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## Oklahoma State Pension Commission

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### Summary of Actuarial Reports

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- **NEPC is asked to review the Oklahoma State Pension Plans from an actuarial standpoint**
- **Oklahoma Retirement System comprises seven plans**
  - Teachers' Retirement System of Oklahoma ("Teachers')
  - Oklahoma Public Employees Retirement ("OPERS")
  - Oklahoma Firefighters Pension and Retirement System ("Firefighters")
  - Oklahoma Police Pension and Retirement System ("Police")
  - Oklahoma Law Enforcement Retirement System ("Law Enforcement")
  - State of Oklahoma Uniform Retirement System for Justices and Judges ("Justices and Judges")
  - Retirement Plan for Full-Time Employees of the Department of Wildlife Conservation ("Wildlife")
- **Information contained in this report is based on July 1, 2013 Actuarial Valuation reports from plan actuaries<sup>1</sup> and system financial statements**
- **The goals of this presentation are:**
  - To present the funded position of the seven pension plans
  - To review the comprehensive return performance of both asset and liabilities
  - To assess the actuarial assumptions and methods for reasonability
  - To note changes in legislation that affect the plans

1. Buck Consultants, Cavanaugh Macdonald Consulting, and Gabriel, Roeder, Smith & Company

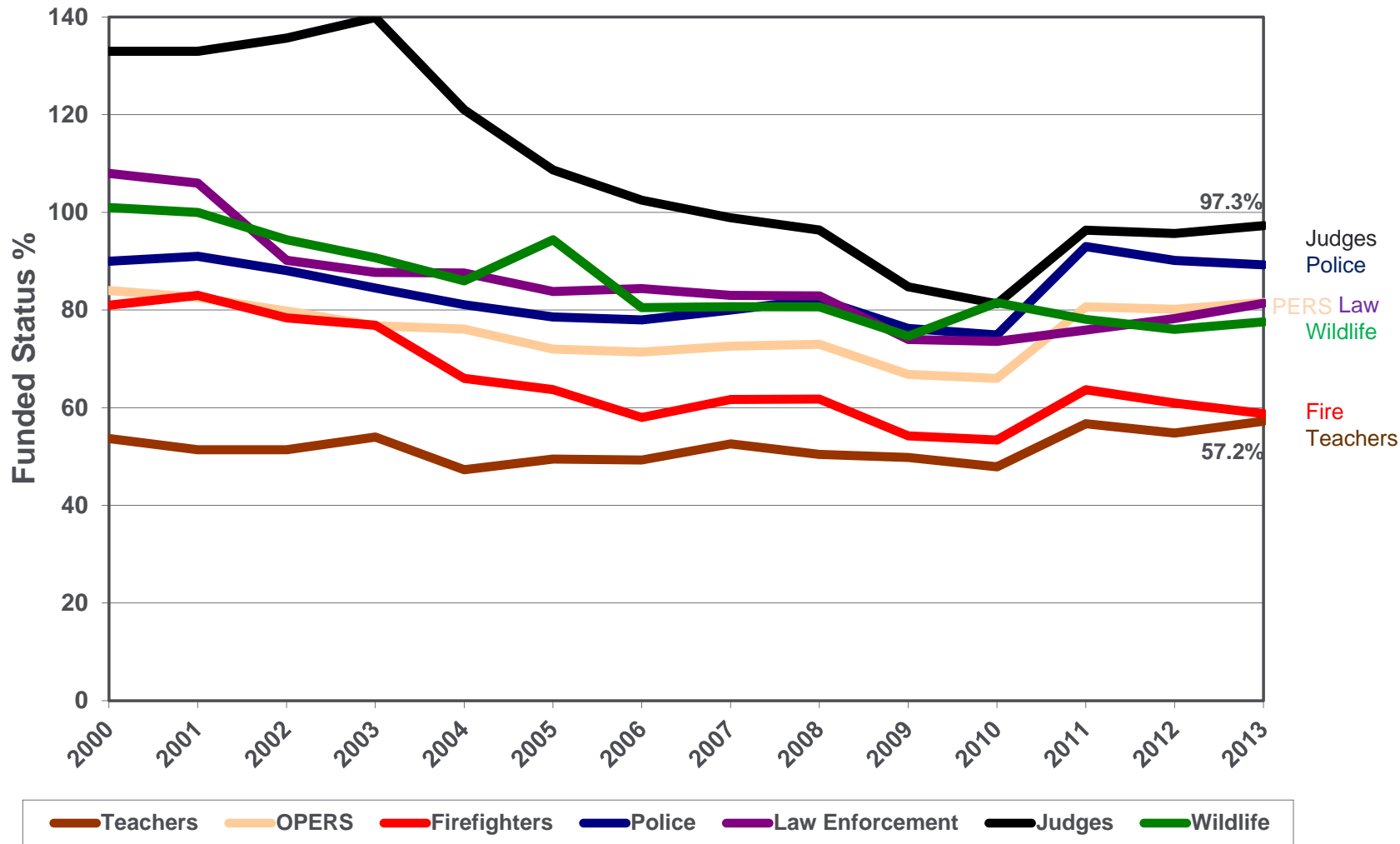
- **Funded status of the overall plans has increased since the July 2012 valuations**
  - Aggregate funded status for the plans was **66.5%** as of July 1, 2013, vs. 64.9% as of July 1, 2012
- **Average asset return on the plans' Market Value was 13.9% for the fiscal year ending June 30, 2013**
  - However, average asset return on the plans' Actuarial Value was **6.3%** for the fiscal year ending June 30, 2013
    - Gains and losses are recognized over 5 years
    - Last portion of the 2008-9 loss was recognized in fiscal 2013
    - 6.3% is lower than the assumed expected return in the plans of 7.0% to 8.0%
- **The Teachers' plan remains the largest and most poorly funded of the seven plans**
  - \$19.0 billion in liabilities, \$10.9 billion in assets, 57.2% funded
  - If current funding and benefit levels continue, Unfunded Accrued Liability will be funded after 17 years (was 22 years in 2012)
    - Prior to 2011, actuaries projected the period needed to fund Unfunded Accrued Liability as "infinite"

