

GASB 67/68 Report
For Use in Financial Statement Reporting



ALSIP POLICE
PENSION FUND

Actuarial Valuation
as of May 1, 2018

LAUTERBACH & AMEN, LLP

GASB Statements 67 and 68 Actuarial Disclosures



Lauterbach & Amen, LLP

CERTIFIED PUBLIC ACCOUNTANTS

GASB 67: ALSIP POLICE PENSION FUND

Fiscal Year Ended: April 30, 2019

Actuarial Valuation Date: May 1, 2018

Utilizing Data as of April 30, 2018

Measurement Date: April 30, 2019

GASB 68: VILLAGE OF ALSIP, ILLINOIS

Fiscal Year Ended: April 30, 2019

Actuarial Valuation Date: May 1, 2018

Utilizing Data as of April 30, 2018

Measurement Date: April 30, 2019

Submitted by:

Lauterbach & Amen, LLP
668 N. River Road
Naperville, IL 60563
Phone: 630.393.1483
www.lauterbachamen.com

Contact:

Todd A. Schroeder
Director
October 23, 2019

LAUTERBACH & AMEN, LLP



TABLE OF CONTENTS

ACTUARIAL CERTIFICATION	1
PLAN FIDUCIARY NET POSITION	2
Statement of Plan Fiduciary Net Position	3
Statement of Changes in Plan Fiduciary Net Position	4
ACTUARIAL PENSION LIABILITY INFORMATION	5
Statement of Total Pension Liability	6
Statement of Changes in Total Pension Liability	7
Statement of Changes in Net Pension Liability	8
Deferred Outflows and Inflows of Resources	9
Deferred Outflows and Inflows of Resources – Detail	10
Pension Expense Development	11
ACTUARIAL ASSUMPTIONS INFORMATION	12
Statement of Significant Actuarial Assumptions	13
Assumption Changes	13
Notes on Actuarial Assumptions	15
Postemployment Benefit Changes	16
Expected Return on Pension Plan Investments	17
Municipal Bond Rate	18
Discount Rate	18
Sensitivity of the Discount Rate	19
PARTICIPANT DATA	20
Participant Demographic Data	21
Expected Future Working Lifetime	21
FUNDING POLICY	22
Components of the Actuarially Determined Contribution	23
Formal Funding Policy	23
Informal Funding Policy	23
Funding Policy – Other Considerations	25
SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION	26
Schedule of Changes in the Net Pension Liability	27
Schedule of Total Pension Liability and Related Ratio	28
Schedule of Contributions	29
Notes to Schedule of Contributions	29
GASB METHODS AND PROCEDURES	30
GASB Methods and Procedures	31
SUPPLEMENTARY TABLES	32
GASB Projections – Summary and Procedure	33



TABLE OF CONTENTS

GASB Projections – Limitations	34
Projection of Contributions – Years 1 to 30	35
Projection of Contributions – Years 31 to 60	36
Projection of Contributions – Years 61 to 80	37
Notes to Projection of Contributions	37
Projection of the Pension Plan’s Fiduciary Net Position – Years 1 to 30.....	38
Projection of the Pension Plan’s Fiduciary Net Position – Years 31 to 60.....	39
Projection of the Pension Plan’s Fiduciary Net Position – Years 61 to 80.....	40
Notes to Projection of the Pension Plan’s Fiduciary Net Position.....	40
Actuarial Present Value of Projected Benefit Payments – Years 1 to 30.....	41
Actuarial Present Value of Projected Benefit Payments – Years 31 to 60.....	42
Actuarial Present Value of Projected Benefit Payments – Years 61 to 80.....	43
Notes to the Actuarial Present Value of Projected Benefit Payments.....	43



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 their preparation of the required footnote disclosures.

The results in this report are based on the participant data and financial information submitted by the Village of Alsip, Illinois, and may include results from the prior Actuary. We did not prepare the Actuarial Valuations for the years prior to May 1, 2015. 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 Village of Alsip, Illinois 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 Alsip Police Pension Fund or the Village of Alsip, Illinois and Lauterbach & Amen, LLP that impairs our objectivity.

Respectfully Submitted,

LAUTERBACH & AMEN, LLP

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

Robert L. Rietz, Jr., FCA, EA, MAAA



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>2018</u>	<u>2019</u>
Assets		
Cash and Cash Equivalents	\$ 673,547	\$ 336,892
Total Cash	<u>673,547</u>	<u>336,892</u>
Receivables:		
Investment Income - Accrued Interest	<u>40,829</u>	<u>46,502</u>
Total Receivables	<u>40,829</u>	<u>46,502</u>
Investments:		
Fixed Income	5,212,049	6,703,853
Certificates of Deposits	2,763,774	3,099,213
Mutual Funds	<u>12,350,398</u>	<u>13,323,517</u>
Total Investments	<u>20,326,221</u>	<u>23,126,583</u>
Total Assets	<u>21,040,597</u>	<u>23,509,977</u>
Liabilities		
Payables:		
Expenses Due/Unpaid	<u>14,621</u>	<u>13,282</u>
Total Liabilities	<u>14,621</u>	<u>13,282</u>
Net Position Restricted for Pensions	<u>\$ 21,025,976</u>	<u>\$ 23,496,695</u>

The Plan Fiduciary Net Position shown above is intended to be in accordance with GAAP and the Governmental Accounting Standards Board. The Fair Market 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 Market Value of Investments. The Statement of Plan Fiduciary Net Position for 2019 is based on audited financials.



STATEMENT OF CHANGES IN PLAN FIDUCIARY NET POSITION

	<u>2019</u>
Additions	
Contributions	
Employer	\$ 3,950,636
Member	352,823
Total Contributions	<u>4,303,459</u>
Investment Income	
Net Appreciation in Fair Value of Investments	1,166,276
Interest and Dividends	298,201
Less Investment Expense	<u>(126,347)</u>
Net Investment Income	<u>1,338,130</u>
Total Additions	<u>5,641,589</u>
Deductions	
Benefit Payments and Refunds of Member Contributions	3,159,867
Administrative Expense	<u>11,003</u>
Total Deductions	<u>3,170,870</u>
Net Increase in Net Position	<u>2,470,719</u>
Net Position Restricted for Pensions	
Beginning of Year	<u>21,025,976</u>
End of Year	<u>\$ 23,496,695</u>

The change 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 Market Value of Investments. The Statement of Changes in Plan Fiduciary Net Position for 2019 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>2018</u>	<u>2019</u>
Active Employees	\$ 16,029,015	\$ 15,939,580
Inactive Employees		
Terminated Employees - Vested	662,835	925,962
Retired Employees	41,773,219	42,453,297
Disabled Employees	3,280,302	3,122,773
Other Beneficiaries	<u>1,421,048</u>	<u>2,603,326</u>
Total Inactive Employees	<u>47,137,404</u>	<u>49,105,358</u>
Total Pension Liability	<u>\$ 63,166,419</u>	<u>\$ 65,044,938</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, may 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 used for the Actuarial Valuation Date as shown in this report. The TPL has been determined as of the Actuarial Valuation Date and based on the assumptions shown in this report, adjusted to the Measurement Date as needed.



