

nyhart

# GASB 45 ACTUARIAL VALUATION

Fiscal Year Ending June 30, 2017

## State of Indiana

**Nyhart Actuary & Employee Benefits**

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**November 14, 2017**

**Deanna Oware  
State of Indiana  
Indiana State Budget Agency  
200 West Washington Street, Room 212  
Indianapolis, IN 46204**

This report summarizes the GASB actuarial valuation for the State of Indiana FY 2016/17 fiscal year. To the best of our knowledge, the report presents a fair position of the funded status of the plan in accordance with GASB Statement No. 45 (Accounting and Financial Reporting by Employers for Post-Employment Benefits Other Than Pensions).

The information presented herein is based on the actuarial assumptions and substantive plan provisions summarized in this report and participant information furnished to us by the Plan Sponsor. We have reviewed the employee census provided by the Plan Sponsor for reasonableness when compared to the prior information provided but have not audited the information at the source, and therefore do not accept responsibility for the accuracy or the completeness of the data on which the information is based. When relevant data may be missing, we may have made assumptions we feel are neutral or conservative to the purpose of the measurement. We are not aware of any significant issues with and have relied on the data provided.

The discount rate, other economic assumptions, and demographic assumptions have been selected by the Plan Sponsor with the concurrence of Nyhart. In our opinion, the actuarial assumptions are individually reasonable and in combination represent our estimate of anticipated experience of the Plan. All calculations have been made in accordance with generally accepted actuarial principles and practice.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following:

- plan experience differing from that anticipated by the economic or demographic assumptions;
- changes in economic or demographic assumptions;
- increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and
- changes in plan provisions or applicable law.

We did not perform an analysis of the potential range of future measurements due to the limited scope of our engagement.

To our knowledge, there have been no significant events prior to the current year's measurement date or as of the date of this report that could materially affect the results contained herein.



Neither Nyhart nor any of its employees has any relationship with the plan or its sponsor that could impair or appear to impair the objectivity of this report. Our professional work is in full compliance with the American Academy of Actuaries "Code of Professional Conduct" Precept 7 regarding conflict of interest. The undersigned meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Should you have any questions please do not hesitate to contact us.

A handwritten signature in black ink that reads "Randy Gomez".

Randy Gomez, FSA, MAAA  
Consulting Actuary

A handwritten signature in black ink that reads "Evi Laksana".

Evi Laksana, ASA, MAAA  
Valuation Actuary

## **SECTION A - EXECUTIVE SUMMARY**



## Actuary's Notes

Changes since last year's full valuation, which was for the fiscal year ending June 30, 2016:

1. For Indiana State Police (ISP):
  - a. Employees hired on/after July 1, 2016 are only eligible for retiree health benefits until Medicare eligibility. This change caused a decrease in the ISP Actuarial Accrued Liabilities (AAL).
  - b. ISP is expected to increase the maximum out-of-pocket for the retiree health plan from \$2,750 (single) / \$5,500 (family) currently to \$4,000 (single) / \$8,000 (family) on January 1, 2018. This change caused a decrease in the ISP AAL.
  
2. For Conservation and Excise Police (CEP):
  - a. CEP is expected to modify the provisions of the retiree health plan effective on January 1, 2018 as follows:
    - i. Deductible: increased from \$500 (single) / \$1,000 (family) to \$750 (single) / \$1,500 (family).
    - ii. Maximum out-of-pocket: increased from \$2,050 (single) / \$4,100 (family) to \$2,550 (single) / \$5,100 (family).
    - iii. Prescription drug: modified the deductible from \$300 to \$300 (single) / \$900 (family).This change caused a decrease in CEP AAL.
  - b. Incremental spouse cost for Medicare retirees who are covering their spouses is set at 1.6 of the single cost in 2018. This multiplier is set to increase annually until it reaches 2 times the single cost in 2022. This change caused a decrease in CEP AAL.
  
3. For all groups, trend rates for medical and prescription drug benefits have been reset to an initial rate of 9.00% decreasing by 0.50% annually to an ultimate rate of 4.50%. Dental trend rates have been modified from an initial rate of 4.50% decreasing by 0.25% to 3.50% to a flat 3.00%. This change caused an increase in all entities AAL.



## Summary of Results

Presented below is the summary of GASB 45 results (for all employee groups) for the fiscal year ending June 30, 2017 compared to the prior fiscal years as shown in the State’s Notes to Financial Statement.

<i>As of June 30, 2017</i>	<i>Total</i>	<i>State Personnel</i>	<i>Legislature</i>	<i>Indiana State Police (ISP)</i>	<i>Conservation and Excise Police (CEP)</i>
<b>Actuarial Accrued Liability</b>	\$ 524,158,010	\$ 41,077,645	\$ 10,734,057	\$ 430,337,439	\$ 42,008,869
<b>Actuarial Value of Assets</b>	(157,496,689)	(44,998,027)	0	(97,322,900)	(15,175,762)
<b>Unfunded Actuarial Accrued Liability</b>	\$ 366,661,321	\$ (3,920,382)	\$ 10,734,057	\$ 333,014,539	\$ 26,833,107
<b>Funded Ratio</b>	30.0%	109.5%	0.0%	22.6%	36.1%
<b><i>For FY 2016/17</i></b>					
<b>Annual Required Contribution</b>	\$ 37,887,072	\$ 1,577,058	\$ 747,773	\$ 32,614,187	\$ 2,948,054
<b>Annual OPEB Cost</b>	\$ 36,316,925	\$ 2,142,088	\$ 713,000	\$ 30,676,821	\$ 2,785,016
<b>Annual Employer Contribution</b>	\$ 35,912,729	\$ 4,801,561	\$ 522,077	\$ 26,871,267	\$ 3,717,824
<b>Net OPEB Obligation as of June 30, 2017</b>	\$ 96,194,255	\$ (37,130,277)	\$ 2,312,314	\$ 121,998,524	\$ 9,013,694
<b><i>As of June 30, 2016</i></b>					
<b>Actuarial Accrued Liability</b>	\$ 476,354,390	\$ 40,883,680	\$ 9,541,164	\$ 380,528,754	\$ 45,400,792
<b>Actuarial Value of Assets</b>	(137,007,125)	(44,320,907)	0	(79,798,509)	(12,887,709)
<b>Unfunded Actuarial Accrued Liability</b>	\$ 339,347,265	\$ (3,437,227)	\$ 9,541,164	\$ 300,730,245	\$ 32,513,083
<b>Funded Ratio</b>	28.8%	108.4%	0.0%	21.0%	28.4%
<b><i>For FY 2015/16</i></b>					
<b>Annual Required Contribution</b>	\$ 36,160,177	\$ 1,537,527	\$ 680,107	\$ 30,629,812	\$ 3,312,731
<b>Annual OPEB Cost</b>	\$ 34,468,609	\$ 2,087,981	\$ 648,396	\$ 28,589,627	\$ 3,142,605
<b>Annual Employer Contribution</b>	\$ 41,876,115	\$ 2,977,166	\$ 461,554	\$ 34,862,363	\$ 3,575,032
<b>Net OPEB Obligation as of June 30, 2016</b>	\$ 95,790,059	\$ (34,470,804)	\$ 2,121,391	\$ 118,192,970	\$ 9,946,502



## Liabilities Breakdown

Below is a breakdown of total GASB 45 liabilities allocated to past, current, and future service as of July 1, 2016 compared to the prior year.