## System Summary – Funded Position

Plan	Actuarial Value of Assets (in millions)	Actuarial Accrued Liability (in millions)	Funded Status as of 7/1/2013	Funded Status as of 7/1/2012
Teachers	\$10,861	\$18,973	57.2%	54.8%
Public Employees (PERS)	\$6,979	\$8,556	81.6%	80.2%
Firefighters	\$1,812	\$3,082	58.8%	60.9%
Police	\$1,902	\$2,131	89.3%	90.2%
Law Enforcement	\$725	\$891	81.4%	78.3%
Judges	\$248	\$254	97.3%	95.7%
Wildlife	\$81	\$105	77.6%	76.1%
<b>Total</b>	<b>\$22,608</b>	<b>\$33,992</b>	<b>66.5%</b>	<b>64.9%</b>

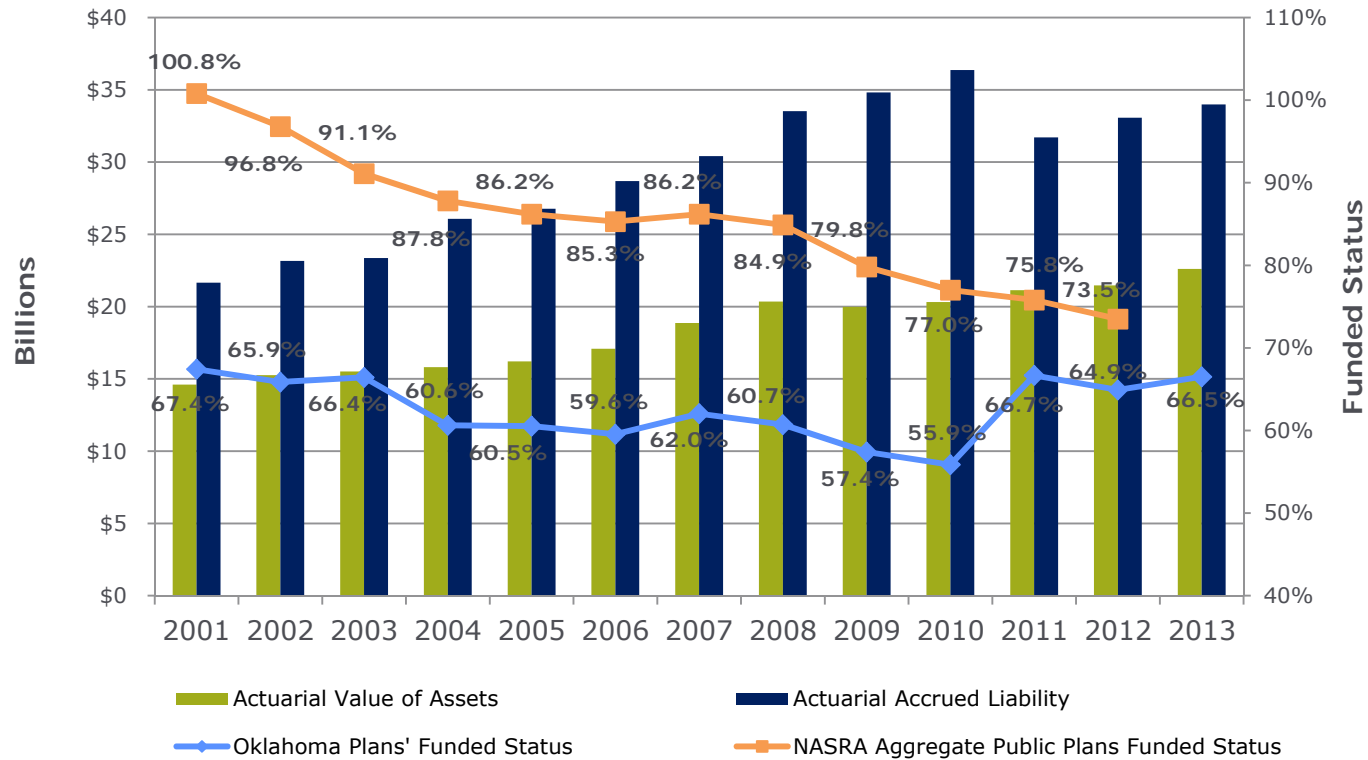
- **Overall funded status of the plans has increased since fiscal 2012**
  - Strong markets have led to higher than expected asset returns
    - 13.9% return on Market Value basis, 6.3% return on Actuarial Value basis
  - Meanwhile, total plan liabilities grew by 2.8% over the last year
  - In addition, liability gains from Teachers plan payroll increasing less than assumed also helped boost that plan’s funded status

# Funded Status History (Actuarial Basis)



Sources: 2000 to 2009: Buck Consultants, Milliman Consultants and Actuaries, and Gabriel, Roeder, Smith & Company  
 2010 and later: Buck Consultants, Cavanaugh Macdonald Consulting, and Gabriel, Roeder, Smith & Company

