Cavanaugh Macdonald
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Indiana Public Retirement System

Legislators' Defined Benefit Fund

Actuarial Valuation as of
June 30, 2019

November 6, 2019

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, 2019, for the purpose of estimating the actuarial required contribution for the plan year ending June 30, 2021. The major findings of the valuation are contained in this report, which reflects the benefit and funding provisions in place on June 30, 2019. There have been no changes to the plan provisions, actuarial methods or assumptions from the prior valuation.

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 proposed assumptions with adjustments to the COLA assumption for the 2019 valuations to the Board on February 22, 2019, 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.

We prepared a Risk Report for the INPRS Board in August 2019 that contains information which is relevant to LE DB and should be considered part of this valuation report. Although the report was prepared using the data, methods, and assumptions of the June 30, 2018 valuation report, it is our professional opinion that the results of the risk report are substantially applicable to the June 30, 2019 valuation report as well.

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 that we prepared 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 the assumptions and methods used meet the guidance provided in the applicable Actuarial Standards of Practice. 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

Patrice Beckham

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

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

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This report presents the results of the June 30, 2019 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, 2021 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, 2019.
- Analyze and report on trends in plan contributions, assets and liabilities over the past several years.

VALUATION RESULTS

There were no changes to plan provisions, actuarial methods and assumptions, or funding policy between the June 30, 2018 and June 30, 2019 valuations.

The actuarial valuation results provide a "snapshot" view of the Plan's financial condition on June 30, 2019. The plan's unfunded actuarial accrued liability (UAAL) decreased from $435,000 year to $337,000 this year and the funded ratio increased from 88% to 90%. Several factors contributed to this change in funded status, including contributions above the actuarially determined contribution but also smaller than expected returns on the actuarial value of assets as old losses are realized.

A summary of the key results from the June 30, 2019 actuarial valuation compared to the June 30, 2018 valuation is shown in the following table. Further detail on the valuation results can be found in the following sections of this Executive Summary.

Numerous components, as examined in the following discussion, contributed to the change in the plan's assets, liabilities, and actuarial determined contribution rate between June 30, 2018 and June 30, 2019.

Valuation Results	June 30, 2018	June 30, 2019
Unfunded Actuarial Accrued Liability	$ 434,587	$ 337,040
Funded Ratio (Actuarial Assets)	87.53%	89.98%
Normal Cost	$ 0	$ 0
UAAL Amortization	143,864	155,810
Expenses	63,751	37,710
Actuarially Determined Contribution	$ 207,615	$ 193,520

ASSETS

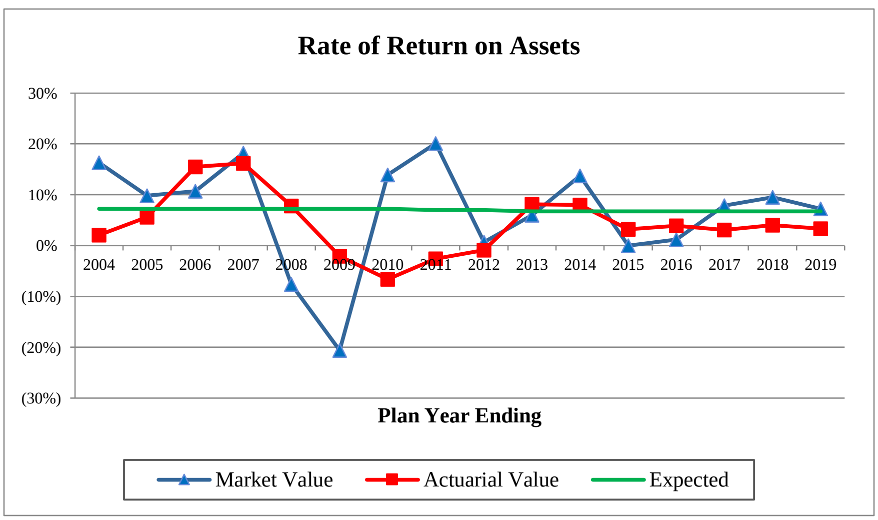
As of June 30, 2019, the plan had net assets of $3.0 million, when measured on a market value basis. This was an increase of $85,000 from the prior year.

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, termed the actuarial value of assets. In this year's valuation, the actuarial value of assets is $3.0 million, a decrease of $25,000 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, 2018	$	2,941,623	$	3,050,387
- Employer and Member Contributions	+	269,200	+	269,200
- Benefit Payments	-	355,575	-	355,575
- Net Investment Income	+	171,058	+	61,780
Net Assets, June 30, 2019	$	3,026,306	$	3,025,792
Estimated Rate of Return, Net of Expenses		7.3%		3.3%

The estimated rate of return on the actuarial value of assets was 3.3%, which was lower than the 6.75% investment return assumption applicable for the year ended June 30, 2019. As a result, there was an experience loss on assets of $102,000. The estimated investment return on the market value of assets for FY 2019 of 7.3% resulted in a change in the deferred investment experience from a net deferred investment loss of $109,000 in last year's valuation to a net deferred investment gain of $500 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, 2019 in the following table:

	Market Value		Actuarial Value	
Actuarial Accrued Liability	$	3,362,832	$	3,362,832
Value of Assets		3,026,306		3,025,792
Unfunded Actuarial Accrued Liability	$	336,526	$	337,040
Funded Ratio		89.99%		89.98%

