



Wayne County

Employees' Retirement System

Robert J. Grden, Executive Director

Historical Review 2008-2017

As of September 30, 2017

Presented August 16, 2018

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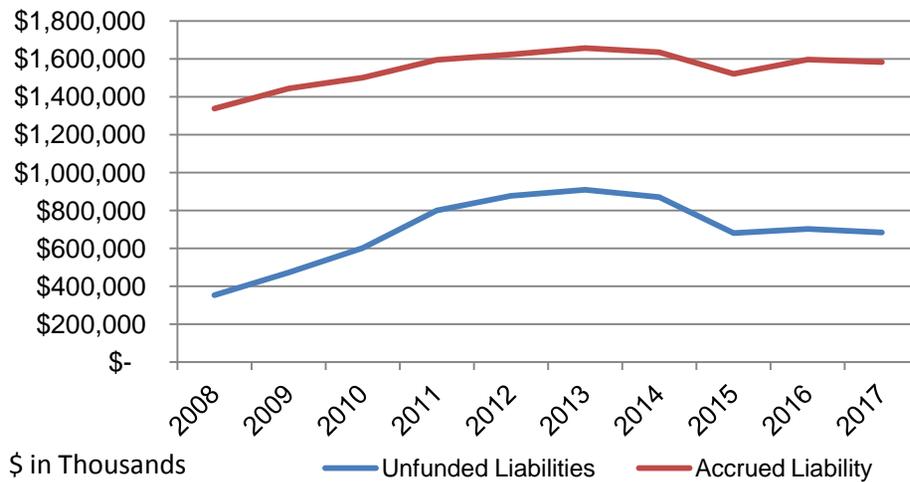
The numbers reported in this presentation have been pulled from the Annual Actuarial Valuation(s)*, financial statements, which both can be found at www.wcers.org on the reporting tab and the general ledger. Data for Wayne County and the Wayne County Airport Authority is combined unless otherwise noted. The Retirement System's actuary conducted an Experience Study for the plan(s) covering the time period of October 1, 2010 to September 30, 2015. The Study is a review of past experience of economic assumptions and plan demographics in order to properly project future funding. Some of the assumptions reviewed were inflation, investment return, salary increases, plan withdrawals, retirements, disability and mortality.

*Fiscal year ending September 30, 2015 is the first year that the Wayne County Airport Authority had a separate Annual Actuarial Valuation Report.

Defined Benefit Plan Funding (\$ in Thousands)

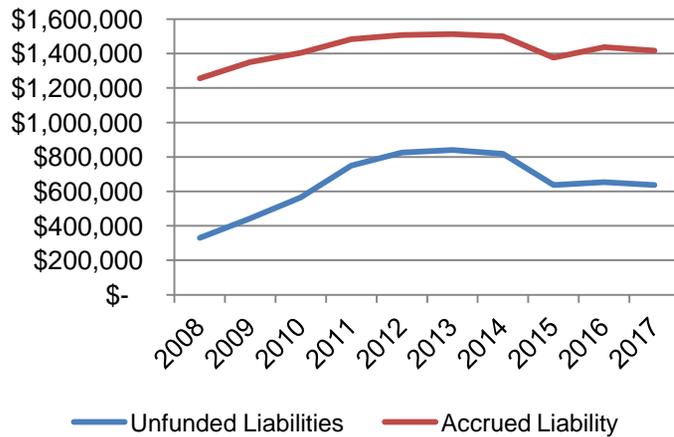
Valuation Date September 30	Accrued Liability	Funding Value of Assets	Funded Ratio	Unfunded Liabilities
County				
2008	\$ 1,256,869	\$ 926,432	74%	\$ 330,437
2009	\$ 1,350,826	\$ 907,238	67%	\$ 443,588
2010	\$ 1,403,934	\$ 839,740	60%	\$ 564,195
2011	\$ 1,483,736	\$ 734,104	49%	\$ 749,632
2012	\$ 1,507,526	\$ 682,431	45%	\$ 825,095
2013	\$ 1,526,591	\$ 672,284	44%	\$ 854,307
2014	\$ 1,499,542	\$ 681,573	45%	\$ 817,969
2015	\$ 1,376,742	\$ 740,195	54%	\$ 636,547
2016	\$ 1,436,560	\$ 782,839	54%	\$ 653,721
2017	\$ 1,416,754	\$ 780,642	55%	\$ 636,112
Airport				
2008	\$ 81,927	\$ 58,594	72%	\$ 23,333
2009	\$ 93,490	\$ 63,707	68%	\$ 29,783
2010	\$ 98,239	\$ 61,102	62%	\$ 37,137
2011	\$ 111,124	\$ 60,539	54%	\$ 50,585
2012	\$ 117,134	\$ 64,016	55%	\$ 53,118
2013	\$ 131,994	\$ 76,234	58%	\$ 55,760
2014	\$ 136,799	\$ 84,435	62%	\$ 52,364
2015	\$ 144,137	\$ 99,313	69%	\$ 44,824
2016	\$ 161,201	\$ 112,006	69%	\$ 49,195
2017	\$ 167,299	\$ 118,566	71%	\$ 48,733
Total				
2008	\$ 1,338,796	\$ 985,026	74%	\$ 353,770
2009	\$ 1,444,316	\$ 970,975	67%	\$ 473,371
2010	\$ 1,502,173	\$ 900,842	60%	\$ 601,332
2011	\$ 1,594,860	\$ 794,643	50%	\$ 800,217
2012	\$ 1,624,660	\$ 746,447	46%	\$ 878,213
2013	\$ 1,658,585	\$ 748,518	45%	\$ 910,067
2014	\$ 1,636,341	\$ 766,008	47%	\$ 870,333
2015	\$ 1,520,879	\$ 839,508	55%	\$ 681,371
2016	\$ 1,597,761	\$ 894,845	56%	\$ 702,916
2017	\$ 1,584,053	\$ 899,208	57%	\$ 684,845

Unfunded Liabilities County & Airport Combined

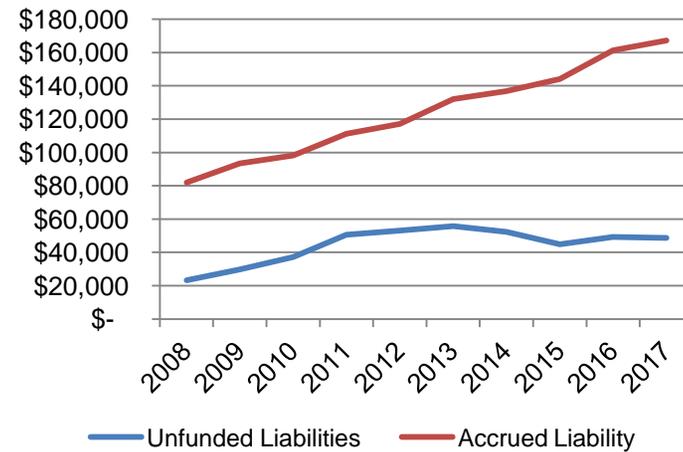


The Unfunded Liabilities decreased in 2017.

County



Airport

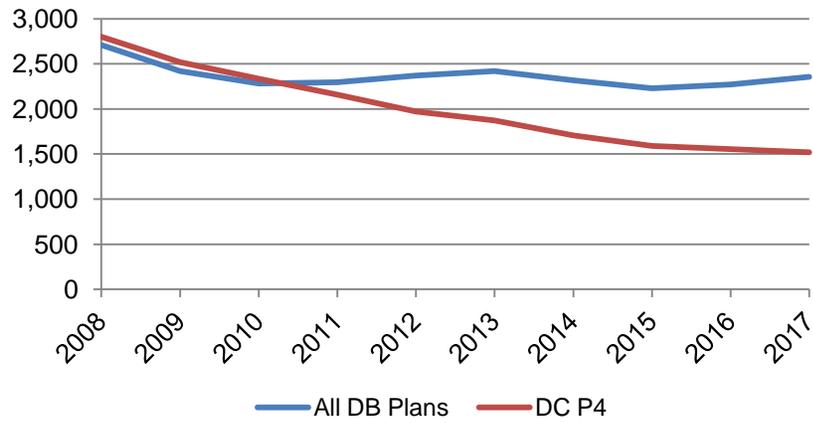


ACTIVE MEMBERS

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
County	DB P1	183	135	109	92	80	68	51	28	21	18
Airport	DB P1	16	2	2	2	2	2	2	2	2	2
Total	DB P1	199	137	111	94	82	70	53	30	23	20
County	DB P2	90	76	70	65	60	56	54	48	45	37
Airport	DB P2	4	4	4	4	4	4	4	4	4	4
Total	DB P2	94	80	74	69	64	60	58	52	49	41
County	DB P3	78	44	33	29	28	22	14	6	5	5
Airport	DB P3	4	3	3	3	2	2	2	2	2	2
Total	DB P3	82	47	36	32	30	24	16	8	7	7
County	DB P5	1,824	1,097	1,043	1,016	1,083	1,193	1,189	1,222	1,327	1,475
Airport	DB P5	349	310	336	365	327	358	354	343	340	326
Total	DB P5	2,173	1,407	1,379	1,381	1,410	1,551	1,543	1,565	1,667	1,801
County	DB P6	160	750	682	720	784	716	648	574	526	485
County	All DB Plans	2,335	2,102	1,937	1,922	2,035	2,055	1,956	1,878	1,924	2,020
Airport	All DB Plans	373	319	345	374	335	366	362	351	348	334
Total	All DB Plans	2,708	2,421	2,282	2,296	2,370	2,421	2,318	2,229	2,272	2,354
County	DC P4	2,461	2,241	2,067	1,919	1,750	1,672	1,487	1,349	1,250	1,184
Airport	DC P4	339	276	269	240	220	200	218	239	304	336
Total	DC P4	2,800	2,517	2,336	2,159	1,970	1,872	1,705	1,588	1,554	1,520
Total	County	4,796	4,343	4,004	3,841	3,785	3,727	3,443	3,227	3,174	3,204
Total	Airport	712	595	614	614	555	566	580	590	652	670
Total	Members	5,508	4,938	4,618	4,455	4,340	4,293	4,023	3,817	3,826	3,874
DB Member County %		48.7%	48.4%	48.4%	50.0%	53.8%	55.1%	56.8%	58.2%	60.6%	63.0%
DB Member Airport %		52.4%	53.6%	56.2%	60.9%	60.4%	64.7%	62.4%	59.5%	53.4%	49.9%