STATEMENT OF CHANGES IN TOTAL PENSION LIABILITY

	<u>2019</u>
Changes in Total Pension Liability	
Service Cost	\$ 861,606
Interest	4,003,122
Changes of Benefit Terms	-
Differences Between Expected and Actual Experience	173,658
Changes in Assumptions	-
Benefit Payments and Refunds	<u>(3,159,867)</u>
Net Change in Total Pension Liability	1,878,519
Total Pension Liability - Beginning	<u>63,166,419</u>
Total Pension Liability - Ending (a)	<u>\$ 65,044,938</u>
Plan Fiduciary Net Position - Ending (b)	<u>\$ 23,496,695</u>
Employer's Net Pension Liability - Ending (a) - (b)	<u>\$ 41,548,243</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	36%
Covered-Employee Payroll	\$ 3,103,268
Employer's Net Pension Liability as a Percentage of Employee Payroll	1,339%

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 Fiduciary Net Position of the Fund. Changes in the Fiduciary Net Position could change the determination of the Total Pension Liability. Any changes in Fiduciary Net Position including adjustments on final audit can have an impact on Net Pension Liability that extends beyond the dollar-for-dollar change in Fiduciary Net Position.

Covered Employee Payroll is based on Total Covered Payroll for the Fund members during the fiscal year.



STATEMENT OF CHANGES IN NET PENSION LIABILITY

The table below illustrates the change in the 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	Plan Fiduciary Net Position	Net Pension Liability
	(a)	(b)	(a) - (b)
Balances Beginning at 05/01/18	<u>\$ 63,166,419</u>	<u>\$ 21,025,976</u>	<u>\$ 42,140,443</u>
Changes for the year:			
Service Cost	861,606	-	861,606
Interest	4,003,122	-	4,003,122
Actuarial Experience	173,658	-	173,658
Assumptions Changes	-	-	-
Plan Changes	-	-	-
Contributions - Employer	-	3,950,636	(3,950,636)
Contributions - Employee	-	352,823	(352,823)
Contributions - Other	-	-	-
Net Investment Income	-	1,338,130	(1,338,130)
Benefit Payments and Refunds	(3,159,867)	(3,159,867)	-
Administrative Expense	-	(11,003)	11,003
Net Changes	<u>1,878,519</u>	<u>2,470,719</u>	<u>(592,200)</u>
Balances Ending at 04/30/19	<u><u>\$ 65,044,938</u></u>	<u><u>\$ 23,496,695</u></u>	<u><u>\$ 41,548,243</u></u>

The changes in Total Pension Liability 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 difference in actual and expected experience, or changes in assumptions regarding future events, are recognized in Pension Expense over the expected remaining service life of all employees (active and retired) in the Pension Fund. Differences in projected and actual earnings 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>
Differences Between Expected and Actual Experience	\$ 1,348,720	\$ 231,013
Changes of Assumptions	4,090,159	176,314
Net Difference Between Projected and Actual Earnings on Pension Plan Investments	336,324	154,014
Contributions Subsequent to the Measurement Date*	-	-
Total	<u>\$ 5,775,203</u>	<u>\$ 561,341</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	
April 30:	
2020	\$ 1,305,326
2021	1,035,086
2022	1,112,089
2023	1,070,522
2024	624,733
Thereafter	66,106



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	4/30/2019 Expense Recognized	4/30/2019 Deferred Balance
Asset Loss	4/30/2019	5.00	\$ 65,368	5.00	\$ 13,074	\$ 52,294
Actuarial Loss	4/30/2019	7.60	173,658	7.60	22,850	150,808
Asset Loss	4/30/2018	5.00	22,986	4.00	4,598	13,790
Change in Assumptions Loss	4/30/2018	7.05	3,964,677	6.05	562,366	2,839,945
Actuarial Loss	4/30/2018	7.05	202,242	6.05	28,687	144,868
Asset Gain	4/30/2017	5.00	(385,035)	3.00	(77,007)	(154,014)
Change in Assumptions Gain	4/30/2017	7.05	(306,922)	5.05	(43,536)	(176,314)
Actuarial Loss	4/30/2017	7.05	1,833,077	5.05	260,011	1,053,044
Asset Loss	4/30/2016	5.00	1,351,200	2.00	270,240	270,240
Change in Assumptions Loss	4/30/2016	7.86	2,545,778	4.86	323,891	1,250,214
Actuarial Gain	4/30/2016	7.86	(470,405)	4.86	(59,848)	(231,013)
Total			<u>\$ 8,996,624</u>		<u>\$ 1,305,326</u>	<u>\$ 5,213,862</u>

Each detail item in the chart 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 development of the Pension Expense:

	<u>2019</u>
Pension Expense/(Income) Under GASB 68	
Service Cost	\$ 861,606
Interest	4,003,122
Plan Changes	-
Contributions - Employee	(352,823)
Contributions - Other	-
Expected Investment Income	(1,403,500)
Administrative Expense	11,003
Other Changes	-
Initial Pension Expense/(Income)	<u>3,119,408</u>
Recognition of Outflow/(Inflow) of Resources due to Liabilities	1,094,421
Recognition of Outflow/(Inflow) of Resources due to Assets	210,905
Total Pension Expense/(Income)	<u>\$ 4,424,734</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	6.50%
Long-Term Expected Rate of Return on Plan Assets	6.50%
High Quality 20 Year Tax-Exempt G.O. Bond Rate	3.79%
Projected Individual Pay Increases	4.00% - 32.48%
Projected Increase in Total Payroll	3.25%
Consumer Price Index (Urban)	2.50%
Inflation Rate Included	2.50%

Actuarial Assumptions (Demographic)

Mortality Table	RP-2014 Adjusted for Plan Status, Collar, and Illinois Public Pension Data, as Appropriate
Retirement Rates	L&A 2016 Illinois Police Retirement Rates Capped at age 65
Disability Rates	L&A 2016 Illinois Police Disability Rates
Termination Rates	L&A 2016 Illinois Police Termination Rates
Percent Married	80%

All rates shown in the economic assumptions are assumed to be annual rates, compounded on an annual basis. For more information on the selection of the actuarial assumptions, please see the Assumption Summary prepared for the Fund, available upon request.

ASSUMPTION CHANGES

The assumptions were changed from the prior year.

The assumed rate on High Quality 20 Year Tax-Exempt General Obligation (G.O.) Bonds was changed from 3.97% to 3.79% 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 remained constant at 6.50%. 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.

