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Indiana Public Retirement System

Legislators' Defined Benefit Fund

Actuarial Valuation as of
June 30, 2018

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The experience and dedication you deserve

November 1, 2018

Board of Trustees
Indiana Public Retirement System
1 North Capitol, Suite 001
Indianapolis, IN 46204

Dear Members of the Board:

At your request, we performed an actuarial valuation of the Legislators' Defined Benefit Fund (LE DB) as of June 30, 2018, for the purpose of estimating the actuarial required contribution for the plan year ending June 30, 2020. The major findings of the valuation are contained in this report, which reflects the benefit and funding provisions in place on June 30, 2018. There was a change in the actuarial assumption from the prior year for the Cost-of-Living-Adjustment (COLA) to reflect future expectations after the passage of Senate Enrolled Act No. 373.

This is the first actuarial valuation report prepared by Cavanaugh Macdonald Consulting, LLC (CMC). As part of our transition work, we replicated the June 30, 2017 actuarial valuation. Results were well within acceptable limits, but as is typical in a takeover situation, there were some differences in the key valuation results. Based on our experience, these differences are neither unusual nor significant. In our replication, we matched the actuarial liability within 0.2%.

In preparing our report, we relied, without audit, on information (some oral and some in writing) supplied by Indiana Public Retirement System (INPRS) staff. This information includes, but is not limited to, statutory provisions, member data and financial information. We did review the data to ensure that it was reasonably consistent and comparable with data from prior years. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete, our results may be different and our calculations may need to be revised.

We certify that all costs and liabilities for the LE DB have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the plan and reasonable expectations); and which, in combination, offer the best estimate of anticipated experience affecting the plan. Nevertheless, the emerging costs will vary from those presented in this report to the extent actual experience differs from that projected by the actuarial assumptions.

While the assumptions were generally developed by the prior actuary, we believe they are reasonable. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in Appendix C. Specifically, we presented the existing assumptions with adjustments to the COLA assumption for the 2018 valuations to the Board on February 23, 2018, and the Board subsequently adopted their use. These assumptions are applicable to both the funding and Governmental Accounting Standards Board (GASB) Statement Number 67 valuation calculations, unless otherwise noted.

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 or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

Actuarial computations presented in this report are for purposes of determining the funding rates for the Plan. The calculations in the enclosed report have been made on a basis consistent with our understanding of the Plan's funding requirements and goals as adopted by the Board. Additionally, we have included actuarial computations for use in preparing certain reporting and disclosure requirements under Governmental Accounting Standards Board Statements Number 67 and Number 68. Determinations for purposes other than meeting these funding and disclosure requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

The Comprehensive Annual Financial Report (CAFR) for INPRS contains several exhibits that disclose the actuarial position of the Plan. This report provides data and tables for use in the following sections of the CAFR:

Financial Section:
- Note 1 - Tables of Plan Membership
- Note 7 - Net Pension Liability and Actuarial Information - Defined Benefit Plans
- Schedule of Changes in Net Pension Liability and Plan Fiduciary Net Position
- Schedule of Contributions
- Schedule of Notes to Required Supplementary Information

Actuarial Section:
- Summary of INPRS Funded Status (Included in the Executive Summary)
- Historical Summary of Actuarial Valuation Results by Retirement Plan
- Summary of Actuarial Assumptions, Methods and Plan Provisions
- Analysis of Financial Experience (Included in the Unfunded Actuarial Accrued Liability Reconciliation)
- Solvency Test
- Schedule of Active Member Valuation Data
- Schedule of Retirants and Beneficiaries

Statistical Section:
- Membership Data Summary
- Ratio of Active Members to Annuitants
- Schedule of Benefit Recipients by Type of Benefit Option
- Schedule of Average Benefit Payments

The consultants who worked on this assignment are pension actuaries. Cavanaugh Macdonald's advice is not intended to be a substitute for qualified legal or accounting counsel.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

The calculations were completed in compliance with applicable law and the calculations for GASB disclosure, in our opinion, meet the requirements of GASB 67 and GASB 68. We are available to answer any questions on the material contained in the report, or to provide explanations or further details as may be appropriate.

We respectfully submit the following report and look forward to discussing it with you.

Sincerely,

Brent A. Banister Ph.D., FSA, EA, MAAA, FCA
Chief Actuary

Patrice A. Beckham, FSA, EA, FCA, MAAA
Principal and Consulting Actuary

Sections **Page**

This report presents the results of the June 30, 2018 actuarial valuation of the Legislators' Defined Benefit Fund (LE DB). The primary purposes of performing this actuarial valuation are to:

- Determine the level of contributions for the plan year ending June 30, 2020 that will be sufficient to meet the funding policy set out by the Board to comply with Indiana statutes.
- Disclose asset and liability measurements as well as the current funded status of the plan on the valuation date.
- Compare actual and expected experience under the Plan during the plan year ending June 30, 2018.
- Analyze and report on trends in plan contributions, assets and liabilities over the past several years.

VALUATION RESULTS

This is the first actuarial valuation report prepared by Cavanaugh Macdonald Consulting, LLC (CMC). As part of our transition work, we replicated the June 30, 2017 actuarial valuation. For the most direct comparison of replication results, we compared measurements as of the date the census data was collected (June 30, 2016). Note that while these measures were used in the roll forward to obtain June 30, 2017 valuation results, these specific measures are not shown in any valuation report. Results were well within acceptable limits, but as is typical in a takeover situation, there were some differences in the key valuation results. Based on our experience, these differences are neither unusual nor significant. A summary of the key actuarial measurements in the replication results is shown in the following table:

	June 30, 2016 Census Results		
	CMC	PwC	CMC/PwC
Present Value of Future Benefits	$3,904,807	$3,910,972	99.8%
Actuarial Accrued Liability	3,904,807	3,910,972	99.8%
Normal Cost*	0	0	100.0%

*Normal cost using the Traditional Unit Cost method is $0 for this plan.

It should be noted that while the key liability numbers were a very close match, some items reported in the valuation, such as the Unfunded Actuarial Accrued Liability (UAAL), are derived from calculations of these fundamental measures and may vary proportionately more than the underlying liability measures.

Changes occurred as a result of Senate Enrolled Act No. 373, which changed the funding of future post-retirement benefit increases. For most of the affected funds, the Board is allowed to allocate a portion of the total employer contribution towards this. Under the law, proceeds from lottery revenues could also be added, and it is anticipated that this will be used for the LE DB. As part of the biennial budget process, the Legislature will have the option to provide for benefit increases, either permanently or as a one-time additional check, that will be paid from the accumulated assets of the sub-account. As a consequence of this legislative change, the Board adopted a new assumption for future Cost-of-Living Adjustments (COLAs), effective with this valuation. This new assumption is based on an anticipated 0.4% permanent COLA being granted each January 1 from 2022 to 2033, followed by a 0.5% COLA from 2034 to 2038, and then 0.6% in 2039 and beyond. The prior assumption was that a 1.0% COLA would be granted each year. Further, the development of the actuarially determined contribution rate has been modified. A separate rate is developed for the "base" (non-COLA) benefit and an amount determined for the future COLA benefits. This amount

to fund the COLA could be used as a basis for the allocation of lottery proceeds, although because of the relatively minor amount required for the LE DB, such an action might involve more administrative complexity than is needed or desirable. Under Board policy, the total employer contribution rate will be adjusted once the total funded ratio (the base and COLA benefits combined) reaches 105%. Further details are shown in the report.

The actuarial valuation results provide a "snapshot" view of the Plan's financial condition on June 30, 2018. The plan's unfunded actuarial accrued liability (UAAL) decreased from $690,000 year to $435,000 this year and the funded ratio increased from 82% to 88%. Several factors contributed to this reduction in funded status. Most substantial was the passage of new legislation that resulted in a new COLA assumption. This change resulted into approximately $120,000 reduction in the actuarial accrued liability.

A summary of the key results from the June 30, 2018 actuarial valuation compared to the June 30, 2017 valuation is shown in the following table. Further detail on the valuation results can be found in the following sections of this Executive Summary.

Note: This amount excludes any allocation of lottery proceeds toward future COLAs.

Numerous components, which are examined in the following discussion, contributed to the change in the plan's assets, liabilities, and actuarial determined contribution rate between June 30, 2017 and June 30, 2018.

Valuation Results	June 30, 2017	June 30, 2018
Unfunded Actuarial Accrued Liability	$ 689,562	$ 434,587
Funded Ratio (Actuarial Assets)	81.88%	87.53%
Normal Cost	$ 0	$ 0
UAAL Amortization	187,229	143,864
Expenses	52,642	63,751
Actuarially Determined Contribution	$ 239,871	$ 207,615

ASSETS

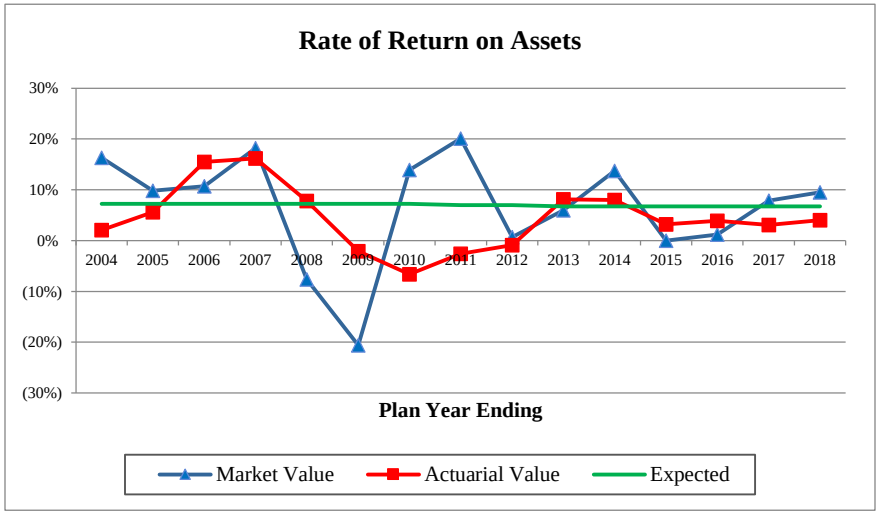
As of June 30, 2018, the plan had net assets of $2.94 million, when measured on a market value basis. This was an increase of $77,000 from the prior year.