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

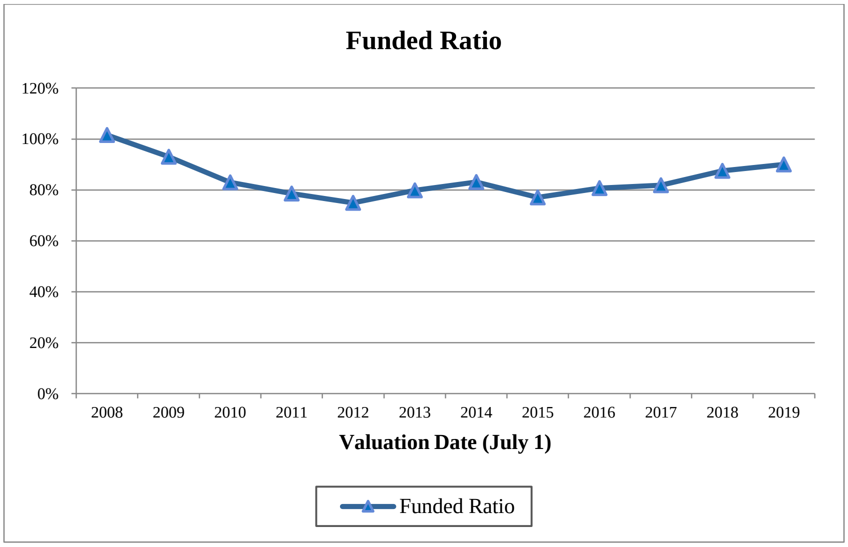
The net change in the total UAAL from June 30, 2018 to June 30, 2019 was a decrease of $98,000. The most significant impact on this change was the effect of the funding policy bringing this plan slightly closer to full funding. While contributions exceeded the actuarially determined contribution, that was more than offset by experience losses on assets and liabilities. 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).

	6/30/2015	6/30/2016	6/30/2017	6/30/2018	6/30/2019
Funded Ratio	77.1%	80.7%	81.9%	87.5%	90.0%
UAAL (in thousands)	$991.4	$775.0	$689.6	$434.6	$337.0

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, though has been increasing. Over the past five years, the plan status have increased considerably from 77% to 90%.



Because the closed plan is winding down and due to its small relative size, there is not as much concern with regard to the plan funded status. Presumably the State of Indiana, if needed, will provide any 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. If the Fund's funded ratio exceeds 100% on a combined basis (base benefits plus future assumed COLAs), all prior amortization bases are eliminated and the negative UAAL (or "surplus") is amortized over an open 30-year period, as an offset to other Fund costs.

The actuarially determined contribution is therefore the sum of the amortization amount and anticipated expenses. While an amount (estimated at $9,024) 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, 2018		June 30, 2019	
Normal Cost Rate	$	0	$	0
UAAL Amortization		143,864		155,810
Expenses		63,751		37,710
Actuarially Determined Contribution	$	207,615	$	193,520
Approved/Requested Funding Amount	$	207,615		207,615
Expected Percent Contributed		100.00%		107.28%

House Bill No. 1001 appropriated funds in the amount of $207,615 for fiscal years ending June 30, 2020 and June 30, 2021. Because the funding of the plan is largely based on the amortization amount, the Actuarially Determined Contribution for FY 2022 can be assumed to be the same as the FY 2021 amount shown above based on the June 30, 2019 valuation.

SUMMARY OF PRINCIPAL RESULTS

	June 30, 2017	June 30, 2018	June 30, 2019
MEMBERSHIP			
Active Members	11	9	8
Retired Members and Beneficiaries	72	76	78
Disabled Members	0	0	0
Inactive Members	12	10	9
Total Members	95	95	95
Annual Retirement Payments for Retirees, Disableds, and Beneficiaries	$ 356,864	$ 357,472	$ 364,193
ASSETS AND LIABILITIES			
Market Value of Assets (MVA)	$ 2,864,867	$ 2,941,623	$ 3,026,306
Actuarial Value of Assets (AVA)	3,115,691	3,050,387	3,025,792
Actuarial Accrued Liability (AAL)	3,805,253	3,484,974	3,362,832
Unfunded Actuarial Accrued Liability (UAAL): AAL - AVA	$ 689,562	$ 434,587	$ 337,040
Funded Ratios			
AVA / AAL	81.88%	87.53%	89.98%
MVA / AAL	75.29%	84.41%	89.99%
CONTRIBUTIONS			
Normal Cost	$ 0	$ 0	$ 0
Amortization of UAAL	187,229	143,864	155,810
Expenses	52,642	63,751	37,710
Actuarially Determined Contribution	$ 239,871	$ 207,615	$ 193,520
Approved Funding Amount	$ 269,200	$ 207,615	$ 207,615
Surplus/(Shortfall)	$ 29,329	$ 0	$ 14,095

Note: Liability and funded ratio results for 2018 and 2019 include both the base benefit and supplemental benefit.

