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Office of the State Actuary

“Securing tomorrow’s pensions today.”

**Actuarial Certification Letter
Report of the Combined
Actuarial Valuation
As of June 30, 2012
August 2013**

This report documents the results of an actuarial valuation of the retirement plans defined under Chapters 41.26, 41.32, 41.35, 41.37, 41.40, and 43.43 of the Revised Code of Washington. The primary purpose of this valuation is to determine contribution requirements for the retirement plans as of the June 30, 2012, valuation date consistent with the prescribed funding policies. These contribution requirements are purely informational since, according to state law, this “off-cycle” valuation is not used to determine contribution rates. This valuation also provides information on the funding progress and developments in the plans over the past year. This valuation report should not be used for other purposes. Please replace this report with a more recent report when available.

The valuation results summarized in this report involve calculations that require assumptions about future economic and demographic events. We believe that the assumptions and methods used in the underlying valuation are reasonable and appropriate for the primary purpose stated above. The use of another set of assumptions and methods, however, could also be reasonable and could produce materially different results. Actual results may vary from our expectations.

The assumptions used in this valuation for investment return, inflation, salary growth, and membership growth were prescribed by the Legislature. The Pension Funding Council (PFC) and the Law Enforcement Officers’ and Fire Fighters’ (LEOFF) Plan 2 Board adopted updates to the demographic assumptions as part of their review of the 2001 – 2006 *Experience Study* results and adoption of the associated contribution rates. Additionally, the LEOFF 2 Board adopted new disability assumptions in the 2010 Interim. See the [LEOFF 2 Disability Experience Study](#) available on the LEOFF 2 website. The Legislature was responsible for the selection of the actuarial cost and asset valuation methods. In our opinion, all methods, assumptions, and calculations are reasonable and are in conformity with generally accepted actuarial principles and standards of practice as of the date of this publication.

The Department of Retirement Systems (DRS) provided us with member and beneficiary data. We checked the data for reasonableness as appropriate based on the purpose of the valuation. The Washington State Investment Board (WSIB) and

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DRS provided financial and asset information. An audit of the financial and participant data was not performed. We relied on all the information provided as complete and accurate. In our opinion, this information is adequate and substantially complete for purposes of this valuation.

The asset smoothing method adopted during the 2003 Legislative Session (Chapter 11, Laws of 2003, E1) was intended to address the volatility of contribution rates under the aggregate funding method when used in combination with the existing asset allocation policy of WSIB. The combination of the current asset smoothing method with any other funding method or asset allocation policy may not be appropriate. The Legislature may need to revisit the application of the current asset smoothing method with the Plan 1 funding method as the duration of liabilities in those plans becomes shorter.

Under legislation enacted in 2009 (Chapter 561, Laws of 2009), the Unfunded Actuarial Accrued Liability (UAAL) in the Public Employees' Retirement System (PERS) and the Teachers' Retirement System (TRS) Plans 1 must be amortized over a rolling ten-year period, as a level percentage of projected system payroll. The projected payroll includes pay from current active members of PERS, the School Employees' Retirement System, the Public Safety Employees' Retirement System (PSERS), and TRS Plans 2/3 as well as projected payroll from future new members. This is a non-standard amortization method since it includes payroll outside the plan. Additionally, the new funding method includes minimum contribution rates effective at the beginning of the 2015-17 Biennium. All contributions required under this method are necessary to fully amortize the UAAL in these plans near the previous target date of June 30, 2024. Failure to make all future required contributions may result in premature plan insolvency.

During the 2012 Interim, the LEOFF 2 Retirement Board adopted a stable contribution rate policy for 2013-17. The adopted rates are shown in the **Actuarial Exhibits** section of this report. For additional details, please see the Executive Summary and Certification Letter in the 2011 LEOFF 2 Actuarial Valuation report, available on the [LEOFF 2 website](#).

During the 2012 Interim, the PFC adopted stable normal cost rates in PSERS and the Washington State Patrol Retirement System (WSPRS) to prevent a temporary rate decrease, followed by an expected contribution rate increase. This temporary funding policy produces contribution rates, at June 30, 2011, that exceed the requirements under the plans' actuarial cost method and long-term funding policy. In our opinion, this temporary funding policy is reasonable and consistent with the PFC's goals. The adoption of normal cost contribution rates for PSERS and WSPRS below the current stable normal cost rates could also be reasonable, but potentially inconsistent with the PFC's goals.



The undersigned, with actuarial credentials, meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. While this report is intended to be complete, we are available to offer extra advice and explanations as needed.

Sincerely,

Matthew M. Smith, FCA, EA, MAAA
State Actuary

Lisa A. Won, ASA, FCA, MAAA
Senior Actuary

Contribution Rates

Member and Employer Rate Summary				
	Plan 1		Plan 2/3	
	2012	2011	2012	2011
PERS				
Member*	6.00%	6.00%	4.83%	4.92%
Employer (Normal Cost)	4.94%	5.03%	4.94%	5.03%
Employer (Plan 1 UAAL)	4.21%	4.00%	4.21%	4.00%
Total Employer	9.15%	9.03%	9.15%	9.03%
TRS				
Member*	6.00%	6.00%	4.95%	4.96%
Employer (Normal Cost)	5.72%	5.73%	5.72%	5.73%
Employer (Plan 1 UAAL)	4.96%	4.48%	4.96%	4.48%
Total Employer	10.68%	10.21%	10.68%	10.21%
SERS				
Member*	N/A	N/A	4.59%	4.64%
Employer (Normal Cost)	N/A	N/A	5.59%	5.64%
Employer (PERS Plan 1 UAAL)	N/A	N/A	4.21%	4.00%
Total Employer	N/A	N/A	9.80%	9.64%
PSERS				
Member	N/A	N/A	6.07%	6.22%
Employer (Normal Cost)	N/A	N/A	6.07%	6.22%
Employer (PERS Plan 1 UAAL)	N/A	N/A	4.21%	4.00%
Total Employer	N/A	N/A	10.28%	10.22%
LEOFF				
Member	0.00%	0.00%	7.74%	7.57%
Employer	0.00%	0.00%	4.64%	4.54%
State (Normal Cost)	0.00%	0.00%	3.10%	3.03%
State (Plan 1 UAAL)	0.00%	0.00%	0.00%	0.00%
Total State	0.00%	0.00%	3.10%	3.03%
WSPRS				
Member	6.44%	6.31%	6.44%	6.31%
Employer (State)	7.76%	7.63%	7.76%	7.63%

Note: Employer rates exclude administrative expense rate.

*Plan 3 members do not contribute to the defined benefit plan.

Development of 2012 Employer/State Rates									
	PERS		TRS		SERS	PSERS	LEOFF		WSPRS
	Plan 1	Plan 2/3	Plan 1	Plan 2/3	Plan 2/3	Plan 2	Plan 1	Plan 2	
a. Total Normal Cost	10.94%	9.77%	11.72%	10.67%	10.18%	12.14%	0.00%	15.48%	14.20%
b. Member Normal Cost*	6.00%	4.83%	6.00%	4.95%	4.59%	6.07%	0.00%	7.74%	6.44%
c. Employer Contribution (a-b)	4.94%	4.94%	5.72%	5.72%	5.59%	6.07%	0.00%	7.74%	7.76%
d. Cost to Amortize UAAL	4.21%	4.21%	4.96%	4.96%	4.21%	4.21%	0.00%	0.00%	N/A
e. Total Employer Rate (c+d)**	9.15%	9.15%	10.68%	10.68%	9.80%	10.28%	0.00%	4.64%	7.76%

Employer rates exclude administrative expense rate.

*Plan 3 members do not contribute to the defined benefit plan.

**The state pays 20% of the total normal cost for LEOFF 2. This reduces the total employer contribution rate from 7.74% to 4.64%.

TRS Plan 2 Maximum Member Contribution Rates				
Valuation Year	Prior Max	Supplemental	Source	New Max
2012	8.64%	0.00%	N/A	8.64%
2011	8.64%	0.00%	N/A	8.64%
2010	8.63%	0.01%	C 5 L 11	8.64%
2009	8.63%	0.00%	N/A	8.63%
2008	8.63%	0.00%	N/A	8.63%
2007	8.55%	0.08%	C 101 L 08	8.63%
2006	7.76%	0.79%	C 50 L 07	8.55%
2005	7.75%	0.01%	C 33 L 06	7.76%
2004	7.75%	0.00%	N/A	7.75%
2003	7.75%	0.00%	N/A	7.75%
2002	7.75%	0.00%	N/A	7.75%
2001	7.75%	0.00%	N/A	7.75%
2000	7.75%	0.00%	N/A	7.75%
1999	6.59%	1.16%	C 247 L 00	7.75%
1998	6.59%	0.00%	N/A	6.59%
1997	N/A	N/A	N/A	6.59%

Note: Maximum member contribution rates change each year by 50% of the total supplemental contribution rates shown in the previous valuation.

WSPRS Plan 1/2 Maximum Member Contribution Rates				
Valuation Year	Prior Max	Supplemental	Source	New Max
2012	7.19%	0.00%	N/A	7.19%
2011	7.19%	0.00%	N/A	7.19%
2010	7.19%	0.00%	N/A	7.19%
2009	7.18%	0.01%	C 261 L 10	7.19%
2008	6.95%	0.23%	C 522 L 09	7.18%
2007	6.95%	0.00%	N/A	6.95%
2006*	N/A	N/A	N/A	6.95%

Note: Maximum member contribution rates change each year by 50% of the total supplemental contribution rates shown in the previous valuation.

* The original maximum contribution rate of 7% was decreased by 0.05% for C 87 L 07.

