

Pension Funding Informational Session

Presentation to Legislators, Employee Groups and Interested Parties

September 2015



Agenda

- Overview of Retirement Programs, Administration and Benefits
 - VMERS
 - VSERS
 - VSTRS
- Pension Funding Issues and Challenges
 - Current Funding Status
 - New Standards by Government Accounting Standards Board (GASB)
 - Treasurer's Position on Defined Benefit Plans
- Budgetary Pressures
- Pension Investments
 - Committee Structure
 - Fiduciary Responsibilities
 - Investment Policies
 - Environmental, Social and Governance (ESG) Policy

Guiding Principles for a Retirement Plan

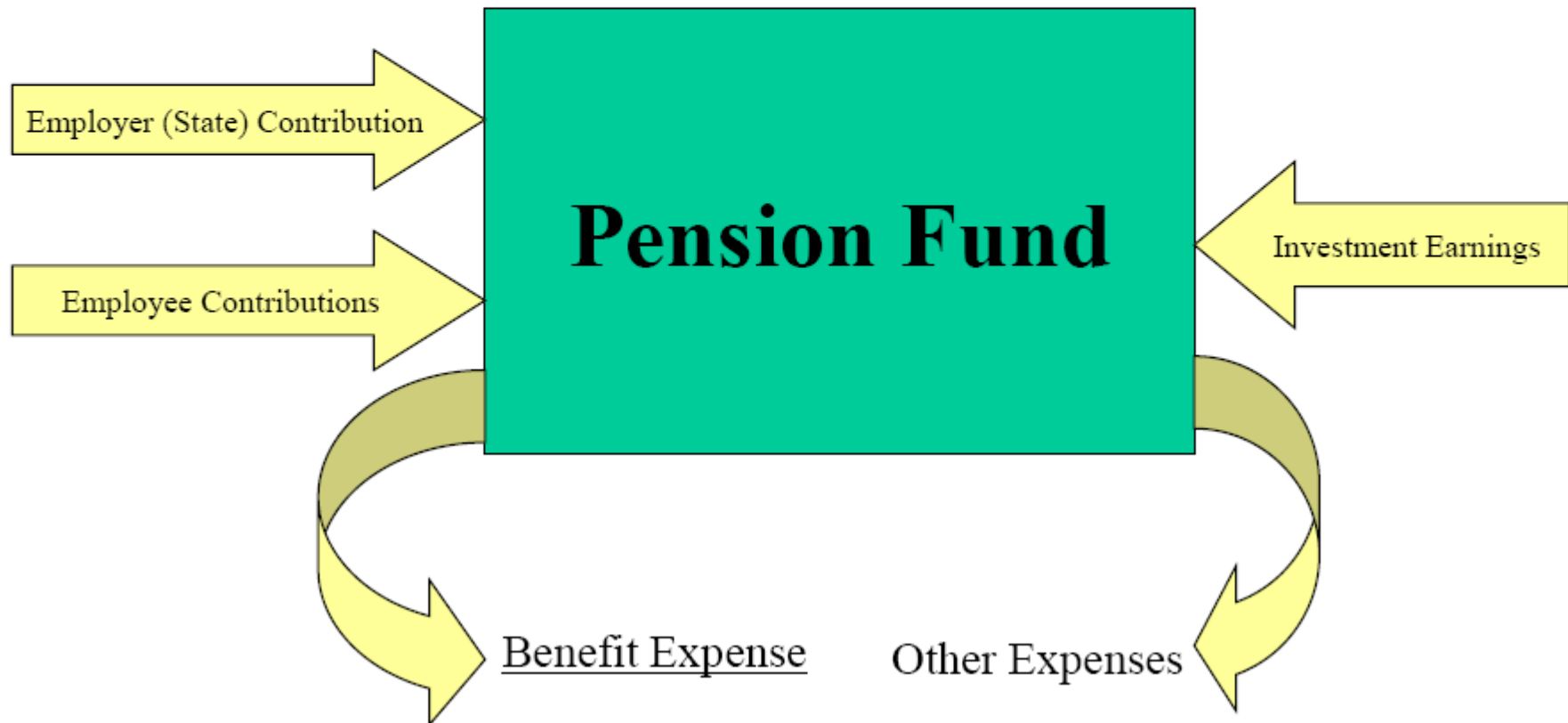
Fairness and Sustainability Are Both Essential to Benefit Plans

What Do We Want From Our Retirement Benefit Plan?

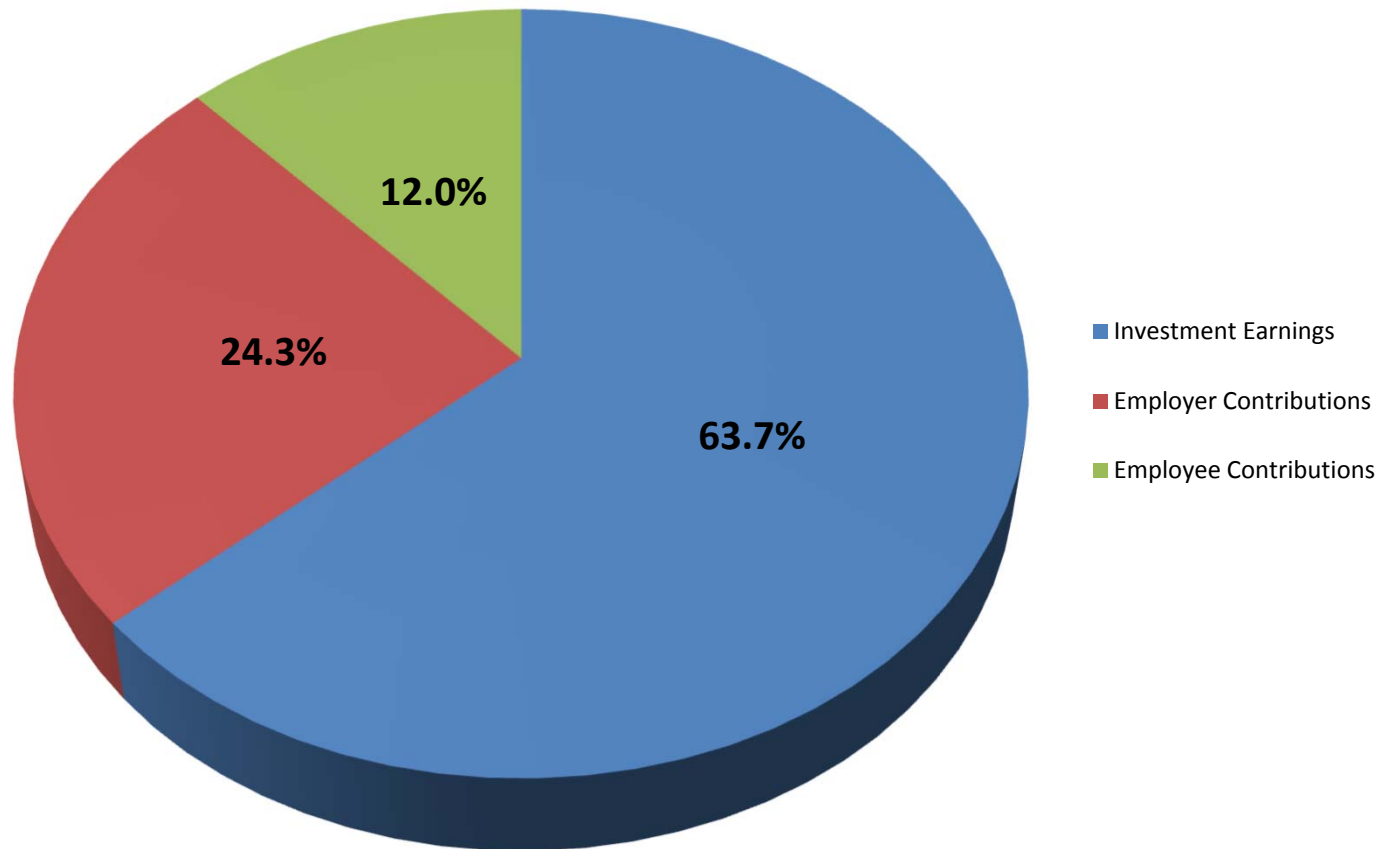
- ▶ **Recruitment** – The benefit plan should act as an incentive for recruiting high quality employees. The plan must be competitive with those in other states and within Vermont.
- ▶ **Retention** – The benefit plan should act as an incentive for retaining high-quality employees and maintaining a stable workforce. The plan should also be compatible with changing workforce and demographic trends.
- ▶ **Reward** – The benefit plan should provide a solid foundation for retirement security following a career in public service.
- ▶ **Sustainability** – The cost of the benefit plan should be sustainable and predictable over the long term.
- ▶ **Affordability** – The cost of the benefit plan should be affordable for current and future public employees and other taxpayers.
- ▶ **Fairness** – The benefit plan should be fair to workers and other taxpayers.
- ▶ **Equity** – The benefit plan should be equitable for all parties.