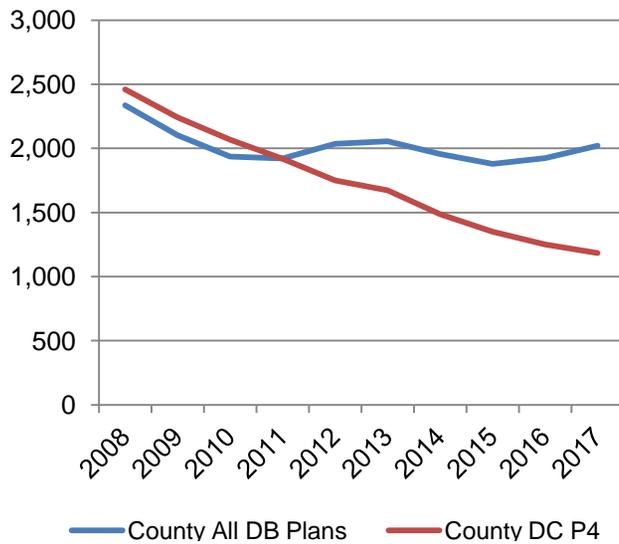
Highlighted above is the percent of employees in a Defined Benefit Plan versus total employees in a plan.

**Defined Benefit versus Defined Contribution
Active Members
(Airport & County Combined)**

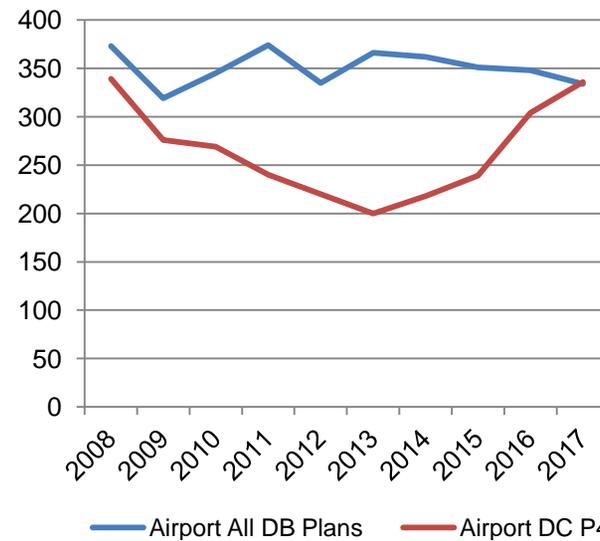


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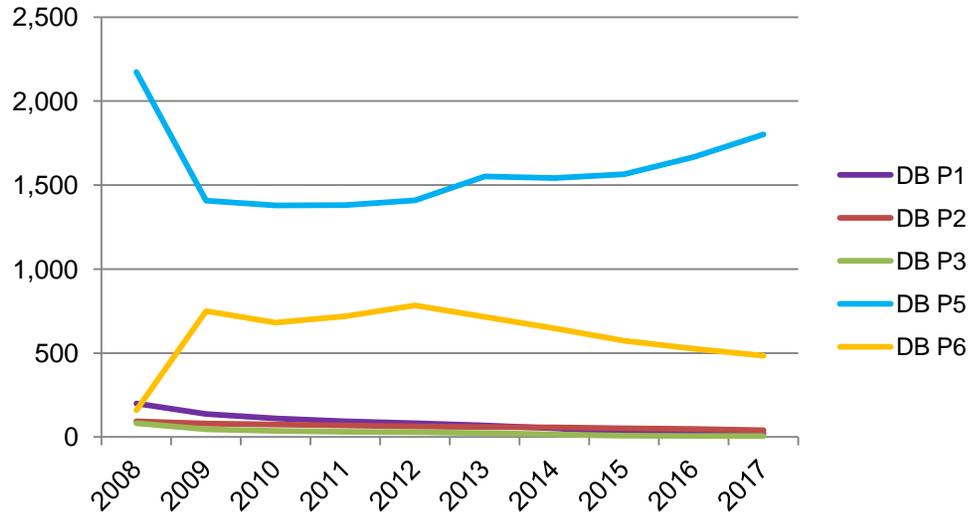
County



Airport

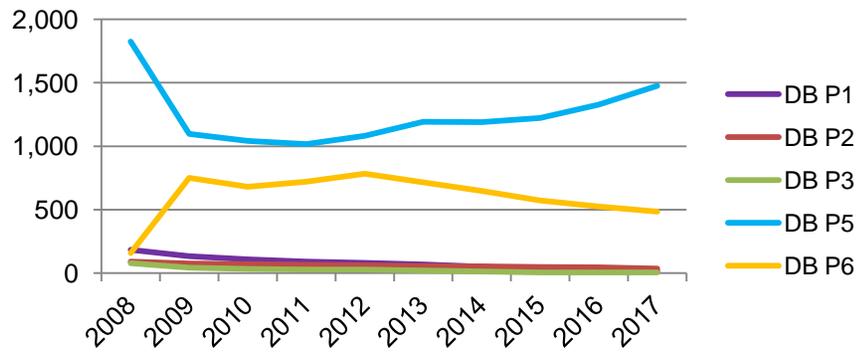


Defined Benefit Active Members (County & Airport Combined)

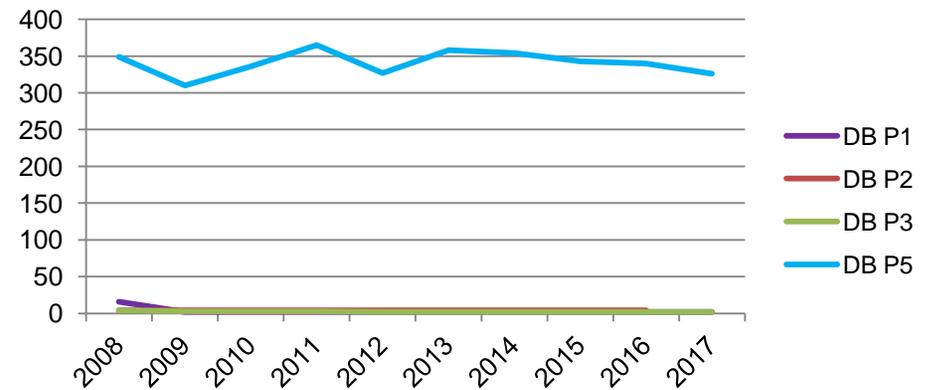


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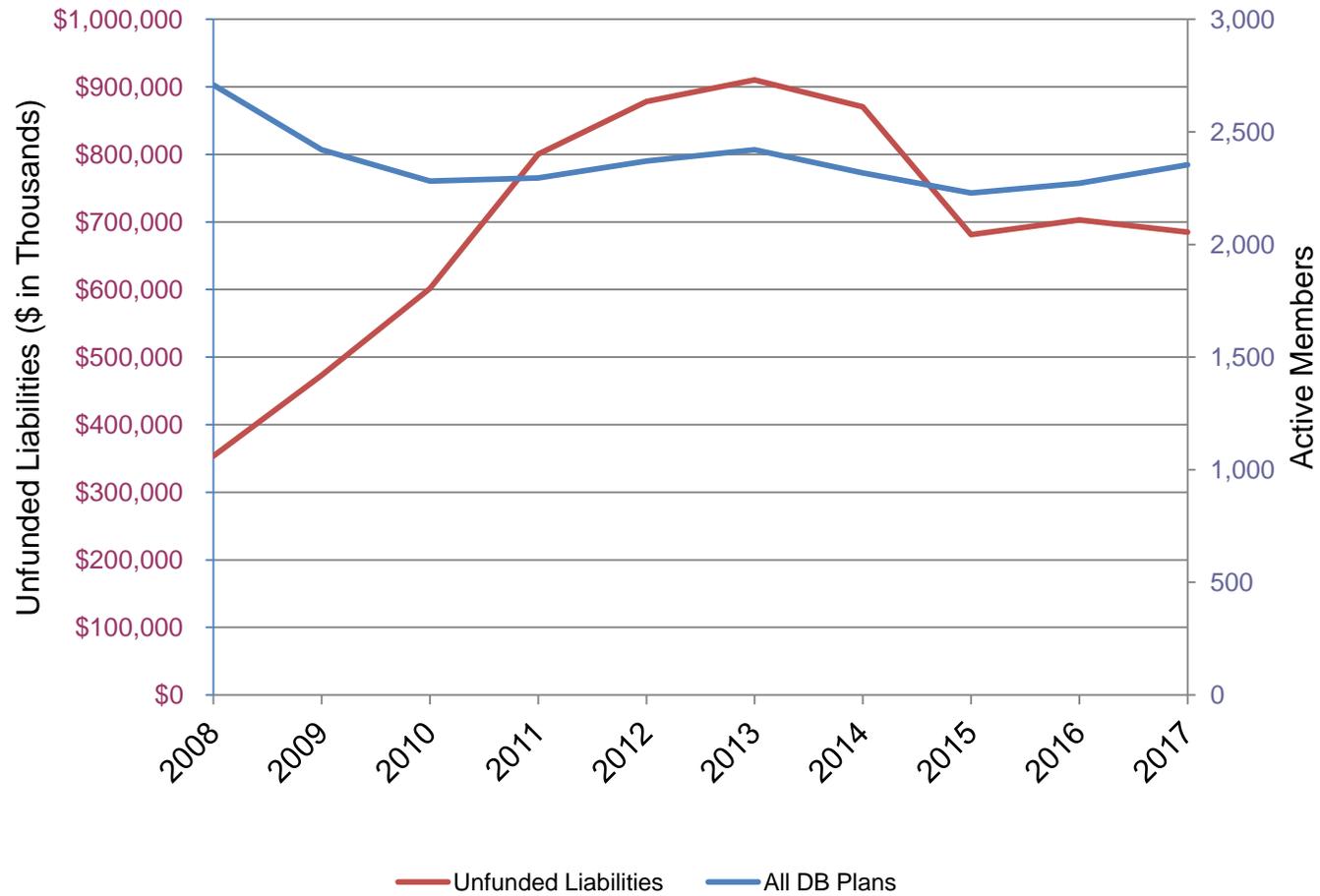
County



Airport



**Active Members
All Defined Benefit Plans vs. Unfunded Liabilities
County & Airport Combined**



The unfunded liabilities decreased for both plans.