<i>As of July 1, 2016</i>	<i>Present Value of Future Benefits</i>	<i>Actuarial Accrued Liability (AAL)</i>	<i>Normal Cost</i>	<i>Future Normal Costs</i>
<b>Total</b>	<b>\$ 672,331,300</b>	<b>\$ 498,809,964</b>	<b>\$ 15,426,029</b>	<b>\$ 158,095,307</b>
State Personnel	59,535,335	40,285,330	1,770,035	17,479,970
Legislature	11,345,781	10,695,291	87,246	563,244
ISP	544,841,153	407,693,303	12,355,566	124,792,284
CEP	56,609,031	40,136,040	1,213,182	15,259,809

<i>As of July 1, 2015</i>	<i>Present Value of Future Benefits</i>	<i>Actuarial Accrued Liability (AAL)</i>	<i>Normal Cost</i>	<i>Future Normal Costs</i>
<b>Total</b>	<b>\$ 627,101,709</b>	<b>\$ 452,146,607</b>	<b>\$ 15,314,751</b>	<b>\$ 159,640,351</b>
State Personnel	58,653,854	40,341,422	1,694,076	16,618,356
Legislature	10,129,344	9,488,410	93,397	547,537
ISP	498,120,983	358,928,229	12,291,435	126,901,319
CEP	60,197,528	43,388,546	1,235,843	15,573,139

**Present Value of Future Benefits (PVFB)** is the amount needed as of July 1, 2015 and 2016 to fully fund the State's retiree health care subsidies for existing and future retirees and their dependents assuming all actuarial assumptions are met.

**Actuarial Accrued Liability** is the portion of PVFB considered to be accrued or earned as of July 1, 2015 and 2016. This amount is a required disclosure in the Required Supplementary Information section.

**Normal Cost** is the portion of the total liability amount that is attributed and accrued for current year's active employee service by the actuarial cost method.

**Future Normal Cost** is the portion of the total liability amount that is attributed to the future employee by the actuarial cost method.



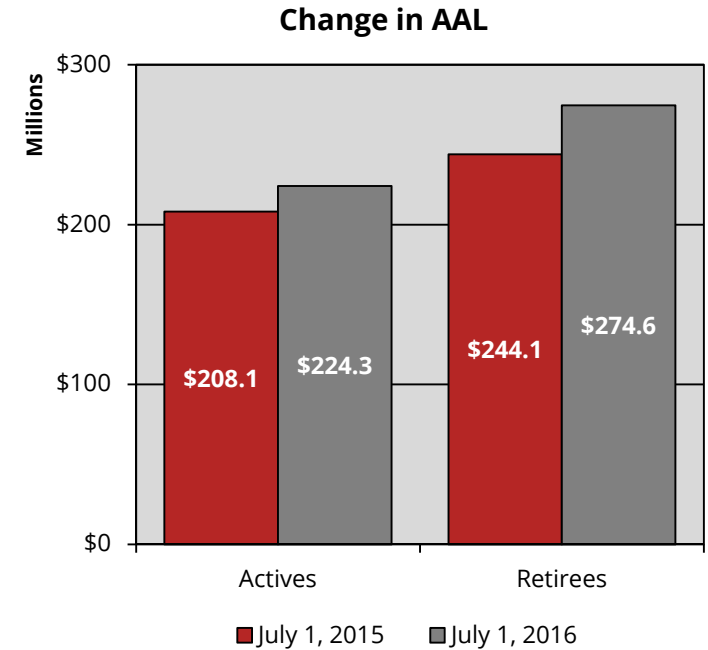


**Liabilities Breakdown (continued)**

Below is a breakdown of total GASB 45 Actuarial Accrued Liability (AAL) allocated to active employees and retirees. The liability shown below includes explicit (if any) and implicit subsidies. Refer to the Substantive Plan Provisions section for complete information on the Plan Sponsor’s GASB subsidies.

<i>As of July 1, 2016</i>	<i>Active Employees</i>	<i>Retirees</i>	<i>Total</i>
<b>Total</b>	<b>\$ 224,253,124</b>	<b>\$ 274,556,840</b>	<b>\$ 498,809,964</b>
State Personnel	27,310,189	12,975,141	40,285,330
Legislature	1,029,535	9,665,756	10,695,291
ISP	178,885,326	228,807,977	407,693,303
CEP	17,028,074	23,107,966	40,136,040

<i>As of July 1, 2015</i>	<i>Active Employees</i>	<i>Retirees</i>	<i>Total</i>
<b>Total</b>	<b>\$ 208,075,682</b>	<b>\$ 244,070,925</b>	<b>\$ 452,146,607</b>
State Personnel	26,238,992	14,102,430	40,341,422
Legislature	1,254,690	8,233,720	9,488,410
ISP	162,512,412	196,415,817	358,928,229
CEP	18,069,588	25,318,958	43,388,546



## **SECTION B – VALUATION RESULTS**



**For Fiscal Year Ending June 30, 2017<sup>1</sup>**

Discount Rate			4.50%	4.50%	4.50%	4.50%
Required Supplementary Information	Total	State Personnel	Legislature	ISP	CEP	
Actuarial Accrued Liability as of June 30, 2017	\$ 524,158,010	\$ 41,077,645	\$ 10,734,057	\$ 430,337,439	\$ 42,008,869	
Actuarial Value of Assets as of June 30, 2017	(157,496,689)	(44,998,027)	0	(97,322,900)	(15,175,762)	
<b>Unfunded Actuarial Accrued Liability (UAAL)</b>	<b>\$ 366,661,321</b>	<b>\$ (3,920,382)</b>	<b>\$ 10,734,057</b>	<b>\$ 333,014,539</b>	<b>\$ 26,833,107</b>	
Funded Ratio	30.0%	109.5%	0.0%	22.6%	36.1%	

Annual Required Contribution	Total	State Personnel	Legislature	ISP	CEP	
Normal cost	\$ 14,953,469	\$ 1,770,035	\$ 87,246	\$ 11,883,006 <sup>2</sup>	\$ 1,213,182	
Amortization of the UAAL over 30-year period	21,302,102	(260,888)	628,326	19,326,742	1,607,922	
Total normal cost and amortization payment	\$ 36,255,571	\$ 1,509,147	\$ 715,572	\$ 31,209,748	\$ 2,821,104	
Interest to end of year	1,631,501	67,911	32,201	1,404,439	126,950	
<b>Total Annual Required Contribution (ARC)</b>	<b>\$ 37,887,072</b>	<b>\$ 1,577,058</b>	<b>\$ 747,773</b>	<b>\$ 32,614,187</b>	<b>\$ 2,948,054</b>	

Annual OPEB Cost and Net OPEB Obligation	Total	State Personnel	Legislature	ISP	CEP	
ARC for fiscal year 2016/17	\$ 37,887,072	\$ 1,577,058	\$ 747,773	\$ 32,614,187	\$ 2,948,054	
Interest on Net OPEB Obligation (NOO) to end of year	4,310,553	(1,551,186)	95,462	5,318,684	447,593	
Amortization adjustment to the ARC for BOY NOO	(5,880,700)	2,116,216	(130,235)	(7,256,050)	(610,631)	
Annual OPEB cost	\$ 36,316,925	\$ 2,142,088	\$ 713,000	\$ 30,676,821	\$ 2,785,016	
Annual employer contribution for pay-go cost in 2016/17	(5,323,638)	(4,801,561)	(522,077)			
Annual employer contribution for pre-funding in 2016/17	(30,589,091)			(26,871,267)	(3,717,824)	
Change in NOO for fiscal year 2016/17	\$ 404,196	\$ (2,659,473)	\$ 190,923	\$ 3,805,554	\$ (932,808)	
NOO as of July 1, 2016	95,790,059	(34,470,804)	2,121,391	118,192,970	9,946,502	
<b>NOO as of June 30, 2017</b>	<b>\$ 96,194,255</b>	<b>\$ (37,130,277)</b>	<b>\$ 2,312,314</b>	<b>\$ 121,998,524</b>	<b>\$ 9,013,694</b>	

<sup>1</sup> GASB 45 regulations permit employers to use the most recently available actuarial information up to two years prior to the current period. Accordingly, the State has elected to use the actuarial liability results for the period ending June 30, 2016 for the period ending June 30, 2017. The value of assets is as reported for the current period. The date/year references below have been changed to 2016/17 for consistency.

<sup>2</sup> ISP normal cost for FY 2016/17 has been reduced for active employee contributions of \$472,560 (as provided by the Plan Sponsor).