This report presents the actuarial valuation results of the Legislators' Defined Benefit Fund as of June 30, 2019. 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, 2019.
- 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, 2019. 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, 2018	June 30, 2019
1. Market Value of Assets, Beginning of Year	$ 2,864,867	$ 2,941,623
2. Receipts		
a. Member	$ 0	$ 0
b. Employer	236,527	269,200
c. Transfers In	0	0
d. Miscellaneous	0	0
e. Total	$ 236,527	$ 269,200
3. Expenditures		
a. Benefit Payments	$ 359,182	$ 355,575
b. Refund of Contributions	0	0
c. Administrative Expense	63,751	37,710
d. Transfers Out	0	0
e. Miscellaneous	0	0
f. Total	$ 422,933	$ 393,285
4. Investment Return		
a. Investment Income	$ 262,769	$ 208,531
b. Securities Lending Income	393	237
c. Total Investment Return	$ 263,162	$ 208,768
5. Market Value of Assets, End of Year: (1) + (2e) - (3f) + (4c)	$ 2,941,623	$ 3,026,306
6. Rate of Return [1]	9.49%	7.25%

[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, 2019
1. Market Value as of June 30, 2018	$	2,941,623
2. Receipts	$	269,200
3. Expenditures, including Administrative Expenses	$	(393,285)
4. Expected Return on Assets [1]	$	194,372
5. Expected Market Value as of June 30, 2019: (1) + (2) + (3) + (4)	$	3,011,910
6. Actual Market Value as of June 30, 2019	$	3,026,306
7. Year End 2019 Asset Gain/(Loss): (6) - (5)	$	14,396

8. Deferred Investment Gains and Losses

	Year Ended June 30:		Gain/(Loss)	Factor		Deferred Amount
a.	2016	$	(241,495)	20%	$	(48,299)
b.	2017		(20,872)	40%		(8,349)
c.	2018		76,075	60%		45,645
d.	2019		14,396	80%		11,517
e.	Total				$	514

9. Initial Actuarial Value as of June 30, 2019: (6) - (8e)	$	3,025,792
10. Constraining Values		
a. 80% of Market Value: (6) x 0.8	$	2,421,045
b. 120% of Market Value: (6) x 1.2	$	3,631,567
11. Actuarial Value as of June 30, 2019	$	3,025,792
12. Actuarial Rate of Return [2]		3.33%
13. Actuarial Value of Assets as a Percent of Market Value: (11) / (6)		100.0%

[1] Assumes cash flows occur at mid-year and a return assumption 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, 2019. 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, 2019 Legislators' Defined Benefit Fund valuation are based on census data collected as of June 30, 2018. Standard actuarial techniques are used to adjust these results from June 30, 2018 to June 30, 2019. 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 events, such as plan changes, occur that would affect the results, 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, 2019.

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
(Base and Supplemental Benefits)

As of June 30, 2019	Base Benefits	Supplemental Benefits *Granted*	Supplemental Benefits *Future*	Total
1. Actuarial Accrued Liability				
a. Active Members	$ 305,420	$ 0	$ 7,652	$ 313,072
b. Inactive Vested Members	294,261	0	8,386	302,647
c. In-pay Members	2,693,628	0	53,485	2,747,113
d. Total	$ 3,293,309	$ 0	$ 69,523	$ 3,362,832
2. Actuarial Value of Assets	$ 3,025,792	$ 0	$ 0	$ 3,025,792
3. Unfunded Actuarial Accrued Liability: (1c) - (2)	$ 267,517	$ 0	$ 69,523	$ 337,040
4. Funded Ratio: (2) / (1d)	91.9%	N/A	0.0%	90.0%

TABLE 4

SOLVENCY TEST
(Base and Supplemental Benefits)

	Actuarial Accrued Liabilities (AAL)					Portion of AAL Covered by Assets			
Actuarial Valuation as of June 30	Active Member Contributions	Retirees and Beneficiaries	Active Member (Employer Financed Portion)	Total Actuarial Accrued Liabilities	Actuarial Value of Assets	Active Member Contributions	Retirees and Beneficiaries	Active Member (Employer Financed Portion)	Total Actuarial Accrued Liabilities
2019	$0	$2,747	$616	$3,363	$3,026	N/A	100.0%	45.3%	90.0%
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

Note: Dollar amounts are in thousands of dollars.

TABLE 5

RECONCILIATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY
(Base Benefits)

		For Year Ending June 30, 2019
1. Unfunded Actuarial Accrued Liability as of June 30, 2018	$	345,154
2. Normal Cost and Expenses		63,751
3. Actuarially Determined Contribution		(207,615)
4. Interest		13,587
5. Expected Unfunded Actuarial Accrued Liability as of June 30, 2019	$	214,877
6. Actuarial Value of Asset Changes		
a. Investment Experience (Gain)/Loss	$	102,223
b. Contributions (Above)/Below the Actuarially Determined Contribution	$	(85,728)
7. Actuarial Accrued Liability Changes		
a. Actuarial Accrued Liability Experience (Gain)/Loss	$	36,145
b. Additional Liability Due to Benefit Changes		0
c. Additional Liability Due to Assumption Changes		0
8. Total Experience (Gain)/Loss	$	52,640
9. Unfunded Actuarial Accrued Liability as of June 30, 2019: (5) + (8)	$	267,517

TABLE 6

ACTUARIAL GAIN/(LOSS)
(Base Benefits)