The tables on the following pages show the development of the normal cost rates. Consistent with current funding policy, the normal cost rates include minimum contribution rates to provide stable and adequate contribution rates over time. The minimum rates are a percent of the normal cost calculated under the Entry Age Normal (EAN) funding method. The percent varies by plan. Please see the **Glossary** for a more detailed explanation of EAN.

Development of Normal Cost Rates

(Dollars in Millions)	PERS 2/3	TRS 2/3	SERS 2/3	PSERS 2	LEOFF 2	WSPRS
1. Calculation of Member Normal Cost Rate						
a. Future Value of Fully Projected Benefits	\$188,840	\$88,443	\$22,938	\$6,521	\$65,777	\$5,680
b. Present Value of Fully Projected Benefits	\$28,796	\$10,240	\$3,893	\$488	\$9,202	\$1,019
c. Valuation Assets	22,653	7,758	3,100	180	7,222	982
d. Unfunded Fully Projected Benefits (b - c)	6,144	2,482	792	308	1,980	37
e. Past Liability Balance	58	225	76	0	0	10
f. Adjusted Unfunded (d - e)	\$6,086	\$2,257	\$717	\$308	\$1,980	\$27
Present Value of Projected Salaries to Current Members (PVS)						
g. Plan 1 PVS	N/A	N/A	N/A	N/A	N/A	\$411
h. Plan 2 PVS	56,029	6,540	4,430	2,532	16,768	349
i. Plan 3 PVS	13,969	34,524	6,759	N/A	N/A	N/A
j. Weighted PVS (2g + 2h + i)	\$126,026	\$47,604	\$15,619	\$5,064	\$33,535	\$1,520
k. Employee Normal Cost (f / j)	4.83%	4.74%	4.59%	6.07%	5.90%	1.78%
l. Employee Minimum Contribution Rate	3.96%	4.95%	4.22%	5.51%	7.74%	6.44%
m. Prior Year Employee Maximum Contribution Rate ¹	N/A	8.64%	N/A	N/A	N/A	7.19%
n. Employee Contribution Rate with Max/Min	4.83%	4.95%	4.59%	6.07%	7.74%	6.44%
o. Change In Plan Provisions (Laws of 2013)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
p. Employee Contribution Rate (n + o) ²	4.83%	4.95%	4.59%	6.07%	7.74%	6.44%
2. Calculation of Employer Normal Cost Rate						
a. Present Value of Fully Projected Benefits	\$28,796	\$10,240	\$3,893	\$488	\$9,202	\$1,019
b. Valuation Assets	22,653	7,758	3,100	180	7,222	982
c. Unfunded Benefits (a - b)	6,144	2,482	792	308	1,980	37
d. Present Value of Employee Contributions	2,706	310	203	154	990	14
e. Past Liability Balance	58	225	76	0	0	10
f. Employer Responsibility (c - d - e)	\$3,380	\$1,947	\$513	\$154	\$990	\$14
Present Value of Projected Salaries to Current Members (PVS)						
g. Plan 1 PVS	N/A	N/A	N/A	N/A	N/A	411
h. Plan 2 PVS	56,029	6,540	4,430	2,532	16,768	349
i. Plan 3 PVS	13,969	34,524	6,759	N/A	N/A	N/A
j. Total PVS (g + h + i)	\$69,997	\$41,064	\$11,189	\$2,532	\$16,768	\$760
k. Employer Normal Cost (f / j)	4.83%	4.74%	4.59%	6.07%	5.90%	1.78%
l. Employer Minimum Contribution Rate	3.96%	4.95%	4.22%	5.51%	7.74%	6.44%
m. Employer Contribution Rate with Minimum	4.83%	4.95%	4.59%	6.07%	7.74%	6.44%
n. Excess Employer Rate ¹	N/A	0.00%	N/A	N/A	N/A	0.00%
o. Rate to Amortize Past Liability Balance ³	0.11%	0.77%	1.00%	N/A	N/A	1.32%
p. Change In Plan Provisions (Laws of 2013)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
q. Employer Contribution Rate (m + n + o + p)	4.94%	5.72%	5.59%	6.07%	7.74%	7.76%
3. Normal Cost Rates Adopted for 2013-15⁴						
a. Employee Contribution Rate ⁵	4.92%	4.96%	4.64%	6.36%	8.41%	6.59%
b. Employer Contribution Rate ⁵	5.03%	5.73%	5.64%	6.36%	5.05%	7.91%
c. State Contribution Rate ⁵	N/A	N/A	N/A	N/A	3.36%	N/A
d. Total Contribution Rate (a + b + c)	9.95%	10.69%	10.28%	12.72%	16.82%	14.50%

Note: Totals may not agree due to rounding.

¹ WSPRS and TRS 2 employees pay 50% of the total normal cost, not to exceed an adjusted cap. The employer pays the excess.

² Plan 3 members do not contribute to the defined benefit plan.

³ WSPRS liability is attributable to past costs for improved survivor benefits. PERS, TRS, and SERS liability is attributable to past Plan 3 gain-sharing.

⁴ LEOFF 2 rates adopted by LEOFF 2 Board; all others adopted by PFC.

⁵ LEOFF 2 rate: 50% Employee, 30% Employer, 20% State.

Amortization of the Plan 1 Unfunded Actuarial Accrued Liability (UAAL)			
<i>(Dollars in Millions)</i>	PERS 1	TRS 1	LEOFF 1
a. Future Value of Fully Projected Benefits	\$27,952	\$20,249	\$10,001
b. Present Value of Fully Projected Benefits (PVFB)	\$12,514	\$9,111	\$4,132
c. Valuation Assets	\$8,521	\$7,145	\$5,562
d. Actuarial Present Value of Future Normal Costs	\$137	\$72	\$0
e. Balance of Plan 1 Benefit Improvements After 2009	\$132	\$59	N/A
f. UAAL (b - c - d - e)	\$3,725	\$1,836	(\$1,429)
g. Expected UAAL Contributions to 2013	N/A	N/A	\$0
h. Remaining UAAL (f - g)	\$3,725	\$1,836	(\$1,429)
i. Amortization Date	N/A	N/A	6/30/2024
j. Present Value of Projected Salaries*	\$91,579	\$38,153	\$12,019
k. Contribution Rate Before Adjustments (h / j)	4.07%	4.81%	(11.89%)
l. Minimum Contribution Rate	0.00%	0.00%	N/A
m. Maximum Contribution Rate, 2014-2015	6.00%	9.50%	N/A
n. Preliminary Contribution Rate**	4.07%	4.81%	(11.89%)
o. Plan 1 Benefit Improvements After 2009	0.14%	0.15%	N/A
p. Change In Plan Provisions (Laws of 2013)	0.00%	0.00%	0.00%
q. Contribution Rate to Amortize the UAAL (n + o + p)**	4.21%	4.96%	(11.89%)
Plan 1 UAAL Contribution Rates Adopted by PFC			
Contribution Rate Adopted for 2013-15	4.00%	4.48%	0.00%

Note: Totals may not agree due to rounding.

*Measured under the plan's amortization method.

**No LEOFF 1 UAAL contributions are required when the plan is fully funded under current methods and assumptions.

Actuarial Liabilities

Present Value of Fully Projected Benefits												
(Dollars in Millions)	PERS			TRS			SERS	PSERS	LEOFF			WSPRS
	Plan 1	Plan 2/3	Total	Plan 1	Plan 2/3	Total	Plan 2/3	Plan 2	Plan 1	Plan 2	Total	
Active Members												
Retirement	\$1,779	\$20,592	\$22,371	\$1,139	\$8,084	\$9,222	\$2,640	\$424	\$184	\$7,043	\$7,227	\$431
Termination	3	677	680	1	213	214	149	27	0	88	88	3
Death	13	191	204	6	70	76	31	3	2	65	67	4
Disability	3	137	140	0	8	8	14	2	1	406	407	2
Return of Contributions on Termination	2	292	293	0	16	16	24	19	0	82	82	2
Return of Contributions on Death	29	197	226	14	18	31	16	5	0	88	88	2
Total Active	\$1,829	\$22,086	\$23,915	\$1,159	\$8,409	\$9,567	\$2,875	\$479	\$186	\$7,774	\$7,961	\$443
Inactive Members												
Terminated	\$180	\$1,987	\$2,167	\$62	\$659	\$721	\$367	\$8	\$0	\$140	\$140	\$10
Service Retired	9,805	4,431	14,236	7,495	1,130	8,625	622	1	1,718	1,141	2,859	521
Disability Retired	121	112	233	83	11	94	12	0	1,720	89	1,809	5
Survivors	580	180	760	313	33	345	17	0	508	57	565	41
Total Inactive	\$10,686	\$6,710	\$17,396	\$7,952	\$1,832	\$9,784	\$1,018	\$9	\$3,946	\$1,428	\$5,374	\$576
Laws of 2013	0	0	0	0	0	0	0	0	0	1	1	0
2012 Total	\$12,514	\$28,796	\$41,311	\$9,111	\$10,240	\$19,351	\$3,893	\$488	\$4,132	\$9,203	\$13,335	\$1,019
2011 Total	\$12,722	\$27,336	\$40,058	\$9,313	\$9,762	\$19,075	\$3,696	\$455	\$4,150	\$8,720	\$12,870	\$994

Note: Totals may not agree due to rounding.

