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Indiana Public Retirement System

Prosecuting Attorneys' Retirement Fund

Actuarial Valuation as of
June 30, 2018

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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 Prosecuting Attorneys' Retirement Fund (PARF) 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 have been no changes to the plan provisions, actuarial methods or assumptions from the prior valuation.

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 and normal cost within 1.5%.

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 PARF 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.

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While the assumptions were generally developed by the prior actuary, we believe that 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 assumptions 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 System. 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

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

Patrice Beckham

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

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This report presents the results of the June 30, 2018 actuarial valuation of the Prosecuting Attorneys' Retirement Fund (PARF). The primary purposes of performing this actuarial valuation are to:

- Determine the contribution amount for the plan year ending June 30, 2020 that will be sufficient to meet the funding policy.
- Disclose asset and liability measurements as well as the current funded status of the plan on the valuation date.
- Compare actual and expected experience in the valuation 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	104,249,153	103,283,519	100.9%
Actuarial Accrued Liability	93,740,388	92,640,681	101.2%
Normal Cost	1,828,550	1,843,138	99.2%

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.

There were no changes to plan provisions, actuarial methods and assumptions, or funding policies between the June 30, 2017 and June 30, 2018 valuations.

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) increased from $38.7 million last year to $41.6 million this year and the funded ratio held steady at 60%.

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.

Valuation Results		June 30, 2017		June 30, 2018
Unfunded Actuarial Accrued Liability	$	38,687,671	$	41,619,466
Funded Ratio (Actuarial Assets)		59.97%		59.70%
Normal Cost		8.27%		9.22%
UAAL Amortization		13.59%		15.99%
Total Recommended Contribution		21.86%		25.21%
Estimated Member Contributions		(5.60%)		(6.00%)
Actuarially Determined Contribution Amount		16.26%		19.21%

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.

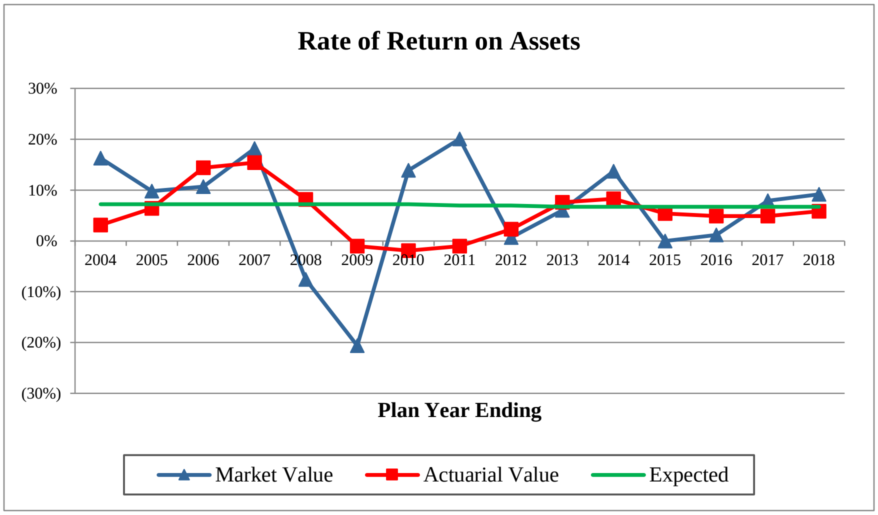
ASSETS

As of June 30, 2018, the plan had net assets of $61.0 million, when measured on a market value basis. This was an increase of $5.4 million 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 $61.7 million, an increase of $3.7 million 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	$	55,575,347	$	57,967,634
- Employer and Member Contributions	+	4,308,461	+	4,308,461
- Benefit Payments and Refunds	-	3,994,768	-	3,994,768
- Net Investment Income	+	5,130,060	+	3,383,142
Net Assets, June 30, 2018	$	61,019,100	$	61,664,469
Rate of Return, Net of Expenses		9.2%		5.8%

The rate of return on the actuarial value of assets was 5.8%, 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 $540,000. The investment return on the market value of assets for FY 2018 of 9.2% resulted in a change in the deferred investment experience from a net deferred investment loss of $2.4 million in last year's valuation to a net deferred investment loss of less than $650,000 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

The actuarial accrued liability is that portion of the present value of future benefits that is allocated to past service. The remaining portion will be paid by future normal costs. 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 dollar amount of unfunded actuarial accrued liability is reduced if the contributions to the plan exceed the normal cost for the year plus interest on the prior year's UAAL.

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

	Market Value	Actuarial Value
Actuarial Accrued Liability	$ 103,283,935	$ 103,283,935
Value of Assets	61,019,100	61,664,469
Unfunded Actuarial Accrued Liability	$ 42,264,835	$ 41,619,466
Funded Ratio	59.08%	59.70%

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

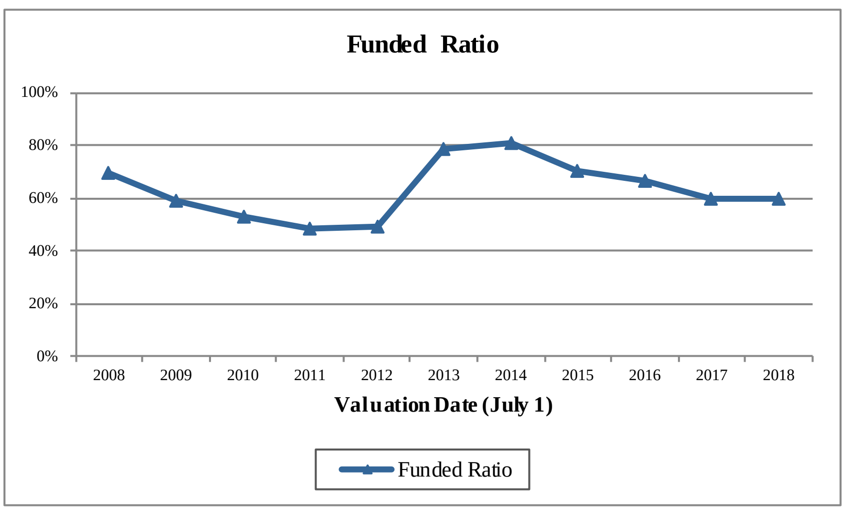
The net change in the UAAL from June 30, 2017 to June 30, 2018 was an increase of $2.9 million. The most significant factors in this change are some differences arising from the change in actuarial firm and contributions below the actuarially determined level. See Table 5 of this report for a complete analysis of the change. Additionally, unfavorable experience on both liabilities and assets served to further increase the UAAL. Table 6 and Table 7 in this report provide more detail on these items.

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 millions).

	6/30/2014	6/30/2015	6/30/2016	6/30/2017	6/30/2018
Funded Ratio	81.0%	70.4%	66.4%	60.0%	59.7%
UAAL (in millions)	$12.4	$23.0	$28.6	$38.7	$41.6

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.

As the following graph of historical funded ratios shows, the funding level of PARF has varied over time.



ACTUARIALLY DETERMINED CONTRIBUTION AMOUNT

The State's funding policy is to contribute an appropriated amount that is estimated at the start of each biennium. Guiding the appropriation bill is a determination of the funding requirements of the Plan from an actuarial perspective. A traditional funding strategy includes:

- 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.

