

May 28, 2020

Board of Trustees
Employees Retirement System of the
City of Baton Rouge and Parish of East Baton Rouge
209 St. Ferdinand Street
P.O. Box 1471
Baton Rouge, LA 70821

RE: GASB Statement No.67 and No.68 – Police Guarantee Trust of the Employees’ Retirement System of the
City of Baton Rouge and Parish of East Baton Rouge

Dear Board:

We are pleased to present to the Board a GASB Statements No.67 and No.68 measured as of December 31, 2019 for the Police Guarantee Trust of the Employees’ Retirement System of the City of Baton Rouge and Parish of East Baton Rouge.

The calculation of the liability associated with the benefits referenced in this report was performed for satisfying the requirements of GASB No.67 and No.68 and is not applicable for other purposes, such as determining the plan’s funding requirements. A calculation of the plan’s liability for other purposes may produce significantly different results.

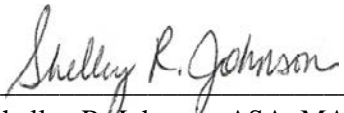
The total pension liability, net pension liability, and certain sensitivity information shown in this report are based on an actuarial valuation as of January 1, 2019. The total pension liability was rolled-forward from the valuation date to the plan’s fiscal year ending December 31, 2019 using generally accepted actuarial principles. It is our opinion that the assumptions used for this purpose are internally consistent, reasonable, and comply with the requirements under GASB No.67 and No.68.

Certain schedules should include a 10-year history of information. As provided for in GASB No.67 and No.68, this historical information is only presented for the years in which the information was measured in conformity with the requirements of GASB No.67 and No.68.

To the best of our knowledge, these statements are complete and accurate and are in accordance with generally recognized actuarial practices and methods. Future actuarial measurements may differ significantly from the current measurements presented in this report for a variety of reasons including changes in applicable laws, changes in plan provisions, changes in assumptions, or plan experience differing from expectations. Due to the limited scope of the valuation, we did not perform an analysis of the potential range of such future measurements.

If there are any questions, concerns, or comments about any of the items contained in this report, please contact me at 239-433-5500.

Respectfully submitted,
Foster & Foster, Inc.

By: 
Shelley R. Johnson, ASA, MAAA

SRJ/ike
Enclosures

STATEMENT OF FIDUCIARY NET POSITION
DECEMBER 31, 2019

<u>ASSETS</u>	MARKET VALUE
Cash and Cash Equivalents:	
Money Market	2,089,492
Cash	1,314,808
Total Cash and Equivalents	3,404,300
Receivables:	
Member Contributions	1,787
Employer Contributions	5,725
From Broker for Investments Sold	147,000
Other	8,351
Investment Income	3,770
Total Receivable	166,633
Investments:	
Fixed Income	5,436,031
Equities	4,618,197
Alternative	1,477,265
Total Investments	11,531,493
Deferred Outflows of Resources - OPEB related	30,844
Total Assets	15,133,270
<u>LIABILITIES</u>	
Payables:	
Accrued Expenses and Benefits	280,602
Total OPEB Liability	518,363
To Broker for Investments Purchased	3,904
Total Liabilities	802,869
Deferred Inflows of Resources - OPEB related	169,113
NET POSITION RESTRICTED FOR PENSIONS	14,161,288

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR THE YEAR ENDED DECEMBER 31, 2019
Market Value Basis

ADDITIONS

Contributions:

Member	52,178	
Employer	1,167,213	
Total Contributions		1,219,391
Investment Income:		
Net Increase in Fair Value of Investments	1,817,358	
Interest & Dividends	93,728	
Less Investment Expense ¹	(122,982)	
Net Investment Income		1,788,104
Total Additions		3,007,495

DEDUCTIONS

Distributions to Members:

Benefit Payments	511,937	
Lump Sum DROP Distributions	1,800,289	
Total Distributions		2,312,226
Administrative Expense		276,209
Total Deductions		2,588,435
Net Increase in Net Position		419,060

NET POSITION RESTRICTED FOR PENSIONS

Beginning of the Year		14,415,588
Beginning of the Year Adjustment		(673,360)
End of the Year		14,161,288

¹Investment related expenses include investment advisory, custodial and performance monitoring fees.