Liabilities		
1. Actuarial Accrued Liability as of June 30, 2018	$	3,395,541
2. Normal Cost for Plan Year Ending June 30, 2019		0
3. Benefit Payments During Plan Year[1]		(355,575)
4. Service Purchases (employee and employer)		0
5. Interest at 6.75%		217,198
6. Change Due to Benefit Changes		0
7. Change Due to Assumption Changes		0
8. Expected Actuarial Accrued Liability as of June 30, 2019	$	3,257,164
9. Actuarial Accrued Liability as of June 30, 2019	$	3,293,309
Assets		
10. Actuarial Value of Assets as of June 30, 2018	$	3,050,387
11. Receipts During Plan Year		269,200
12. Expenditures and Expenses During Plan Year		(393,285)
13. Interest at 6.75%		201,713
14. Expected Actuarial Value of Assets as of June 30, 2019	$	3,128,015
15. Actuarial Value of Assets as of June 30, 2019	$	3,025,792
Experience Gain / (Loss)		
16. Liability Actuarial Experience Gain/(Loss): (8) - (9)	$	(36,145)
17. Asset Actuarial Experience Gain/(Loss): (15) - (14)		(102,223)
18. Total Actuarial Experience Gain/(Loss): (16) + (17)	$	(138,368)

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

TABLE 7

EXPERIENCE GAIN/(LOSS) ANALYSIS BY SOURCE
(Base Benefits)

Liability Sources		Gain/(Loss)
Retirement	$	56,000
Termination		6,000
Disability		0
Mortality		(84,000)
Salary		0
Miscellaneous/COLA		(14,000)
Total Liability Experience Gain/(Loss)	$	(36,000)
as a % of AAL		(1.1%)
Asset Experience Gain/(Loss)	$	(102,000)
Total Actuarial Experience Gain/(Loss)	$	(138,000)

TABLE 8

PROJECTED BENEFIT PAYMENTS
(Base and Supplemental Benefits)

Plan Year Ending June 30	Benefit Amount
2020	$ 400,490
2021	385,940
2022	371,145
2023	357,352
2024	341,344
2025	324,600
2026	307,297
2027	289,627
2028	271,785
2029	253,956
2030	236,305
2031	218,976
2032	202,094
2033	185,757
2034	170,130
2035	155,253
2036	141,082
2037	127,660
2038	115,021
2039	103,239
2040	92,314
2041	82,195
2042	72,881
2043	64,365
2044	56,628
2045	49,643
2046	43,373
2047	37,774
2048	32,795
2049	28,384

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. Based on the June 30, 2018 actuarial valuation, the Board requested appropriations from the State for fiscal years 2020 and 2021. This June 30, 2019 valuation will not be directly used for determining contributions. Due to the biennial cycle used to set appropriations, the contribution amount for the plan years ending June 30, 2022 and June 30, 2023 will rely on the most up-to-date plan status at that time, which is the June 30, 2020 valuation.

Contribution Summary

In Table 9 the amortization payment related to the unfunded actuarial accrued liability/(surplus), as of June 30, 2019, 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
(Base Benefits)

Amortization Bases	Original Amount	June 30, 2019 Remaining Payments	Date of Last Payment	Outstanding Balance as of June 30, 2019	Annual Contribution
2016 UAAL Base	775,040	2	7/1/2021	340,656	175,889
2017 UAAL Base	49,968	3	7/1/2022	31,913	11,340
2018 UAAL Base	(191,086)	4	7/1/2023	(157,692)	(43,365)
2019 UAAL Base	52,640	5	7/1/2024	52,640	11,946
Total				$ 267,517	$ 155,810

Total UAAL Amortization Payments	$ 155,810
Remaining Amortization Period in Years (Weighted)[1]	1.7

[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 SURCHARGE RATE
(Supplemental Benefits)

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	$	10,295
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		8,992
7. Total COLA Funding Requirement as of July 1, 2021: (3) + (6)	$	19,287

Funding Sources for Projected COLAs

8. Assets as of June 30, 2019 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)	$	19,287

Surcharge Amount

12. Annual Payment for FYE 2020 and FYE 2021	$	9,024

TABLE 11

ACTUARIAL REQUIRED CONTRIBUTION AMOUNT
(Base and Supplemental Benefits)

	Base Benefits	Supplemental Benefits	Total
1. Normal Cost as of June 30, 2018	$ 0	$ 0	$ 0
2. Amortization of UAAL as of June 30, 2019	155,810		
3. Expenses	37,710		
4. Preliminary Actuarially Determined Contribution Amount: (1) + (2) + (3)	$ 193,520		
5. Supplemental Benefit Funding		9,024	9,024
6. Actuarially Determined Contribution Amount [1] Subject to Legal Constraints	$ 193,520	$ 9,024	$ 202,544
7. Approved Funding Amount for Fiscal Year 2021	$ 207,615	$ 0	$ 207,615
8. Expected Percentage of Contribution: (7) / (6)	107.28%	0.00%	102.50%

[1] Due to the biennial appropriations cycle, this will not directly impact the funding of the plan. Next year, this will be used to assist with the determination of the FY 2022 and FY 2023 approved funding amounts.

