

City of St. Clair Shores

Employees Retirement System

GASB Statement Nos. 67 and 68 Accounting and
Financial Reporting for Pensions

June 30, 2018





September 19, 2018

Board of Trustees
City of St. Clair Shores Employees Retirement System

Dear Board Members:

This report provides accounting and financial reporting information that is intended to comply with the Governmental Accounting Standards Board (GASB) Statement Nos. 67 and 68 for the City of St. Clair Shores Employees Retirement System. These calculations have been made on a basis that is consistent with our understanding of these Statements.

GASB Statement No. 67 is the accounting standard that applies to the stand-alone financial reports issued by retirement systems. GASB Statement No. 68 establishes accounting and financial reporting for state and local government employers who provide their employees (including former employees) pension benefits through a trust.

This report was prepared at the request of the Board and is intended for use by the Retirement System and those designated or approved by the Board. This report may be provided to parties other than the System only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report.

Our calculation of the liability associated with the benefits described in this report was performed for the purpose of satisfying the requirements of GASB Statement Nos. 67 and 68. The calculation of the plan's liability for this report is not applicable for funding purposes of the plan. A calculation of the plan's liability for purposes other than satisfying the requirements of GASB Statement No. 67 may produce significantly different results.

The report was based upon information furnished by the City, concerning Retirement System benefits, financial transactions, plan provisions, and active members, terminated members, retirees and beneficiaries. We checked for internal reasonability and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by the City.

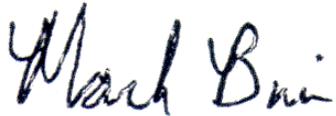
This report complements the actuarial valuation report that was provided to the City and should be considered in conjunction with that report. Please see the actuarial valuation report as of June 30, 2017 for additional discussion of the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions.

To the best of our knowledge, the information contained with this report is accurate and fairly represents the actuarial position of the City of St. Clair Shores Employees Retirement System. All calculations have been made in conformity with generally accepted actuarial principles and practices as well as with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

Mark Buis and Rebecca L. Stouffer are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

The signing actuaries are independent of the plan sponsor.

Respectfully submitted,



Mark Buis, FSA, EA, FCA, MAAA



Rebecca L. Stouffer, ASA, FCA, MAAA

MB/RLS:ah

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SECTION A

EXECUTIVE SUMMARY

Executive Summary as of June 30, 2018

	2018
Actuarial Valuation Date	June 30, 2017
Measurement Date of the Net Pension Liability	June 30, 2018
Employer's Fiscal Year Ending Date (Reporting Date)	June 30, 2018

Membership

Number of [#]	
- Retirees and Beneficiaries	210
- Inactive, Nonretired Members	19
- Active Members	62
- Total	291
Covered Payroll	\$ 4,122,500

Net Pension Liability

Total Pension Liability	\$ 66,652,267
Plan Fiduciary Net Position	40,762,907
Net Pension Liability	\$ 25,889,360
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	61.16 %
Net Pension Liability as a Percentage of Covered Payroll	628.00 %

Development of the Single Discount Rate

Single Discount Rate	7.50 %
Long-Term Expected Rate of Investment Return	7.50 %
Long-Term Municipal Bond Rate*	3.62 %

Total Pension Expense \$ 3,185,604

Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expenses

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	\$ 82,543	\$ -
Changes in assumptions	-	-
Net difference between projected and actual earnings on pension plan investments	1,976,281	2,042,919
Total	\$ 2,058,824	\$ 2,042,919

[#] As of the Actuarial Valuation Date.

*Source: Fixed-income municipal bonds with 20 years to maturity that include only federally tax-exempt municipal bonds as reported in Fidelity Index's "20-Year Municipal GO AA Index" June 29, 2018. In describing this index, Fidelity notes that the municipal curves are constructed using option-adjusted analytics of a diverse population of over 10,000 tax exempt securities.

Discussion

Accounting Standard

For pension plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 67 establishes standards of financial reporting for separately issued financial reports and specifies the required approach for measuring the pension liability. Similarly, GASB Statement No. 68 establishes standards for state and local government employers (as well as non-employer contributing entities) to account for and disclose the net pension liability, pension expense, and other information associated with providing retirement benefits to their employees (and former employees) on their basic financial statements.

The following discussion provides a summary of the information that is required to be disclosed under these accounting standards. A number of these disclosure items are provided in this report. However, certain information, such as notes regarding accounting policies and investments, is not included in this report and the retirement system and/or plan sponsor will be responsible for preparing and disclosing that information to comply with these accounting standards.

Financial Statements

GASB Statement No. 68 requires state or local governments to recognize the net pension liability and the pension expense on their financial statements. The net pension liability is the difference between the total pension liability and the plan's fiduciary net position. In traditional actuarial terms, this is analogous to the accrued liability less the market value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

Paragraph 57 of GASB Statement No. 68 states, "Contributions to the pension plan from the employer subsequent to the measurement date of the collective net pension liability and before the end of the employer's reporting period should be reported as a deferred outflow of resources related to pensions." The information contained in this report does not incorporate any contributions made to the City subsequent to the measurement date of June 30, 2018.