**For Fiscal Year Ending June 30, 2016<sup>3</sup>**

Discount Rate			4.50%	4.50%	4.50%	4.50%
Required Supplementary Information	Total	State Personnel	Legislature	ISP	CEP	
Actuarial Accrued Liability as of June 30, 2016	\$ 476,354,390	\$ 40,883,680	\$ 9,541,164	\$ 380,528,754	\$ 45,400,792	
Actuarial Value of Assets as of June 30, 2016	(137,007,125)	(44,320,907)	0	(79,798,509)	(12,887,709)	
<b>Unfunded Actuarial Accrued Liability (UAAL)</b>	<b>\$ 339,347,265</b>	<b>\$ (3,437,227)</b>	<b>\$ 9,541,164</b>	<b>\$ 300,730,245</b>	<b>\$ 32,513,083</b>	
Funded Ratio	28.8%	108.4%	0.0%	21.0%	28.4%	

Annual Required Contribution	Total	State Personnel	Legislature	ISP	CEP	
Normal cost	\$ 14,414,885	\$ 1,694,076	\$ 93,397	\$ 11,391,569 <sup>4</sup>	\$ 1,235,843	
Amortization of the UAAL over 30-year period	20,188,155	(222,758)	557,423	17,919,256	1,934,234	
Total normal cost and amortization payment	\$ 34,603,040	\$ 1,471,318	\$ 650,820	\$ 29,310,825	\$ 3,170,077	
Interest to end of year	1,557,137	66,209	29,287	1,318,987	142,654	
<b>Total Annual Required Contribution (ARC)</b>	<b>\$ 36,160,177</b>	<b>\$ 1,537,527</b>	<b>\$ 680,107</b>	<b>\$ 30,629,812</b>	<b>\$ 3,312,731</b>	

Annual OPEB Cost and Net OPEB Obligation	Total	State Personnel	Legislature	ISP	CEP	
ARC for fiscal year 2015/16	\$ 36,160,177	\$ 1,537,527	\$ 680,107	\$ 30,629,812	\$ 3,312,731	
Interest on Net OPEB Obligation (NOO) to end of year	4,643,890	(1,511,173)	87,054	5,600,957	467,052	
Amortization adjustment to the ARC for BOY NOO	(6,335,458)	2,061,627	(118,765)	(7,641,142)	(637,178)	
Annual OPEB cost	\$ 34,468,609	\$ 2,087,981	\$ 648,396	\$ 28,589,627	\$ 3,142,605	
Annual employer contribution for pay-go cost in 2015/16	(4,643,603)	(2,977,166)	(461,554)		(1,204,883)	
Annual employer contribution for pre-funding in 2015/16	(37,232,512)			(34,862,363)	(2,370,149)	
Change in NOO for fiscal year 2015/16	\$ (7,407,506)	\$ (889,185)	\$ 186,842	\$ (6,272,736)	\$ (432,427)	
NOO as of July 1, 2015	103,197,565	(33,581,619)	1,934,549	124,465,706	10,378,929	
<b>NOO as of June 30, 2016</b>	<b>\$ 95,790,059</b>	<b>\$ (34,470,804)</b>	<b>\$ 2,121,391</b>	<b>\$ 118,192,970</b>	<b>\$ 9,946,502</b>	

<sup>3</sup> GASB 45 regulations permit employers to use the most recently available actuarial information up to two years prior to the current period. Accordingly, the State has elected to use the actuarial liability results for the period ending June 30, 2015 for the period ending June 30, 2016. The value of assets is as reported for the current period. The date/year references below have been changed to 2015/16 for consistency.

<sup>4</sup> ISP normal cost for FY 2015/16 has been reduced for active employee contributions of \$899,866 (as provided by the Plan Sponsor).



Summary of GASB 45 Financial Results

Schedule of Funding Progress

<i>As of</i>	<i>Actuarial Value of Assets (AVA)</i>	<i>Actuarial Accrued Liability (AAL)</i>	<i>Unfunded Actuarial Accrued Liability (UAAL)</i>	<i>AVA as a % of AAL</i>	<i>Covered Payroll</i>	<i>UAAL as % of Covered Payroll</i>
<i>A</i>	<i>B</i>	<i>C = A + B</i>	<i>D = A / B</i>	<i>E</i>	<i>F = C / E</i>	
<b>June 30, 2017</b>						
State Personnel	\$ (44,998,027)	\$ 41,077,645	\$ (3,920,382)	109.5%	\$ 1,234,213,720	-0.3%
Legislature	\$ 0	\$ 10,734,057	\$ 10,734,057	0.0%	\$ N/A	N/A
ISP	\$ (97,322,900)	\$ 430,337,439	\$ 333,014,539	22.6%	\$ 96,174,273	346.3%
CEP	\$ (15,175,762)	\$ 42,008,869	\$ 26,833,107	36.1%	\$ 16,471,677	162.9%
<b>Total</b>	<b>\$ (157,496,689)</b>	<b>\$ 524,158,010</b>	<b>\$ 366,661,321</b>	<b>30.0%</b>	<b>\$ N/A</b>	<b>N/A</b>
<b>June 30, 2016</b>						
State Personnel	\$ (44,320,907)	\$ 40,883,680	\$ (3,437,227)	108.4%	\$ N/A	N/A
Legislature	\$ 0	\$ 9,541,164	\$ 9,541,164	0.0%	\$ N/A	N/A
ISP	\$ (79,798,509)	\$ 380,528,754	\$ 300,730,245	21.0%	\$ 89,733,315	335.1%
CEP	\$ (12,887,709)	\$ 45,400,792	\$ 32,513,083	28.4%	\$ N/A	N/A
<b>Total</b>	<b>\$ (137,007,125)</b>	<b>\$ 476,354,390</b>	<b>\$ 339,347,265</b>	<b>28.8%</b>	<b>\$ N/A</b>	<b>N/A</b>
<b>June 30, 2015</b>						
State Personnel	\$ (44,133,191)	\$ 44,263,140	\$ 129,949	99.7%	\$ 1,229,387,740	0.0%
Legislature	\$ 0	\$ 11,963,994	\$ 11,963,994	0.0%	\$ N/A	N/A
ISP	\$ (53,908,657)	\$ 341,219,112	\$ 287,310,455	15.8%	\$ 86,873,266	330.7%
CEP	\$ (10,464,231)	\$ 41,830,882	\$ 31,366,651	25.0%	\$ 13,940,757	225.0%
<b>Total</b>	<b>\$ (108,506,079)</b>	<b>\$ 439,277,128</b>	<b>\$ 330,771,049</b>	<b>24.7%</b>	<b>\$ 1,330,201,763</b>	<b>24.9%</b>

**Summary of GASB 45 Financial Results (continued)****Schedule of Employer Contributions**

<i>FYE</i>	<i>Employer Contributions</i>	<i>Annual Required Contribution (ARC)</i>	<i>% of ARC Contributed</i>
	<i>A</i>	<i>B</i>	<i>C = A / B</i>
<b>June 30, 2017</b>			
State Personnel	\$ 4,801,561	\$ 1,577,058	304.5%
Legislature	\$ 522,077	\$ 747,773	69.8%
ISP	\$ 26,871,267	\$ 32,614,187	82.4%
CEP	\$ 3,717,824	\$ 2,948,054	126.1%
<b>Total</b>	<b>\$ 35,912,729</b>	<b>\$ 37,887,072</b>	<b>94.8%</b>
<b>June 30, 2016</b>			
State Personnel	\$ 2,977,166	\$ 1,537,527	193.6%
Legislature	\$ 461,554	\$ 680,107	67.9%
ISP	\$ 34,862,363	\$ 30,629,812	113.8%
CEP	\$ 3,575,032	\$ 3,312,731	107.9%
<b>Total</b>	<b>\$ 41,876,115</b>	<b>\$ 36,160,177</b>	<b>115.8%</b>
<b>June 30, 2015</b>			
State Personnel	\$ 3,567,257	\$ 1,838,675	194.0%
Legislature	\$ 553,984	\$ 841,639	65.8%
ISP	\$ 25,319,778	\$ 29,604,071	85.5%
CEP	\$ 2,436,777	\$ 3,123,622	78.0%
<b>Total</b>	<b>\$ 31,877,796</b>	<b>\$ 35,408,007</b>	<b>90.0%</b>