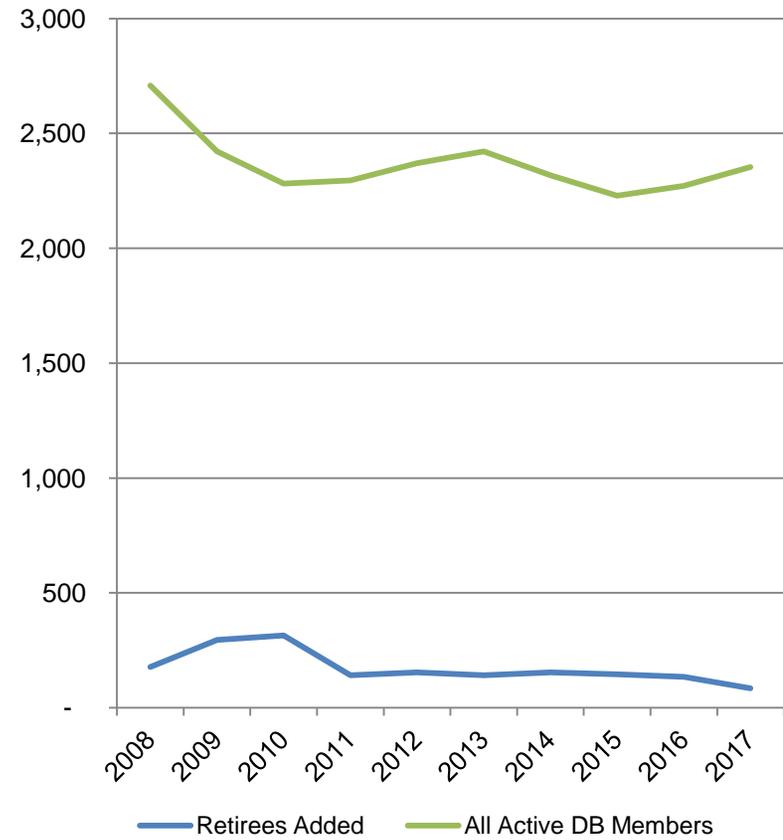
RETIRED MEMBERS AND BENEFICIARIES ADDED AND REMOVED

Year Ended Sept. 30	<u>Added</u>			<u>Removed</u>			<u>Net Change</u>		<u>End of Year</u>			Unfunded Liabilities (\$ In Thousands)
	No.	Annual Pensions	Average Pension	No.	Annual Pensions	Average Pension	No.	Annual Pensions	No.	Annual Pensions	Average Pension	
2008	177	\$ 6,300,153	\$ 35,594	202	\$ 2,974,301	\$ 14,724	(25)	\$ 3,325,852	5,448	\$ 103,003,087	\$ 18,907	\$ 353,770
2009	295	\$ 14,354,073	\$ 48,658	155	\$ 2,017,870	\$ 13,019	140	\$ 12,336,203	5,588	\$ 115,339,290	\$ 20,641	\$ 473,371
2010	315	\$ 14,240,898	\$ 45,209	276	\$ 3,687,346	\$ 13,360	39	\$ 10,553,552	5,627	\$ 125,892,842	\$ 22,373	\$ 601,332
2011	142	\$ 5,627,241	\$ 39,628	216	\$ 2,994,494	\$ 13,863	(74)	\$ 2,632,747	5,553	\$ 128,525,589	\$ 23,145	\$ 800,217
2012	154	\$ 4,065,999	\$ 26,403	161	\$ 3,009,985	\$ 18,696	(7)	\$ 1,056,014	5,546	\$ 129,581,603	\$ 23,365	\$ 878,213
2013	142	\$ 5,313,174	\$ 37,417	194	\$ 3,512,872	\$ 18,108	(52)	\$ 1,800,302	5,494	\$ 131,381,905	\$ 23,914	\$ 910,067
2014 C	151	\$ 5,743,411	\$ 38,036	206	\$ 3,417,098	\$ 16,588	(55)	\$ 2,326,313	5,253	\$ 125,993,903	\$ 23,985	\$ 817,969
2014 A	3	\$ 137,462	\$ 45,821	2	\$ 139,300	\$ 69,650	1	\$ (1,838)	187	\$ 7,712,477	\$ 41,243	\$ 52,364
2014 T	154	\$ 5,880,873	\$ 38,187	208	\$ 3,556,398	\$ 17,098	(54)	\$ 2,324,475	5,440	\$ 133,706,380	\$ 24,578	\$ 870,333
2015 C	137	\$ 5,816,687	\$ 42,458	272	\$ 4,061,561	\$ 14,932	(135)	\$ 1,755,126	5,118	\$ 127,749,029	\$ 24,961	\$ 636,547
2015 A	9	\$ 277,419	\$ 30,824	-	\$ 54,889	N/A	9	\$ 222,530	196	\$ 7,935,007	\$ 40,485	\$ 44,824
2015 T	146	\$ 6,094,106	\$ 41,740	272	\$ 4,116,450	\$ 15,134	(126)	\$ 1,977,656	5,314	\$ 135,684,036	\$ 25,533	\$ 681,371
2016 C	124	\$ 3,941,083	\$ 31,783	175	\$ 3,818,815	\$ 21,822	(51)	\$ 122,268	5,067	\$ 127,871,297	\$ 25,236	\$ 653,721
2016 A	11	\$ 380,659	\$ 34,605	2	\$ 110,855	\$ 55,428	9	\$ 269,804	205	\$ 8,204,811	\$ 40,023	\$ 49,195
2016 T	135	\$ 4,321,742	\$ 32,013	177	\$ 3,929,670	\$ 22,202	(42)	\$ 392,072	5,272	\$ 136,076,108	\$ 25,811	\$ 702,916
2017 C	74	\$ 2,097,370	\$ 28,343	218	\$ 4,000,585	\$ 18,351	(144)	\$ (1,903,215)	4,923	\$ 125,968,082	\$ 25,588	\$ 636,112
2017 A	11	\$ 588,190	\$ 53,472	1	\$ 146,749	\$ 146,749	10	\$ 441,441	215	\$ 8,646,252	\$ 40,215	\$ 48,733
2017 T	85	\$ 2,685,560	\$ 31,595	219	\$ 4,147,334	\$ 18,938	(134)	\$ (1,461,774)	5,138	\$ 134,614,334	\$ 26,200	\$ 684,845

New Defined Benefit Retirees Added vs. Unfunded Liabilities



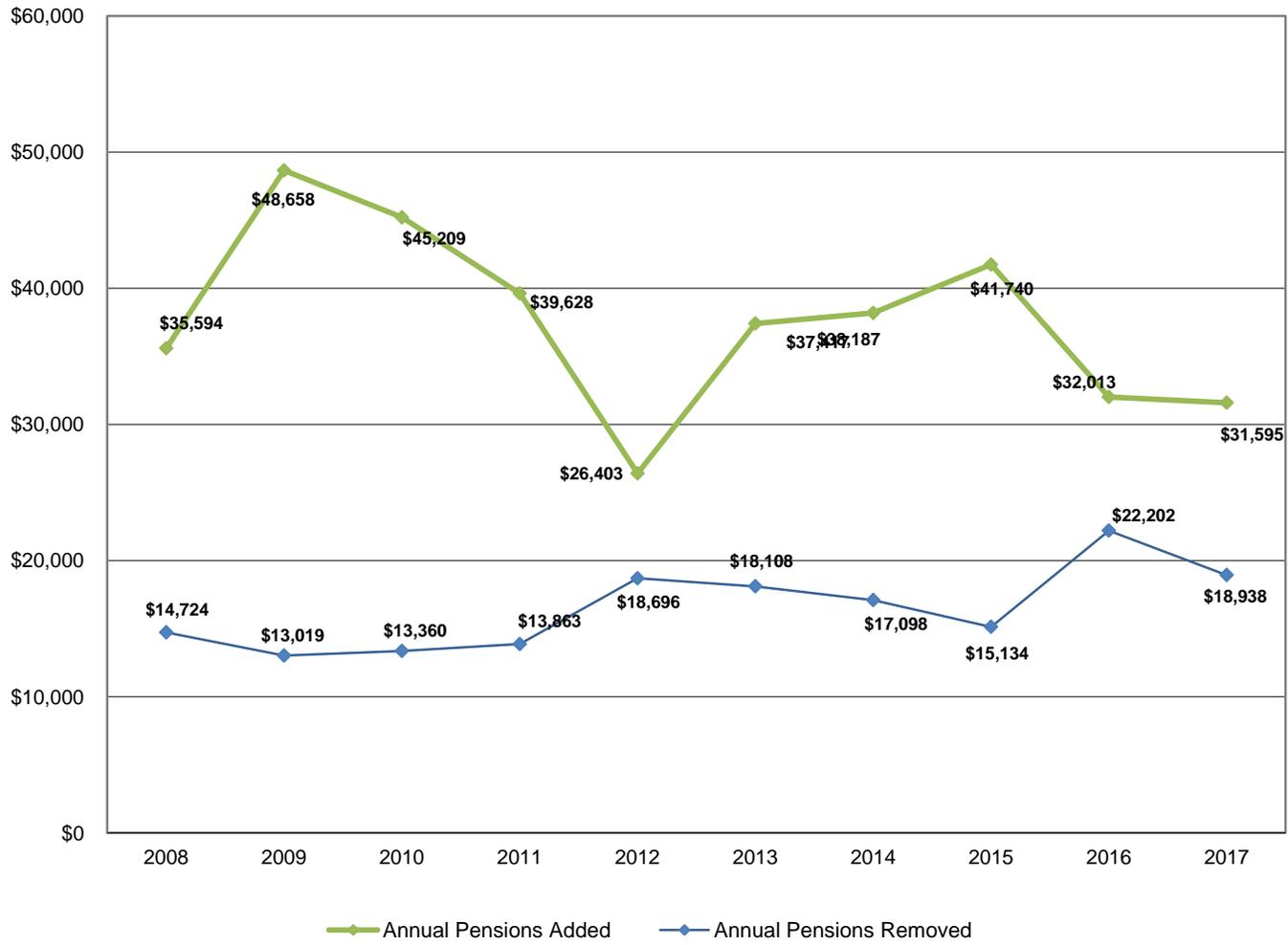
New Defined Benefit Retirees Added vs. All Active Defined Benefit Members