In the current valuation, we have reviewed the individual pay scale assumption to reflect the settled bargaining agreement between the Village of Alsip, Illinois and the Metropolitan Alliance of Police, Alsip Police Chapter #669 for the period May 1, 2018 through April 30, 2021. The year over year step increases dictated by the wage schedule did not change significantly from the prior year contract, therefore, we have not updated the assumption for individual pay increases.

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



NOTES ON ACTUARIAL ASSUMPTIONS

Individual Pay Increases

Individual pay increases include provisions for annual cost of living increases, plus any additional increases in pensionable pay provided (step increases, longevity increases, promotions, educations, etc). Sample rates are as follows:

Service	Rate	Service	Rate
0	6.50%	8	4.00%
1	6.35%	9	4.00%
2	6.20%	10	4.00%
3	9.64%	15	4.00%
4	10.83%	20	4.00%
5	32.48%	25	4.00%
6	4.00%	30	4.00%
7	4.00%	35	4.00%

Demographic Assumptions

Active Mortality follows the Sex Distinct Raw Rates as developed in the RP-2014 Study, with Blue Collar Adjustment. These rates are improved generationally using MP-2016 Improvement Rates.

Retiree Mortality follows the L&A Assumption Study for Police 2016. These rates are experience-weighted with the Raw Rates as developed in the RP-2014 Study, with Blue Collar Adjustment and improved generationally using MP-2016 Improvement Rates.

Disabled Mortality follows the Sex Distinct Raw Rates as developed in the RP-2014 Study for Disabled Participants. These rates are improved generationally using MP-2016 Improvement Rates.

Spouse Mortality follows the Sex Distinct Raw Rates as developed in the RP-2014 Study. These rates are improved generationally using MP-2016 Improvement Rates.

Other demographic assumption rates are based on a review of assumptions in the L&A 2016 study for Illinois Police Officers.



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 3.0% increase in retirement benefits by statute when eligible. Tier 2 Police retirees are provided postemployment benefit increases based on one-half of the Consumer Price Index (Urban) for the prior September.

The CPI-U for September 1985 was 108.3. The CPI-U for September 2018 was 252.4. The average increase in the CPI-U for September 1985 through September 2018 was 2.61% (on a compounded basis).



EXPECTED RETURN ON PENSION PLAN INVESTMENTS

The Long-Term Expected Rate of Return on assets 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 have been provided by the State of Illinois Department of Insurance Actuarial Experience Study dated September 26, 2012. 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.

<u>Asset Class</u>	<u>Long-Term Expected Rate of Return</u>	<u>Long-Term Inflation Expectations</u>	<u>Long-Term Expected Real Rate of Return</u>
US Large Cap Equity	8.30%	2.50%	5.80%
US Mid Cap Equity	9.30%	2.50%	6.80%
US Small Cap Equity	9.30%	2.50%	6.80%
Non-US Developed Large Cap Equity Unhedged	8.40%	2.50%	5.90%
Emerging Markets Equity Unhedged	10.50%	2.50%	8.00%
US Corporate Bonds	4.20%	2.50%	1.70%
US Government Fixed Income	3.20%	2.50%	0.70%
US Cash	3.00%	2.50%	0.50%
Global Real Estate - REITS	8.30%	2.50%	5.80%
Commodities - Long Only	4.90%	2.50%	2.40%

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 2.50% 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 April 25, 2019 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 Long-Term 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 future Fiduciary Net Position will be able to cover future benefit payments. To the extent future benefit payments are covered by the Plan's projected Fiduciary Net Position, the Long-Term 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 future 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 in the prior section. 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 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 Net Pension Liability to the discount rate assumption.

	1% Decrease (5.50%)	Current Discount Rate (6.50%)	1% Increase (7.50%)
Employer Net Pension Liability	\$51,035,921	\$41,548,243	\$33,857,624

The sensitivity of the Net Pension Liability to the discount rate is based primarily on two factors:

1. The duration of the Plan's expected benefit payments. Younger plans with benefit payments further in the future will be more sensitive to changes in the discount rate.
2. The funded percentage of the Plan (ratio of the Fiduciary Net Position to the Total Pension Liability). The higher the funded percentage, the higher the sensitivity to the discount rate.



PARTICIPANT DATA

Participant Demographic Data
Expected Future Working Lifetime



PARTICIPANT DEMOGRAPHIC DATA

The chart below summarizes the employee count and payroll as of April 30:

	<u>2017</u>	<u>2018</u>
Inactive Plan Members or Beneficiaries Currently Receiving Benefits	39	40
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	1	2
Active Plan Members	<u>36</u>	<u>40</u>
Total	<u>76</u>	<u>82</u>
Payroll of Active Plan Members	<u>\$ 3,141,600</u>	<u>\$ 3,351,889</u>

Participant 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 rate of salary for active Plan members as of the data collection date for the Actuarial Valuation. For the fiscal year ending April 30, 2019, a beginning of the year 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 census information used in this valuation is based on the report filed with the Illinois Department of Insurance for the fiscal year ended April 30, 2018.

EXPECTED FUTURE WORKING LIFETIME

The chart below summarizes the expected future working lifetime of Fund Members as of April 30:

	<u>2017</u>	<u>2018</u>
Average Future Working Career (In Years)		
Active Plan Members	14.89	15.58
Inactive Plan Members	0.00	0.00
Total	7.05	7.60

The expected future working lifetime 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 Entry Age Normal Cost method (level percent of pay). The method allocates Normal Cost contributions by employee over the working career of the employee as a level percent of their pay.

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. The current year's employer contributions are being compared to the Actuarially Determined Contribution as developed in the May 1, 2017 actuarial valuation. The period of repayment as of that valuation is 16 years.

Beginning with the fiscal year ended April 30, 2018, the Village has implemented layered amortization to mitigate future volatility in the determination of the actuarial contribution. Any unfunded liability as of April 30, 2017 will be full-amortized by April 30, 2040. Any new unfunded liability of this date, and any that should emerge in a subsequent fiscal year, will be paid over a separate 15-year period.

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 statutes.

FORMAL FUNDING POLICY

There is a Sustainable Retiree Defined Benefit Funding Policy that exists between the Pension Board and the Village at this time. Adopted by the Village on May 21, 2018, the policy states that the Village will contribute 100% of the Actuarially Determined Contribution, calculated based on the above-stated Funding Policy parameters. The economic and demographic assumptions disclosed in this report are the same as those referenced in the Funding Policy. Please refer to this document for full details on the assumptions and objectives between the Village and Pension Board.