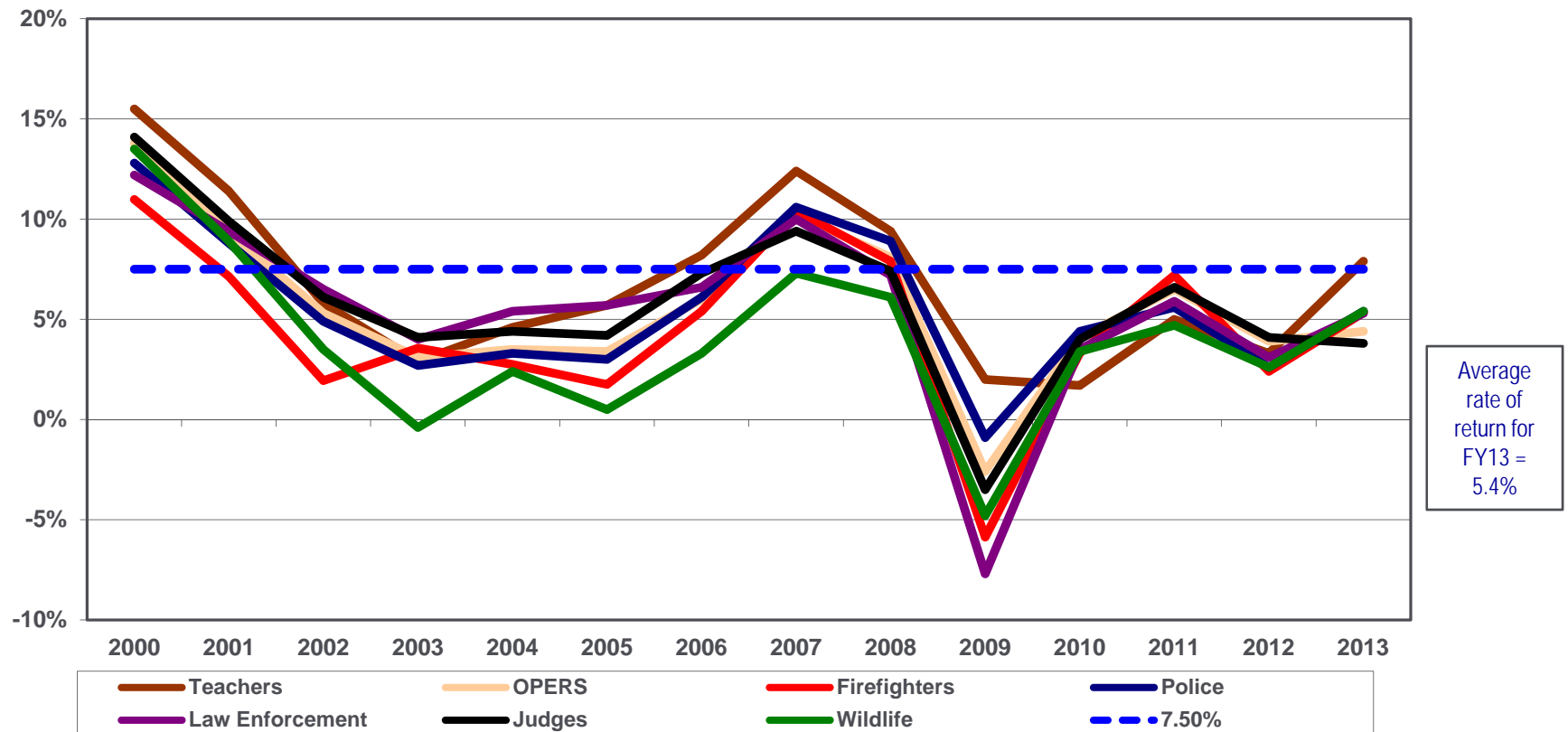
## Funded Status History vs. Average Public Fund (Combined Plans)



- The Oklahoma plans' aggregate funded status has consistently trailed the funded status of the average public plan<sup>1</sup>
- However, there has been some convergence since 2011, after legislative changes were implemented in Oklahoma regarding COLAs