Present Value of Accrued (Earned) Benefits*												
(Dollars in Millions)	PERS			TRS			SERS	PSERS	LEOFF		WSPRS	
	Plan 1	Plan 2/3	Total	Plan 1	Plan 2/3	Total	Plan 2/3	Plan 2	Plan 1	Plan 2	Total	
Active Members												
Retirement	\$1,637	\$12,754	\$14,391	\$1,087	\$4,784	\$5,871	\$1,658	\$103	\$173	\$4,183	\$4,356	\$274
Termination	3	407	410	1	120	120	92	10	0	53	53	2
Death	13	121	134	6	42	48	20	1	2	47	49	4
Disability	3	83	86	0	4	5	9	1	1	260	261	2
Return of Contributions on Termination	1	155	157	0	7	7	13	9	0	48	48	1
Return of Contributions on Death	26	116	141	12	10	22	10	2	0	52	52	1
Total Active	\$1,682	\$13,636	\$15,318	\$1,106	\$4,967	\$6,073	\$1,802	\$126	\$176	\$4,643	\$4,819	\$282
Inactive Members												
Terminated	\$180	\$1,987	\$2,167	\$62	\$659	\$721	\$367	\$8	\$0	\$140	\$140	\$10
Service Retired	9,805	4,431	14,236	7,495	1,130	8,625	622	1	1,718	1,141	2,859	521
Disability Retired	121	112	233	83	11	94	12	0	1,720	89	1,809	5
Survivors	580	180	760	313	33	345	17	0	508	57	565	41
Total Inactive	\$10,686	\$6,710	\$17,396	\$7,952	\$1,832	\$9,784	\$1,018	\$9	\$3,946	\$1,428	\$5,374	\$576
Laws of 2013	0	0	0	0	0	0	0	0	0	1	1	0
2012 Total	\$12,368	\$20,347	\$32,714	\$9,058	\$6,799	\$15,857	\$2,820	\$135	\$4,121	\$6,071	\$10,193	\$859
2011 Total	\$12,567	\$18,815	\$31,382	\$9,258	\$6,299	\$15,557	\$2,607	\$107	\$4,135	\$5,576	\$9,711	\$829

Note: Totals may not agree due to rounding.

*Calculated using the Projected Unit Credit (PUC) cost method. This method was not used to determine contribution requirements.

Fully Projected Benefit Payments											
PERS - Plan 1											
(Dollars in Millions)	Future Value	Present Value	Year	Future Value	Present Value	Year	Future Value	Present Value	Year	Future Value	Present Value
2012	\$1,235	\$1,189	2037	482	69	2062	\$5	\$0	2087	0	0
2013	1,243	1,109	2038	438	58	2063	4	0	2088	0	0
2014	1,245	1,030	2039	395	49	2064	3	0	2089	0	0
2015	1,241	951	2040	353	40	2065	3	0	2090	0	0
2016	1,234	876	2041	313	33	2066	3	0	2091	0	0
2017	1,220	803	2042	274	27	2067	2	0	2092	0	0
2018	1,201	733	2043	238	22	2068	2	0	2093	0	0
2019	1,177	665	2044	205	17	2069	2	0	2094	0	0
2020	1,149	602	2045	174	14	2070	2	0	2095	0	0
2021	1,118	543	2046	146	11	2071	1	0	2096	0	0
2022	1,085	488	2047	122	8	2072	1	0	2097	0	0
2023	1,050	438	2048	101	6	2073	1	0	2098	0	0
2024	1,014	392	2049	83	5	2074	1	0	2099	0	0
2025	978	350	2050	67	4	2075	1	0	2100	0	0
2026	939	312	2051	54	3	2076	1	0	2101	0	0
2027	900	277	2052	43	2	2077	1	0	2102	0	0
2028	860	245	2053	34	1	2078	0	0	2103	0	0
2029	819	217	2054	27	1	2079	0	0	2104	0	0
2030	778	191	2055	22	1	2080	0	0	2105	0	0
2031	737	167	2056	17	1	2081	0	0	2106	0	0
2032	696	146	2057	14	0	2082	0	0	2107	0	0
2033	654	128	2058	11	0	2083	0	0	2108	0	0
2034	612	111	2059	9	0	2084	0	0	2109	0	0
2035	569	95	2060	7	0	2085	0	0	2110	0	0
2036	526	82	2061	\$6	\$0	2086	0	0	2111	\$0	\$0
									Total	\$27,952	\$12,514

Fully Projected Benefit Payments											
PERS - Plan 2/3											
(Dollars in Millions)	Future Value	Present Value	Year	Future Value	Present Value	Year	Future Value	Present Value	Year	Future Value	Present Value
2012	\$594	\$572	2037	4,542	653	2062	\$2,390	\$51	2087	45	0
2013	679	606	2038	4,625	617	2063	2,220	44	2088	34	0
2014	804	665	2039	4,723	584	2064	2,053	38	2089	25	0
2015	943	723	2040	4,801	550	2065	1,890	32	2090	18	0
2016	1,094	777	2041	4,823	512	2066	1,732	27	2091	13	0
2017	1,252	824	2042	4,834	475	2067	1,578	23	2092	9	0
2018	1,418	865	2043	4,838	441	2068	1,430	19	2093	6	0
2019	1,592	900	2044	4,843	409	2069	1,288	16	2094	4	0
2020	1,778	932	2045	4,829	378	2070	1,152	13	2095	3	0
2021	1,969	956	2046	4,763	346	2071	1,024	11	2096	2	0
2022	2,162	973	2047	4,681	315	2072	903	9	2097	1	0
2023	2,353	981	2048	4,586	286	2073	790	7	2098	1	0
2024	2,539	981	2049	4,479	259	2074	686	6	2099	0	0
2025	2,726	977	2050	4,357	233	2075	590	5	2100	0	0
2026	2,916	968	2051	4,222	210	2076	504	4	2101	0	0
2027	3,103	955	2052	4,076	187	2077	426	3	2102	0	0
2028	3,278	935	2053	3,923	167	2078	357	2	2103	0	0
2029	3,450	912	2054	3,764	149	2079	295	2	2104	0	0
2030	3,616	886	2055	3,598	132	2080	242	1	2105	0	0
2031	3,778	858	2056	3,429	116	2081	196	1	2106	0	0
2032	3,929	827	2057	3,257	102	2082	158	1	2107	0	0
2033	4,072	794	2058	3,083	90	2083	126	1	2108	0	0
2034	4,244	767	2059	2,909	79	2084	99	0	2109	0	0
2035	4,380	734	2060	2,735	68	2085	77	0	2110	0	0
2036	4,466	693	2061	\$2,562	\$59	2086	59	0	2111	\$0	\$0
Total										\$188,840	\$28,796

Fully Projected Benefit Payments												
TRS - Plan 1												
(Dollars in Millions)	Future Value	Present Value	Year	Future Value	Present Value	Year	Future Value	Present Value	Year	Future Value	Present Value	
2012	\$901	\$867	2037	350	50	2062	\$3	\$0	2087	0	0	
2013	913	814	2038	320	43	2063	2	0	2088	0	0	
2014	918	759	2039	289	36	2064	2	0	2089	0	0	
2015	916	702	2040	259	30	2065	2	0	2090	0	0	
2016	908	645	2041	230	24	2066	2	0	2091	0	0	
2017	895	589	2042	202	20	2067	2	0	2092	0	0	
2018	878	536	2043	175	16	2068	2	0	2093	0	0	
2019	858	485	2044	150	13	2069	1	0	2094	0	0	
2020	837	438	2045	127	10	2070	1	0	2095	0	0	
2021	812	395	2046	107	8	2071	1	0	2096	0	0	
2022	786	354	2047	89	6	2072	1	0	2097	0	0	
2023	759	317	2048	73	5	2073	1	0	2098	0	0	
2024	731	283	2049	59	3	2074	1	0	2099	0	0	
2025	702	252	2050	47	3	2075	1	0	2100	0	0	
2026	673	223	2051	38	2	2076	1	0	2101	0	0	
2027	643	198	2052	30	1	2077	1	0	2102	0	0	
2028	612	175	2053	24	1	2078	1	0	2103	0	0	
2029	582	154	2054	18	1	2079	1	0	2104	0	0	
2030	551	135	2055	14	1	2080	0	0	2105	0	0	
2031	522	119	2056	11	0	2081	0	0	2106	0	0	
2032	493	104	2057	9	0	2082	0	0	2107	0	0	
2033	465	91	2058	7	0	2083	0	0	2108	0	0	
2034	437	79	2059	5	0	2084	0	0	2109	0	0	
2035	408	68	2060	4	0	2085	0	0	2110	0	0	
2036	379	59	2061	\$3	\$0	2086	0	0	2111	\$0	\$0	
										Total	\$20,249	\$9,111