The pension expense recognized each fiscal year is equal to the change in the net pension liability from the beginning of the year to the end of the year, adjusted for deferred recognition of the liability and investment experience.

Pension plans that prepare their own, stand-alone financial statements are required to present two financial statements – a statement of fiduciary net position and a statement of changes in fiduciary net position in accordance with GASB Statement No. 67. The statement of fiduciary net position presents the assets and liabilities of the pension plan at the end of the pension plan's reporting period. The statement of changes in fiduciary net position presents the additions, such as contributions and investment income, and deductions, such as benefit payments and expenses, and net increase or decrease in the fiduciary net position.

Notes to Financial Statements

GASB Statement No. 68 requires the notes of the employer's financial statements to disclose the total pension expense, the pension plan's liabilities and assets, and deferred outflows and inflows of resources related to pensions.

GASB Statement Nos. 67 and 68 require the notes of the financial statements for the employers and pension plans to include certain additional information. The list of disclosure items should include:

- a description of benefits provided by the plan;
- the type of employees and number of members covered by the pension plan;
- a description of the plan's funding policy, which includes member and employer contribution requirements;
- the pension plan's investment policies;
- the pension plan's fiduciary net position, net pension liability, and the pension plan's fiduciary net position as a percentage of the total pension liability;
- the net pension liability using a discount rate that is 1% higher and 1% lower than used to calculate the total pension liability and net pension liability for financial reporting purposes;
- significant assumptions and methods used to calculate the total pension liability;
- inputs to the discount rates; and
- certain information about mortality assumptions and the dates of experience studies.

Retirement systems that issue stand-alone financial statements are required to disclose additional information in accordance with GASB Statement No. 67. This information includes:

- the composition of the pension plan's Board and the authority under which benefit terms may be amended;
- a description of how fair value is determined;
- information regarding certain reserves and investments, which include concentrations of investments greater than or equal to 5%, receivables, and insurance contracts excluded from plan assets; and
- annual money-weighted rate of return.

Required Supplementary Information

GASB Statement No. 67 requires a 10-year fiscal history of:

- sources of changes in the net pension liability;
- information about the components of the net pension liability and related ratios, including the pension plan's fiduciary net position as a percentage of the total pension liability, and the net pension liability as a percent of covered-employee payroll; and
- a comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy.

General Implications of Contribution Allocation Procedure or Funding Policy on Future Expected Plan Contributions and Funded Status

Given the plan's contribution allocation procedure, if all actuarial assumptions are met (including the assumption of the plan earning 7.50% on the actuarial value of assets), then the following outcomes are expected:

1. Employer normal cost dollar amounts will eventually decrease as active payroll declines due to the closed nature of the Plan.
2. Amortization payment dollar amounts will remain level over the next 23 years, as of the fiscal year beginning July 1, 2019.
3. The funded status of the plan is expected to reach a 100% funded ratio in approximately 23 years, which is the number of years remaining in the closed amortization schedule of the unfunded liability.

Timing of the Valuation

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. The net pension liability and pension expense should be measured as of the pension plan's fiscal year end (measurement date) on a date that is within the employer's prior fiscal year. If the actuarial valuation used to determine the total pension liability is not calculated as of the measurement date, the total pension liability is required to be rolled forward from the actuarial valuation date to the measurement date.

The total pension liability shown in this report is based on an actuarial valuation performed as of June 30, 2017 and a measurement date of June 30, 2018. Update procedures were used to roll forward the total pension liability to the measurement date.

Single Discount Rate

Projected benefit payments are required to be discounted to their actuarial present values using a Single Discount Rate that reflects (1) a long-term expected rate of return on pension plan investments (to the extent that the plan's fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.50%; the municipal bond rate is 3.62% (based on the daily rate closest to but not later than the measurement date of the Fidelity "20-Year Municipal GO AA Index"); and the resulting Single Discount Rate is 7.50%.

SECTION B

FINANCIAL STATEMENTS

Auditor's Note – This information is intended to assist in preparation of the financial statements of the City of St. Clair Shores Employees Retirement System. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.

Statement of Pension Expense Under GASB Statement No. 68

Fiscal Year Ended June 30, 2018

A. Expense

1. Service Cost	\$	517,395
2. Interest on the Total Pension Liability		4,782,776
3. Current-Period Benefit Changes		0
4. Employee Contributions (made negative for addition here)		(35,193)
5. Projected Earnings on Plan Investments (made negative for addition here)		(2,850,168)
6. Pension Plan Administrative Expense		34,258
7. Other Changes in Plan Fiduciary Net Position		0
8. Recognition of Outflow (Inflow) of Resources due to Liabilities		64,008
9. Recognition of Outflow (Inflow) of Resources due to Assets		672,528
10. Total Pension Expense	\$	3,185,604

Statement of Outflows and Inflows Arising from Current Reporting Period Fiscal Year Ended June 30, 2018