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. The five-year contribution history of the Employer (with a focus on the average contributions from those sources)
2. All other known events and conditions
3. Consideration of subsequent events

Five-Year Contribution History of the Employer

Employer contributions (under the informal 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 Payroll	% of Payroll
4/30/2019	\$3,950,636	\$3,570,367	110.65%	\$3,103,268	127.31%
4/30/2018	\$2,677,597	\$3,299,096	81.16%	\$3,560,945	75.19%
4/30/2017	\$2,572,942	\$2,990,818	86.03%	\$3,724,025	69.09%
4/30/2016	\$2,439,154	\$2,333,349	104.53%	\$3,438,864	70.93%
4/30/2015	\$2,214,723	\$2,148,485	103.08%	\$3,376,153	65.60%

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

There is a Formal Funding Policy that exists between the Pension Fund and the Village. See the *Formal Funding Policy* section of this report for further details. For this reason, we have not determined an Informal Funding Policy for GASB 67/68 reporting purposes.

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 existing employees as of the Actuarial Valuation Date as well as payment of Unfunded Liability on behalf of the current existing 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 lifetimes of current employees. In that case contributions will persist beyond the working lifetimes of current employees. To the extent a portion of the above total contribution is anticipated to pay contributions for future employee Normal Cost, 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 Fund 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



SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY

	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Total Pension Liability										
Service Cost	\$ 861,606	\$ 693,529	\$ 648,158	\$ 689,917	\$ 734,284					
Interest	4,003,122	3,917,662	3,714,215	3,471,181	3,368,025					
Differences Between Expected and Actual Experience	173,658	202,242	1,833,077	(470,405)	-					
Changes in Assumptions	-	3,964,677	(306,922)	2,545,778	-					
Benefit Payments and Refunds	(3,159,867)	(3,156,598)	(2,807,670)	(2,721,440)	(2,535,879)					
Net Change In Total Pension Liability	\$ 1,878,519	\$ 5,621,513	\$ 3,080,857	\$ 3,515,031	\$ 1,566,430					
Total Pension Liability - Beginning	63,166,419	57,544,906	54,464,049	50,949,018	49,382,588					
Total Pension Liability - Ending (a)	\$ 65,044,938	\$ 63,166,419	\$ 57,544,906	\$ 54,464,049	\$ 50,949,018					
Plan Fiduciary Net Position										
Contributions - Employer	\$ 3,950,636	\$ 2,677,597	\$ 2,572,942	\$ 2,439,154	\$ 2,214,723					
Contributions - Member	352,823	339,682	352,928	351,042	334,901					
Contributions - Other	-	-	49,537	-	-					
Net Investment Income	1,338,130	1,270,037	1,669,246	(68,814)	1,196,897					
Benefit Payments and Refunds	(3,159,867)	(3,156,598)	(2,807,670)	(2,721,440)	(2,535,879)					
Administrative Expense	(11,003)	(24,529)	(37,965)	(8,720)	(21,288)					
Prior Period Audit Adjustment	-	(109,595)	(50,630)	-	77,450					
Net Change in Plan Fiduciary Net Position	\$ 2,470,719	\$ 996,594	\$ 1,748,389	\$ (8,778)	\$ 1,266,804					
Plan Fiduciary Net Position - Beginning	21,025,976	20,029,382	18,280,993	18,289,771	17,022,967					
Plan Fiduciary Net Position - Ending (b)	\$ 23,496,695	\$ 21,025,976	\$ 20,029,382	\$ 18,280,993	\$ 18,289,771					
Employer Net Pension Liability - Ending (a) - (b)	\$ 41,548,243	\$ 42,140,443	\$ 37,515,524	\$ 36,183,056	\$ 32,659,247					

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



SCHEDULE OF TOTAL PENSION LIABILITY AND RELATED RATIO

	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>
Total Pension Liability - Ending (a)	<u>\$ 65,044,938</u>	<u>\$ 63,166,419</u>	<u>\$ 57,544,906</u>	<u>\$ 54,464,049</u>	<u>\$ 50,949,018</u>					
Plan Fiduciary Net Position - Ending (b)	<u>\$ 23,496,695</u>	<u>\$ 21,025,976</u>	<u>\$ 20,029,382</u>	<u>\$ 18,280,993</u>	<u>\$ 18,289,771</u>					
Employer Net Pension Liability - Ending (a) - (b)	<u>\$ 41,548,243</u>	<u>\$ 42,140,443</u>	<u>\$ 37,515,524</u>	<u>\$ 36,183,056</u>	<u>\$ 32,659,247</u>					
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	36.12%	33.29%	34.81%	33.57%	35.90%					
Covered-Employee Payroll	\$ 3,103,268	\$ 3,560,945	\$ 3,724,025	\$ 3,438,864	\$ 3,376,153					
Employer Net Pension Liability as a Percentage of Covered-Employee Payroll	1,338.85%	1,183.41%	1,007.39%	1,052.18%	967.35%					

Covered Employee Payroll shown for the current year is the Total Covered Payroll for the fiscal year for all Fund members.



SCHEDULE OF CONTRIBUTIONS

	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Actuarially Determined Contribution	\$3,570,367	\$3,299,096	\$2,990,818	\$2,333,349	\$2,148,485					
Contributions in Relation to the Actuarially Determined Contribution	<u>3,950,636</u>	<u>2,677,597</u>	<u>2,572,942</u>	<u>2,439,154</u>	<u>2,214,723</u>					
Contribution Deficiency/(Excess)	<u>\$ (380,269)</u>	<u>\$ 621,499</u>	<u>\$ 417,876</u>	<u>\$ (105,805)</u>	<u>\$ (66,238)</u>					
Covered-Employee Payroll	<u>\$ 3,103,268</u>	<u>\$ 3,560,945</u>	<u>\$ 3,724,025</u>	<u>\$ 3,438,864</u>	<u>\$ 3,376,153</u>					
Contributions as a Percentage of Covered-Employee Payroll	127.31%	75.19%	69.09%	70.93%	65.60%					

NOTES TO SCHEDULE OF CONTRIBUTIONS

The Actuarially Determined Contribution shown for the current year is from the May 1, 2017 Actuarial Report completed by Lauterbach & Amen, LLP for the tax levy recommendation for the December 2017 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	Entry Age Normal
Amortization Method	Level % Pay (Closed)
Remaining Amortization Period	16 Years
Asset Valuation Method	5-Year Smoothed Market Value
Inflation	2.50%
Payroll Increases	3.25%
Individual Pay Increases	4.00% - 23.14%
Investment Rate of Return	6.75%
Mortality Rates	RP-2014 Adjusted for Plan Status, Collar, and Illinois Public Pension Data, as Appropriate
Retirement Rates	L&A 2016 Illinois Police Retirement Rates Capped at age 65
Termination Rates	L&A 2016 Illinois Police Termination Rates
Disability Rates	L&A 2016 Illinois Police Disability Rates