Fully Projected Benefit Payments											
TRS - Plan 2/3											
(Dollars in Millions)	Future Value	Present Value	Year	Future Value	Present Value	Year	Future Value	Present Value	Year	Future Value	Present Value
2012	\$138	\$132	2037	1,780	256	2062	\$1,537	\$33	2087	41	0
2013	164	147	2038	1,855	247	2063	1,454	29	2088	31	0
2014	209	173	2039	1,932	239	2064	1,369	25	2089	23	0
2015	257	197	2040	2,023	232	2065	1,283	22	2090	16	0
2016	306	217	2041	2,089	222	2066	1,197	19	2091	12	0
2017	358	236	2042	2,151	212	2067	1,110	16	2092	8	0
2018	412	251	2043	2,204	201	2068	1,024	14	2093	6	0
2019	467	264	2044	2,249	190	2069	938	12	2094	4	0
2020	525	275	2045	2,291	179	2070	854	10	2095	2	0
2021	586	284	2046	2,303	167	2071	772	8	2096	1	0
2022	647	291	2047	2,305	155	2072	693	7	2097	0	0
2023	709	296	2048	2,302	143	2073	617	6	2098	0	0
2024	772	298	2049	2,289	132	2074	545	5	2099	0	0
2025	841	301	2050	2,266	121	2075	476	4	2100	0	0
2026	915	304	2051	2,234	111	2076	413	3	2101	0	0
2027	986	303	2052	2,195	101	2077	354	2	2102	0	0
2028	1,056	301	2053	2,149	92	2078	300	2	2103	0	0
2029	1,134	300	2054	2,096	83	2079	252	1	2104	0	0
2030	1,210	296	2055	2,039	75	2080	209	1	2105	0	0
2031	1,291	293	2056	1,978	67	2081	171	1	2106	0	0
2032	1,377	290	2057	1,913	60	2082	139	1	2107	0	0
2033	1,452	283	2058	1,844	54	2083	112	0	2108	0	0
2034	1,536	278	2059	1,772	48	2084	89	0	2109	0	0
2035	1,638	274	2060	1,696	42	2085	69	0	2110	0	0
2036	1,709	265	2061	\$1,618	\$38	2086	53	0	2111	\$0	\$0
Total										\$88,443	\$10,240

Fully Projected Benefit Payments											
SERS - Plan 2/3											
(Dollars in Millions)	Future Value	Present Value	Year	Future Value	Present Value	Year	Future Value	Present Value	Year	Future Value	Present Value
2012	\$73	\$71	2037	603	87	2062	\$228	\$5	2087	5	0
2013	90	80	2038	605	81	2063	210	4	2088	4	0
2014	108	90	2039	610	75	2064	192	4	2089	3	0
2015	128	98	2040	609	70	2065	176	3	2090	2	0
2016	150	107	2041	605	64	2066	160	3	2091	2	0
2017	174	114	2042	599	59	2067	145	2	2092	1	0
2018	200	122	2043	591	54	2068	131	2	2093	1	0
2019	227	128	2044	585	49	2069	118	1	2094	1	0
2020	256	134	2045	575	45	2070	105	1	2095	0	0
2021	284	138	2046	560	41	2071	94	1	2096	0	0
2022	313	141	2047	544	37	2072	83	1	2097	0	0
2023	342	143	2048	527	33	2073	73	1	2098	0	0
2024	371	143	2049	508	29	2074	64	1	2099	0	0
2025	399	143	2050	488	26	2075	56	0	2100	0	0
2026	425	141	2051	467	23	2076	48	0	2101	0	0
2027	451	139	2052	446	21	2077	41	0	2102	0	0
2028	474	135	2053	423	18	2078	35	0	2103	0	0
2029	496	131	2054	400	16	2079	29	0	2104	0	0
2030	517	127	2055	377	14	2080	24	0	2105	0	0
2031	536	122	2056	355	12	2081	20	0	2106	0	0
2032	551	116	2057	332	10	2082	16	0	2107	0	0
2033	564	110	2058	310	9	2083	13	0	2108	0	0
2034	582	105	2059	289	8	2084	11	0	2109	0	0
2035	594	100	2060	268	7	2085	8	0	2110	0	0
2036	600	93	2061	\$248	\$6	2086	7	0	2111	\$0	\$0
Total										\$22,938	\$3,893

Fully Projected Benefit Payments												
PSERS - Plan 2												
(Dollars in Millions)	Future Value	Present Value	Year	Future Value	Present Value	Year	Future Value	Present Value	Year	Future Value	Present Value	
2012	\$3	\$3	2037	101	15	2062	\$151	\$3	2087	3	0	
2013	3	2	2038	109	15	2063	144	3	2088	2	0	
2014	3	2	2039	118	15	2064	136	3	2089	1	0	
2015	3	3	2040	128	15	2065	128	2	2090	1	0	
2016	4	3	2041	136	14	2066	120	2	2091	1	0	
2017	5	3	2042	145	14	2067	112	2	2092	0	0	
2018	7	4	2043	155	14	2068	103	1	2093	0	0	
2019	8	5	2044	164	14	2069	95	1	2094	0	0	
2020	10	5	2045	172	13	2070	86	1	2095	0	0	
2021	12	6	2046	179	13	2071	78	1	2096	0	0	
2022	15	7	2047	185	12	2072	69	1	2097	0	0	
2023	18	8	2048	189	12	2073	61	1	2098	0	0	
2024	22	8	2049	192	11	2074	53	0	2099	0	0	
2025	25	9	2050	194	10	2075	46	0	2100	0	0	
2026	29	10	2051	195	10	2076	39	0	2101	0	0	
2027	34	10	2052	194	9	2077	33	0	2102	0	0	
2028	39	11	2053	192	8	2078	27	0	2103	0	0	
2029	45	12	2054	190	8	2079	22	0	2104	0	0	
2030	52	13	2055	187	7	2080	18	0	2105	0	0	
2031	58	13	2056	183	6	2081	14	0	2106	0	0	
2032	65	14	2057	179	6	2082	11	0	2107	0	0	
2033	72	14	2058	174	5	2083	8	0	2108	0	0	
2034	79	14	2059	169	5	2084	6	0	2109	0	0	
2035	86	14	2060	164	4	2085	5	0	2110	0	0	
2036	94	15	2061	\$157	\$4	2086	4	0	2111	\$0	\$0	
										Total	\$6,521	\$488

Fully Projected Benefit Payments												
LEOFF - Plan 1												
(Dollars in Millions)	Future Value	Present Value	Year	Future Value	Present Value	Year	Future Value	Present Value	Year	Future Value	Present Value	
2012	\$352	\$339	2037	205	30	2062	\$1	\$0	2087	0	0	
2013	360	321	2038	187	25	2063	1	0	2088	0	0	
2014	366	303	2039	169	21	2064	1	0	2089	0	0	
2015	371	284	2040	151	17	2065	1	0	2090	0	0	
2016	375	266	2041	134	14	2066	0	0	2091	0	0	
2017	378	249	2042	117	11	2067	0	0	2092	0	0	
2018	379	231	2043	101	9	2068	0	0	2093	0	0	
2019	380	215	2044	87	7	2069	0	0	2094	0	0	
2020	379	199	2045	73	6	2070	0	0	2095	0	0	
2021	377	183	2046	61	4	2071	0	0	2096	0	0	
2022	375	169	2047	51	3	2072	0	0	2097	0	0	
2023	371	155	2048	42	3	2073	0	0	2098	0	0	
2024	367	142	2049	34	2	2074	0	0	2099	0	0	
2025	361	129	2050	27	1	2075	0	0	2100	0	0	
2026	355	118	2051	22	1	2076	0	0	2101	0	0	
2027	347	107	2052	17	1	2077	0	0	2102	0	0	
2028	338	96	2053	13	1	2078	0	0	2103	0	0	
2029	328	87	2054	10	0	2079	0	0	2104	0	0	
2030	316	77	2055	8	0	2080	0	0	2105	0	0	
2031	303	69	2056	6	0	2081	0	0	2106	0	0	
2032	289	61	2057	5	0	2082	0	0	2107	0	0	
2033	274	53	2058	4	0	2083	0	0	2108	0	0	
2034	258	47	2059	3	0	2084	0	0	2109	0	0	
2035	241	40	2060	2	0	2085	0	0	2110	0	0	
2036	224	35	2061	\$2	\$0	2086	0	0	2111	\$0	\$0	
										Total	\$10,001	\$4,132

Fully Projected Benefit Payments

LEOFF - Plan 2

<i>(Dollars in Millions)</i>											
Year	Future Value	Present Value	Year	Future Value	Present Value	Year	Future Value	Present Value	Year	Future Value	Present Value
2012	\$116	\$112	2037	1,555	246	2062	\$978	\$25	2087	7	0
2013	145	130	2038	1,610	237	2063	904	22	2088	4	0
2014	178	149	2039	1,660	227	2064	830	19	2089	3	0
2015	214	166	2040	1,706	217	2065	758	16	2090	2	0
2016	253	183	2041	1,740	206	2066	687	13	2091	1	0
2017	295	198	2042	1,767	195	2067	619	11	2092	1	0
2018	338	211	2043	1,787	183	2068	553	9	2093	1	0
2019	384	223	2044	1,799	172	2069	489	8	2094	0	0
2020	434	235	2045	1,804	160	2070	430	6	2095	0	0
2021	486	244	2046	1,799	148	2071	374	5	2096	0	0
2022	540	253	2047	1,786	137	2072	321	4	2097	0	0
2023	599	261	2048	1,766	126	2073	273	3	2098	0	0
2024	662	268	2049	1,740	116	2074	230	3	2099	0	0
2025	727	274	2050	1,708	106	2075	191	2	2100	0	0
2026	794	278	2051	1,669	96	2076	156	1	2101	0	0
2027	861	281	2052	1,624	87	2077	126	1	2102	0	0
2028	932	283	2053	1,574	78	2078	101	1	2103	0	0
2029	1,006	284	2054	1,520	70	2079	79	1	2104	0	0
2030	1,078	283	2055	1,462	63	2080	61	0	2105	0	0
2031	1,150	281	2056	1,400	56	2081	46	0	2106	0	0
2032	1,223	278	2057	1,335	50	2082	35	0	2107	0	0
2033	1,294	273	2058	1,267	44	2083	26	0	2108	0	0
2034	1,364	268	2059	1,197	39	2084	19	0	2109	0	0
2035	1,432	262	2060	1,125	34	2085	13	0	2110	0	0
2036	1,495	254	2061	\$1,051	\$29	2086	9	0	2111	\$0	\$0
Total										\$65,782	\$9,203