A. Outflows (Inflows) of Resources due to Liabilities

1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$	256,867
2. Assumption Changes (gains) or losses	\$	-
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}		1.4735
4. Outflow (Inflow) of Resources to be recognized in the current pension expense for the difference between expected and actual experience of the Total Pension Liability	\$	174,324
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for assumption changes	\$	-
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	\$	174,324
7. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for the difference between expected and actual experience of the Total Pension Liability	\$	82,543
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for assumption changes	\$	-
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	\$	82,543

B. Outflows (Inflows) of Resources due to Assets

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$	(1,004,290)
2. Recognition period for Assets {in years}		5.0000
3. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Assets	\$	(200,858)
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$	(803,432)

Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended June 30, 2018

A. Outflows and Inflows of Resources due to Liabilities and Assets to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	\$ 174,324	\$ 110,316	\$ 64,008
2. Due to Assets	1,286,548	614,020	672,528
3. Total	\$ 1,460,872	\$ 724,336	\$ 736,536

B. Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	\$ 174,324	\$ 110,316	\$ 64,008
2. Assumption Changes	-	-	0
3. Net Difference between projected and actual earnings on pension plan investments	1,286,548	614,020	672,528
4. Total	\$ 1,460,872	\$ 724,336	\$ 736,536

C. Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expenses

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	\$ 82,543	\$ 0	\$ 82,543
2. Assumption Changes	-	-	0
3. Net Difference between projected and actual earnings on pension plan investments	1,976,281	2,042,919	(66,638)
4. Total	\$ 2,058,824	\$ 2,042,919	\$ 15,905

D. Deferred Outflows and Deferred Inflows of Resources by Year to be Recognized in Future Pension Expenses

Year Ending June 30	Net Deferred Outflows of Resources
2019	\$ 755,069
2020	75,715
2021	(614,021)
2022	(200,858)
2023	-
Thereafter	0
Total	\$ 15,905

Statement of Fiduciary Net Position as of June 30, 2018

	2018
Assets	
Cash and Deposits	\$ 3,238,004
Receivables	
Accounts Receivable - Sale of Investments	\$ -
Accrued Interest and Other Dividends	52,991
Contributions	-
Accounts Receivable - Other	-
Total Receivables	\$ 52,991
Investments	
Fixed Income	\$ 6,099,894
Domestic Equities	25,601,856
International Equities	5,301,189
Real Estate	504,433
Other	1,099,707
Total Investments	\$ 38,607,079
Total Assets	\$ 41,898,074
Liabilities	
Payables	
Accounts Payable - Purchase of Investments	\$ 80,086
Accrued Expenses	66,157
Accounts Payable - Other	988,924
Total Liabilities	\$ 1,135,167
Net Position Restricted for Pensions	\$ 40,762,907

Statement of Changes in Fiduciary Net Position for Year Ended June 30, 2018

	2018
Additions	
Contributions	
Employer	\$ 2,644,314
Employee	35,193
Other	318,684
Total Contributions	\$ 2,998,191
Investment Income	
Net Appreciation in Fair Value of Investments	\$ 3,234,852
Interest and Dividends	854,910
Less Investment Expense	(235,304)
Net Investment Income	\$ 3,854,458
Other	\$ -
Total Additions	\$ 6,852,649
 Deductions	
Benefit Payments, including Refunds of Employee Contributions	\$ 4,832,842
Pension Plan Administrative Expense	34,258
Other	318,684
Total Deductions	\$ 5,185,784
Net Increase in Net Position	\$ 1,666,865
 Net Position Restricted for Pensions	
Beginning of Year	\$ 39,096,042
End of Year	\$ 40,762,907

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Auditor's Note – This information is intended to assist in preparation of the financial statements of the City of St. Clair Shores Employees Retirement System. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.

Schedule of Changes in Net Pension Liability and Related Ratios Current Period Fiscal Year Ended June 30, 2018

A. Total Pension Liability	
1. Service Cost	\$ 517,395
2. Interest on the Total Pension Liability	4,782,776
3. Changes of benefit terms	0
4. Difference between expected and actual experience of the Total Pension Liability	256,867
5. Changes of assumptions	0
6. Benefit payments, including refunds of employee contributions	(4,832,842)
7. Net change in Total Pension Liability	\$ 724,196
8. Total Pension Liability – Beginning	65,928,071
9. Total Pension Liability – Ending	<u><u>\$ 66,652,267</u></u>
B. Plan Fiduciary Net Position	
1. Contributions – Employer	\$ 2,644,314
2. Contributions – Employee	35,193
3. Net investment income	3,854,458
4. Benefit payments, including refunds of employee contributions	(4,832,842)
5. Pension Plan Administrative Expense	(34,258)
6. Other	-
7. Net change in Plan Fiduciary Net Position	\$ 1,666,865
8. Plan Fiduciary Net Position – Beginning	39,096,042
9. Plan Fiduciary Net Position – Ending	<u><u>\$ 40,762,907</u></u>
C. Net Pension Liability	<u><u>\$ 25,889,360</u></u>
D. Plan Fiduciary Net Position as a percentage of the Total Pension Liability	61.16%
E. Covered-Employee payroll	\$ 4,122,500
F. Net Pension Liability as a percentage of Covered-Employee payroll	628.00%