GASB METHODS AND PROCEDURES

GASB Methods and Procedures
Methodology for Deferred Outflows and Inflows



GASB METHODS AND PROCEDURES

	<u>Statement 67</u> <u>Pension Fund Financials</u>	<u>Statement 68</u> <u>Employer Financials</u>
Fiscal Year End for Reporting	April 30, 2019	April 30, 2019
Measurement Date	April 30, 2019	April 30, 2019
Actuarial Valuation Date	May 1, 2018	May 1, 2018
Actuarial Valuation - Data Date	April 30, 2018	April 30, 2018
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 Inflows and Outflows of Resources

Amortization Method	Straight Line	Straight Line
Amortization Period		
Actuarial Experience (TPL)	7.60 Years	7.60 Years
Changes in Assumptions	7.60 Years	7.60 Years
Asset Experience	5.00 Years	5.00 Years



SUPPLEMENTARY TABLES

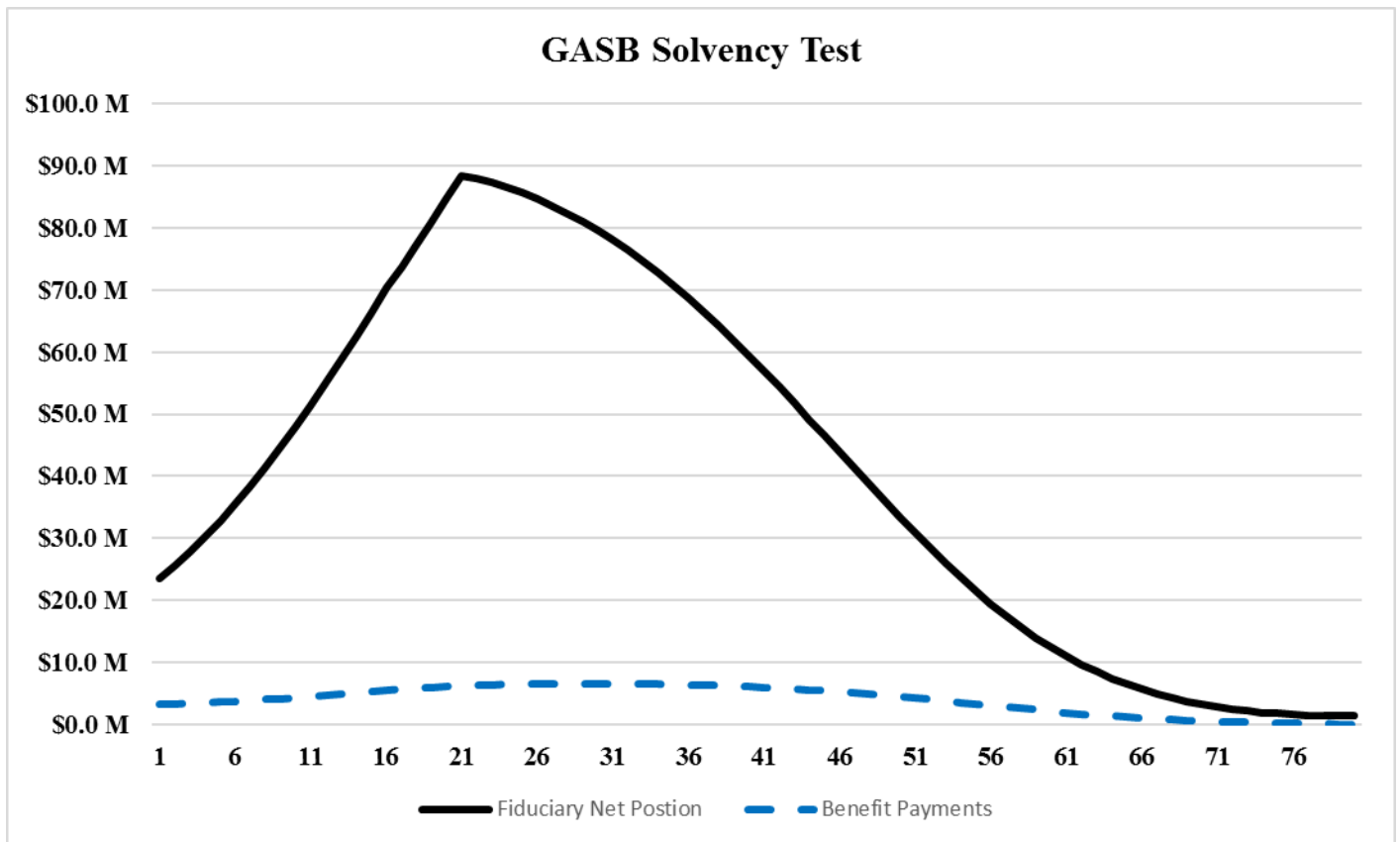
GASB Projections – Summary and Procedure
GASB Projections - Limitations
Projection of Contributions
Projection of the Pension Fund's Fiduciary Net Position
Actuarial Present Value of Projected Benefit Payments



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 current Long-Term Expected Rate of Return on Plan Assets assumption.

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 assumption, 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.



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 Members 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 Plan Members.

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 Covered-Employee Payroll			Projected Contributions			
	Current Employees (a)	Future Employees (b)	Total Employee Payroll (c) = (a) + (b)	Current Employees (d) - Notes	Employer Contributions for Current Employees (e) - Notes	Contributions Related to Pay of Future Employees (f) - Notes	Total Contributions (d) + (e) + (f)
1	\$ 3,426,635	\$ 34,190	\$ 3,460,825	\$ 339,580	\$ 3,428,634	\$ -	\$ 3,768,214
2	3,503,386	69,916	3,573,302	347,186	3,538,459	-	3,885,644
3	3,555,414	134,021	3,689,435	352,342	3,641,263	-	3,993,605
4	3,617,581	191,760	3,809,341	358,502	3,748,950	-	4,107,452
5	3,654,577	278,568	3,933,145	362,169	3,860,746	-	4,222,914
6	3,739,097	321,875	4,060,972	370,545	3,969,309	-	4,339,854
7	3,719,083	473,871	4,192,954	368,561	4,085,281	-	4,453,842
8	3,692,715	636,510	4,329,225	365,948	4,197,617	-	4,563,565
9	3,645,153	824,771	4,469,924	361,235	4,312,127	-	4,673,362
10	3,500,098	1,115,099	4,615,197	346,860	4,425,831	-	4,772,691
11	3,349,055	1,416,136	4,765,191	331,891	4,521,469	-	4,853,360
12	3,151,338	1,768,721	4,920,059	312,298	4,620,815	-	4,933,113
13	2,959,766	2,120,195	5,079,961	293,313	4,715,481	-	5,008,794
14	2,768,703	2,476,357	5,245,060	274,378	4,815,397	-	5,089,775
15	2,577,578	2,837,947	5,415,525	255,438	4,919,685	-	5,175,123
16	2,402,151	3,189,378	5,591,529	238,053	4,197,978	-	4,436,031
17	2,239,749	3,533,505	5,773,254	221,959	4,289,671	-	4,511,631
18	2,082,783	3,878,102	5,960,885	206,404	4,387,777	-	4,594,181
19	1,894,096	4,260,517	6,154,613	187,705	4,491,350	-	4,679,055
20	1,738,614	4,616,024	6,354,638	172,297	4,461,951	-	4,634,247
21	1,587,331	4,973,833	6,561,164	157,305	168,649	-	325,954
22	1,456,829	5,317,573	6,774,402	144,372	141,549	-	285,921
23	1,339,783	5,654,787	6,994,570	132,772	121,322	-	254,094
24	1,219,573	6,002,320	7,221,893	120,860	103,064	-	223,924
25	1,139,032	6,317,573	7,456,605	112,878	84,953	-	197,831
26	1,028,719	6,670,226	7,698,945	101,946	74,322	-	176,268
27	957,416	6,991,744	7,949,160	94,880	60,850	-	155,730
28	877,495	7,330,013	8,207,508	86,960	54,076	-	141,036
29	774,108	7,700,144	8,474,252	76,714	46,058	-	122,772
30	688,859	8,060,806	8,749,665	68,266	39,059	-	107,325