Pension Funding Model

The financial objective of a government employee pension system is to fund the long-term cost of promised benefits to the plan participants.



Investment Earnings Comprise the Greatest Source of Revenue



Source: NASRA, [Key Facts Regarding State and Local Government Defined Benefit Plans](#), January 2007.

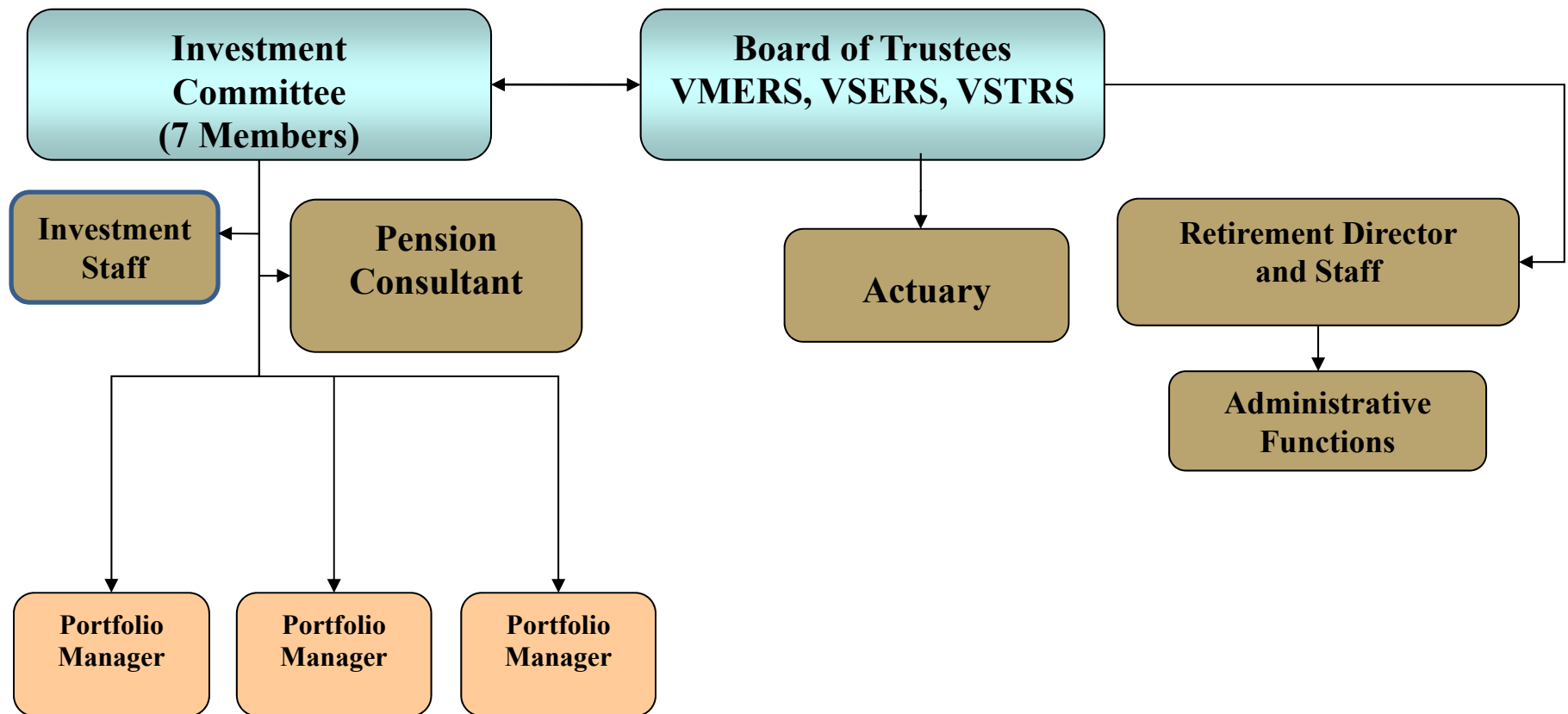
The Pension Challenge

- **Funding for retirement benefits, including health care, is among the largest fiscal challenges facing many state governments, including Vermont**
- **Health insurance has historically grown much faster than the rate of revenue growth**
- **Investment losses from the Great Recession significantly impacted pension funding**
- **At the same time, retirement security is important to Vermont's economic future**
- **Maintaining a disciplined approach is important to meet these challenges**

Pension & Retirement Boards

- **Vermont Municipal Employees' Retirement System (VMERS)**
- **Vermont State Employees' Retirement System (VSERS)**
- **Vermont State Teachers' Retirement System (VSTRS)**
- **Vermont Pension Investment Committee**

Vermont Model



Vermont Retirement Systems *Administered in Treasurer's Office*

- **VSERS-** Vermont State Employees Retirement System
 - 8,325 active members
 - 867 inactive members
 - 732 terminated vested members
 - 5,980 retirees
- **VSTRS-** Vermont State Teachers' Retirement System
 - 9,952 active members
 - 2,416 inactive members
 - 740 terminated vested members
 - 8,086 retirees
- **VMERS-** Vermont Municipal Retirement System
 - 6,664 active members
 - 1,817 inactive members
 - 692 terminated vested members
 - 2,359 retirees

Collectively referred to as VRS: \$258.1 million paid in retirement benefits in FY2014

Municipal System

An Overview of VMERS

- Vermont Municipal Employees' Retirement System (VMERS) is the public pension plan provided by the State of Vermont for participating municipalities' employees
- It was created in 1975 and is governed by Vermont Statute Title 24, Chapter 125
- Plan has approximately 450 participating entities
- As of June 30, 2014, the plan has assets of \$534,525,477

VMERS Facts

- VMERS benefits are funded by member contributions, employer contributions, and net investment returns
- Investment returns historically provide the majority of funding for pension benefits
- VMERS is currently 86.2% funded. Much of the unfunded liability is related to investment performance in the Great Recession while recent smaller amounts are attributable to retirement experience, demographic or economic assumptions
- Employer rates are set by the VMERS Board of Trustees every year after an annual actuarial valuation is conducted by an independent actuary
- Member rates are set by the Legislature although the Board does make recommendations

Vermont Municipal Employees' Retirement System (VMERS)

	<u>June 30, 2014</u>	<u>June 30, 2013</u>	<u>% Change</u>
Active Members			
Vested	4,129	4,102	0.66%
Not Vested	2,535	2,475	2.42%
Total Active members	6,664	6,577	1.32%
Average Age	48.87	48.76	0.23%
Average Service	9.13	9.10	0.33%
Average Compensation	\$ 34,659	\$ 33,506	3.44%
 Retired Members and Beneficiaries			
Number	2,359	2,146	9.93%
Annual Retirement Allowances	\$ 19,065,769	\$ 16,532,859	15.32%
 Inactive Members	1,817	1,765	2.95%
 Terminated Vested Members	692	652	6.13%

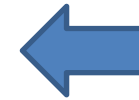
VMERS Membership

(as of July 1, 2014)

Member Type	Group A	Group B	Group C	Group D	Total
Active, Vested	1,632	1,954	451	92	4,129
Active, Not Vested	994	1,222	273	46	2,535
Terminated Vested	385	285	17	5	692
Inactive	912	818	77	10	1,817
Retired	954	1,127	256	22	2,146
Total	4,877	5,406	1,074	175	11,532

VMERS Contribution History

VMERS EMPLOYER CONTRIBUTION RATES*				
	GROUP A	GROUP B	GROUP C	GROUP D
7/1/1999	4.200%	5.600%	6.500%	
7/1/2000	4.000%	5.000%	6.000%	
7/1/2010	4.000%	5.000%	6.500%	9.500%
7/1/2013	4.000%	5.125%	6.625%	9.625%
1/1/2014	4.000%	5.125%	6.750%	9.625%
7/1/2014	4.000%	5.375%	6.875%	9.750%
1/1/2015	4.000%	5.375%	7.000%	9.750%
7/1/2015	4.000%	5.500%	7.125%	9.850%
1/1/2016	4.000%	5.500%	7.250%	9.850%



