

GASB 67/68 Report
For Use in Financial Statement Reporting



SPRINGFIELD POLICE
PENSION FUND

Actuarial Valuation
as of March 1, 2020

LAUTERBACH & AMEN, LLP

GASB Statements 67 and 68 Actuarial Disclosures



Lauterbach & Amen, LLP

CERTIFIED PUBLIC ACCOUNTANTS

GASB 67: SPRINGFIELD POLICE PENSION FUND

Fiscal Year Ending: February 28, 2021
Actuarial Valuation Date: March 1, 2020
Utilizing Data as of February 29, 2020
Measurement Date: February 28, 2021

GASB 68: CITY OF SPRINGFIELD, ILLINOIS

Fiscal Year Ending: February 28, 2021
Actuarial Valuation Date: March 1, 2020
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ACTUARIAL CERTIFICATION

This certification provides supplemental information as required by the Governmental Accounting Standards Board. The enclosed schedules were prepared by the undersigned to assist in the preparation of the Comprehensive Annual Financial Report. The assumptions and methods used in the preparation of this report meet the parameters set for the disclosures presented in the financial section as required by the Governmental Accounting Standards Board. Additional information is provided solely to assist the Auditors in the preparation of the required footnote disclosures.

The results in this report are based on the census data and financial information submitted by the City of Springfield Police Pension Fund, and may include results from the prior Actuary. We did not prepare the Actuarial Valuations for the years prior to March 1, 2016. Those valuations were prepared by the prior Actuary whose reports have been furnished to us, and our disclosures are based on those reports. An audit of the prior Actuary's results was not performed, but high-level reviews were completed for general reasonableness, as appropriate, based on the purpose of this valuation. The accuracy of the results is dependent on the precision and completeness of the underlying information.

The valuation results summarized in this report involve actuarial calculations that require assumptions about future events. The City of Springfield Police Pension Fund selected certain assumptions, while others were the result of guidance and/or judgment from the Plan's Actuary or Advisors. We believe that the assumptions used in this valuation are reasonable and appropriate for the purposes for which they have been used.

To the best of our knowledge, all calculations are in accordance with the applicable accounting requirements, and the procedures followed and presentation of results conform to generally accepted actuarial principles and practices. The undersigned consultants of Lauterbach & Amen, LLP, with actuarial credentials, meet the Qualification Standards of the American Academy of Actuaries to render this Actuarial Certification. There is no relationship between the Springfield Police Pension Fund or the City of Springfield, Illinois and Lauterbach & Amen, LLP that impairs our objectivity.

Respectfully Submitted,
LAUTERBACH & AMEN, LLP

Todd A. Schroeder, ASA, FCA, EA, MAAA

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PLAN FIDUCIARY NET POSITION

Statement of Plan Fiduciary Net Position
Statement of Changes in Plan Fiduciary Net Position



STATEMENT OF PLAN FIDUCIARY NET POSITION

	<u>2/29/2020</u>	<u>2/28/2021</u>
Assets		
Cash and Cash Equivalents	\$ 4,597,055	\$ 7,740,205
Total Cash	<u>4,597,055</u>	<u>7,740,205</u>
Receivables:		
Due from Treasury	76,530	-
Investment Income - Accrued Interest	<u>233,272</u>	<u>184,589</u>
Total Receivables	<u>309,802</u>	<u>184,589</u>
Investments:		
Fixed Income	63,594,435	64,733,930
Insurance Contracts	15,933,336	15,719,933
Mutual Funds	84,515,773	110,864,241
Common Stock	<u>4,555,408</u>	<u>-</u>
Total Investments	<u>168,598,952</u>	<u>191,318,104</u>
Total Assets	<u>173,505,809</u>	<u>199,242,898</u>
Liabilities		
Payables:		
Expenses Due/Unpaid	<u>6,806</u>	<u>35,160</u>
Total Liabilities	<u>6,806</u>	<u>35,160</u>
Plan Fiduciary Net Position	<u>\$ 173,499,003</u>	<u>\$ 199,207,738</u>

The Plan Fiduciary Net Position shown above is intended to be in accordance with GAAP and the Governmental Accounting Standards Board. The Fair Value of Investments have been provided by the reporting entity, and the results are being audited by an independent Auditor. The level of the assets has been reviewed for reasonableness, but we make no representation as to the accuracy of the measurement of the Fair Value of Investments. The Statement of Plan Fiduciary Net Position for 2021 is based on audited financials.



STATEMENT OF CHANGES IN PLAN FIDUCIARY NET POSITION

	<u>2/28/2021</u>
Additions	
Contributions	
Employer	\$ 11,908,796
Members	<u>1,980,847</u>
Total Contributions	<u>13,889,643</u>
Investment Income	
Net Appreciation in Fair Value of Investments	24,112,523
Interest and Dividends	4,978,298
Less Investment Expense	<u>(398,482)</u>
Net Investment Income	<u>28,692,339</u>
Total Additions	<u>42,581,982</u>
Deductions	
Benefit Payments and Refunds of Member Contributions	16,696,378
Administrative Expense	<u>176,869</u>
Total Deductions	<u>16,873,247</u>
Net Increase in Net Position	<u>25,708,735</u>
Plan Fiduciary Net Position	
Beginning of Year	<u>173,499,003</u>
End of Year	<u>\$ 199,207,738</u>

The changes in Plan Fiduciary Net Position shown above is intended to be in accordance with GAAP and the Governmental Accounting Standards Board. The Plan activity has been provided by the reporting entity, and the results are being audited by an independent Auditor. The cash flows have been reviewed for reasonableness, but we make no representation as to the accuracy of the measurement of the Fair Value of Investments. The Statement of Changes in Plan Fiduciary Net Position for 2021 is based on audited financials.



ACTUARIAL PENSION LIABILITY INFORMATION

Statement of Total Pension Liability
Statement of Changes in Total Pension Liability
Statement of Changes in Net Pension Liability
Deferred Outflows and Inflows of Resources
Deferred Outflows and Inflows of Resources – Detail
Pension Expense Development



STATEMENT OF TOTAL PENSION LIABILITY

	<u>2/29/2020</u>	<u>2/28/2021</u>
Active Members	\$ 143,599,781	\$ 146,884,682
Inactive Members		
Terminated Members	1,226,934	1,933,969
Retired Members	222,276,299	274,699,544
Disabled Members	5,584,194	6,313,375
Other Beneficiaries	<u>7,847,428</u>	<u>9,386,072</u>
Total Inactive Members	<u>236,934,855</u>	<u>292,332,960</u>
Total Pension Liability	<u>\$ 380,534,636</u>	<u>\$ 439,217,642</u>

The Total Pension Liability (“TPL”) shown above is dependent on several factors such as Plan Provisions and actuarial assumptions used in this report. In addition, the calculation of the TPL may be dependent on the Plan Fiduciary Net Position shown in the prior section of this report. Changes in the Plan Fiduciary Net Position due to any factor, including adjustments on final audit, could change the TPL. The dependence of the TPL on the Plan Fiduciary Net Position is due to the role of the Plan Fiduciary Net Position (and the Plan’s Projected Fiduciary Net Position) on the determination of the Discount Rate used for the TPL.

The TPL has been determined for GASB 67/68 reporting purposes only. The resulting TPL is intended to be used in the financial statement reporting of the Plan and/or Employer. The resulting liability is not intended to be a representation of the Plan liability for other purposes, including but not limited to, determination of cash funding requirements and recommendations. The TPL is based on data as of the Actuarial Valuation - Data Date shown in this report. The TPL has been determined as of the Actuarial Valuation Date and based on the assumptions used in this report, and adjusted to the Measurement Date as needed.

After careful consideration, we have elected to transition our client reporting to a new valuation platform. Our new platform, ProVal, is an industry standard tool that encompasses a multitude of actuarial best practices. The driving reason behind our decision to transition to this platform is that it will give us the opportunity to provide additional capabilities to our clients in the near future, including stochastic prediction modeling and sensitivity capabilities. Because this software has slightly different parameters in the underlying coding, there may be a minor variation in actuarial calculations. These variations are well within the acceptable ranges developed for actuarial standards. For example, a Pension Fund that is 100% funded in one software, may actually show as 98%-102% funded across different software platforms. This is routine in nature and is a regular part of running estimates and projections. As we strive for “best estimates” in the actuarial funding process, the best due diligence continues to be the process of setting and reviewing assumptions in the actuarial profession. Our commitment to reviewing new information regularly continues to be at the forefront of our reporting.



STATEMENT OF CHANGES IN TOTAL PENSION LIABILITY

	<u>2/28/2021</u>
Changes in Total Pension Liability	
Service Cost	\$ 6,270,637
Interest	23,765,466
Changes of Benefit Terms	-
Differences Between Expected and Actual Experience	535,492
Change in Assumptions	44,807,789
Benefit Payments and Refunds	<u>(16,696,378)</u>
Net Change in Total Pension Liability	58,683,006
Total Pension Liability - Beginning	<u>380,534,636</u>
Total Pension Liability - Ending (a)	<u>\$ 439,217,642</u>
Plan Fiduciary Net Position - Ending (b)	<u>\$ 199,207,738</u>
Employer's Net Pension Liability - Ending (a) - (b)	<u>\$ 240,009,904</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	45.36%
Covered-Employee Payroll	\$ 20,775,455
Employer's Net Pension Liability as a Percentage of Covered-Employee Payroll	1,155.26%

The Plan Fiduciary Net Position was detailed in the prior section of this report. The Employer's Net Pension Liability is the excess of the Total Pension Liability over the Plan Fiduciary Net Position.