- 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 20 years for each amortization base. Whenever the Plan exceeds 100% funded, all prior layers 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 amount for the prosecuting attorneys includes a normal cost which is theoretically based on all prosecuting attorneys' payroll. However, member contributions are only made on payroll of those with less than 22 years of service, while the employer contributions are based upon a direct legislative allocation determined from estimated total payroll. Consequently, the actual funding requirements are adjusted to reflect only the pay upon which member contributions are made. While this approach may make the presentation of results more complicated and not directly comparable to other plans, it nonetheless produces an amount that will, if contributed, systematically fund the Plan through time.

See Table 10 of this report for the detailed development of the contribution amounts which are summarized in the following table:

	June 30, 2017	June 30, 2018
Normal Cost	8.27%	9.22%
UAAL Amortization	13.59%	15.99%
Total Recommended Contribution	21.86%	25.21%
Estimated Member Contributions	(5.60%)	(6.00%)
Actuarially Determined Contribution Rate	16.26%	19.21%
Estimated Payroll	$ 23,540,023	$ 22,031,333
Estimated Contribution Amount	$ 2,916,000	$ 4,232,219

Because the funding of the plan is largely based on payroll, the Actuarially Determined Contribution for FY 2021 can be assumed to be 4.0% higher than the FY 2020 rate shown above in the June 30, 2018 valuation, or $4,401,508.

SUMMARY OF PRINCIPAL RESULTS

	June 30, 2016	June 30, 2017	June 30, 2018
MEMBERSHIP			
Active Members	198	209	209
Retired Members and Beneficiaries	131	136	143
Disabled Members	2	2	2
Inactive Members	251	225	221
Total Members	582	572	575
Projected Annual Salaries of Active Members	$ 22,226,846	$ 23,540,023	$ 22,031,333
Annual Retirement Payments for Retired Members, Disabled Members and Beneficiaries	$ 3,332,424	$ 3,474,221	$ 3,748,659
ASSETS AND LIABILITIES			
Net Assets			
Market Value of Assets (MVA)	$ 52,791,683	$ 55,575,347	$ 61,019,100
Actuarial Value of Assets (AVA)	56,472,052	57,967,634	61,664,469
Actuarial Accrued Liability (AAL)	85,033,204	96,655,305	103,283,935
Unfunded Actuarial Accrued Liability (UAAL): AAL - AVA	$ 28,561,152	$ 38,687,671	$ 41,619,466
Funded Ratios			
AVA / AAL	66.41%	59.97%	59.70%
MVA / AAL	62.08%	57.50%	59.08%
CONTRIBUTIONS			
Normal Cost Rate	7.42%	8.27%	9.22%
UAAL Rate	10.25%	13.59%	15.99%
Total Recommended Contribution Rate	17.67%	21.86%	25.21%
Expected Employee Contribution Rate [1]	(5.93%)	(5.60%)	(6.00%)
Actuarially Determined Contribution Rate	11.74%	16.26%	19.21%
Actuarially Determined Contribution Amount	$ 2,714,000	$ 2,916,000	$ 4,232,219

[1]Only active members with less than 22 years of service make contributions to the plan.

This report presents the actuarial valuation results of the Prosecuting Attorneys' Retirement 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 12 (in the GASB section) provides detail regarding the allocation of investments in the trust.

Actuarial Value of Assets

Neither the market value of assets, representing a "cash-out" value of plan assets, nor the book values of assets, representing the cost of investments, may 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	$ 52,791,683	$ 55,575,347
2. Receipts		
a. Member (Includes Purchased Service)	$ 1,357,689	$ 1,294,661
b. Employer	1,485,700	3,013,800
c. Total	$ 2,843,389	$ 4,308,461
3. Expenditures		
a. Benefit Payments	$ 3,623,534	$ 3,852,692
b. Refund of Contributions	445,314	142,076
c. Administrative Expense	157,450	87,666
d. Total	$ 4,226,298	$ 4,082,434
4. Investment Return		
a. Investment Income	$ 4,161,211	$ 5,209,821
b. Securities Lending Income	5,362	7,905
c. Total Investment Return	$ 4,166,573	$ 5,217,726
5. Market Value of Assets, End of Year: (1) + (2c) - (3d) + (4c)	$ 55,575,347	$ 61,019,100
6. Rate of Return, Net of Expenses[1]	7.68%	9.20%

[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				$	55,575,347
2. Receipts				$	4,308,461
3. Expenditures, Net of Administrative Expenses				$	(3,994,768)
4. Expected Return on Assets [1]				$	3,761,923
5. Expected Market Value as of June 30, 2018: (1) + (2) + (3) + (4)				$	59,650,963
6. Actual Market Value as of June 30, 2018				$	61,019,100
7. Year End 2018 Asset Gain/(Loss): (6) - (5)				$	1,368,137
8. Deferred Investment Gains and Losses					
	Year Ended June 30:	Gain/(Loss)	Factor		Deferred Amount
	a. 2015	$ (3,809,894)	20%	$	(761,979)
	b. 2016	(3,175,316)	40%		(1,270,126)
	c. 2017	487,044	60%		292,226
	d. 2018	1,368,137	80%		1,094,510
	e. Total			$	(645,369)
9. Initial Actuarial Value as of June 30, 2018: (6) - (8e)				$	61,664,469
10. Constraining Values					
a. 80% of Market Value: (6) x 0.8				$	48,815,280
b. 120% of Market Value: (6) x 1.2				$	73,222,920
11. Actuarial Value as of June 30, 2018				$	61,664,469
12. Actuarial Rate of Return, Net of Expenses [2]					5.82%
13. Actuarial Value of Assets as a Percent of Market Value: (11) / (6)					101.1%

[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 Prosecuting Attorneys' Retirement 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 Prosecuting Attorneys' Retirement 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 the expectation that all actuarial assumptions are met during the intervening year, there will, of course, be many of the assumptions that are not 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 that would affect the results occur, we would make adjustments in the roll-forward methods to compensate.

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 do 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 Entry Age Normal actuarial cost method is used to develop the actuarial accrued liability.

TABLE 3

ACTUARIAL ACCRUED LIABILITY

		As of June 30, 2018
1. Actuarial Accrued Liability		
a. Member Contribution Balances	$	27,619,671
b. Active & Inactive Members		36,630,239
c. In-pay Members		39,034,025
d. Total		103,283,935
2. Actuarial Value of Assets		61,664,469
3. Unfunded Actuarial Accrued Liability: (1d) – (2)		41,619,466
4. Funded Ratio: (2) / (1d)		59.70%

TABLE 4

SOLVENCY TEST

	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
2018	$27,620	$39,034	$36,630	$103,284	$61,664	100.0%	87.2%	0.0%	59.7%
2017	26,327	38,504	31,824	96,655	57,967	100.0	82.2	0.0	60.0
2016	26,206	37,709	21,118	85,033	56,472	100.0	80.3	0.0	66.4
2015	25,479	26,636	25,746	77,861	54,848	100.0	100.0	10.6	70.4
2014	26,654	22,665	16,017	65,336	52,936	100.0	100.0	22.6	81.0
2013	25,371	22,004	14,565	61,940	48,762	100.0	100.0	9.5	78.7
2012	23,406	18,660	14,014	56,080	27,501	100.0	21.9	0.0	49.0
2011	21,592	16,806	14,854	53,252	25,651	100.0	24.2	0.0	48.2
2010	20,999	12,557	15,618	49,174	26,166	100.0	41.1	0.0	53.2
2009	19,239	10,384	15,009	44,632	26,467	100.0	69.6	0.0	59.3