TABLE 12

INVESTMENT RETURN SENSITIVITY
(Base Benefits)

	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	$3,585,744	$3,527,120	$3,470,349	$3,415,352	$3,362,832
Actuarial Value of Assets	3,025,792	3,025,792	3,025,792	3,025,792	3,025,792
Unfunded Actuarial Accrued Liability	$559,952	$501,328	$444,557	$389,560	$337,040
Funded Ratio	84.4%	85.8%	87.2%	88.6%	90.0%
Actuarially Determined Contribution Amount					
Normal Cost	-	-	-	-	-
UAAL Amortization	211,591	198,856	186,422	174,275	162,404
Provision for Expenses	37,710	37,710	37,710	37,710	37,710
Actuarially Determined Contribution Amount	$249,301	$236,566	$224,132	$211,985	$200,114

	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	$3,310,376	$3,260,259	$3,211,635	$3,164,446	$3,118,630
Actuarial Value of Assets	3,025,792	3,025,792	3,025,792	3,025,792	3,025,792
Unfunded Actuarial Accrued Liability	$284,584	$234,467	$185,843	$138,654	$92,838
Funded Ratio	91.4%	92.8%	94.2%	95.6%	97.0%
Actuarially Determined Contribution Amount					
Normal Cost	-	-	-	-	-
UAAL Amortization	150,797	139,442	128,332	117,457	106,806
Provision for Expenses	37,710	37,710	37,710	37,710	37,710
Actuarially Determined Contribution Amount	$188,507	$177,152	$166,042	$155,167	$144,516

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, 2019
1. Assets			
a. Cash		$	0
b. Receivables			
i.	Contributions and Miscellaneous Receivables	$	0
ii.	Investments Receivable		31,373
iii.	Foreign Exchange Contracts Receivable		836,859
iv.	Interest and Dividends		7,851
v.	Receivables Due From Other Funds		213
vi.	Total Receivables	$	876,296
c. Investments			
i.	Short-Term Investments	$	0
ii.	Pooled Repurchase Agreements		585
iii.	Pooled Short-Term Investments		166,110
iv.	Pooled Fixed Income		1,026,086
v.	Pooled Equity		659,871
vi.	Pooled Alternative Investments		1,260,754
vii.	Pooled Derivatives		1,745
viii.	Pooled Investments		0
ix.	Securities Lending Collateral		10,233
x.	Total Investments	$	3,125,384
d. Net Capital Assets			0
e. Other Assets			0
f. Total Assets: a + b(vi) + c(x) + d + e		$	4,001,680
2. Liabilities			
a. Administrative Payable		$	7,895
b. Retirement Benefits Payable			0
c. Investments Payable			52,654
d. Foreign Exchange Contracts Payable			841,191
e. Securities Lending Obligations			10,233
f. Securities Sold Under Agreement to Repurchase			63,401
g. Due To Other Funds			0
h. Due to Other Governments			0
i. Total Liabilities: a + b + c + d + e + f + g + h		$	975,374
3. Fiduciary Net Position Restricted for Pensions: (1)(f) - (2)(i)		**$**	**3,026,306**

TABLE 14

STATEMENT OF CHANGE IN FIDUCIARY NET POSITION

			For Fiscal Year Ending June 30, 2019
1. Fiduciary Net Position as of June 30, 2018		**$**	**2,941,623**
2. Additions			
a. Contributions			
i.	Member Contributions		0
ii.	Employer Contributions		269,200
iii.	Service Purchases (Employer and Member)		0
iv.	Non-Employer Contributing Entity Contributions		0
v.	Total Contributions	$	269,200
b. Investment Income/(Loss)			
i.	Net Appreciation/(Depreciation)	$	184,655
ii.	Net Interest and Dividend Income		44,727
iii.	Securities Lending Income		299
iv.	Other Net Investment Income		116
v.	Investment Management Expenses		(19,148)
vi.	Direct Investment Expenses		(1,819)
vii.	Securities Lending Expenses		(62)
viii.	Total Investment Income/(Loss)	$	208,768
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)		$	477,968
3. Deductions			
a. Pension, Survivor and Disability Benefits		$	355,575
b. Death and Funeral Benefits			0
c. Distributions of Contributions and Interest			0
d. Administrative Expenses			37,710
e. Member Reassignments			0
f. Miscellaneous Expenses			0
g. Total Expenses (Deductions)		$	393,285
4. Net Increase (Decrease) in Fiduciary Net Position: (2)(d) - (3)(g)		**$**	**84,683**
5. Fiduciary Net Position as of June 30, 2019: (1) + (4)		**$**	**3,026,306**

TABLE 15

SCHEDULE OF CHANGES IN NET PENSION LIABILITY

	For Fiscal Year Ending June 30, 2019		
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) – (b)
1. Balance at June 30, 2018	$ 3,483,713	$ 2,941,623	$ 542,090
2. Changes for the Year:			
Service Cost (SC) [1]	375		375
Interest Cost	223,175		223,175
Experience (Gains)/Losses	10,361		10,361
Assumption Changes	0		0
Plan Amendments	0		0
Benefit Payments	(355,575)	(355,575)	0
Service Purchases			
Employer Contributions	0	0	0
Employee Contributions	0	0	0
Member Reassignments	0	0	0
Employer Contributions		269,200	(269,200)
Non-employer Contributions		0	0
Employee Contributions		0	0
Net Investment Income		208,768	(208,768)
Administrative Expenses		(37,710)	37,710
Other		0	0
Net Changes	$ (121,664)	$ 84,683	$ (206,347)
3. Balance at June 30, 2019	$ 3,362,049	$ 3,026,306	$ 335,743

[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, 2018	Remaining Period	Recognition	June 30, 2019
1. Liability Experience				
June 30, 2019 Loss	$ 10,361	1.00	$ 10,361	$ 0
June 30, 2018 Loss	0	0.00	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, 2019 Loss	$ 0	1.00	$ 0	$ 0
June 30, 2018 Loss	0	0.00	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, 2019 Loss	$ 0	5.00	$ 0	$ 0
June 30, 2018 Loss	0	4.00	0	0
June 30, 2017 Loss	0	3.00	0	0
June 30, 2016 Loss	72,341	2.00	36,172	36,169
June 30, 2015 Loss	50,768	1.00	50,768	0
Total Outflows: (1)+(2)+(3)	**$ 133,470**		**$ 97,301**	**$ 36,169**