Total Pension Liability may be dependent on the Plan Fiduciary Net Position. Changes in the Plan Fiduciary Net Position could change the determination of the Total Pension Liability. Any changes in the Plan Fiduciary Net Position, including adjustments on final audit, can have an impact on the Employer's Net Pension Liability that extends beyond the dollar-for-dollar change in the Plan Fiduciary Net Position.

Covered-Employee Payroll is based on the Covered-Employee Payroll for the Plan Members during the Fiscal Year.



STATEMENT OF CHANGES IN NET PENSION LIABILITY

The table below illustrates the changes in Net Pension Liability (“NPL”) from the prior Measurement Date to the current Measurement Date. Under Statement 68, the difference between the NPL from the prior Measurement Date to the current Measurement Date should be recognized as a component of Pension Expense, unless permitted to be recognized as a Deferred Outflow or Inflow of Resources.

	Increase (Decrease)		
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
Balances Beginning at 3/1/2020	<u>\$ 380,534,636</u>	<u>\$ 173,499,003</u>	<u>\$ 207,035,633</u>
Changes for the Year:			
Service Cost	6,270,637	-	6,270,637
Interest	23,765,466	-	23,765,466
Actuarial Experience	535,492	-	535,492
Change in Assumptions	44,807,789	-	44,807,789
Changes of Benefit Terms	-	-	-
Contributions - Employer	-	11,908,796	(11,908,796)
Contributions - Members	-	1,980,847	(1,980,847)
Contributions - Other	-	-	-
Net Investment Income	-	28,692,339	(28,692,339)
Benefit Payments and Refunds	(16,696,378)	(16,696,378)	-
Administrative Expense	-	(176,869)	176,869
Net Changes	<u>\$ 58,683,006</u>	<u>\$ 25,708,735</u>	<u>\$ 32,974,271</u>
Balances Ending at 02/28/2021	<u><u>\$ 439,217,642</u></u>	<u><u>\$ 199,207,738</u></u>	<u><u>\$ 240,009,904</u></u>

The changes in Total Pension Liability shown above are described on the prior page. The Plan Fiduciary Net Position was detailed in the prior section of this report. The Employer’s Net Pension Liability is the excess of the Total Pension Liability over the Plan Fiduciary Net Position.



DEFERRED OUTFLOWS AND INFLOWS OF RESOURCES

The table below shows the cumulative amounts to be shown as Deferred Outflows and Inflows of Resources. Changes in Total Pension Liability related to the differences between expected and actual experience, or changes in assumptions regarding future events, are recognized in Pension Expense over the average future working career of all Members (active and inactive) in the Pension Plan. The net difference in projected and actual earnings on Pension Plan investments over the measurement period are recognized over a 5-year period. Amounts not yet recognized are summarized below:

	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>	<u>Total Deferred Amounts</u>
Differences Between Expected and Actual Experience	\$ 1,803,922	\$ (1,759,889)	\$ 44,033
Change in Assumptions	62,117,386	(10,285,176)	51,832,210
Net Difference Between Projected and Actual Earnings on Pension Plan Investments	6,265,350	(14,273,088)	(8,007,738)
Contributions Subsequent to the Measurement Date*	-	-	-
Total	<u>\$ 70,186,658</u>	<u>\$ (26,318,153)</u>	<u>\$ 43,868,505</u>

*Contributions Subsequent to the Measurement Date may be recognized as a reduction to the Net Pension Liability. The amount is not known as of the date of this report. Subsequent to the Measurement Date, the following amounts will be recognized in Pension Expense in the upcoming years:

Year Ended

February 28:

2021	\$ 9,281,921
2022	8,201,884
2023	8,825,619
2024	8,691,139
2025	8,867,942
Thereafter	\$ -



DEFERRED OUTFLOWS AND INFLOWS OF RESOURCES – DETAIL

The table below shows the annual detail amounts that have been summarized on the prior page. Under Statement 68, the level of detail shown on the prior page is sufficient for financial statement reporting. The detail shown below is primarily for tracking purposes.

Pension Expense Source	Date Established	Initial Period	Initial Balance	Remaining Period	2/28/2021 Expense Recognized	2/28/2021 Deferred Balance
Asset Gain	2/28/2021	5.00	\$ (16,651,835)	5.00	\$ (3,330,367)	\$ (13,321,468)
Change in Assumptions Loss	2/28/2021	5.67	44,807,789	5.67	7,902,609	36,905,180
Actuarial Loss	2/28/2021	5.67	535,492	5.67	94,444	441,048
Asset Loss	2/29/2020	5.00	4,018,295	4.00	803,659	2,410,977
Change in Assumptions Loss	2/29/2020	6.82	27,952,499	5.82	4,098,607	19,755,285
Actuarial Loss	2/29/2020	6.82	1,239,833	5.82	181,794	876,245
Asset Loss	2/28/2019	5.00	9,635,937	3.00	1,927,188	3,854,373
Change in Assumptions Gain	2/28/2019	6.56	(1,351,671)	4.56	(206,048)	(733,527)
Actuarial Gain	2/28/2019	6.56	(1,646,679)	4.56	(251,019)	(893,622)
Asset Gain	2/28/2018	5.00	(4,758,100)	2.00	(951,620)	(951,620)
Change in Assumptions Gain	2/28/2018	6.43	(7,183,405)	3.43	(1,117,171)	(2,714,721)
Actuarial Loss	2/28/2018	6.43	184,291	3.43	28,662	69,643
Asset Gain	2/28/2017	5.00	(8,009,407)	1.00	(1,601,879)	-
Change in Assumptions Gain	2/28/2017	6.43	(30,742,288)	2.43	(4,781,072)	(6,836,928)
Actuarial Loss	2/28/2017	6.43	1,874,991	2.43	291,601	416,986
Change in Assumptions Loss	2/29/2016	6.67	54,324,917	1.67	8,144,666	5,456,921
Actuarial Gain	2/29/2016	6.67	(8,623,937)	1.67	(1,292,945)	(866,267)
Total			\$ 65,606,722		\$ 9,941,109	\$ 43,868,505

Each detail amount shown above was established as of the Fiscal Year End shown and the full amount deferred has been determined as of that time. Any events that occur in subsequent Fiscal Years do not have an impact on the prior Fiscal Year. The bases are established independently each year.



PENSION EXPENSE DEVELOPMENT

The table below displays the Pension Expense development for the current year. The Pension Expense includes items that change the Net Pension Liability from one year to the next, netted out for amounts that are deferred under GASB pronouncement, plus any amounts that are being recognized that were deferred previously.

See below for the Pension Expense development:

	<u>2/28/2021</u>
Pension Expense/(Income) Under GASB 68	
Service Cost	\$ 6,270,637
Interest	23,765,466
Changes of Benefit Terms	-
Contributions - Members	(1,980,847)
Contributions - Other	-
Expected Investment Income	(12,040,504)
Administrative Expense	176,869
Other Changes	-
Initial Pension Expense/(Income)	<u>\$ 16,191,621</u>
Recognition of Outflow/(Inflow) of Resources Due to Liabilities	13,094,128
Recognition of Outflow/(Inflow) of Resources Due to Assets	<u>(3,153,019)</u>
Total Pension Expense/(Income)	<u>\$ 26,132,730</u>



ACTUARIAL ASSUMPTIONS INFORMATION

Statement of Significant Actuarial Assumptions
Assumption Changes
Notes on Actuarial Assumptions
Expected Return on Pension Plan Investments
Municipal Bond Rate
Discount Rate
Sensitivity of the Discount Rate



STATEMENT OF SIGNIFICANT ACTUARIAL ASSUMPTIONS

Actuarial Assumptions (Economic)

Discount Rate Used for the Total Pension Liability	5.63%
Expected Rate of Return on Investments	7.00%
High-Quality 20 Year Tax-Exempt G.O. Bond Rate	2.44%
Projected Individual Pay Increases	3.75% - 16.79%
Projected Total Payroll Increases	3.25%
Consumer Price Index (Urban)	2.25%
Inflation Rate	2.25%

Actuarial Assumptions (Demographic)

Mortality Rates*	Pub-2010 Adjusted for Plan Status, Demographics, and Illinois Public Pension Data, as Described
Retirement Rates	100% of L&A 2020 Illinois Police Retirement Rates Capped at Age 65
Termination Rates	100% of L&A 2020 Illinois Police Termination Rates
Disability Rates	100% of L&A 2020 Illinois Police Disability Rates
Marital Assumptions	Active Members: 80% Retiree & Disabled Members: Based on Actual Spousal Data

*See the *Notes on Actuarial Assumptions* section of this report for further details on Mortality Rates.

The actuarial assumptions (economic) rates shown above are assumed to be annual rates, compounded on an annual basis. For more information on the selection of the actuarial assumptions, please see the Actuarial Assumption Summary document prepared for the Plan, available upon request.

ASSUMPTION CHANGES

The assumptions were changed from the prior year.

The High-Quality 20 Year Tax-Exempt General Obligation (“G.O.”) Bond Rate assumption was changed from 2.27% to 2.44% for the current year. The underlying index used is The Bond Buyer 20-Bond G.O. Index as discussed in more detail later in this section. The choice of Index is unchanged from the prior year. The rate has been updated to the current Fiscal Year End based on changes in market conditions as reflected in the Index. The change was made to reflect our understanding of the requirements of GASB under Statement 67 and Statement 68.