The market value of assets is not used directly in the calculation of the unfunded actuarial accrued liability and the actuarial required contribution rate. An asset valuation method, which smoothes the effect of market fluctuations, is applied to determine the value of assets used in the valuation. The resulting amount is called the actuarial value of assets. In this year's valuation, the actuarial value of assets is $3.05 million, a decrease of $65,000 from the prior year.

The components of change in the asset values are shown in the following table:

	Market Value		Actuarial Value	
Net Assets, June 30, 2017	$	2,864,867	$	3,115,691
- Employer and Member Contributions	+	236,527	+	236,527
- Benefit Payments	-	359,182	-	359,182
- Net Investment Income	+	199,411	+	57,351
Net Assets, June 30, 2018	$	2,941,623	$	3,050,387
Rate of Return, Net of Expenses		9.5%		4.0%

The rate of return on the actuarial value of assets was 4.0%, which was lower than the 6.75% investment return assumption applicable for the year ended June 30, 2018. As a result, there was an experience loss on assets of $83,000. The investment return on the market value of assets for FY 2018 of 9.5% resulted in a change in the deferred investment experience from a net deferred investment loss of $251,000 in last year's valuation to $109,000 in the current valuation. See Table 1 and Table 2 of this report for detailed information on the market and actuarial value of assets.



The rate of return of the actuarial value of assets has been less volatile than the market value return, illustrating the benefits of using an asset smoothing method.

LIABILITIES

Because the LE DB is a closed plan in which no benefits are being earned, the actuarial accrued liability is simply the present value of future benefits. The difference between this liability and the actuarial value of assets as of the valuation date is called the unfunded actuarial accrued liability (UAAL).

The unfunded actuarial accrued liability is shown as of June 30, 2018 in the following table:

	Market Value	Actuarial Value
Actuarial Accrued Liability	$ 3,484,974	$ 3,484,974
Value of Assets	2,941,623	3,050,387
Unfunded Actuarial Accrued Liability	$ 543,351	$ 434,587
Funded Ratio	84.41%	87.53%

Note: Liabilities include anticipated COLAs

See Table 3 of this report for the development of the unfunded actuarial accrued liability.

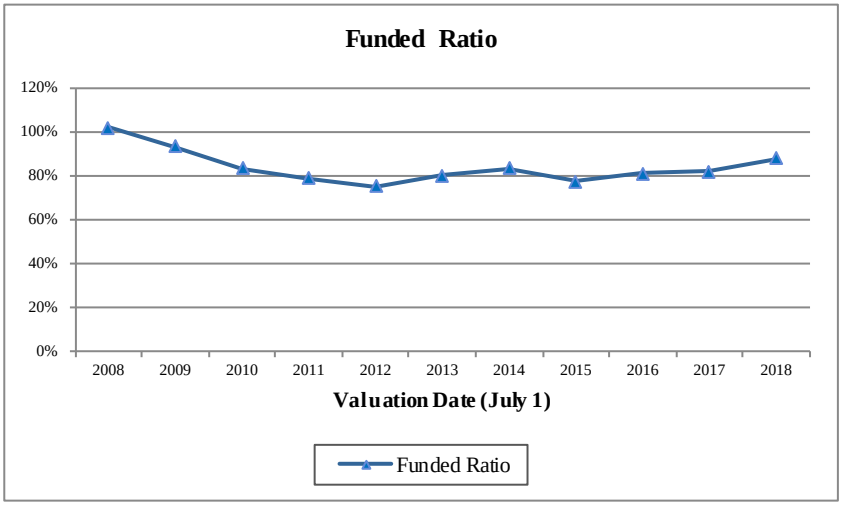
The net change in the total UAAL from June 30, 2017 to June 30, 2018 was a decrease of $255,000. The most significant factor in this change was the change in the COLA assumption reflecting the new COLA funding legislation. The components of the change in the base UAAL are quantified in Table 5 of this report. See Table 6 and Table 7 of this report for a breakdown of the components of experience gains/losses for greater detail.

An evaluation of the UAAL on a pure dollar basis may not provide a complete analysis since only the difference between the assets and liabilities (which are both large numbers) is reflected. Another way to evaluate the UAAL and the progress made in its funding is to track the funded ratio, the ratio of the actuarial value of assets to the actuarial accrued liability. The funded status information, which is based on the actuarial value of assets, is shown below (in thousands).

	6/30/2014	6/30/2015	6/30/2016	6/30/2017	6/30/2018
Funded Ratio	83.1%	77.1%	80.7%	81.9%	87.5%
UAAL (in thousands)	$705.6	$991.4	$775.0	$689.6	$434.6

Note that the funded ratio does not indicate whether or not the plan assets are sufficient to settle benefits earned to date. The funded ratio, by itself, also may not be indicative of future funding requirements. In addition, if the funded ratios were shown using the market value of assets, the results would differ.

The funded ratio over a longer period of years is shown in the following graph. The plan's funded status has been steady for a number of years.



Because the plan is winding down, there is not as much concern regarding the fact that the plan is not moving toward 100% funded. Presumably the State of Indiana will provide the needed, small funding allocations to allow a gradual wind-down of the plan.

ACTUARIALLY DETERMINED CONTRIBUTION AMOUNT

The plan's actuarially determined contribution rate consists of two components:

- A "normal cost" for the portion of projected liabilities allocated by the actuarial cost method to service of members during the year following the valuation date. Because of the frozen benefits, this will always be $0.

- An "unfunded actuarial accrued liability contribution" for the excess of the portion of projected liabilities allocated to service to date over the actuarial value of assets.

The UAAL contribution rate is determined by calculating the amortization payment on the UAAL as a level dollar amount over five years for each amortization base. This is reasonable given the relatively short duration of the plan. Because the COLA portion of the benefits are funded through lottery proceeds or direct appropriation, this portion of the benefit only considers the base benefit without any COLA. Whenever the plan exceeds 100% funded on a combined (base benefits plus future assumed COLAs), all prior amortization bases are eliminated and the negative UAAL (or "surplus") is used to reduce the normal cost over a rolling 30-year period.

The actuarially determined contribution is therefore the sum of the amortization amount and anticipated expenses. While an amount (estimated at $8,500) could be allocated from the lottery proceeds to fund future COLAs, this amount is small enough that it is reasonable to wait until the actual benefit adjustments are known.

See Table 11 of this report for the detailed development of the contribution amounts which are summarized in the following table:

Contribution Amount	June 30, 2017	June 30, 2018
Normal Cost Rate	$ 0	$ 0
UAAL Amortization	187,229	143,864
Expenses	52,642	63,751
Actuarially Determined Contribution	$ 239,871	$ 207,615
Approved/Requested Funding Amount	$ 269,200	$ 207,615
Expected Percent Contributed	112.23%	

Note: Potential lottery proceeds for funding COLAs are not reflected in this table.

Because the funding of the plan is largely based on the amortization amount, the Actuarially Determined Contribution for FY 2021 can be assumed to be the same as the FY 2020 amount shown above based on the June 30, 2018 valuation.

SUMMARY OF PRINCIPAL RESULTS

	June 30, 2016	June 30, 2017	June 30, 2018
MEMBERSHIP			
Active Members	11	11	9
Retired Members and Beneficiaries	74	72	76
Disabled Members	0	0	0
Inactive Members	12	12	10
Total Members	97	95	95
Annual Retirement Payments for Retirees, Disableds, and Beneficiaries	$ 364,024	$ 356,864	$ 357,472
ASSETS AND LIABILITIES			
Market Value of Assets (MVA)	$ 2,919,061	$ 2,864,867	$ 2,941,623
Actuarial Value of Assets (AVA)	3,241,146	3,115,691	3,050,387
Actuarial Accrued Liability (AAL)	4,016,186	3,805,253	3,484,974
Unfunded Actuarial Accrued Liability (UAAL):			
AAL - AVA	$ 775,040	$ 689,562	$ 434,587
Funded Ratios			
AVA / AAL	80.70%	81.88%	87.53%
MVA / AAL	72.68%	75.29%	84.41%
CONTRIBUTIONS			
Normal Cost	$ 0	$ 0	$ 0
Amortization of UAAL	175,889	187,229	143,864
Expenses	60,638	52,642	63,751
Actuarially Determined Contribution	$ 236,527	$ 239,871	$ 207,615
Approved Funding Amount	$ 236,527	$ 269,200	$ 207,615
Surplus/(Shortfall)	$ 0	$ 29,329	0

Note: Liability and funded ratio results for 2018 include both the base plan benefit and supplemental benefit.

This report presents the actuarial valuation results of the Legislators' Defined Benefit Fund as of June 30, 2018. This valuation was prepared at the request of the Indiana Public Retirement System.

Please pay particular attention to our actuarial certification letter, where the guidelines employed in the preparation of this report are outlined. We also comment on the sources and reliability of both the data and the actuarial assumptions upon which our findings are based. Those comments are the basis for our certification that this report is complete and accurate to the best of our knowledge and belief.

A summary of the findings which result from this valuation is presented in the previous section. Section 3 describes the assets and investment experience of the plan. Sections 4 and 5 describe how the obligations of the plan are to be met under the actuarial cost method in use. Section 6 provides information required by the Governmental Accounting Standards Board (GASB) for reporting and disclosure under GASB 67 and GASB 68.

This report includes several appendices:

- Appendix A Schedules of valuation data classified by various categories of members.
- Appendix B A summary of the current benefit structure, as determined by the provisions of governing law on June 30, 2018.
- Appendix C A summary of the actuarial methods and assumptions used to estimate liabilities and determine contribution rates.
- Appendix D A glossary of actuarial terms.