NOTES TO THE FINANCIAL STATEMENTS
(For the Year Ended December 31, 2019)

Plan Administration

This plan was effective February 26, 2000 and was most recently amended effective February 28, 2001.

The plan is a single employer defined benefit pension plan, established and amended by the City of Baton Rouge, Louisiana and Parish of East Baton Rouge acting through its Board of Trustees.

Eligible police employees who are active members or in the Deferred Retirement Option Plan (DROP) of the City of Baton Rouge and Parish of East Baton Rouge (CPERS) on February 26, 2000 who elected to transfer into the Municipal Police Employees' Retirement System of Louisiana (MPERS) are automatically included in the Police Guarantee Trust (PGT).

Plan Membership as of January 1, 2019:

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	219
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	3
Active Plan Members	106
	328

Benefits Provided

The Plan provides retirement and drop benefits.

The Plan provisions can be found in the January 1, 2019 Actuarial Valuation Report for the Police Guarantee Trust of the Employees' Retirement System of the City of Baton Rouge and Parish of East Baton Rouge prepared by Foster & Foster Actuaries and Consultants.

Contributions

Member Contributions: Based on current member contribution rate under CPERS, applied to member's compensation not covered by MPERS. Member contributions are "picked up" by the City.

Employer Contributions: Balance of actuarially required contribution less member contributions, as determined above.

Investment Policy:

The following was the Board's adopted asset allocation policy as of December 31, 2019:

Asset Class	Target Allocation
Domestic Equity	32.5%
International Equity	17.5%
Domestic Bonds	25.0%
International Bonds	5.0%
Real Estate	15.0%
Alternative Assets	5.0%
Total	100.0%

Concentrations:

The Plan did not hold investments in any one organization that represent 5 percent or more of the Pension Plan's Fiduciary Net Position.

Rate of Return:

For the year ended December 31, 2019, the annual money-weighted rate of return on Pension Plan investments, net of Pension Plan investment expense, was 13.69 percent.

The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Deferred Retirement Option Program

The DROP balance as December 31, 2019 is \$31,109,407.

NET PENSION LIABILITY OF THE SPONSOR

The components of the Net Pension Liability of the Sponsor on December 31, 2019 were as follows:

Total Pension Liability	\$ 44,708,413
Plan Fiduciary Net Position	\$ (14,161,288)
Sponsor's Net Pension Liability	<u>\$ 30,547,125</u>
Plan Fiduciary Net Position as a percentage of Total Pension Liability	31.67%

Actuarial Assumptions:

The Total Pension Liability was determined by an actuarial valuation as of January 1, 2019 updated to December 31, 2019 using the following actuarial assumptions:

Inflation	2.25%
Salary Increases	Age based
Discount Rate	4.13%
Investment Rate of Return	5.75%

Mortality Rates Healthy Active Lives:

RP-2006 Blue Collar Employee Projected back to 2001, Generational with MP-2018 (2016 base year).

Mortality Rates Healthy Inactive Lives:

RP-2006 Blue Collar Annuitant Projected back to 2001, Generational with MP-2018 (2016 base year).

Mortality Rate Disabled Lives:

RP-2006 Disability Table Projected back to 2001, Generational with MP-2018 (2016 base year).

The significant assumptions are based upon the most recent experience study dated January 21, 2020.

The Long-Term Expected Rate of Return on Pension Plan investments can be determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Pension Plan investment expenses and inflation) are developed for each major asset class.

For 2019, the inflation rate assumption of the investment advisor was 2.50%.

These ranges 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 rates real rates of return for each major asset class included in the Pension Plan's target asset allocation as of December 31, 2019 are summarized in the following table:

Asset Class	Long Term Expected Real Rate of Return ¹
Domestic Equity	7.50%
International Equity	8.50%
Domestic Bonds	2.50%
International Bonds	3.50%
Real Estate	4.50%
Alternative Assets	5.70%

¹ Source: AndCo Consulting

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Discount Rate:

The projection of cash flows used to determine the Discount rate assumed that Plan member contributions will be made at the current contribution rate and that Sponsor contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on those assumptions, the Pension Plan's Fiduciary Net Position was projected to provide future benefit payments for 14 years. These payments were discounted using a discount rate of 5.75%. Future benefits payments beyond 14 years were discounted using a high quality municipal bond rate of 3.26%. The high quality municipal bond rate was based on the week closest to, but not later than, the measurement date of the S&P Municipal Bond 20 Year High Grade Rate Index. The single equivalent discount rate was 4.13%.