The Discount Rate used in the determination of the Total Pension Liability was changed from 6.38% to 5.63%. The Discount Rate is impacted by a couple of metrics. Any change in the underlying High-Quality 20 Year Tax Exempt G.O. Bond Rate will impact the blended Discount Rate.

The above stated assumption changes were made to better reflect the future anticipated experience of the Plan.

In addition, there are changes that can be made that impact the projection of the Plan Fiduciary Net Position. For example, changes in the Formal or Informal Funding Policy can impact the Discount Rate. Actual changes in the Plan Fiduciary Net Position from one year to the next can impact the projections as well.



NOTES ON ACTUARIAL ASSUMPTIONS

Projected Individual Pay Increases

Projected individual pay increases include a long-term average increase for inflation, average annual increases for promotions, and any additional increases for a step program. Projected individual pay increases for active Members hired at age 40 or older are assumed annual increases at the ultimate rate reduced by 50 basis points, without adjustments in early service years. Sample rates are as follows:

Service	Rate	Service	Rate
0	16.79%	8	3.75%
1	15.00%	9	8.65%
2	13.61%	10	3.75%
3	3.75%	15	3.75%
4	5.75%	20	3.75%
5	3.75%	25	3.75%
6	3.75%	30	3.75%
7	3.75%	35	3.75%

Actuarial Assumptions (Demographic)

Active Mortality follows the Sex Distinct Raw Rates as developed in the PubS-2010(A) Study. Mortality improvement uses MP-2019 Improvement Rates applied on a fully generational basis. 50% of active Member deaths are assumed to be in the Line of Duty.

Retiree Mortality follows the L&A Assumption Study for Police 2020. These rates are experience weighted with the Sex Distinct Raw Rates as developed in the PubS-2010(A) Study improved to 2017 using MP-2019 Improvement Rates. These rates are then improved fully generationally using MP-2019 Improvement Rates.

Disabled Mortality follows the Sex Distinct Raw Rates as developed in the PubS-2010 Study for disabled participants. Mortality improvement uses MP-2019 Improvement Rates applied on a fully generational basis.

Spouse Mortality follows the Sex Distinct Raw Rates as developed in the PubS-2010(A) Study for contingent survivors. For all rates not provided there (ages 45 and younger) the PubG-2010 Study for general employees was used. Mortality improvement uses MP-2019 Improvement Rates applied on a fully generational basis.

Other actuarial assumptions (demographic) rates are based on a review of the L&A Assumption Study for Police 2020.



POSTEMPLOYMENT BENEFIT CHANGES

Eligibility for postemployment benefit increases is determined based on the Illinois Pension Code. Tier 1 Police retirees are provided with an annual increase of 3.00% of the current retirement benefits by statute when eligible. Tier 2 Police retirees are provided postemployment benefit increases based on the lesser of 3.00% of the original retirement benefits or one-half of the Consumer Price Index (Urban) for the prior September.

The CPI-U for September 1990 was 132.7. The CPI-U for September 2020 was 260.28. The average increase in the CPI-U for September 1990 through September 2020 was 2.28% (on a compounded basis).



EXPECTED RETURN ON PENSION PLAN INVESTMENTS

The Long-Term Expected Rate of Return is intended to represent the best estimate of future real rates of return and is shown for each of the major asset classes in the investment policy. The Expected Rates of Return shown below were provided last year by the investment professionals that work with the Pension Fund. The table below illustrates the best estimate of Long-Term Expected Real Rates of Return developed for each of the major asset classes, adjusted for expected inflation.

There are multiple approaches seen to providing these rates. Typically, the information is either based on capital market projections, or historical rates seen for the asset classes. We do not provide an opinion on the reasonableness of the returns provided nor the reasonableness of the approach used in the determination of the rates provided. The information provided is shown below for convenience.

The rates provided in the table below are based on an arithmetic average. The Investment Policy Statement will provide more detail regarding the Fund's policies on asset allocation targets and acceptable ranges.

Asset Class	Long-Term Expected Rate of Return	Long-Term Inflation Expectation	Long-Term Expected Real Rate of Return	Target Allocation
Fixed Income	4.30%	2.20%	2.10%	35.00%
U.S. Equity	7.80%	2.20%	5.60%	32.00%
International Equity	8.00%	2.20%	5.80%	20.00%
Global Tactical	5.90%	2.20%	3.70%	3.00%
Real Estate - Core	7.20%	2.20%	5.00%	10.00%
Cash	2.90%	2.20%	0.70%	0.00%

Long-Term Expected Real Rates of Return under GASB are expected to reflect the period of time that begins when a Plan Member begins to provide service to the employer and ends at the point when all benefits to the Plan Member have been paid. The rates provided above are intended to estimate those figures.

The Long-Term Inflation Expectation is 2.20% and is included in the Long-Term Expected Rates of Return. The Long-Term Inflation Expectation is from the same source as the Long-Term Expected Real Rates of Return, and is not necessarily reflective of the inflation measures used for other purposes in the report.

Geometric rates of return are equal to arithmetic rates of return when the annual returns exhibit no volatility over time. When arithmetic returns are volatile on a year-to-year basis, the actual realized geometric returns over time will be lower. Higher volatility results in a greater difference.



MUNICIPAL BOND RATE

The Municipal Bond Rate assumption is based on the Bond Buyer 20-Bond G.O. Index. The rate shown earlier in this section of the report is the February 25, 2021 rate. The 20-Bond G.O. Index is based on an average of certain general obligation municipal bonds maturing in 20 years and having an average rating equivalent of Moody's Aa2 and Standard & Poor's AA.

The 20-Bond G.O. Index consists of 20 general obligation bonds that mature in 20 years. The average rating of the 20 bonds is roughly equivalent to Moody's Investors Service's Aa2 rating and Standard & Poor's Corp.'s AA.

The indices represent theoretical yields rather than actual price or yield quotations. Municipal bond traders are asked to estimate what a current-coupon bond for each issuer in the indices would yield if the bond was sold at par value. The indices are simple averages of the average estimated yields of the bonds.

DISCOUNT RATE

The Discount Rate used in the determination of the Total Pension Liability is based on a combination of the Expected Rate of Return on Plan Investments and the Municipal Bond Rate.

Cash flow projections were used to determine the extent to which the Plan's Projected Fiduciary Net Position will be able to cover Projected Benefit Payments. To the extent that Projected Benefit Payments are covered by the Plan's Projected Fiduciary Net Position, the Expected Rate of Return on Plan Investments is used to determine the portion of the Net Pension Liability associated with those payments. To the extent that Projected Benefit Payments are not covered by the Plan's Projected Fiduciary Net Position, the Municipal Bond Rate is used to determine the portion of the Net Pension Liability associated with those payments.

Projected benefit payments are determined during the actuarial process based on the assumptions. More details on the assumptions are earlier in this section of the report. The expected contributions are based on the funding policy of the Plan. The funding policy is discussed in more detail in the *Funding Policy* section of this report.



SENSITIVITY OF THE DISCOUNT RATE

The Employer's Net Pension Liability has been determined using the Discount Rate listed earlier in this section of the report. Below is a table illustrating the sensitivity of the Employer's Net Pension Liability to the Discount Rate assumption.

	1% Decrease (4.63%)	Current Discount Rate (5.63%)	1% Increase (6.63%)
Employer's Net Pension Liability	\$312,932,407	\$240,009,904	\$181,828,238

The sensitivity of the Employer's Net Pension Liability to the Discount Rate is based primarily on two factors:

1. The duration of the Plan's Projected Benefit Payments. Younger Plans with benefit payments further in the future will be more sensitive to changes in the Discount Rate.
2. The Percent Funded of the Plan (ratio of the Plan Fiduciary Net Position to the Total Pension Liability). The higher the Percent Funded, the higher the sensitivity to the Discount Rate.



PARTICIPANT DATA

Participant Demographic Data & Average Future Working Career



PARTICIPANT DEMOGRAPHIC DATA & AVERAGE FUTURE WORKING CAREER

The chart below summarizes the Member count, payroll, and average future working career as of:

Actuarial Valuation - Data Date	2/28/2019	2/29/2020
Fiscal Year End for Reporting	<u>(FYE 02/29/2020)</u>	<u>(FYE 02/28/2021)</u>
Inactive Plan Members or Beneficiaries Currently Receiving Benefits	252	262
Inactive Plan Members Entitled to But Not Yet Receiving Benefits*	6	38
Active Plan Members	250	247
Total	<u>508</u>	<u>547</u>
Payroll of Active Plan Members	<u>\$ 21,040,853</u>	<u>\$ 20,825,933</u>
Average Future Working Career (In Years)		
Active Plan Members	13.86	12.56
Inactive Plan Members	0.00	0.00
Total	6.82	5.67

*Inactive Plan Members Entitled to But Not Yet Receiving Benefits for the current Fiscal Year End includes non-vested terminated Members entitled to a refund of Employee Contributions who were not included as of the prior Fiscal Year End.

Member counts shown above are as of the Actuarial Valuation Date for the two most recent Fiscal Years. Payroll of Active Plan Members is the pensionable salary for active Plan Members as of the Actuarial Valuation – Data Date. For the Fiscal Year Ending February 28, 2021, a beginning of year Actuarial Valuation Date was used along with a rollforward of liabilities to the end of the Fiscal Year based on assumptions and standard rollforward techniques.

The average future working career is measured as of the Actuarial Valuation Date and is based on the demographic assumptions used in the preparation of this report.