In many respects, an actuarial valuation can be thought of as an inventory process. The inventory is taken as of the actuarial valuation date, which for this valuation is June 30, 2018. On that date, the assets available for the payment of benefits are appraised. The assets are compared with the liabilities of the plan, which are generally in excess of assets. The actuarial process then leads to a method of determining the contributions needed by members and the employer in the future to balance the plan assets and liabilities.

Market Value of Assets

The current market value represents the "snapshot" or "cash-out" value of plan assets as of the valuation date. In addition, the market value of assets provides a basis for measuring investment performance from time to time.

Table 1 summarizes the changes in the market value of assets for the last two years. Table 13 (in the GASB section) provides detail regarding the allocation of investments in the trust.

Actuarial Value of Assets

The market value of assets, representing a "cash-out" value of plan assets, may not be the best measure of the plan's ongoing ability to meet its obligations. To arrive at a suitable value of assets for the actuarial valuation, a technique for determining the actuarial value of assets is used which dampens swings in the market value while still indirectly recognizing market values. Under the asset smoothing methodology, the difference between the actual and assumed investment return on the market value of assets is recognized evenly over a five-year period.

Table 2 shows the development of the actuarial value of assets (AVA) as of the valuation date.

TABLE 1

DEVELOPMENT OF MARKET VALUE OF ASSETS

	June 30, 2017	June 30, 2018
1. Market Value of Assets, Beginning of Year	$ 2,919,061	$ 2,864,867
2. Receipts		
a. Member	$ 0	$ 0
b. Employer	134,800	236,527
c. Transfers In	0	0
d. Miscellaneous	0	0
e. Total	$ 134,800	$ 236,527
3. Expenditures		
a. Benefit Payments	$ 357,639	$ 359,182
b. Refund of Contributions	0	0
c. Administrative Expense	52,642	63,751
d. Transfers Out	0	0
e. Miscellaneous	0	0
f. Total	$ 410,281	$ 422,933
4. Investment Return		
a. Investment Income	$ 221,001	$ 262,769
b. Securities Lending Income	286	393
c. Total Investment Return	$ 221,287	$ 263,162
5. Market Value of Assets, End of Year: (1) + (2e) - (3f) + (4c)	$ 2,864,867	$ 2,941,623
6. Rate of Return [1]	8.0%	9.5%

[1] Based on individual fund experience. Assumes cash flows occur at mid-year.

TABLE 2

DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

For Plan Year Ending June 30, 2018

1. Market Value as of June 30, 2017	$	2,864,867
2. Receipts	$	236,527
3. Expenditures, including Administrative Expenses	$	(422,933)
4. Expected Return on Assets [1]	$	187,087
5. Expected Market Value as of June 30, 2018: (1) + (2) + (3) + (4)	$	2,865,548
6. Actual Market Value as of June 30, 2018	$	2,941,623
7. Year End 2018 Asset Gain/(Loss): (6) - (5)	$	76,075

8. Deferred Investment Gains and Losses

	Year Ended June 30:	Gain/(Loss)	Factor	Deferred Amount
a.	2015	$ (302,516)	20%	$ (60,503)
b.	2016	(241,495)	40%	(96,598)
c.	2017	(20,872)	60%	(12,523)
d.	2018	76,075	80%	60,860
e.	Total			$ (108,764)

9. Initial Actuarial Value as of June 30, 2018: (6) - (8e)	$	3,050,387
10. Constraining Values		
a. 80% of Market Value: (6) x 0.8	$	2,353,298
b. 120% of Market Value: (6) x 1.2	$	3,529,948
11. Actuarial Value as of June 30, 2018	$	3,050,387
12. Actuarial Rate of Return [2]		4.01%
13. Actuarial Value of Assets as a Percent of Market Value: (11) / (6)		103.7%

[1] Assumes cash flows occur at mid-year and a discount rate of 6.75%.
[2] Assumes cash flows occur at mid-year.

In the previous section, an actuarial valuation was compared with an inventory process, and an analysis was given of the inventory of assets of the Legislators' Defined Benefit Fund as of the valuation date, June 30, 2018. In this section, the discussion will focus on the commitments (future benefit payments) of the plan, which are referred to as its liabilities.

The liability calculations for the June 30, 2018 Legislators' Defined Benefit Fund valuation are based on census data collected as of June 30, 2017. Standard actuarial techniques are used to adjust these results from June 30, 2017 to June 30, 2018. While these roll-forward techniques are based on all actuarial assumptions being met during the intervening year, there will, of course, be many of the assumptions that will not be met exactly. In general, this does not materially affect the resulting calculations or conclusions in this report. Should there be a year in which significant events occur that would affect the results, we adjustments in the roll-forward methods would be made to appropriately reflect the events.

All liabilities reflect the benefit provisions and actuarial assumptions in place as of June 30, 2018.

Actuarial Accrued Liability

A fundamental principle in financing the liabilities of a retirement program is that the cost of its benefits should be related to the period in which benefits are earned, rather than to the period of benefit distribution. An actuarial cost method is a mathematical technique that allocates the present value of future benefits into annual costs. In order to perform this allocation, it is necessary for the funding method to "breakdown" the present value of future benefits into two components:

(1) that which is attributable to the past and

(2) that which is attributable to the future.

Actuarial terminology calls the part attributable to the past the "past service liability" or the "actuarial accrued liability." The portion allocated to the future is known as the present value of future normal costs, with the specific piece of it allocated to the current year being called the "normal cost."

Table 3 contains the calculation of actuarial accrued liability for the plan. The Traditional Unit Cost method is used to develop the actuarial accrued liability. This amount is split between the base benefit and the COLA benefit. Once permanent COLAs have been granted, the obligation for future payments will also be included. Because the plan benefits are frozen, this results in all of the liability being attributed to past service. As a result, there is no normal cost for this plan.

TABLE 3

ACTUARIAL ACCRUED LIABILITY

As of June 30, 2018	Base Plan	Supplemental Plan *Granted*	Supplemental Plan *Future*	Total
1. Actuarial Accrued Liability				
a. Active Members	$ 376,602	$ 0	$ 9,832	$ 386,434
b. Inactive Vested Members	305,826	0	10,123	315,949
c. In-pay Members	2,713,113	0	69,478	2,782,591
d. Total	$ 3,395,541	$ 0	$ 89,433	$ 3,484,974
2. Actuarial Value of Assets	$ 3,050,387	$ 0	$ 0	$ 3,050,387
3. Unfunded Actuarial Accrued Liability: (1c) - (2)	$ 345,154	$ 0	$ 89,433	$ 434,587
4. Funded Ratio: (2) / (1d)	89.8%	N/A	0.0%	87.5%

TABLE 4

SOLVENCY TEST

Actuarial Valuation as of June 30	Actuarial Accrued Liabilities (AAL)				Actuarial Value of Assets	Portion of AAL Covered by Assets			
	Active Member Contributions	Retirees and Beneficiaries	Active Member (Employer Financed Portion)	Total Actuarial Accrued Liabilities		Active Member Contributions	Retirees and Beneficiaries	Active Member (Employer Financed Portion)	Total Actuarial Accrued Liabilities
2018	$0	$2,783	$702	$3,485	$3,050	N/A	100.0%	38.1%	87.5%
2017	0	3,013	791	3,804	3,114	N/A	100.0	12.8	81.9
2016	0	3,207	809	4,016	3,241	N/A	100.0	4.2	80.7
2015	0	3,213	1,115	4,328	3,336	N/A	100.0	11.0	77.1
2014	0	3,076	1,097	4,173	3,467	N/A	100.0	35.6	83.1
2013	0	3,192	1,103	4,295	3,428	N/A	100.0	21.4	79.8
2012	0	3,031	1,472	4,503	3,377	N/A	100.0	23.5	75.0
2011	0	3,037	1,584	4,621	3,634	N/A	100.0	37.7	78.6
2010	0	3,017	1,892	4,909	4,075	N/A	100.0	55.9	83.0
2009	0	3,147	1,940	5,087	4,730	N/A	100.0	81.6	93.0

Note: Dollar amounts are in thousands of dollars.

TABLE 5

RECONCILIATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY

For Year Ending June 30, 2018

1. Unfunded Actuarial Accrued Liability as of June 30, 2017	$	689,562
2. Normal Cost and Expenses		52,642
3. Actuarially Determined Contribution		(239,871)
4. Interest		33,907
5. Expected Unfunded Actuarial Accrued Liability as of June 30, 2018	$	536,240
6. Actuarial Value of Asset Changes		
a. Investment Experience (Gain)/Loss	$	82,916
b. Contributions Above the Actuarially Determined Contribution	$	21,265
7. Actuarial Accrued Liability Changes		
a. Actuarial Accrued Liability Experience (Gain)/Loss	$	(77,776)
b. Additional Liability Due to Benefit Changes		0
c. Additional Liability Due to Assumption Changes		(210,466)
d. Additional Liability Due to Actuarial Firm Change		(7,025)
8. Total Experience (Gain)/Loss	$	(191,086)
9. Unfunded Actuarial Accrued Liability as of June 30, 2018: (5) + (8)	$	345,154

Note: For this purpose, COLAs are excluded from consideration as of June 30, 2018.

TABLE 6

ACTUARIAL GAIN/(LOSS)

Liabilities		
1. Actuarial Accrued Liability as of June 30, 2017	$	3,805,253
2. Normal Cost for Plan Year Ending June 30, 2018		0
3. Benefit Payments During Plan Year[1]		(359,177)
4. Service Purchases (employee and employer)		0
5. Interest at 6.75%		244,732
6. Change Due to Benefit Changes		0
7. Change Due to Assumption Changes		(210,466)
8. Change Due to Actuarial Firm Change		(7,025)
9. Expected Actuarial Accrued Liability as of June 30, 2018	$	3,473,317
10. Actuarial Accrued Liability as of June 30, 2018	$	3,395,541
Assets		
11. Actuarial Value of Assets as of June 30, 2017	$	3,115,691
12. Receipts During Plan Year		236,527
13. Expenditures and Expenses, During Plan Year		(422,933)
14. Interest at 6.75%		204,018
15. Expected Actuarial Value of Assets as of June 30, 2018	$	3,133,303
16. Actuarial Value of Assets as of June 30, 2018	$	3,050,387
Experience Gain / (Loss)		
17. Liability Actuarial Experience Gain/(Loss): (9) - (10)	$	77,776
18. Asset Actuarial Experience Gain/(Loss): (16) - (15)	$	(82,916)
19. Total Actuarial Experience Gain/(Loss): (17) + (18)	$	(5,140)

[1] Does not include miscellaneous expenses or benefit overpayments.