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	$	38,687,671
2. Normal Cost		1,947,022
3. Actuarially Determined Contribution		(5,146,078)
4. Interest		2,395,481
5. Expected Unfunded Actuarial Accrued Liability as of June 30, 2018	$	37,884,096
6. Actuarial Value of Asset Changes		
a. Investment Experience (Gain)/Loss	$	540,260
b. Contributions Above the Actuarially Determined Contribution	$	1,039,568
7. Actuarial Accrued Liability Changes		
a. Actuarial Accrued Liability Experience (Gain)/Loss	$	918,987
b. Additional Liability Due to Benefit Changes		0
c. Additional Liability Due to Assumption Changes		0
d. Additional Liability Due to Actuarial Firm Change		1,236,555
8. Total Experience (Gain)/Loss	$	3,735,370
9. Unfunded Actuarial Accrued Liability as of June 30, 2018: (5) + (8)	$	41,619,466

TABLE 6

ACTUARIAL GAIN/(LOSS)

Liabilities		
1. Actuarial Accrued Liability as of June 30, 2017	$	96,655,305
2. Normal Cost for Plan Year Ending June 30, 2018		1,947,022
3. Benefit Payments During Plan Year[1]		(3,994,768)
4. Service Purchases (employee and employer)		0
5. Interest at 6.75%		6,520,834
6. Change Due to Benefit Changes		0
7. Change Due to Assumption Changes		0
8. Change Due to Actuarial Firm Change		1,236,555
9. Expected Actuarial Accrued Liability as of June 30, 2018	$	102,364,948
10. Actuarial Accrued Liability as of June 30, 2018	$	103,283,935

Assets		
11. Actuarial Value of Assets as of June 30, 2017	$	57,967,634
12. Receipts During Plan Year		4,308,461
13. Expenditures, Excluding Expenses, During Plan Year		(3,994,768)
14. Interest at 6.75%		3,923,402
15. Expected Actuarial Value of Assets as of June 30, 2018	$	62,204,729
16. Actuarial Value of Assets as of June 30, 2018	$	61,664,469

Experience Gain / (Loss)		
17. Liability Actuarial Experience Gain/(Loss): (9) - (10)	$	(918,987)
18. Asset Actuarial Experience Gain/(Loss): (16) - (15)	$	(540,260)
19. Total Actuarial Experience Gain/(Loss): (17) + (18)	$	(1,459,247)

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

TABLE 7

EXPERIENCE GAIN/(LOSS) ANALYSIS BY SOURCE

Liability Sources		Gain/(Loss)
Retirement	$	(631,000)
Termination		(491,000)
Disability		86,000
Mortality		46,000
Salary		1,186,000
New Entrants/Rehires		(207,000)
Miscellaneous		(908,000)
Total Liability Experience Gain/(Loss)	$	(919,000)
as a % of AAL		(0.9%)
Asset Experience Gain/(Loss)	$	(540,000)
Total Actuarial Experience Gain/(Loss)	$	(1,459,000)

TABLE 8

PROJECTED BENEFIT PAYMENTS

Plan Year Ending June 30	Benefit Amount
2019	$ 5,222,051
2020	5,601,066
2021	5,884,515
2022	6,246,426
2023	6,287,923
2024	6,621,868
2025	6,786,767
2026	6,867,182
2027	7,183,391
2028	7,476,368
2029	7,756,615
2030	8,027,401
2031	8,457,984
2032	8,738,987
2033	9,012,220
2034	9,314,499
2035	9,571,025
2036	9,597,139
2037	9,637,163
2038	9,618,486
2039	9,651,201
2040	9,689,306
2041	9,654,332
2042	9,569,404
2043	9,456,302
2044	9,250,475
2045	9,030,716
2046	8,761,439
2047	8,527,039
2048	8,297,693

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 Entry Age Normal (EAN) actuarial cost method is used for the valuation. Under that method, the normal cost for each year from entry age to assumed exit age is a constant percentage of the member's year by year projected compensation. The portion of the present value of future benefits not provided by the present value of future normal costs is the actuarial accrued liability. 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.

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. The contribution amount based on the June 30, 2018 actuarial valuation will be used to determine the actuarially determined employer contribution for the Prosecuting Attorneys' Retirement Fund for the plan years ending June 30, 2020 and June 30, 2021.

Contribution Summary

In Table 9, the amortization payment related to the unfunded actuarial accrued liability/(surplus), as of June 30, 2018, is developed. Table 10 develops the actuarial determined 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 11 the contribution rates under alternative discount rates are provided to illustrate the sensitivity of the contribution requirements to the selection of the investment return assumption.

TABLE 9

SCHEDULE OF AMORTIZATION BASES

Amortization Bases	Original Amount [1]	June 30, 2018 Remaining Payments	Date of Last Payment		Outstanding Balance as of June 30, 2018		Annual Contribution
2009 UAAL Base	6,201,136	19	7/1/2037		5,251,910		467,121
2010 UAAL Base	1,736,351	22	7/1/2040		1,540,874		127,802
2011 UAAL Base	1,680,350	23	7/1/2041		1,520,569		123,680
2012 UAAL Base	463,047	24	7/1/2042		426,603		34,082
2013 UAAL Base	3,556,575	25	7/1/2043		3,331,242		261,778
2014 UAAL Base	(584,092)	26	7/1/2044		(555,486)		(42,991)
2015 UAAL Base	10,811,874	27	7/1/2045		10,427,955		795,796
2016 UAAL Base	5,882,037	18	7/1/2036		5,577,199		510,052
2017 UAAL Base	10,629,681	19	7/1/2037		10,363,230		921,737
2018 UAAL Base	3,735,370	20	7/1/2038		3,735,370		323,907
Total				$	41,619,466	$	3,522,964

1. Total UAAL Amortization Payments	$	3,522,964
2. Projected Payroll for FY 2019, Under 22 Years of Service	$	22,031,333
3. UAAL Amortization Payment Rate		15.99%
4. Remaining Amortization Period in Years (Weighted)[2]		21.4

[1] The original amounts from 2017 to 2013 were provided by the prior actuary. Amounts prior to that were estimated by INPRS.
[2] 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

ACTUARIAL REQUIRED CONTRIBUTION RATE

1. Projected Covered Payroll for FY 2019	$	22,031,333
2. Normal Cost Rate as of June 30, 2017		
a. Dollar Amount	$	2,031,234
b. Percent of Total Pay		8.35%
c. Percent of Covered Pay [1]		9.22%
3. Amortization of UAAL as of June 30, 2018		
a. Dollar Amount	$	3,522,964
b. Percent of Projected Pay		15.99%
4. Total Recommended Contribution Rate: (2) + (3b)		25.21%
5. Expected Employee Contribution Rate		
a. Dollar Amount	$	1,321,880
b. Percent of Covered Pay [1]		6.00%
6. Actuarially Determined Contribution Rate: (4) - (5)		19.21%
7. Estimated Actuarially Determined Contribution Amount [2]: (1) x (6)	$	4,232,219
8. Approved Funding Amount for FY 2019	$	3,215,600
9. Expected Percentage of Actuarially Determined Contribution Contributed		75.98%

[1] Active members with less than 22 years of service make 6% contributions.
[2] Used to assist with the determination of the FY 2020 and FY 2021 approved funding amounts.