1. Average public plan results from the Public Fund Survey Summary Findings for FY 2012 (published December 2013 by the National Association of State Retirement Administrators), representing 85% of the state/local government pension community

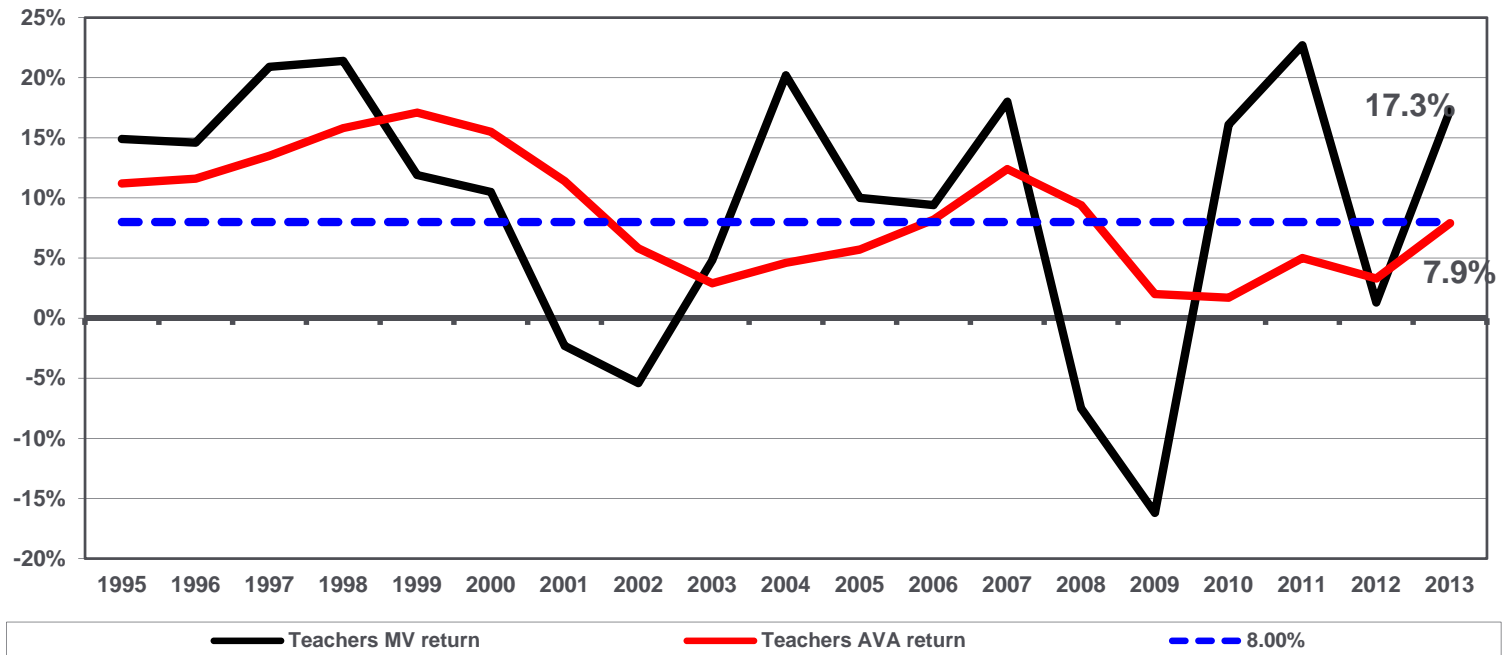
## Investment Return on Actuarial Value of Assets



