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## Oklahoma State Pension Commission

### Summary of Actuarial Reports

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# Introduction

- **NEPC is asked to review the Oklahoma State Pension Plans from an actuarial standpoint**
- **Retirement System comprises seven plans (Teachers, OPERS, Firefighters, Police, Law Enforcement, Judges, and Wildlife)**
- **Information contained in this report is based on July 1, 2010 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 review the actuarial assumptions and methods for reasonability
- **In June of 2010, NEPC provided various options to improve the funded status of the plans**
  - Some of the options may not have been feasible for the State to pursue
  - Some of the options may have been researched further by the plans' actuaries and plan administrators
  - Any actual benefit changes that were introduced will need to have the cost impact calculated by the plans' actuaries

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

## System Summary

- **Funded status of each plan declined since the July 2009 valuations, except for Wildlife Plan**

- Average asset return on the plans' Market value was **12.8%** for the fiscal year ending June 30, 2010 – higher than the 7.5% or 8.0% assumed
- However, asset smoothing is still recognizing losses from 2008-09
  - Gains and losses recognized over 5 years for Actuarial value of assets
  - Average asset return on the plans' Actuarial value was **3.5%** for the fiscal year ending June 30, 2010 – lower than the 7.5% or 8.0% assumed
  - Asset smoothing helps dampen both losses and gains for funded status purposes

- **Teachers' plan remains the largest and most poorly funded of the seven plans**

- \$20.0 billion in liabilities, \$9.6 billion in assets, 47.9% funded
- Actuaries project the period needed to fund Unfunded Accrued Liability as "infinite", if current funding and benefit levels continue
- Statutory contribution levels are insufficient to cover normal cost and interest on UAAL, therefore negative amortization is occurring

- **Legislative and assumption changes since last year were made**

- Teachers plan: Assumption changes increased liabilities by \$358 million
- PERS: Voluntary buyout offer was made to encourage retirements in 2010
- Wildlife plan: Froze the current plan to new entrants as of June 30, 2010
  - Increased employee contributions to 4% this year, and up to 5% as of June 30, 2011
  - Various assumptions were modified to reflect the new closed plan

## System Summary – Funded Position

- The funded status of the Oklahoma state pension plans as of June 30, 2010 is summarized below:

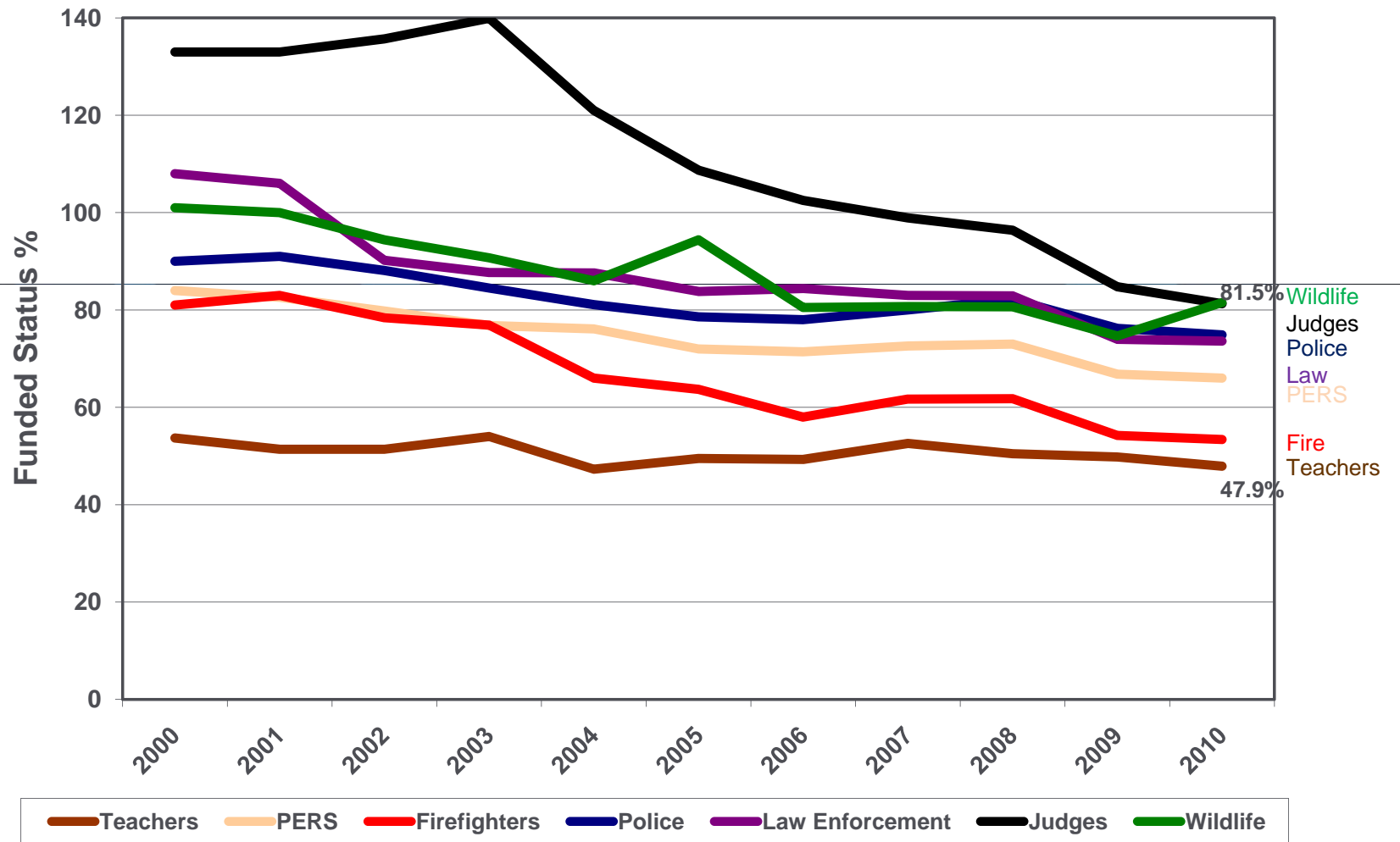
Plan	Actuarial Value of Assets (in \$000's)	Actuarial Accrued Liability (in \$000's)	Funded Status as of 7/1/2010	Funded Status as of 7/1/2009
Teachers	\$9,567	\$19,981	47.9%	49.8%
Public Employees (PERS)	\$6,348	\$9,623	66.0%	66.8%
Firefighters	\$1,682	\$3,149	53.4%	54.2%
Police	\$1,754	\$2,342	74.9%	76.2%
Law Enforcement	\$665	\$904	73.6%	74.0%
Judges	\$230	\$283	81.3%	84.8%
Wildlife	\$71	\$88	81.5%	74.7%
<b>Total</b>	<b>\$20,317</b>	<b>\$36,370</b>	<b>55.9%</b>	<b>57.4%</b>

- The funded status for each plan, except Wildlife, declined since July 1, 2009
  - Asset returns were positive, but actuarial asset values are smoothed over 5 years and are still recognizing losses from 2008-2009
    - 12.8% return on Market value, 3.5% return on Actuarial Value
  - Liabilities continue to grow at a steady pace
  - Wildlife plan made significant changes to both assumptions and benefit provisions in order to decrease costs
- For comparison purposes, the average funding level for public pensions is 79.8% as of the end of FY 2009 <sup>1</sup>

1. Results from the Public Fund Survey Summary Findings for FY 2009, published November 2010 by the National Association of State Retirement Administrators