TABLE 7

EXPERIENCE GAIN/(LOSS) ANALYSIS BY SOURCE

Liability Sources		Gain/(Loss)
Retirement	$	(13,000)
Termination		0
Disability		0
Mortality		57,000
Salary		0
Miscellaneous/COLA		34,000
Total Liability Experience Gain/(Loss)	$	78,000
as a % of AAL		2.3%
Asset Experience Gain/(Loss)	$	(83,000)
Total Actuarial Experience Gain/(Loss)	$	(5,000)

TABLE 8

PROJECTED BENEFIT PAYMENTS

Plan Year Ending June 30	Benefit Amount
2019	$ 393,195
2020	397,236
2021	385,072
2022	363,449
2023	350,663
2024	335,092
2025	318,962
2026	302,281
2027	285,224
2028	267,970
2029	250,690
2030	233,543
2031	216,666
2032	200,179
2033	184,184
2034	168,844
2035	154,203
2036	140,222
2037	126,945
2038	114,413
2039	102,703
2040	91,818
2041	81,715
2042	72,396
2043	63,862
2044	56,099
2045	49,084
2046	42,788
2047	37,169
2048	32,180

Note: Payouts reflect nominal payouts for current members, assuming that all future assumptions are met.

The previous two sections were devoted to a discussion of the assets and liabilities of the plan. We now turn to considering how the benefits will be funded. The method used to determine the incidence of the contributions in various years is called the actuarial cost method. Under an actuarial cost method, the contributions required to meet the difference between current assets and current liabilities are allocated each year between two elements: (1) the normal cost rate and (2) the unfunded actuarial accrued liability contribution rate.

The term "fully funded" is often applied to a plan in which contributions at the normal cost rate are sufficient to pay for the benefits of existing employees as well as for those of new employees. More often than not, plans are not fully funded, either because of past benefit improvements that have not been completely funded or because of actuarial deficiencies that have occurred because experience has not been as favorable as anticipated by the actuarial assumptions. Under these circumstances, an unfunded actuarial accrued liability (UAAL) exists. Likewise, when the actuarial value of assets is greater than the actuarial accrued liability, a surplus exists.

Description of Contribution Components

The Traditional Unit Credit actuarial cost method is used for the valuation. Because this plan is frozen, there is no normal cost under the plan. In this situation, the present value of future benefits and the actuarial accrued liability are the same. The unfunded actuarial accrued liability/(surplus) represents the difference between the actuarial accrued liability and the actuarial value of assets as of the valuation date. The unfunded actuarial accrued liability is calculated each year and reflects experience gains and losses.

In general, contributions are computed in accordance with a level annual contribution funding objective. The contribution amount based on the June 30, 2018 actuarial valuation will be used to determine the actuarial determined contribution amount to the LE DB for the plan year ending June 30, 2020. It is anticipated that this amount will be used by the Legislature in determining the appropriation for the next biennium.

Contribution Summary

In Table 9 the amortization payment related to the unfunded actuarial accrued liability/(surplus), as of June 30, 2018, is developed. The funding needed to fund the assumed COLAs is developed in Table 10. Table 11 develops the actuarial required contribution rate for the plan. The contribution rates shown in this report are based on the actuarial assumptions and cost methods described in Appendix C. Additionally, in Table 12 the contribution amounts under alternative discount rates are provided to illustrate the sensitivity of the contribution requirements relative to the selection of the investment return assumption.

TABLE 9

SCHEDULE OF AMORTIZATION BASES

Amortization Bases	Original Amount	June 30, 2018 Remaining Payments	Date of Last Payment	Outstanding Balance as of June 30, 2018	Annual Contribution
2016 UAAL Base	775,040	3	7/1/2021	495,005	175,889
2017 UAAL Base	49,968	4	7/1/2022	41,235	11,340
2018 UAAL Base	(191,086)	5	7/1/2023	(191,086)	(43,365)
Total				$ 345,154	$ 143,864

Total UAAL Amortization Payments	$ 143,864
Remaining Amortization Period in Years (Weighted)[1]	2.5

[1] The weighted average remaining UAAL amortization period is calculated by weighting the remaining amortization period of each base by the amortization amount of each base.

TABLE 10

DEVELOPMENT OF SUPPLEMENTAL RESERVE FUNDING

Projected COLAs in Next Biennium Beginning July 1, 2021

First Anticipated COLA		
1. Date of COLA commencement		January 1, 2022
2. Rate of COLA		0.4%
3. Value as of July 1, 2021 of COLA	$	9,652
Second Anticipated COLA		
4. Date of COLA commencement		January 1, 2023
5. Rate of COLA		0.4%
6. Value as of July 1, 2021 of COLA		8,433
7. Total COLA Funding Requirement as of July 1, 2021: (3) + (6)	$	18,084

Funding Sources for Projected COLAs

8. Assets as of June 30, 2018 Available for Future COLAs	$	0
9. Expected Earnings through July 1, 2021		0
10. Projected Available Assets at July 1, 2021	$	0
11. Required Additional Funding for Anticipated COLAs: (7) - (10)	$	18,084

Surcharge Amount

12. Annual Payment on 1/1/20 and 1/1/21	$	8,462

TABLE 11

ACTUARIAL REQUIRED CONTRIBUTION AMOUNT

	Base Plan	Supplemental Plan	Total
1. Normal Cost as of June 30, 2017	$ 0	$ 0	$ 0
2. Amortization of UAAL as of June 30, 2018	143,864		
3. Expenses	63,751		
4. Preliminary Actuarially Determined Contribution Amount: (1) + (2) + (3)	$ 207,615		
5. Supplemental Plan Funding		8,462	8,462
6. Actuarially Determined Contribution Amount Subject to Legal Constraints	$ 207,615	$ 8,462	$ 216,077

TABLE 12

INVESTMENT RETURN SENSITIVITY

	1.00% Decrease: (5.75%)	0.75% Decrease: (6.00%)	0.50% Decrease: (6.25%)	0.25% Decrease: (6.50%)	Current Assumption: (6.75%)
Funded Status					
Actuarial Accrued Liability	$3,724,588	$3,661,734	$3,600,905	$3,542,013	$3,484,974
Actuarial Value of Assets	3,050,387	3,050,387	3,050,387	3,050,387	3,050,387
Unfunded Actuarial Accrued Liability	$674,201	$611,347	$550,518	$491,626	$434,587
Funded Ratio	81.9%	83.3%	84.7%	86.1%	87.5%
Actuarially Determined Contribution Amount					
Normal Cost	-	-	-	-	-
UAAL Amortization	216,257	202,751	189,576	176,717	164,160
Provision for Expenses	63,751	63,751	63,751	63,751	63,751
Actuarially Determined Contribution Amount	$280,008	$266,502	$253,327	$240,468	$227,911

	0.25% Increase: (7.00%)	0.50% Increase: (7.25%)	0.75% Increase: (7.50%)	1.00% Increase: (7.75%)	1.25% Increase: (8.00%)
Funded Status					
Actuarial Accrued Liability	$3,429,708	$3,376,140	$3,324,198	$3,273,817	$3,224,930
Actuarial Value of Assets	3,050,387	3,050,387	3,050,387	3,050,387	3,050,387
Unfunded Actuarial Accrued Liability	$379,321	$325,753	$273,811	$223,430	$174,543
Funded Ratio	88.9%	90.4%	91.8%	93.2%	94.6%
Actuarially Determined Contribution Amount					
Normal Cost	-	-	-	-	-
UAAL Amortization	151,893	139,905	128,182	116,718	105,499
Provision for Expenses	63,751	63,751	63,751	63,751	63,751
Actuarially Determined Contribution Amount	$215,644	$203,656	$191,933	$180,469	$169,250

Note: Comparisons are based on funding the COLA in the same method as the base benefit, rather than with COLA funding. Consequently, these results are for comparative purposes only and will not match the actual results under the funding policy.

GASB NO. 67 AND GASB NO. 68

The Governmental Accounting Standards Board issued Statement No. 67 (GASB 67), "Financial Reporting for Pension Plans" and Statement No. 68 (GASB 68), "Accounting and Financial Reporting for Pensions" in June 2012. The effective date for reporting under GASB 67 for the INPRS plans was the fiscal year ending June 30, 2014. GASB 68's effective date for employers is the first fiscal year beginning after June 15, 2014.

The sections that follow provide the results of the required actuarial calculations set out in GASB 67 and GASB 68 for note disclosure and Required Supplementary Information (RSI). Some of this information was provided by the INPRS for use in this report.

The discount rate used for these disclosures is the assumed return on assets of 6.75%. We have verified that the current assets in conjunction with future contributions made on behalf of current members (including all contributions to fund any past service liability) will be sufficient to make the anticipated benefit payments to be provided to the current members.

To the best of our knowledge, the information contained in this report is complete and accurate. The calculations were performed by qualified actuaries according to generally accepted actuarial principles and practices, as well as in conformity with Actuarial Standards of Practice issued by the Actuarial Standards Board. The calculations are based on the current provisions of the plan, and on actuarial assumptions that are internally consistent and individually reasonable based on the actual experience of the plan. In addition, the calculations were completed in compliance with applicable law and, in our opinion, meet the requirements of GASB 67 and GASB 68.

