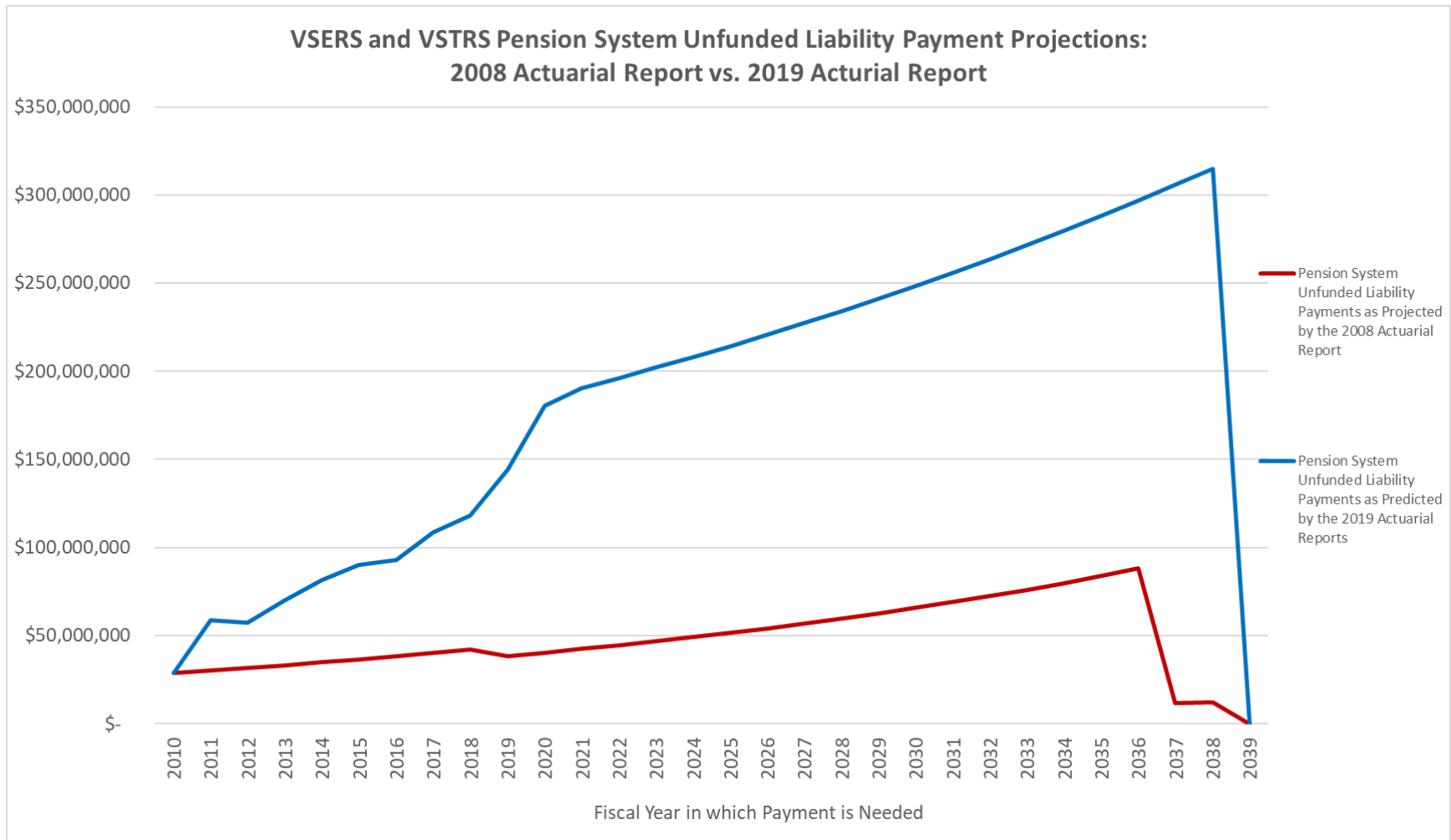


Pension Charts

<i>(in Millions)</i>	<b>Assets</b>	<b>Liabilities</b>	<b>Unfunded Liabilities</b>	<b>Funded Ratio</b>
<b>State Employee Retirement System</b>	\$ 1,964.5	\$ (2,780.0)	\$ (815.46)	70.67%
<b>State Teachers Retirement System</b>	\$ 1,950.9	\$ (3,505.3)	\$ (1,554.46)	55.65%
<b>State Employee OPEB</b>	\$ 51.7	\$ (1,279.3)	\$ (1,227.57)	4.04%
<b>State Teachers OPEB</b>	\$ 0.3	\$ (1,041.1)	\$ (1,040.75)	0.03%
<b>Total</b>	\$ 3,967.4	\$ (8,605.6)	\$ (4,638.2)	46.10%

Source: Segal Consulting 6/30/2019 Actuarial Valuations for each system, respectively.