Schedules of Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios Multiyear

Last 10 Fiscal Years (which may be built prospectively starting from 2014)

Fiscal year ending June 30,	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Total Pension Liability										
Service Cost	\$ 517,395	\$ 538,145	\$ 500,404	\$ 542,686	\$ 549,023					
Interest on the Total Pension Liability	4,782,776	4,768,890	4,585,406	4,509,141	4,437,488					
Benefit Changes	-	-	-	-						
Difference between Expected and Actual Experience	\$ 256,867	(293,718)	590,221	652,195						
Assumption Changes	-	-	5,351,422	-						
Benefit Payments	(4,832,842)	(4,802,739)	(4,754,671)	(4,704,465)	(4,909,010)					
Refunds	-	-	-	-						
Net Change in Total Pension Liability	\$ 724,196	210,578	6,272,782	999,557	77,501					
Total Pension Liability - Beginning	65,928,071	65,717,493	59,444,711	58,445,154	57,648,592					
Total Pension Liability - Ending (a)	\$ 66,652,267	\$ 65,928,071	\$ 65,717,493	\$ 59,444,711	\$ 57,726,093					
Plan Fiduciary Net Position										
Employer Contributions	\$ 2,644,314	\$ 2,554,204	\$ 2,462,821	\$ 2,512,506	\$ 2,561,038					
Employee Contributions	35,193	36,262	97,276	38,285	41,177					
Pension Plan Net Investment Income	3,854,458	4,727,415	(399,194)	223,297	6,003,181					
Benefit Payments	(4,832,842)	(4,802,739)	(4,754,671)	(4,704,465)	(4,909,010)					
Refunds	-	-	-	-						
Pension Plan Administrative Expense	(34,258)	(32,639)	(32,000)	(19,945)	(28,731)					
Other	-	6,072	2,776	4,080	314,970					
Net Change in Plan Fiduciary Net Position	\$ 1,666,865	2,488,575	(2,622,992)	(1,946,242)	3,982,625					
Plan Fiduciary Net Position - Beginning	39,096,042	36,607,467	39,230,459	41,176,701	36,475,015					
Plan Fiduciary Net Position - Ending (b)	\$ 40,762,907	\$ 39,096,042	\$ 36,607,467	\$ 39,230,459	\$ 40,457,640					
Net Pension Liability - Ending (a) - (b)	25,889,360	26,832,029	29,110,026	20,214,252	17,268,453					
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	61.16 %	59.30 %	55.70 %	65.99 %	70.09 %					
Covered-Employee Payroll	\$ 4,122,500	\$ 4,228,625	\$ 4,277,968	\$ 4,418,095	\$ 4,664,037					
Net Pension Liability as a Percentage of Covered-Employee Payroll	628.00 %	634.53 %	680.46 %	457.53 %	370.25 %					

Notes to Schedule:

2015 Beginning Total Pension Liability and Plan Fiduciary Net Position were adjusted to reflect the Excess Earnings Reserve.

Schedules of Required Supplementary Information

Schedule of the Net Pension Liability Multiyear

Last 10 Fiscal Years (which may be built prospectively starting from 2014)

FY Ending June 30,	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as a % of Total Pension Liability	Covered Payroll	Net Pension Liability as a % of Covered Payroll
2009						
2010						
2011						
2012						
2013						
2014	\$ 57,726,093	\$ 40,457,640	\$ 17,268,453	70.09 %	\$ 4,664,037	370.25 %
2015	59,444,711	39,230,459	20,214,252	65.99 %	4,418,095	457.53 %
2016	65,717,493	36,607,467	29,110,026	55.70 %	4,277,968	680.46 %
2017	65,928,071	39,096,042	26,832,029	59.30 %	4,228,625	634.53 %
2018	66,652,267	40,762,907	25,889,360	61.16 %	4,122,500	628.00 %

Schedule of Contributions Multiyear

Last 10 Fiscal Years (Which May Be Built Prospectively Starting from 2014)

FY Ending June 30,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2009					
2010					
2011					
2012					
2013					
2014	\$ 2,561,038	\$ 2,561,038	\$ -	\$ 4,664,037	54.91 %
2015	2,512,506	2,512,506	-	4,418,095	56.87 %
2016	2,462,821	2,462,821	-	4,277,968	57.57 %
2017	2,554,204	2,554,204	-	4,228,625	60.40 %
2018	2,644,314	2,644,314	-	4,122,500	64.14 %

Notes to Schedule of Contributions

Methods and Assumptions used to Determine Contribution Rates for the Fiscal Year Ending June 30, 2018*:

Actuarial Cost Method	Entry-Age Normal
Amortization Method	Level Dollar, Closed
Remaining Amortization Period	25 years
Asset Valuation Method	4-Year smoothed market
Wage Inflation	3.5%
Salary Increases	3.5% to 7.2% including inflation.
Investment Rate of Return	7.5% net of investment and administrative expenses
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2008 valuation pursuant to an experience study of the period 2002 - 2007.
Mortality	RP-2014 Generational Mortality tables, with blue-collar adjustments and extended via cubic spline, adjusted backwards to 2006 with the MP-2014 scale. A base year of 2006 with future mortality improvements assumed each year using scale MP-2015.