TABLE 13

STATEMENT OF FIDUCIARY NET POSITION

			June 30, 2018
1. Assets			
a. Cash		$	0
b. Receivables			
i.	Contributions and Miscellaneous Receivables	$	0
ii.	Investments Receivable		21,950
iii.	Foreign Exchange Contracts Receivable		855,765
iv.	Interest and Dividends		7,725
v.	Receivables Due From Other Funds		0
vi.	Total Receivables	$	885,440
c. Investments			
i.	Short-Term Investments	$	0
ii.	Pooled Repurchase Agreements		376
iii.	Pooled Short-Term Investments		131,751
iv.	Pooled Fixed Income		1,003,292
v.	Pooled Equity		662,076
vi.	Pooled Alternative Investments		1,196,939
vii.	Pooled Derivatives		2,378
viii.	Pooled Investments		0
ix.	Securities Lending Collateral		31,882
x.	Total Investments	$	3,028,694
d. Net Capital Assets			0
e. Other Assets			0
f. Total Assets: a + b(vi) + c(x) + d + e		$	3,914,134
2. Liabilities			
a. Administrative Payable		$	2,879
b. Retirement Benefits Payable			0
c. Investments Payable			49,463
d. Foreign Exchange Contracts Payable			853,859
e. Securities Lending Obligations			31,882
f. Securities Sold Under Agreement to Repurchase			30,926
g. Due To Other Funds			3,502
h. Due to Other Governments			0
i. Total Liabilities: a + b + c + d + e + f + g + h		$	972,511
3. Fiduciary Net Position Restricted for Pensions: (1)(f) - (2)(i)		**$**	**2,941,623**

TABLE 14

STATEMENT OF CHANGE IN FIDUCIARY NET POSITION

			For Fiscal Year Ending June 30, 2018
1. Fiduciary Net Position as of June 30, 2017		**$**	**2,864,867**
2. Additions			
a. Contributions			
i.	Member Contributions		0
ii.	Employer Contributions		236,527
iii.	Service Purchases (Employer and Member)		0
iv.	Non-Employer Contributing Entity Contributions		0
v.	Total Contributions	$	236,527
b. Investment Income/(Loss)			
i.	Net Appreciation/(Depreciation)	$	241,965
ii.	Net Interest and Dividend Income		41,235
iii.	Securities Lending Income		480
iv.	Other Net Investment Income		166
v.	Investment Management Expenses		(18,756)
vi.	Direct Investment Expenses		(1,841)
vii.	Securities Lending Expenses		(87)
viii.	Total Investment Income/(Loss)	$	263,162
c. Other Additions			
i.	Member Reassignments		0
ii.	Miscellaneous Receipts		0
iii.	Total Other Additions	$	0
d. Total Revenue (Additions): a(v) + b(viii) + c(iii)		$	499,689
3. Deductions			
a. Pension, Survivor and Disability Benefits		$	359,182
b. Death and Funeral Benefits			0
c. Distributions of Contributions and Interest			0
d. Administrative Expenses			63,751
e. Member Reassignments			0
f. Miscellaneous Expenses			0
g. Total Expenses (Deductions)		$	422,933
4. Net Increase (Decrease) in Fiduciary Net Position: (2)(d) - (3)(g)		**$**	**76,756**
5. Fiduciary Net Position as of June 30, 2018: (1) + (4)		**$**	**2,941,623**

TABLE 15

SCHEDULE OF CHANGES IN NET PENSION LIABILITY

For Fiscal Year Ending June 30, 2018

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) – (b)
1. Balance at June 30, 2017	$ 3,804,048	$ 2,864,867	$ 939,181
2. Changes for the Year:			
Service Cost (SC) [1]	296		296
Interest Cost	244,671		244,671
Experience (Gains)/Losses	(85,146)		(85,146)
Assumption Changes	(120,974)		(120,974)
Plan Amendments	0		0
Benefit Payments	(359,182)	(359,182)	0
Service Purchases			
Employer Contributions	0	0	0
Employee Contributions	0	0	0
Member Reassignments	0	0	0
Employer Contributions		236,527	(236,527)
Non-employer Contributions		0	0
Employee Contributions		0	0
Net Investment Income		263,162	(263,162)
Administrative Expenses		(63,751)	63,751
Other		0	0
Net Changes	$ (320,335)	$ 76,756	$ (397,091)
3. Balance at June 30, 2018	$ 3,483,713	$ 2,941,623	$ 542,090

[1] Service cost provided as of beginning of year. Interest to end of year is included in the interest cost.

TABLE 16

DEFERRED OUTFLOWS OF RESOURCES

	June 30, 2017	Remaining Period	Recognition	June 30, 2018
1. Liability Experience				
June 30, 2018 Loss	$ 0	1.00	$ 0	$ 0
June 30, 2017 Loss	0	0.00	0	0
June 30, 2016 Loss	0	0.00	0	0
June 30, 2015 Loss	0	0.00	0	0
June 30, 2014 Loss	0	0.00	0	0
2. Assumption Changes				
June 30, 2018 Loss	$ 0	1.00	$ 0	$ 0
June 30, 2017 Loss	0	0.00	0	0
June 30, 2016 Loss	0	0.00	0	0
June 30, 2015 Loss	0	0.00	0	0
June 30, 2014 Loss	0	0.00	0	0
3. Investment Experience				
June 30, 2018 Loss	$ 0	5.00	$ 0	$ 0
June 30, 2017 Loss	0	4.00	0	0
June 30, 2016 Loss	108,513	3.00	36,172	72,341
June 30, 2015 Loss	101,536	2.00	50,768	50,768
June 30, 2014 Loss	0	1.00	0	0
Total Outflows: (1)+(2)+(3)	**$ 210,049**		**$ 86,940**	**$ 123,109**

Information was provided prospectively from June 30, 2013 for GASB No. 68 purposes. Results prior to 2018 were produced by the prior actuary.

In accordance with GASB, the original amortization period for liability experience and assumption changes are amortized over the expected future working lifetime of all members, whereas the investment experience is amortized over five years.

TABLE 17

DEFERRED INFLOWS OF RESOURCES

	June 30, 2017	Remaining Period	Recognition	June 30, 2018
1. Liability Experience				
June 30, 2018 Gain	$ 85,146	1.00	$ 85,146	$ 0
June 30, 2017 Gain	0	0.00	0	0
June 30, 2016 Gain	0	0.00	0	0
June 30, 2015 Gain	0	0.00	0	0
June 30, 2014 Gain	0	0.00	0	0
2. Assumption Changes				
June 30, 2018 Gain	$ 120,974	1.00	$ 120,974	$ 0
June 30, 2017 Gain	0	0.00	0	0
June 30, 2016 Gain	0	0.00	0	0
June 30, 2015 Gain	0	0.00	0	0
June 30, 2014 Gain	0	0.00	0	0
3. Investment Experience				
June 30, 2018 Gain	$ 76,075	5.00	$ 15,215	$ 60,860
June 30, 2017 Gain	25,416	4.00	6,355	19,061
June 30, 2016 Gain	0	3.00	0	0
June 30, 2015 Gain	0	2.00	0	0
June 30, 2014 Gain	39,435	1.00	39,435	0
Total Inflows: (1)+(2)+(3)	**$ 347,046**		**$ 267,125**	**$ 79,921**

Information was provided prospectively from June 30, 2013 for GASB No. 68 purposes. Results prior to 2018 were produced by the prior actuary.

In accordance with GASB, the original amortization period for liability experience and assumption changes are amortized over the expected future working lifetime of all members, whereas the investment experience is amortized over five years.

TABLE 18

DEFERRED INFLOWS / OUTFLOWS TO BE RECOGNIZED IN PENSION EXPENSE

Fiscal Year Ending June 30	Deferred Outflows	Deferred Inflows	Net Deferred Outflows/(Inflows)
Current Year:			
2018	$ 86,940	$ 267,125	$ (180,185)
Future Years:			
2019	$ 86,940	$ 21,570	$ 65,370
2020	36,169	21,570	14,599
2021	0	21,566	(21,566)
2022	0	15,215	(15,215)
2023	0	0	0
Thereafter	0	0	0

TABLE 19

PENSION EXPENSE UNDER GASB NO. 68

		For Fiscal Year Ending June 30, 2018
1. Service Cost, beginning of year		$ 296
2. Interest Cost, including interest on service cost		244,671
3. Member Contributions		0
4. Administrative Expenses		63,751
5. Expected Return on Assets [1]		(187,087)
6. Plan Amendments		0
7. Recognition of Deferred Inflows / Outflows of Resources Related to:		
a. Liability Experience (Gains) / Losses	(85,146)	
b. Assumption Change (Gains) / Losses	(120,974)	
c. Investment Experience (Gains) / Losses	25,935	
d. Total: (7a)+(7b)+(7c)		(180,185)
8. Miscellaneous (Income) / Expense		0
9. Total Collective Pension Expense: (1)+(2)+(3)+(4)+(5)+(6)+(7d)+(8)		(58,554)
10. Employer Service Purchases		0
Pension Expense / (Income): (9) + (10)		**$ (58,554)**

[1] Cash flows assumed to occur mid-year.

GASB NO. 67 and GASB NO. 68
NOTES TO THE FINANCIAL STATEMENTS

The material presented herein is a subset of the information requested as Notes to the Financial Statements. Required information not provided herein is to be supplied by the Plan.

Type of Plan — The Legislators' Defined Benefit Fund is a single-employer plan for GASB accounting purposes.

Actuarial Assumptions and Inputs

Significant actuarial assumptions and other inputs used to measure the total pension liability:

Measurement Date	June 30, 2018
Valuation Date	
Assets:	June 30, 2018
Liabilities:	June 30, 2017 – The TPL as of June 30, 2018 was determined based on an actuarial valuation prepared as of June 30, 2017 rolled forward one year to June 30, 2018, using the following key actuarial assumptions and other inputs, such as benefit accruals and actual benefit payments during that time period.
Inflation	2.25%
Future Salary Increases	2.25%
Cost-of-Living Increases	As of June 30, 2018: No COLA has been granted for January 1, 2018 or January 1, 2019, which is reflected in the valuation. In lieu of a COLA on January 1, 2020 and January 1, 2021, it is assumed a 13th check would be provided. Thereafter, the following COLAs, compounded annually, were assumed: 0.4% beginning on January 1, 2022 0.5% beginning on January 1, 2034 0.6% beginning on January 1, 2039 As of June 30, 2017: 1.0% compounded annually, beginning January 1, 2020. COLAs have not been granted at January 1, 2017, January 1, 2018 or January 1, 2019, which is reflected in the valuation.
Mortality Assumption (Healthy)	RP-2014 (with MP-2014 improvement removed) White Collar mortality tables, with future mortality improvement projected generationally using future mortality improvement inherent in the Social Security Administration's 2014 Trustee report.