Approved by the
VMERS Board *

VMERS EMPLOYEE CONTRIBUTION RATES				
	GROUP A	GROUP B	GROUP C	GROUP D
7/1/1999	3.000%	5.000%	11.000%	
7/1/2000	2.500%	4.500%	9.000%	
7/1/2010	2.500%	4.500%	9.250%	11.000%
7/1/2013	2.500%	4.625%	9.375%	11.125%
1/1/2014	2.500%	4.625%	9.500%	11.125%
7/1/2014	2.500%	4.750%	9.625%	11.250%
1/1/2015	2.500%	4.750%	9.750%	11.250%
7/1/2015	2.500%	4.875%	9.875%	11.350%
1/1/2016	2.500%	4.875%	10.000%	11.350%



Adopted **

* Employer rates are set by the VMERS Board of Trustees

** Employee rates are set by the Legislature by statute

State System (VSEERS)

An Overview of VSERS

- The Vermont State Retirement System (VSRS) is the public pension plan provided by the State of Vermont for State employees
- It was created in 1944 and is governed by Vermont Statute Title 3, Chapter 16
- The system has undergone several major changes over the years, including merger of the State Police and Motor Vehicle Inspectors' Retirement System, benefits and contribution reform in 1972, creation of a non-contributory retirement plan for rank-and-file state employees in 1981
- In 1990 the Legislature mandated a return to a contributory system effective January 1, 1991 with full implementation by January 1, 1995
- As of June 30, 2014, the plan has assets of \$1,657,245,868

VSERS Facts

- Membership as of June 30, 2014:
 - 8,325 active
 - 867 inactive
 - 732 terminated vested
 - 5,980 retired
- VSERS benefits are currently funded by member contributions, contributions by the state (across various funds, roughly 35% to 40% by General Fund), and net investment returns
- Investment returns historically provide the majority of funding for pension benefits
- VSERS is currently 77.9% funded (on a funding policy basis) and 82.5% funded per GASB 67 standard
- Much of the unfunded liability is related to investment performance in the Great Recession while recent smaller amounts are attributable to retirement experience, demographic or economic assumptions
- Prior to Great Recession, VSERS was 100.8% funded

VSEERS Membership

- Group A
 - Became members from 1947 –1984 and elected to stay in the contributory system
- Group C
 - Law Enforcement
- Group D
 - Judges
- Group F
 - Hired on or after January 1, 1991
 - Hired before January 1, 1991 and were in Group E. Members are now a Group F member

Over 90% of state workforce is in Group F

Vermont State Employees' Retirement System (VSERS)

Active Members	<u>June 30, 2014</u>	<u>June 30, 2013</u>	<u>% Change</u>
Vested	5,637	5,763	-2.19%
Not Vested	2,688	2,395	12.23%
Total Active members	8,325	8,158	2.05%
Average Age	45.21	46.17	-2.08%
Average Service	11.77	12.15	-3.13%
Average Compensation	\$ 52,574	\$ 51,087	2.91%
Retired Members and Beneficiaries			
Number	5,980	5,795	3.19%
Annual Retirement Allowances	\$ 104,452,793	\$ 98,932,427	5.58%
Inactive Members	867	796	8.92%
Terminated Vested Members	732	741	-1.21%

Teachers' System

An Overview of VSTRS

- The Vermont State Teachers' Retirement System (VSTRS) is the public pension plan provided by the State of Vermont for State teachers
- It was created in 1947 and is governed by Vermont Statute Title 16, Chapter 55
- As of June 30, 2014, the plan has assets of \$1,705,364,605

VSTRS Facts

- Membership as of June 30, 2014:
 - 9,952 active
 - 2,416 inactive
 - 740 terminated vested
 - 8,086 retired
- VSTRS benefits are currently funded by member contributions, contributions by the state (general fund), and net investment returns
- Investment returns historically provide the majority of funding for pension benefits
- VSTRS is currently 59.9% funded (on a funding policy basis) and 64% funded per GASB 67 standard
- VSTRS was not as well funded as the state or municipal plan going into the Great Recession, because of significant periods of underfunding the actuary's recommended contribution and the impact of paying health care in the pension fund without explicit funding sources
- Smaller amounts are attributable to retirement experience, demographic or economic assumptions

Vermont State Teachers' Retirement System (VSTRS)

Active Members	<u>June 30, 2014</u>	<u>June 30, 2013</u>	<u>% Change</u>
Vested	7,720	7,822	-1.30%
Not Vested	2,232	2,279	-2.06%
Total Active members	9,952	10,101	-1.48%
Average Age	46.53	46.61	-0.17%
Average Service	13.15	13.09	0.46%
Average Compensation	\$ 56,981	\$ 55,799	2.12%
Retired Members and Beneficiaries			
Number	8,086	7,743	4.43%
Annual Retirement Allowances	\$ 147,409,221	\$ 138,079,875	6.76%
Inactive Members	2,416	2,322	4.05%
Terminated Vested Members	740	751	-1.46%

Pension Funding: How are We Doing?

- Measured by an Independent Actuary
- Three Important Factors:
 1. What is your funded status?
 - Pension Liabilities
 - Assets Available to meet these liabilities
 2. Are you Contributing to Plan at the Recommended Rate
 - ARC
 - ADC/ADEC
 3. Do you have a plan in place to retire the unfunded liability?

A Brief Review of Public Sector Pension Accounting

- GASB established in 1984
- First GASB accounting standards for pensions (GASB 4 and 5) issued in 1986
- Next GASB standards for public-sector pension plans adopted in 1994:
 - GASB 25: Financial Reporting for Pension Plans by the plan
 - GASB 27: Financial Reporting for Pension Plans
 - These standards had a strong link between funding and accounting
 - Six options for funding method and as well as amortization for UAAL
- GASB 67 & 68 Statements Issued in 2012
 - GASB 67: accounting for the plan by the plan, effective for fiscal years beginning after June 15, 2014
 - GASB 68: Employer Reporting, effective for fiscal years beginning after June 15, 2014
 - Standardized actuarial method – Entry Age Normal

What are the Impacts of GASB 68?

- Net Pension Obligation (NPO) on the government wide financial statements will be replaced by a Net Pension Liability (NPL)
 - On Market Value basis
 - Entry Age Normal Cost Method must be used (used in VSTRS and VSERS currently, different method for VMERS)
- Significant impact in first year due to NPL impact vs. NPO
- Discount rate equal to expected investment rate of return, except for:
 - Benefit payments not expected to be funded
 - Discounted at a high quality 20-year tax-exempt municipal bond index rate
 - “Run-out date” projections used to determine cross-over point
 - More problematic for systems currently using “open amortization”
- In prior standard, the Annual Required Contribution (ARC) was the basis of a funding strategy
- No ARC equivalent in the new standards

Key Messages

- GASB 68 divorces funding and accounting
 - In prior standard, the focus was on whether the government is making its ARC contributions to adequately fund the plan
 - Under the new standard, the focus is on the size and growth of the NPL
- GASB68, based on fair market value of assets, will lead to more volatility in the NPL and funded ratio reported for accounting purposes
- Unfunded pension liabilities exist today and will tomorrow, much like the amortized portion of a mortgage
- Legislators and pension governing boards will still need to maintain/develop a funding policy to pay off the liabilities
 - Vermont's funding policy established in state statute
- Employers' unfunded pension liabilities are very large but will be paid down via annual contributions to the pension funds over many years

GASB 68 Does Put a Couple Tests on What Discount Rate May Be Used

- Must be able to determine that the plan's net assets are sufficient to pay future benefit payments
- Investment strategy must be able to support the rate of return

Comparative Pension Terminology

	Funding	GASB 67 & 68
Assets	Actuarial Value of Assets (AVA)*	Fiduciary Net Position (FNP)**
Total Liabilities	Actuarial Accrued Liability (AAL)	Total Pension Liability (TPL)
Net Liability Amount	Unfunded Actuarial Accrued Liability (UAAL)	Net Pension Liability (NPL)
Ratio of Assets to Liabilities	Funded Ratio	Ratio of FNP to TPL
Actuarial Contribution	Annual Actuarially required Contribution (ARC)	Actuarially Determined (Employer) Contribution (ADEC or ADC)

*Market-related value, with smoothing, designed to minimize volatility

** Fair market value of plan assets

FY 2014 GASB 67 Results

(Dollar Amounts in Thousands)