# Funded Status History

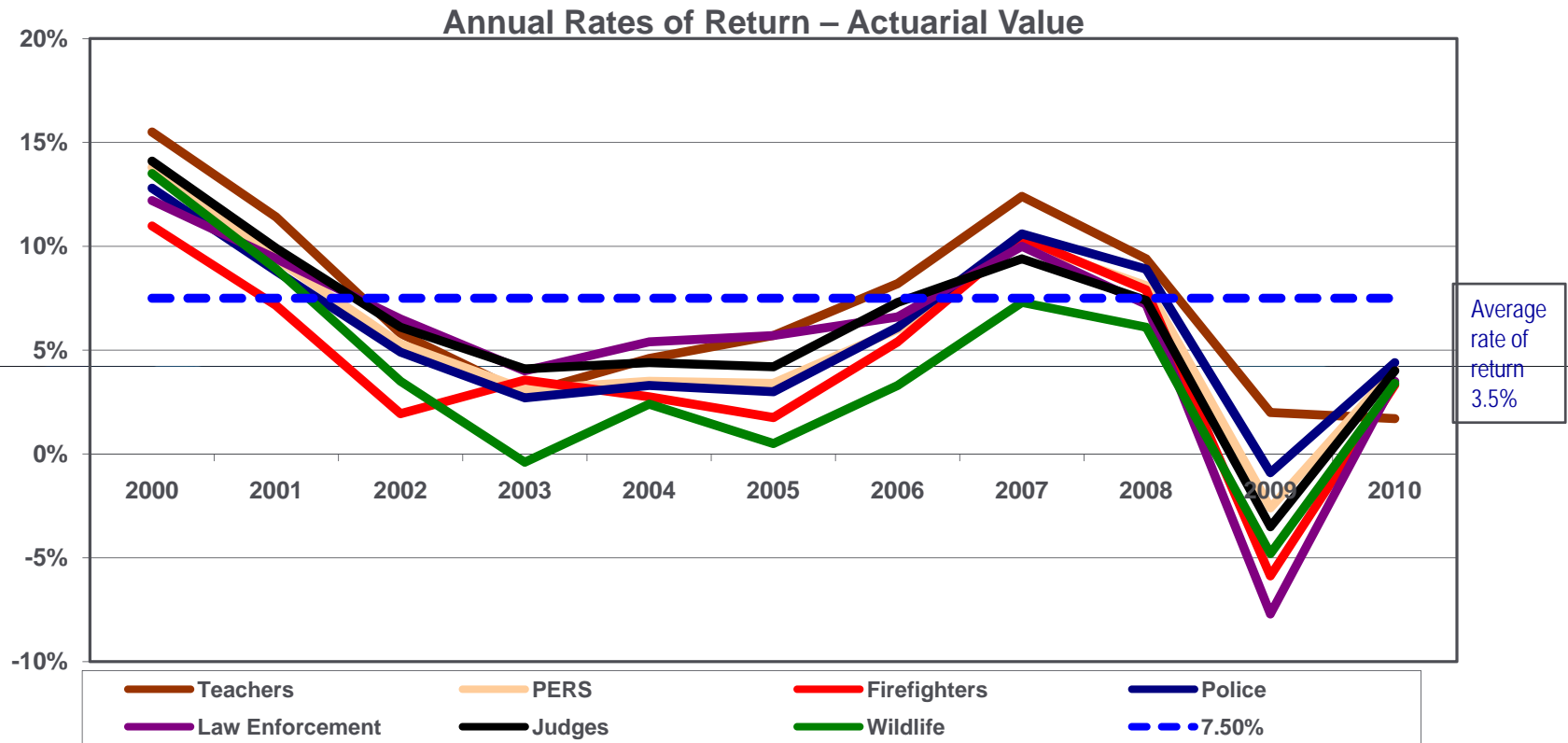
## Funded Status History on an Actuarial Basis



Sources: 1999 and earlier: R.V. Kuhns & Associates,  
 2000 and later: Buck Consultants, Milliman Consultants and Actuaries, and Gabriel, Roeder, Smith & Company  
 2010: Buck Consultants, Cavanaugh Macdonald Consulting, and Gabriel, Roeder, Smith & Company