**Pension Charts**



Updated 2/11/2020

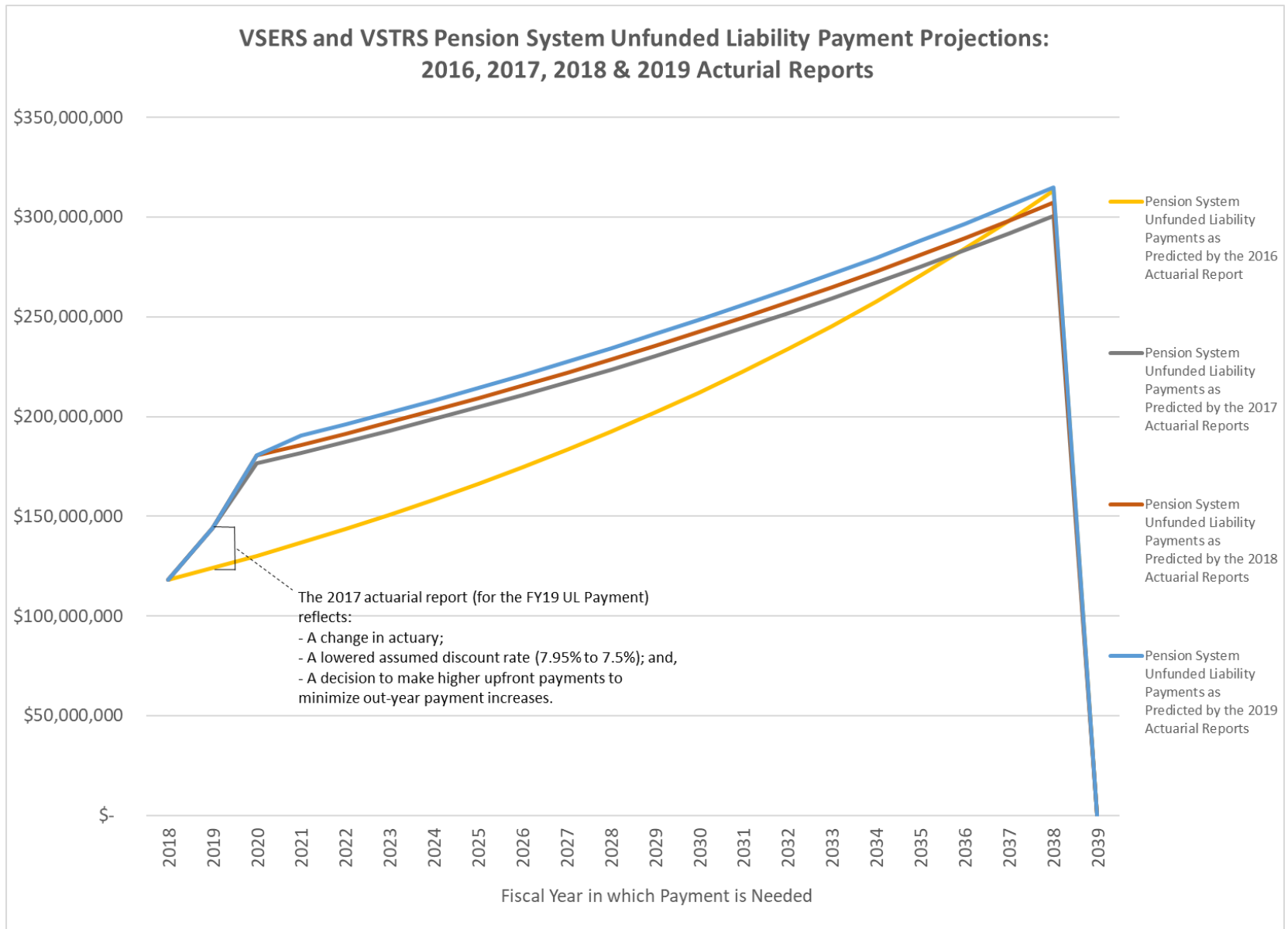
Pension Charts

Teacher's and State Employee's Pension Plans Only

Fiscal Year	VSERS Investment Actuarial	VSERS Other Assumptions Actuarial Gain/(Loss)	VSTRS Investment Actuarial Gain/(Loss)	VSTRS Other Assumptions Actuarial Gain/(Loss)	Combined Investment Actuarial	Combined Other Assumptions Actuarial	Combined Actuarial Gain/(Loss)	Cumulative Actuarial Gain/(Loss)
2019	(13,757,751)	(19,263,470)	(11,592,854)	(37,339,658)	(25,350,605)	(56,603,128)	(81,953,733)	(81,953,733)
2018	(10,076,141)	(54,364,042)	(8,436,995)	(42,911,895)	(18,513,136)	(97,275,937)	(115,789,073)	(197,742,806)
2017	(11,338,110)	(83,433,438)	(10,258,663)	(64,044,341)	(21,596,773)	(147,477,779)	(169,074,552)	(366,817,358)
2016	(19,744,028)	(21,091,155)	(19,058,743)	(18,871,213)	(38,802,771)	(39,962,368)	(78,765,139)	(445,582,497)
2015	3,188,069	(34,212,223)	3,991,153	(13,018,953)	7,179,222	(47,231,176)	(40,051,954)	(485,634,451)
2014	29,552,531	(12,018,715)	30,931,768	(54,539,913)	60,484,299	(66,558,628)	(6,074,329)	(491,708,780)
2013	6,437,863	(33,794,977)	6,995,361	(33,574,889)	13,433,224	(67,369,866)	(53,936,642)	(545,645,422)
2012	274,598	(28,696,115)	8,003	(57,940,170)	282,601	(86,636,285)	(86,353,684)	(631,999,106)
2011	13,637,923	(36,417,991)	8,517,121	(76,080,673)	22,155,044	(112,498,664)	(90,343,620)	(722,342,726)
2010	(18,552,665)	(2,323,442)	(26,279,596)	27,892,392	(44,832,261)	25,568,950	(19,263,311)	(741,606,037)