RETIRED MEMBERS AND BENEFICIARIES ADDED AND REMOVED

Year Ended Sept. 30	<u>Added</u>			<u>Removed</u>			<u>Net Change</u>		<u>End of Year</u>			Average Pension % Change
	No.	Annual Pensions	Average Pension	No.	Annual Pensions	Average Pension	No.	Annual Pensions	No.	Annual Pensions	Average Pension	
2008	177	\$6,300,153	\$35,594	202	\$2,974,301	\$14,724	(25)	3,325,852	5,448	\$103,003,087	\$18,907	3.81%
2009	295	\$14,354,073	\$48,658	155	\$2,017,870	\$13,019	140	12,336,203	5,588	\$115,339,290	\$20,641	9.17%
2010	315	\$14,240,898	\$45,209	276	\$3,687,346	\$13,360	39	10,553,552	5,627	\$125,892,842	\$22,373	8.39%
2011	142	\$5,627,241	\$39,628	216	\$2,994,494	\$13,863	(74)	2,632,747	5,553	\$128,525,589	\$23,145	3.45%
2012	154	\$4,065,999	\$26,403	161	\$3,009,985	\$18,696	(7)	1,056,014	5,546	\$129,581,603	\$23,365	0.95%
2013	142	\$5,313,174	\$37,417	194	\$3,512,872	\$18,108	(52)	1,800,302	5,494	\$131,381,905	\$23,914	2.35%
2014	154	\$5,880,873	\$38,187	208	\$3,556,398	\$17,098	(54)	2,324,475	5,440	\$133,706,380	\$24,578	2.78%
2015	146	\$6,094,106	\$41,740	272	\$4,116,450	\$15,134	(126)	1,977,656	5,314	\$135,684,036	\$25,533	3.89%
2016	135	\$4,321,742	\$32,013	177	\$3,929,670	\$22,202	(42)	392,072	5,272	\$136,076,108	\$25,811	1.09%
2017	85	\$2,685,560	\$31,595	219	\$4,147,334	\$18,938	(134)	(1,461,774)	5,138	\$134,614,334	\$26,200	1.51%
Increase from 2008 to 2017									38.57%			

Average Annual Pension Added and Removed

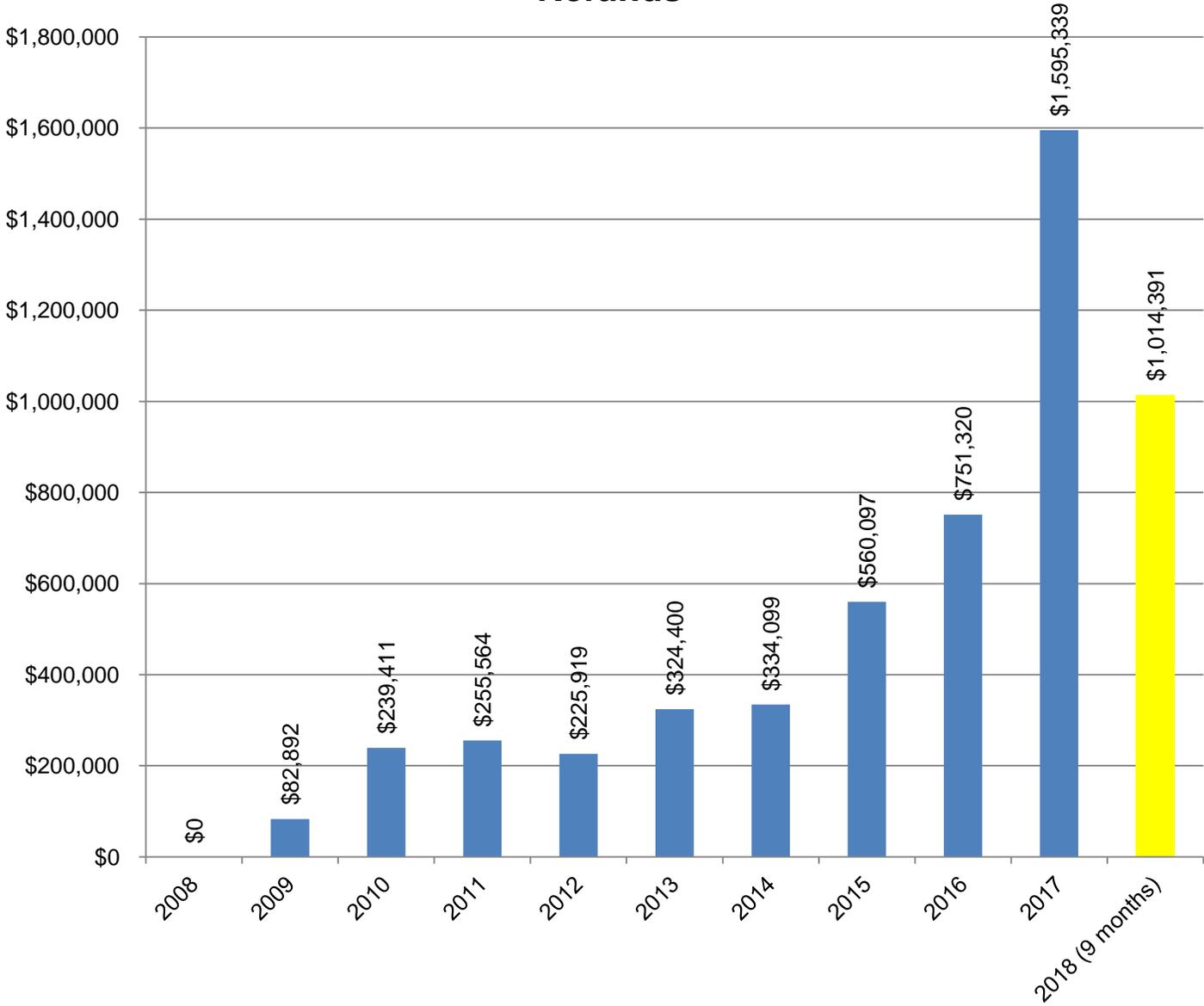


Description	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Beginning Market Value of Net Position	\$1,037,978,404	\$859,527,777	\$823,428,019	\$808,600,303	\$695,445,679	\$728,084,796
Employer Contributions	\$18,419,624	\$32,558,974	\$35,400,544	\$13,427,952	\$47,676,230	\$68,888,700
Employee Contributions	\$70,096,239	\$74,414,255	\$29,499,084	\$15,874,203	\$24,308,321	\$17,922,429
Pre-Medicare Stipend Contributions	\$0	\$0	\$0	\$0	\$0	\$0
Benefit Payments	(\$101,778,361)	(\$111,423,313)	(\$126,513,769)	(\$128,308,576)	(\$130,085,281)	(\$131,484,287)
Refunds	\$0	(\$82,892)	(\$239,411)	(\$255,564)	(\$225,919)	(\$324,400)
13th Check Payments	(\$9,269,920)	(\$9,456,287)	(\$4,989,984)	(\$3,874,184)	(\$3,873,264)	(\$995,417)
Pre-Medicare Stipend Payments	\$0	\$0	\$0	\$0	\$0	\$0
Non-Investment Net Cash Flow	(\$22,532,418)	(\$13,989,263)	(\$66,843,536)	(\$103,136,169)	(\$62,199,913)	(\$45,992,975)
Investment Gains (Losses)	(\$148,972,587)	(\$14,882,372)	\$59,172,873	(\$2,194,977)	\$100,984,836	\$105,997,345
Investment Expenses	(\$3,709,573)	(\$3,545,039)	(\$4,182,844)	(\$4,639,798)	(\$3,091,235)	(\$3,022,415)
Administrative Expenses	(\$3,236,049)	(\$3,683,084)	(\$2,974,209)	(\$3,183,680)	(\$3,054,571)	(\$2,942,746)
Investment Net Income (Loss)	(\$155,918,209)	(\$22,110,495)	\$52,015,820	(\$10,018,455)	\$94,839,030	\$100,032,184
Change in Net Position	(\$178,450,627)	(\$36,099,758)	(\$14,827,716)	(\$113,154,624)	\$32,639,117	\$54,039,209
Transfer in Bailiffs	\$0	\$0	\$0	\$0	\$0	\$0
Ending Market Value of Net Position	\$859,527,777	\$823,428,019	\$808,600,303	\$695,445,679	\$728,084,796	\$782,124,005