- Largely due to 2008-09 losses, actuarial investment returns have fallen short of expected return assumptions over the last several years
- However the 2008-09 losses were fully recognized as of June 30, 2013, so fiscal 2014 Actuarial Value will start to see more gains

Sources: 2000 to 2009: Buck Consultants, Milliman Consultants and Actuaries, and Gabriel, Roeder, Smith & Company  
 2010 and later: Buck Consultants, Cavanaugh Macdonald Consulting, and Gabriel, Roeder, Smith & Company

## Investment Return (Teachers' Plan)



- The Teachers' plan has the highest assumed return of all the Oklahoma plans at 8.0%
- Actuarial Value tends to lag the Market Value as gains and losses are smoothed in over 5 years
  - Helps smooth fluctuations in funded status and keep expected return close to assumed rate
- FY 2013 was last year for partial recognition of large fiscal 2009 losses, meaning the Actuarial Value will now be recognizing only gains next year (plus a portion of fiscal 2014 returns)

Sources: 1999 and earlier: R.V. Kuhns & Associates. 2000 and later: Gabriel, Roeder, Smith & Company



- **House Bill 2078 (Firefighters)**
  - Increased the amount of gross salary contributed by paid firefighters from 8% to 9%
  - Increased the amount of gross salary contributed by municipalities and fire districts from 13% to 14%
  - Increased the portion of statewide insurance premium tax allocated to the System from 34% to 36%
- **Senate Bill 1101 (Firefighters)**
  - In conjunction with House Bill 2078:
    - Increased the eligibility to retire to age 50 with 22 years of service
    - Increased the eligibility for a vested benefit to 11 years
    - Changed the interest earned on DROP accounts to be the rate earned by System assets, less one percentage point, once the member has left active DROP
- **House Bill 1325 (OPERS)**
  - Changed the definition of “Final Average Salary” for new members such that members will have their salary averaged over the highest five of the last ten years instead of highest three of the last ten years

## System Summary – Cost and Contributions

- The following table summarizes the post-employee contribution requirements and mandated contribution rates for the 2013 and 2014 fiscal years

Pension Plan	FY 2013 Contribution Requirements			FY 2014 Contribution Requirements	
	Total post-EE Contribution as % Pay	Total post-EE Contribution Required (\$)	Actual post-EE Contribution (\$)	Total post-EE Contribution as % Pay	Total post-EE Contribution Required (\$)
Teachers	15.1%	\$620	\$701	14.6%	\$603
OPERS	15.7%	\$257	\$270	15.3%	\$259
Firefighters	62.1%	\$159	\$111	66.5%	\$162
Police	30.1%	\$79	\$66	32.6%	\$90
Law Enforcement	62.5%	\$45	\$28	59.6%	\$44
Judges	22.2%	\$7	\$4	21.0%	\$7
Wildlife	29.1%	\$4	\$4	30.1%	\$4
<b>Total as % of Payroll</b>	<b>18.6%</b>		<b>18.8%</b>	<b>18.6%</b>	
<b>Total in Millions \$</b>	<b>\$1,171</b>	<b>\$1,171</b>	<b>\$1,184</b>	<b>\$1,169</b>	<b>\$1,169</b>