<b>Total</b>	<b>(20,377,711)</b>	<b>(325,615,568)</b>	<b>(25,183,445)</b>	<b>(370,429,313)</b>	<b>(45,561,156)</b>	<b>(696,044,881)</b>	<b>(741,606,037)</b>	
2009	(242,482,443)	(711,587)	(312,726,392)	(28,688,371)	(555,208,835)	(29,399,958)	(584,608,793)	(1,326,214,830)
2008	(23,695,900)	(12,715,025)	(26,035,387)	(76,288,878)	(49,731,287)	(89,003,903)	(138,735,190)	(1,464,950,020)
	(286,556,054)	(339,042,180)	(363,945,224)	(475,406,562)	(650,501,278)	(814,448,742)	(1,464,950,020)	
Fiscal Year	VSERS Unfunded Liability	VSERS Increase over prior year	VSTRS Unfunded Liability	VSTRS Increase over prior year	Combined Unfunded	Combined increase over prior year		
2019	815,464,698	35,660,688	1,554,459,287	41,025,952	2,369,923,985	76,686,640		
2018	779,804,010	62,226,288	1,513,433,335	10,979,948	2,293,237,345	73,206,236		
2017	717,577,722	135,394,123	1,502,453,387	276,725,542	2,220,031,109	412,119,665		
2016	582,183,599	39,624,781	1,225,727,845	50,698,815	1,807,911,444	90,323,596		
2015	542,558,818	98,544,492	1,175,029,030	98,265,220	1,717,587,848	196,809,712		
2014	444,014,326	(1,115,756)	1,076,763,810	62,853,525	1,520,778,136	61,737,769		
2013	445,130,082	43,305,337	1,013,910,285	68,407,969	1,459,040,367	111,713,306		
2012	401,824,745	55,251,007	945,502,316	100,394,436	1,347,327,061	155,645,443		
2011	346,573,738	52,653,694	845,107,880	133,284,819	1,191,681,618	185,938,513		
2010	293,920,044		711,823,061		1,005,743,105	0		
<b>Total</b>		<b>521,544,654</b>		<b>842,636,226</b>		<b>1,364,180,880</b>		