TABLE 11

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	$116,309,221	$112,806,206	$109,474,450	$106,303,576	$103,283,935
Actuarial Value of Assets	61,664,469	61,664,469	61,664,469	61,664,469	61,664,469
Unfunded Actuarial Accrued Liability	$54,644,752	$51,141,737	$47,809,981	$44,639,107	$41,619,466
Funded Ratio	53.0%	54.7%	56.3%	58.0%	59.7%
Actuarially Determined Contribution Amount					
Normal Cost	$2,312,965	$2,186,574	$2,069,123	$1,959,907	$1,858,282
UAAL Amortization	4,322,607	4,116,207	3,914,280	3,716,605	3,522,964
Actuarially Determined Contribution Amount	$6,635,572	$6,302,781	$5,983,403	$5,676,512	$5,381,246
Actuarially Determined Contribution Rate	30.12%	28.61%	27.16%	25.77%	25.21%

	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	$100,406,548	$97,663,055	$95,045,666	$92,547,121	$90,160,641
Actuarial Value of Assets	61,664,469	61,664,469	61,664,469	61,664,469	61,664,469
Unfunded Actuarial Accrued Liability	$38,742,079	$35,998,586	$33,381,197	$30,882,652	$28,496,172
Funded Ratio	61.4%	63.1%	64.9%	66.6%	68.4%
Actuarially Determined Contribution Amount					
Normal Cost	$1,763,658	$1,675,495	$1,593,299	$1,516,617	$1,445,032
UAAL Amortization	3,333,160	3,147,000	2,964,312	2,784,922	2,608,677
Actuarially Determined Contribution Amount	$5,096,818	$4,822,495	$4,557,611	$4,301,539	$4,053,709
Actuarially Determined Contribution Rate	23.13%	21.89%	20.69%	19.52%	18.40%

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 all the required calculations, presented in the order set out in 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 12

STATEMENT OF FIDUCIARY NET POSITION

			June 30, 2018
1. Assets			
a. Cash		$	2,212
b. Receivables			
i.	Contributions and Miscellaneous Receivables	$	20,537
ii.	Investments Receivable		454,602
iii.	Foreign Exchange Contracts Receivable		17,723,854
iv.	Interest and Dividends		159,992
v.	Receivables Due From Other Funds		0
vi.	Total Receivables	$	18,358,985
c. Investments			
i.	Short-Term Investments	$	0
ii.	Pooled Repurchase Agreements		7,786
iii.	Pooled Short-Term Investments		2,728,707
iv.	Pooled Fixed Income		20,779,307
v.	Pooled Equity		13,712,337
vi.	Pooled Alternative Investments		24,789,959
vii.	Pooled Derivatives		49,257
viii.	Pooled Investments		0
ix.	Securities Lending Collateral		660,321
x.	Total Investments	$	62,727,674
d. Net Capital Assets			0
e. Other Assets			0
f. Total Assets: a + b(vi) + c(x) + d + e		$	81,088,871
2. Liabilities			
a. Administrative Payable		$	3,382
b. Retirement Benefits Payable			35,228
c. Investments Payable			1,024,428
d. Foreign Exchange Contracts Payable			17,684,373
e. Securities Lending Obligations			660,321
f. Securities Sold Under Agreement to Repurchase			640,522
g. Due To Other Funds			21,517
h. Due to Other Governments			0
i. Total Liabilities: a + b + c + d + e + f + g + h		$	20,069,771
3. Fiduciary Net Position Restricted for Pensions: (1)(f) - (2)(i)		**$**	**61,019,100**

TABLE 13

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION

			For Fiscal Year Ending June 30, 2018
1. Fiduciary Net Position as of June 30, 2017		**$**	**55,575,347**
2. Additions			
a. Contributions			
i.	Member Contributions		1,294,661
ii.	Employer Contributions		3,013,800
iii.	Service Purchases (Employer and Member)		0
iv.	Non-Employer Contributing Entity Contributions		0
v.	Total Contributions	$	4,308,461
b. Investment Income/(Loss)			
i.	Net Appreciation/(Depreciation)	$	4,780,314
ii.	Net Interest and Dividend Income		827,437
iii.	Securities Lending Income		9,651
iv.	Other Net Investment Income		3,274
v.	Investment Management Expenses		(376,756)
vi.	Direct Investment Expenses		(24,448)
vii.	Securities Lending Expenses		(1,745)
viii.	Total Investment Income/(Loss)	$	5,217,727
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)		$	9,526,188
3. Deductions			
a. Pension, Survivor and Disability Benefits		$	3,852,692
b. Death and Funeral Benefits			0
c. Distributions of Contributions and Interest			142,076
d. Administrative Expenses			87,667
e. Member Reassignments			0
f. Miscellaneous Expenses			0
g. Total Expenses (Deductions)		$	4,082,435
4. Net Increase (Decrease) in Fiduciary Net Position: (2)(d) - (3)(g)		**$**	**5,443,753**
5. Fiduciary Net Position as of June 30, 2018: (1) + (4)		**$**	**61,019,100**

TABLE 14

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	$ 96,655,305	$ 55,575,347	$ 41,079,958
2. Changes for the Year:			
Service Cost (SC) [1]	1,947,022		1,947,022
Interest Cost	6,520,834		6,520,834
Experience (Gains)/Losses	2,155,542		2,155,542
Assumption Changes	0		0
Plan Amendments	0		0
Benefit Payments [2]	(3,994,768)	(3,994,768)	0
Service Purchases			
Employer Contributions	0	0	0
Employee Contributions	0	0	0
Member Reassignments	0	0	0
Employer Contributions		3,013,800	(3,013,800)
Non-employer Contributions		0	0
Employee Contributions		1,294,661	(1,294,661)
Net Investment Income		5,217,727	(5,217,727)
Administrative Expenses		(87,667)	87,667
Other		0	0
Net Changes	$ 6,628,630	$ 5,443,753	$ 1,184,877
3. Balance at June 30, 2018	$ 103,283,935	$ 61,019,100	$ 42,264,835

[1] Service cost provided as of beginning of year. Interest to end of year is included in the interest cost.
[2] Includes refund of member contributions of $142,076.

TABLE 15

DEFERRED OUTFLOWS OF RESOURCES

	June 30, 2017	Remaining Period	Recognition	June 30, 2018
1. Liability Experience				
June 30, 2018 Loss	$ 2,155,542	2.02	$ 1,067,100	$ 1,088,442
June 30, 2017 Loss	1,008,077	1.02	988,312	19,765
June 30, 2016 Loss	79,569	0.04	79,569	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	2.02	$ 0	$ 0
June 30, 2017 Loss	0	1.02	0	0
June 30, 2016 Loss	0	0.04	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	1,789,688	3.00	596,563	1,193,125
June 30, 2015 Loss	1,633,192	2.00	816,595	816,597
June 30, 2014 Loss	0	1.00	0	0
Total Outflows: (1)+(2)+(3)	**$ 6,666,068**		**$ 3,548,139**	**$ 3,117,929**