	1% Decrease 3.13%	Current Discount Rate 4.13%	1% Increase 5.13%
Sponsor's Net Pension Liability	\$ 30,744,308	\$ 30,547,125	\$ 30,378,933

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS
Last 10 Years

	12/31/2019	12/31/2018	12/31/2017
Total Pension Liability			
Service Cost	380,505	459,750	467,379
Interest	2,078,790	2,098,336	2,281,368
Changes of benefit terms	-	-	-
Differences between Expected and Actual Experience	177,405	2,147,899	163,883
Changes of assumptions	27,828	151,797	287,842
Benefit Payments, including Refunds of Employee Contributions	(2,312,226)	(2,371,530)	(2,340,178)
Net Change in Total Pension Liability	352,302	2,486,252	860,294
Total Pension Liability - Beginning	44,356,111	41,869,859	41,009,565
Total Pension Liability - Ending (a)	<u>\$ 44,708,413</u>	<u>\$ 44,356,111</u>	<u>\$ 41,869,859</u>
Plan Fiduciary Net Position			
Contributions - Employer	1,167,213	778,113	641,699
Contributions - Employee	52,178	54,100	70,460
Net Investment Income	1,788,104	(849,966)	1,727,482
Benefit Payments, including Refunds of Employee Contributions	(2,312,226)	(2,371,530)	(2,340,178)
Administrative Expense	(276,209)	(282,942)	(275,799)
Net Change in Plan Fiduciary Net Position	419,060	(2,672,225)	(176,336)
Plan Fiduciary Net Position - Beginning	14,415,588	17,087,813	17,264,149
Beginning of the Year Adjustment	(673,360)	-	-
Plan Fiduciary Net Position - Ending (b)	<u>\$ 14,161,288</u>	<u>\$ 14,415,588</u>	<u>\$ 17,087,813</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 30,547,125</u>	<u>\$ 29,940,523</u>	<u>\$ 24,782,046</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	31.67%	32.50%	40.81%
Covered Payroll	\$ 8,100,367	\$ 9,206,458	\$ 11,748,200
Net Pension Liability as a percentage of Covered Payroll	377.11%	325.21%	210.94%

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS
Last 10 Years

	12/31/2016	12/31/2015 ¹	12/31/2014 ¹
Total Pension Liability			
Service Cost	477,571	454,961	437,310
Interest	2,423,493	2,338,200	2,565,879
Changes of benefit terms	-	-	-
Differences between Expected and Actual Experience	2,243,050	1,721,888	-
Changes of assumptions	555,501	(979,283)	340,742
Benefit Payments, including Refunds of Employee Contributions	(2,651,397)	(1,853,004)	(1,679,506)
Net Change in Total Pension Liability	3,048,218	1,682,762	1,664,425
Total Pension Liability - Beginning	37,961,347	36,278,585	34,614,160
Total Pension Liability - Ending (a)	<u>\$ 41,009,565</u>	<u>\$ 37,961,347</u>	<u>\$ 36,278,585</u>
Plan Fiduciary Net Position			
Contributions - Employer	581,006	951,261	763,873
Contributions - Employee	63,856	99,365	90,774
Net Investment Income	974,590	(403,640)	796,414
Benefit Payments, including Refunds of Employee Contributions	(2,651,397)	(1,853,004)	(1,679,506)
Administrative Expense	(269,510)	(313,560)	(333,744)
Net Change in Plan Fiduciary Net Position	(1,301,455)	(1,519,578)	(362,189)
Plan Fiduciary Net Position - Beginning	18,565,604	20,085,182	20,447,371
Beginning of the Year Adjustment	-	-	-
Plan Fiduciary Net Position - Ending (b)	<u>\$ 17,264,149</u>	<u>\$ 18,565,604</u>	<u>\$ 20,085,182</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 23,745,416</u>	<u>\$ 19,395,743</u>	<u>\$ 16,193,403</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	42.10%	48.91%	55.36%
Covered Payroll	\$ 13,271,888	\$ 14,066,159	\$ 14,282,440
Net Pension Liability as a percentage of Covered Payroll	178.92%	137.89%	113.38%

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

¹ The 2014 and 2015 results were provided by the prior actuary, Nyhart.