- For fiscal year ending 2013, the GASB recommended contribution to the Oklahoma pension plans was \$1.171 billion, or 18.6% of total payroll
  - \$1.18 billion was actually contributed, or 101% of required amount (ARC)
  - Average percentage of Required Contribution (ARC) paid by public plans was approximately 88% in 2012<sup>1</sup>
- For fiscal year ending 2014, the GASB recommended contribution was \$1.170 billion and 18.6% of payroll, similar to last year

1. Results from the Public Fund Survey Summary Findings for FY 2012, published December 2013 by the National Association of State Retirement Administrators

## Contribution History – State and Municipalities

### Required Employer Contribution (assuming GASB 25 funding requirements) - After reduction for estimated Employee contributions

	7/1/03	7/1/04	7/1/05	7/1/06	7/1/07	7/1/08	7/1/09	7/1/10	7/1/11	7/1/12	7/1/13
Teachers*	\$535	\$722	\$535	\$576	\$591	\$714	\$742	\$822	\$588	\$620	\$603
OPERS	\$257	\$266	\$310	\$339	\$364	\$323	\$389	\$402	\$240	\$257	\$259
Firefighters**	\$74	\$107	\$118	\$147	\$147	\$158	\$187	\$196	\$142	\$159	\$162
Police**	\$64	\$74	\$85	\$95	\$101	\$103	\$132	\$147	\$65	\$79	\$90
Law Enforcement**	\$25	\$25	\$30	\$33	\$33	\$37	\$48	\$50	\$49	\$45	\$44
Judges	\$0	\$2	\$4	\$6	\$8	\$8	\$11	\$13	\$7	\$7	\$7
Wildlife	\$2	\$2	\$3	\$3	\$3	\$3	\$4	\$3	\$4	\$4	\$4
<b>Total</b>	<b>\$956</b>	<b>\$1,198</b>	<b>\$1,086</b>	<b>\$1,197</b>	<b>\$1,246</b>	<b>\$1,374</b>	<b>\$1,514</b>	<b>\$1,633</b>	<b>\$1,094</b>	<b>\$1,171</b>	<b>\$1,169</b>

### Actual Employer Contribution

	7/1/03	7/1/04	7/1/05	7/1/06	7/1/07	7/1/08	7/1/09	7/1/10	7/1/11	7/1/12	7/1/13
Teachers*	\$375	\$406	\$460	\$536	\$597	\$619	\$621	\$638	\$682	\$701	TBD
OPERS	\$134	\$140	\$171	\$198	\$220	\$243	\$260	\$253	\$263	\$270	TBD
Firefighters**	\$23	\$82	\$82	\$118	\$83	\$83	\$82	\$92	\$101	\$111	TBD
Police**	\$24	\$49	\$50	\$56	\$56	\$59	\$55	\$56	\$61	\$66	TBD
Law Enforcement**	\$13	\$21	\$22	\$24	\$25	\$25	\$23	\$25	\$26	\$28	TBD
Judges	--	\$1	\$1	\$1	\$2	\$2	\$9	\$3	\$4	\$4	TBD
Wildlife	\$1	\$3	\$3	\$3	\$3	\$3	\$4	\$3	\$4	\$4	TBD
<b>Total</b>	<b>\$570</b>	<b>\$701</b>	<b>\$788</b>	<b>\$936</b>	<b>\$986</b>	<b>\$1,034</b>	<b>\$1,054</b>	<b>\$1,070</b>	<b>\$1,141</b>	<b>\$1,184</b>	<b>TBD</b>