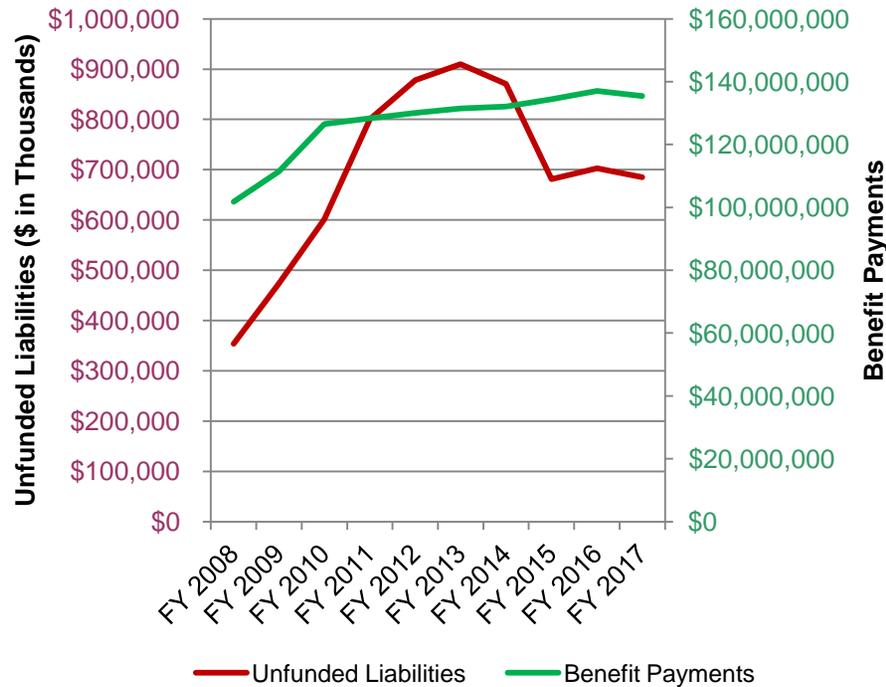
Description	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018*	Cumulative
Beginning Market Value of Net Position	\$782,124,005	\$814,619,598	\$823,824,544	\$881,038,959	\$920,751,833	\$1,037,978,404
Employer Contributions	\$80,180,620	\$111,718,544	\$101,264,065	\$68,176,195	\$52,902,272	\$630,613,720
Employee Contributions	\$8,521,719	\$11,370,680	\$10,734,600	\$9,199,085	\$8,071,170	\$280,011,785
Pre-Medicare Stipend Contributions	\$0	\$0	2,073,400	\$2,875,853	\$1,355,518	\$6,304,771
Benefit Payments	(\$132,061,351)	(\$134,449,359)	(\$137,038,877)	(\$135,416,906)	(\$100,118,178)	(\$1,368,678,258)
Refunds	(\$334,099)	(\$560,097)	(\$751,320)	(\$1,595,339)	(\$1,014,391)	(\$5,383,432)
13th Check Payments	(\$999,528)	(\$999,510)	\$0	\$0	\$0	(\$34,458,094)
Pre-Medicare Stipend Payments	\$0	\$0	(\$2,073,400)	(\$2,875,853)	(\$1,355,518)	(\$6,304,771)
Non-Investment Net Cash Flow	(\$44,692,639)	(\$12,919,742)	(\$25,791,532)	(\$59,636,965)	(\$40,159,127)	(\$497,894,279)
Investment Gains (Losses)	\$83,906,232	\$28,311,050	\$82,675,098	\$105,183,017	\$40,490,461	\$440,670,976
Investment Expenses	(\$3,706,696)	(\$3,146,412)	(\$3,025,306)	(\$3,156,646)	(\$1,929,554)	(\$37,155,518)
Administrative Expenses	(\$3,011,304)	(\$3,039,950)	(\$2,314,488)	(\$2,676,532)	(\$1,694,511)	(\$31,811,124)
Investment Net Income (Loss)	\$77,188,232	\$22,124,688	\$77,335,304	\$99,349,839	\$36,866,396	\$371,704,334
Change in Net Position	\$32,495,593	\$9,204,946	\$51,543,772	\$39,712,874	(\$3,292,731)	(\$126,189,945)
Transfer in Bailiffs	\$0	\$0	\$5,670,643	\$0	\$0	\$5,670,643
Ending Market Value of Net Position	\$814,619,598	\$823,824,544	\$881,038,959	\$920,751,833	\$917,459,102	\$917,459,102

*FYTD is June 30, 2018

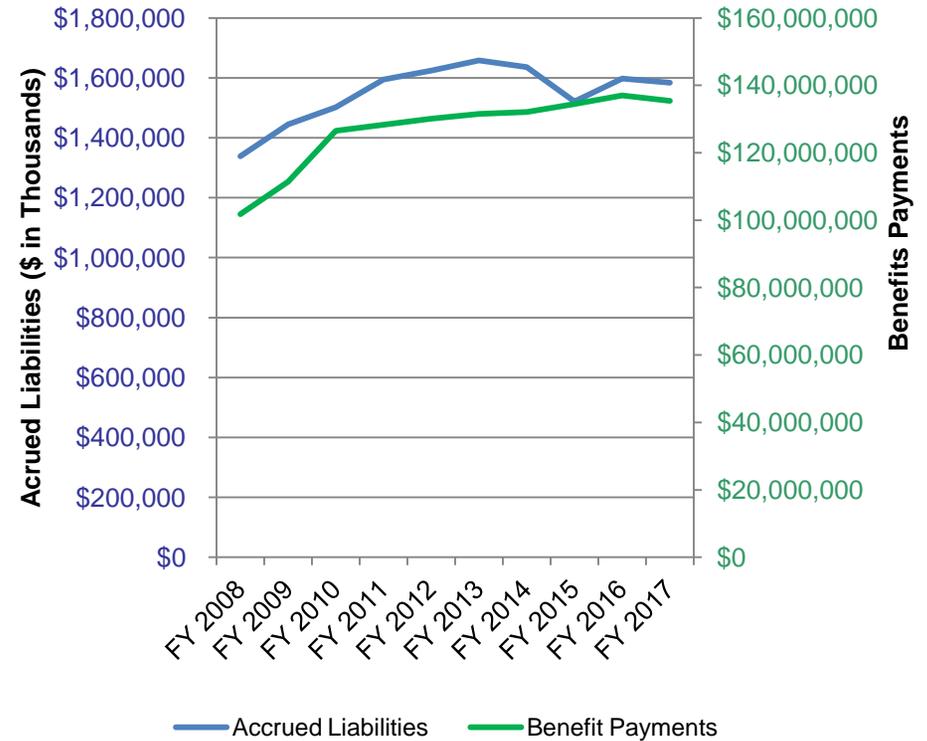
Refunds



Benefit Payments vs. Unfunded Liabilities



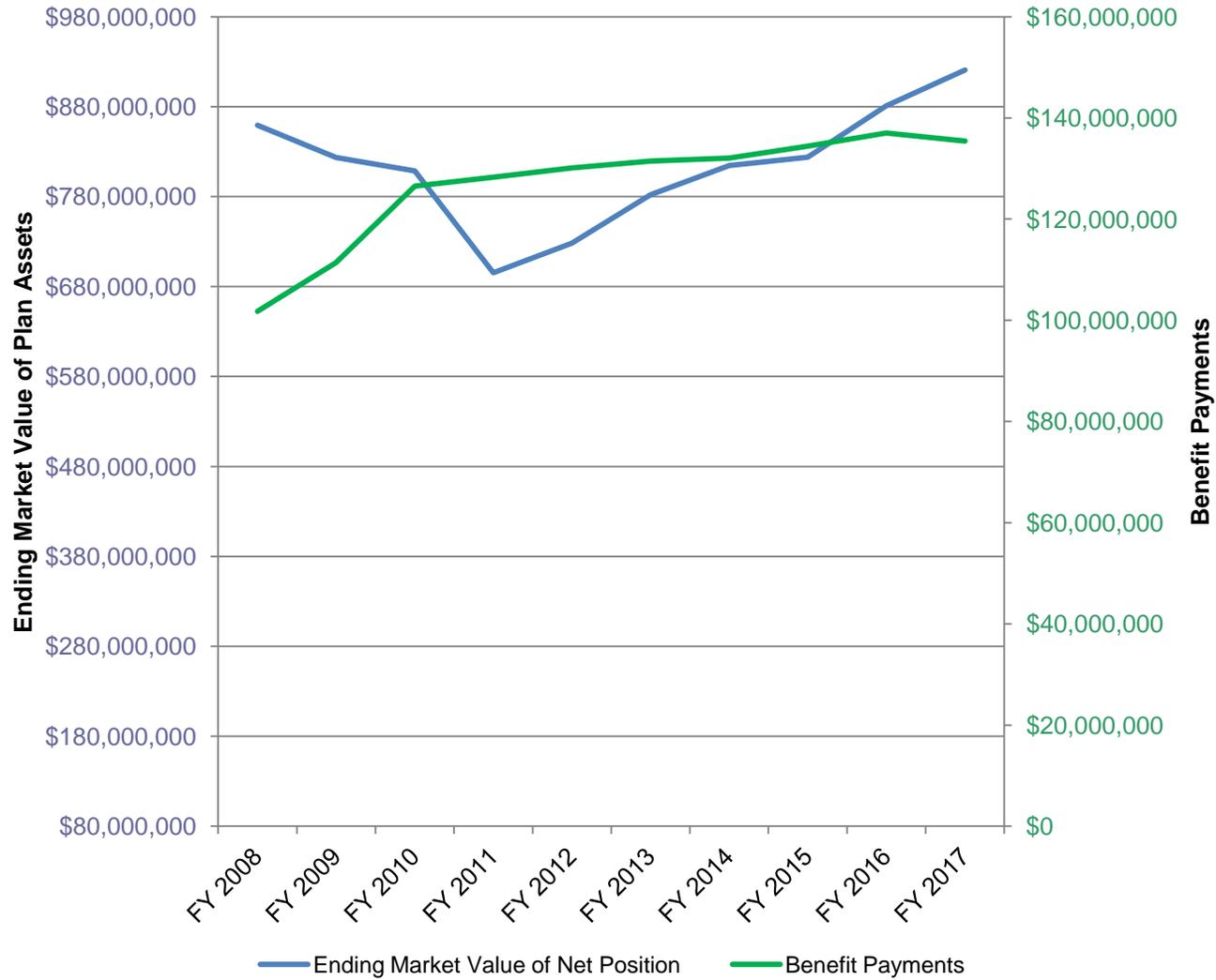
Benefit Payments vs. Accrued Liabilities