Mortality Assumption (Disabled)	RP-2014 (with MP-2014 improvement removed) Disability mortality tables, with future mortality improvement projected generationally using future mortality improvement inherent in the Social Security Administration's 2014 Trustee report.
Experience Study	The most recent comprehensive experience study was completed in April 2015 and was based on member experience between June 30, 2010 and June 30, 2014. The demographic assumptions were updated as needed for the June 30, 2015 actuarial valuation based on the results of the study.
Discount Rate	6.75% The discount rate is equal to the expected long-term rate of return on plan investments, net of investment expense and including price inflation. There was no change in the discount rate from the prior measurement date. The INPRS Board of Trustees has established a funding policy of requesting appropriations from the State in an amount equal to the actuarially determined contribution, which is based on the assumptions and methods selected by the Board for the annual actuarial valuations. The June 30, 2018 actuarial valuation assumes a long-term rate of return on assets of 6.75%, a 5-year level dollar closed method for amortizing the unfunded actuarial accrued liability (since the plan is frozen to new entrants and there are very few active member remaining as of June 30, 2018), a 5-year smoothing method for recognizing investment gains and losses in the actuarial value of assets, and a provision for funding back any administrative expenses paid out of plan assets during the prior year.

Discount Rate Sensitivity

	1% Decrease 5.75%	Current Rate 6.75%	1% Increase 7.75%
Net Pension Liability	$781,274	$542,090	$331,246

Classes of Plan Members Covered

The June 30, 2018 valuation was performed using census data provided by INPRS as of June 30, 2017. Standard actuarial techniques were used to roll forward the total pension liability computed as of June 30, 2017 to the June 30, 2018 measurement date using actual benefit payments during that period of time.

Number as of June 30, 2017	
1. Currently Receiving Benefits:	
Retired Members, Disabled Members, and Beneficiaries	76
2. Inactive Members Entitled To But Not Yet Receiving Benefits	10
3. Inactive Non-vested Members Entitled to a Refund of Member Contributions	0
4. Active Members	9
Total Covered Plan Members: (1)+(2)+(3)+(4)	95

Money-Weighted Rate of Return

The money-weighted rate of return equals investment performance, net of pension plan investment expense, adjusted for the changing amounts actually invested. For the fiscal year ending June 30, 2018, the money-weighted return on the plan assets is 9.4%.

Components of Net Pension Liability

As of June 30, 2018		
Total Pension Liability	$	3,483,713
Fiduciary Net Position		2,941,623
Net Pension Liability	$	542,090
Ratio of Fiduciary Net Position to Total Pension Liability		84.44%

GASB NO. 67 AND GASB NO. 68: REQUIRED SUPPLEMENTAL INFORMATION

SCHEDULE OF CHANGES IN THE TOTAL PENSION LIABILITY AND PLAN FIDUCIARY NET POSITION

Fiscal Year Ending June 30	2013	2014	2015	2016	2017	2018
Total Pension Liability						
Total Pension Liability - beginning	$4,496,986	$4,285,380	$4,166,349	$4,325,905	$4,014,773	$3,804,048
Service Cost (SC), beginning-of-year	2,519	3,260	3,341	1,528	712	296
Interest Cost, including interest on SC	291,387	277,234	268,981	279,980	258,975	244,671
Experience (Gains)/Losses	(140,190)	(36,574)	(67,951)	(233,475)	(112,616)	(85,146)
Assumption Changes	0	0	324,754	0	(157)	(120,974)
Plan Amendments	0	0	0	0	0	0
Actual Benefit Payments	(365,322)	(362,951)	(369,569)	(359,165)	(357,639)	(359,182)
Member Reassignments	0	0	0	0	0	0
Service Purchases	0	0	0	0	0	0
Net Change in Total Pension Liability	(211,606)	(119,031)	159,556	(311,132)	(210,725)	(320,335)
(a) Total Pension Liability - ending	$4,285,380	$4,166,349	$4,325,905	$4,014,773	$3,804,048	$3,483,713
Plan Fiduciary Net Position						
Plan Fiduciary Net Position – beginning	$3,385,805	$3,337,094	$3,489,000	$3,175,268	$2,919,061	$2,864,867
Contributions – employer	150,000	138,300	130,900	137,600	134,800	236,527
Contributions – non-employer	0	0	0	0	0	0
Contributions – member	0	0	0	0	0	0
Net investment income	200,867	439,045	(3,868)	25,996	221,287	263,162
Actual benefit payments	(365,322)	(362,951)	(369,569)	(359,165)	(357,639)	(359,182)
Net member reassignments	0	0	0	0	0	0
Administrative expense	(34,256)	(62,488)	(71,195)	(60,638)	(52,642)	(63,751)
Other	0	0	0	0	0	0
Net change in Plan Fiduciary Net Position	(48,711)	151,906	(313,732)	(256,207)	(54,194)	76,756
(b) Plan Fiduciary Net Position - ending	$3,337,094	$3,489,000	$3,175,268	$2,919,061	$2,864,867	$2,941,623
Net Pension Liability - ending, (a) - (b)	$948,286	$677,349	$1,150,637	$1,095,712	$939,181	$542,090

Information was provided prospectively from June 30, 2013 for GASB No. 67 and GASB No. 68 purposes. Results prior to 2018 were produced by the prior actuary.

GASB NO. 67 AND GASB NO. 68: REQUIRED SUPPLEMENTAL INFORMATION

SCHEDULE OF THE NET PENSION LIABILITY

Fiscal Year Ending June 30	2013	2014	2015	2016	2017	2018
Total Pension Liability	$4,285,380	$4,166,349	$4,325,905	$4,014,773	$3,804,048	$3,483,713
Plan Fiduciary Net Position	3,337,094	3,489,000	3,175,268	2,919,061	2,864,867	2,941,623
Net Pension Liability	$948,286	$677,349	$1,150,637	$1,095,712	$939,181	$542,090
Ratio of Plan Fiduciary Net Position to Total Pension Liability	77.87%	83.74%	73.40%	72.71%	75.31%	84.44%
Covered-employee payroll [1]	N/A	N/A	N/A	N/A	N/A	N/A
Net Pension Liability as a percentage of covered-employee payroll	N/A	N/A	N/A	N/A	N/A	N/A

[1] As provided by INPRS.

Information was provided prospectively from June 30, 2013 for GASB No. 67 and GASB No. 68 purposes. Results prior to 2018 were produced by the prior actuary.

GASB NO. 67 AND GASB NO. 68: REQUIRED SUPPLEMENTAL INFORMATION

SCHEDULE OF EMPLOYER CONTRIBUTIONS

Fiscal Year Ending June 30	2013	2014	2015	2016	2017	2018
Actuarially Determined Contribution [1]	$140,202	$138,250	$118,927	$137,599	$169,734	$236,527
Actual employer contributions	$150,000	$138,300	$130,900	$137,600	$134,800	$236,527
Annual contribution (deficiency) / excess	$9,798	$50	$11,973	$1	($34,934)	$0
Covered-employee payroll [2]	N/A	N/A	N/A	N/A	N/A	N/A
Actual contributions as a percentage of covered-employee payroll	N/A	N/A	N/A	N/A	N/A	N/A

[1] Actuarially determined contribution amount was developed in the actuarial funding valuation completed one year prior to the fiscal year.
[2] As provided by INPRS.

Information was provided prospectively from June 30, 2013 for GASB No. 67 and GASB No. 68 purposes. Results prior to 2018 were produced by the prior actuary.

GASB NO. 67 AND GASB NO. 68: REQUIRED SUPPLEMENTAL INFORMATION

SCHEDULE OF MONEY-WEIGHTED RETURNS

For Fiscal Year Ending June 30	Money-Weighted Return
2018	9.4%
2017	7.9%
2016	0.8%
2015	(0.1%)
2014	13.7%
2013	6.2%

Information was provided prospectively from June 30, 2013 for GASB No. 67 and GASB No. 68 purposes. Returns were provided by INPRS.

Appendix **Page**

MEMBER DATA RECONCILIATION
For the June 30, 2017 Data used in the June 30, 2018 Valuation

	Active	Inactive Vested	Disabled	Retired	Beneficiary	Total
1. As of June 30, 2016	**11**	**12**	**0**	**57**	**15**	**95**
2. Data Adjustments						
Retirement	(2)	(2)	0	4	0	0
Vested terminations	0	0	0	0	0	0
Disability retirements	0	0	0	0	0	0
Deaths:						
With Beneficiary	0	0	0	(3)	3	0
Without Beneficiary	0	0	0	0	0	0
Net Change	(2)	(2)	0	1	3	0
3. As of June 30, 2017	**9**	**10**	**0**	**58**	**18**	**95**

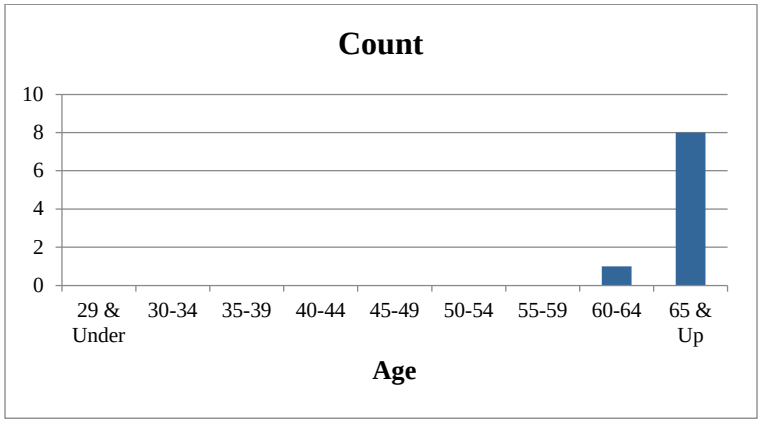
SUMMARY OF MEMBERSHIP DATA

Valuation Date	June 30, 2017	June 30, 2018	% Change
Date of Membership Data [1]	July 1, 2016	July 1, 2017	
ACTIVE MEMBERS			
Number of Active Members	11	9	(18.2%)
Active Member Averages			
Age	72.8	72.0	(1.1%)
Service [2]	7.5	8.6	14.7%
INACTIVE VESTED MEMBERS			
Number of Members	12	10	(16.7%)
Inactive Member Averages			
Age	68.9	69.8	1.3%
Service	7.3	6.7	(8.0%)
RETIREES, DISABLEDS, AND BENEFICIARIES			
Number of Members			
Retired	57	58	1.8%
Disabled	0	0	0.0%
Beneficiaries	15	18	20.0%
Total	72	76	5.6%
Annual Benefits			
Retired	$ N/A	$ 296,146	N/A
Disabled	N/A	0	N/A
Beneficiaries	N/A	61,326	N/A
Total	$ 356,864	$ 357,472	0.2%

[1] The valuation results were calculated using the prior year's census data and were adjusted for certain activity during fiscal year.
[2] Credited service completed in the General Assembly prior to November 8, 1989.