	<u>Vermont State Retirement System</u>	<u>Vermont State Teachers' Retirement System</u>	<u>Vermont Municipal Employees Retirement System</u>
Total pension liability	\$ 2,008,888	\$ 2,663,802	\$ 543,652
Plan fiduciary net position	<u>(1,657,246)</u>	<u>(1,705,365)</u>	<u>(534,525)</u>
Net pension liability	<u>\$ 351,642</u>	<u>\$ 958,437</u>	<u>\$ 9,127</u>
Plan fiduciary net position as a percentage of total pension liability	82.50%	64.02%	98.32%

Sensitivity of NPL to Changes in Discount Rate

	<u>VSRS</u>	<u>STRS</u>	<u>MERS</u>
One-percent decrease			
Discount rate	7.22%	7.15%	7.23%
Net pension liability	\$ 587,188	\$ 1,258,726	\$ 76,886
Net pension liability, as reported			
Discount rate	8.22%	8.15%	8.23%
Net pension liability	\$ 351,642	\$ 958,437	\$ 9,127
One-percent increase			
Discount rate	9.22%	9.15%	9.23%
Net pension liability (asset)	\$ 153,107	\$ 706,364	\$ (47,722)

Plan Status Based on Funding Policy

Teacher Plan	2013	2014
Actuarial Accrued Liability	\$2,566,834,655	\$2,687,049,333
Actuarial Value of Assets	\$1,552,924,370	\$1,610,285,523
Unfunded Liability	\$1,013,910,285	\$1,076,763,810
Funding percentage	60.5%	59.9%
State Plan		
Actuarial Accrued Liability	\$1,914,299,984	\$2,010,089,866
Actuarial Value of Assets	\$1,469,169,902	\$1,566,075,540
Unfunded Liability	\$445,130,082	\$444,014,326
Funding percentage	76.7%	77.9%
Municipal Plan		
Actuarial Accrued Liability	\$528,426,358	\$580,972,276
Actuarial Value of Assets	\$446,235,922	\$500,557,919
Unfunded Liability	\$82,190,436	\$80,414,357
Funding percentage	84.4%	86.2%

Funding Progress of the Retirement Systems

State (VSERS)

(amounts in thousands)

	Year ending June 30	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a)/c)
VSERS	2014	\$ 1,566,076	\$ 2,010,090	\$ 444,014	77.9%	\$ 437,676	101.4%
	2013	1,469,170	1,914,300	445,130	76.8%	416,766	106.8%
	2012	1,400,779	1,802,604	401,825	77.7%	385,526	104.2%
	2011	1,348,763	1,695,301	346,538	79.6%	398,264	87.0%
	2010	1,265,404	1,559,324	293,920	81.2%	393,829	74.6%
	2009	1,217,638	1,544,144	326,506	78.9%	404,516	80.7%
	2008	1,377,101	1,464,202	87,101	94.1%	404,593	21.5%
	2007	1,318,687	1,307,643	(11,044)	100.8%	386,917	-2.9%
	2006	1,223,323	1,232,367	9,044	99.3%	369,310	2.4%
	2005	1,148,908	1,174,796	25,888	97.8%	349,258	7.4%
	2004	1,081,359	1,107,634	26,275	97.6%	336,615	7.8%
	2003	1,025,469	1,052,004	26,535	97.5%	319,855	8.3%
	2002	990,450	1,017,129	26,679	97.4%	300,994	8.9%
	2001	954,821	1,026,993	72,172	93.0%	278,507	25.9%
	2000	895,151	967,064	71,913	92.6%	266,519	27.0%
	1999	804,970	876,412	71,442	91.8%	238,281	30.0%
	1998	733,716	804,501	70,785	91.2%	235,956	30.0%
	1997	639,128	753,883	114,755	84.8%	227,000	50.6%

Funding Progress of the Retirement Systems

Municipal (VMERS)

(amounts in thousands)

	Year ending June 30	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAAL as a Percentage of Covered Payroll ((b-a)/c)
VMERS	2014	\$ 500,558	\$ 580,972	\$ 80,414	86.2%	\$ 230,969	34.8%
	2013	446,236	528,426	82,190	84.4%	220,372	37.3%
	2012	417,443	488,572	71,129	85.4%	215,075	33.1%
	2011	402,550	436,229	33,679	92.3%	205,589	16.4%
	2010	376,153	409,022	32,869	92.0%	202,405	16.2%
	2009	331,407	366,973	35,566	90.3%	191,521	18.6%
	2008	348,740	343,685	(5,055)	101.5%	175,894	-2.9%
	2007	325,774	309,853	(15,921)	105.1%	162,321	-9.8%
	2006	288,347	276,552	(11,795)	104.3%	148,815	-7.9%
	2005	259,076	248,140	(10,936)	104.4%	146,190	-7.5%
	2004	232,890	225,092	(7,798)	103.5%	135,351	-5.8%
	2003	222,854	218,533	(4,321)	102.0%	126,216	-3.4%
	2002	193,278	176,109	(17,169)	109.7%	106,986	-16.0%
	2001	177,928	158,786	(19,142)	112.1%	101,873	-18.8%
	2000	161,900	138,697	(23,203)	116.7%	87,147	-26.6%
	1999	137,454	114,481	(22,973)	120.1%	70,808	-32.4%
	1998	113,678	102,005	(11,673)	111.4%	87,328	-13.4%
	1997	96,196	85,686	(10,510)	112.3%	70,800	-14.8%

Funding Progress of the Retirement Systems

Teachers (VSTRS)

(amounts in thousands)

	Year ending June 30	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a)/c)
VSTRS	2014	\$ 1,610,286	\$ 2,687,049	\$ 1,076,764	59.9%	567,074	189.9%
	2013	1,552,924	2,566,834	1,013,910	60.5%	563,623	179.9%
	2012	1,517,410	2,462,913	945,503	61.6%	561,179	168.5%
	2011	1,486,698	2,331,806	845,108	63.8%	547,748	154.3%
	2010	1,410,368	2,122,191	711,823	66.5%	562,150	126.6%
	2009	1,374,079	2,101,838	727,759	65.4%	561,588	129.6%
	2008	1,605,462	1,984,967	379,505	80.9%	535,807	70.8%
	2007	1,541,860	1,816,650	274,790	84.9%	515,573	53.3%
	2006	1,427,393	1,686,502	259,109	84.6%	499,044	51.9%
	2005	1,354,006	1,492,150	138,144	90.7%	468,858	29.5%
	2004	1,284,833	1,424,661	139,828	90.2%	453,517	30.8%
	2003	1,218,001	1,358,822	140,821	89.6%	437,239	32.2%
	2002	1,169,294	1,307,202	137,908	89.5%	418,904	32.9%
	2001	1,116,846	1,254,341	137,495	89.0%	403,258	34.1%
	2000	1,037,466	1,174,087	136,621	88.4%	387,999	35.2%
	1999	931,056	1,065,754	134,698	87.4%	372,299	36.2%
	1998	821,977	955,694	133,717	86.0%	357,899	37.4%
	1997	717,396	849,179	131,783	84.5%	364,695	36.1%