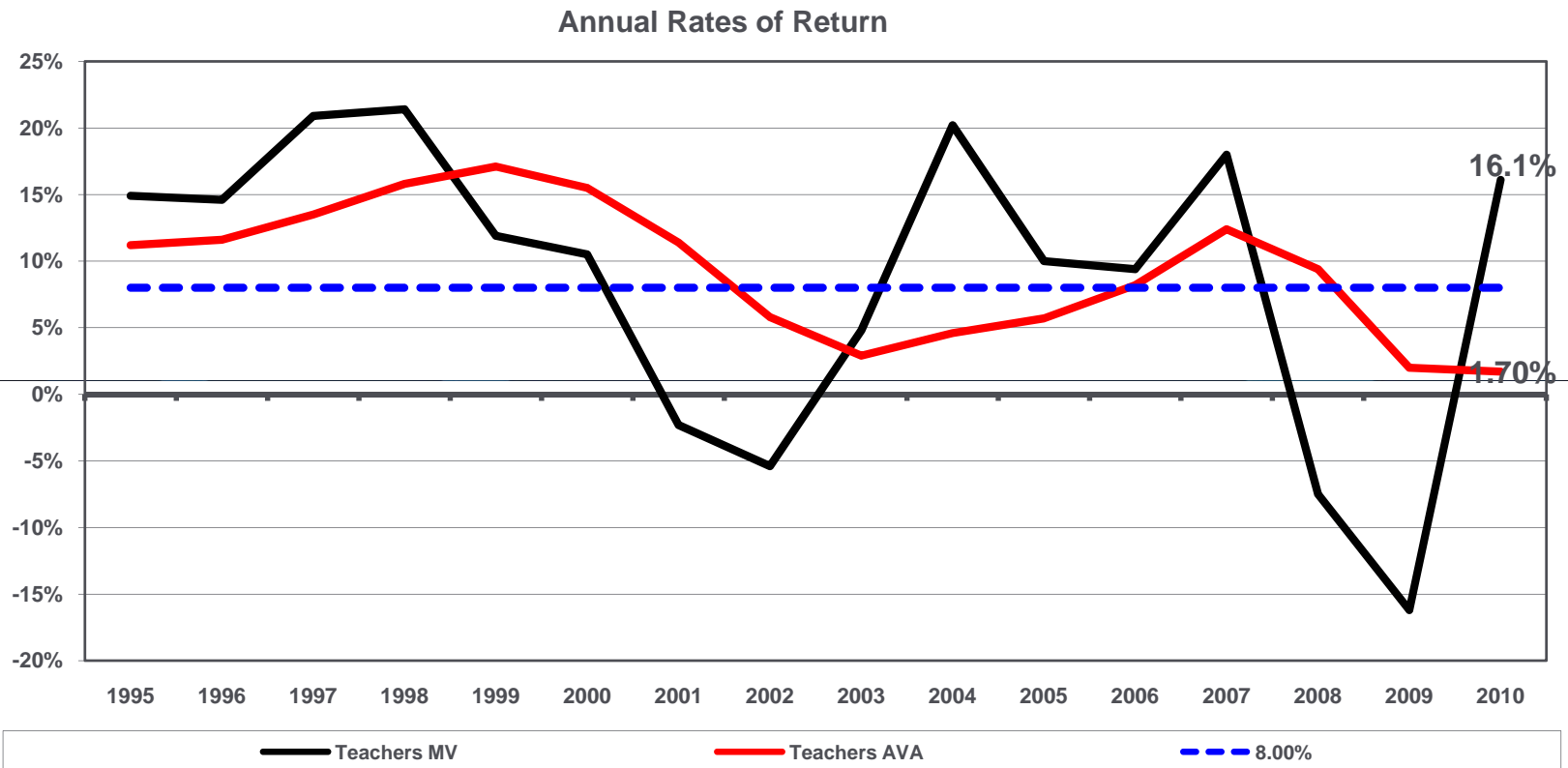
# Investment Return on Actuarial Value of Assets