Fully Projected Benefit Payments												
WSPRS - Plan 1/2												
(Dollars in Millions)	Future Value	Present Value	Year	Future Value	Present Value	Year	Future Value	Present Value	Year	Future Value	Present Value	
2012	\$44	\$42	2037	129	19	2062	\$72	\$2	2087	1	0	
2013	46	41	2038	130	17	2063	66	1	2088	0	0	
2014	49	40	2039	132	16	2064	61	1	2089	0	0	
2015	52	40	2040	132	15	2065	56	1	2090	0	0	
2016	56	40	2041	133	14	2066	50	1	2091	0	0	
2017	59	39	2042	133	13	2067	45	1	2092	0	0	
2018	63	38	2043	133	12	2068	40	1	2093	0	0	
2019	66	37	2044	132	11	2069	36	0	2094	0	0	
2020	69	36	2045	132	10	2070	31	0	2095	0	0	
2021	73	36	2046	131	9	2071	27	0	2096	0	0	
2022	77	35	2047	129	9	2072	23	0	2097	0	0	
2023	81	34	2048	128	8	2073	20	0	2098	0	0	
2024	85	33	2049	126	7	2074	17	0	2099	0	0	
2025	89	32	2050	123	7	2075	14	0	2100	0	0	
2026	93	31	2051	121	6	2076	12	0	2101	0	0	
2027	97	30	2052	118	5	2077	10	0	2102	0	0	
2028	101	29	2053	115	5	2078	8	0	2103	0	0	
2029	105	28	2054	111	4	2079	6	0	2104	0	0	
2030	108	26	2055	107	4	2080	5	0	2105	0	0	
2031	111	25	2056	103	3	2081	4	0	2106	0	0	
2032	115	24	2057	98	3	2082	3	0	2107	0	0	
2033	118	23	2058	93	3	2083	2	0	2108	0	0	
2034	121	22	2059	88	2	2084	2	0	2109	0	0	
2035	124	21	2060	83	2	2085	1	0	2110	0	0	
2036	127	20	2061	\$78	\$2	2086	1	0	2111	\$0	\$0	
										Total	\$5,680	\$1,019

Plan Assets

Cash: Highly liquid, very safe investments that can be easily converted into cash, such as Treasury Bills and money-market funds.

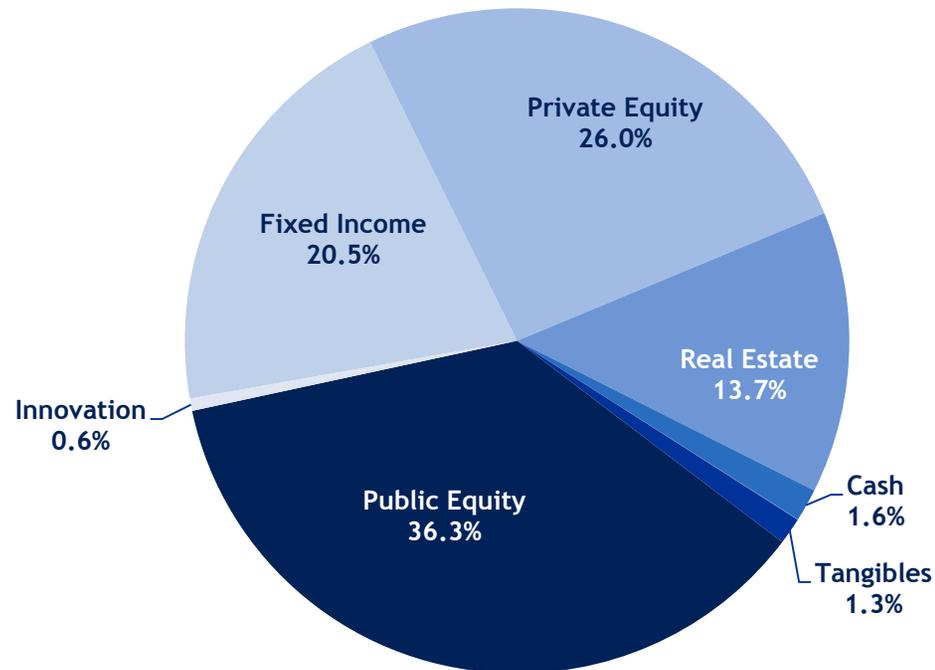
Fixed Income: Securities representing debt obligations and usually having fixed payments and maturities. Different types of fixed income securities include government and corporate bonds, mortgage-backed securities, asset-backed securities, convertible issues, and may also include money-market instruments.

Innovation: Fund that provides the ability to invest in a broad range of assets that fall outside the traditional asset classes or management style of existing asset classes.

Public Equity: Shares of U.S. and non-U.S. corporations that trade on public exchanges or "over-the-counter." The ownership of a corporation is represented by shares that are claimed on the corporation's earnings and assets.

Private Equity: The infusion of equity capital into a private company (one that is not available on the public markets). Private equity investments include securities that are not listed on a public exchange and are not easily accessible to most individuals. These investments range from initial capital in start-up enterprises to leveraged buyouts of mature corporations.

Retirement Commingled Trust Fund (CTF) Asset Allocation



Real Estate: An externally-managed selection of partnership investments with the majority of the partnerships invested in high-quality real estate leased to third parties.

Tangibles: The tangible asset portfolio invests in sectors such as infrastructure, timber, agriculture, natural resources, commodities, or other sectors consistent with the goals of the asset class.

Change in Market Value of Assets						
(Dollars in Millions)	PERS			TRS		
	Plan 1	Plan 2/3*		Plan 1	Plan 2/3*	
	Fund 631	Fund 641	Total	Fund 632	Fund 642	Total
2011 Market Value	\$8,178	\$20,097	\$28,274	\$6,902	\$6,839	\$13,741
Revenue						
Contributions						
Employee	24	310	334	14	30	44
Employer/State	257	385	642	112	214	326
Total Contributions	282	695	977	126	244	370
Investment Return	86	285	371	73	96	170
Restorations	7	16	23	4	1	5
Transfers In	0	0	0	0	0	0
Miscellaneous	0	0	0	0	0	0
Total Revenue	\$375	\$996	\$1,372	\$203	\$341	\$544
Disbursements						
Monthly Benefits**	\$1,174	\$377	\$1,551	\$914	\$91	\$1,005
Refunds	5	36	40	2	2	4
Total Benefits	1,178	413	1,591	915	94	1,009
Transfers Out	0	1	1	0	0	0
Expenses	1	1	1	0	0	0
Total Disbursements	\$1,179	\$415	\$1,594	\$916	\$94	\$1,010
Payables	\$0	\$0	\$0	\$0	\$0	\$0
2012 Market Value	\$7,374	\$20,678	\$28,052	\$6,189	\$7,087	\$13,276
2012 Actuarial Value	\$8,521	\$22,653	\$31,173	\$7,145	\$7,758	\$14,902
Ratio (AV/MV)	116%	110%	111%	115%	109%	112%

Note: Totals may not agree due to rounding.

*Defined Benefit portion only.

**TRS Plan 1 value includes annuity cashouts.

Change in Market Value of Assets (Continued)							
(Dollars in Millions)	SERS	PSERS	LEOFF		WSPRS	Total	
	Plan 2/3*	Plan 2	Plan 1	Plan 2			
	Fund 633	Fund 635	Fund 819	Fund 829	Total	Fund 615	
2011 Market Value	\$2,746	\$143	\$5,185	\$6,366	\$11,550	\$895	\$57,350
Revenue							
Contributions							
Employee	24	15	0	133	133	5	556
Employer/State	75	15	0	133	133	6	1,198
Total Contributions	99	31	0	266	266	12	1,754
Investment Return	38	3	61	93	154	11	747
Restorations	0	0	1	7	8	2	38
Transfers In	0	0	0	0	0	0	1
Miscellaneous	0	0	0	0	0	0	0
Total Revenue	\$137	\$33	\$63	\$365	\$428	\$25	\$2,540
Disbursements							
Monthly Benefits	54	0	343	78	422	40	3,072
Refunds	3	2	0	11	12	0	60
Total Benefits	56	2	344	89	433	41	3,132
Transfers Out	0	0	0	0	0	0	2
Expenses	0	0	0	1	1	0	3
Total Disbursements	\$57	\$2	\$344	\$91	\$435	\$41	\$3,137
Payables	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2012 Market Value	\$2,827	\$174	\$4,903	\$6,640	\$11,544	\$879	\$56,753
2012 Actuarial Value	\$3,100	\$180	\$5,562	\$7,222	\$12,783	\$982	\$63,122
Ratio (AV/MV)	110%	103%	113%	109%	111%	112%	111%

Note: Totals may not agree due to rounding.

*Defined Benefit portion only.

Calculation of Actuarial Value of Assets							
<i>(Dollars in Millions)</i>		PERS 1	PERS 2/3*	TRS 1	TRS 2/3*	SERS 2/3*	
a.	Market Value at 6/30/2012	\$7,374	\$20,678	\$6,189	\$7,087	\$2,827	
b.	Deferred Gains and (Losses)						
Plan Year	Years	Years					
Ending	Deferred	Remaining					
6/30/2012	7	6	(\$450)	(\$1,122)	(\$377)	(\$382)	(\$153)
6/30/2011	8	6	716	1,619	601	550	221
6/30/2010	6	3	207	365	170	123	50
6/30/2009	8	4	(1,598)	(2,742)	(1,333)	(933)	(379)
6/30/2008	8	3	(379)	(615)	(318)	(212)	(87)
6/30/2007	8	2	267	397	226	140	57
9/30/2006	8	1	91	124	77	44	18
Total Deferral			(\$1,147)	(\$1,974)	(\$955)	(\$671)	(\$273)
c.	Market Value less Deferral (a-b)	\$8,521	\$22,653	\$7,145	\$7,758	\$3,100	
d.	70% of Market Value of Assets	\$5,162	\$14,475	\$4,332	\$4,961	\$1,979	
e.	130% of Market Value of Assets	\$9,586	\$26,882	\$8,046	\$9,213	\$3,675	
f.	Actuarial Value of Assets**	\$8,521	\$22,653	\$7,145	\$7,758	\$3,100	

Note: Totals may not agree due to rounding.