VSTRS- Funding History

Year	Total VSTRS Payroll	Total VSTRS Payroll/ Using 1979 Dollars	Recommended Contribution For Budget based on Actuarial projection	Actual Contribution	\$ Difference: Act vs. Rec. (Uses Budget Beginning 1996)	Percentage of Request Budget Basis	Actual Contribution as a Percentage of Payroll
1979	96,725,620	96,725,620	7,806,825	4,825,155	2,981,670	61.8%	5.0%
1980	104,521,888	92,090,887	8,944,090	8,471,960	472,130	94.7%	8.1%
1981	112,811,389	90,100,185	9,862,861	8,830,900	1,031,961	89.5%	7.8%
1982	126,748,398	95,356,826	10,200,209	7,822,760	2,377,449	76.7%	6.2%
1983	139,085,342	101,381,484	10,721,814	10,929,355	(207,541)	101.9%	7.9%
1984	153,329,729	107,138,964	12,341,069	11,592,100	748,969	93.9%	7.6%
1985	169,219,652	114,176,085	13,475,181	12,567,866	907,315	93.3%	7.4%
1986	187,834,677	124,423,335	14,668,095	14,461,148	206,947	98.6%	7.7%
1987	206,728,650	132,117,077	15,925,452	16,239,416	(313,964)	102.0%	7.9%
1988	230,430,153	141,413,602	16,294,346	17,186,259	(891,913)	105.5%	7.5%
1989	261,596,990	153,160,818	18,072,172	19,000,000	(927,828)	105.1%	7.3%
1990	273,951,188	152,171,815	21,320,155	19,561,000	1,759,155	91.7%	7.1%
1991	298,104,184	158,901,349	25,013,437	15,000,000	10,013,437	60.0%	5.0%
1992	312,346,750	161,627,755	28,595,220	14,618,992	13,976,228	51.1%	4.7%
1993	324,536,824	163,054,487	28,819,875	19,890,048	8,929,827	69.0%	6.1%
1994	335,155,405	164,185,441	25,805,408	20,580,000	5,225,408	79.8%	6.1%
1995	346,975,007	165,291,243	27,451,926	18,080,000	9,371,926	65.9%	5.2%
1996	355,894,809	164,677,904	29,884,559	11,480,000	18,404,559	38.4%	3.2%
1997	364,695,370	164,965,008	30,954,237	18,080,000	12,874,237	58.4%	5.0%
1998	357,899,112	159,407,825	33,519,949	18,106,581	15,413,368	54.0%	5.1%
1999	372,298,852	162,238,275	27,232,542	18,080,000	9,152,542	66.4%	4.9%
2000	387,998,959	163,581,443	23,573,184	18,586,240	4,986,944	78.8%	4.8%
2001	403,258,305	165,310,858	20,882,521	19,143,827	1,738,694	91.7%	4.7%
2002	418,904,021	169,051,873	21,965,322	20,446,282	1,519,040	93.1%	4.9%
2003	437,238,543	172,519,121	23,197,088	20,446,282	2,750,806	88.1%	4.7%
2004	453,517,153	174,300,399	29,608,892	24,446,282	5,162,610	82.6%	5.4%
2005	486,857,658	180,982,417	43,592,332	24,446,282	19,146,050	56.1%	5.0%
2006	499,044,327	179,715,368	49,923,599	24,985,506	24,938,093	50.0%	5.0%
2007	515,572,694	180,525,786	38,200,000	38,496,410	(296,410)	100.8%	7.5%
2008	535,807,012	180,673,697	40,749,097	40,955,566	(206,469)	100.5%	7.6%
2009	561,588,013	190,043,162	37,077,050	37,349,818	(272,768)	100.7%	6.7%
2010	562,149,916	187,163,315	41,503,002	41,920,603	(417,601)	101.0%	7.5%
2011	547,748,405	176,788,081	48,233,006	50,268,131	(2,035,125)	104.2%	9.2%
2012	561,179,272	177,450,696	51,241,932	56,152,011	(4,910,079)	109.6%	10.0%
2013	563,623,421	175,650,701	60,182,755	65,086,320	(4,903,565)	108.1%	11.5%
2014	567,073,601	172,732,337	68,352,825	72,668,412	(4,315,587)	106.3%	12.8%

***For Our Funding Purposes,
the Actuarial Annual Required
Contribution is now the
Actuarially Determined
(Employer) Contribution***

ARC = ADC or ADEC

Annual Required Contribution

- Method by which UAL is eventually paid off (assuming it is funded)
- Annual Required Contribution (ARC):
 - A measure of needed plan funding
 - The actuarially determined pension fund contribution in a single year
- The ARC has two parts:
 1. The Normal Cost
 - The normal cost generally represents the portion of the cost of projected benefits allocated to the current plan year.
 - The employer normal cost equals the total normal cost of the plan reduced by employee contributions.
 2. Amortization, which is the annual amount needed to eliminate the unfunded liability over the plan's amortization period

**Benefit Changes Have Lowered Normal Cost
which has Remained in Expected Parameters...**

Teachers' System	Normal Cost
FY 2011 normal cost as of 6/30/09 Valuation	\$22.8 Million
Revised as a result of enacted benefit changes	\$10.3 Million
Normal Cost for FY 2016 as projected in 2010	\$12.8 Million
Normal Cost for FY 2016 in most recent valuation	\$10.4 million

...but Amortization Cost for Unfunded Liability was Being Fueled, to a Significant Degree, by Health Care Expense Losses

Teachers' System	Amortiz. Cost
FY 2011 amortiz. cost as of 6/30/09 Valuation:	\$40.7 Million
Revised as a result of enacted changes	\$37.9 Million
Amortiz. Cost for FY 2016 as projected in 2010	\$48.5 Million
Amortiz. Cost for FY 2016 in most recent valuation	\$65.7 Million

Recent Pension (and OPEB) Initiatives

- 2005 Teacher Study made changes to the state's actuarial methods and put full funding of ARC on track
- Tiered Health Care for employees in retirement (see detail)
 - New VSERS employees after 7/1/2008
 - All VSTRS employees without 10 years service, effective 7/1/10
- Implemented Employee Group Waiver Plan for Retired Health Care reducing employer health care costs with same benefit level, **\$3-4 million per year**
- Early Retirement Reinsurance Program (ERRP) for VSTRS, **\$4.5 Million** one time savings
- VSERS: Employee Contribution Rate Increases beginning FY 2012, **\$5 million in savings per year**
- VSTRS: lengthen age of retirement, contribution increases, other changes, **\$15 million in annual savings**
- VSTRS: additional contribution increases for new members (and non-vested as of 7/1/14) **\$1 million initial annual and increasing each year**
- VMERS: annual incremental changes 2013 to present.
- Funding of current health care payments for VSTRS (FY2015) resolved
 - Federal grants **\$3 to \$4 million per year**
 - Health Care Assessment **\$375K first year, growing to \$4.9 million by year 10**
- Other Procedural Changes
 - Pension Forfeiture Statute (FY2013)
 - VSERS Disability Retirement Reform (FY16)

Teacher Health Care Benefit Changes **Effective 2010**

- For new hires and those with less than 10 years of service...
 - 1 to 14 years: No subsidized coverage
 - 15 years: 60% Single
 - 20 years: 70% Single
 - 25 years: 80% Single or spousal

- Current actives with more than 10 years of service...
 - 80% single coverage - same as now
 - 25 years: 80% single or spousal coverage
 - However:
 - Those with more than 30 years of service will have to work another 5 years to be eligible for spousal coverage
 - Those with 25 to 30 years of service will have to work a total of 35 years
 - Those with 15 to 24 years of service will have to work 10 more years
 - Those with 10 to 15 year of service will be eligible upon 25 years of service

Impact of Enacted Benefit Changes to 2010 OPEB Valuation

- Actual impact on unfunded liability exceeded original estimates, in part in combination with other lower health care inflation rates
- Per the consulting actuary, The decrease in liability is attributable to the following factors:
 - An increase in plan premiums smaller than expected;
 - Removal of assumed age-morbidity factors;
 - Changes to eligibility and cost-sharing plan provisions effective July 1, 2010, including associated changes in assumptions and attribution method
- Unfunded liability reduced in **2010 from \$872 million to \$704 million**

Teacher Unfunded OPEB Liability

Unfunded Teacher OPEB Liability

6/30/2014	\$777 Million	
6/30/2013	\$713 Million	} Implementation of Employer Group Waiver Plan (EGWP)
6/30/2012	\$827 Million	
6/30/2011	\$780 million	} Implemented Savings Initiatives including Tiered Eligibility Structure
6/30/2010	\$704 million	
6/30/2009	\$872 million	

- Liability Side has been addressed with significant initiatives but lack of a funding policy for health care continued to create upward pressures through 2014