- **Asset declines from the market crisis of 2008-09 are still being reflected**
- **Asset smoothing methods help dampen the losses (and gains) over 5 years**

Sources: 1999 and earlier: R.V. Kuhns & Associates,  
 2000 and later: Buck Consultants, Milliman Consultants and Actuaries, and Gabriel, Roeder, Smith & Company  
 2010: Buck Consultants, Cavanaugh Macdonald Consulting, and Gabriel, Roeder, Smith & Company

# Investment Return on Teachers' Plan



- **Market Value reflects strong performance in 2009-2010**
- **Actuarial Value lags behind Market Value, as losses and gains are reflected over 5 years due to smoothing method**

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

# System Summary – Cost and Contributions

- The following table summarizes the post-Employee contribution requirements and mandated contribution rates for the 2010 and 2011 fiscal years

Pension Plan	FY 2010 Contribution Requirements			FY 2011 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	18.6%	\$742	\$621	20.4%	\$822
OPERS	22.2%	\$389	\$260	23.9%	\$402
Firefighters	75.8%	\$187	\$82	78.7%	\$196
Police	52.2%	\$132	\$55	58.8%	\$147
Law Enforcement	63.8%	\$48	\$23	68.2%	\$50
Judges	32.1%	\$11	\$9	35.7%	\$13
Wildlife	29.8%	\$4	\$4	21.4%	\$3
<b>Total as % of Payroll</b>	<b>23.9%</b>		<b>16.6%</b>	<b>25.7%</b>	
<b>Total in Millions \$</b>	<b>\$1,514</b>	<b>\$1,514</b>	<b>\$1,054</b>	<b>\$1,633</b>	<b>\$1,633</b>

- For fiscal year ending 2010, the GASB recommended contribution to the Oklahoma pension plans was \$1.52 billion (23.9% of payroll)
  - \$1.05 billion was actually contributed, or 70% of required amount (ARC)
- Average percentage of Required Contribution (ARC) paid by public plans was 88% in 2009<sup>1</sup>
- For fiscal year ending 2011, the GASB recommended contribution is \$1.63 billion (or 25.7% of payroll)

1. Results from the Public Fund Survey Summary Findings for FY 2009, published November 2010 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

	7/1/01	7/1/02	7/1/03	7/1/04	7/1/05	7/1/06	7/1/07	7/1/08	7/1/09	7/1/10
Teachers*	\$556	\$585	\$535	\$722	\$535	\$576	\$591	\$714	\$742	\$822
OPERS	\$188	\$233	\$257	\$266	\$310	\$339	\$364	\$323	\$389	\$402
Firefighters**	\$63	\$77	\$74	\$107	\$118	\$147	\$147	\$158	\$187	\$196
Police**	\$55	\$72	\$64	\$74	\$85	\$95	\$101	\$103	\$132	\$147
Law Enforcement**	\$11	\$23	\$25	\$25	\$30	\$33	\$33	\$37	\$48	\$50
Judges	\$1	\$0	\$0	\$2	\$4	\$6	\$8	\$8	\$11	\$13
Wildlife	\$1	\$2	\$2	\$2	\$3	\$3	\$3	\$3	\$4	\$3
<b>Total</b>	<b>\$875</b>	<b>\$991</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>

## Actual Employer Contribution

	7/1/01	7/1/02	7/1/03	7/1/04	7/1/05	7/1/06	7/1/07	7/1/08	7/1/09	7/1/10
Teachers*	\$365	\$362	\$375	\$406	\$460	\$536	\$597	\$619	\$621	TBD
OPERS	\$140	\$138	\$134	\$140	\$171	\$198	\$220	\$243	\$260	TBD
Firefighters**	\$69	\$73	\$23	\$82	\$82	\$118	\$83	\$83	\$82	TBD
Police**	\$42	\$44	\$24	\$49	\$50	\$56	\$56	\$59	\$55	TBD
Law Enforcement**	\$20	\$21	\$13	\$21	\$22	\$24	\$25	\$25	\$23	TBD
Judges	\$1	--	--	\$1	\$1	\$1	\$2	\$2	\$9	TBD
Wildlife	\$1	\$1	\$1	\$3	\$3	\$3	\$3	\$3	\$4	TBD
<b>Total</b>	<b>\$637</b>	<b>\$639</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>TBD</b>