Changes of assumptions:

For purposes of determining the GASB discount rate at the 12/31/2019 measurement date, a depletion date projection as of date have been performed. The results of this projection showed a single discount rate of 4.13%.

The discount rate was decreased from 4.77% to 4.13%. In response to an Actuarial Experience Study dated January 21, following assumptions were approved by the Board:

- Inflation
- Salary Increases
- Administrative Expenses
- Cost-of-Living Adjustments
- Mortality Rates
- Retirement Rates
- Withdrawal Rates
- Converted Leave
- MPERS DROP Interest Rate

For purposes of determining the GASB discount rate at the 12/31/2018 measurement date, a depletion date projection as of date have been performed. The results of this projection showed a single discount rate of 4.77%.

The discount rate was lowered from 5.10% to 4.77%.

Additionally, the assumed investment rate of return was lowered from 7.25% to 5.75%, net of investment related expenses.

For purposes of determining the GASB discount rate at the 12/31/2017 measurement date, a depletion date projection as of date have been performed. The results of this projection showed a single discount rate of 5.10%.

The discount rate was lowered from 5.66% to 5.10%.

For purposes of determining the GASB discount rate at the 12/31/2016 measurement date, a depletion date projection as of date have been performed. The results of this projection showed a single discount rate of 5.66%.

The discount rate was lowered from 6.53% to 5.66%.

SCHEDULE OF CONTRIBUTIONS
Last 10 Years

Fiscal Year Ended	Actuarially Determined Contribution	Contributions in relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a percentage of Covered Payroll
12/31/2019	\$ 3,169,155	\$ 1,167,213	\$ 2,001,942	\$ 8,100,367	14.41%
12/31/2018	\$ 2,455,093	\$ 778,113	\$ 1,676,980	\$ 9,206,458	8.45%
12/31/2017	\$ 3,795,014	\$ 641,699	\$ 3,153,315	\$ 11,748,200	5.46%
12/31/2016	\$ 2,752,642	\$ 581,006	\$ 2,171,636	\$ 13,271,888	4.38%
12/31/2015 ¹	\$ 3,029,216	\$ 951,261	\$ 2,077,955	\$ 14,066,159	6.76%
12/31/2014 ¹	\$ 2,646,547	\$ 763,873	\$ 1,882,674	\$ 14,282,440	5.35%
12/31/2013 ¹	\$ 2,679,589	\$ 696,918	\$ 1,982,671	\$ 15,428,420	4.52%
12/31/2012 ¹	\$ 2,225,478	\$ 238,628	\$ 1,986,850	\$ 15,966,923	1.49%
12/31/2011 ¹	\$ 1,977,834	\$ 202,695	\$ 1,775,139	\$ 17,315,930	1.17%
12/31/2010 ¹	\$ 1,634,905	\$ 250,114	\$ 1,384,791	\$ 18,836,479	1.33%

¹ Results were provided by the prior actuary, Nyhart.

Notes to Schedule

Valuation Date: 01/01/2018

Actuarially Determined contribution rates are calculated as of January 1, two years prior of the following year in which contributions are reported.

Methods and assumptions used to determine contribution rates:

Mortality Rates: RP-2000 Combined Healthy Mortality with a Blue Collar Adjustment, Projected to 2019 using Scale BB.

<u>Age</u>	<u>Male</u>	<u>Female</u>
20	0.0326%	0.0180%
30	0.0686%	0.0277%
40	0.1295%	0.0829%
50	0.2278%	0.1854%
60	0.7237%	0.4089%
70	2.0079%	1.4815%

Disabled Lives:

RP-2000 Disabled Mortality projected to 2019 using Scale BB.

Interest Rate: 7.25% per year, compounded annually, net of investment expenses.

Inflation: 2.75% per year.

Salary Increases: Inflation, plus

<u>Age</u>	<u>%</u>
30	4.00%
35	2.00%
40	2.00%
45	1.00%
50	0.00%
55	0.00%

MPERS COLA: 2.00% compounded annually.