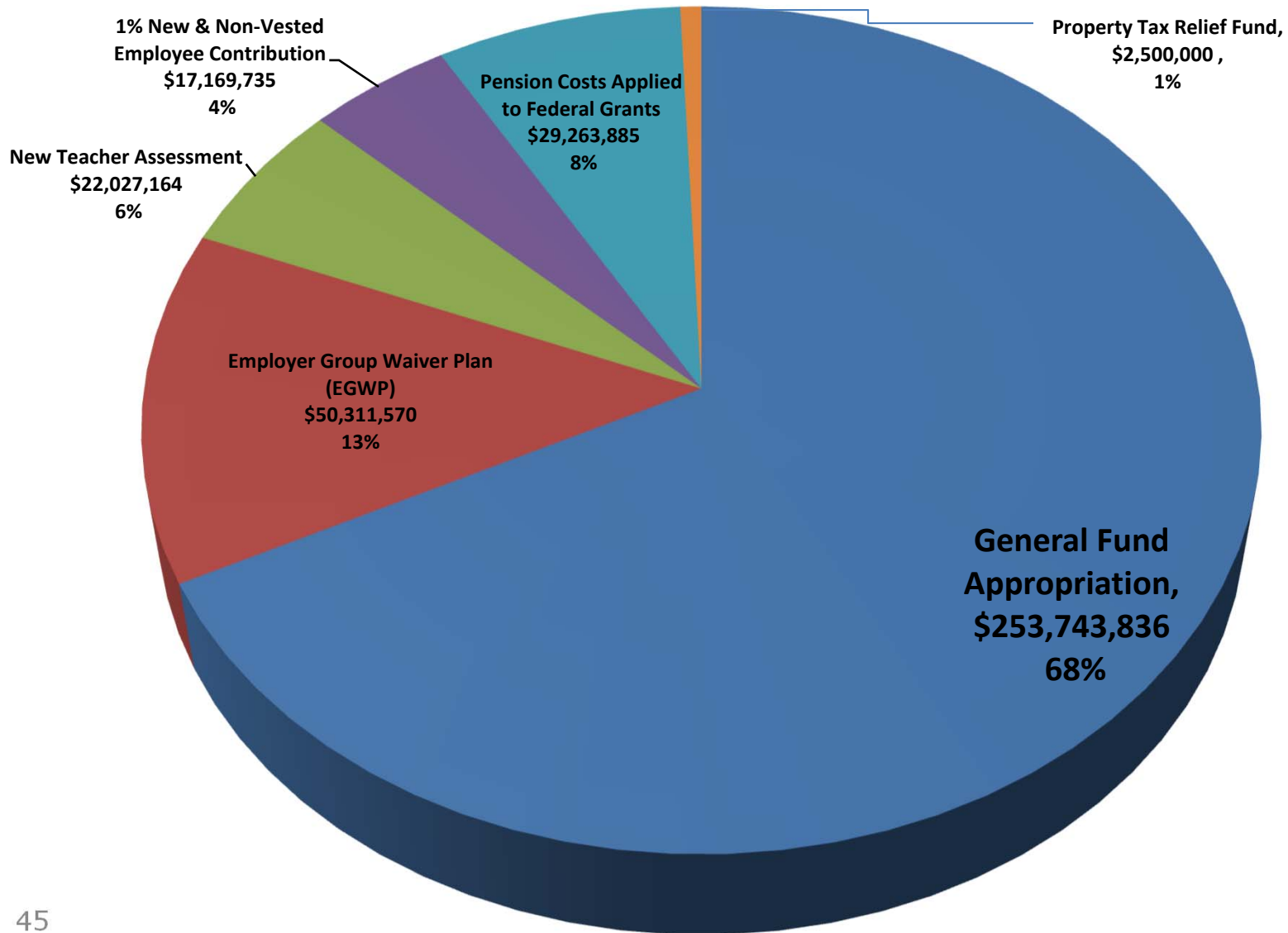
Factors Impacting Unfunded Liability:

- Expected increases due to the passage of time (and lack of funding) although offset in 2013 by EGWP initiative negotiated with NEA
- Updates to demographic assumptions as recommended by the Experience Study of the State Teacher's Retirement System of Vermont, presented to the Board on March 23, 2011
- 2009-2010- Negotiated benefit changes with NEA

Fundamental Changes to Teacher Health Care Funding Effective 7/1/2014

- The State has established and funded a separate trust to account for the assets and liabilities of the retiree medical benefit plan
- Annual contributions to the Retiree Medical Plan are be separately identified in the State budget and not commingled with Retirement Plan contributions
- A series of funding sources were put in place, replacing the “retroactive” funding approach
- Will save \$480 million in interest through 2038

Sources of Funds over Next 10 Years



Upward Budget Pressures on Funding of the the ARC

- Demographic/Experience and Economic Assumptions vs. Actual
- Experience Study
 - Interest Rate Assumption
 - Mortality
 - Other
- Retirement Incentive
- Teacher Retirements

Actuarial Gains or Losses

- A pension plan has actuarial gains or losses each year because the actual events during the year (“experience”) do not exactly match the long-term assumptions previously made
- Economic Gains/Losses: Gains or losses on plan assets occur because the actual investment returns were higher or lower than anticipated
- Experience and Demographic Gains or losses: Can occur because long-term assumptions (e.g., mortality, salary increases, termination, retirement) were not met
- An experience study is completed to reset assumptions

Impact of Assumption Changes on Valuation Results and Gains/Losses

Demographic or Economic Assumption	Description	Cost Impact on Valuation	Impact on Gain/losses if assumption varies from actual experience
Expected retirement age, or rates of retirement by age or service	The age (or ages) when employees are expected to retire.	Earlier assumed retirement usually increases cost.	If more members retired later in their careers, this could result in gains. Generally, losses result when member retires earlier without full actuarial reduction. Other scenarios may result in gain/losses.
Termination Experience: Pre retirement termination of employment	The annual rate of employment termination of employees at various stages of their careers.	Greater assumed turnover decreases liability and cost.	Higher than anticipated terminations will likely result in actuarial gains
Mortality	The probability of dying within one year at each age.	Lower mortality increases liability and cost.	Higher than anticipated longevity will result in actuarial losses
Salary increases	The expected rate of future salary increases for employees at various stages of their careers.	Higher assumption causes higher liability and cost	Higher than anticipated salary generally increases to actives will create actuarial losses
Inflation	The rate at which price levels are rising, and purchasing power is	Higher assumption causes higher liability and cost	Higher than anticipated inflation will create actuarial losses. COLAs are impacted by this but limited by a cap on COLAs.
Rate of return on plan assets	Based on invested plan asset categories and assumed rates of return.	Higher assumption causes lower liability and costs	Higher than anticipated actuarial return will result in an actuarial gain

Amortization

- The amortization period is the expected period of time for UAAL to be paid-in-full
- Amortization payment (of unfunded actuarial accrued liability) : That portion of the ARC plan contribution which is designed to pay interest on and to amortize the UAAL
- Three methods for public plans:
 1. Open amortization period: A period that begins again each time a new actuarial valuation is performed. This is analogous to getting a new 30 year mortgage every year for the unpaid balance of the mortgage started the previous year
 2. Closed amortization period: A specific number of years that is counted from one date and decreases by one each year. This is analogous to a 30 year mortgage (with no re-financing)
 3. Recalculated amortization period: A period that is recalculated each time a new actuarial valuation is performed. This type of amortization commonly applies to plans with a fixed contribution rate (e.g., set in statute)
 - Source: PRB, Understanding the Basics of Actuarial Methods, April 2013

Amortization Schedule:

- While the State has a date set in statute, 2038, to pay down the unfunded liability, the payment schedule increases in 5% increments each year
- This has the effect of increasing interest associated with the payment of these liabilities
- Leveling out the payment schedule would increase ARC payments in the short-term but have the effect of saving the taxpayers millions of dollars over the long-term
- This would also have the effect of a more rapid reduction of the unfunded liability
- Changes to amortization schedule can be phased in to cushion budgetary impact
- Treasurer's Office staff will model alternatives schedules at the Committee's request to obtain an optimum solution

Recommendation: Consider Changes to Pension Funding Amortization Schedules for the Pension Plans

- Potentially phase-in any upward pressures from assumption changes
- Changing the 5% increment to a lower percentage
 - Level out payments
 - More cost in early years but lower the overall cost to pay the unfunded liability “mortgage”
 - Save interest payments by taxpayer over the long-run
 - More rapid improvement of the funded position of plans

Defined Benefit Plans Offer the Best Alternative to Employees AND Taxpayers

- Under a defined benefit (DB) system the employer guarantees an annual retirement payment for their employee that is based on a formula
- The defined benefit is calculated based on an employee's years of service, age at retirement, and either ending salary or average salary a period of time (AFC or average final compensation)
- In a defined contribution (DC) system, the ultimate retirement benefit is the accumulated value of an individual's account at retirement, resulting from his/or her own contributions and investment returns

DB vs. DC

- DC systems have significantly higher annual administrative costs than defined benefit systems
- A DC system will cost states and local governments MORE money than the current defined benefit system
 - Municipal retirement has a small optional DC plan (\$20.1 million as of 6/30/14)
 - State does have a small DC plan (\$57.9 million as of 6/30/14) for exempt employees
 - Employees contribute 2.85% of their annual salary to their individual accounts
 - State makes a fixed contribution of 7% to each employee's account
 - Current Normal Rate for VSERS Plan: 4.13% of payroll
 - Current Normal Rate for VSTRS Plan: 1.70% of payroll