FUNDING POLICY

Components of the Actuarially Determined Contribution
Formal Funding Policy
Informal Funding Policy
Funding Policy – Other Considerations



COMPONENTS OF THE ACTUARIALLY DETERMINED CONTRIBUTION

The Actuarially Determined Contribution (“ADC”) includes the determination of the Normal Cost Contribution for active Plan Members, as well as a provision for the payment towards Unfunded Liability.

The actuarial funding method used in the determination of the Normal Cost and the Actuarial Accrued Liability is the Projected Unit Credit Cost Method. The method allocates Normal Cost Contributions by Members over the working career of the Member.

Unfunded Liability is the excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The Actuarially Determined Contribution includes a payment towards Unfunded Liability existing at the Actuarial Valuation Date. The payment towards Unfunded Liability is set up as a level percent of payroll payment that is expected to increase during the payment period and target 90% funding. The current Employer Contributions are being compared to the Actuarially Determined Contribution as developed in the March 1, 2019 Actuarial Valuation. The period of repayment as of that valuation is 21 years.

The Actuarial Value of Assets smooths gains and losses on the Market Value of Assets over a 5-year period.

Under no circumstances will the Actuarially Determined Contribution be less than the amount determined as the Statutory Minimum Contribution under Illinois State Statutes.

FORMAL FUNDING POLICY

There is no Formal Funding Policy that exists between the Pension Board and the City at this time.

INFORMAL FUNDING POLICY

In determining the most appropriate Informal Funding Policy, GASB provides the following guidance in the Statement:

Application of professional judgment should consider the most recent five-year contribution history of the employers and nonemployer contributing entities as a key indicator of future contributions from those sources and should reflect all other known events and conditions. ... the amount of projected cash flows for contributions from employers and nonemployer contributing entities should be limited to an average of contributions from those sources over the most recent five-year period and may be modified based on consideration of subsequent events. For this purpose, the basis for the average (for example, percentage of covered payroll contributed or percentage of Actuarially Determined Contributions made) should be a matter of professional judgment.



In our review of Informal Funding Policy, the following factors are considered and described herein:

1. Five-Year Contribution History of the Employer (with a focus on the average contributions from those sources)
2. Other Known Events and Conditions
3. Consideration of Subsequent Events

Five-Year Contribution History of the Employer

Employer Contributions (under the Informal Funding Policy) should be limited to the average over the most recent five years. In determining the basis for the average, we reviewed three possibilities: (a) the average dollar contribution; (b) the average percent of pensionable pay; and (c) the average percent of the Actuarially Determined Contribution. Please see the table below for a summary of these values:

Fiscal Year End	Employer Contributions	Most Applicable ADC	% of ADC	Covered-Employee Payroll	% of Payroll
2/28/2021	\$11,908,796	\$11,637,707	102.33%	\$20,775,455	57.32%
2/29/2020	\$10,991,768	\$10,991,768	100.00%	\$19,932,784	55.14%
2/28/2019	\$10,844,009	\$10,843,009	100.01%	\$22,047,109	49.19%
2/28/2018	\$10,116,706	\$10,116,706	100.00%	\$22,186,171	45.60%
2/28/2017	\$9,942,505	\$9,942,505	100.00%	\$21,487,817	46.27%

When compared to the other policies reviewed, history suggests that a contribution as a percent of the Actuarially Determined Contribution is the least volatile, and as a result, the most stable contribution method under an Informal Funding Policy.

Other Known Events and Conditions

GASB has a provision for consideration of any other known events or conditions in the most recent five-year history in applying judgement for the Informal Funding Policy. There are no events or conditions that have been considered in the development of the Informal Funding Policy.

Consideration of Subsequent Events

GASB has a provision for modification based on consideration of subsequent events in development of the Informal Funding Policy. There are no subsequent events that have been considered in the development of the Informal Funding Policy.



Informal Funding Policy – Selected

The Informal Funding Policy that has been determined for future contributions is 100.47% of the Actuarially Determined Contribution. This represents the full future contributions expected to be made.

FUNDING POLICY – OTHER CONSIDERATIONS

Under GASB, the future contribution amount is not intended to include dollars contributed on behalf of future employees. Contributions are only intended to cover contributions towards the Normal Cost of current employees as of the Actuarial Valuation Date as well as payment of Unfunded Liability on behalf of the current employees. Contributions under the funding policy have been adjusted as necessary to exclude dollars that would be anticipated to be contributed on behalf of future employees hired after the Actuarial Valuation Date.

The contribution level may not pay off the Unfunded Liability during the active working career of current employees. In that case, contributions will persist beyond the working career of current employees. To the extent that a portion of the above total contribution is anticipated to pay contributions for the Normal Cost of future employees, the amount has been netted out. The remaining amount is anticipated to be paid towards the Unfunded Liability existing for current employees.

The Actuarially Determined Contribution is determined annually based on the parameters previously discussed. The funding methods and procedures are assumed to continue into the future. The tax levy in the next December is assumed to be the Actuarially Determined Contribution. Funding is assumed to go into the Plan during the next full Fiscal Year.



SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION

Schedule of Changes in the Net Pension Liability
Schedule of Total Pension Liability and Related Ratios
Schedule of Contributions
Notes to Schedule of Contributions



SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY

	2/28/2021	2/29/2020	2/28/2019	2/28/2018	2/28/2017	2/29/2016	2/28/2015	2/28/2014	2/28/2013	2/29/2012
Total Pension Liability										
Service Cost	\$ 6,270,637	\$ 5,433,549	\$ 5,402,823	\$ 5,748,820	\$ 5,393,901	\$ 6,838,653	\$ 5,469,903			
Interest	23,765,466	22,328,221	21,610,194	20,741,627	21,725,059	16,130,049	18,510,532			
Changes of Benefit Terms	-	1,385,547	-	-	-	-	-			
Differences Between Expected and Actual Experience	535,492	1,239,833	(1,646,679)	184,291	1,874,991	(8,623,937)	-			
Change in Assumptions	44,807,789	27,952,499	(1,351,671)	(7,183,405)	(30,742,288)	54,324,917	-			
Benefit Payments and Refunds	(16,696,378)	(15,232,522)	(14,426,366)	(13,748,823)	(12,646,059)	(12,066,816)	(11,585,442)			
Net Change in Total Pension Liability	\$ 58,683,006	\$ 43,107,127	\$ 9,588,301	\$ 5,742,509	\$ (14,394,396)	\$ 56,602,866	\$ 12,394,993			
Total Pension Liability - Beginning	380,534,636	337,427,509	327,839,208	322,096,699	336,491,095	279,888,229	267,493,236			
Total Pension Liability - Ending (a)	\$ 439,217,642	\$ 380,534,636	\$ 337,427,509	\$ 327,839,208	\$ 322,096,699	\$ 336,491,095	\$ 279,888,229			
Plan Fiduciary Net Position										
Contributions - Employer	\$ 11,908,796	\$ 10,991,768	\$ 10,844,009	\$ 10,116,706	\$ 9,942,505	\$ 9,050,592	\$ 9,608,968			
Contributions - Members	1,980,847	2,040,242	2,040,972	2,051,279	1,900,135	1,895,118	1,956,068			
Contributions - Other	-	-	-	12,373	-	-	-			
Net Investment Income	28,692,339	7,672,564	2,054,003	15,485,439	17,594,578	(6,690,669)	8,926,872			
Benefit Payments and Refunds	(16,696,378)	(15,232,522)	(14,426,366)	(13,748,823)	(12,646,059)	(12,066,816)	(11,585,442)			
Administrative Expense	(176,869)	(171,151)	(168,690)	(189,477)	(216,033)	(228,877)	(164,934)			
Other	-	-	-	-	-	7,757	302			
Net Change in Plan Fiduciary Net Position	\$ 25,708,735	\$ 5,300,901	\$ 343,928	\$ 13,727,498	\$ 16,575,126	\$ (8,032,895)	\$ 8,741,834			
Plan Fiduciary Net Position - Beginning	173,499,003	168,198,102	167,854,174	154,126,676	137,551,550	145,584,445	136,842,611			
Plan Fiduciary Net Position - Ending (b)	\$ 199,207,738	\$ 173,499,003	\$ 168,198,102	\$ 167,854,174	\$ 154,126,676	\$ 137,551,550	\$ 145,584,445			
Employer's Net Pension Liability - Ending (a) - (b)	\$ 240,009,904	\$ 207,035,633	\$ 169,229,407	\$ 159,985,034	\$ 167,970,023	\$ 198,939,545	\$ 134,303,784			

The current year information was developed in the completion of this report.



SCHEDULE OF TOTAL PENSION LIABILITY AND RELATED RATIOS

	<u>2/28/2021</u>	<u>2/29/2020</u>	<u>2/28/2019</u>	<u>2/28/2018</u>	<u>2/28/2017</u>	<u>2/29/2016</u>	<u>2/28/2015</u>	<u>2/28/2014</u>	<u>2/28/2013</u>	<u>2/29/2012</u>
Total Pension Liability - Ending (a)	<u>\$ 439,217,642</u>	<u>\$ 380,534,636</u>	<u>\$ 337,427,509</u>	<u>\$ 327,839,208</u>	<u>\$ 322,096,699</u>	<u>\$ 336,491,095</u>	<u>\$ 279,888,229</u>			
Plan Fiduciary Net Position - Ending (b)	<u>\$ 199,207,738</u>	<u>\$ 173,499,003</u>	<u>\$ 168,198,102</u>	<u>\$ 167,854,174</u>	<u>\$ 154,126,676</u>	<u>\$ 137,551,550</u>	<u>\$ 145,584,445</u>			
Employer's Net Pension Liability - Ending (a) - (b)	<u>\$ 240,009,904</u>	<u>\$ 207,035,633</u>	<u>\$ 169,229,407</u>	<u>\$ 159,985,034</u>	<u>\$ 167,970,023</u>	<u>\$ 198,939,545</u>	<u>\$ 134,303,784</u>			
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	45.36%	45.59%	49.85%	51.20%	47.85%	40.88%	52.02%			
Covered-Employee Payroll	\$ 20,775,455	\$ 19,932,784	\$ 22,047,109	\$ 22,186,171	\$ 21,487,817	\$ 20,250,340	\$ 18,716,719			
Employer's Net Pension Liability as a Percentage of Covered-Employee Payroll	1,155.26%	1,038.67%	767.58%	721.10%	781.70%	982.40%	717.56%			

Covered-Employee Payroll shown above for the current year is based on the Covered-Employee Payroll for the Plan Members during the Fiscal Year.