*Defined Benefit portion only.

**Actuarial Value of Assets can never be less than 70% or greater than 130% of the market value of assets.

Calculation of Actuarial Value of Assets							
<i>(Continued)</i>							
<i>(Dollars in Millions)</i>		PSERS 2	LEOFF 1	LEOFF 2	WSPRS	Total	
a.	Market Value at 6/30/2012	\$174	\$4,903	\$6,640	\$879	\$56,753	
b.	Deferred Gains and (Losses)						
Plan Year Ending	Years Deferred	Years Remaining					
6/30/2012	7	6	(\$8)	(\$287)	(\$334)	(\$50)	(\$3,163)
6/30/2011	8	6	10	439	524	74	4,755
6/30/2010	3, 5, 6*	0, 2, 3*	0	117	87	18	1,137
6/30/2009	8	4	(7)	(911)	(827)	(142)	(8,872)
6/30/2008	8	3	(1)	(214)	(184)	(33)	(2,043)
6/30/2007	8	2	0	148	116	22	1,372
9/30/2006	2, 8**	0, 1**	0	49	36	7	446
Total Deferral			(\$6)	(\$658)	(\$581)	(\$103)	(\$6,369)
c.	Market Value less Deferral (a-b)	\$180	\$5,562	\$7,222	\$982	\$63,122	
d.	70% of Market Value of Assets	\$122	\$3,432	\$4,648	\$615	\$39,727	
e.	130% of Market Value of Assets	\$227	\$6,374	\$8,633	\$1,143	\$73,779	
f.	Actuarial Value of Assets***	\$180	\$5,562	\$7,222	\$982	\$63,122	

Note: Totals may not agree due to rounding.

*PSERS Plan 2 = 3 years deferred, 0 years remaining; LEOFF Plan 2 = 5 years deferred, 2 years remaining; all other plans = 6 years deferred, 3 years remaining.

**PSERS Plan 2 = 2 years deferred, 0 years remaining; all other plans = 8 years deferred, 1 year remaining.

***Actuarial Value of Assets can never be less than 70% or greater than 130% of the market value of assets.

Investment Gains and (Losses) for Prior Year					
(Dollars in Millions)	PERS 1	PERS 2/3*	TRS 1	TRS 2/3*	SERS 2/3*
a. 2011 Market Value (at WSIB)	\$8,180	\$20,061	\$6,905	\$6,817	\$2,737
b. Total Cash Flow	(889)	281	(785)	139	36
c. 2012 Market Value (at WSIB)	7,378	20,630	6,194	7,055	2,812
d. Actual Return (c - b - a)	\$87	\$288	\$74	\$98	\$39
e. Weighted Asset Amount	\$7,746	\$20,214	\$6,509	\$6,886	\$2,755
f. Expected Return (7.9% x e)	612	1,597	514	544	218
g. Investment Gain/(Loss) for Prior Year (d - f)	(525)	(1,309)	(440)	(446)	(179)
h. Dollar-Weighted Rate of Return	1.13%	1.42%	1.14%	1.43%	1.42%

Note: Totals may not agree due to rounding.

*Defined Benefit portion only.

Investment Gains and (Losses) for Prior Year					
(Continued)					
(Dollars in Millions)	PSERS 2	LEOFF 1	LEOFF 2	WSPRS	Total
a. 2011 Market Value (at WSIB)	\$141	\$5,185	\$6,349	\$894	\$57,268
b. Total Cash Flow	29	(343)	177	(28)	(1,383)
c. 2012 Market Value (at WSIB)	172	4,903	6,620	878	56,643
d. Actual Return (c - b - a)	\$3	\$62	\$94	\$12	\$757
e. Weighted Asset Amount	\$155	\$5,019	\$6,442	\$882	\$56,609
f. Expected Return (7.9% x e)*	12	397	483	70	4,446
g. Investment Gain/(Loss) for Prior Year (d - f)	(9)	(335)	(390)	(58)	(3,691)
h. Dollar-Weighted Rate of Return	1.80%	1.23%	1.45%	1.31%	1.34%

Note: Totals may not agree due to rounding.

* The expected return for LEOFF 2 is (7.5% x e).

Funded Status

We report a plan's funded status by comparing the plan's current assets to the present value of earned pensions of its members. Funded status can vary significantly from plan to plan, depending on the assumptions and methods used to determine the plan's assets and liabilities. For this valuation report, we present two funded status measures.

The first funded status measure compares the Actuarial Value of Assets (AVA) to the Projected Unit Credit (PUC) liabilities calculated using a long-term interest assumption. The second measure compares the Market Value of Assets (MVA) to the PUC liabilities calculated using a short-term interest assumption. The next sections describe these measures in more detail and display the resulting funded statuses by plan. Please see the **Glossary** for an explanation of the PUC actuarial cost method.

Funded Status on an Actuarial Value Basis

We report the funded status on an actuarial value basis as the ratio of the AVA to the PUC liability calculated using the 7.9 percent valuation interest rate assumption (7.5 percent for the Law Enforcement Officers' and Fire Fighters' [LEOFF] Retirement Plan 2). We assume the plan is ongoing and,

therefore, we use the same long-term assumptions to develop the liabilities as we used for determining the contribution requirements of the plan. We don't expect the assumptions to match actual experience over short-term periods. However, we do expect these assumptions to reasonably approximate average annual experience over long-term periods. This measure of funded status is consistent with the state's current funding policy and financing plan for future retirement benefits.

We use an asset valuation method to determine the AVA. This asset valuation method smooths the inherent volatility in the MVA by deferring a portion of annual investment gains or losses for a certain number of years. Investment gains and losses occur when the annual return on investments varies from the long-term assumed rate. To determine the 2012 investment gains or losses, we used an investment return assumption of 7.9 percent (7.5 percent for LEOFF 2). The AVA provides a more stable measure of the plan's assets on an ongoing basis.

We used the PUC actuarial cost method to determine the present value of earned pensions. The PUC liabilities are actuarial liabilities based on members' earned service credit as of the valuation date. They include future assumed salary increases and reflect future service credits for determining benefit eligibility. The PUC liabilities are discounted to the

valuation date using the valuation interest rate to determine the present value (today's value). The valuation interest rate is consistent with the long-term expected return on invested contributions.

Comparing the PUC liabilities to the AVA provides an appropriate measure of a plan's funded status. Under current Governmental Accounting Standards Board (GASB) rules, the PUC method is one of several acceptable measures of a plan's funded status. Use of another cost method could also be considered appropriate and could produce materially different results. A plan with a funded status under this measurement of at least 100 percent is generally considered to be on target with its financing plan. However, a plan more/less than 100 percent funded is not automatically considered over-funded/at-risk.

The following table displays the funded status on an actuarial value basis for each plan.

Funded Status on an Actuarial Value Basis*										
(Dollars in Millions)	PERS		TRS		SERS	PSERS	LEOFF		WSPRS	Total
	Plan 1	Plan 2/3	Plan 1	Plan 2/3	Plan 2/3	Plan 2	Plan 1	Plan 2		
PUC Liability	\$12,368	\$20,347	\$9,058	\$6,799	\$2,820	\$135	\$4,121	\$6,071	\$859	\$62,578
Valuation Assets	\$8,521	\$22,653	\$7,145	\$7,758	\$3,100	\$180	\$5,562	\$7,222	\$982	\$63,122
Unfunded Liability	\$3,847	(\$2,306)	\$1,914	(\$959)	(\$280)	(\$45)	(\$1,440)	(\$1,150)	(\$123)	(\$544)
Funded Ratio										
2012	69%	111%	79%	114%	110%	134%	135%	119%	114%	101%
2011 **	71%	112%	81%	113%	110%	132%	135%	119%	115%	101%
2010 ***	74%	113%	84%	116%	113%	129%	127%	119%	118%	102%
2009 **	70%	116%	75%	118%	116%	128%	125%	128%	119%	99%
2008 **	71%	119%	77%	125%	121%	127%	128%	133%	121%	100%
2007 **	71%	120%	76%	130%	126%	120%	123%	129%	118%	99%
2006 **	74%	121%	80%	133%	125%	99%	117%	116%	114%	100%
2005 **	74%	127%	80%	134%	122%	N/A	114%	114%	113%	99%
2004	81%	134%	88%	153%	137%	N/A	109%	117%	118%	105%
2003	82%	142%	89%	155%	138%	N/A	112%	125%	123%	107%
2002	92%	158%	98%	182%	169%	N/A	119%	137%	135%	118%
2001 **	97%	179%	100%	197%	197%	N/A	129%	154%	147%	126%
2000 **	98%	190%	100%	196%	170%	N/A	136%	161%	152%	131%
1999	93%	189%	93%	188%	N/A	N/A	125%	154%	159%	124%
1998	86%	191%	86%	185%	N/A	N/A	117%	160%	147%	116%
1997 **	83%	187%	82%	181%	N/A	N/A	108%	155%	140%	109%
1996	73%	157%	70%	144%	N/A	N/A	89%	130%	128%	92%
1995	68%	150%	65%	136%	N/A	N/A	80%	126%	119%	85%
1994 **	67%	142%	65%	130%	N/A	N/A	68%	124%	110%	80%
1993	70%	142%	62%	126%	N/A	N/A	68%	127%	110%	79%
1992	67%	139%	59%	127%	N/A	N/A	65%	128%	108%	75%
1991	67%	149%	59%	131%	N/A	N/A	66%	154%	106%	75%
1990	66%	154%	60%	140%	N/A	N/A	65%	153%	105%	74%
1989 **	65%	162%	58%	144%	N/A	N/A	65%	158%	103%	73%
1988	66%	165%	59%	143%	N/A	N/A	66%	153%	102%	72%
1987	71%	175%	58%	135%	N/A	N/A	69%	157%	95%	74%
1986	63%	162%	50%	125%	N/A	N/A	57%	142%	87%	63%

Note: Totals may not agree due to rounding.