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 16

DEFERRED INFLOWS OF RESOURCES

	June 30, 2017	Remaining Period	Recognition	June 30, 2018
1. Liability Experience				
June 30, 2018 Gain	$ 0	2.02	$ 0	$ 0
June 30, 2017 Gain	0	1.02	0	0
June 30, 2016 Gain	0	0.04	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	$ 0	2.02	$ 0	$ 0
June 30, 2017 Gain	108,967	1.02	106,831	2,136
June 30, 2016 Gain	0	0.04	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	$ 1,458,763	5.00	$ 291,753	$ 1,167,010
June 30, 2017 Gain	515,595	4.00	128,899	386,696
June 30, 2016 Gain	0	3.00	0	0
June 30, 2015 Gain	0	2.00	0	0
June 30, 2014 Gain	590,644	1.00	590,644	0
Total Inflows: (1)+(2)+(3)	**$ 2,673,969**		**$ 1,118,127**	**$ 1,555,842**

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 / OUTFLOWS TO BE RECOGNIZED IN PENSION EXPENSE

Fiscal Year Ending June 30	Deferred Outflows	Deferred Inflows	Net Deferred Outflows/(Inflows)
Current Year:			
2018	$ 3,548,139	$ 1,118,127	$ 2,430,012
Future Years:			
2019	$ 2,500,023	$ 422,788	$ 2,077,235
2020	617,906	420,652	197,254
2021	0	420,651	(420,651)
2022	0	291,751	(291,751)
2023	0	0	0
Thereafter	0	0	0

TABLE 18

PENSION EXPENSE UNDER GASB NO. 68

		For Fiscal Year Ending June 30, 2018	
1. Service Cost, beginning of year		$	1,947,022
2. Interest Cost, including interest on service cost			6,520,834
3. Member Contributions			(1,294,661)
4. Administrative Expenses			87,667
5. Expected Return on Assets [1]			(3,758,964)
6. Plan Amendments			0
7. Recognition of Deferred Inflows / Outflows of Resources Related to:			
a. Liability Experience (Gains) / Losses	2,134,981		
b. Assumption Change (Gains) / Losses	(106,831)		
c. Investment Experience (Gains) / Losses	401,862		
d. Total: (7a)+(7b)+(7c)			2,430,012
8. Miscellaneous (Income) / Expense			0
9. Total Collective Pension Expense: (1)+(2)+(3)+(4)+(5)+(6)+(7d)+(8)			5,931,910
10. Employer Service Purchases			0
Pension Expense / (Income): (9) + (10)		**$**	**5,931,910**

[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.

Actuarial Assumptions and Inputs

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

Type of Plan	The Prosecuting Attorneys' Retirement Fund is a single-employer plan for GASB accounting purposes.
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	4.00%
Cost-of-Living Increases	None.
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 and projected covered member payroll. The June 30, 2018 actuarial valuation assumes a long-term rate of return on assets of 6.75%, a 20-year level dollar closed method for amortizing the future layers of unfunded actuarial accrued liability (30 years for amortization layers established prior to June 30, 2016), and a 5-year smoothing method for recognizing investment gains and losses in the actuarial value of assets.

Discount Rate Sensitivity

	1% Decrease 5.75%	Current Rate 6.75%	1% Increase 7.75%
Net Pension Liability	$55,290,121	$42,264,835	$31,528,021

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	145
2. Inactive Members Entitled To But Not Yet Receiving Benefits	87
3. Inactive Non-vested Members Entitled to a Refund of Member Contributions	134
4. Active Members	209
Total Covered Plan Members: (1)+(2)+(3)+(4)	575

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 9.3%.

Components of Net Pension Liability

As of June 30, 2018		
Total Pension Liability	$	103,283,935
Fiduciary Net Position		61,019,100
Net Pension Liability	$	42,264,835
Ratio of Fiduciary Net Position to Total Pension Liability		59.08%

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	$56,079,955	$61,940,389	$65,336,440	$77,860,653	$85,033,204	$96,655,305
Service Cost (SC), beginning-of-year	1,568,461	1,586,626	1,602,704	1,625,509	1,649,825	1,947,022
Interest Cost, including interest on SC	3,815,835	4,207,150	4,408,568	5,238,761	5,713,781	6,520,834
Experience (Gains)/Losses	1,473,837	0	4,550,500	4,058,049	1,996,389	2,155,542
Assumption Changes	(108,430)	0	5,216,488	0	(215,798)	0
Plan Amendments	1,345,781	0	0	0	6,546,752	0
Actual Benefit Payments	(2,235,050)	(2,397,725)	(3,254,047)	(3,746,129)	(4,068,848)	(3,994,768)
Member Reassignments	0	0	0	0	0	0
Service Purchases	0	0	0	(3,639)	0	0
Net Change in Total Pension Liability	5,860,434	3,396,051	12,524,213	7,172,551	11,622,101	6,628,630
(a) Total Pension Liability - ending	$61,940,389	$65,336,440	$77,860,653	$85,033,204	$96,655,305	$103,283,935
Plan Fiduciary Net Position						
Plan Fiduciary Net Position – beginning	$27,690,288	$47,919,739	$54,507,492	$53,423,166	$52,791,683	$55,575,347
Contributions – employer	19,443,392	1,173,800	1,062,800	1,439,900	1,485,700	3,013,800
Contributions – non-employer	0	0	0	0	0	0
Contributions – member	1,271,481	1,333,635	1,268,695	1,278,678	1,357,689	1,294,661
Net investment income	1,894,508	6,583,284	(34,881)	588,570	4,166,573	5,217,727
Actual benefit payments	(2,235,050)	(2,397,725)	(3,254,047)	(3,746,129)	(4,068,848)	(3,994,768)
Net member reassignments	0	0	0	0	0	0
Administrative expense	(144,880)	(105,241)	(126,893)	(192,502)	(157,450)	(87,667)
Other	0	0	0	0	0	0
Net change in Plan Fiduciary Net Position	20,229,451	6,587,753	(1,084,326)	(631,483)	2,783,664	5,443,753
(b) Plan Fiduciary Net Position - ending	$47,919,739	$54,507,492	$53,423,166	$52,791,683	$55,575,347	$61,019,100
Net Pension Liability - ending, (a) - (b)	$14,020,650	$10,828,948	$24,437,487	$32,241,521	$41,079,958	$42,264,835

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	$61,940,389	$65,336,440	$77,860,653	$85,033,204	$96,655,305	$103,283,935
Plan Fiduciary Net Position	47,919,739	54,507,492	53,423,166	52,791,683	55,575,347	61,019,100
Net Pension Liability	$14,020,650	$10,828,948	$24,437,487	$32,241,521	$41,079,958	$42,264,835
Ratio of Plan Fiduciary Net Position to Total Pension Liability	77.36%	83.43%	68.61%	62.08%	57.50%	59.08%
Covered-employee payroll [1]	$18,805,255	$20,607,596	$21,144,991	$21,371,967	$22,634,637	$21,578,191
Net Pension Liability as a percentage of covered-employee payroll	74.56%	52.55%	115.57%	150.86%	181.49%	195.87%

[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]	$2,542,470	$2,345,144	$1,418,829	$1,380,629	$2,148,027	$2,533,280
Actual employer contributions	$19,443,392	$1,173,800	$1,062,800	$1,439,900	$1,485,700	$3,013,800
Annual contribution (deficiency) / excess	$16,900,922	($1,171,344)	($356,029)	$59,271	($662,327)	$480,520
Covered-employee payroll [2]	$18,805,255	$20,607,596	$21,144,991	$21,371,967	$22,634,637	$21,578,191
Actual contributions as a percentage of covered-employee payroll	103.39%	5.70%	5.03%	6.74%	6.56%	13.97%