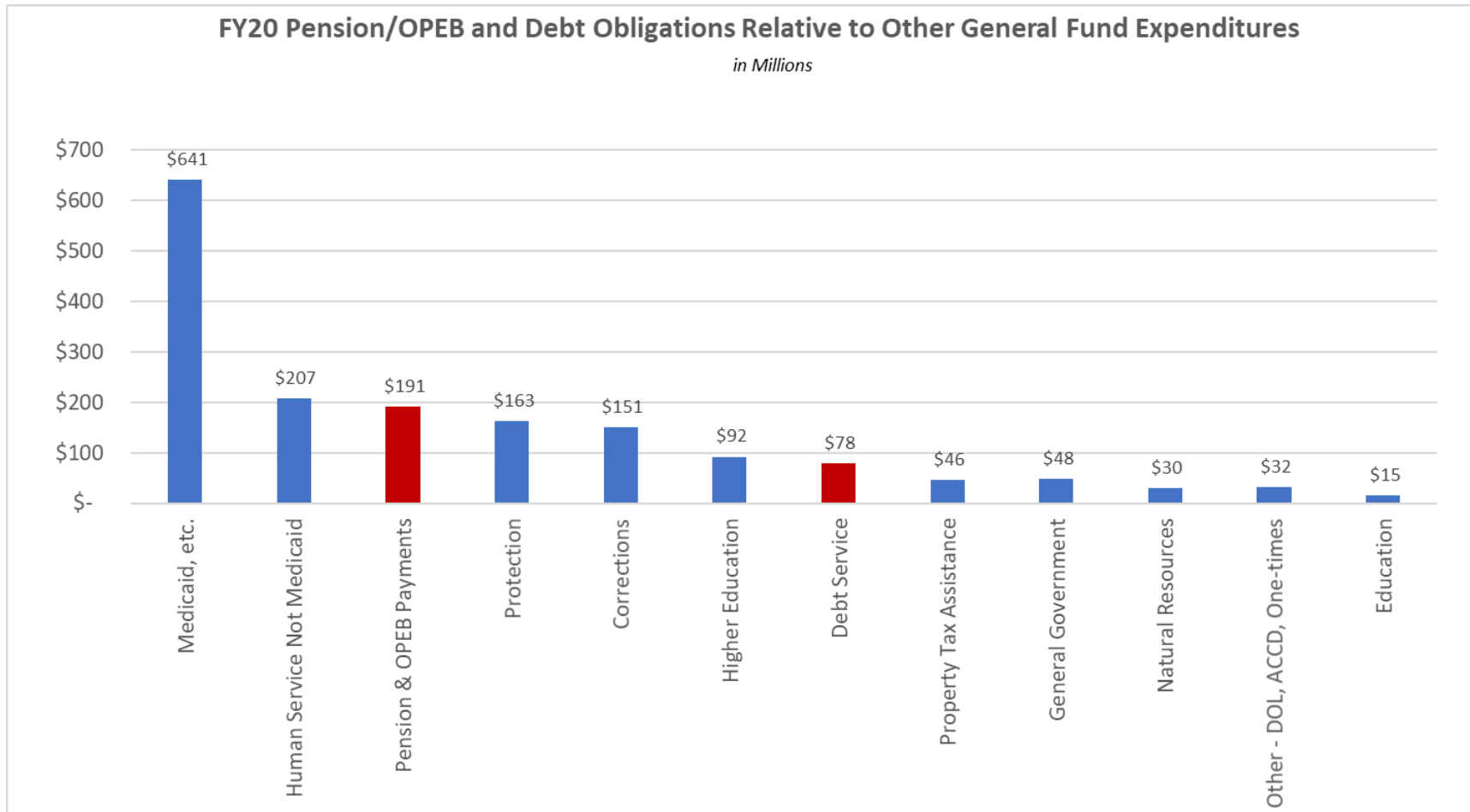
Updated 2/11/2020

**Pension Charts**



Updated 2/11/2020

## Pension Charts



Updated 2/11/2020