### Percent of Required Employer Contribution Actually Contributed

	7/1/03	7/1/04	7/1/05	7/1/06	7/1/07	7/1/08	7/1/09	7/1/10	7/1/11	7/1/12	7/1/13
Teachers*	70%	56%	86%	93%	101%	87%	84%	78%	116%	113%	TBD
OPERS	52%	53%	55%	58%	61%	75%	67%	63%	110%	105%	TBD
Firefighters**	31%	77%	70%	80%	56%	53%	44%	47%	71%	70%	TBD
Police**	38%	66%	59%	59%	56%	57%	41%	38%	94%	84%	TBD
Law Enforcement**	53%	85%	73%	75%	77%	68%	48%	50%	53%	62%	TBD
Judges	0%	23%	18%	20%	22%	27%	81%	24%	57%	57%	TBD
Wildlife	60%	119%	96%	104%	97%	100%	100%	100%	108%	96%	TBD
<b>Total</b>	<b>60%</b>	<b>58%</b>	<b>73%</b>	<b>78%</b>	<b>79%</b>	<b>75%</b>	<b>70%</b>	<b>66%</b>	<b>104%</b>	<b>101%</b>	<b>TBD</b>

\* Teachers plan contributions include State, Employer, and Federal funds

\*\* Contributions include State and Agency or Municipality funds

## System Summary – Contribution Rates

- The following table summarizes the current Employee and Employer contribution rates as of July 1, 2013 as a % of payroll

Pension Plan	EE Contribution Rate	Employer + Federal Mandated Contrib rate	Municipality / Agency Mandated Contrib rate	State Mandated Contrib rate
Teachers	7.0%	EESIP: 9.5% Non-EESIP: 8.55% Federal grants: 8.25%*		5% of tax and lottery revenue
OPERS	3.5%			16.5%
Firefighters	9.0%*		14.0%*	36% of insurance premium tax*
Police	8.0%		13.0%	14% of insurance premium tax + a % of special tax credit fund
Law Enforcement	8.0%		11.0%	5.0% of insurance premium tax + 1.2% of drivers license tax
Judges	8.0%			14.5%*
Wildlife	5.0%			

\* Represent FY 2014 rates

- For comparison purposes:**
  - Median public plan employee contribution rates are 5.7% if participating in Social Security, 8.0% if not <sup>1</sup>
  - Median public plan employer contribution rates are 10.6% if participating in Social Security, 14.7% if not <sup>1</sup>

1. Results from the Public Fund Survey Summary Findings for FY 2012, published December 2013 by the National Association of State Retirement Administrators

## System Summary - Characteristics and Assumptions

- **The plans' assumptions are within a reasonable range**
- **All plans employ Entry Age Normal actuarial cost method, which is conservative**
- **All plans have in place long term amortization schedules to fund the Unfunded Accrued Liability**
  - However some schedules are "open" (re-determined each year) and some "closed"
  - Some plans with "closed" amortization schedules are currently amortizing over 5 or 8 years (Police and Law Enforcement, respectively)
  - These are shorter amortization timeframes than some other plans currently amortizing over ...
    - 14 years (Judges and OPERS)
    - 20 years (Firefighters)
    - 30 years (Teachers)
- **All plans employ similar actuarial asset valuation methods, where gains and losses are smoothed over 5 years**
- **Investment return assumptions (8.0% for Teachers, 7.0% for Wildlife, 7.5% for all other plans) are in line with other public funds; but these (particularly 8.0% assumption) have faced increased pressure lately**
  - Median discount rate for public plans was 7.8% in 2012<sup>1</sup>; further declines are likely
  - Sample NEPC public fund client: Our 5-7 year expected return remained the same at 6.1%; 30-year expected return increased from 7.0% in 2013 to 7.3% in 2014

1. Results from the Public Fund Survey Summary Findings for FY 2012, published December 2013 by the National Association of State Retirement Administrators

## Summary and Conclusions

- **In aggregate, the State's plans are 66.5% funded as of June 30, 2013**
  - Funded status increased slightly in 5 out of 7 plans (only Firefighters and Police plans had declining funded statuses)
  - Teachers' plan is the least funded at 57.2%
- **Strong asset performance in the 2013 fiscal year has helped boost funded status**
  - In addition, some employees' payroll less than assumed created lower liabilities than expected
- **Plans continue to take steps to increase contribution rates to help fund liabilities**
  - Firefighters has increased members' and municipality contribution rates
  - Justices and Judges has scheduled increases each year until the employer contribution rate reaches 22% in FY2019 (currently 14.5%)
- **The plans' assumptions are within a reasonable range, but subdued investment return expectations are putting pressure on long-term ROA assumptions for many plans**
- **Rating agencies continue to scrutinize states and municipalities for debt ratings – pension plan health is one item for review**