Other Information:

Notes	None
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* Based on valuation assumptions used in the June 30, 2016 actuarial valuation.

Schedule of Investment Returns Multiyear

Last 10 Fiscal Years (Which May Be Built Prospectively Starting from 2014)

<u>FY Ending June 30,</u>	<u>Annual Return¹</u>
2009	
2010	
2011	
2012	
2013	
2014	17.50 %
2015	(0.02)%
2016	0.38 %
2017	14.55 %
2018	11.88 %

¹ Annual money-weighted rate of return, net of investment expenses.

SECTION D

NOTES TO FINANCIAL STATEMENTS

Auditor's Note – This information is intended to assist in preparation of the financial statements of the City of St. Clair Shores Employees Retirement System. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.

Long-Term Expected Return on Plan Assets

The assumed rate of investment return was adopted by the plan's trustees after considering input from the plan's investment consultant(s) and actuary(s).

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These real rates of return are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return were provided by the Retirement System's investment manager, AndCo, for each major asset class included in the Plan's portfolio as of June 30, 2018. The best estimates and the Plan's target asset allocation are summarized in the following table:

Asset Allocation

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-Term Expected Real Rate of Return*</u>
Domestic Equity	40.00%	7.50%
International Equity	15.00%	8.50%
Domestic Bonds	31.00%	2.50%
International Bonds	0.00%	3.50%
Real Estate	2.00%	4.50%
Alternative Assets	12.00%	5.84%
Total	100.00 %	

**The rates of return shown above were provided by the Retirement System's investment manager, are based upon the investment manager's inflation assumption of 2.5%, and are net of investment and administrative expenses.*

Gabriel, Roeder, Smith & Company does not provide investment advice.

Single Discount Rate

A Single Discount Rate of 7.50% was used to measure the total pension liability. This Single Discount Rate was based on the expected rate of return on pension plan investments of 7.50%. Based on the System's current funding policy and the City's practice of contributing 100% of the recommended contribution, it is the opinion of the actuaries that the Plan Fiduciary Net Position is sufficient to make all future projected benefit payouts, assuming all other assumptions are realized. Therefore, the Single Discount Rate would equal the long-term expected rate of return of 7.50%.

Regarding the sensitivity of the net pension liability to changes in the Single Discount Rate, the following presents the plan's net pension liability, calculated using a Single Discount Rate of 7.50%, as well as what the plan's net pension liability would be if it were calculated using a Single Discount Rate that is one percent lower or one percent higher:

Sensitivity of Net Pension Liability to the Single Discount Rate (SDR) Assumption

	Current Single Discount		
	1% Decrease 6.50%	Rate Assumption 7.50%	1% Increase 8.50%
Total Pension Liability	\$ 73,157,766	\$ 66,652,267	\$ 61,101,413
Plan Fiduciary Net Position	40,762,907	40,762,907	40,762,907
Net Pension Liability/(Asset)	\$ 32,394,859	\$ 25,889,360	\$ 20,338,506

Summary of Population Statistics[#]

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	210
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	19
Active Plan Members	62
Total Plan Members	291

[#] As of the Actuarial Valuation Date.

SECTION E

SUMMARY OF BENEFITS

Summary of Benefits

Regular Retirement (No reduction factor for age)

Eligibility - Age 50 with 25 years of service, or age 60 with 10 or more years of service.

Annual Amount – AFSCME, Court Non-Union, Court Clerical, and PEA: Total service multiplied by 2.5% of average final compensation with a maximum of 80% of average final compensation.

Dispatchers: Total service multiplied by 2.5% of average final compensation with a maximum of 75% of average final compensation.

AR4: Total service multiplied by 2.5% of average final compensation with a maximum of 62.5% of average final compensation. Maximum benefit for AR4 members cannot exceed base pay as of termination date.

Type of Average Final Compensation - Highest five non-consecutive years out of last 10. Court Clerical and Dispatchers – Highest five consecutive years out of last 10.

Deferred Retirement (Vested Benefit)

Eligibility - 10 years of service, benefit begins at age 60.

Annual Amount - Computed as regular retirement but based on average final compensation and service at time of termination.

Duty Disability Retirement

Eligibility - No age or service requirement.

Annual Amount - Computed as regular retirement with a minimum benefit of 20% of average final compensation. Upon termination of worker's compensation or age 60, whichever occurs first, benefit is recomputed to include additional service credit for the period worker's compensation was paid.

Non-Duty Disability Retirement

Eligibility - 10 or more years of service.

Annual Amount - Computed as regular retirement.

Death-in-Service Survivor Pension

Eligibility - 10 years of service.

Annual Amount - Computed as regular retirement but actuarially reduced in accordance with a 100% joint and survivor election.