## Pension Charts

### General Fund contribution to retiree pensions and OPEB

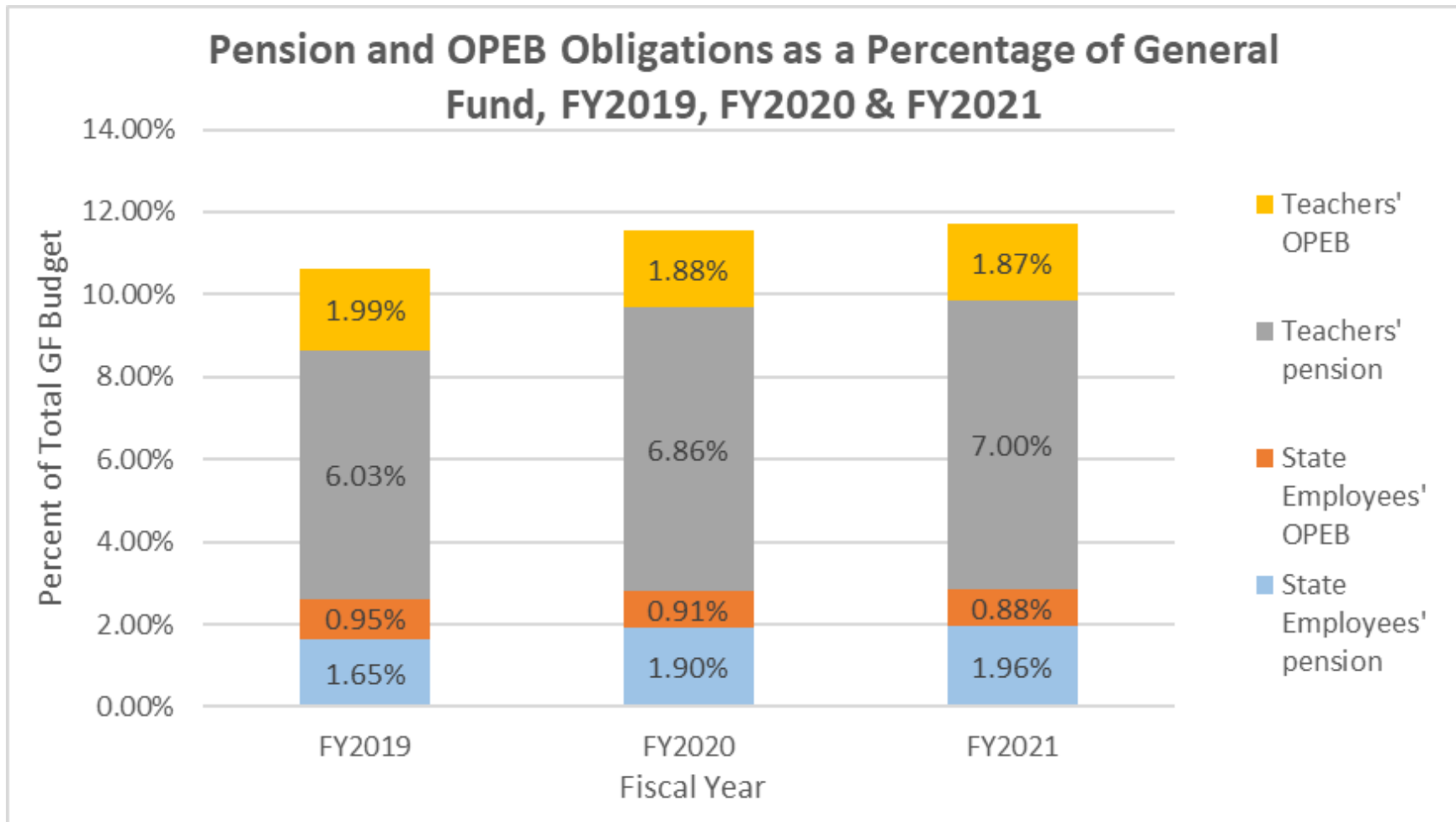
(in Millions)