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 Covered-Employee Payroll			Projected Contributions			
	Current Employees (a)	Future Employees (b)	Total Employee Payroll (c) = (a) + (b)	Current Employees (d) - Notes	Employer Contributions for Current Employees (e) - Notes	Contributions Related to Pay of Future Employees (f) - Notes	Total Contributions (d) + (e) + (f)
31	\$ 607,583	\$ 8,426,446	\$ 9,034,029	\$ 60,211	\$ 34,431	\$ -	\$ 94,642
32	485,053	8,842,582	9,327,635	48,069	29,933	-	78,002
33	375,324	9,255,459	9,630,783	37,195	23,067	-	60,262
34	297,729	9,646,055	9,943,784	29,505	17,151	-	46,656
35	215,875	10,051,082	10,266,957	21,393	13,676	-	35,069
36	161,352	10,439,281	10,600,633	15,990	9,927	-	25,917
37	115,000	10,830,154	10,945,154	11,397	7,458	-	18,855
38	71,966	11,228,905	11,300,871	7,132	5,100	-	12,232
39	45,134	11,623,015	11,668,149	4,473	3,546	-	8,019
40	31,092	12,016,272	12,047,364	3,081	2,292	-	5,373
41	-	12,438,904	12,438,904	-	1,579	-	1,579
42	-	12,843,168	12,843,168	-	-	-	-
43	-	13,260,571	13,260,571	-	-	-	-
44	-	13,691,539	13,691,539	-	-	-	-
45	-	14,136,515	14,136,515	-	-	-	-
46	-	14,595,951	14,595,951	-	-	-	-
47	-	15,070,320	15,070,320	-	-	-	-
48	-	15,560,105	15,560,105	-	-	-	-
49	-	16,065,808	16,065,808	-	-	-	-
50	-	16,587,947	16,587,947	-	-	-	-
51	-	17,127,055	17,127,055	-	-	-	-
52	-	17,683,685	17,683,685	-	-	-	-
53	-	18,258,405	18,258,405	-	-	-	-
54	-	18,851,803	18,851,803	-	-	-	-
55	-	19,464,486	19,464,486	-	-	-	-
56	-	20,097,082	20,097,082	-	-	-	-
57	-	20,750,237	20,750,237	-	-	-	-
58	-	21,424,620	21,424,620	-	-	-	-
59	-	22,120,920	22,120,920	-	-	-	-
60	-	22,839,850	22,839,850	-	-	-	-

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 Covered-Employee Payroll			Projected Contributions			
	Current Employees (a)	Future Employees (b)	Total Employee Payroll (c) = (a) + (b)	Current Employees (d) - Notes	Employer Contributions for Current Employees (e) - Notes	Contributions Related to Pay of Future Employees (f) - Notes	Total Contributions (d) + (e) + (f)
61	\$ -	\$ 23,582,145	\$ 23,582,145	\$ -	\$ -	\$ -	\$ -
62	-	24,348,565	24,348,565	-	-	-	-
63	-	25,139,893	25,139,893	-	-	-	-
64	-	25,956,940	25,956,940	-	-	-	-
65	-	26,800,540	26,800,540	-	-	-	-
66	-	27,671,558	27,671,558	-	-	-	-
67	-	28,570,883	28,570,883	-	-	-	-
68	-	29,499,437	29,499,437	-	-	-	-
69	-	30,458,169	30,458,169	-	-	-	-
70	-	31,448,059	31,448,059	-	-	-	-
71	-	32,470,121	32,470,121	-	-	-	-
72	-	33,525,400	33,525,400	-	-	-	-
73	-	34,614,976	34,614,976	-	-	-	-
74	-	35,739,963	35,739,963	-	-	-	-
75	-	36,901,511	36,901,511	-	-	-	-
76	-	38,100,810	38,100,810	-	-	-	-
77	-	39,339,087	39,339,087	-	-	-	-
78	-	40,617,607	40,617,607	-	-	-	-
79	-	41,937,679	41,937,679	-	-	-	-
80	-	43,300,654	43,300,654	-	-	-	-

NOTES TO PROJECTION OF CONTRIBUTIONS

Total Employee Payroll is projected to increase annually at the Projected Increase in Total Payroll 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 Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (a)+(b)-(c)-(d)+(e)
1	\$ 23,496,695	\$ 3,768,214	\$ 3,205,818	\$ 21,218	\$ 1,544,873	\$ 25,582,746
2	25,582,746	3,885,644	3,287,783	23,356	1,681,550	27,838,801
3	27,838,801	3,993,605	3,437,314	25,422	1,826,775	30,196,445
4	30,196,445	4,107,452	3,548,563	27,618	1,980,035	32,707,752
5	32,707,752	4,222,914	3,648,358	29,935	2,143,704	35,396,078
6	35,396,078	4,339,854	3,754,002	32,409	2,318,732	38,268,252
7	38,268,252	4,453,842	3,863,690	35,055	2,505,477	41,328,826
8	41,328,826	4,563,565	4,009,886	37,878	2,703,137	44,547,764
9	44,547,764	4,673,362	4,194,915	40,867	2,909,826	47,895,170
10	47,895,170	4,772,691	4,373,046	43,992	3,124,745	51,375,568
11	51,375,568	4,853,360	4,583,650	47,241	3,346,642	54,944,679
12	54,944,679	4,933,113	4,784,565	50,595	3,574,588	58,617,220
13	58,617,220	5,008,794	4,983,006	54,042	3,809,201	62,398,167
14	62,398,167	5,089,775	5,203,244	57,589	4,050,321	66,277,431
15	66,277,431	5,175,123	5,369,033	61,234	4,299,741	70,322,028
16	70,322,028	4,436,031	5,542,502	65,005	4,532,859	73,683,411
17	73,683,411	4,511,631	5,686,152	68,529	4,749,023	77,189,384
18	77,189,384	4,594,181	5,852,784	71,797	4,974,072	80,833,056
19	80,833,056	4,679,055	6,049,081	75,199	5,207,179	84,595,009
20	84,595,009	4,634,247	6,164,266	78,724	5,446,391	88,432,658
21	88,432,658	325,954	6,286,826	82,340	5,551,718	87,941,164
22	87,941,164	285,921	6,351,096	83,932	5,516,330	87,308,386
23	87,308,386	254,094	6,425,780	83,397	5,471,755	86,525,058
24	86,525,058	223,924	6,463,064	82,723	5,418,668	85,621,862
25	85,621,862	197,831	6,491,323	81,921	5,358,220	84,604,670
26	84,604,670	176,268	6,494,502	81,007	5,291,328	83,496,757
27	83,496,757	155,730	6,500,201	79,996	5,218,494	82,290,784
28	82,290,784	141,036	6,527,917	78,895	5,138,763	80,963,772
29	80,963,772	122,772	6,509,026	77,689	5,052,567	79,552,395
30	79,552,395	107,325	6,508,426	76,386	4,960,387	78,035,296