## Percent of Required Employer Contribution Actually Contributed

	7/1/01	7/1/02	7/1/03	7/1/04	7/1/05	7/1/06	7/1/07	7/1/08	7/1/09	7/1/10
Teachers*	66%	62%	70%	56%	86%	93%	101%	87%	84%	TBD
OPERS	74%	59%	52%	53%	55%	58%	61%	75%	67%	TBD
Firefighters**	109%	95%	31%	77%	70%	80%	56%	53%	44%	TBD
Police**	77%	62%	38%	66%	59%	59%	56%	57%	41%	TBD
Law Enforcement**	191%	92%	53%	85%	73%	75%	77%	68%	48%	TBD
Judges	50%	0%	0%	23%	18%	20%	22%	27%	81%	TBD
Wildlife	100%	80%	60%	119%	96%	104%	97%	100%	100%	TBD
<b>Total</b>	<b>73%</b>	<b>64%</b>	<b>60%</b>	<b>58%</b>	<b>73%</b>	<b>78%</b>	<b>79%</b>	<b>75%</b>	<b>70%</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, 2010 as a % of payroll

Pension Plan	EE Contribution Rate	Employer + Federal Mandated Contrib rate	Municipality / Agency Mandated Contrib rate	State Mandated Contrib rate
Teachers	7.00%	EESIP: 9.5% Non-EESIP: 8.55% Federal grants: 6.5%		5% of tax and lottery revenue
OPERS	3.50%			15.5%*
Firefighters	8.00%		13.00%	34% of insurance premium tax
Police	8.00%		13.00%	14% of insurance premium tax + 26% of special fund
Law Enforcement	8.00%		10.00%	5.0% of insurance premium tax + 1.2% of drivers license tax
Judges	8.00%			10.00%*
Wildlife	4.00%			

\* Scheduled to increase in future years

- For comparison purposes:**
  - Median public plan Employee contribution rates are 5.0% if participating in Social Security, 8.0% if not <sup>1</sup>
  - Median public plan Employer contribution rates are 9.4% if plan is participating in Social Security, 12.7% if not <sup>1</sup>

1. Results from the Public Fund Survey Summary Findings for FY 2009, published November 2010 by the National Association of State Retirement Administrators

# System Summary – Legislative Changes

	Benefit Provisions	Assumption & Methods	Funding Methods	Legislative Changes that effected the pension calculations
Teachers	None	Various changes in retirement, termination, and disability assumptions per 2010 assumption study	As scheduled, Employer contributions increased to 9.5% for EESIP and 8.55% for Non-EESIP	HB 1935 - allows retiring employee a one-time change in election of benefit option SB 859 - allows retiree with a life annuity to choose an optional form within one year of marriage
OPERS	None	None	None	A Voluntary Buyout Offer was passed to encourage retirements in 2010 (full effect not reflected in July 1, 2010 valuation)
Firefighters	None	None	None	None
Police	None	None	None	None
Law Enforcement	Eliminated mandatory age 60 retirement age	None	None	SB 2130 - eliminated mandatory age 60 retirement age (no effect)
Justices and Judges	None	None	As scheduled, Employer contribution increased from 8.5% to 10.0%	None
Wildlife	Froze plan to new entrants on June 30, 2010	Multiple changes to retirement and termination rates, disability, mortality, and salary increases. Investment return assumption changed to 7.5%, CCLA assumption removed.	Employee contribution rate increased to 4%	None

- No major legislative changes were reflected in the July 1, 2010 valuations
- PERS Plan Voluntary Buyout Offer was not fully recognized in this valuation, but will be in the July 1, 2011 valuation