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, 2018	Remaining Period	Recognition	June 30, 2019
1. Liability Experience				
June 30, 2019 Gain	$ 0	1.00	$ 0	$ 0
June 30, 2018 Gain	0	0.00	0	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, 2019 Gain	$ 0	1.00	$ 0	$ 0
June 30, 2018 Gain	0	0.00	0	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, 2019 Gain	$ 14,396	5.00	$ 2,880	$ 11,516
June 30, 2018 Gain	60,860	4.00	15,215	45,645
June 30, 2017 Gain	19,061	3.00	6,355	12,706
June 30, 2016 Gain	0	2.00	0	0
June 30, 2015 Gain	0	1.00	0	0
Total Inflows: (1)+(2)+(3)	**$ 94,317**		**$ 24,450**	**$ 69,867**

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:						
2019	$	97,301	$	24,450	$	72,851
Future Years:						
2020	$	36,169	$	24,450	$	11,719
2021		0		24,446		(24,446)
2022		0		18,095		(18,095)
2023		0		2,876		(2,876)
2024		0		0		0
Thereafter		0		0		0

TABLE 19

PENSION EXPENSE UNDER GASB NO. 68

		For Fiscal Year Ending June 30, 2019	
1. Service Cost, beginning of year		$	375
2. Interest Cost, including interest on service cost			223,175
3. Member Contributions			0
4. Administrative Expenses			37,710
5. Expected Return on Assets [1]			(194,372)
6. Plan Amendments			0
7. Recognition of Deferred Inflows / Outflows of Resources Related to:			
a. Liability Experience (Gains) / Losses	10,361		
b. Assumption Change (Gains) / Losses	0		
c. Investment Experience (Gains) / Losses	62,490		
d. Total: (7a)+(7b)+(7c)			72,851
8. Miscellaneous (Income) / Expense			0
9. Total Collective Pension Expense: (1)+(2)+(3)+(4)+(5)+(6)+(7d)+(8)			139,739
10. Employer Service Purchases			0
Pension Expense / (Income): (9) + (10)		**$**	**139,739**

[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, 2019
Valuation Date	
Assets:	June 30, 2019
Liabilities:	June 30, 2018 – The TPL as of June 30, 2019 was determined based on an actuarial valuation prepared as of June 30, 2018 rolled forward one year to June 30, 2019, 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, 2019: No COLA has been granted through the 2021 calendar year. 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, 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, 2021 and January 1, 2022, 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

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%, net of investment expenses 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, 2019 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, 2019), 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	$559,438	$335,743	$138,140

Classes of Plan Members Covered

The June 30, 2019 valuation was performed using census data provided by INPRS as of June 30, 2018. Standard actuarial techniques were used to roll forward the total pension liability computed as of June 30, 2018 to the June 30, 2019 measurement date using actual benefit payments during that period of time.

Number as of June 30, 2018	
1. Currently Receiving Benefits:	
Retired Members, Disabled Members, and Beneficiaries	78
2. Inactive Members Entitled To But Not Yet Receiving Benefits	9
3. Inactive Non-vested Members Entitled to a Refund of Member Contributions	0
4. Active Members	8
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, 2019, the money-weighted return on the plan assets is 7.2%.

Components of Net Pension Liability

As of June 30, 2019		
Total Pension Liability	$	3,362,049
Fiduciary Net Position		3,026,306
Net Pension Liability	$	335,743
Ratio of Fiduciary Net Position to Total Pension Liability		90.01%

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	2019
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	$3,483,713
Service Cost (SC), beginning-of-year	2,519	3,260	3,341	1,528	712	296	375
Interest Cost, including interest on SC	291,387	277,234	268,981	279,980	258,975	244,671	223,175
Experience (Gains)/Losses	(140,190)	(36,574)	(67,951)	(233,475)	(112,616)	(85,146)	10,361
Assumption Changes	0	0	324,754	0	(157)	(120,974)	0
Plan Amendments	0	0	0	0	0	0	0
Actual Benefit Payments	(365,322)	(362,951)	(369,569)	(359,165)	(357,639)	(359,182)	(355,575)
Member Reassignments	0	0	0	0	0	0	0
Service Purchases	0	0	0	0	0	0	0
Net Change in Total Pension Liability	(211,606)	(119,031)	159,556	(311,132)	(210,725)	(320,335)	(121,664)
(a) Total Pension Liability - ending	$4,285,380	$4,166,349	$4,325,905	$4,014,773	$3,804,048	$3,483,713	$3,362,049
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	$2,941,623
Contributions – employer	150,000	138,300	130,900	137,600	134,800	236,527	269,200
Contributions – non-employer	0	0	0	0	0	0	0
Contributions – member	0	0	0	0	0	0	0
Net investment income	200,867	439,045	(3,868)	25,996	221,287	263,162	208,768
Actual benefit payments	(365,322)	(362,951)	(369,569)	(359,165)	(357,639)	(359,182)	(355,575)
Net member reassignments	0	0	0	0	0	0	0
Administrative expense	(34,256)	(62,488)	(71,195)	(60,638)	(52,642)	(63,751)	(37,710)
Other	0	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	84,683
(b) Plan Fiduciary Net Position - ending	$3,337,094	$3,489,000	$3,175,268	$2,919,061	$2,864,867	$2,941,623	$3,026,306
Net Pension Liability - ending, (a) - (b)	$948,286	$677,349	$1,150,637	$1,095,712	$939,181	$542,090	$335,743