DB vs. DC

- Towers Watson has been comparing annual investment returns in defined benefit (DB) and defined contribution (DC) plans for more than 15 years
 - Their latest analysis adds investment returns for 2009 through 2011
 - Findings:
 - Consistent with other down stock market years, defined benefit plans outperformed defined contribution plans in 2011 by one of the largest margins since 1995
 - Among the largest one-sixth of plans, defined benefit plans have outperformed defined contribution plans by almost a percentage point since 1995
 - Defined contribution plans are outperforming defined benefit plans in market booms, while defined benefit plans are better equipped to weather downturns
- Supported by other studies (NIRS)
- Reliable and adequate income in retirement is important to Vermont's economic prosperity

DB vs. DC

- The National Institute on Retirement Security (NIRS) released its report, Still a Better Bang for the Buck
 - DB plans can deliver a given level of retirement income at a cost that is 48% lower than 401(k)-type DC accounts
 - In addition, the report found that DB plan investment returns are around 100 basis-points (i.e., 1.00 percentage point) higher on average than DC plan investment returns due to higher DC plan expenses and longer DB plan investment horizons
- Cost Factors Cited In Report:
 - Longevity risk pooling – generates a cost savings of about 10%
 - In order to provide lifelong income to each and every retiree, DB plans only have to fund benefits to last to average life expectancy
 - In a DC plan, an individual must accumulate extra funds in order to self-insure against the possibility of living longer than average or possibly buy a life annuity from an insurance Company, at a cost
 - Well-diversified, long-term portfolios – generates a cost savings of about 11%
 - DB plans can maintain a diversified investment portfolio over the long-term
 - Individuals in DC plans are often advised to shift to lower-risk/lower-return assets as they age.
 - Low-fee professional investment management and higher investment returns – generates a cost-savings of about 27%
 - DB plans generally have lower investment and administrative expenses than DC plans and have better access to professional investment management

Unfunded Liabilities and Residual Plan Management

- The unfunded pension liability in the Vermont system's cover benefits already earned by current employees and retirees
- Changing pension systems for new employees will not reduce the unfunded liability but will add obligations in excess of the "normal cost"
- Introducing a DC only benefit will not eliminate the necessity of continued maintenance of the DB plan.
- "Residual plan management" refers to the various issues and complexities that result from managing a retirement plan after it has been closed

Residual Plan Management

- **Allocation of Unfunded Liabilities**
 - The closed plan will be required to allocate the unfunded accrued actuarial liability over a smaller, and decreasing, employee base and over a shorter period of time
 - Shorter time frame for amortizing unfunded liabilities will likely create a spike in costs, at least in short-term
- **Investment of Plan Assets**
 - If DB plan is closed, the age profile of the plan will change, necessitating revisions to the asset investment horizon
 - More liquidity required to meet obligations
 - Changes to asset allocation plan would be necessitated, to a more conservative profile, likely adversely impacting return
 - Taxpayer would likely be required to make up the difference
- **Volatility Management Of Contribution Rates**
 - A decreasing employee base in the closed plan will increase the volatility of contribution rates
 - Funding the ARC through assessment of employer payrolls will be more volatile, adding to complexity in the state's budgeting system

What are Some of the Regulatory Differences in the Private Sector that Impact the Decision to Freeze Plans?

- Employment Retirement Security Act (ERISA) of 1974
 - Significant pension legislation in recent years
 - PPA (2006) added greatly to volatility of funding requirements for private DB plans.
- ERISA established standard for defined benefit plan participation, vesting, retirement, and reporting.
- Premiums/tax imposed on defined benefit plans to fund the Pension Benefit Guaranty Corporation (PBGC).
- Increased costs and regulatory burdens are a disincentive for defined benefit plans in the private sector.
- State and local government pension plans are not subject to ERISA.
- Public plans are not required to make payments to the PBGC
- Private plans have a shorter period to deal with unfunded liabilities to begin with, making the cost equation different.
- Risk and cost transfer to public sector

In conclusion, we need to **continue to . . .**

- Maintain continued policies for full actuarial funding of the pension funds
- Utilize periodic valuations with reasonable assumptions to assure that the pension systems are achieving the dual goals of benefit security & fiscal responsibility to both members & taxpayers
- Review changes to the benefit system to assess their impact
- Remain disciplined investors
- Exercise prudence, assess current risk management framework & develop productive strategies

Utilizing the skill sets and attributes that have Made Vermont successful...

- Fiscal prudence & collaborative problem solving
- Well-versed and supportive Administration & Legislature
- Strong research & analysis
- Well-organized employee & retiree representatives
- Transparency

Questions?

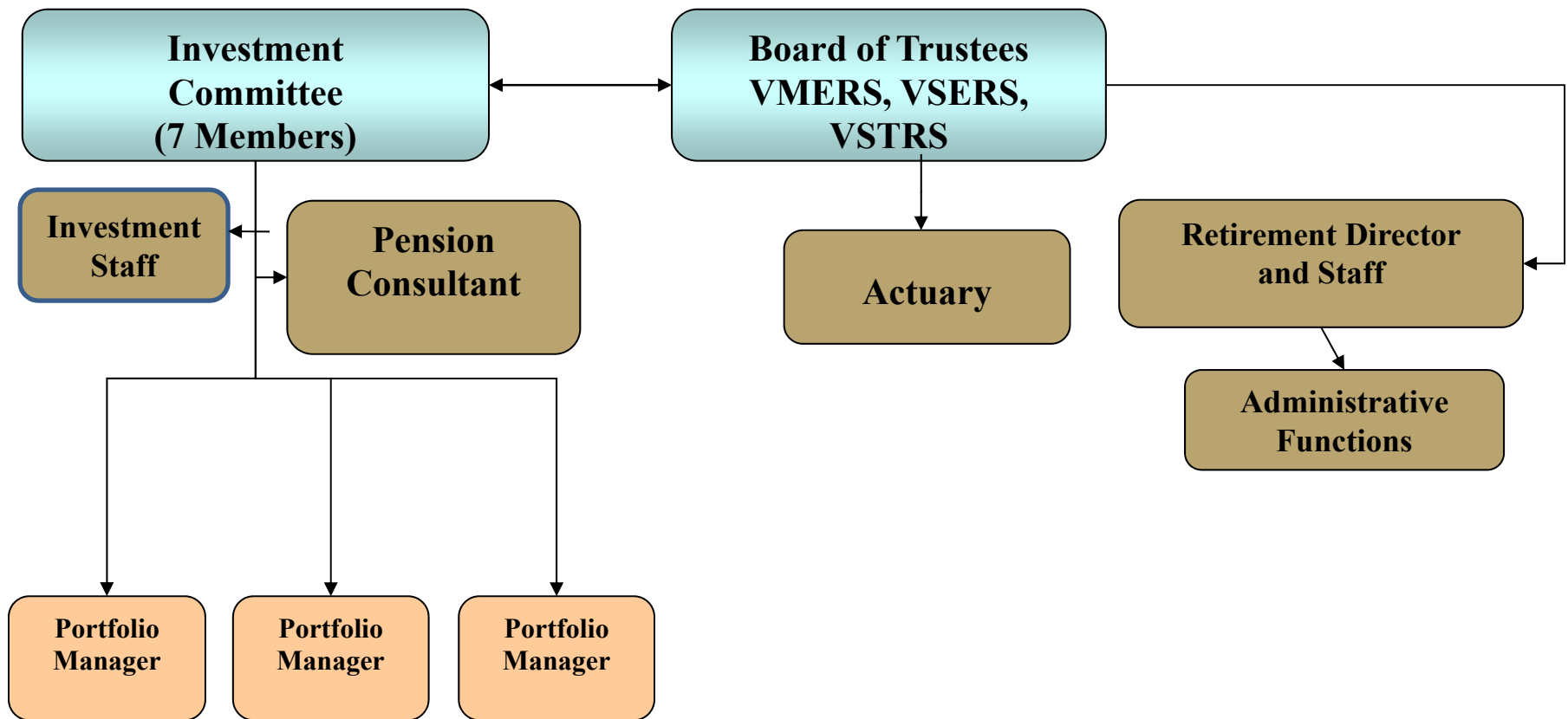
Break for Lunch

Part II

VPIC, Fiduciary Role, ESG Policy and Constructive Engagement



Vermont Model



Vermont Pension Investment Committee (VPIC)

- VPIC Mission Statement:
 - The mission of the Vermont Pension Investment Committee (VPIC) is to make and manage investments for the Vermont State Employees' Retirement System, Vermont State Teachers' Retirement System, Vermont Municipal Employees' Retirement Systems, and the other Public Retirement System, with integrity, prudence, and skill to meet or exceed the financial objectives of the beneficiaries of the funds
- Seven members
 - Each Retirement System Board of Trustees elects one member (3)
 - Two members appointed by the Governor (2)
 - State Treasurer
 - Chair, elected by the VPIC
- Four Alternates
 - Each Retirement System Board of Trustees elects one alternate (3)
 - One alternate appointed by the Governor

Fiduciaries

- Fiduciary: An individual, corporation, or association holding assets for another party, often with the legal authority and duty to make decisions regarding financial matters on behalf of the other party
- Treasurers act as fiduciaries to the extent they exercise any authority or control in the management or disposition of assets
- While more commonly associated with pension and investments, the Treasurer acts as a fiduciary in all of his/her core duties

Pension Fiduciaries Include . . .