# System Summary - Characteristics and Assumptions

- **The plans' assumptions are within a reasonable range**
  - Funding methods
    - All plans employ Entry Age Normal funding method
    - A conservative funding schedule
  - Asset valuation methods
    - All plans employ similar (smoothed) asset valuation method
    - Smooths asset gains and losses over time
  - Investment return assumptions
    - 8.0% for Teachers plan, 7.5% for all other plans
    - Median discount rate for public plans is 8.0%<sup>1</sup>
  - Amortization schedules
    - All plans have in place long term amortization schedules to fund the Unfunded Accrued Liability
- **Teachers plan changed many assumptions in 2010 based on the assumption study performed by their actuary**
- **Wildlife plan changed many assumptions to better reflect plan experience in light of benefit and plan changes**

1. Results from the Public Fund Survey Summary Findings for FY 2009, published November 2010 by the National Association of State Retirement Administrators

# Submission of Information to State Pension Commission

- During the 2002 legislative session, legislation was adopted that requires information be submitted to the State Pension Commission by the following Retirement Boards:

	Valuation Results Under Prescribed Assumptions				Actual Valuation Results	
System	Required Contribution	Actual Contribution for Prior Year	Accrued Liability	Funded Status	Accrued Liability	Funded Status
Teachers	\$749	\$228	\$20,606	46.4%	\$19,981	47.9%
OPERS	\$330	\$260	\$9,662	65.7%	\$9,623	66.0%
Firefighters	\$147	\$54	\$3,090	54.4%	\$3,149	53.4%
Police	\$69	\$22	\$2,382	73.7%	\$2,342	74.9%
Law Enforcement	\$21	\$15	\$828	80.3%	\$904	73.6%
Judges	\$11	\$9	\$277	83.0%	\$283	81.3%

- Valuations are performed, for informational purposes only, using a prescribed set of assumptions (70 O.S. 2001, Section 17-106.1, Section H) for all plans
  - Interest rate of 7.5%
  - COLA assumption of 2%
  - Mortality table of RP 2000 Generational tables
  - Set amortization period of 30 years (level dollar), open period

# Submission of Information to State Pension Commission

- The following table summarizes the differences in the plans' assumptions versus the State mandated assumptions

Pension Plan	Interest Rate = 7.5%	Cost of Living Adjustment = 2%	Mortality Table = RP2000 Generational	Amortization = 30 years, open period, level \$
Teachers	8%	x	1994 tables	30 years, level %
OPERS	x	x	x	20 years, level % from July 1, 2007
Firefighters	x	x	1994 tables	30 years from July 1, 2003
Police	x	COLA assumption of 33% to 50% of active payroll increases for some retirees, min. 2% increase	x	30 years from 1988
Law Enforcement	x	COLA assumption of 4% every other year, others assumed 3.25% per year	x	20 years from July 1, 2001
Judges	x	x	x	20 years, level % from July 1, 2007

- Use of a discount rate higher than 7.5% will produce lower liabilities
- Use of COLA assumptions lower than 2% will produce lower liabilities
- Use of older mortality tables will produce slightly lower liabilities, depending on plan population
- Use of longer amortization period will decrease contribution amount

## Conclusions

- **In aggregate, the State's plans are 55.9% funded as of June 30, 2010**
  - Teachers' plan is the least funded at 47.9%
  - Current mandated contribution amounts are not sufficient to fund Unfunded Actuarial Accrued Liability
- **Although the plans had strong asset performance in the 2010 Fiscal Year, the market crisis losses of 2008-09 are still being reflected in the Actuarial value of assets and funded status of plans**
  - 5-year smoothing method means the large loss of 2008 will be reflected over the next 3 years, but may be offset by any gains
- **Scheduled future increases in Employer contributions are in place for two of the plans (PERS and Judges)**
- **Rating agencies will be scrutinizing States and Municipalities for debt ratings – pension plan health is one item for review**
- **Various options to reduce funding deficit were presented for consideration in June of 2010**