**Summary of GASB 45 Financial Results (continued)****Historical Annual OPEB Cost**

<i>As of</i>	<i>Annual OPEB Cost</i>	<i>% of Annual OPEB Cost Contributed</i>	<i>Net OPEB Obligation / (Asset)</i>
<b>June 30, 2017</b>			
State Personnel	\$ 2,142,088	224.2%	\$ (37,130,277)
Legislature	\$ 713,000	73.2%	\$ 2,312,314
ISP	\$ 30,676,821	87.6%	\$ 121,998,524
CEP	\$ 2,785,016	133.5%	\$ 9,013,694
<b>Total</b>	<b>\$ 36,316,925</b>	<b>98.9%</b>	<b>\$ 96,194,255</b>
<b>June 30, 2016</b>			
State Personnel	\$ 2,087,981	142.6%	\$ (34,470,804)
Legislature	\$ 648,396	71.2%	\$ 2,121,391
ISP	\$ 28,589,627	121.9%	\$ 118,192,970
CEP	\$ 3,142,605	113.8%	\$ 9,946,502
<b>Total</b>	<b>\$ 34,468,609</b>	<b>121.5%</b>	<b>\$ 95,790,059</b>
<b>June 30, 2015</b>			
State Personnel	\$ 2,369,496	150.5%	\$ (33,581,619)
Legislature	\$ 814,195	68.0%	\$ 1,934,549
ISP	\$ 27,601,284	91.7%	\$ 124,465,706
CEP	\$ 2,962,106	82.3%	\$ 10,378,929
<b>Total</b>	<b>\$ 33,747,081</b>	<b>94.5%</b>	<b>\$ 103,197,565</b>



**Asset Information for FY 2016/17**

<i>Summary of Assets</i>	<i>State Personnel</i>		<i>ISP</i>		<i>Conservation</i>		<i>Excise</i>		<i>All Groups</i>	
General investments										
Cash and cash equivalents	\$	578,676	\$	6,021,997	\$	474,600	\$	322,745	\$	7,398,018
Fixed income / debt securities		43,947,765		92,447,567		10,949,321		3,496,485		150,841,138
Accrued interest receivable		87,731		215,043		42,233		1,486		346,493
Contributions / account receivable		514,800				48,484		15,482		578,766
Benefits payable		(130,945)		(1,361,707)		(145,895)		(29,179)		(1,667,726)
<b>Net assets</b>	<b>\$</b>	<b>44,998,027</b>	<b>\$</b>	<b>97,322,900</b>	<b>\$</b>	<b>11,368,743</b>	<b>\$</b>	<b>3,807,019</b>	<b>\$</b>	<b>157,496,689</b>

<i>Reconciliation of Assets</i>	<i>State Personnel</i>		<i>ISP</i>		<i>Conservation</i>		<i>Excise</i>		<i>All Groups</i>	
Income										
Contributions received										
Employer	\$	4,801,561	\$	26,871,267	\$	2,755,252	\$	962,572	\$	35,390,652
Employee				472,560						472,560
Investment earnings										
Net appreciation in investment		291,654		507,661		54,152		25,269		878,736
Interest from investment										
Securities lending income										
<b>Total income</b>	<b>\$</b>	<b>5,093,215</b>	<b>\$</b>	<b>27,851,488</b>	<b>\$</b>	<b>2,809,404</b>	<b>\$</b>	<b>987,841</b>	<b>\$</b>	<b>36,741,948</b>
Disbursements										
Benefit payments to retirees	\$	(4,404,459)	\$	(8,655,904)	\$	(1,159,006)	\$	(145,894)	\$	(14,365,263)
Professional services fees		(416,863)		(588,347)		(63,691)		(19,060)		(1,087,961)
Securities lending expense										
<b>Total disbursements</b>	<b>\$</b>	<b>(4,821,322)</b>	<b>\$</b>	<b>(9,244,251)</b>	<b>\$</b>	<b>(1,222,697)</b>	<b>\$</b>	<b>(164,954)</b>	<b>\$</b>	<b>(15,453,224)</b>
<b>Net income</b>	<b>\$</b>	<b>271,893</b>	<b>\$</b>	<b>18,607,237</b>	<b>\$</b>	<b>1,586,707</b>	<b>\$</b>	<b>822,887</b>	<b>\$</b>	<b>21,288,724</b>
<b>Net asset at beginning of year</b>		<b>44,726,134</b>		<b>78,715,663</b>		<b>9,782,036</b>		<b>2,984,132</b>		<b>136,207,965</b>
<b>Net asset at end of year</b>	<b>\$</b>	<b>44,998,027</b>	<b>\$</b>	<b>97,322,900</b>	<b>\$</b>	<b>11,368,743</b>	<b>\$</b>	<b>3,807,019</b>	<b>\$</b>	<b>157,496,689</b>





**Asset Information for FY 2015/16**

<i>Summary of Assets</i>	<i>State Personnel</i>		<i>ISP</i>		<i>Conservation</i>		<i>Excise</i>		<i>All Groups</i>	
General investments										
Cash and cash equivalents	\$	630,195	\$	22,393,839 <sup>5</sup>	\$	684,209	\$	690,494	\$	24,398,737
Fixed income / debt securities		43,600,873		57,273,671		8,995,143		2,501,435		112,371,122
Accrued interest receivable		89,840		106,255		13,627		2,800		212,522
Contributions receivable				27,744						24,744
<b>Net assets</b>	<b>\$</b>	<b>44,320,907</b>	<b>\$</b>	<b>79,798,509</b>	<b>\$</b>	<b>9,692,979</b>	<b>\$</b>	<b>3,194,729</b>	<b>\$</b>	<b>137,007,125</b>

<i>Reconciliation of Assets</i>	<i>State Personnel</i>		<i>ISP</i>		<i>Conservation</i>		<i>Excise</i>		<i>All Groups</i>	
Income										
Contributions received										
Employer	\$	0	\$	34,862,363	\$	1,758,188	\$	611,961	\$	37,232,512
Employee				899,866						899,866
Investment earnings										
Net appreciation in investment		12,965		71,282		1,693		1,193		87,133
Interest from investment		173,258		268,881		34,965		15,478		492,582
Securities lending income		8,928		5,757				2		14,686
<b>Total income</b>	<b>\$</b>	<b>195,151</b>	<b>\$</b>	<b>36,108,149</b>	<b>\$</b>	<b>1,794,845</b>	<b>\$</b>	<b>628,634</b>	<b>\$</b>	<b>38,726,779</b>
Disbursements										
Benefit payments to retirees	\$	0	\$	(10,196,138)	\$	0	\$	0	\$	(10,196,138)
Professional services fees				(17,106)						(17,106)
Securities lending expense		(7,435)		(5,053)				(1)		(12,489)
<b>Total disbursements</b>	<b>\$</b>	<b>(7,435)</b>	<b>\$</b>	<b>(10,218,297)</b>	<b>\$</b>	<b>0</b>	<b>\$</b>	<b>(1)</b>	<b>\$</b>	<b>(10,225,733)</b>
<b>Net income</b>	<b>\$</b>	<b>187,716</b>	<b>\$</b>	<b>25,889,852</b>	<b>\$</b>	<b>1,749,845</b>	<b>\$</b>	<b>628,633</b>	<b>\$</b>	<b>28,501,046</b>
Net asset at beginning of year		44,133,191		53,908,657		7,898,134		2,566,097		108,506,079
<b>Net asset at end of year</b>	<b>\$</b>	<b>44,320,907</b>	<b>\$</b>	<b>79,798,509</b>	<b>\$</b>	<b>9,692,979</b>	<b>\$</b>	<b>3,194,730</b>	<b>\$</b>	<b>137,007,125</b>

<sup>5</sup> Net of accrued expense for securities lending



## Reconciliation of Actuarial Accrued Liability

The Actuarial Accrued Liability (AAL) is expected to change on an annual basis as a result of expected and unexpected events. Under normal circumstances, it is generally expected to have a net increase each year. Below is a list of the most common events affecting the AAL and whether they increase or decrease the liability.