*Liabilities valued using the PUC cost method at an interest rate of 7.9% (7.5% for LEOFF 2). All assets have been valued under the actuarial asset method.

**Assumptions changed.

***LEOFF 2 values for 2010 were updated after the 2010 Actuarial Valuation Report (AVR) was published.

The present value of actuarial liabilities is sensitive to the interest rate assumption. The following tables show how the funded status changes when we use different interest rate assumptions. We calculated liabilities using varying interest rates to show this sensitivity.

Funded Status at a 1% Lower Interest Rate Assumption*										
(Dollars in Millions)	PERS		TRS		SERS	PSERS	LEOFF		WSPRS	Total
	Plan 1	Plan 2/3	Plan 1	Plan 2/3	Plan 2/3	Plan 2	Plan 1	Plan 2		
PUC Liability	\$13,372	\$23,618	\$9,790	\$8,025	\$3,263	\$167	\$4,498	\$7,207	\$982	\$70,921
Valuation Assets	\$8,521	\$22,653	\$7,145	\$7,758	\$3,100	\$180	\$5,562	\$7,222	\$982	\$63,122
Unfunded Liability	\$4,851	\$966	\$2,646	\$267	\$163	(\$14)	(\$1,064)	(\$15)	\$0	\$7,800
Funded Ratio										
2012	64%	96%	73%	97%	95%	108%	124%	100%	100%	89%
2011	65%	96%	75%	96%	95%	106%	123%	100%	100%	89%
2010**	68%	96%	78%	97%	96%	103%	116%	99%	102%	90%
2009	64%	99%	69%	99%	99%	102%	114%	107%	103%	87%
2008	65%	100%	70%	104%	103%	101%	117%	111%	105%	88%
2007	65%	101%	70%	108%	107%	95%	111%	107%	102%	87%

Note: Totals may not agree due to rounding.

*Liabilities valued using the PUC cost method at an interest rate of 6.9% (6.5% for LEOFF 2). All assets have been valued under the actuarial asset method.

**LEOFF 2 values for 2010 were updated after the 2010 Actuarial Valuation Report (AVR) was published.

Funded Status at a 1% Higher Interest Rate Assumption*										
(Dollars in Millions)	PERS		TRS		SERS	PSERS	LEOFF		WSPRS	Total
	Plan 1	Plan 2/3	Plan 1	Plan 2/3	Plan 2/3	Plan 2	Plan 1	Plan 2		
PUC Liability	\$11,495	\$17,713	\$8,422	\$5,829	\$2,461	\$111	\$3,797	\$5,177	\$759	\$55,766
Valuation Assets	\$8,521	\$22,653	\$7,145	\$7,758	\$3,100	\$180	\$5,562	\$7,222	\$982	\$63,122
Unfunded Liability	\$2,975	(\$4,939)	\$1,278	(\$1,929)	(\$639)	(\$69)	(\$1,764)	(\$2,045)	(\$223)	(\$7,356)
Funded Ratio										
2012	74%	128%	85%	133%	126%	162%	146%	140%	129%	113%
2011	76%	129%	87%	133%	127%	161%	146%	140%	130%	113%
2010**	80%	130%	91%	136%	130%	157%	139%	141%	133%	115%
2009	76%	135%	82%	140%	134%	158%	137%	152%	135%	112%
2008	77%	139%	84%	149%	141%	157%	141%	159%	137%	113%
2007	77%	141%	84%	155%	148%	149%	135%	154%	134%	112%

Note: Totals may not agree due to rounding.

*Liabilities valued using the PUC cost method at an interest rate of 8.9% (8.5% for LEOFF 2). All assets have been valued under the actuarial asset method.

**LEOFF 2 values for 2010 were updated after the 2010 Actuarial Valuation Report (AVR) was published.

Funded Status on a Market Value Basis

We report funded status on a market value basis as the ratio of the MVA to the PUC liability calculated using a 5 percent interest rate assumption. The funded status on a market value basis provides a measure of the plan's health if the plan is "settled" or "immunized" on the valuation date. Immunizing a pension plan means attaching assets to liabilities so the assets maturing each year match the expected pension payments due from the pension plan each year. A plan can be settled by purchasing annuities on the open market for each member, or immunized by investing the assets in bonds with payment streams that match the expected benefit payments. Expected benefit payments would include growth for future salary inflation, which is why we have used the PUC liability measure instead of a purely accrued liability measure.

Because most of the Washington State plans covered in this valuation report are open and ongoing, we only present the market value funded status for the closed Plans 1. Although the Plans 1 are closed to new members, they are not settled and have not been immunized. However, there is an opportunity to immunize these plans in the future. They are considered ongoing plans because current annuitants continue to receive their benefits from the retirement trust fund, and current active

members continue to accrue benefits under the plan. However, because the plans are closed to new members, the future benefit payments are more predictable, have a shorter duration, and would be easier to immunize. The decision to settle or immunize the Plans 1 is complex and would require additional actuarial analysis and information that is outside the scope of this report.

The table below displays the market value funded status for each plan as described above.

Both funded status measures vary based on the measurement (valuation) date and the market conditions on that date. The market value measure, however, is more volatile because the asset value has no smoothing and the ability to immunize the plan depends on current bond and annuity purchase rates.

Funded Status on a Market Value Basis*			
(Dollars in Millions)	PERS	TRS	LEOFF
	Plan 1	Plan 1	Plan 1
Projected Unit Credit Liability	\$15,748	\$11,524	\$5,400
Market Value of Assets	7,374	6,189	4,903
Unfunded Liability	\$8,374	\$5,335	\$497
Funded Ratio			
2012	47%	54%	91%
2011	51%	58%	95%
2010	49%	56%	82%
2009	43%	46%	76%
2008	60%	65%	107%
2007	66%	70%	114%
2006	64%	67%	102%
2005	61%	63%	94%
2004	59%	60%	82%

Note: Totals may not agree due to rounding.

* Liabilities have been valued using an interest rate of 5% while assets are their market value. The 5% interest rate approximates the "risk-free" rate of return on assets while maintaining consistency with the 3% inflation assumption used to project future benefit payments. This method was not used to determine contribution requirements. Prior to 2011, liabilities were valued at 5.5%.

Actuarial Gains/ Losses

The next three tables display actuarial gains and losses, expressed as contribution rate changes. Actuaries use gain/loss analysis to compare actual changes to assumed changes in assets, liabilities, and salaries from various sources. We also use this analysis to determine:

- ◆ The accuracy of our valuation model and annual processing.
- ◆ Why contribution rates changed.
- ◆ To determine the reasonableness of the actuarial assumptions.

Actuarial gains will reduce contribution rates; actuarial losses will increase contribution rates. Under a reasonable set of actuarial assumptions, actuarial gains and losses will offset over long-term experience periods.

Change in Employer and State Contribution Rate by Source						
Change in Employer Rate	PERS	TRS	SERS*	PSERS*	LEOFF**	WSPRS
2011 Contribution Rate Before Laws of 2012	9.03%	10.21%	9.64%	10.22%	(6.46%)	7.63%
Remove Rate Floor / Ceiling	0.00%	0.00%	0.00%	0.00%	(0.55%)	(4.12%)
Remove Plan 1 Benefit Improvements After 2009	(0.14%)	(0.15%)	(0.14%)	(0.14%)	N/A	N/A
Remove Prior Liability and LEOFF 1 Funding Method Changes	(0.11%)	(0.77%)	(1.00%)	0.00%	(2.12%)	(1.32%)
2011 Adjusted Contribution Rate	8.78%	9.29%	8.50%	10.08%	(9.13%)	2.19%
Liability Gains/Losses	(0.22%)	(0.59%)	(0.23%)	0.00%	0.07%	(0.63%)
Asset Gains/Losses	0.63%	1.01%	0.46%	0.01%	0.69%	0.45%
Present Value of Future Salaries Gains/Losses	(0.32%)	(0.25%)	(0.17%)	(0.11%)	(0.45%)	(0.04%)
Incremental Changes	0.07%	0.15%	0.00%	0.00%	(0.39%)	(0.16%)
Other Gains/Losses	(0.04%)	(0.06%)	0.10%	0.16%	(0.32%)	(0.03%)
Total Change	0.12%	0.26%	0.16%	0.06%	(0.40%)	(0.41%)
2012 Preliminary Contribution Rate	8.90%	9.55%	8.66%	10.14%	(9.53%)	1.78%
Increase from Applied Rate Floor	0.00%	0.21%	0.00%	0.00%	0.74%	4.66%
Decrease from Applied Rate Ceiling	0.00%	0.00%	0.00%	0.00%	0.00%	N/A
Increase from Plan 1 Benefit Improvements After 2009	0.14%	0.15%	0.14%	0.14%	N/A	N/A
Rate to Amortize Prior Liability	0.11%	0.77%	1.00%	0.00%	0.00%	1.32%
Excess Member Rate	N/A	0.00%	N/A	N/A	N/A	0.00%
Laws of 2013	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
2012 Adjusted Contribution Rate	9.15%	10.68%	9.80%	10.28%	(8.79%)	7.76%

*The SERS and PSERS rates include the UAAL rate for PERS Plan 1. The "Other Gains/Losses" category includes the "Total Change" for the PERS 1 UAAL rate in those systems.