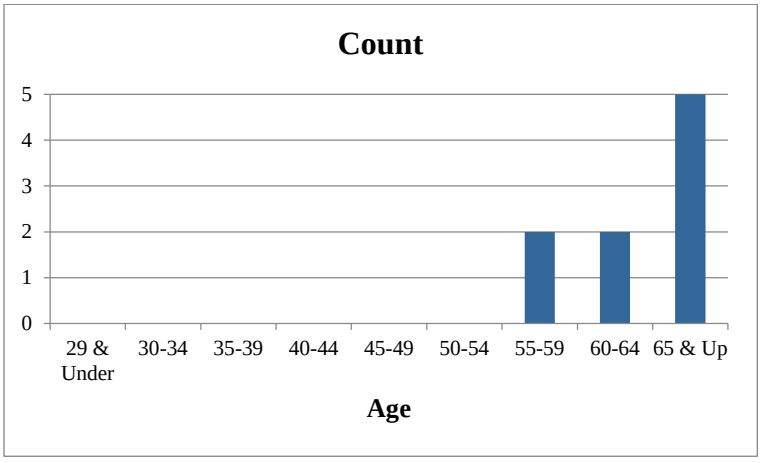
ACTIVE MEMBERS
As of June 30, 2017 for the June 30, 2018 Valuation

	Count of Members		
Age	Male	Female	Total
29 & Under	0	0	0
30-34	0	0	0
35-39	0	0	0
40-44	0	0	0
45-49	0	0	0
50-54	0	0	0
55-59	0	0	0
60-64	1	0	1
65 & Up	6	2	8
Total	7	2	9



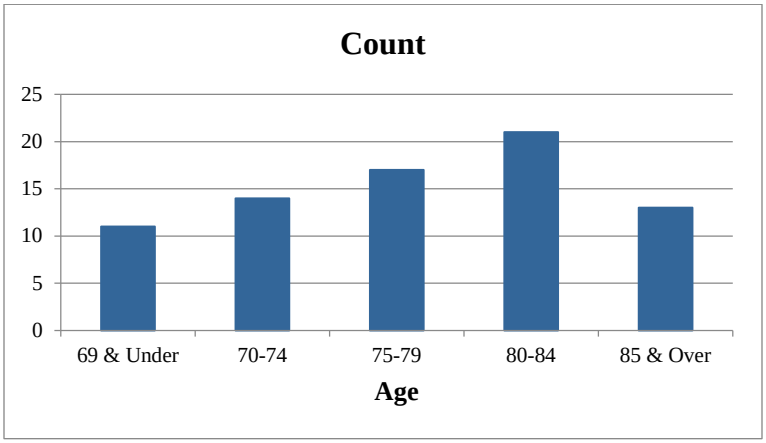
INACTIVE VESTED MEMBERS
As of June 30, 2017 for the June 30, 2018 Valuation

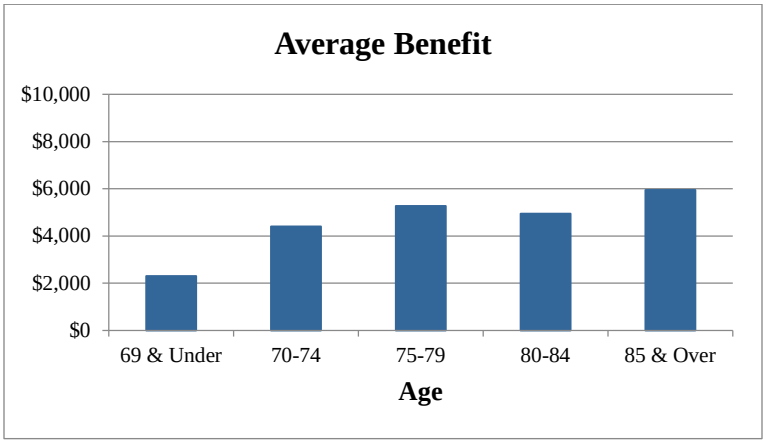
	Count of Members		
Age	Male	Female	Total
29 & Under	0	0	0
30-34	0	0	0
35-39	0	0	0
40-44	0	0	0
45-49	0	0	0
50-54	0	0	0
55-59	2	0	2
60-64	2	0	2
65 & Up	5	1	6
Total	9	1	10



MEMBERS AND BENEFICIARIES RECEIVING BENEFITS
As of June 30, 2017 for the June 30, 2018 Valuation

	Count of Members			Annual Benefits		
Age	Male	Female	Total	Male	Female	Total
69 & Under	7	4	11	17,010	8,244	25,254
70-74	10	4	14	51,794	9,892	61,686
75-79	15	2	17	88,755	720	89,475
80-84	14	7	21	80,944	22,755	103,699
85 & Over	5	8	13	34,326	43,032	77,358
Total	51	25	76	$ 272,829	$ 84,643	$ 357,472





MEMBERS AND BENEFICIARIES RECEIVING BENEFITS
As of June 30, 2017 for the June 30, 2018 Valuation

Schedule of Average Benefit Payments [1]

	Years of Credited Service						
For the Year Ended June 30, 2018	< 10	10 - 14	15 - 19	20 - 24	25 - 29	30 +	Total
Average Monthly Defined Benefit	$191	$388	$646	$1,008	$577	$784	$392
Average Final Average Salary [2]	$24,040	$26,330	$24,244	N/A	N/A	N/A	$24,709
Number of Benefit Recipients	30	25	17	2	1	1	76

Schedule of Benefit Recipients by Type of Benefit Option [1]

	Number of Recipients by Benefit Option			
Amount of Monthly Benefit (in dollars)	Joint with 50% Survivor Benefits	Survivors	Disability	Total Benefit Recipients
1 - 500	36	16	0	52
501 - 1,000	21	2	0	23
1,001 - 1,500	1	0	0	1
1,501 - 2,000	0	0	0	0
2,001 - 2,500	0	0	0	0
2,501 - 3,000	0	0	0	0
Over 3,000	0	0	0	0
Total	58	18	0	76

[1] Calculated using the prior year census data, adjusted for certain activity during the fiscal year.
[2] Benefit calculations for the LE DB benefit recipients are based on years of service, not final average salary.

MEMBERS AND BENEFICIARIES RECEIVING BENEFITS
As of June 30, 2017 for the June 30, 2018 Valuation

Schedule of Retirants and Beneficiaries

	Added to Rolls		Removed from Rolls		Rolls - End of Year				
	Number	Annual Benefits	Number	Annual Benefits	Number	Total Annual Benefits	Percent Change In Total Annual Benefits[1,2]	Average Annual Benefit	Percent Change In Average Annual Benefit
2018 [3]	4	$16	0	$0	76	357	0.0%	4,704	(5.1%)
2017 [3]	0	0	2	7	72	357	(1.9)	4,956	0.8
2016 [3]	8	23	2	14	74	364	(0.5)	4,919	(8.5)
2015 [3]	1	2	1	1	68	366	0.5	5,377	0.3
2014 [3]	0	0	0	0	68	364	0.0	5,362	0.0
2013	9	41	4	26	68	364	4.3	5,362	(3.1)
2012	2	13	4	20	63	349	(2.0)	5,536	1.1
2011	4	22	0	0	65	356	2.6	5,477	(3.7)
2010	5	9	3	27	61	347	(6.5)	5,685	(9.5)
2009	17	88	2	2	59	371	35.3	6,281	0.9

[1] Dollar amounts are in thousands except for the average annual benefit.
[2] End of year annual benefits are not equal to prior end of year annual benefits plus additions less removals due to beneficiary benefit changes, data changes, and COLA increases.
[3] The valuation results were calculated using the prior year census data, adjusted for certain activity during the fiscal year.

Definitions

Fiscal year	Twelve month period ending June 30.
Participation	All members of the Indiana General Assembly who (1) were serving on April 30, 1989, and (2) filed an election to participate in this plan under IC 2-3.5-3-1(b).
Average monthly earnings	Average monthly earnings is the monthly average of earnings, including business per diem and subsistence allowances, attributable to service as a legislator during the 3 years that produce the highest such average.

Eligibility for Benefits

Deferred vested	10 or more years of creditable service and no longer active.
Disability retirement	5 or more years of creditable service and qualified for Social Security disability benefits.
Early retirement	Age 55 with 10 or more years of creditable service.
Normal retirement	Earliest of: - Age 65 with 10 or more years of creditable service. - Age 60 with 15 or more years of creditable service. - Age 55 with sum of age and creditable service equal to 85 or more.
Pre-retirement death	10 or more years of creditable service.