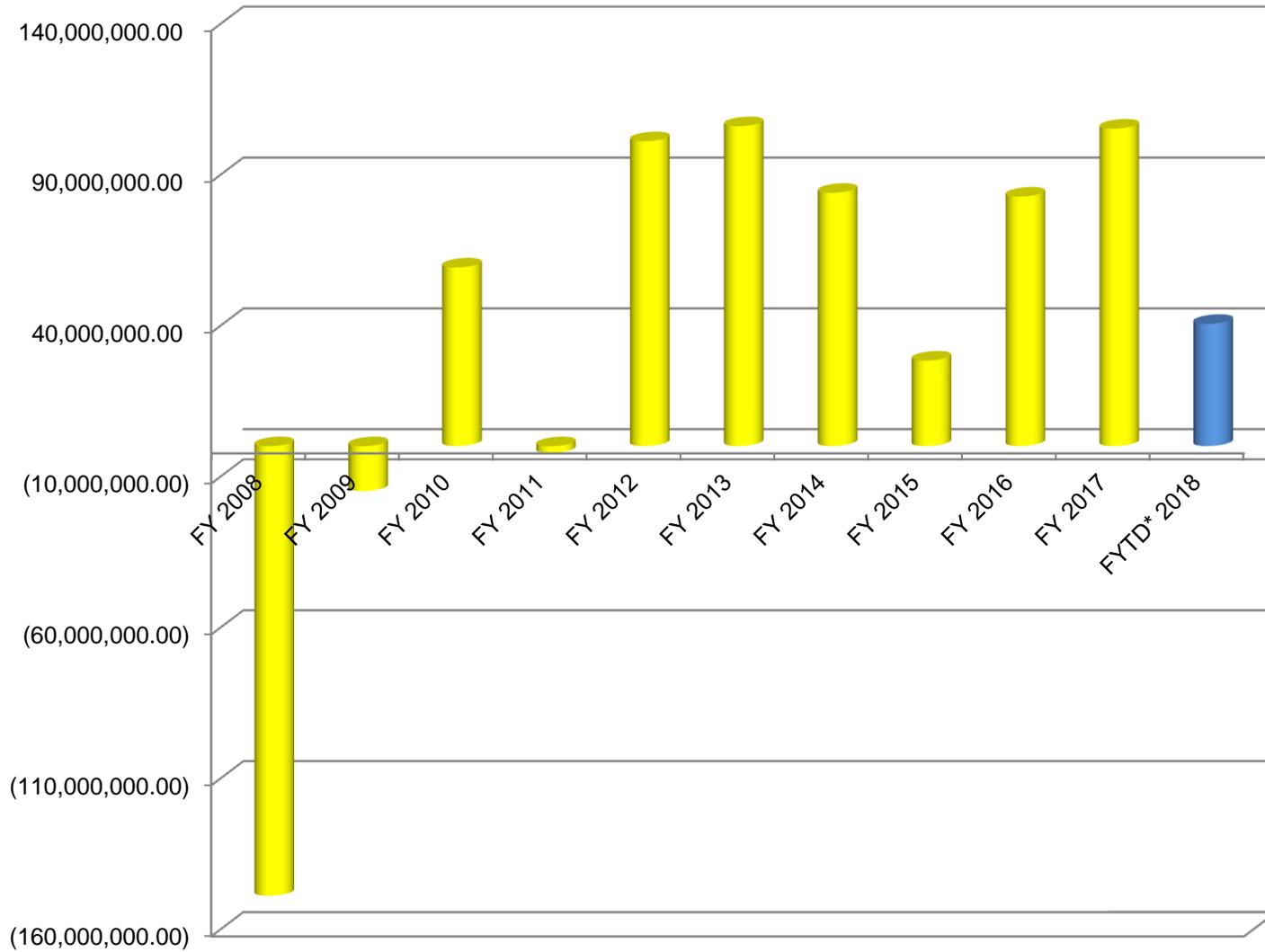
[Refer to data on Pages 3 & 13]

Benefit Payments: Increase of 33.05% from 2008 to 2017

Ending Market Value of Net Position vs. Benefit Payments

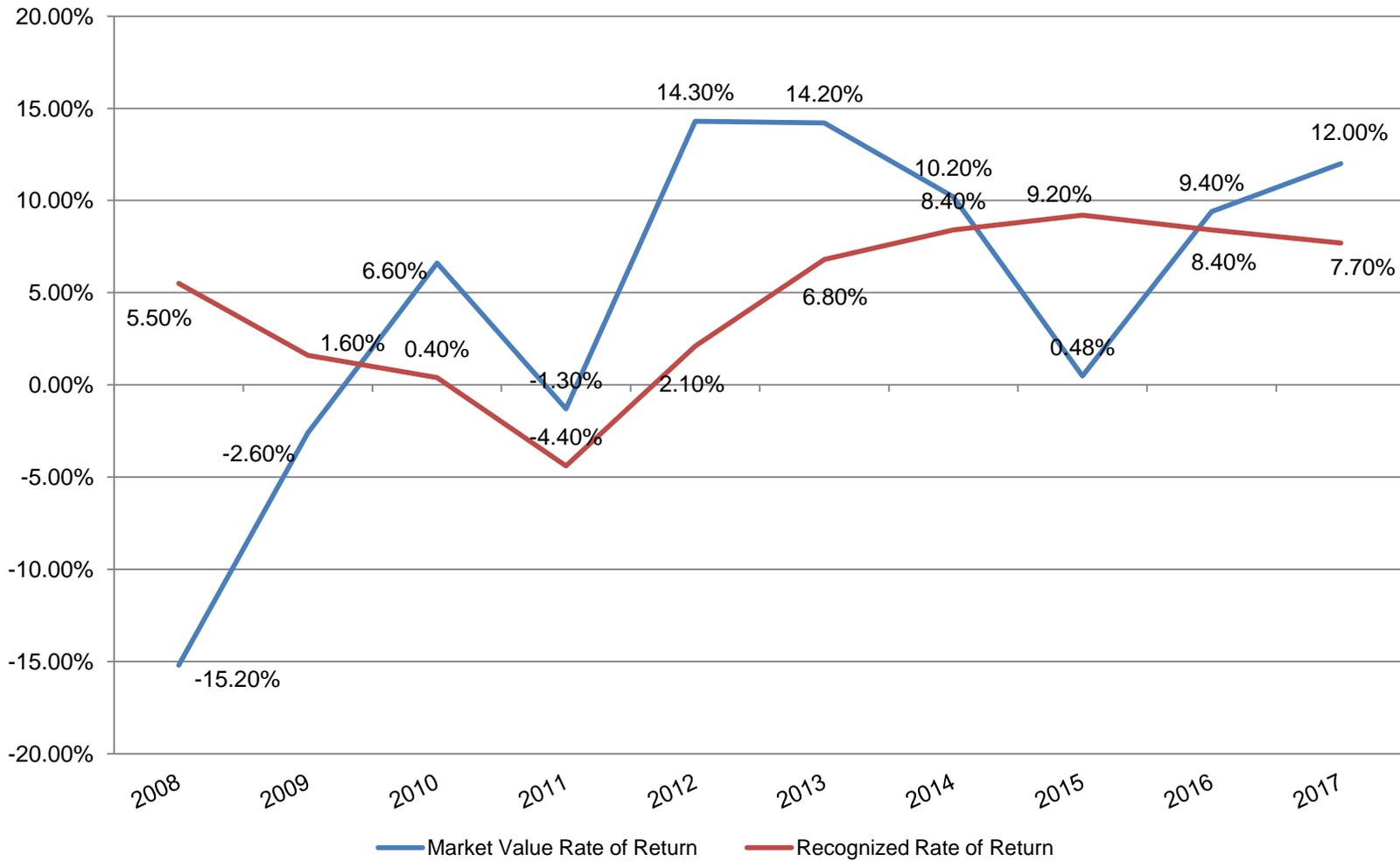


Investment Gains (Losses)