### Expected Events

- Increases in AAL due to additional benefit accruals as employees continue to earn service each year
- Increases in AAL due to interest as the employees and retirees age
- Decreases in AAL due to benefit payments

### Unexpected Events

- Increases in AAL when actual premium rates increase more than expected. A liability decrease occurs when premium rates increase less than expected.
- Increases in AAL when more new retirements occur than expected or fewer terminations occur than anticipated. Liability decreases occur when the opposite outcomes happen.
- Increases or decreases in AAL depending on whether benefit provisions are improved or reduced.

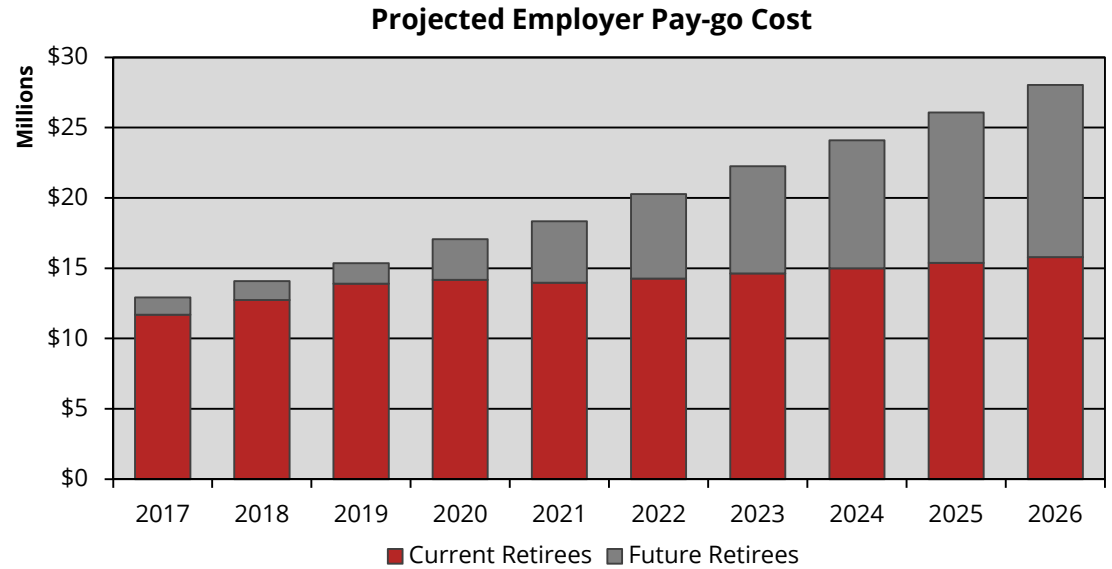
<i>FY 2015/16</i>	<i>Total</i>	<i>State Personnel</i>	<i>Legislature</i>	<i>ISP</i>	<i>CEP</i>
Actuarial Accrued Liability as of July 1, 2015	\$ 452,146,607	\$ 40,341,422	\$ 9,488,410	\$ 358,928,229	\$ 43,388,546
Normal cost as of beginning of year	15,314,751	1,694,076	93,397	12,291,435	1,235,843
Expected benefit payments for 2015/16	(11,878,406)	(2,977,166)	(461,554)	(7,234,803)	(1,204,883)
Interest adjustment to June 30, 2016	20,771,438	1,825,348	420,911	16,543,893	1,981,286
Expected Actuarial Accrued Liability as of June 30, 2016	\$ 476,354,390	\$ 40,883,680	\$ 9,541,164	\$ 380,528,754	\$ 45,400,792
Actuarial (gain) / loss due to experience	22,455,574	(598,350)	1,154,127	27,164,549	(5,264,752)
Actual Actuarial Accrued Liability as of June 30, 2016	\$ 498,809,964	\$ 40,285,330	\$ 10,695,291	\$ 407,693,303	\$ 40,136,040



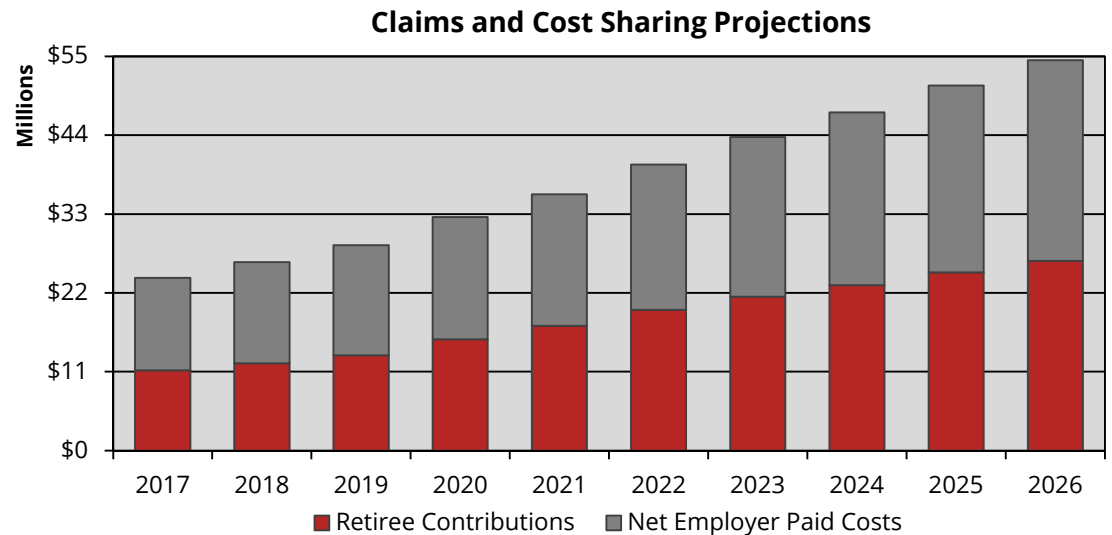
### Employer Contribution Cash Flow Projections

The below projections show the actuarially estimated employer-paid contributions for retiree health benefits for the next ten years.

<b>ALL GROUPS</b>			
<b>FYE</b>	<b>Current Retirees</b>	<b>Future Retirees<sup>6</sup></b>	<b>Total</b>
2017	\$ 11,692,164	\$ 1,238,696	\$ 12,930,860
2018	\$ 12,744,458	\$ 1,350,177	\$ 14,094,635
2019	\$ 13,891,460	\$ 1,471,692	\$ 15,363,152
2020	\$ 14,168,015	\$ 2,901,820	\$ 17,069,835
2021	\$ 13,947,431	\$ 4,376,842	\$ 18,324,273
2022	\$ 14,239,137	\$ 6,029,738	\$ 20,268,875
2023	\$ 14,616,803	\$ 7,621,188	\$ 22,237,991
2024	\$ 14,971,934	\$ 9,095,398	\$ 24,067,332
2025	\$ 15,356,929	\$ 10,694,128	\$ 26,051,057
2026	\$ 15,769,511	\$ 12,232,154	\$ 28,001,665



<b>FYE</b>	<b>Estimated Claims Costs</b>	<b>Retiree Contributions</b>	<b>Net Employer-Paid Costs</b>
2017	\$ 24,116,745	\$ 11,185,885	\$ 12,930,860
2018	\$ 26,287,249	\$ 12,192,614	\$ 14,094,635
2019	\$ 28,653,100	\$ 13,289,948	\$ 15,363,152
2020	\$ 32,597,982	\$ 15,528,147	\$ 17,069,835
2021	\$ 35,741,295	\$ 17,417,022	\$ 18,324,273
2022	\$ 39,893,218	\$ 19,624,343	\$ 20,268,875
2023	\$ 43,723,221	\$ 21,485,230	\$ 22,237,991
2024	\$ 47,159,585	\$ 23,092,253	\$ 24,067,332
2025	\$ 50,908,810	\$ 24,857,753	\$ 26,051,057
2026	\$ 54,458,508	\$ 26,456,843	\$ 28,001,665



<sup>6</sup> Projections for future retirees do not take into account future new hires.