Monthly Benefits Payable

Normal retirement	The normal retirement benefit is a monthly annuity payable for life with a 50% continuation to a surviving spouse or surviving children and is equal to the lesser of (1) $40 times years of creditable service in the General Assembly completed before November 8, 1989, or (2) 100% of average monthly earnings.
Early retirement	The early retirement benefit is the accrued retirement benefit determined as of the early retirement date and payable commencing at the normal retirement date. A participant may elect to have the benefit commence prior to normal retirement provided the benefit is reduced by 1/10% for each of the first 60 months and by 5/12% for each of the next 60 months that the benefit commencement date precedes the normal retirement date.

Deferred retirement	The termination benefit is the accrued retirement benefit determined as of the termination date and payable commencing as of the normal retirement date. The participant may elect to receive a reduced early retirement benefit.
Disability	The disability retirement benefit is the accrued retirement benefit determined as of the disability date and payable commencing the month following disability date without reduction for early commencement.
Pre-retirement death	The spouse or dependent beneficiary is entitled to receive 50% of the monthly life annuity the participant was receiving or was entitled to receive under the assumption that the participant retired on the later of age 55 or the day before the date of death.
Cost-of-Living-Adjustments	Cost-of-living increases for retired members will be provided by legislative action. Legislation passed in the 2018 legislative session creates a funding mechanism to provide for future benefit increases or 13th checks. The INPRS Board has the authority to have employers contribute up to 1% of member pay into the fund, although funds for the Legislators' Fund will be directly allocated by the State Legislature. Increases or payments are made upon passed legislation subject to the availability of funds to provide the benefit.
Forms of payment a. Single life annuity	Member will receive a monthly benefit for life, but there are no monthly payments to anyone after death.
b. Joint with one-half survivor benefits	Member will be paid a monthly benefit for life. After death, one-half (1/2) of the benefit will be paid to the spouse for their lifetime or the dependent until age 18 unless disabled.

Changes in Plan Provisions

Legislation passed in the 2018 legislative session creates a funding mechanism to provide for future benefit increases or 13th checks. The INPRS Board has the authority to have employers contribute up to 1% of member pay into the fund, although funds for the Legislators' Fund will be directly allocated by the State Legislature. Increases or payments are made upon passed legislation subject to the availability of funds to provide the benefit.

ACTUARIAL METHODS

1. Actuarial Cost Method

Funding:

The actuarial cost method is Traditional Unit Credit.

The normal cost is calculated separately for each active member and is equal to actuarial present value of additional benefits expected to be accrued during the year following the valuation date. The actuarial accrued liability on any valuation date is the actuarial present value of the benefits earned for service prior to the valuation date. Since the benefits for all members of the Legislator's Defined Benefit Plan are fixed and no longer increasing with future service credit or future salary increases, applying the Traditional Unit Credit cost method results in the Actuarial Accrued Liability being equal to the Present Value of Future Benefits (i.e. all benefits are treated as though they are attributable to past service) and the Normal Cost being equal to $0. This is consistent with the actual status of member benefit accruals.

Gains and losses occurring from census experience different than assumed, assumption changes, and benefit changes are amortized over a 5-year period with level payments each year. A new gain or loss base is established each year based on the additional gain or loss during that year and that base is amortized over a new 5-year period. However, when the plan is at or above 100% funded (based on Actuarial Value of Assets), the past amortization bases are considered fully amortized and a single amortization base equal to the surplus is amortized over a 30-year period with level payments each year. The purpose of the method is to give a smooth progression of the costs from year to year and, at the same time, provide for an orderly funding of the unfunded liabilities.

Accounting:

The actuarial cost method is Entry Age Normal - Level Percent of Payroll.

The normal cost is calculated separately for each active member and is equal to the level percentage of payroll needed as an annual contribution from entry age to retirement age to fund projected benefits. The actuarial accrued liability on any valuation date is the accumulated value of such normal costs from entry age to the valuation date.

Gains and losses occurring from census experience different than assumed and assumption changes are amortized into expense over the average expected future service of all plan participants (active and inactive). Gains and losses occurring from investment experience different than assumed are amortized into expense over a 5-year period. The effect of plan changes on the plan liability are fully recognized in expense in the year in which they occur.

Member census data as of June 30, 2017 was used in the valuation and adjusted, where appropriate, to reflect changes between June 30, 2017 and June 30, 2018. The valuation results from June 30, 2017 were rolled-forward to June 30, 2018 to reflect benefit accruals during the year less benefits paid.

2. COLA Funding Amount

The COLA Funding Amount is developed by determining the assets needed at the start of the next biennium to fund the post-retirement benefit increases anticipated to be granted in that biennium. This amount is divided by the present value of expected payroll over which the accumulations will occur.

3. Asset Valuation Method

The Actuarial Value of Assets smoothes the recognition of gains and losses on the Market Value of Assets over five years, subject to a 20% corridor.

4. State Appropriations

Based on the assumptions and methods previously described, an actuarially determined contribution amount is computed. The Board considers this information when requesting funds from the State.

Changes in Methods since the Prior Year

None.

ACTUARIAL ASSUMPTIONS

Valuation Date	June 30, 2018

Economic Assumptions

1. Investment return	6.75% per year, compounded annually
2. Inflation	2.25% per year
3. Salary increase	2.25% per year
4. Cost-of-Living Adjustment (COLA)	No COLA has been granted for January 1, 2018 or January 1, 2019, which is reflected in the valuation. In lieu of a COLA on January 1, 2020 and January 1, 2021, it is assumed a 13th check would be provided. Thereafter, the following COLAs, compounded annually, were assumed: 0.4% beginning on January 1, 2022 0.5% beginning on January 1, 2034 0.6% beginning on January 1, 2039.

Demographic Assumptions

1. Mortality	The mortality assumption includes an appropriate level of conservatism that reflects expected future mortality improvement.
a. Healthy mortality	RP-2014 (with MP-2014 improvement removed) White Collar mortality tables, with future mortality improvement projected generationally using future mortality improvement inherent in the Social Security Administration's 2014 Trustee report.
b. Disabled mortality	RP-2014 (with MP-2014 improvement removed) Disability mortality tables, with future mortality improvement projected generationally using future mortality improvement inherent in the Social Security Administration's 2014 Trustee report.

2. Disability

Age	Sample Rates
20	0.045%
25	0.064%
30	0.083%
35	0.111%
40	0.165%
45	0.270%
50	0.454%
55	0.757%
60	1.220%
65+	0.000%

3. Retirement

Age	Rate
55	10%
56-57	8%
58-61	2%
62-64	5%
65+	100%

Inactive vested members are assumed to commence their retirement benefit at their earliest eligible retirement date (age 55, or current age if greater).

4. Termination

Age	Sample Rates
20	5.4384%
25	5.2917%
30	5.0672%
35	4.6984%
40	3.5035%
45	1.7686%
50	0.4048%
55+	0.0000%

Other Assumptions

1. Form of payment

Members are assumed to elect either a single life annuity or a 50% joint survivor benefit based on the marriage assumptions below.

2. Marital status

a. Percent married

90% of members are assumed to be married or to have a dependent beneficiary.

b. Spouse's age

Male members are assumed to be three (3) years older than females.

3. Pay increase timing	Beginning of (fiscal) year. Payroll amounts stated in the valuation data are amounts projected to be paid during the current year.
4. Decrement timing	Decrements are assumed to occur at the beginning of the year.
5. Administrative expense	Replacement basis. Administrative expenses incurred during the year prior to the valuation date are included in the calculation of funds to be appropriated to the LE DB Fund by the State.

Changes in Assumptions since the Prior Year

The COLA assumption was changed due to passage of Senate Enrolled Act No. 373. In lieu of a 1% COLA occurring beginning on January 1, 2020, we now assume that the COLA will be replaced by a 13th check for 2020 and 2021. The COLA assumption thereafter, would be 0.4% beginning on January 1, 2022, changing to 0.5% beginning on January 1, 2034, and ultimately 0.6% beginning on January 1, 2039.

Data Adjustments

Active and retired member data is reported as of June 30. Member census data as of June 30, 2017 was used in the valuation and adjusted. Standard actuarial roll-forward techniques were then used to project the liability computed as of June 30, 2017 to the June 30, 2018 valuation date. The asset information for this valuation were furnished as of June 30, 2018. We did not audit the information provided, but we did review it thoroughly for reasonableness and compared it with the prior year's submission for consistency.

Other Technical Valuation Procedures

Salary increases are assumed to apply to annual amounts.

Decrements are assumed to occur at the beginning of the year. Standard adjustments are made for multiple decrements.

No actuarial liability is included for participants who terminated without being vested prior to the valuation date, except those due a refund of contributions.

Accrued Service	Service credited under the plan that was rendered before the date of the actuarial valuation.
Actuarial Assumptions	Estimates of future experience with respect to demographic or economic events. Demographic assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.
Actuarial Cost Method	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of retirement plan benefits between future normal cost and actuarial accrued liability. Sometimes referred to as the "actuarial funding method."
Actuarial Equivalent	A single amount or series of amounts of equal value to another single amount or series of amounts computed on the basis of a given set of actuarial assumptions.
Actuarial Accrued Liability	The difference between the actuarial present value of plan benefits and the actuarial value of future normal costs. Also referred to as "accrued liability" or "actuarial liability."
Actuarial Present Value	The amount of funds currently required to provide a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest and by probabilities of payment.
Amortization	Paying off an interest-discounted amount with periodic payments of interest and principal, as opposed to paying off with lump sum payment.
Experience Gain (Loss)	The difference between actual experience and actuarial assumptions anticipated experience during the period between two actuarial valuation dates.
Normal Cost	The actuarial present value of retirement plan benefits allocated to the current year by the actuarial cost method.
Unfunded Actuarial Accrued Liability	The difference between actuarial liability and the actuarial value of assets. Sometimes referred to as "unfunded accrued liability" or "unfunded liability". Most retirement plans have unfunded actuarial liability. They arise anytime new benefits are added and anytime an actuarial loss is realized.