[1] Actuarially determined contribution rate was developed in the actuarial funding valuation completed one year prior to the fiscal year. This rate was applied to the actual covered employee payroll for the fiscal year to determine the contribution amount.
[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	9.3%
2017	7.9%
2016	1.1%
2015	(0.1%)
2014	13.7%
2013	4.8%

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

	Active Members	Inactive Vested	Inactive Nonvested	Disabled	Retired	Beneficiary	Total
1. As of June 30, 2016	**209**	**80**	**145**	**2**	**123**	**13**	**572**
2. Data Adjustments							
New Participants	19	0	0	0	0	0	19
Rehires	3	(2)	(1)	0	0	0	0
Terminations:							
Not Vested	(7)	0	7	0	0	0	0
Deferred Vested	(8)	8	0	0	0	0	0
Disability	0	0	0	0	0	0	0
Retirements	(6)	(3)	0	0	9	0	0
Refund / Benefits Ended	(1)	0	(15)	0	0	0	(16)
Deaths:							
With Beneficiary	0	0	0	0	(2)	2	0
Without Beneficiary	0	0	0	0	(1)	0	(1)
Entitled to Future Benefit	0	0	0	0	0	0	0
Data Corrections	0	4	(2)	0	0	(1)	1
Net Change	0	7	(11)	0	6	1	3
3. As of June 30, 2017 [1]	**209**	**87**	**134**	**2**	**129**	**14**	**575**

[1] The valuation results were calculated using the prior year's census data and were adjusted for certain activity during fiscal year.

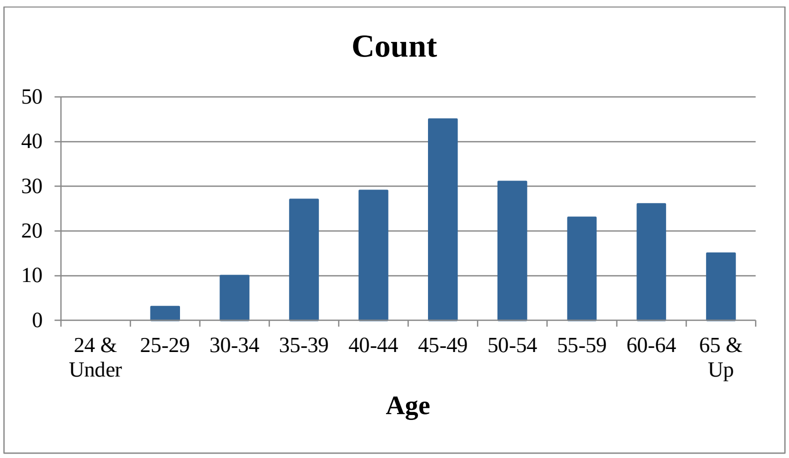
SUMMARY OF MEMBERSHIP DATA

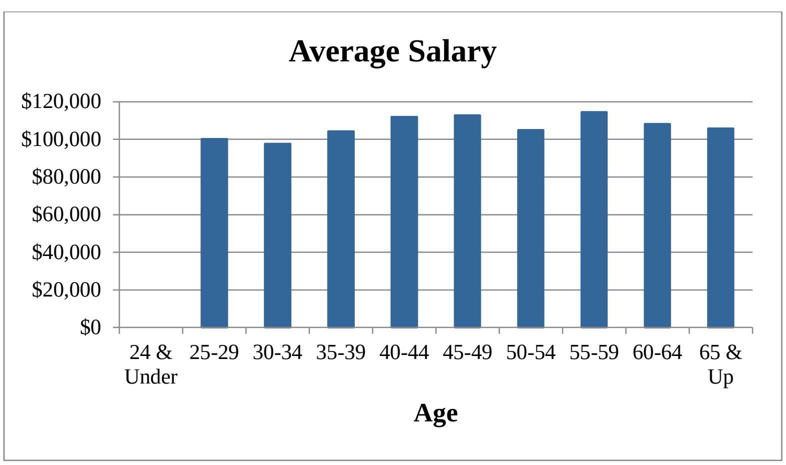
	June 30, 2017	June 30, 2018	% Change
Date of Membership Data [1]	June 30, 2016	June 30, 2017	
ACTIVE MEMBERS			
Number of Active Members	209	209	0.0%
Annual Membership Data Salary	22,797,320	22,703,504	(0.4%)
Anticipated Covered Pay for Next Fiscal Year [2]	23,540,023	22,031,333	(6.4%)
Active Member Averages			
Age	49.1	49.2	0.1%
Service	10.4	10.5	0.6%
Annual Membership Data Salary	$ 109,078	$ 108,629	(0.4%)
INACTIVE MEMBERS			
Number of Members			
Inactive Vested	87	87	0.0%
Inactive Non-Vested	138	134	(2.9%)
Total	225	221	(1.8%)
Inactive Vested Member Averages			
Age	56.2	56.7	0.8%
Service	13.3	13.7	3.3%
RETIREES, DISABLEDS, AND BENEFICIARIES			
Number of Members			
Retired	123	129	4.9%
Disabled	2	2	0.0%
Beneficiaries	13	14	7.7%
Total	138	145	5.1%
Annual Benefits			
Retired	$ N/A	$ 3,499,477	N/A
Disabled	N/A	97,313	N/A
Beneficiaries	N/A	151,869	N/A
Total	$ 3,474,221	$ 3,748,659	7.9%

[1] The valuation results were calculated using the prior year's census data and were adjusted for certain activity during fiscal year.
[2] Actual pay for contributing members with less than 22 years of service for the fiscal year ending on the valuation date, rolled forward at the known pay increase of 2.1%.

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

	Count of Members			FY 2017 Annual Membership Data Salary		
Age	Male	Female	Total	Male	Female	Total
24 & Under	0	0	0	$ 0	$ 0	$ 0
25-29	3	0	3	300,757	0	300,757
30-34	5	5	10	597,452	379,235	976,687
35-39	23	4	27	2,393,182	421,028	2,814,211
40-44	24	5	29	2,728,790	516,109	3,244,899
45-49	32	13	45	3,612,929	1,461,847	5,074,776
50-54	21	10	31	2,223,373	1,032,698	3,256,071
55-59	20	3	23	2,387,102	247,992	2,635,094
60-64	22	4	26	2,395,279	418,861	2,814,140
65 & Up	15	0	15	1,586,869	0	1,586,869
Total	165	44	209	$ 18,225,734	$ 4,477,770	$ 22,703,504