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	2019
Total Pension Liability	$4,285,380	$4,166,349	$4,325,905	$4,014,773	$3,804,048	$3,483,713	$3,362,049
Plan Fiduciary Net Position	3,337,094	3,489,000	3,175,268	2,919,061	2,864,867	2,941,623	3,026,306
Net Pension Liability	$948,286	$677,349	$1,150,637	$1,095,712	$939,181	$542,090	$335,743
Ratio of Plan Fiduciary Net Position to Total Pension Liability	77.87%	83.74%	73.40%	72.71%	75.31%	84.44%	90.01%
Covered-employee payroll [1]	N/A	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	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	2019
Actuarially Determined Contribution [1]	$140,202	$138,250	$118,927	$137,599	$169,734	$236,527	$239,871
Actual employer contributions	$150,000	$138,300	$130,900	$137,600	$134,800	$236,527	$269,200
Annual contribution (deficiency) / excess	$9,798	$50	$11,973	$1	($34,934)	$0	$29,329
Covered-employee payroll [2]	N/A	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	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
2019	7.2%
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, 2018 Data used in the June 30, 2019 Valuation

	Active Members	Inactive Vested	Disabled	Retired	Beneficiary	Total
1. As of June 30, 2017	**9**	**10**	**0**	**58**	**18**	**95**
2. Data Adjustments						
Vested Terminations	(1)	1	0	0	0	0
Disability	0	0	0	0	0	0
Retirements	0	(2)	0	2	0	0
Refund / Benefits Ended	0	0	0	0	0	0
Deaths:						
With Beneficiary	0	0	0	0	0	0
Without Beneficiary	0	0	0	0	0	0
Data Corrections	0	0	0	0	0	0
Net Change	(1)	(1)	0	2	0	0
3. As of June 30, 2018	**8**	**9**	**0**	**60**	**18**	**95**

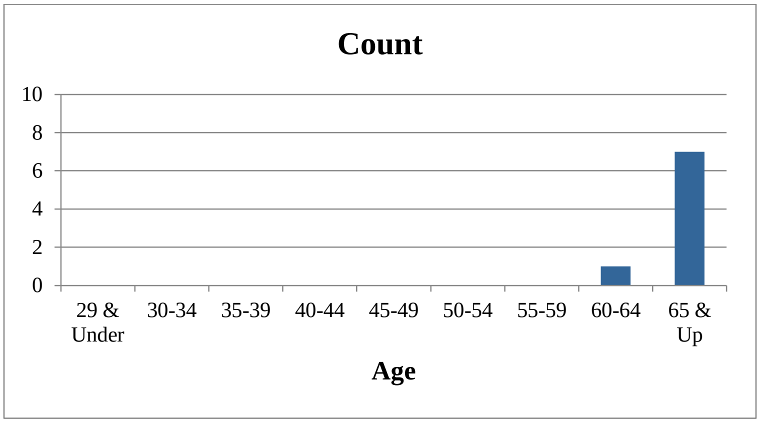
SUMMARY OF MEMBERSHIP DATA

Valuation Date	June 30, 2018	June 30, 2019	% Change
Date of Membership Data [1]	July 1, 2017	July 1, 2018	
ACTIVE MEMBERS			
Number of Active Members	9	8	(11.1%)
Active Member Averages			
Age	72.0	73.8	2.4%
Service [2]	7.6	8.1	6.6%
INACTIVE VESTED MEMBERS			
Number of Members	10	9	(10.0%)
Inactive Member Averages			
Age	69.8	69.8	(0.0%)
Service	6.7	6.2	(7.6%)
RETIREES, DISABLEDS, AND BENEFICIARIES			
Number of Members			
Retired	58	60	3.4%
Disabled	0	0	0.0%
Beneficiaries	18	18	0.0%
Total	76	78	2.6%
Annual Benefits			
Retired	$ 296,146	$ 302,867	2.3%
Disabled	0	0	0.0%
Beneficiaries	61,326	61,326	0.0%
Total	$ 357,472	$ 364,193	1.9%

[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.

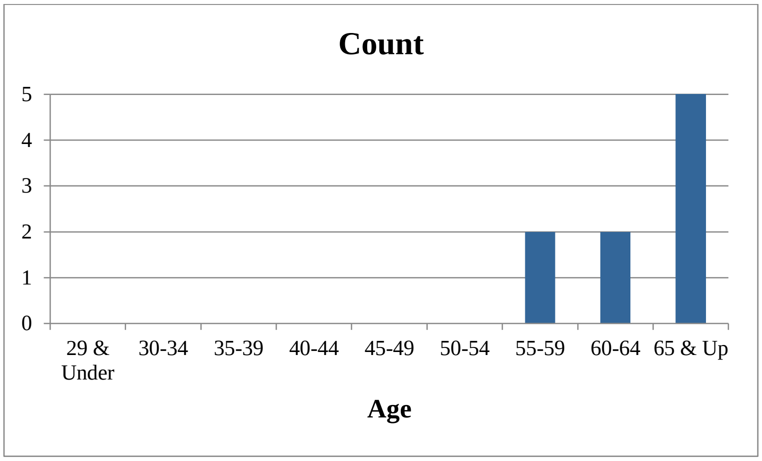
ACTIVE MEMBERS
As of June 30, 2018 for the June 30, 2019 Valuation