- Board of Trustees
- Investment Committee Members
- Staff
- Investment Consultants
- Investment Portfolio Managers
- Custodians

Fiduciary Duties Include **Care and Loyalty**

- Duty of Loyalty – is the obligation to act for the exclusive benefit of the plan participants. The duty of loyalty is exclusively owed to active members, retirees, and their beneficiaries, both present and future
- Duty of Care – is the responsibility to administer the pension plan, prudently, efficiently and properly.
 - Under this duty, the Board must, in conjunction with Staff, develop, adopt, and implement policies and procedures for the administration of the plan

The Committee is required by law to strive to maximize total return on investment, within acceptable levels of risk for public retirement systems, in accordance with the standards of care established by the prudent investor rule under 14A V.S.A. § 902 (the “prudent investor rule”)

Fiduciary Standards

- Act with the skill, care, and caution of a prudent person
- Act impartially in the interests of plan participants and beneficiaries
- Ensure integrity of the process for selecting investment managers
- Avoid conflicts of interest
- Pay reasonable expenses for the administration of the fund

Fiduciary Responsibilities

- Establish a risk tolerance for the pension plan
- Diversify assets
- Establish investment criteria
 - Benchmarks
 - Investment Objectives
 - Description of the structure of each class
- Participate in and oversee the development of the pension investment policy statement, to include:
 - Broad guidelines regarding strategic asset allocation
 - Acceptable investment strategies
 - Permissible types of transactions
- Hire consultants and staff with the appropriate education and experience
- Decide whether internal or external management of the pension plan

Fiduciary Responsibilities (continued):

- Select investment managers based on clearly defined, rational criteria:
 - Historical performance
 - Investment strategies
 - Capacity and ability to meet operational requirements/standards
 - High ethical standards
 - Regulatory compliance
- Establish investment guidelines for each manager.
- Monitor the performance of investment managers including:
 - Investment returns
 - Compliance with guidelines
 - Investment style
- Review pension investment operations
- Commit to continuing education

Fiduciary Requirements (continued):

- Governmental plans are subject to the provisions of Section 401 of the Internal Revenue Code
- Compliance with these statutes is required to maintain the plan in a qualified status and avoid current taxation of contributions and earnings under the governmental plan until such benefits are actually paid to the participant
- One of the key tenets of the IRS code is the "exclusive benefit rule." Code section 401(a)(2) states that for a pension plan to be so qualified, the plan must, among other things, make it:

" . . . impossible, at any time prior to the satisfaction of all liabilities with respect to employees and their beneficiaries under the trust, for any part of the corpus or income to be (within the taxable year or thereafter) used for, or diverted to, purposes other than for the exclusive benefit of his employees or their beneficiaries . . ."

Asset Allocation and Diversity

- The goal of the asset allocation process is to select an “optimal” portfolio of assets given a plan’s risk tolerance and capital market expectations
- Combining non-correlated asset types can reduce risk while helping to achieve targeted performance over sufficient time
- Diversification in asset allocation exists at two levels:
 - Across asset classes
 - Within asset classes (e.g. different types of strategies)

Our Responsibilities as Fiduciaries

- Maintain a long-term focus/reassure stakeholders
- Despite short-term volatility, diversification is still critical to long term portfolio success
- Review cash flow/liquidity needs
- Look for opportunities to rebalance
 - Historically, rebalancing maintains the optimum asset allocation strategy

ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) Policy

- The Committee may choose to consider ESG Initiatives, provided they are consistent with the Committee's obligations to the members and beneficiaries of the participating retirement systems and with the standard of care established by the prudent investor rule
- In cases where investment characteristics, including return, risk, liquidity, and compliance with the allocation policy are appropriate for the Portfolio, the Committee may consider ESG Initiatives that have a substantial, direct and measurable benefit to the economic interests of the Portfolio.

ESG Initiatives Evaluated

According to the Following Factors

1. Any ESG Initiative must add to or complement and not dilute or compromise the overall Portfolio strategy:
 - ESG Initiatives will be evaluated within the context of the Portfolio as a whole and not in isolation
 - The Committee is a long-term investor that strives to maximize investment returns without undue risk of loss

2. The ESG Initiative must target risk-adjusted, market-rate returns and provide net returns equivalent to or higher than other available investments at commensurate levels of risk:
 - Social benefits of the ESG Initiative will not justify lower risk adjusted returns or higher investment risk for the Portfolio or any asset class within the Portfolio

3. ESG Initiatives must not exceed a reasonable weighting in the Portfolio, or skew a reasonable weighting in the Portfolio as a result of investment in or divestment from any one investment strategy, sector or geographic location:
 - ESG Initiatives should maintain the overall Portfolio's compliance with its asset allocation strategy
 - Social benefits of an ESG Initiative will not justify deviation from the Asset Allocation Plan adopted by the Committee

ESG Initiatives Evaluated

According to the Following Factors

4. ESG Initiatives requiring an investment should be managed by qualified discretionary investment managers
 - The Committee will not make any direct investments
 - Any divestment of Portfolio assets should be accomplished by a qualified discretionary investment manager in a manner designed to minimize transactional costs and minimize losses to the Portfolio

5. Any benefits of ESG Initiatives should be able to be quantified, reviewed and monitored by the Committee, State Treasurer’s staff and third-party consultants without inappropriate expenditure of time and resources
 - A review of both the investment performance and the collateral benefits will be undertaken for the purpose of determining whether the Committee will maintain an ESG Initiative
 - The collateral benefits of an ESG Initiative shall be measured, in terms of foregone return, transaction costs and monitoring costs, alongside the estimated return of the ESG Initiative

The Committee supports and prefers the use of constructive engagement to further environmental, social and governance goals where possible and has adopted both Domestic and International Proxy Voting Policies for this purpose.

Constructive Engagement

Presentation by:
Shanna Cleveland
Senior Manager
Carbon Asset Risk Initiative
Ceres

Next Steps by Treasurer's Office/VPIC

- We will continue to work with CERES and other partners
- We look forward to working on these and other efforts with our Vermont Partners
- Contact the Treasurer's Office if you would like to participate

Next Steps

- The Treasurer's Office will continue its work as a founding member of the Investment Network for Climate Risk (INCR), operating through Ceres, a non-profit organization advocating for sustainability
- The Treasurer's Office and VPIC will continue to utilize their proxy-voting rights at shareholder meetings according to the VPIC proxy policies in support of progressive ESG initiatives endorsed by the VPIC
- The Treasurer's Office and VPIC will continue to use investor sign-on letters to urge companies to require transparency in their political spending, increase environmental disclosure, and pressure major companies in the palm oil industry to adopt policies that will ensure environmentally sustainable practices
- The Treasurer's Office will continue to encourage increased compliance in regard to climate risk disclosures by companies by calling on the SEC to improve enforcement of its climate change guidance issued in February 2010
 - The goal is to improve corporate disclosure on material sustainability risks and opportunities that can be used by investors when valuing the company and assessing the risks associated with the firm

Next Steps

- The Treasurer's Office and VPIC will stay engaged in its participation in the Carbon Asset Risk project
 - Staff will continue to engage oil and gas companies targeted by this initiative through shareholder resolutions and participation in the INCR Carbon Asset Risk working group
- The Treasurer's Office and VPIC will continue to use shareholder engagement to file shareholder resolutions to encourage companies to address risks relating to climate change
- The Treasurer's Office will continue its work with its investment managers to survey how they are incorporating concerns related to climate change, and specifically how they integrate these concerns into security selection, fund allocation decisions, and strategic fund initiatives
- The Treasurer's Office will continue to pursue energy efficiency and renewable energy investments, among other local investments, in its operating funds through the "10% in Vermont Program"
- The Treasurer's Office will continue to oversee and administer the fossil fuel free investment option that was added in 2014 to its deferred compensation and other optional retirement investment programs

Next Steps



Thank You!!