Summary of Benefits (Concluded)

Post-Retirement Cost-of-Living Adjustments

Retirees effective 7/1/93 (Court Clerical effective 1/1/03): 5% cost-of-living increase at age 60 or five years after retirement, whichever is later, with a second increase of 5% five years after the first increase.

Member Contributions

AR4 and Court Non-Union:	None
AFSCME, Court Clerical, Dispatchers, and PEA:	1.0% of pay

City's Contributions

Actuarially determined amounts which are sufficient to at least cover the requirements of the funding objective stated on page A-1 of the actuarial valuation report dated November 1, 2016.

New Hires

The Plan is closed. No new hires will participate in this Retirement System.

SECTION F

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

Actuarial Cost Method

The actuarial cost method is the procedure for allocating the actuarial present value of benefits and expenses to time periods. The method used for your valuation is known as the ***individual entry-age actuarial cost method***, and has the following characteristics:

- The annual normal costs for each individual active member is sufficient to accumulate the value of the member's pension at the time of retirement.
- Each annual normal cost is a constant percentage of the member's year-by-year projected pensionable compensation.

The unfunded actuarial accrued liability was financed as a level dollar over a closed period of years (23 years for the fiscal year beginning July 1, 2019).

The valuation assets used for funding purposes is derived as follows: prior year valuation assets are increased by contribution and expected investment income (net of expenses) and reduced by refunds and benefit payments. To this amount is added 25% of the difference between expected and actual investment income for each of the previous four years.

The market value of assets was used for GASB Statement Nos. 67 and 68 reporting and in the projection of the Plan Fiduciary Net Position shown in section G of this report.

The total pension liability shown in this report is based on an actuarial valuation performed as of June 30, 2017 rolled forward to the measurement date of June 30, 2018. The roll forward procedure increases the June 30, 2017 actuarial accrued liability with normal cost and interest and decreases it with actual benefit payments paid.

Excess Earnings Reserve. An amount equal to the market value of the Excess Earnings Reserve is added to the liability to assure proper allocation of assets to liability.

Actuarial Assumptions Used for the Valuation

The contribution requirements and benefit values of the System are calculated by applying actuarial assumptions to the benefit provisions and demographic information furnished by the plan sponsor, using the actuarial cost method described on the previous page.

The principal areas of financial risk which require assumptions about future experiences are:

- * long-term rates of investment return to be generated by the assets of the System
- * patterns of pay increases to members
- * rates of mortality among members, retirants and beneficiaries
- * rates of withdrawal of active members (without entitlement to a retirement benefit)
- * rates of disability among members
- * the age patterns of actual retirements

The monetary effect of each assumption is calculated for as long as a present covered person survives - - - a period of time which can be as long as a century.

Actual experience of the System will not coincide exactly with assumed experience. Each valuation provides a complete recalculation of assumed future experience and takes into account all past differences between assumed and actual experience. The result is a continual series of adjustments (usually small) to the computed contribution rate.

Actuarial Assumptions Used for the Valuation (Continued)

The rate of investment is compounded annually net of expenses.

Investment Return	7.50%
Wage Inflation	3.50%
Price Inflation	2.75%
Spread Between Investment Return and Wage Inflation	4.00%
Spread Between Investment Return and Price Inflation	4.75%

These assumptions are used to equate the value of payments due at different points in time.

The rates of salary increase used for individual members are in accordance with the following table. This assumption is used to project a member's current salary to the salaries upon which benefit amounts will be based. Base wage growth was set to 2.5% for 2012-2019.

Sample Salary Adjustment Factors Used to Project Salaries in Years 2020 and Beyond

Sample Ages	Percent Increase in Salary During Next Year	
	Base	Promotion & Seniority
20	3.5 %	3.7 %
25	3.5	3.2
30	3.5	2.7
35	3.5	2.2
40	3.5	1.4
45	3.5	0.7
50	3.5	0.2
55	3.5	0.0

Actuarial Assumptions Used for the Valuation (Continued)

Mortality Table. The mortality assumption is used to measure the probabilities of members dying before retirement and the probabilities of each benefit payment being made after retirement. Descriptions of the mortality tables used in the valuation are below.

- **Healthy Pre-Retirement:** The RP-2014 Employee Generational Mortality Tables, with blue-collar adjustments and extended via cubic spline. This table is adjusted backwards to 2006 with the MP-2014 scale. A base year of 2006 with future mortality improvements assumed each year using scale MP-2015.
- **Healthy Post-Retirement:** The RP-2014 Healthy Annuitant Generational Mortality Tables, with blue-collar adjustments and extended via cubic spline. This table is adjusted backwards to 2006 with the MP-2014 scale. A base year of 2006 with future mortality improvements assumed each year using scale MP-2015.
- **Disability Retirement:** The RP-2014 Disabled Mortality Table, extended via cubic spline. This table is adjusted backwards to 2006 with the MP-2014 scale. A base year of 2006 with future mortality improvements assumed each year using scale MP-2015.

These rates were first used for the June 30, 2016 valuation.