	FY2019	% of	FY2020	% of	FY2021	% of
	GF	GF	GF	GF	GF	GF
<b>State Employees' pension</b>	\$ 26.2	1.65%	\$ 31.5	1.90%	\$ 33.4	1.96%
<b>State Employees' OPEB</b>	\$ 15.0	0.95%	\$ 15.0	0.91%	\$ 14.9	0.88%
<b>Teachers' pension</b>	\$ 95.5	6.03%	\$ 113.5	6.86%	\$ 119.0	7.00%
<b>Teachers' OPEB</b>	\$ 31.6	1.99%	\$ 31.1	1.88%	\$ 31.8	1.87%
<b>Total</b>	\$ 168.3	10.62%	\$ 191.1	11.55%	\$ 199.1	11.71%

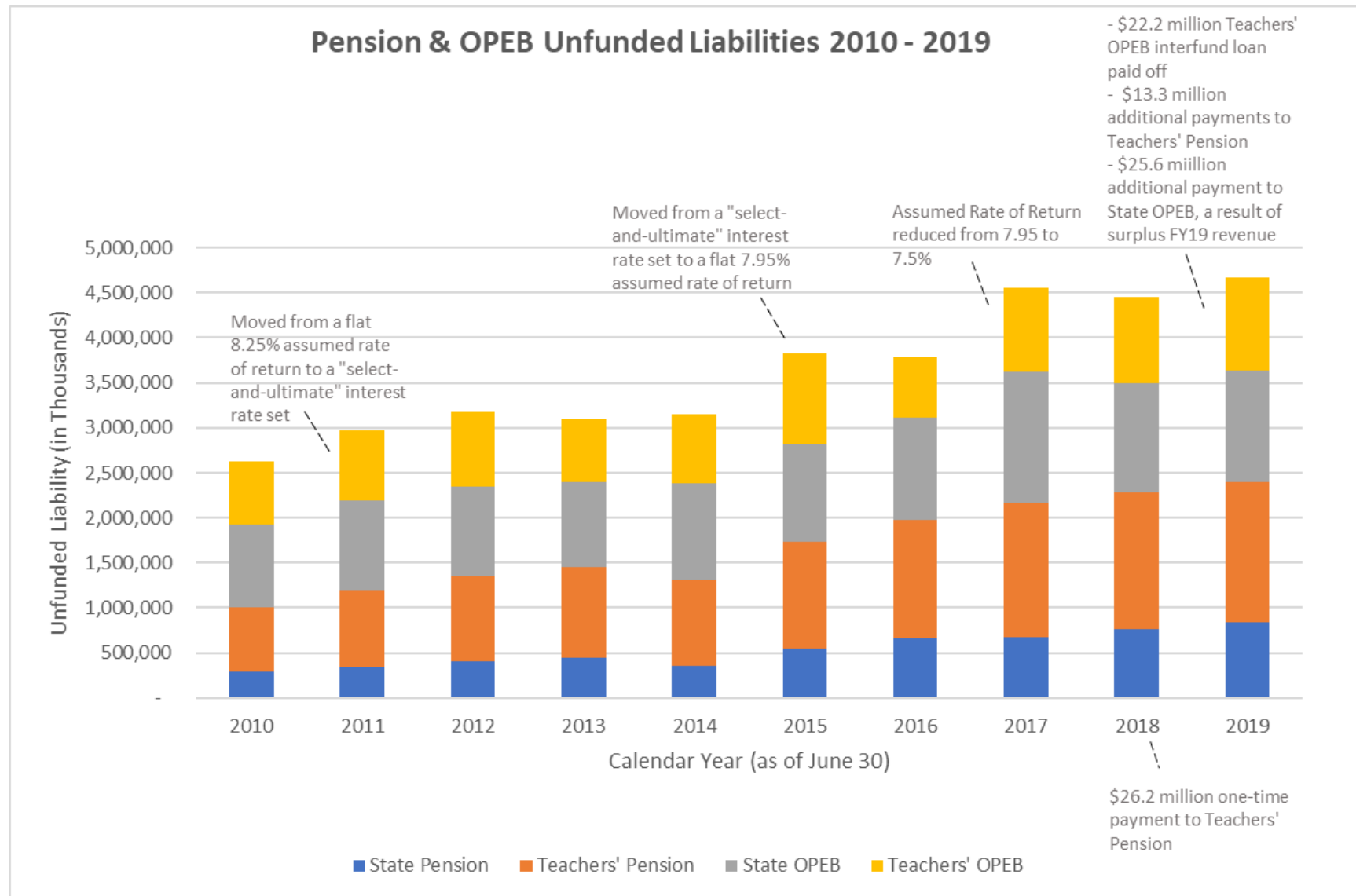
#### Assumptions and Sources

1. FY2019 and FY2020 Teachers' pension and OPEB are As-Passed appropriations. FY2021 Teachers' pension and OPEB values reflect the FY21 Governor's recommended contributions.
2. State Employees' pension and OPEB numbers reflect the Actuarial Determined Employer Contributions and needed pay-go values respectively. multiplied by 0.4041 (see 3. below). Administrative fees are not included in the State Employees' Pension or OPEB numbers.
3. VSERS estimates assume that 40.41% of total employer contributions are paid from the General Fund.
4. The total General Fund Value used as a denominator in FY2019 is \$1,584,514,126, which reflects the FY2019 Budget Adjustment Act As-Passed, plus Pay Act and Next Gen transfer from Sec. D.101(a) of the FY19 Big Bill.
5. The total General Fund Value used as a denominator in FY2020 is \$1,654,392,918, which reflects the FY20 Governor's Recommend Budget Adjustment, plus Pay Act.
6. The total General Fund Value used as a denominator in FY2021 is \$1,700,480,455.