SCHEDULE OF CONTRIBUTIONS

	<u>2/28/2021</u>	<u>2/29/2020</u>	<u>2/28/2019</u>	<u>2/28/2018</u>	<u>2/28/2017</u>	<u>2/29/2016</u>	<u>2/28/2015</u>	<u>2/28/2014</u>	<u>2/28/2013</u>	<u>2/29/2012</u>
Actuarially Determined Contribution	\$ 11,637,707	\$ 10,991,768	\$ 10,843,009	\$ 10,116,706	\$ 9,942,505	\$ 9,050,592	\$ 9,108,968			
Contributions in Relation to the Actuarially Determined Contribution	11,908,796	10,991,768	10,844,009	10,116,706	9,942,505	9,050,592	9,608,968			
Contribution Deficiency/(Excess)	<u>\$ (271,089)</u>	<u>\$ -</u>	<u>\$ (1,000)</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ (500,000)</u>			
Covered-Employee Payroll	\$ 20,775,455	\$ 19,932,784	\$ 22,047,109	\$ 22,186,171	\$ 21,487,817	\$ 20,250,340	\$ 18,716,719			
Contributions as a Percentage of Covered-Employee Payroll	57.32%	55.14%	49.19%	45.60%	46.27%	44.69%	51.34%			

NOTES TO SCHEDULE OF CONTRIBUTIONS

The Actuarially Determined Contribution shown above for the current year is the Statutory Minimum Contribution from the March 1, 2019 Actuarial Valuation completed by Lauterbach & Amen, LLP for the December 2019 tax levy. The methods and assumptions shown below are based on the same Actuarial Valuation. For more detail on the age-based and service-based rates disclosed below, please see the Actuarial Valuation.

Actuarial Cost Method	Projected Unit Credit
Amortization Method	Level % Pay
Equivalent Single Amortization Period	90% Funded Over 21 Years
Asset Valuation Method	5-Year Smoothed Market Value
Inflation (CPI-U)	2.50%
Total Payroll Increases	3.25%
Individual Pay Increases	4.00% - 17.04%
Expected Rate of Return on Investments	7.00%
Mortality Rates	RP-2014 Adjusted for Plan Status, Collar, and Illinois Public Pension Data, as Appropriate
Retirement Rates	100% of L&A 2016 Illinois Police Retirement Rates Capped at Age 65
Termination Rates	100% of L&A 2016 Illinois Police Termination Rates
Disability Rates	100% of L&A 2016 Illinois Police Disability Rates



GASB METHODS AND PROCEDURES

GASB Methods and Procedures



GASB METHODS AND PROCEDURES

	Statement 67	Statement 68
	<u>Pension Plan Financials</u>	<u>Employer Financials</u>
Fiscal Year End for Reporting	February 28, 2021	February 28, 2021
Measurement Date	February 28, 2021	February 28, 2021
Actuarial Valuation Date	March 1, 2020	March 1, 2020
Actuarial Valuation - Data Date	February 29, 2020	February 29, 2020
Asset Valuation Method	Market Value	Market Value
Actuarial Cost Method	Entry Age Normal (Level %)	Entry Age Normal (Level %)

Methodology Used in the Determination of Deferred Outflows and Inflows of Resources

Amortization Method	Straight Line	Straight Line
Amortization Period		
Actuarial Experience	5.67 Years	5.67 Years
Change in Assumptions	5.67 Years	5.67 Years
Asset Experience	5.00 Years	5.00 Years



SUPPLEMENTARY TABLES

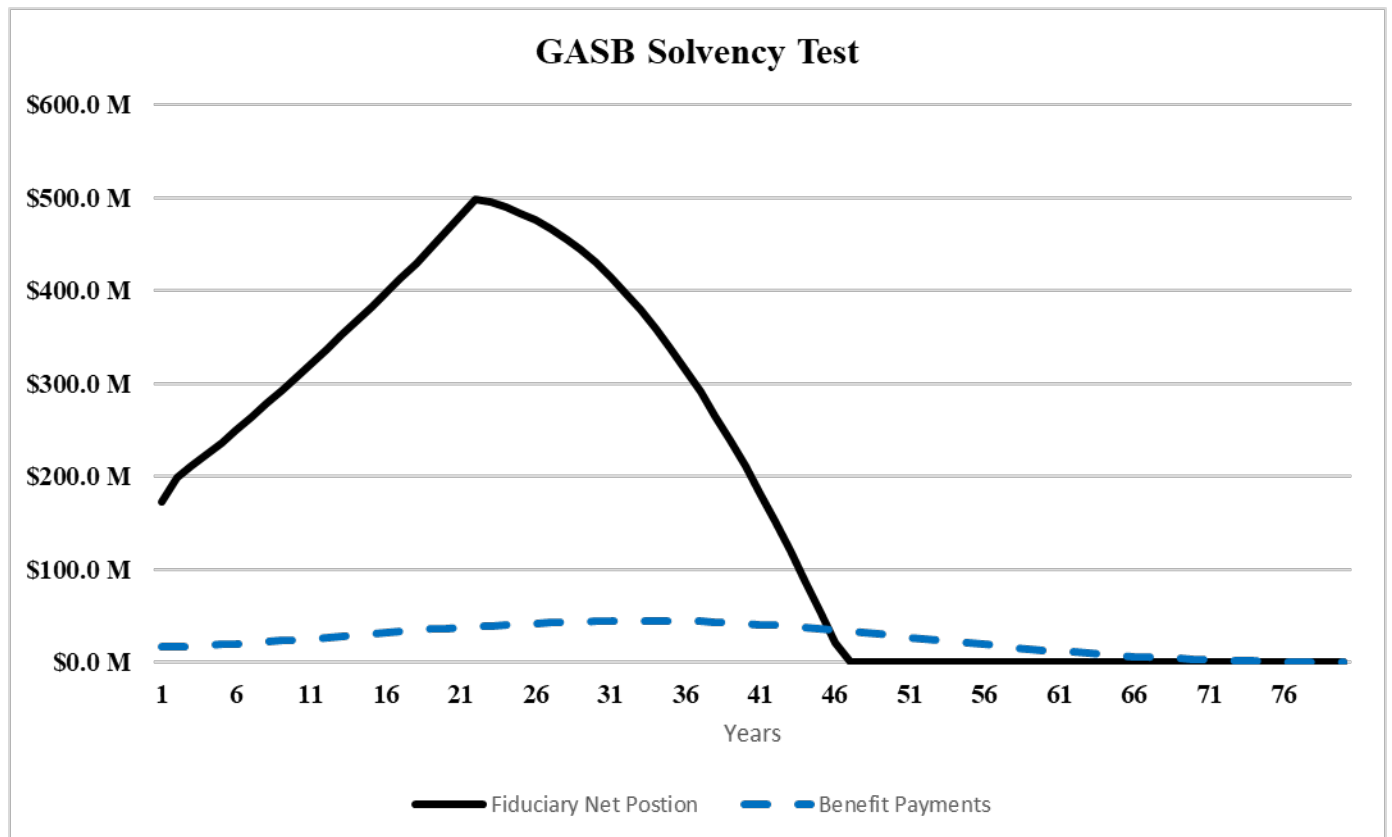
GASB Projections – Summary and Procedure
GASB Projections – Limitations
Projection of Contributions
Notes to Projection of Contributions
Projection of the Pension Plan's Fiduciary Net Position
Notes to Projection of the Pension Plan's Fiduciary Net Position
Actuarial Present Value of Projected Benefit Payments
Notes to Actuarial Present Value of Projected Benefit Payments



GASB PROJECTIONS – SUMMARY AND PROCEDURE

GASB requires a solvency test to use in the determination of the Discount Rate each year. The Plan Fiduciary Net Position is projected forward. To the extent that the Plan Fiduciary Net Position is anticipated to be greater than \$0, Projected Benefit Payments are discounted based on the Expected Rate of Return on Plan Investments.

If the Plan Fiduciary Net Position is anticipated to reach \$0 prior to the payment of Projected Benefit Payments for employees who are in the Plan as of the Actuarial Valuation Date, then the remaining Projected Benefit Payments are discounted using the High-Quality Municipal Bond Rate, as described in the *Actuarial Assumptions Information* section of this report. The chart below is a high-level summary of the projections:



The Plan's Projected Fiduciary Net Position is anticipated to cover Projected Benefit Payments in full for the current employees through 2066.



GASB PROJECTIONS – LIMITATIONS

Projections of any type require assumptions about future events. The projections required for GASB reporting are deterministic in nature. That means that values are projected forward under one set of assumptions which can be thought of as the average result. Actual results could vary, and projections of one deterministic assumption set do not necessarily provide a framework for making risk management or funding policy decisions. Projections that deal with risk management are outside the scope of this report.