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Retirement Rates:

Before 25 Years of Creditable Service	<u>Age</u>	<u>Retirement</u>
	55-60	10%
	61-63	20%
	64	25%
	65+	100%

After 25 Years of Creditable Service	<u>Service</u>	<u>Retirement</u>
	25	20%
	26	30%
	27	40%
	28+	100%

Termination Rates:	<u>Age</u>	<u>Turnover</u>
	20	7.9%
	25	7.7%
	30	7.2%
	35	6.3%
	40	5.2%
	45	4.0%
	50	2.6%
	55	0.9%
	60	0.1%

The turnover rates are modified as follows, based on years of employment:

<u>Years of</u>	<u>Adjustment</u>
<u>Service</u>	
0-1	110%
2	85%
3	45%
4-10	45%
11-15	25%
16+	15%

Disability Rates:	<u>Age</u>	<u>Disability</u>
	20	0.06%
	25	0.06%
	30	0.06%
	35	0.07%
	40	0.11%
	45	0.22%
	50	0.46%
	55	1.02%
	60	3.20%
	61	3.55%
	62	4.00%
	63	4.50%
64	4.10%	
65	1.95%	

It is assumed that 75% of Police Officer disablements are service related.

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Assumed Converted Leave Transfers to Retirement System:	1.50 years.
Percent Married:	80% of Members are assumed to be married with husbands 3 years older than wives.
Actuarial Cost Method:	Entry Age Normal.
Contribution Interest Adjustment:	The following load is applied for determination of the Sponsor Contribution: Interest – A full year, based on the current 7.25% assumption.
Asset Valuation Method:	Expected Value Method. 20% of investment gains or losses are recognized annually.
Ancillary Benefits:	MPERS ancillary benefits (turnover, disability, death) are assumed to be greater than CPERS ancillary benefits.
Interest on Future MPERS DROP Accounts:	7.25%, compounded annually for three years, payable at DROP exit.
Withdrawal of Employee Contributions:	100% of employees who terminate other than for retirement, death, or disability, are assumed to withdraw their contributions.

SCHEDULE OF INVESTMENT RETURNS
Last 10 Years

Fiscal Year Ended	Annual Money-Weighted Rate of Return Net of Investment Expense
12/31/2019	13.69%
12/31/2018	-5.25%
12/31/2017	10.59%
12/31/2016	5.59%

NOTES TO THE FINANCIAL STATEMENTS
(For the Year Ended December 31, 2019)

Plan Description

This plan was effective February 26, 2000 and was most recently amended effective February 28, 2001. The plan is a single employer defined benefit pension plan, established and amended by the City of Baton Rouge, Louisiana and Parish of East Baton Rouge acting through its Board of Trustees. Eligible police employees who are active members or in the Deferred Retirement Option Plan (DROP) of the City of Baton Rouge and Parish of East Baton Rouge (CPERS) on February 26, 2000 who elected to transfer into the Municipal Police Employees' Retirement System of Louisiana (MPERS) are automatically included in the Police Guarantee Trust (PGT).

Plan Membership as of January 1, 2019:

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	219
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	3
Active Plan Members	106
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Benefits Provided

The Plan provides retirement and drop benefits. The Plan provisions can be found in the January 1, 2019 Actuarial Valuation Report for the Police Guarantee Trust of the Employees' Retirement System of the City of Baton Rouge and Parish of East Baton Rouge prepared by Foster & Foster Actuaries and Consultants.

Contributions

Member Contributions: Based on current member contribution rate under CPERS, applied to member's compensation not covered by MPERS. Member contributions are "picked up" by the City.
Employer Contributions: Balance of actuarially required contribution less member contributions, as determined above.

Net Pension Liability

The measurement date is December 31, 2019.
The measurement period for the pension expense was January 1, 2019 to December 31, 2019.
The reporting period is January 1, 2019 through December 31, 2019.

The Sponsor's Net Pension Liability was measured as of December 31, 2019.
The Total Pension Liability used to calculate the Net Pension Liability was determined as of that date.

Actuarial Assumptions:

The Total Pension Liability was determined by an actuarial valuation as of January 1, 2019 updated to December 31, 2019 using the following actuarial assumptions:

Inflation	2.25%
Salary Increases	Age based
Discount Rate	4.13%
Investment Rate of Return	5.75%

Mortality Rates Healthy Active Lives:

RP-2006 Blue Collar Employee Projected back to 2001, Generational with MP-2018 (2016 base year).

Mortality Rates Healthy Inactive Lives:

RP-2006 Blue Collar Annuitant Projected back to 2001, Generational with MP-2018 (2016 base year).