Pension Charts

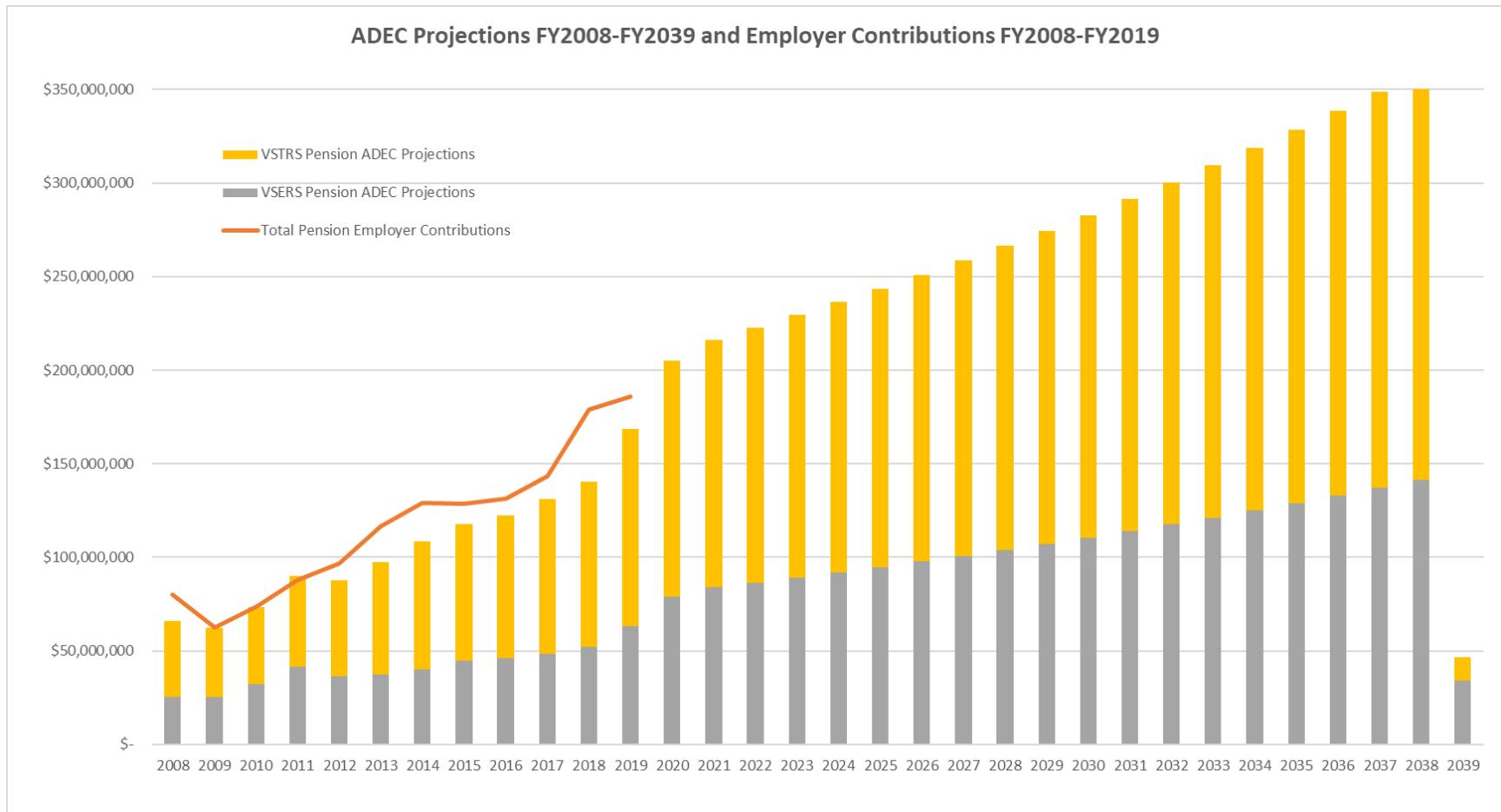


Pension Charts





## Pension Charts



Updated 2/11/2020

Pension Charts

Fiscal Year	Needed State Payments toward VSTRS Unfunded Liability				
	With 26.2 million amortized		Without 26.2 million amortized		
	Amortization Required by Statute		Amortization Recommended by VSTRS Board	Delta	
2021	\$	124,928,430	\$	128,436,157	\$ 3,507,727
2022		128,676,283		132,289,242	3,612,959
2023		132,536,571		136,257,919	3,721,348
2024		136,512,669		140,345,656	3,832,987
2025		140,608,049		144,556,026	3,947,977
2026		144,826,290		148,892,707	4,066,417
2027		149,171,079		153,359,488	4,188,409
2028		153,646,211		157,960,273	4,314,062
2029		158,255,597		162,699,081	4,443,484
2030		163,003,265		165,927,223	2,923,958
2031		167,893,363		170,905,040	3,011,677
2032		172,930,164		176,032,191	3,102,027
2033		178,118,069		181,313,157	3,195,088
2034		183,461,611		186,752,552	3,290,941
2035		188,965,460		192,355,128	3,389,668
2036		194,634,423		198,125,782	3,491,359
2037		200,473,456		204,069,555	3,596,099
2038		206,487,660		66,345,796	(140,141,864)
2039		-		-	-
<b>Total</b>	<b>\$</b>	<b>2,925,128,650</b>	<b>\$</b>	<b>2,846,622,973</b>	<b>\$ (78,505,677)</b>
Investment savings FY21-FY38	\$	61,636,187	\$	140,141,864	\$ 78,505,677
Net Added Value	\$	35,404,727	\$	113,910,404	\$ 78,505,677

Updated 2/11/2020