In addition, GASB requirements create results that are specific only to financial statement reporting, and should not be used or interpreted for other purposes. For example, GASB cash flow projections do not entail the total expected cash flows of the Plan, but rather a subset of cash flows specific to employees who are in the Plan as of the Actuarial Valuation Date. While the likely expectation may be that future employees are hired to replace the current employees, cash flows attributable to their benefits are not considered. Under GASB, when the Plan Fiduciary Net Position reaches \$0, that represents the Plan Fiduciary Net Position for the assets attributable to the current employees.

Also, GASB mandates certain assumptions that are made in the projection process. Most notably, Projected Contributions under an Informal Funding Policy. In proposing an Informal Funding Policy, GASB suggests a focus be placed on the average contributions over the past 5 years. Projected Contributions in this section may be based on the five-year average, unless a Formal Funding Policy is in place.

Contributions reflecting an Informal Funding Policy are applied under GASB, whether or not the projected results dictate a need for more or less contributions. This would not be the case with other uses for projections. Any events that are taken into account (past or future) in the Informal Funding Policy are discussed in the *Funding Policy* section of this report.

Projections further into the future are more sensitive to assumption changes. For projections that run out close to 80 years, a small change in an assumption may have a dramatic impact on the projections. If the solvency of the Plan as determined by GASB remains constant, then dramatic changes in the projection results may not necessarily lead to big changes in the determination of the Total Pension Liability.

We recommend the projections are not used for any other purposes, other than providing information for purposes of the financial statement report.

The following pages provide the detail behind the chart shown on the prior page.



PROJECTION OF CONTRIBUTIONS – YEARS 1 TO 30

Year	Projected Pensionable Payroll			Projected Contributions			
	Payroll for Current Employees (a)	Payroll for Future Employees (b)	Total Employee Payroll (c) = (a) + (b)	Contributions from Current Employees (d) - Notes	Employer Contributions for Current Employees (e) - Notes	Contributions Related to Payroll of Future Employees (f) - Notes	Total Contributions (g) = (d) + (e) + (f)
1	\$ 20,825,909	\$ -	\$ 20,825,909	\$ 1,980,847	\$11,908,796	\$ -	\$ 13,889,643
2	21,079,934	422,817	21,502,751	2,089,021	13,090,297	-	15,179,318
3	21,140,458	1,061,132	22,201,590	2,095,019	13,646,681	-	15,741,700
4	20,989,020	1,934,122	22,923,142	2,080,012	14,042,535	-	16,122,547
5	20,701,994	2,966,150	23,668,144	2,051,568	14,427,404	-	16,478,972
6	20,388,689	4,048,670	24,437,359	2,020,519	14,810,971	-	16,831,490
7	20,003,658	5,227,916	25,231,573	1,982,362	15,208,913	-	17,191,275
8	19,537,529	6,514,071	26,051,599	1,936,169	15,619,485	-	17,555,654
9	18,908,894	7,989,382	26,898,276	1,873,871	16,041,637	-	17,915,508
10	18,234,113	9,538,357	27,772,470	1,807,001	16,461,442	-	18,268,443
11	17,585,427	11,089,648	28,675,075	1,742,716	16,893,833	-	18,636,549
12	16,937,285	12,669,730	29,607,015	1,678,485	17,363,845	-	19,042,330
13	16,274,367	14,294,876	30,569,243	1,612,790	17,871,922	-	19,484,712
14	15,518,746	16,043,997	31,562,744	1,537,908	18,405,418	-	19,943,326
15	14,838,321	17,750,212	32,588,533	1,470,478	18,961,777	-	20,432,255
16	14,086,478	19,561,182	33,647,660	1,395,970	19,581,479	-	20,977,449
17	13,265,271	21,475,938	34,741,209	1,314,588	20,221,334	-	21,535,922
18	12,404,923	23,465,376	35,870,298	1,229,328	20,901,342	-	22,130,670
19	11,647,924	25,388,159	37,036,083	1,154,309	21,609,160	-	22,763,469
20	10,888,511	27,351,245	38,239,756	1,079,051	22,407,465	-	23,486,516
21	10,227,067	29,255,481	39,482,548	1,013,502	20,151,942	-	21,165,444
22	9,522,380	31,243,351	40,765,731	943,668	1,226,713	-	2,170,381
23	8,742,517	33,348,100	42,090,617	866,383	1,126,885	-	1,993,268
24	8,016,656	35,441,906	43,458,562	794,451	1,009,747	-	1,804,198
25	7,208,917	37,662,048	44,870,965	714,404	919,253	-	1,633,657
26	6,497,158	39,832,113	46,329,272	643,868	801,118	-	1,444,986
27	5,707,720	42,127,253	47,834,973	565,635	721,353	-	1,286,988
28	4,876,681	44,512,928	49,389,610	483,279	638,177	-	1,121,456
29	4,173,565	46,821,207	50,994,772	413,600	532,518	-	946,118
30	3,524,684	49,127,418	52,652,102	349,296	453,001	-	802,297

Column d – Contributions from current employees to the Plan (employees in the Plan as of the Actuarial Valuation Date).
 Column e – Employer Contributions to the Plan excluding contributions for employees hired after the Actuarial Valuation Date.
 Column f – Contributions from future employees to the extent that contributions are assumed to be greater than their Normal Cost.



PROJECTION OF CONTRIBUTIONS – YEARS 31 TO 60

Year	Projected Pensionable Payroll			Projected Contributions			
	Payroll for Current Employees (a)	Payroll for Future Employees (b)	Total Employee Payroll (c) = (a) + (b)	Contributions from Current Employees (d) - Notes	Employer Contributions for Current Employees (e) - Notes	Contributions Related to Payroll of Future Employees (f) - Notes	Total Contributions (g) = (d) + (e) + (f)
31	\$ 2,940,362	\$ 51,422,933	\$ 54,363,295	\$ 291,390	\$ 381,021	\$ -	\$ 672,411
32	2,436,395	53,693,708	56,130,102	241,447	313,397	-	554,844
33	1,938,904	56,015,427	57,954,331	192,145	265,830	-	457,975
34	1,609,133	58,228,714	59,837,847	159,465	200,196	-	359,661
35	1,291,891	60,490,686	61,782,577	128,026	170,704	-	298,730
36	1,027,653	62,762,857	63,790,510	101,840	137,560	-	239,400
37	756,600	65,107,102	65,863,702	74,979	116,610	-	191,589
38	564,037	67,440,236	68,004,272	55,896	84,444	-	140,340
39	383,394	69,831,017	70,214,411	37,994	67,287	-	105,281
40	225,474	72,270,906	72,496,379	22,344	50,000	-	72,344
41	126,400	74,726,111	74,852,512	12,526	30,099	-	42,625
42	32,906	77,252,312	77,285,218	3,261	21,841	-	25,102
43	9,990	79,786,998	79,796,988	990	5,495	-	6,485
44	-	82,390,390	82,390,390	-	2,069	-	2,069
45	-	85,068,078	85,068,078	-	-	-	-
46	-	87,832,790	87,832,790	-	-	-	-
47	-	90,687,356	90,687,356	-	-	-	-
48	-	93,634,695	93,634,695	-	-	-	-
49	-	96,677,823	96,677,823	-	-	-	-
50	-	99,819,852	99,819,852	-	-	-	-
51	-	103,063,997	103,063,997	-	-	-	-
52	-	106,413,577	106,413,577	-	-	-	-
53	-	109,872,018	109,872,018	-	-	-	-
54	-	113,442,859	113,442,859	-	-	-	-
55	-	117,129,752	117,129,752	-	-	-	-
56	-	120,936,469	120,936,469	-	-	-	-
57	-	124,866,904	124,866,904	-	-	-	-
58	-	128,925,078	128,925,078	-	-	-	-
59	-	133,115,143	133,115,143	-	-	-	-
60	-	137,441,385	137,441,385	-	-	-	-

Column d – Contributions from current employees to the Plan (employees in the Plan as of the Actuarial Valuation Date).
 Column e – Employer Contributions to the Plan excluding contributions for employees hired after the Actuarial Valuation Date.
 Column f – Contributions from future employees to the extent that contributions are assumed to be greater than their Normal Cost.



PROJECTION OF CONTRIBUTIONS – YEARS 61 TO 80

Year	Projected Pensionable Payroll			Projected Contributions				
	Payroll for Current Employees (a)	Payroll for Future Employees (b)	Total Employee Payroll (c) = (a) + (b)	Contributions from Current Employees (d) - Notes	Employer Contributions for Current Employees (e) - Notes	Contributions Related to Payroll of Future Employees (f) - Notes	Total Contributions (g) = (d) + (e) + (f)	
61	\$ -	\$ 141,908,230	\$ 141,908,230	\$ -	\$ -	\$ -	\$ -	
62	-	146,520,248	146,520,248	-	-	-	-	
63	-	151,282,156	151,282,156	-	-	-	-	
64	-	156,198,826	156,198,826	-	-	-	-	
65	-	161,275,288	161,275,288	-	-	-	-	
66	-	166,516,735	166,516,735	-	-	-	-	
67	-	171,928,529	171,928,529	-	-	-	-	
68	-	177,516,206	177,516,206	-	-	-	-	
69	-	183,285,483	183,285,483	-	-	-	-	
70	-	189,242,261	189,242,261	-	-	-	-	
71	-	195,392,634	195,392,634	-	-	-	-	
72	-	201,742,895	201,742,895	-	-	-	-	
73	-	208,299,539	208,299,539	-	-	-	-	
74	-	215,069,274	215,069,274	-	-	-	-	
75	-	222,059,025	222,059,025	-	-	-	-	
76	-	229,275,944	229,275,944	-	-	-	-	
77	-	236,727,412	236,727,412	-	-	-	-	
78	-	244,421,053	244,421,053	-	-	-	-	
79	-	252,364,737	252,364,737	-	-	-	-	
80	-	260,566,591	260,566,591	-	-	-	-	

NOTES TO PROJECTION OF CONTRIBUTIONS

Total Employee Payroll is projected to increase annually at the Projected Total Payroll Increases rate shown in the *Actuarial Assumptions Information* section of this report. Payroll for current employees (employees in the Plan as of the Actuarial Valuation Date) are projected on an employee-by-employee basis, using the Projected Individual Pay Increases and probability of remaining an employee in the future.