### Employer Contribution Cash Flow Projections (continued)

The below projections show the actuarially estimated employer-paid contributions for retiree health benefits for the next ten years by group.

FYE	State Personnel			Legislature			Indiana State Police		
	Current Retirees	Future Retirees <sup>7</sup>	Total	Current Retirees	Future Retirees <sup>7</sup>	Total	Current Retirees	Future Retirees <sup>7</sup>	Total
2017	\$ 2,257,328	\$ 550,405	\$ 2,807,733	\$ 498,371	\$ 23,706	\$ 522,077	\$ 7,807,081	\$ 619,046	\$ 8,426,127
2018	\$ 2,460,488	\$ 599,941	\$ 3,060,429	\$ 543,226	\$ 25,839	\$ 569,065	\$ 8,509,717	\$ 674,760	\$ 9,184,477
2019	\$ 2,681,932	\$ 653,936	\$ 3,335,868	\$ 592,116	\$ 28,164	\$ 620,280	\$ 9,275,592	\$ 735,488	\$ 10,011,080
2020	\$ 2,281,764	\$ 1,287,491	\$ 3,569,255	\$ 591,398	\$ 33,599	\$ 624,997	\$ 9,892,790	\$ 1,460,909	\$ 11,353,699
2021	\$ 1,607,086	\$ 1,912,767	\$ 3,519,853	\$ 605,355	\$ 44,037	\$ 649,392	\$ 10,343,295	\$ 2,228,489	\$ 12,571,784
2022	\$ 1,275,998	\$ 2,452,867	\$ 3,728,865	\$ 596,306	\$ 55,830	\$ 652,136	\$ 10,924,040	\$ 3,245,097	\$ 14,169,137
2023	\$ 951,724	\$ 2,946,948	\$ 3,898,672	\$ 614,703	\$ 60,162	\$ 674,865	\$ 11,643,800	\$ 4,241,584	\$ 15,885,384
2024	\$ 653,997	\$ 3,240,721	\$ 3,894,718	\$ 625,887	\$ 68,359	\$ 694,246	\$ 12,298,651	\$ 5,302,116	\$ 17,600,767
2025	\$ 436,455	\$ 3,629,631	\$ 4,066,086	\$ 620,002	\$ 75,068	\$ 695,070	\$ 12,923,303	\$ 6,392,346	\$ 19,315,649
2026	\$ 298,298	\$ 3,823,587	\$ 4,121,885	\$ 582,091	\$ 82,074	\$ 664,165	\$ 13,527,827	\$ 7,620,332	\$ 21,148,159

FYE	Estimated Claims Costs	Retiree Contributions	Net Employer-Paid Costs	Estimated Claims Costs	Retiree Contributions	Net Employer-Paid Costs	Estimated Claims Costs	Retiree Contributions	Net Employer-Paid Costs
2017	\$ 8,617,910	\$ 5,810,177	\$ 2,807,733	\$ 636,292	\$ 114,215	\$ 522,077	\$ 12,894,287	\$ 4,468,160	\$ 8,426,127
2018	\$ 9,393,522	\$ 6,333,093	\$ 3,060,429	\$ 693,559	\$ 124,494	\$ 569,065	\$ 14,054,771	\$ 4,870,294	\$ 9,184,477
2019	\$ 10,238,939	\$ 6,903,071	\$ 3,335,868	\$ 755,978	\$ 135,698	\$ 620,280	\$ 15,319,700	\$ 5,308,620	\$ 10,011,080
2020	\$ 11,864,768	\$ 8,295,513	\$ 3,569,255	\$ 776,492	\$ 151,495	\$ 624,997	\$ 17,400,661	\$ 6,046,962	\$ 11,353,699
2021	\$ 12,882,744	\$ 9,362,891	\$ 3,519,853	\$ 807,802	\$ 158,410	\$ 649,392	\$ 19,360,126	\$ 6,788,342	\$ 12,571,784
2022	\$ 14,268,775	\$ 10,539,910	\$ 3,728,865	\$ 825,550	\$ 173,414	\$ 652,136	\$ 21,869,184	\$ 7,700,047	\$ 14,169,137
2023	\$ 15,342,744	\$ 11,444,072	\$ 3,898,672	\$ 855,502	\$ 180,637	\$ 674,865	\$ 24,450,910	\$ 8,565,526	\$ 15,885,384
2024	\$ 15,978,372	\$ 12,083,654	\$ 3,894,718	\$ 890,416	\$ 196,170	\$ 694,246	\$ 27,031,549	\$ 9,430,782	\$ 17,600,767
2025	\$ 16,998,542	\$ 12,932,456	\$ 4,066,086	\$ 897,467	\$ 202,397	\$ 695,070	\$ 29,576,939	\$ 10,261,290	\$ 19,315,649
2026	\$ 17,660,942	\$ 13,539,057	\$ 4,121,885	\$ 875,072	\$ 210,907	\$ 664,165	\$ 32,310,159	\$ 11,162,000	\$ 21,148,159

<sup>7</sup> Projections for future retirees do not take into account future new hires.



### Employer Contribution Cash Flow Projections (continued)

The below projections show the actuarially estimated employer-paid contributions for retiree health benefits for the next ten years by group.

FYE	Conservation			Excise		
	Current Retirees	Future Retirees <sup>8</sup>	Total	Current Retirees	Future Retirees <sup>8</sup>	Total
2017	\$ 956,698	\$ 32,125	\$ 988,823	\$ 172,686	\$ 13,414	\$ 186,100
2018	\$ 1,042,800	\$ 35,016	\$ 1,077,816	\$ 188,227	\$ 14,621	\$ 202,848
2019	\$ 1,136,653	\$ 38,167	\$ 1,174,820	\$ 205,167	\$ 15,937	\$ 221,104
2020	\$ 1,198,030	\$ 88,159	\$ 1,286,189	\$ 204,033	\$ 31,662	\$ 235,695
2021	\$ 1,195,514	\$ 141,546	\$ 1,337,060	\$ 196,181	\$ 50,003	\$ 246,184
2022	\$ 1,240,877	\$ 215,052	\$ 1,455,929	\$ 201,916	\$ 60,892	\$ 262,808
2023	\$ 1,204,270	\$ 297,034	\$ 1,501,304	\$ 202,306	\$ 75,460	\$ 277,766
2024	\$ 1,179,303	\$ 380,535	\$ 1,559,838	\$ 214,096	\$ 103,667	\$ 317,763
2025	\$ 1,151,344	\$ 481,704	\$ 1,633,048	\$ 225,825	\$ 115,379	\$ 341,204
2026	\$ 1,137,056	\$ 582,946	\$ 1,720,002	\$ 224,239	\$ 123,215	\$ 347,454

FYE	Estimated Claims Costs	Retiree Contributions	Net Employer-Paid Costs	Estimated Claims Costs	Retiree Contributions	Net Employer-Paid Costs
2017	\$ 1,650,432	\$ 661,609	\$ 988,823	\$ 317,824	\$ 131,724	\$ 186,100
2018	\$ 1,798,970	\$ 721,154	\$ 1,077,816	\$ 346,427	\$ 143,579	\$ 202,848
2019	\$ 1,960,878	\$ 786,058	\$ 1,174,820	\$ 377,605	\$ 156,501	\$ 221,104
2020	\$ 2,151,382	\$ 865,193	\$ 1,286,189	\$ 404,679	\$ 168,984	\$ 235,695
2021	\$ 2,263,070	\$ 926,010	\$ 1,337,060	\$ 427,553	\$ 181,369	\$ 246,184
2022	\$ 2,465,576	\$ 1,009,647	\$ 1,455,929	\$ 464,133	\$ 201,325	\$ 262,808
2023	\$ 2,580,661	\$ 1,079,357	\$ 1,501,304	\$ 493,404	\$ 215,638	\$ 277,766
2024	\$ 2,699,766	\$ 1,139,928	\$ 1,559,838	\$ 559,482	\$ 241,719	\$ 317,763
2025	\$ 2,834,153	\$ 1,201,105	\$ 1,633,048	\$ 601,709	\$ 260,505	\$ 341,204
2026	\$ 2,994,049	\$ 1,274,047	\$ 1,720,002	\$ 618,286	\$ 270,832	\$ 347,454

<sup>8</sup> Projections for future retirees do not take into account future new hires.