The rates of retirement used to measure the probability of eligible members retiring during the next year were as follows:

Retirement Ages	Percent of Active Members Retiring within Next Year
50	20 %
51	20
52	20
53	20
54	20
55	25
56	25
57	25
58	25
59	25
60	30
61	30
62	30
63	30
64	30
65	100

These rates were first used for the June 30, 2008 valuation.

Actuarial Assumptions Used for the Valuation (Concluded)

Rates of separation from active membership are represented by the following table: (rates do not apply to members eligible to retire and do not include separation on account of death or disability). This assumption measures the probabilities of members remaining in employment.

Sample Ages	Years of Service	% of Active Members Separating within Next Year
ALL	0	15.00 %
	1	12.00
	2	10.00
	3	8.00
	4	6.00
25	5 & Over	5.00
30		5.00
35		4.50
40		3.00
45		2.60
50		1.50
55	1.50	
60	1.50	

The rates were first used for the June 30, 2008 valuation.

Vested members who terminate with a benefit worth less than 100% of their own accumulated contributions were assumed to forfeit their vested benefit.

Rates of disability are represented by the following table:

Sample Ages	Percent Becoming Disabled within Next Year
20	0.03%
25	0.05%
30	0.07%
35	0.13%
40	0.19%
45	0.28%
50	0.45%
55	0.76%
60	1.10%

These rates were first used for the June 30, 1986 valuation. For purposes of the valuation we assume that all disabilities are ordinary, as opposed to non-duty disabilities.

Miscellaneous and Technical Assumptions

Marriage Assumption:	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses.
Pay Increase Timing:	Beginning of the valuation year.
Decrement Timing:	Decrements of all types are assumed to occur mid-year.
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
Decrement Operation:	All decrements the first five years of service. Only mortality operates during retirement eligibility.
Service Credit Accruals:	It is assumed that members accrue one year of service credit per year.
Incidence of Contributions:	Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made.
Normal Form of Benefit:	Straight life benefit terminating at death of retiree.
Benefit Service:	Exact fractional service is used to determine the amount of benefit payable.
Payroll Adjustment:	Members who did not work the entire plan year had pays adjusted to reasonably reflect a full year's pay.
Assumption Rationale:	Certain actuarial assumptions were based upon the results of an assumption study for the City of St. Clair Shores Employees Retirement System. A report dated August 11, 2016 presented the results of this study. Other assumptions were based upon an experience study dated, September 23, 2008. We believe these assumptions continue to be suitable for purposes of this study.

SECTION G

CALCULATION OF THE SINGLE DISCOUNT RATE

Calculation of the Single Discount Rate

GASB Statement No. 67 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total Pension Liability. This rate considers the ability of the fund to meet benefit obligations in the future. To make this determination, employer contributions, employee contributions, benefit payments, expenses and investment returns are projected into the future. The Plan Net Position (assets) in future years can then be determined and compared to its obligation to make benefit payments in those years. As long as assets are projected to be on hand in a future year, the assumed valuation discount rate is used. In years where assets are not projected to be sufficient to meet benefit payments, the use of a municipal bond rate is required, as described in the following paragraph.

The Single Discount Rate (SDR) is equivalent to applying these two rates to the benefits that are projected to be paid during the different time periods. The SDR reflects (1) the long-term expected rate of return on pension plan investments (during the period in which the fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.50%; the municipal bond rate is 3.62%; and the resulting Single Discount Rate is 7.50%.

The City of St. Clair Shores Employees Retirement System has a history of adhering to a funding policy with actuarially determined contributions. In addition, the System uses a closed amortization period and has a history of fully contributing the actuarially determined contributions to the fund. Based on the System's current funding policy and the City's practice of contribution 100% of the recommended contribution, it is the opinion of the actuaries that the Plan Fiduciary Net Position is sufficient to make all future projected benefit payments, assuming all other assumptions are realized. As a result, the Single Discount Rate is the expected rate of return on pension plan investments (7.5%) and projections have been excluded from this report.

SECTION H

GLOSSARY OF TERMS

Glossary of Terms

<i>Actuarial Accrued Liability (AAL)</i>	The AAL is the difference between the actuarial present value of all benefits and the actuarial value of future normal costs. The definition comes from the fundamental equation of funding which states that the present value of all benefits is the sum of the Actuarial Accrued Liability and the present value of future normal costs. The AAL may also be referred to as "accrued liability" or "actuarial liability."
<i>Actuarial Assumptions</i>	These assumptions are estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and compensation increases. Actuarial assumptions are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (compensation increases, payroll growth, inflation and investment return) consist of an underlying real rate of return plus an assumption for a long-term average rate of inflation.
<i>Accrued Service</i>	Service credited under the system which was rendered before the date of the actuarial valuation.
<i>Actuarial Equivalent</i>	A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.
<i>Actuarial Cost Method</i>	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of the pension trust benefits between future normal cost and actuarial accrued liability. The actuarial cost method may also be referred to as the actuarial funding method.
<i>Actuarial Gain (Loss)</i>	The difference in liabilities between actual experience and expected experience during the period between two actuarial valuations is the gain (loss) on the accrued liabilities.
<i>Actuarial Present Value (APV)</i>	The amount of funds currently required to provide a payment or series of payments in the future. The present value is determined by discounting future payments at predetermined rates of interest and probabilities of payment.
<i>Actuarial Valuation</i>	The actuarial valuation report determines, as of the actuarial valuation date, the service cost, total pension liability, and related actuarial present value of projected benefit payments for pensions.
<i>Actuarial Valuation Date</i>	The date as of which an actuarial valuation is performed.
<i>Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)</i>	A calculated contribution into a defined benefit pension plan for the reporting period, most often determined based on the funding policy of the plan. Typically the Actuarially Determined Contribution has a normal cost payment and an amortization payment.

