Information technology \$13.2 -Independent police auditor \$1.0 -Mayor and city council \$8.8
Total public safety departments	\$446.6	<ul style="list-style-type: none"> -Fire \$151.7 -Police \$294.9
Total capital maintenance departments	\$51.0	<ul style="list-style-type: none"> -Public works \$26.4 -Transportation \$24.6
Total community services departments	\$91.7	<ul style="list-style-type: none"> -Library \$19.4 -Parks and rec. \$45.1 -Planning, building \$26.1
Total non-departmental uses	\$160.8	NA (transfers in, use of reserves)
Total use of funds	\$819.4	NA

Addressing Higher Shortfall Requires Eliminating Almost All Non-Safety Expenditures

Public pensions 101

CalPERS

San Jose plans

Policy options

Category	2011-2012 planned expenditures (\$)	Example sub-categories and amounts (\$ millions)
Total general government departments	\$69.3	<ul style="list-style-type: none"> - City attorney \$9.3 - City auditor \$2.0 - Economic development \$5.3 - Finance \$11.7 - Human resources \$6.0 - Information technology \$13.2 - Independent police auditor \$1.0 - Mayor and city council \$8.8 - Other \$12.0
Total public safety departments	\$446.6	<ul style="list-style-type: none"> - Fire \$151.7 - Police \$294.9
Total capital maintenance departments	\$51.0	<ul style="list-style-type: none"> - Public works \$26.4 - Transportation \$24.6
Total community services departments	\$91.7	<ul style="list-style-type: none"> - Library \$19.4 - Parks and rec. \$45.1 - Planning, building \$26.1
Total non-departmental uses	\$160.8	NA (transfers in, use of reserves)
Total use of funds	\$819.4	NA

Source: Author's estimates based on reported assets, liabilities. Risk-free based on estimated 18-year inflation-adjusted treasury rate (TIPS).

50% Across the Board Cuts in Non Safety Still Require 25% Public Safety Cuts

Public pensions 101	CalPERS	San Jose plans	Policy options
---------------------	---------	----------------	----------------

Category	2011-2012 planned expenditures (\$ millions)	Example sub-categories and amounts (\$ millions)
Total general government departments	\$69.3	<ul style="list-style-type: none"> -City attorney \$9.3 -City auditor \$2.0 -Economic development \$5.3 -Finance \$11.7 -Human resources \$6.0 -Information technology \$13.2 -Independent police auditor \$1.0 -Mayor and city council \$8.8
Total public safety departments	\$446.6	<ul style="list-style-type: none"> -Fire \$151.0 -Police \$294.9
Total capital maintenance departments	\$51.0	<ul style="list-style-type: none"> -Public works \$26.4 -Transportation \$24.6
Total community services departments	\$91.7	<ul style="list-style-type: none"> -Library \$19.4 -Parks and rec. \$45.1 -Planning, building \$26.1
Total non-departmental uses	\$160.8	NA (transfers in, use of reserves)
Total use of funds	\$819.4	NA

50% cuts

25% cuts

50% cuts

Source: Author's estimates based on reported assets, liabilities. Risk-free based on estimated 18-year inflation-adjusted treasury rate (TIPS).

New Revenue, Increased Employee Contributions Can Help Close the Gap

Public pensions 101

CalPERS

San Jose plans

Policy options

- 50% increase in property taxes raises \$100 million
- 1/4¢ increase in sales tax raises ~\$34 million annually
- Each additional 1% contribution amount from employees reduces shortfall \$5 million
- Political challenges for each option
- Reality is that all options: budget reductions, new revenues, and pension savings must be on table
- Delay costs more in long term

Contact Information

Joe Nation, Ph.D.
SIEPR
Stanford University
650-724-9532
jnation@stanford.edu