*FYTD June 30, 2018

Actuary Calculated Market Rate versus Recognized Rate of Return



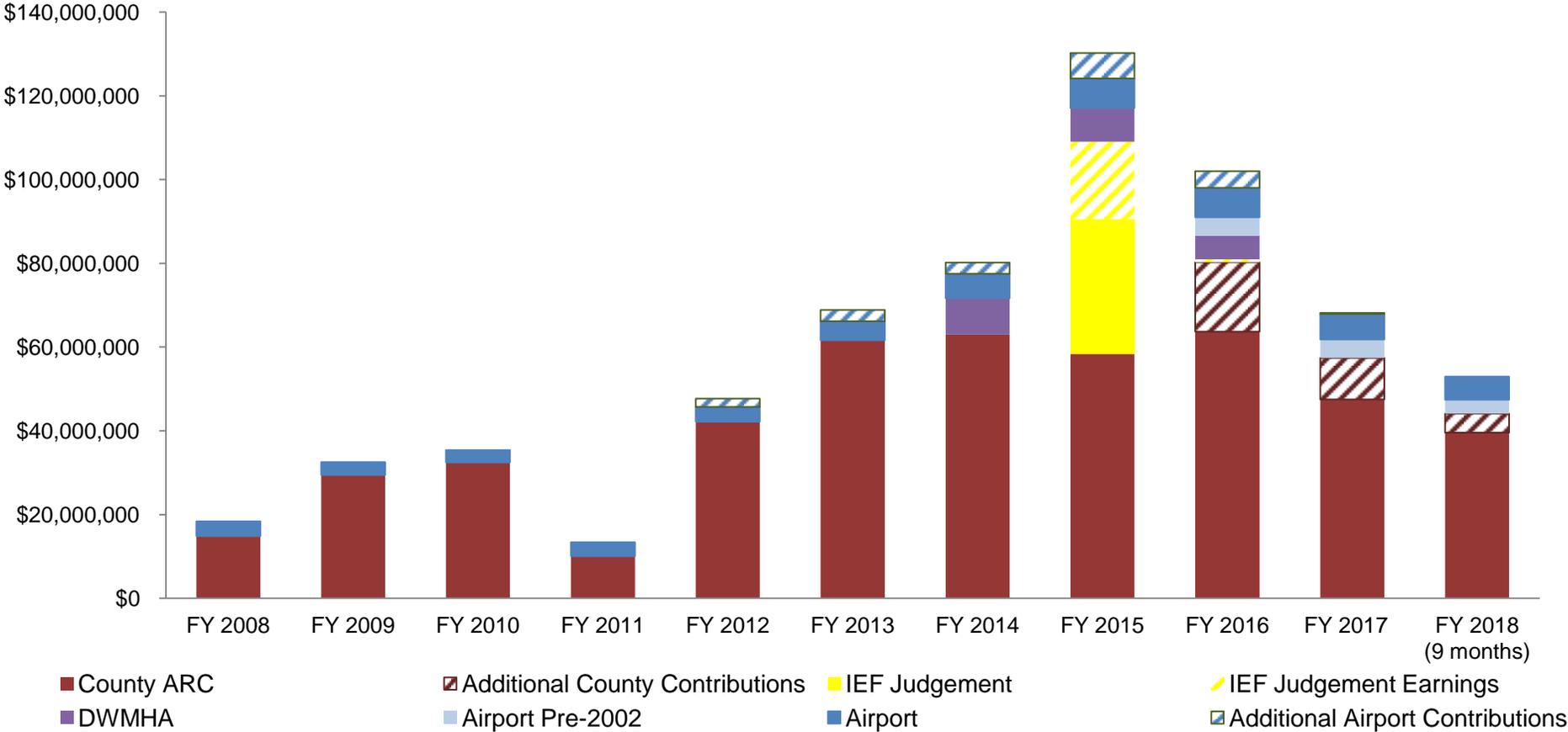
(Recognized Rate of Return is smoothed over 4 years)

Employer Contributions to Finance Defined Benefit Plans

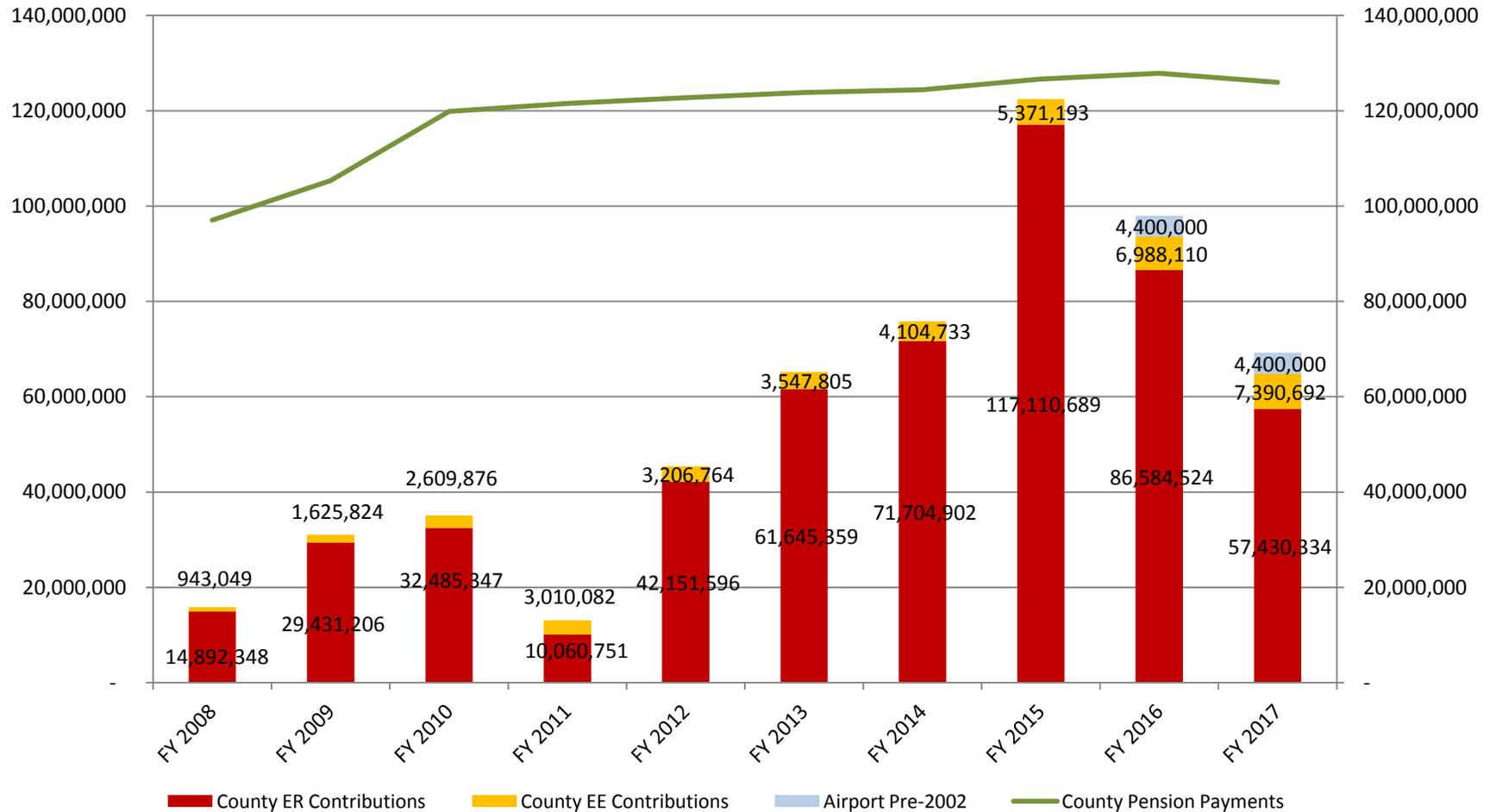
	County ARC	Additional County Contributions	IEF Judgment	IEF Judgment Earnings	DWMHA	Airport Pre-2002	Airport ARC	Additional Airport Contributions	Total Employer Contribution
FY 2008	\$14,892,348	\$0	\$0	\$0	\$0	\$0	\$3,509,818	\$0	\$18,402,166
FY 2009	\$29,431,206	\$0	\$0	\$0	\$0	\$0	\$3,114,227	\$0	\$32,545,433
FY 2010	\$32,485,347	\$0	\$0	\$0	\$0	\$0	\$2,905,248	\$0	\$35,390,595
FY 2011	\$10,060,751	\$0	\$0	\$0	\$0	\$0	\$3,357,850	\$0	\$13,418,601
FY 2012	\$42,151,596	\$0	\$0	\$0	\$0	\$0	\$3,545,795	\$1,970,149	\$47,667,540
FY 2013	\$61,645,359	\$0	\$0	\$0	\$0	\$0	\$4,541,608	\$2,693,447	\$68,880,414
FY 2014	\$62,989,902	\$0	\$0	\$0	\$8,715,000	\$0	\$5,782,271	\$2,693,447	\$80,180,620
FY 2015	\$58,294,923	\$0	\$32,212,545	\$18,497,745	\$8,105,476	\$0	\$6,995,408	\$6,110,192	\$130,216,289
FY 2016	\$63,686,412	\$16,549,637	\$0	\$741,650	\$5,606,825	\$4,400,000	\$7,021,191	\$4,000,000	\$102,005,715
FY 2017	\$47,467,616	\$9,962,718	\$0	\$0	\$0	\$4,400,000	\$6,082,195	\$263,666	\$68,176,195
FY 2018 (9 months)	\$39,567,577	\$4,546,926	\$0	\$0	\$0	\$3,300,000	\$5,487,769	\$0	\$52,902,272
	<u>\$462,673,037</u>	<u>\$31,059,281</u>	<u>\$32,212,545</u>	<u>\$19,239,395</u>	<u>\$22,427,301</u>	<u>\$12,100,000</u>	<u>\$52,343,380</u>	<u>\$17,730,901</u>	<u>\$649,785,840</u>

The County failed to contribute its annual required contribution (ARC) to the Retirement System by the amount of \$26.2 million in FY 2011 and \$6.0 million in FY 2012 by using the Inflation Equity Fund (IEF) to offset contributions. On December 18, 2014 the Michigan Supreme Court unanimously decided to uphold the Court of Appeals decision requiring the County to repay \$32.2 in missed contributions and investment earnings, which are recorded in FY 2015 and FY 2016.