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

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

Column e – Based on the current Long-Term Expected Rate of Return on Plan Assets assumption, 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 Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (a)+(b)-(c)-(d)+(e)
31	\$ 78,035,296	\$ 94,642	\$ 6,506,874	\$ 74,992	\$ 4,861,459	\$ 76,409,531
32	76,409,531	78,002	6,502,264	73,497	4,755,442	74,667,214
33	74,667,214	60,262	6,513,245	71,894	4,641,310	72,783,647
34	72,783,647	46,656	6,491,923	70,169	4,519,185	70,787,397
35	70,787,397	35,069	6,432,034	68,322	4,391,059	68,713,169
36	68,713,169	25,917	6,438,267	66,385	4,255,797	66,490,231
37	66,490,231	18,855	6,369,289	64,340	4,113,385	64,188,841
38	64,188,841	12,232	6,285,224	62,187	3,966,381	61,820,042
39	61,820,042	8,019	6,188,664	59,965	3,815,483	59,394,915
40	59,394,915	5,373	6,100,226	57,684	3,660,712	56,903,091
41	56,903,091	1,579	5,984,728	55,344	3,502,450	54,367,048
42	54,367,048	-	5,862,668	52,951	3,341,601	51,793,030
43	51,793,030	-	5,733,071	50,519	3,178,580	49,188,020
44	49,188,020	-	5,594,599	48,055	3,013,835	46,559,201
45	46,559,201	-	5,445,934	45,564	2,847,874	43,915,578
46	43,915,578	-	5,285,744	43,055	2,681,327	41,268,105
47	41,268,105	-	5,113,382	40,537	2,514,924	38,629,111
48	38,629,111	-	4,928,516	38,021	2,349,480	36,012,053
49	36,012,053	-	4,731,196	35,520	2,185,865	33,431,202
50	33,431,202	-	4,522,077	33,047	2,024,987	30,901,066
51	30,901,066	-	4,301,825	30,614	1,867,765	28,436,391
52	28,436,391	-	4,072,359	28,237	1,715,096	26,050,891
53	26,050,891	-	3,835,241	25,929	1,567,820	23,757,540
54	23,757,540	-	3,592,937	23,703	1,426,699	21,567,600
55	21,567,600	-	3,347,584	21,569	1,292,397	19,490,843
56	19,490,843	-	3,101,451	19,539	1,165,473	17,535,326
57	17,535,326	-	2,857,202	17,620	1,046,364	15,706,869
58	15,706,869	-	2,616,842	15,819	935,385	14,009,593
59	14,009,593	-	2,382,932	14,141	832,719	12,445,238
60	12,445,238	-	2,157,678	12,589	738,407	11,013,377

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

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

Column e – Based on the current Long-Term Expected Rate of Return on Plan Assets assumption, 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 Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (a)+(b)-(c)-(d)+(e)
61	\$ 11,013,377	\$ -	\$ 1,942,791	\$ 11,163	\$ 652,366	\$ 9,711,789
62	9,711,789	-	1,740,247	9,863	574,388	8,536,067
63	8,536,067	-	1,551,101	8,684	504,151	7,480,433
64	7,480,433	-	1,375,854	7,622	441,265	6,538,223
65	6,538,223	-	1,214,748	6,671	385,288	5,702,092
66	5,702,092	-	1,067,662	5,825	335,748	4,964,353
67	4,964,353	-	934,015	5,076	292,162	4,317,424
68	4,317,424	-	813,162	4,417	254,061	3,753,907
69	3,753,907	-	704,379	3,841	220,987	3,266,673
70	3,266,673	-	606,511	3,341	192,514	2,849,335
71	2,849,335	-	518,937	2,910	168,247	2,495,734
72	2,495,734	-	440,772	2,544	147,815	2,200,234
73	2,200,234	-	371,012	2,235	130,885	1,957,872
74	1,957,872	-	309,173	1,979	117,149	1,763,869
75	1,763,869	-	254,686	1,771	106,317	1,613,729
76	1,613,729	-	206,974	1,607	98,113	1,503,261
77	1,503,261	-	165,723	1,483	92,278	1,428,332
78	1,428,332	-	130,558	1,395	88,553	1,384,932
79	1,384,932	-	101,011	1,339	86,694	1,369,277
80	1,369,277	-	76,647	1,311	86,469	1,377,788

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 current Long-Term Expected Rate of Return on Plan Assets assumption. Administrative Expenses are typically not charged on a per employee basis. Administrative Expenses shown are not projected to distinguish between current and future employees.