**SECTION C - SUBSTANTIVE PLAN PROVISIONS,  
ACTUARIAL METHODS AND ASSUMPTIONS, AND  
SUMMARY OF PLAN PARTICIPANTS**



## Substantive Plan Provisions

All substantive plan provisions valued in the FYE June 30, 2017 GASB 45 valuation are the same as those shown in the FYE June 30, 2017 GASB 74 / 75 actuarial valuation report.

## Actuarial Assumptions and Methods

Actuarial Assumptions and Methods used in the FYE June 30, 2017 GASB 45 valuation are the same as those shown in the FYE June 30, 2017 GASB 74 / 75 actuarial valuation report except as noted below.

<b>Measurement Date</b>	June 30, 2017; results were actuarially rolled back to July 1, 2015 on a “no gain/loss” basis as the State has elected to use the actuarial liability results for the period ending on June 30, 2016 for the period ending June 30, 2017.
<b>Discount Rate</b>	4.50%
<b>Salary Scale</b>	N/A; benefits are not payroll-related
<b>Cost Method</b>	Projected Unit Credit
<b>Amortization</b>	Level dollar amount over thirty years based on an open group.

## Summary of Plan Participants

Refer to the FYE June 30, 2017 GASB 74 / 75 actuarial valuation report for detailed information of participants included in the FYE June 30, 2017 GASB 45 actuarial valuation.

## **SECTION D – APPENDIX**





### Conservation and Excise Police GASB Results Breakdown

Below is the summary of the GASB results for fiscal year ending June 30, 2017 based on the Projected Unit Credit cost method with a discount rate of 4.5%.

<i>Union Groups</i>	<i>Actuarial Accrued Liability (AAL)</i>		<i>Actuarial Value of Assets</i>		<i>Unfunded AAL (UAAL)</i>		<i>Annual Required Contribution (ARC)</i>	
	<i>As of June 30, 2017</i>		<i>As of June 30, 2017</i>		<i>As of June 30, 2017</i>		<i>For 2016/17</i>	
Conservation	\$	33,250,243	\$	(11,368,743)	\$	21,881,500	\$	2,291,631
Excise	\$	8,758,626	\$	(3,807,019)	\$	4,951,607	\$	656,423
<b>Total</b>	<b>\$</b>	<b>42,008,869</b>	<b>\$</b>	<b>(15,175,762)</b>	<b>\$</b>	<b>26,833,107</b>	<b>\$</b>	<b>2,948,054</b>

## **SECTION E – GLOSSARY**



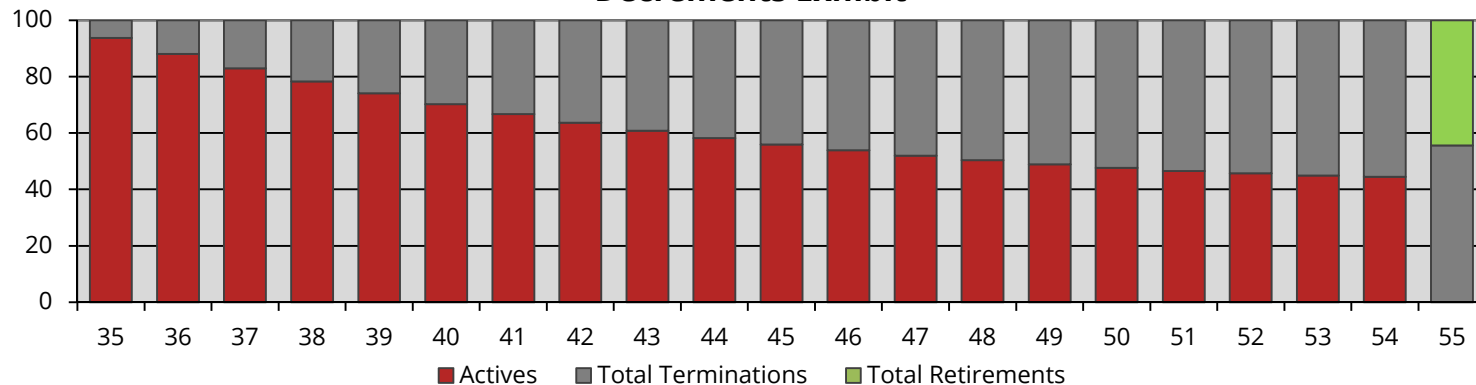
### Decrements Exhibit

The table below illustrates how actuarial assumptions can affect a long-term projection of future liabilities. Starting with 100 employees at age 35, the illustrated actuarial assumptions show that 44.430 employees out of the original 100 are expected to retire and could elect retiree health benefits at age 55.

Age	# Remaining Employees	# of Terminations per Year*	# of Retirements per Year*	Total Decrements
35	100.000	6.276	0.000	6.276
36	93.724	5.677	0.000	5.677
37	88.047	5.136	0.000	5.136
38	82.911	4.648	0.000	4.648
39	78.262	4.209	0.000	4.209
40	74.053	3.814	0.000	3.814
41	70.239	3.456	0.000	3.456
42	66.783	3.131	0.000	3.131
43	63.652	2.835	0.000	2.835
44	60.817	2.564	0.000	2.564
45	58.253	2.316	0.000	2.316

Age	# Remaining Employees	# of Terminations per Year*	# of Retirements per Year*	Total Decrements
46	55.938	2.085	0.000	2.085
47	53.853	1.866	0.000	1.866
48	51.987	1.656	0.000	1.656
49	50.331	1.452	0.000	1.452
50	48.880	1.253	0.000	1.253
51	47.627	1.060	0.000	1.060
52	46.567	0.877	0.000	0.877
53	45.690	0.707	0.000	0.707
54	44.983	0.553	0.000	0.553
55	44.430	0.000	44.430	44.430

Decrements Exhibit



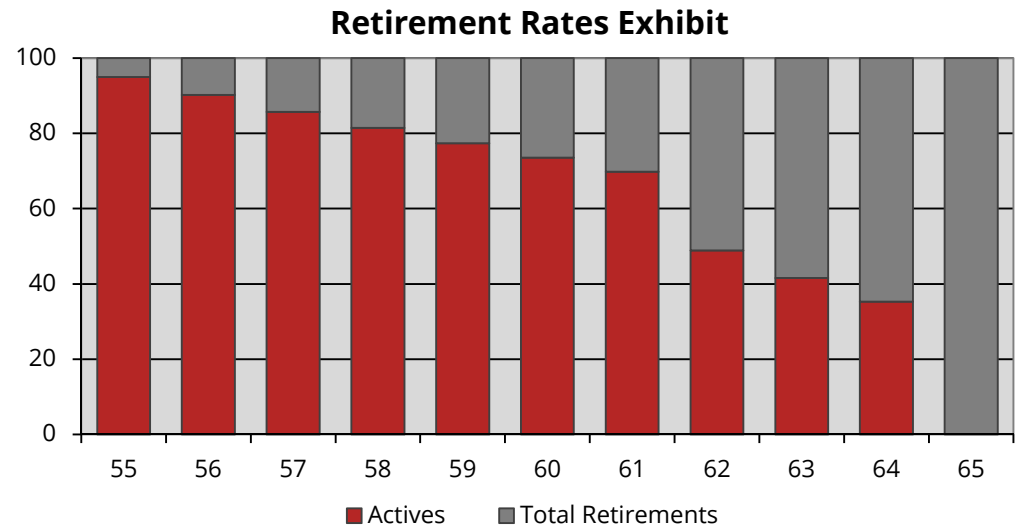
\* The above rates are illustrative rates and are not used in our GASB calculations.