	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	5	2	7
Total	6	2	8



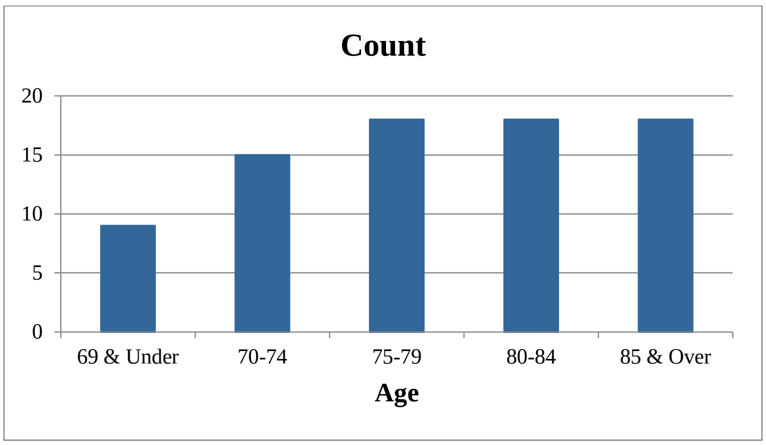
INACTIVE VESTED MEMBERS
As of June 30, 2018 for the June 30, 2019 Valuation

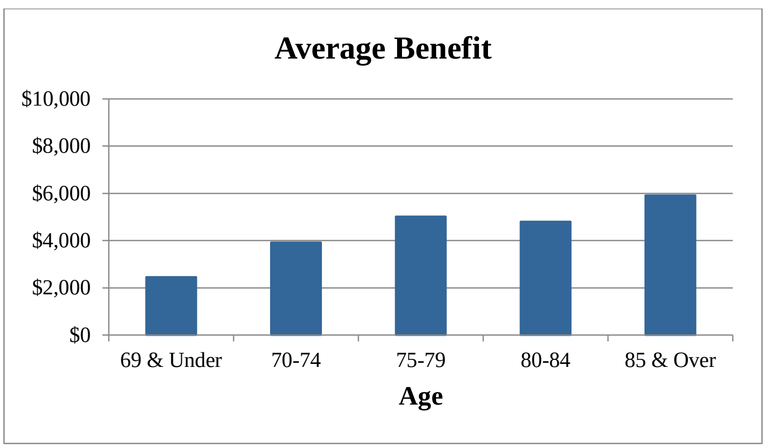
	Count of Members		
Age	Male	Female	Total
29 & Under	0	0	0
30-34	0	0	0
35-39	0	0	0
40-44	0	0	0
45-49	0	0	0
50-54	0	0	0
55-59	2	0	2
60-64	2	0	2
65 & Up	4	1	5
Total	8	1	9



MEMBERS AND BENEFICIARIES RECEIVING BENEFITS
As of June 30, 2018 for the June 30, 2019 Valuation

	Count of Members			Annual Benefits		
Age	Male	Female	Total	Male	Female	Total
69 & Under	6	3	9	15,570	6,564	22,134
70-74	10	5	15	47,240	11,572	58,812
75-79	16	2	18	89,536	720	90,256
80-84	14	4	18	75,084	11,412	86,496
85 & Over	7	11	18	52,119	54,376	106,495
Total	53	25	78	$ 279,549	$ 84,644	$ 364,193





MEMBERS AND BENEFICIARIES RECEIVING BENEFITS
As of June 30, 2018 for the June 30, 2019 Valuation

Schedule of Average Benefit Payments [1]

	Years of Credited Service						
For the Year Ended June 30, 2019	< 10	10 - 14	15 - 19	20 - 24	25 - 29	30 +	Total
Average Monthly Defined Benefit	$186	$393	$646	$1,008	$577	$784	$389
Average Final Average Salary [2]	$24,040	$26,330	$24,244	N/A	N/A	N/A	$24,709
Number of Benefit Recipients	31	26	17	2	1	1	78

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	37	16	0	53
501 - 1,000	22	2	0	24
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	60	18	0	78

[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. Excludes the 41 in-pay members who are missing a final average salary in the data.

MEMBERS AND BENEFICIARIES RECEIVING BENEFITS
As of June 30, 2018 for the June 30, 2019 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
2019 [3]	2	$7	0	$0	78	364	2.0%	4,669	(0.7%)
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)

[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 or provided from lottery proceeds. 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

None.

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, 2018 was used in the valuation and adjusted, where appropriate, to reflect changes between June 30, 2018 and June 30, 2019. The valuation results from June 30, 2018 were rolled-forward to June 30, 2019 to reflect benefit accruals during the year less benefits paid.

2. COLA Funding Amount

The COLA may be funded by either direct State appropriations or by allocation of a portion of the lottery proceeds. For consistency with other funds should annual lottery amounts be determined to be desirable, a funding amount is shown in this report. 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.

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, 2019

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 through Fiscal Year 2022, which is reflected in the valuation. 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

None.

Data Adjustments

Active and retired member data is reported as of June 30. Member census data as of June 30, 2018 was used in the valuation and adjusted. Standard actuarial roll-forward techniques were then used to project the liability computed as of June 30, 2018 to the June 30, 2019 valuation date. The asset information for this valuation were furnished as of June 30, 2019. 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.