The Projected 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 Benefit Payments		Present Value (PV) of Projected Benefit Payments				
	Projected Beginning Fiduciary Net Position	Projected Benefit Payments	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments	PV of "Funded" Portion of Benefit Payments (6.50%)	PV of "Unfunded" Portion of Benefit Payments (3.79%)	PV of Total Projected Payments Using the Single Discount Rate (6.50%)
1	\$ 23,496,695	\$ 3,205,818	\$ 3,205,818	\$ -	\$ 3,106,448	\$ -	\$ 3,106,448
2	25,582,746	3,287,783	3,287,783	-	2,991,429	-	2,991,429
3	27,838,801	3,437,314	3,437,314	-	2,936,603	-	2,936,603
4	30,196,445	3,548,563	3,548,563	-	2,846,616	-	2,846,616
5	32,707,752	3,648,358	3,648,358	-	2,748,047	-	2,748,047
6	35,396,078	3,754,002	3,754,002	-	2,655,044	-	2,655,044
7	38,268,252	3,863,690	3,863,690	-	2,565,841	-	2,565,841
8	41,328,826	4,009,886	4,009,886	-	2,500,403	-	2,500,403
9	44,547,764	4,194,915	4,194,915	-	2,456,131	-	2,456,131
10	47,895,170	4,373,046	4,373,046	-	2,404,157	-	2,404,157
11	51,375,568	4,583,650	4,583,650	-	2,366,141	-	2,366,141
12	54,944,679	4,784,565	4,784,565	-	2,319,113	-	2,319,113
13	58,617,220	4,983,006	4,983,006	-	2,267,886	-	2,267,886
14	62,398,167	5,203,244	5,203,244	-	2,223,589	-	2,223,589
15	66,277,431	5,369,033	5,369,033	-	2,154,402	-	2,154,402
16	70,322,028	5,542,502	5,542,502	-	2,088,271	-	2,088,271
17	73,683,411	5,686,152	5,686,152	-	2,011,638	-	2,011,638
18	77,189,384	5,852,784	5,852,784	-	1,944,215	-	1,944,215
19	80,833,056	6,049,081	6,049,081	-	1,886,782	-	1,886,782
20	84,595,009	6,164,266	6,164,266	-	1,805,361	-	1,805,361
21	88,432,658	6,286,826	6,286,826	-	1,728,879	-	1,728,879
22	87,941,164	6,351,096	6,351,096	-	1,639,956	-	1,639,956
23	87,308,386	6,425,780	6,425,780	-	1,557,972	-	1,557,972
24	86,525,058	6,463,064	6,463,064	-	1,471,373	-	1,471,373
25	85,621,862	6,491,323	6,491,323	-	1,387,611	-	1,387,611
26	84,604,670	6,494,502	6,494,502	-	1,303,559	-	1,303,559
27	83,496,757	6,500,201	6,500,201	-	1,225,074	-	1,225,074
28	82,290,784	6,527,917	6,527,917	-	1,155,209	-	1,155,209
29	80,963,772	6,509,026	6,509,026	-	1,081,564	-	1,081,564
30	79,552,395	6,508,426	6,508,426	-	1,015,459	-	1,015,459

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 Benefit Payments		Present Value (PV) of Projected Benefit Payments				
	Projected Beginning Fiduciary Net Position	Projected Benefit Payments	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments	PV of "Funded" Portion of Benefit Payments (6.50%)	PV of "Unfunded" Portion of Benefit Payments (3.79%)	PV of Total Projected Payments Using the Single Discount Rate (6.50%)
31	\$ 78,035,296	\$ 6,506,874	\$ 6,506,874	\$ -	\$ 953,256	\$ -	\$ 953,256
32	76,409,531	6,502,264	6,502,264	-	894,442	-	894,442
33	74,667,214	6,513,245	6,513,245	-	841,270	-	841,270
34	72,783,647	6,491,923	6,491,923	-	787,339	-	787,339
35	70,787,397	6,432,034	6,432,034	-	732,465	-	732,465
36	68,713,169	6,438,267	6,438,267	-	688,427	-	688,427
37	66,490,231	6,369,289	6,369,289	-	639,485	-	639,485
38	64,188,841	6,285,224	6,285,224	-	592,530	-	592,530
39	61,820,042	6,188,664	6,188,664	-	547,819	-	547,819
40	59,394,915	6,100,226	6,100,226	-	507,033	-	507,033
41	56,903,091	5,984,728	5,984,728	-	467,074	-	467,074
42	54,367,048	5,862,668	5,862,668	-	429,622	-	429,622
43	51,793,030	5,733,071	5,733,071	-	394,484	-	394,484
44	49,188,020	5,594,599	5,594,599	-	361,461	-	361,461
45	46,559,201	5,445,934	5,445,934	-	330,381	-	330,381
46	43,915,578	5,285,744	5,285,744	-	301,092	-	301,092
47	41,268,105	5,113,382	5,113,382	-	273,496	-	273,496
48	38,629,111	4,928,516	4,928,516	-	247,520	-	247,520
49	36,012,053	4,731,196	4,731,196	-	223,108	-	223,108
50	33,431,202	4,522,077	4,522,077	-	200,231	-	200,231
51	30,901,066	4,301,825	4,301,825	-	178,854	-	178,854
52	28,436,391	4,072,359	4,072,359	-	158,980	-	158,980
53	26,050,891	3,835,241	3,835,241	-	140,585	-	140,585
54	23,757,540	3,592,937	3,592,937	-	123,665	-	123,665
55	21,567,600	3,347,584	3,347,584	-	108,188	-	108,188
56	19,490,843	3,101,451	3,101,451	-	94,116	-	94,116
57	17,535,326	2,857,202	2,857,202	-	81,412	-	81,412
58	15,706,869	2,616,842	2,616,842	-	70,012	-	70,012
59	14,009,593	2,382,932	2,382,932	-	59,863	-	59,863
60	12,445,238	2,157,678	2,157,678	-	50,896	-	50,896

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		Present Value (PV) of Projected Benefit Payments		
			"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments	PV of "Funded" Portion of Benefit Payments (6.50%)	PV of "Unfunded" Portion of Benefit Payments (3.79%)	PV of Total Projected Payments Using the Single Discount Rate (6.50%)
61	\$ 11,013,377	\$ 1,942,791	\$ 1,942,791	\$ -	\$ 43,030	\$ -	\$ 43,030
62	9,711,789	1,740,247	1,740,247	-	36,192	-	36,192
63	8,536,067	1,551,101	1,551,101	-	30,289	-	30,289
64	7,480,433	1,375,854	1,375,854	-	25,227	-	25,227
65	6,538,223	1,214,748	1,214,748	-	20,914	-	20,914
66	5,702,092	1,067,662	1,067,662	-	17,260	-	17,260
67	4,964,353	934,015	934,015	-	14,178	-	14,178
68	4,317,424	813,162	813,162	-	11,590	-	11,590
69	3,753,907	704,379	704,379	-	9,427	-	9,427
70	3,266,673	606,511	606,511	-	7,622	-	7,622
71	2,849,335	518,937	518,937	-	6,123	-	6,123
72	2,495,734	440,772	440,772	-	4,883	-	4,883
73	2,200,234	371,012	371,012	-	3,860	-	3,860
74	1,957,872	309,173	309,173	-	3,020	-	3,020
75	1,763,869	254,686	254,686	-	2,336	-	2,336
76	1,613,729	206,974	206,974	-	1,782	-	1,782
77	1,503,261	165,723	165,723	-	1,340	-	1,340
78	1,428,332	130,558	130,558	-	991	-	991
79	1,384,932	101,011	101,011	-	720	-	720
80	1,369,277	76,647	76,647	-	513	-	513

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 Plan Members).

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 current Long-Term Expected Rate of Return on Plan Assets assumption. The PV of the Unfunded Portion of Benefit Payments are determined using the High-Quality Municipal Bond Rate assumption 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.



Lauterbach & Amen, LLP

CERTIFIED PUBLIC ACCOUNTANTS