### Retirement Rates Exhibit

The table below illustrates how actuarial assumptions can affect a long-term projection of future liabilities. The illustrated retirement rates show the number of employees who are assumed to retire annually based on 100 employees age 55 who are eligible for retiree health care coverage. The average age at retirement is 62.0.

Age	Active Employees BOY	Annual Retirement Rates*	# Retirements per Year	Active Employees EOY
55	100.000	5.0%	5.000	95.000
56	95.000	5.0%	4.750	90.250
57	90.250	5.0%	4.513	85.738
58	85.738	5.0%	4.287	81.451
59	81.451	5.0%	4.073	77.378
60	77.378	5.0%	3.869	73.509
61	73.509	5.0%	3.675	69.834
62	69.834	30.0%	20.950	48.884
63	48.884	15.0%	7.333	41.551
64	41.551	15.0%	6.233	35.318
65	35.318	100.0%	35.318	0.000



\* The above rates are illustrative rates and are not used in our GASB calculations.



## Illustration of GASB Calculations

The purpose of the illustration is to familiarize non-actuaries with the GASB 45 actuarial calculation process.

### I. Facts

1. The employer provides subsidized retiree health coverage worth \$100,000 to employees retiring at age 55 with 25 years of service. The employer funds for retiree health coverage on a pay-as-you-go basis.
2. Employee X is age 50 and has worked 20 years with the employer.
3. Retiree health subsidies are paid from the general fund assets which are expected to earn 4.5% per year on a long-term basis.
4. Based on Employee X's age and sex he has a 98.0% probability of living to age 55 and a 95.0% probability of continuing to work to age 55.

### II. Calculation of Present Value of Future Benefits

**Present Value of Future Benefits** represents the cost to finance benefits payable in the future to current and future retirees and beneficiaries, discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment.

	Value	Description
A.	\$100,000	Projected benefit at retirement
B.	80.2%	Interest discount for five years = $(1 / 1.045)^5$
C.	98.0%	Probability of living to retirement age
D.	95.0%	Probability of continuing to work to retirement age
E.	\$74,666	Present value of projected retirement benefit measured at employee's current age = $A \times B \times C \times D$



### Illustration of GASB Calculations (continued)

#### III. Calculation of Actuarial Accrued Liability

**Actuarial Accrued Liability** represents the portion of the Present Value of Future Benefits which has been accrued recognizing the employee’s past service with the employer. The Actuarial Accrued Liability is a required disclosure in the Required Supplementary Information section of the employer’s financial statement.

	Value	Description
A.	\$74,666	Present value of projected retirement benefit measured at employee’s current age
B.	20	Current years of service with employer
C.	25	Projected years of service with employer at retirement
D.	\$59,733	Actuarial accrued liability measured at employee’s current age = $A \times B / C$

#### IV. Calculation of Normal Cost

**Normal Cost** represents the portion of the Present Value of Future Benefits allocated to the current year.

	Value	Description
A.	\$74,666	Present value of projected retirement benefit measured at employee’s current age
B.	25	Projected years of service with employer at retirement
C.	\$2,987	Normal cost measured at employee’s current age = $A / B$

#### V. Calculation of Annual Required Contribution

**Annual Required Contribution** is the total expense for the current year to be shown in the employer’s income statement.

	Value	Description
A.	\$2,987	Normal Cost for the current year
B.	\$3,509	30-year amortization (level dollar method) of Unfunded Actuarial Accrued Liability using a 4.5% interest rate discount factor
C.	\$292	Interest adjustment = $4.5\% \times (A + B)$
D.	\$6,788	Annual Required Contribution = $A + B + C$



## Definitions

GASB 45 defines several unique terms not commonly employed in the funding of pension and retiree health plans. The definitions of the terms used in the GASB actuarial valuations are noted below.

1. **Actuarial Accrued Liability** – That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of plan benefits and expenses which is not provided for by the future Normal Costs.
2. **Actuarial Assumptions** – Assumptions as to the occurrence of future events affecting health care costs, such as: mortality, withdrawal, disablement and retirement; changes in compensation and Government provided health care benefits; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; characteristics of future entrants for Open Group Actuarial Cost Methods; and other relevant items.
3. **Actuarial Cost Method** – A procedure for determining the Actuarial Present Value of future benefits and expenses and for developing an actuarially equivalent allocation of such value to time periods, usually in the form of a Normal Cost and an Actuarial Accrued Liability.
4. **Actuarial Present Value** – The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. For purposes of this standard, each such amount or series of amounts is:
  - a) adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, Social Security, marital status, etc.);
  - b) multiplied by the probability of the occurrence of an event (such as survival, death, disability, termination of employment, etc.) on which the payment is conditioned; and
  - c) discounted according to an assumed rate (or rates) of return to reflect the time value of money.
5. **Annual OPEB Cost** – An accrual-basis measure of the periodic cost of an employer’s participation in a defined benefit OPEB plan.
6. **Annual Required Contribution (ARC)** – The employer’s periodic required contributions to a defined benefit OPEB plan, calculated in accordance with the parameters.
7. **Explicit Subsidy** – The difference between (a) the amounts required to be contributed by the retirees based on the premium rates and (b) actual cash contribution made by the employer.
8. **Funded Ratio** – The actuarial value of assets expressed as a percentage of the actuarial accrued liability.
9. **Healthcare Cost Trend Rate** – The rate of change in the per capita health claims costs over time as a result of factors such as medical inflation, utilization of healthcare services, plan design, and technological developments.



## Definitions (continued)

10. **Implicit Subsidy** – In an experience-rated healthcare plan that includes both active employees and retirees with blended premium rates for all plan members, the difference between (a) the age-adjusted premiums approximating claim costs for retirees in the group (which, because of the effect of age on claim costs, generally will be higher than the blended premium rates for all group members) and (b) the amounts required to be contributed by the retirees.
11. **Net OPEB Obligation** – The cumulative difference since the effective date of this Statement between annual OPEB cost and the employer’s contributions to the plan, including the OPEB liability (asset) at transition, if any, and excluding (a) short-term differences and (b) unpaid contributions that have been converted to OPEB-related debt.
12. **Normal Cost** – The portion of the Actuarial Present Value of plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.
13. **Pay-as-you-go** – A method of financing a benefit plan under which the contributions to the plan are generally made at about the same time and in about the same amount as benefit payments and expenses becoming due.
14. **Per Capita Costs** – The current cost of providing postretirement health care benefits for one year at each age from the youngest age to the oldest age at which plan participants are expected to receive benefits under the plan.
15. **Present Value of Future Benefits** – Total projected benefits include all benefits estimated to be payable to plan members (retirees and beneficiaries, terminated employees entitled to benefits but not yet receiving them, and current active members) as a result of their service through the valuation date and their expected future service. The actuarial present value of total projected benefits as of the valuation date is the present value of the cost to finance benefits payable in the future, discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment. Expressed another way, it is the amount that would have to be invested on the valuation date so that the amount invested plus investment earnings will provide sufficient assets to pay total projected benefits when due.
16. **Select and Ultimate Rates** – Actuarial assumptions that contemplate different rates for successive years. Instead of a single assumed rate with respect to, for example, the investment return assumption, the actuary may apply different rates for the early years of a projection and a single rate for all subsequent years. For example, if an actuary applies an assumed investment return of 8% for year 20W0, then 7.5% for 20W1, and 7% for 20W2 and thereafter, then 8% and 7.5% select rates, and 7% is the ultimate rate.
17. **Substantive Plan** – The terms of an OPEB plan as understood by the employer(s) and plan members.