Employer Contributions to Finance Defined Benefit Plans

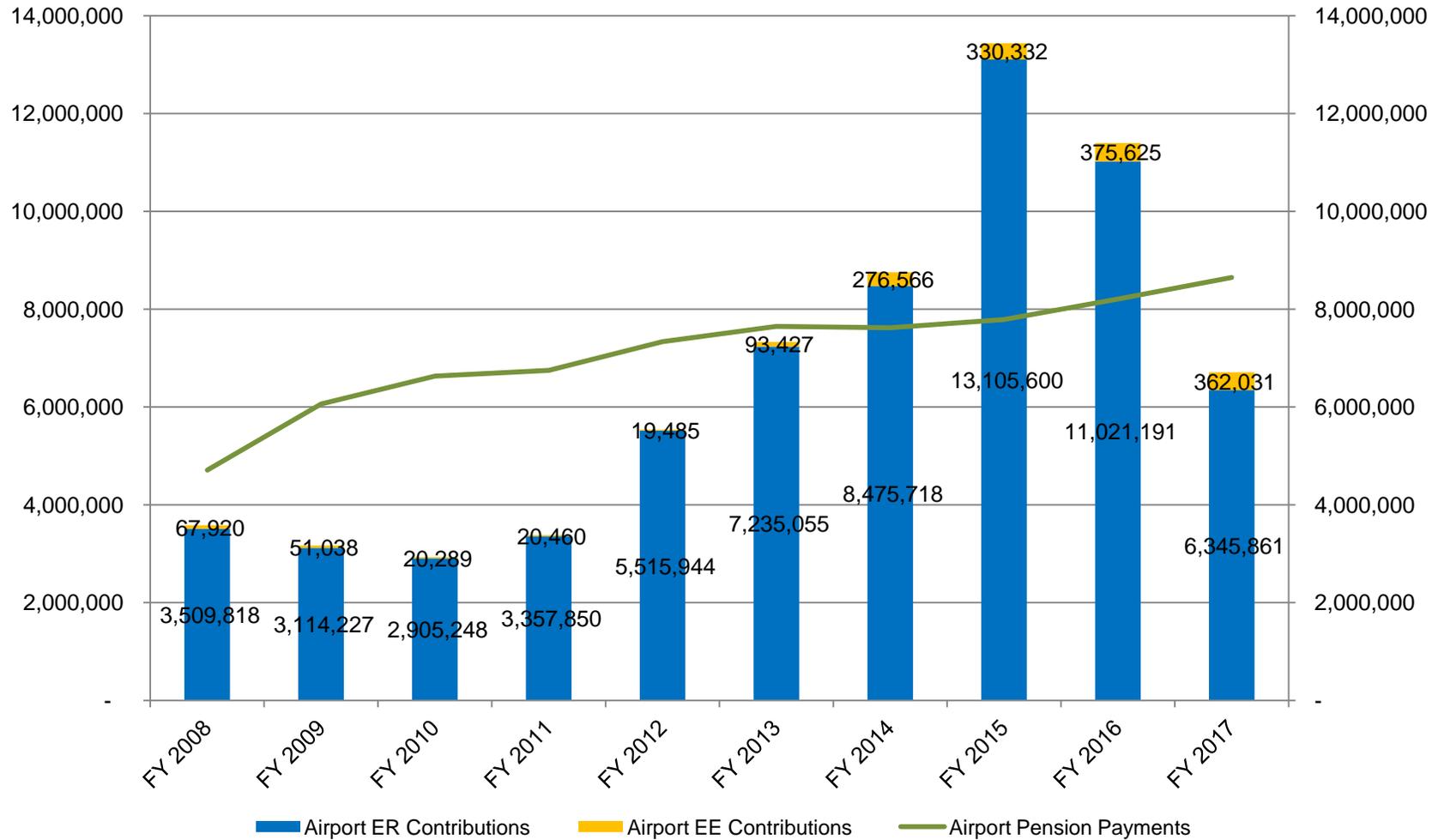


Employee and Employer Contributions versus Pension Payments County

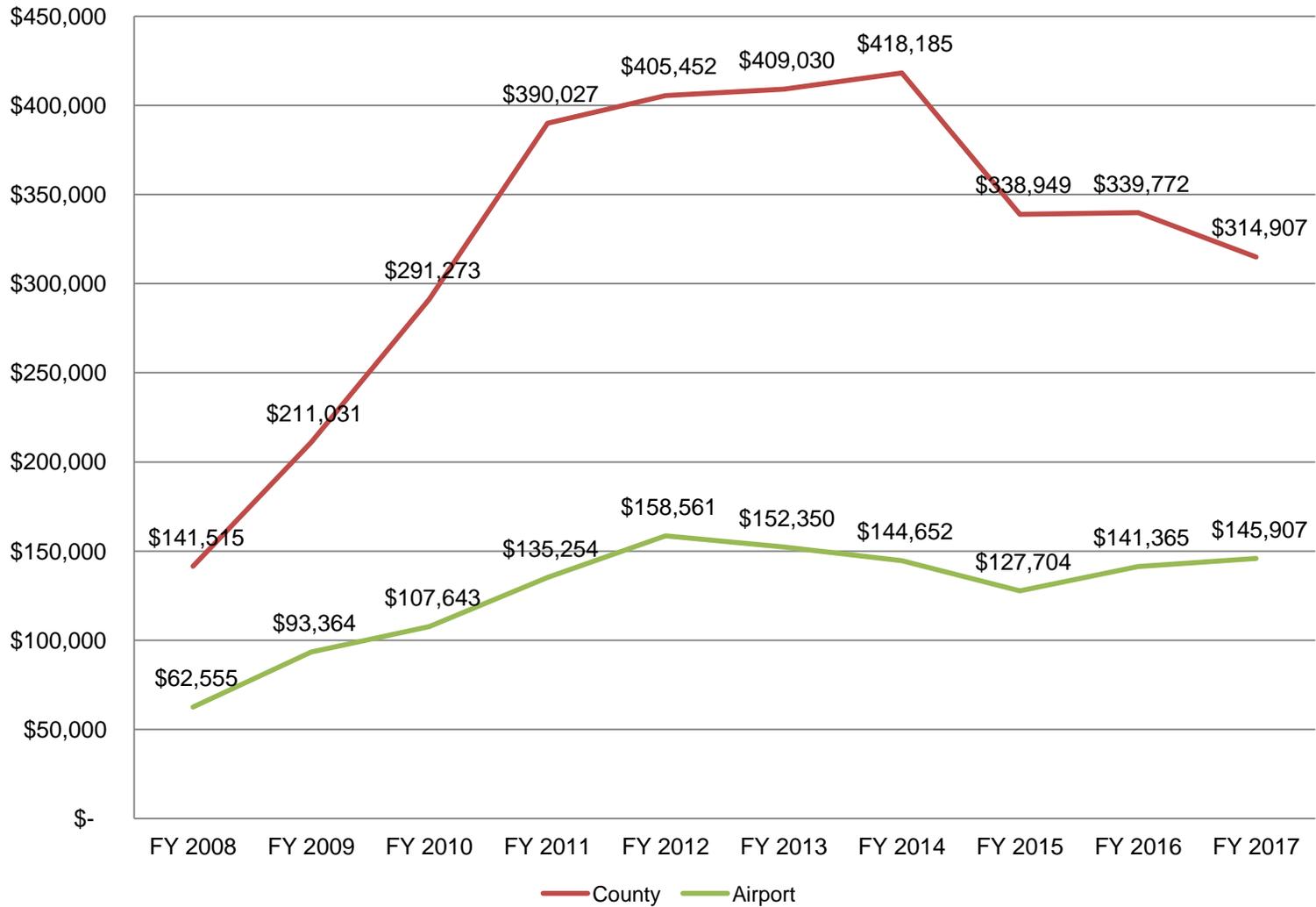


Pension payments exceed contributions requiring the retirement system to liquidate investments periodically to make pension payments. Additional contributions may increase the funding ratio of the plan depending on investment gains or losses.

Employee and Employer Contributions versus Pension Payments Airport



Unfunded Actuarial Accrued Liability per Active Member



FY 2019 Employer Contributions to Finance Defined Benefit Plans

DEFINED BENEFIT PLANS-CONTRIBUTIONS FOR:

	AIRPORT	COUNTY
TOTAL NORMAL COST	8.03%	9.05%
LESS PORTION PAID BY MEMBERS	(1.10%)	(6.98%)
EMPLOYER DEFINED BENEFIT NORMAL COST	6.93%	2.07%
UNFUNDED ACTUARIAL ACCRUED LIABILITY	18.68%	50.19%
TOTAL COMPUTED EMPLOYER RATE	25.61%	52.26%
MINIMUM EMPLOYER CONTRIBUTION REQUIRED	\$7,059,410	\$56,869,257

* Beginning October 1, 2015, nearly all County defined benefit members contribute based on gross wages, while the employer contribution and pension AFC is calculated based on base wages.

BUDGET ANALYSIS

Year	Budget	Actual	Net Position	% of Net Position
FY 2008	\$7,502,000	\$6,945,622	\$859,527,777	0.81%
FY 2009	\$7,502,000	\$7,228,123	\$823,428,019	0.88%
FY 2010	\$7,502,000	\$7,157,053	\$808,600,303	0.89%
FY 2011	\$7,502,000	\$7,823,478	\$695,445,679	1.12%
FY 2012	\$7,502,000	\$6,145,806	\$728,084,796	0.84%
FY 2013	\$8,002,000	\$5,965,161	\$782,124,005	0.76%
FY 2014	\$8,002,000	\$6,718,000	\$814,619,598	0.82%
FY 2015	\$8,002,000	\$6,186,362	\$823,824,544	0.72%
FY 2016	\$8,002,000	\$5,339,794	\$881,038,959	0.61%
FY 2017	\$7,626,900	\$5,833,178	\$920,751,833	0.63%
FY 2018	\$7,626,900			
FY 2019	\$7,626,900			

Budget Analysis