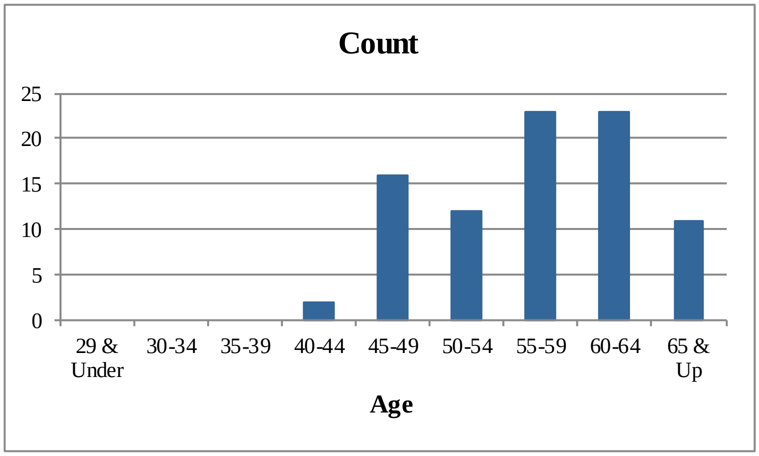


AGE AND SERVICE DISTRIBUTION
As of June 30, 2017 for the June 30, 2018 Valuation

Age		0-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34	Total
24 & Under	Number	0	0	0	0	0	0	0	0	0
	Total Salary	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
	Average Sal.	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
25-29	Number	3	0	0	0	0	0	0	0	3
	Total Salary	$ 300,757	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 300,757
	Average Sal.	$ 100,252	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 100,252
30-34	Number	7	3	0	0	0	0	0	0	10
	Total Salary	$ 625,244	$ 351,442	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 976,687
	Average Sal.	$ 89,321	$ 117,147	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 97,669
35-39	Number	16	8	3	0	0	0	0	0	27
	Total Salary	$ 1,654,449	$ 913,048	$ 246,713	$ 0	$ 0	$ 0	$ 0	$ 0	$ 2,814,211
	Average Sal.	$ 103,403	$ 114,131	$ 82,238	$ 0	$ 0	$ 0	$ 0	$ 0	$ 104,230
40-44	Number	11	10	8	0	0	0	0	0	29
	Total Salary	$ 1,140,975	$ 1,104,327	$ 999,598	$ 0	$ 0	$ 0	$ 0	$ 0	$ 3,244,899
	Average Sal.	$ 103,725	$ 110,433	$ 124,950	$ 0	$ 0	$ 0	$ 0	$ 0	$ 111,893
45-49	Number	12	10	17	6	0	0	0	0	45
	Total Salary	$ 1,251,071	$ 1,039,553	$ 2,011,680	$ 772,472	$ 0	$ 0	$ 0	$ 0	$ 5,074,776
	Average Sal.	$ 104,256	$ 103,955	$ 118,334	$ 128,745	$ 0	$ 0	$ 0	$ 0	$ 112,773
50-54	Number	6	9	7	5	4	0	0	0	31
	Total Salary	$ 577,536	$ 1,018,481	$ 779,783	$ 596,750	$ 283,522	$ 0	$ 0	$ 0	$ 3,256,071
	Average Sal.	$ 96,256	$ 113,165	$ 111,398	$ 119,350	$ 70,880	$ 0	$ 0	$ 0	$ 105,035
55-59	Number	3	2	4	7	7	0	0	0	23
	Total Salary	$ 386,587	$ 153,932	$ 456,173	$ 775,156	$ 863,245	$ 0	$ 0	$ 0	$ 2,635,094
	Average Sal.	$ 128,862	$ 76,966	$ 114,043	$ 110,737	$ 123,321	$ 0	$ 0	$ 0	$ 114,569
60-64	Number	3	2	8	2	11	0	0	0	26
	Total Salary	$ 265,248	$ 281,155	$ 850,491	$ 281,155	$ 1,136,091	$ 0	$ 0	$ 0	$ 2,814,140
	Average Sal.	$ 88,416	$ 140,577	$ 106,311	$ 140,577	$ 103,281	$ 0	$ 0	$ 0	$ 108,236
65 & Up	Number	0	3	6	2	4	0	0	0	15
	Total Salary	$ 0	$ 329,936	$ 660,712	$ 246,010	$ 350,211	$ 0	$ 0	$ 0	$ 1,586,869
	Average Sal.	$ 0	$ 109,979	$ 110,119	$ 123,005	$ 87,553	$ 0	$ 0	$ 0	$ 105,791
Total	Number	61	47	53	22	26	0	0	0	209
	Total Salary	$ 6,201,868	$ 5,191,873	$ 6,005,150	$ 2,671,543	$ 2,633,069	$ 0	$ 0	$ 0	$ 22,703,504
	Average Sal.	$ 101,670	$ 110,465	$ 113,305	$ 121,434	$ 101,272	$ 0	$ 0	$ 0	$ 108,629

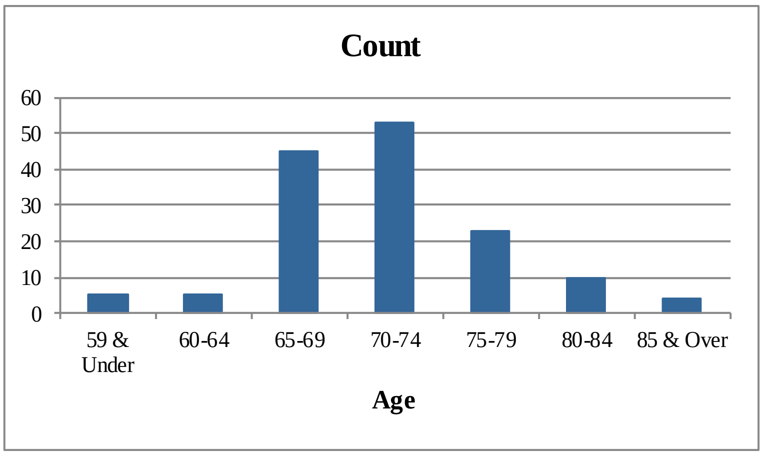
INACTIVE VESTED MEMBERS
As of June 30, 2017 for the June 30, 2018 Valuation

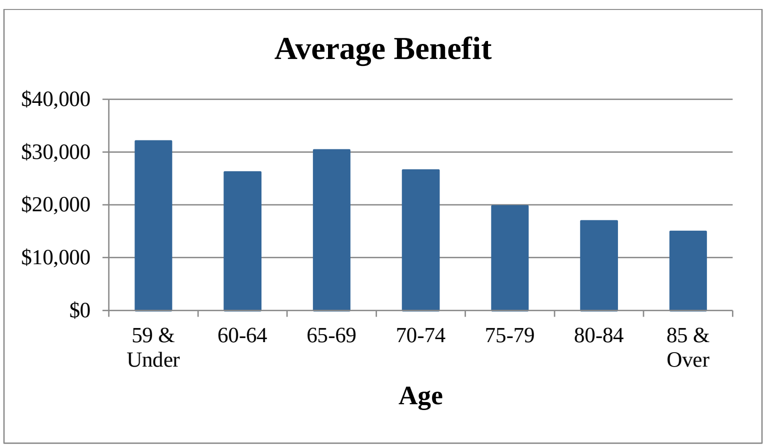
	Count of Members		
Age	Male	Female	Total
29 & Under	0	0	0
30-34	0	0	0
35-39	0	0	0
40-44	2	0	2
45-49	15	1	16
50-54	7	5	12
55-59	21	2	23
60-64	17	6	23
65 & Up	9	2	11
Total	71	16	87



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
59 & Under	3	2	5	$ 129,454	$ 31,008	$ 160,462
60-64	3	2	5	102,708	28,284	130,993
65-69	38	7	45	1,186,544	179,834	1,366,379
70-74	47	6	53	1,282,542	124,946	1,407,488
75-79	21	2	23	447,462	7,217	454,679
80-84	7	3	10	143,785	25,212	168,997
85 & Over	2	2	4	34,387	25,275	59,662
Total	121	24	145	$ 3,326,883	$ 421,776	$ 3,748,659





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	$1,277	$1,802	$2,202	$2,651	$2,977	$2,307	$2,154
Average Final Average Salary	$69,684	$71,503	$81,176	$92,089	$108,040	$124,231	$83,440
Number of Benefit Recipients	9	51	36	27	11	11	145

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	6	3	0	9
501 - 1,000	17	6	0	23
1,001 - 1,500	23	3	0	26
1,501 - 2,000	15	2	1	18
2,001 - 2,500	16	0	0	16
2,501 - 3,000	17	0	0	17
Over 3,000	35	0	1	36
Total	129	14	2	145

[1] Calculated using the prior year census data, adjusted for certain activity during the fiscal year.