**The LEOFF contribution rate is the state's portion for Plan 2 (20% of the Normal Cost) plus the UAAL rate for Plan 1.

Change in Employer and State Plan 2/3 Normal Cost Rate by Source						
Change in Normal Costs	PERS	TRS	SERS	PSERS	LEOFF*	WSPRS**
2011 Normal Cost Before Laws of 2012	5.03%	5.73%	5.64%	6.22%	3.03%	7.63%
Remove Rate Floor / Ceiling	0.00%	0.00%	0.00%	0.00%	(0.55%)	(4.12%)
Remove Prior Employer Liability	(0.11%)	(0.77%)	(1.00%)	0.00%	0.00%	(1.32%)
2011 Adjusted Normal Cost Rate	4.92%	4.96%	4.64%	6.22%	2.48%	2.19%
Liabilities						
Salaries	(0.54%)	(0.83%)	(0.62%)	(0.36%)	(0.22%)	(0.83%)
Termination	(0.11%)	(0.28%)	(0.13%)	(0.15%)	(0.01%)	(0.17%)
Retirement	0.02%	0.04%	0.03%	0.01%	(0.01%)	(0.08%)
Growth / Return to Work	0.38%	0.64%	0.44%	0.53%	0.13%	0.46%
Other Liabilities	0.09%	0.04%	0.05%	(0.03%)	0.04%	(0.01%)
Total Liability Gains/Losses	(0.16%)	(0.39%)	(0.23%)	0.00%	(0.07%)	(0.63%)
Asset Gains/Losses	0.24%	0.30%	0.46%	0.01%	0.01%	0.45%
Present Value of Future Salaries Gains/Losses	(0.13%)	(0.09%)	(0.17%)	(0.11%)	(0.03%)	(0.04%)
Incremental Changes						
Plan Change	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Method Change	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Assumption Change	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Correction Change	0.00%	0.00%	0.00%	0.00%	0.00%	(0.16%)
Total Incremental Changes Gains/Losses	0.00%	0.00%	0.00%	0.00%	0.00%	(0.16%)
Other Gains/Losses	(0.04%)	(0.04%)	(0.11%)	(0.05%)	(0.03%)	(0.03%)
Total Change	(0.09%)	(0.22%)	(0.05%)	(0.15%)	(0.12%)	(0.41%)
2012 Preliminary Normal Cost	4.83%	4.74%	4.59%	6.07%	2.36%	1.78%
Increase from Applied Rate Floor	0.00%	0.21%	0.00%	0.00%	0.74%	4.66%
Rate to Amortize Prior Employer Liability	0.11%	0.77%	1.00%	0.00%	0.00%	1.32%
Excess Member Rate	N/A	0.00%	N/A	N/A	N/A	0.00%
Laws of 2013	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
2012 Adjusted Normal Cost	4.94%	5.72%	5.59%	6.07%	3.10%	7.76%

*The LEOFF contribution rate is the state's portion only (20% of the Plan 2 Normal Cost).

**The WSPRS normal cost contribution rate applies to Plans 1 and 2.

Change in Employer and State Plan 1 UAAL Rate by Source						
Change in UAAL Rate	PERS	TRS	SERS*	PSERS*	LEOFF**	WSPRS
2011 UAAL Rate Before Laws of 2012	4.00%	4.48%	4.00%	4.00%	(9.49%)	N/A
Remove Rate Floor / Ceiling	0.00%	0.00%	0.00%	0.00%	0.00%	N/A
Remove Plan 1 Benefit Improvements After 2009	(0.14%)	(0.15%)	(0.14%)	(0.14%)	N/A	N/A
LEOFF 1 Roll Forward Funding Method	N/A	N/A	N/A	N/A	(2.12%)	N/A
2011 Adjusted UAAL Rate	3.86%	4.33%	3.86%	3.86%	(11.61%)	N/A
Liabilities						
Salaries	(0.05%)	(0.12%)	N/A	N/A	(0.03%)	N/A
Termination	0.00%	0.00%	N/A	N/A	0.00%	N/A
Retirement	(0.02%)	(0.03%)	N/A	N/A	(0.01%)	N/A
Return to Work	0.00%	0.01%	N/A	N/A	0.00%	N/A
Inflation (CPI)	0.00%	0.00%	N/A	N/A	0.05%	N/A
Other Liabilities	0.01%	(0.06%)	N/A	N/A	0.13%	N/A
Total Liability Gains/Losses	(0.06%)	(0.20%)	N/A	N/A	0.14%	N/A
Asset Gains/Losses	0.39%	0.71%	N/A	N/A	0.68%	N/A
Present Value of Future Salaries Gains/Losses	(0.19%)	(0.16%)	N/A	N/A	(0.42%)	N/A
Incremental Changes						
Plan Change	0.00%	0.00%	N/A	N/A	0.00%	N/A
Method Change	0.00%	0.00%	N/A	N/A	(0.32%)	N/A
Assumption Change	0.00%	0.00%	N/A	N/A	0.00%	N/A
Correction Change	0.07%	0.15%	N/A	N/A	(0.07%)	N/A
Total Incremental Changes Gains/Losses	0.07%	0.15%	N/A	N/A	(0.39%)	N/A
Other Gains/Losses	0.00%	(0.02%)	N/A	N/A	(0.29%)	N/A
Total Change	0.21%	0.48%	0.21%	0.21%	(0.28%)	N/A
2012 Preliminary UAAL Rate	4.07%	4.81%	4.07%	4.07%	(11.89%)	N/A
Increase from Applied Rate Floor	0.00%	0.00%	0.00%	0.00%	N/A	N/A
Decrease from Applied Rate Ceiling	0.00%	0.00%	0.00%	0.00%	0.00%	N/A
Increase from Plan 1 Benefit Improvements After 2009	0.14%	0.15%	0.14%	0.14%	N/A	N/A
Laws of 2013	0.00%	0.00%	0.00%	0.00%	0.00%	N/A
2012 Adjusted UAAL Rate	4.21%	4.96%	4.21%	4.21%	(11.89%)	N/A

*The SERS and PSERS rates are to fund the PERS Plan 1 UAAL.

**The LEOFF contribution rate is the UAAL rate for plan 1. The plan has a surplus of assets over liabilities, so no rate is currently payable.

Effect of Plan, Assumption, and Method Changes

In addition to experience gains or losses, changes in plan provisions or actuarial assumptions or methods can also impact contribution rates.

Plan Changes

- ◆ None

Assumption Changes

- ◆ None

Method Changes

- ◆ We now spread the Entry Age Normal (EAN) cost as a level percentage of pay over a member's career, rather than over the period from entry to the last decrement age where each benefit is available.
- ◆ For the entry age used in the EAN calculation, the member's career begins with their age at entry into the current plan, rather than the

age they entered service in any state plan.

Other Changes

- ◆ We added the so-called "One Percent Rule" for PERS Plan 1 (RCW 41.40.190) and TRS Plan 1 (RCW 41.32.497) to our valuation model because the existing benefit has now become a material liability.

- ◆ We made a number of minor corrections based on the results of the 2011 Actuarial Audit Report.

Effect of Changes on the Current Valuation

The following table shows the effect of the above changes on the current actuarial valuation results.

Effect of Plan, Assumption, and Method Changes									
	PERS 1	PERS 2/3	TRS 1	TRS 2/3	SERS 2/3	PSERS 2	LEOFF 1	LEOFF 2*	WSPRS
Before Changes									
PVFB	\$12,445	\$28,781	\$9,055	\$10,228	\$3,890	\$488	\$4,140	\$9,214	\$1,020
PUC Liability	12,319	20,339	9,015	6,787	2,819	135	4,129	6,070	860
Actuarial Value of Assets	8,521	22,653	7,145	7,758	3,100	180	5,562	7,222	982
Unfunded Liability	3,798	(2,314)	1,870	(971)	(281)	(45)	(1,433)	(1,152)	(122)
Employer Contribution Rate	9.06%	9.06%	10.33%	10.33%	9.51%	10.07%	0.00%	4.62%	7.76%
After Changes									
PVFB	\$12,514	\$28,796	\$9,111	\$10,240	\$3,893	\$488	\$4,132	\$9,202	\$1,019
PUC Liability	12,368	20,347	9,058	6,799	2,820	\$135	4,121	6,071	859
Actuarial Value of Assets	8,521	22,653	7,145	7,758	3,100	\$180	5,562	7,222	982
Unfunded Liability	3,847	(2,306)	1,914	(959)	(280)	(\$45)	(1,440)	(1,151)	(123)
Employer Contribution Rate	9.15%	9.15%	10.68%	10.68%	9.80%	10.28%	0.00%	4.64%	7.76%
Increase / (Decrease) in Rate	0.09%	0.09%	0.35%	0.35%	0.29%	0.21%	0.00%	0.02%	0.00%

Before and after changes include actuarial gains and losses for the year ending 6/30/2012.

Both before and after contribution rates include rate minimums and maximums.

*The LEOFF Plan 2 contribution rate is the employer's portion only (30% of the Plan 2 Normal Cost)