Employer Contributions are related to current employees in the Plan as of the Actuarial Valuation Date. To the extent that Projected Contributions under the Funding Policy are made to cover the Normal Cost of benefit payments for future employees, those contributions are excluded for purposes of these projections and this report.

Contributions are based on the Funding Policy as described in the *Funding Policy* section of this report. The contributions do not factor in changes in the Funding Policy based on an assumed Employer decision; if, the projections were to play out in this fashion. The only future events that are considered were outlined in the *Funding Policy* section of this report. Contributions from future employees have not been included. It is assumed that contributions made by future employees will not exceed the Normal Cost of their participation in the Plan. In addition, Employer Contributions on behalf of future employees have not been included per the GASB parameters.



PROJECTION OF THE PENSION PLAN'S FIDUCIARY NET POSITION – YEARS 1 TO 30

Year	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expense (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a)+(b)-(c)-(d)+(e)
1	\$ 173,499,003	\$ 13,889,643	\$ 16,696,378	\$ 176,869	\$ 28,692,339	\$ 199,207,738
2	199,207,738	15,179,318	16,786,549	180,849	13,881,959	211,301,617
3	211,301,617	15,741,700	17,553,672	184,918	14,721,222	224,025,950
4	224,025,950	16,122,547	18,373,073	189,078	15,596,430	237,182,776
5	237,182,776	16,478,972	19,273,232	193,333	16,498,229	250,693,412
6	250,693,412	16,831,490	20,240,717	197,683	17,422,297	264,508,800
7	264,508,800	17,191,275	21,276,107	202,130	18,365,572	278,587,410
8	278,587,410	17,555,654	22,382,677	206,678	19,324,939	292,878,648
9	292,878,648	17,915,509	23,562,870	211,329	20,296,451	307,316,410
10	307,316,410	18,268,443	24,730,232	216,083	21,278,423	321,916,960
11	321,916,960	18,636,548	25,878,207	220,945	22,272,996	336,727,351
12	336,727,351	19,042,330	27,128,801	225,917	23,279,981	351,694,945
13	351,694,945	19,484,712	28,399,860	231,000	24,298,531	366,847,328
14	366,847,328	19,943,325	29,658,942	236,197	25,331,000	382,226,514
15	382,226,514	20,432,254	30,946,019	241,512	26,379,421	397,850,659
16	397,850,659	20,977,449	32,240,441	246,946	27,446,698	413,787,419
17	413,787,419	21,535,923	33,566,226	252,502	28,535,221	430,039,836
18	430,039,836	22,130,670	34,734,046	258,183	29,652,634	446,830,910
19	446,830,910	22,763,470	35,924,518	263,992	30,808,287	464,214,156
20	464,214,156	23,486,516	36,921,147	269,932	32,015,331	482,524,924
21	482,524,924	21,165,445	37,942,925	276,006	33,179,873	498,651,310
22	498,651,310	2,170,381	38,987,776	282,216	33,607,105	495,158,805
23	495,158,805	1,993,268	39,859,183	288,566	33,325,710	490,330,034
24	490,330,034	1,804,198	40,730,440	295,058	32,950,357	484,059,090
25	484,059,090	1,633,657	41,453,770	301,697	32,479,873	476,417,153
26	476,417,153	1,444,986	42,186,654	308,485	31,912,445	467,279,445
27	467,279,445	1,286,988	43,021,460	315,426	31,237,815	456,467,362
28	456,467,362	1,121,457	43,555,428	322,523	30,456,238	444,167,105
29	444,167,105	946,118	44,058,307	329,780	29,571,228	430,296,365
30	430,296,365	802,297	44,428,812	337,200	28,582,015	414,914,665

Column b – Contributions on behalf of current employees in the Plan as of the Actuarial Valuation Date.

Column d – Based on the average Administrative Expense in recent years, and projected to increase in the future.

Column e – Based on the Expected Rate of Return on Plan Investments, and does not factor in allocation changes.



PROJECTION OF THE PENSION PLAN’S FIDUCIARY NET POSITION – YEARS 31 TO 60

Year	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expense (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a)+(b)-(c)-(d)+(e)
31	\$ 414,914,665	\$ 672,411	\$ 44,791,236	\$ 344,787	\$ 27,487,800	\$ 397,938,853
32	397,938,853	554,844	44,979,863	352,545	26,288,505	379,449,794
33	379,449,794	457,975	45,025,054	360,477	24,989,021	359,511,260
34	359,511,260	359,661	45,005,233	367,076	23,590,345	338,088,957
35	338,088,957	298,730	44,822,401	346,530	22,095,770	315,314,526
36	315,314,526	239,400	44,612,733	324,576	20,507,590	291,124,208
37	291,124,208	191,589	44,161,787	301,246	18,829,194	265,681,957
38	265,681,957	140,340	43,608,487	276,591	17,066,671	239,003,890
39	239,003,890	105,282	42,939,273	250,701	15,222,308	211,141,506
40	211,141,506	72,344	42,142,725	223,608	13,299,616	182,147,132
41	182,147,132	42,625	41,254,248	195,365	11,301,055	152,041,199
42	152,041,199	25,102	40,227,324	166,007	9,229,996	120,902,966
43	120,902,966	6,485	39,103,081	135,584	7,090,081	88,760,868
44	88,760,868	2,069	37,885,426	104,150	4,883,698	55,657,060
45	55,657,060	-	36,585,404	71,739	2,612,994	21,612,910
46	21,612,910	-	35,208,991	38,384	279,246	-
47	-	-	33,763,927	-	-	-
48	-	-	32,259,430	-	-	-
49	-	-	30,705,825	-	-	-
50	-	-	29,114,477	-	-	-
51	-	-	27,497,164	-	-	-
52	-	-	25,866,158	-	-	-
53	-	-	24,233,302	-	-	-
54	-	-	22,609,983	-	-	-
55	-	-	21,006,774	-	-	-
56	-	-	19,433,310	-	-	-
57	-	-	17,898,571	-	-	-
58	-	-	16,409,617	-	-	-
59	-	-	14,972,532	-	-	-
60	-	-	13,592,507	-	-	-

Column b – Contributions on behalf of current employees in the Plan as of the Actuarial Valuation Date.
 Column d – Based on the average Administrative Expense in recent years, and projected to increase in the future.
 Column e – Based on the Expected Rate of Return on Plan Investments, and does not factor in allocation changes.



PROJECTION OF THE PENSION PLAN'S FIDUCIARY NET POSITION – YEARS 61 TO 80

Year	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expense (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a)+(b)-(c)-(d)+(e)
61	\$ -	\$ -	\$ 12,273,551	\$ -	\$ -	\$ -
62	-	-	11,019,167	-	-	-
63	-	-	9,831,916	-	-	-
64	-	-	8,714,035	-	-	-
65	-	-	7,668,071	-	-	-
66	-	-	6,696,261	-	-	-
67	-	-	5,799,930	-	-	-
68	-	-	4,979,637	-	-	-
69	-	-	4,235,219	-	-	-
70	-	-	3,565,666	-	-	-
71	-	-	2,969,187	-	-	-
72	-	-	2,443,106	-	-	-
73	-	-	1,984,219	-	-	-
74	-	-	1,589,004	-	-	-
75	-	-	1,253,331	-	-	-
76	-	-	972,583	-	-	-
77	-	-	741,704	-	-	-
78	-	-	555,289	-	-	-
79	-	-	407,691	-	-	-
80	-	-	293,263	-	-	-

NOTES TO PROJECTION OF THE PENSION PLAN'S FIDUCIARY NET POSITION

Projected Total Contributions are Employee and Employer Contributions projected to be made under the Funding Policy on behalf of current employees in the Plan as of the Actuarial Valuation Date. The amounts shown are detailed earlier in this section.

Projected Benefit Payments shown represents current employees as of the Actuarial Valuation Date. The Plan will pay benefits in the future on behalf of employees hired after the Actuarial Valuation Date, but those benefit payments are not projected for this purpose.

Projected Investment Earnings are based on the Expected Rate of Return on Plan Investments. Administrative Expense are typically not charged on a per employee basis. Administrative Expenses shown are not projected to distinguish between current and future employees.

The Projected Fiduciary Net Position represents assets held or projected to be held on behalf of current employees in the Plan as of the Actuarial Valuation Date. The Plan will hold assets in the future on behalf of employees hired after the Actuarial Valuation Date, but those assets are not projected for this purpose.