Glossary of Terms

<i>Amortization Payment</i>	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
<i>Amortization Method</i>	The method used to determine the periodic amortization payment may be a level dollar amount, or a level percent of pay amount. The period will typically be expressed in years, and the method will either be “open” (meaning, reset each year) or “closed” (the number of years remaining will decline each year).
<i>Cost-of-Living Adjustments</i>	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
<i>Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)</i>	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
<i>Covered-Employee Payroll</i>	The payroll of employees that are provided with pensions through the pension plan.
<i>Deferred Retirement Option Program (DROP)</i>	A program that permits a plan member to elect a calculation of benefit payments based on service credits and salary, as applicable, as of the DROP entry date. The plan member continues to provide service to the employer and is paid for the service by the employer after the DROP entry date; however, the pensions that would have been paid to the plan member are credited to an individual member account within the defined benefit pension plan until the end of the DROP period. Other variations for DROP exist and will be more fully detailed in the plan provision section of the valuation report.
<i>Deferred Inflows and Outflows</i>	The deferred inflows and outflows of pension resources are amounts used under GASB Statement No. 68 in developing the annual pension expense. Deferred inflows and outflows arise with differences between expected and actual experiences; changes of assumptions. The portion of these amounts not included in pension expense should be included in the deferred inflows or outflows of resources.
<i>Discount Rate</i>	For GASB purposes, the discount rate is the single rate of return that results in the present value of all projected benefit payments to be equal to the sum of the funded and unfunded projected benefit payments, specifically: <ol style="list-style-type: none">1. The benefit payments to be made while the pension plans’ fiduciary net position is projected to be greater than the benefit payments that are projected to be made in the period; and2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.

Glossary of Terms

<i>Entry Age Actuarial Cost Method (EAN)</i>	The EAN is a cost method for allocating the costs of the plan between the normal cost and the accrued liability. The actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis (either level dollar or level percent of pay) over the earnings or service of the individual between entry age and assumed exit ages(s). The portion of the actuarial present value allocated to a valuation year is the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is the actuarial accrued liability. The sum of the accrued liability plus the present value of all future normal costs is the present value of all benefits.
<i>GASB</i>	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
<i>Fiduciary Net Position</i>	The fiduciary net position is the market value of the assets of the trust dedicated to the defined benefit provisions.
<i>Long-Term Expected Rate of Return</i>	The long-term rate of return is the expected return to be earned over the entire trust portfolio based on the asset allocation of the portfolio.
<i>Money-Weighted Rate of Return</i>	The money-weighted rate of return is a method of calculating the returns that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.
<i>Multiple-Employer Defined Benefit Pension Plan</i>	A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
<i>Municipal Bond Rate</i>	The Municipal Bond Rate is the discount rate to be used for those benefit payments that occur after the assets of the trust have been depleted.
<i>Net Pension Liability (NPL)</i>	The NPL is the liability of employers and non-employer contributing entities to plan members for benefits provided through a defined benefit pension plan.
<i>Non-Employer Contributing Entities</i>	Non-employer contributing entities are entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of the GASB accounting statements, plan members are not considered non-employer contributing entities.
<i>Normal Cost</i>	The portion of the actuarial present value allocated to a valuation year is called the normal cost. For purposes of application to the requirements of this Statement, the term normal cost is the equivalent of service cost.

Glossary of Terms

<i>Other Postemployment Benefits (OPEB)</i>	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits regardless of the manner in which they are provided. Other postemployment benefits do not include termination benefits.
<i>Real Rate of Return</i>	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
<i>Service Cost</i>	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.
<i>Total Pension Expense</i>	The total pension expense is the sum of the following items that are recognized at the end of the employer's fiscal year: <ol style="list-style-type: none">1. Service Cost2. Interest on the Total Pension Liability3. Current-Period Benefit Changes4. Employee Contributions (made negative for addition here)5. Projected Earnings on Plan Investments (made negative for addition here)6. Pension Plan Administrative Expense7. Other Changes in Plan Fiduciary Net Position8. Recognition of Outflow (Inflow) of Resources due to Liabilities9. Recognition of Outflow (Inflow) of Resources due to Assets
<i>Total Pension Liability (TPL)</i>	The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.
<i>Unfunded Actuarial Accrued Liability (UAAL)</i>	The UAAL is the difference between actuarial accrued liability and valuation assets.
<i>Valuation Assets</i>	The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of GASB Statement Nos. 67 and 68, the valuation assets are equal to the market value of assets.