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

	Added to Rolls		Removed from Rolls		Rolls - End of Year				
	Number	Annual Benefits [1]	Number	Annual Benefits [1]	Number	Total Annual Benefits [1, 2]	Percent Change In Total Annual Benefits	Average Annual Benefit	Percent Change In Average Annual Benefit
2018 [3]	9	$307	2	$28	145	3,749	7.9%	25,853	2.7%
2017 [3]	5	140	0	0	138	3,474	4.3	25,176	0.5
2016 [3]	26	937	0	0	133	3,332	39.1	25,056	11.9
2015 [3]	14	319	2	14	107	2,395	14.0	22,385	1.2
2014 [3]	0	0	0	0	95	2,101	0.0	22,118	0.0
2013	15	362	1	27	95	2,101	18.7	22,118	1.2
2012	6	178	1	27	81	1,770	9.4	21,853	2.7
2011	19	473	1	16	76	1,618	34.7	21,288	2.8
2010	9	187	1	16	58	1,201	16.4	20,715	0.4
2009	26	536	2	26	50	1,032	97.8	20,636	2.8

[1] Annual benefit dollar amounts are in thousands.
[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 individuals serving as a prosecuting attorney or chief deputy prosecuting attorney in Indiana on or after January 1, 1990.
Earnings	Earnings is the highest annual salary attributable to service as a prosecuting attorney or chief deputy at the time of separation from service. The highest annual salary is the sum of the highest completed consecutive 12 months of salary paid to the member before retirement. It also includes the 6% contributions that are now picked up by the employer (effective in 2013). Amounts paid to a participant by a county or counties are not included.
Member contributions	Each member is required to contribute to the Fund at the rate of 6% of pay until completion of 22 year of service. These contributions are kept on deposit and credited with interest until such time as they are refunded or used to provide the annuity benefit at retirement.
PERF offset	The PERF offset is the actual PERF benefit amount the member is receiving for members who commence their PERF benefit before their PARF benefit.

Eligibility for Benefits

Deferred vested	8 or more years of creditable service and no longer active.
Disability retirement	Qualify for Social Security disability benefits or federal Civil Service disability benefits.
Early retirement	Age 62 with 8 or more years of creditable service.
Normal retirement	Earliest of: - Age 65 with 8 or more years of creditable service. - Age 55 with sum of age and creditable service equal to 85 or more.
Pre-retirement death	8 or more years of creditable service entitled to a future benefit.

Monthly Benefits Payable

Normal retirement

The normal retirement benefit is a monthly annuity payable for life with a 50% continuation (or $12,000 annually, if greater) to a surviving spouse or surviving dependent children. The benefit is equal to a percentage of earnings in accordance with the following table:

Years of Service	Percentage
Less than 8	0%
8	24%
9	27%
10	30%
11	33%
12	50%
13	51%
14	52%
15	53%
16	54%
17	55%
18	56%
19	57%
20	58%
21	59%
22 or more	60%

The percentages shown above are prorated for partial years of creditable service.

The benefit is reduced by the pension, if any, being paid from PERF (annuity payments from the ASA are not included in this calculation).

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 0.25% for each month that the benefit commencement date precedes the normal retirement date. The benefit is reduced by the pension, if any, being paid from PERF.

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. The benefit is reduced by the pension, if any, being paid from PERF.

Disability

The disability retirement benefit is payable for the duration of the disability commencing the month following disability date without reduction for early commencement. The amount of monthly benefit shall be equal to a percentage of the annual salary paid to the member at the time of separation from service in accordance with the following table:

Years of Service	Percentage
Less than 12	50%
12	50%
13	51%
14	52%
15	53%
16	54%
17	55%
18	56%
19	57%
20	58%
21	59%
22 or more	60%

The percentages shown above are prorated for partial years of creditable service.

The benefit is reduced by the pension, if any, being paid from PERF (annuity payments from the ASA are not included in this calculation).

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 (or $12,000 annually, if greater) under the assumption that the participant retired on the later of age 62 or the day before the date of death. The benefit is reduced by the pension, if any, being paid from PERF to the surviving spouse. Annuity payments from the ASA are not included in this calculation.

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. If the dependent child was named the beneficiary, once they are no longer entitled to the benefit, the spouse would receive the benefit for life.

Changes in Plan Provisions since the Prior Year – None.

ACTUARIAL METHODS

1. **Actuarial Cost Method**

   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.

   For funding, gains and losses occurring from census experience different than assumed, assumption changes, and benefit changes are amortized over a 20-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 20-year period (gain or loss bases established prior to June 30, 2016 were amortized over 30 years and will continue to be amortized over 30 -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.

   For accounting, 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. 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. **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.

3. **Anticipated Payroll**

   The anticipated payroll for the fiscal year following the valuation date is equal to the actual payroll during the year ending on the valuation date, increased with the actual pay adjustment as of the valuation date. The proportion of pay attributable to active members with more than 22 years of service is presumed constant.

4. **Employer Contribution Rate**

   Based on the assumptions and methods previously described, an actuarially determined contribution amount is computed for each employer. 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 (net of administrative and investment expenses)
2. Inflation	2.25% per year
3. Salary increase	4.00% per year
4. Interest on member balances	3.50% per year
5. Cost-of-Living Adjustment (COLA)	None

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

Attained	Sample Rates	
Age	Male	Female
20	0.0067%	0.0050%
30	0.0208%	0.0158%
40	0.0646%	0.0496%
50	0.2005%	0.1556%
60	0.6220%	0.4881%
70	0.1000%	0.1000%
71+	0.0000%	0.0000%

3. Retirement

Age	Service <22
62-64	20%
65+	100%

Age	Service >=22
55-64	70%
65+	100%

Inactive vested members are assumed to commence their retirement benefit at their earliest unreduced eligible retirement date (age 62, or current age if greater).

4. Termination

10% per year for all members prior to retirement eligibility.

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 participants are assumed either to be married or to have a dependent beneficiary.

b. Spouse's age

Males are assumed to be three (3) years older than their spouses.

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. PERF benefit commencement timing

For active and inactive vested members, 75% are assumed to commence their benefit at earliest PERF eligibility and 25% are assumed to commence at the assumed PARF commencement.

Elected officials can commence their PERF benefit while active in PARF. Non-elected officials need to terminate their employment prior to commence their PERF benefit.

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, 2017 was used in the valuation and adjusted, where appropriate, to reflect changes between June 30, 2017 and June 30, 2018. Standard actuarial roll-forward techniques were then used to project the total pension liability computed as of June 30, 2017 to the June 30, 2018 measurement date.

The member census data and 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.

Spouse gender is assumed to be the opposite gender of the member. Additionally, payroll for new hires is annualized.

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 system 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 system 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 system 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 system 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 systems have unfunded actuarial liability. They arise anytime new benefits are added and anytime an actuarial loss is realized.