ACTUARIAL PRESENT VALUE OF PROJECTED BENEFIT PAYMENTS – YEARS 1 TO 30

Year	Projected Beginning Fiduciary Net Position	Projected Benefit Payments	Projected Benefit Payments		Actuarial Present Values of Projected Benefit Payments		
			"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments	Present Value of "Funded" Benefit Payments (7.00%)	Present Value of "Unfunded" Benefit Payments (2.44%)	Present Value of Benefit Payments Using the Single Discount Rate (5.63%)
1	\$ 173,499,003	\$ 16,696,378	\$ 16,696,378	\$ -	\$ 16,140,998	\$ -	\$ 16,245,333
2	199,207,738	16,786,549	16,786,549	-	15,166,513	-	15,462,528
3	211,301,617	17,553,672	17,553,672	-	14,822,059	-	15,307,342
4	224,025,950	18,373,073	18,373,073	-	14,499,018	-	15,167,931
5	237,182,776	19,273,232	19,273,232	-	14,214,368	-	15,063,011
6	250,693,412	20,240,717	20,240,717	-	13,951,314	-	14,976,000
7	264,508,800	21,276,107	21,276,107	-	13,705,586	-	14,903,039
8	278,587,410	22,382,677	22,382,677	-	13,475,152	-	14,842,512
9	292,878,648	23,562,870	23,562,870	-	13,257,636	-	14,792,321
10	307,316,410	24,730,232	24,730,232	-	13,004,160	-	14,697,688
11	321,916,960	25,878,207	25,878,207	-	12,717,581	-	14,560,214
12	336,727,351	27,128,801	27,128,801	-	12,459,974	-	14,450,300
13	351,694,945	28,399,860	28,399,860	-	12,190,429	-	14,321,061
14	366,847,328	29,658,942	29,658,942	-	11,898,019	-	14,158,830
15	382,226,514	30,946,019	30,946,019	-	11,602,191	-	13,985,862
16	397,850,659	32,240,441	32,240,441	-	11,296,721	-	13,794,251
17	413,787,419	33,566,226	33,566,226	-	10,991,835	-	13,596,039
18	430,039,836	34,734,046	34,734,046	-	10,630,147	-	13,319,195
19	446,830,910	35,924,518	35,924,518	-	10,275,219	-	13,041,462
20	464,214,156	36,921,147	36,921,147	-	9,869,418	-	12,688,878
21	482,524,924	37,942,925	37,942,925	-	9,479,018	-	12,345,014
22	498,651,310	38,987,776	38,987,776	-	9,102,847	-	12,008,864
23	495,158,805	39,859,183	39,859,183	-	8,697,479	-	11,622,903
24	490,330,034	40,730,440	40,730,440	-	8,306,161	-	11,243,927
25	484,059,090	41,453,770	41,453,770	-	7,900,626	-	10,833,672
26	476,417,153	42,186,654	42,186,654	-	7,514,304	-	10,437,571
27	467,279,445	43,021,460	43,021,460	-	7,161,682	-	10,076,790
28	456,467,362	43,555,428	43,555,428	-	6,776,234	-	9,658,109
29	444,167,105	44,058,307	44,058,307	-	6,406,047	-	9,248,905
30	430,296,365	44,428,812	44,428,812	-	6,037,307	-	8,829,578

The Projected Fiduciary Net Position and Benefit Payments are based on current employees in the Plan as of the Actuarial Valuation Date. The development of the Projected Fiduciary Net Position is shown in more detail earlier in this section.



ACTUARIAL PRESENT VALUE OF PROJECTED BENEFIT PAYMENTS – YEARS 31 TO 60

Year	Projected Beginning Fiduciary Net Position	Projected Benefit Payments	Projected Benefit Payments		Actuarial Present Values of Projected Benefit Payments		
			"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments	Present Value of "Funded" Benefit Payments (7.00%)	Present Value of "Unfunded" Benefit Payments (2.44%)	Present Value of Benefit Payments Using the Single Discount Rate (5.63%)
31	\$ 414,914,665	\$ 44,791,236	\$ 44,791,236	\$ -	\$ 5,688,370	\$ -	\$ 8,427,156
32	397,938,853	44,979,863	44,979,863	-	5,338,621	-	8,011,592
33	379,449,794	45,025,054	45,025,054	-	4,994,379	-	7,592,200
34	359,511,260	45,005,233	45,005,233	-	4,665,589	-	7,184,377
35	338,088,957	44,822,401	44,822,401	-	4,342,650	-	6,773,825
36	315,314,526	44,612,733	44,612,733	-	4,039,566	-	6,382,788
37	291,124,208	44,161,787	44,161,787	-	3,737,135	-	5,981,511
38	265,681,957	43,608,487	43,608,487	-	3,448,890	-	5,591,754
39	239,003,890	42,939,273	42,939,273	-	3,173,798	-	5,212,480
40	211,141,506	42,142,725	42,142,725	-	2,911,142	-	4,843,118
41	182,147,132	41,254,248	41,254,248	-	2,663,334	-	4,488,320
42	152,041,199	40,227,324	40,227,324	-	2,427,137	-	4,143,325
43	120,902,966	39,103,081	39,103,081	-	2,204,959	-	3,812,866
44	88,760,868	37,885,426	37,885,426	-	1,996,539	-	3,497,240
45	55,657,060	36,585,404	36,585,404	-	1,801,896	-	3,197,230
46	21,612,910	35,208,991	21,612,910	13,596,081	994,836	4,539,921	2,912,945
47	-	33,763,927	-	33,763,927	-	11,005,707	2,644,505
48	-	32,259,430	-	32,259,430	-	10,264,838	2,391,998
49	-	30,705,825	-	30,705,825	-	9,537,765	2,155,449
50	-	29,114,477	-	29,114,477	-	8,828,060	1,934,811
51	-	27,497,164	-	27,497,164	-	8,139,067	1,729,937
52	-	25,866,158	-	25,866,158	-	7,473,931	1,540,590
53	-	24,233,302	-	24,233,302	-	6,835,341	1,366,408
54	-	22,609,983	-	22,609,983	-	6,225,557	1,206,926
55	-	21,006,774	-	21,006,774	-	5,646,350	1,061,580
56	-	19,433,310	-	19,433,310	-	5,099,008	929,721
57	-	17,898,571	-	17,898,571	-	4,584,454	810,657
58	-	16,409,617	-	16,409,617	-	4,102,969	703,607
59	-	14,972,532	-	14,972,532	-	3,654,478	607,770
60	-	13,592,507	-	13,592,507	-	3,238,621	522,344

The Projected Fiduciary Net Position and Benefit Payments are based on current employees in the Plan as of the Actuarial Valuation Date. The development of the Projected Fiduciary Net Position is shown in more detail earlier in this section.



ACTUARIAL PRESENT VALUE OF PROJECTED BENEFIT PAYMENTS – YEARS 61 TO 80

Year	Projected Beginning Fiduciary Net Position	Projected Benefit Payments	Projected Benefit Payments		Actuarial Present Values of Projected Benefit Payments		
			"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments	Present Value of "Funded" Benefit Payments (7.00%)	Present Value of "Unfunded" Benefit Payments (2.44%)	Present Value of Benefit Payments Using the Single Discount Rate (5.63%)
61	\$ -	\$ 12,273,551	\$ -	\$ 12,273,551	\$ -	\$ 2,854,705	\$ 446,519
62	-	11,019,167	-	11,019,167	-	2,501,902	379,517
63	-	9,831,916	-	9,831,916	-	2,179,165	320,578
64	-	8,714,035	-	8,714,035	-	1,885,392	268,984
65	-	7,668,071	-	7,668,071	-	1,619,567	224,082
66	-	6,696,261	-	6,696,261	-	1,380,624	185,253
67	-	5,799,930	-	5,799,930	-	1,167,337	151,904
68	-	4,979,637	-	4,979,637	-	978,367	123,469
69	-	4,235,219	-	4,235,219	-	812,289	99,414
70	-	3,565,666	-	3,565,666	-	667,584	79,236
71	-	2,969,187	-	2,969,187	-	542,666	62,465
72	-	2,443,106	-	2,443,106	-	435,881	48,658
73	-	1,984,219	-	1,984,219	-	345,578	37,412
74	-	1,589,004	-	1,589,004	-	270,154	28,364
75	-	1,253,331	-	1,253,331	-	208,009	21,179
76	-	972,583	-	972,583	-	157,570	15,559
77	-	741,704	-	741,704	-	117,303	11,233
78	-	555,289	-	555,289	-	85,729	7,962
79	-	407,691	-	407,691	-	61,443	5,534
80	-	293,263	-	293,263	-	43,145	3,768

NOTES TO THE ACTUARIAL PRESENT VALUE OF PROJECTED BENEFIT PAYMENTS

The Projected Fiduciary Net Position and Benefit Payments are based on current employees in the Plan as of the Actuarial Valuation Date. The development of the Projected Fiduciary Net Position is shown in more detail earlier in this section.

The Funded and Unfunded Portion of Benefit Payments are split based on the time that the Projected Fiduciary Net Position is to reach \$0 (based on assets for current employees).

The Present Value ("PV") of the Funded and Unfunded Portion of Benefit Payments are determined separately. The PV of the Funded Portion of Benefit Payments uses the Expected Rate of Return on Plan Investments. The PV of the Unfunded Portion of Benefit Payments are determined using the High-Quality Municipal Bond Rate as of the Measurement Date, as described in the *Actuarial Assumptions Information* section of this report.

The Discount Rate used for GASB purposes is the rate such that when applied to the Total Projected Benefit Payments results in a Present Value that equals the sum of the Present Value of the Funded and Unfunded Portion of Benefit Payments. The Discount Rate is rounded to four decimal places; therefore, the resulting Present Value comparisons may show a slight difference due to rounding.



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