Mortality Rate Disabled Lives:

RP-2006 Disability Table Projected back to 2001, Generational with MP-2018 (2016 base year).

The significant assumptions are based upon the most recent experience study dated January 21, 2020.

The Long-Term Expected Rate of Return on Pension Plan investments can be determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Pension Plan investment expenses and inflation) are developed for each major asset class.

For 2019, the inflation rate assumption of the investment advisor was 2.50%.

These ranges 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 rates real rates of return for each major asset class included in the Pension Plan's target asset allocation as of December 31, 2019 are summarized in the following table:

Asset Class	Target Allocation	Long Term Expected Real Rate of Return ¹
Domestic Equity	32.50%	7.50%
International Equity	17.50%	8.50%
Domestic Bonds	25.00%	2.50%
International Bonds	5.00%	3.50%
Real Estate	15.00%	4.50%
Alternative Assets	5.00%	5.70%
Total	100.00%	

¹ Source: AndCo Consulting

Discount Rate:

The projection of cash flows used to determine the Discount rate assumed that Plan member contributions will be made at the current contribution rate and that Sponsor contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on those assumptions, the Pension Plan's Fiduciary Net Position was projected to provide future benefit payments for 14 years. These payments were discounted using a discount rate of 5.75%. Future benefits payments beyond 14 years were discounted using a high quality municipal bond rate of 3.26%. The high quality municipal bond rate was based on the week closest to, but not later than, the measurement date of the S&P Municipal Bond 20 Year High Grade Rate Index. The single equivalent discount rate was 4.13%.

CHANGES IN NET PENSION LIABILITY

	Increase (Decrease)		
	Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability
	(a)	(b)	(a)-(b)
Balances as of December 31, 2018	\$ 44,356,111	\$ 14,415,588	\$ 29,940,523
Beginning of the Year Adjustment	-	(673,360)	673,360
Changes for a Year:			
Service Cost	380,505	-	380,505
Interest	2,078,790	-	2,078,790
Differences between Expected and Actual Experience	177,405	-	177,405
Changes of assumptions	27,828	-	27,828
Changes of benefit terms	-	-	-
Contributions - Employer	-	1,167,213	(1,167,213)
Contributions - Employee	-	52,178	(52,178)
Net Investment Income	-	1,788,104	(1,788,104)
Benefit Payments, including Refunds of Employee Contributions	(2,312,226)	(2,312,226)	-
Administrative Expense	-	(276,209)	276,209
Net Changes	352,302	419,060	(66,758)
Balances as of December 31, 2019	\$ 44,708,413	\$ 14,161,288	\$ 30,547,125

Sensitivity of the Net Pension Liability to changes in the Discount Rate.

	Current Discount		
	1% Decrease	Rate	1% Increase
	3.13%	4.13%	5.13%
Sponsor's Net Pension Liability	\$ 30,744,308	\$ 30,547,125	\$ 30,378,933

Pension Plan Fiduciary Net Position.

Detailed information about the pension Plan's Fiduciary Net Position is available in a separately issued Plan financial report.

**PENSION EXPENSE AND DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED
INFLOWS OF RESOURCES RELATED TO PENSIONS**

For the year ended December 31, 2019, the Sponsor will recognize a Pension Expense of \$4,270,145.

On December 31, 2019, the Sponsor reported Deferred Outflows of Resources and Deferred Inflows of Resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between Expected and Actual Experience	88,703	-
Changes of assumptions	13,914	-
Net difference between Projected and Actual Earnings on Pension Plan investments	-	190,516
Total	\$ 102,617	\$ 190,516

Amounts reported as Deferred Outflows of Resources and Deferred Inflows of Resources related to pensions will be recognized in Pension Expense as follows:

Year ended December 31:			
2020	\$	82,831	
2021	\$	(52,473)	
2022	\$	108,369	
2023	\$	(226,626)	
2024	\$	-	
Thereafter	\$	-	

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS
Last 10 Years

	12/31/2019	12/31/2018	12/31/2017
Total Pension Liability			
Service Cost	380,505	459,750	467,379
Interest	2,078,790	2,098,336	2,281,368
Changes of benefit terms	-	-	-
Differences between Expected and Actual Experience	177,405	2,147,899	163,883
Changes of assumptions	27,828	151,797	287,842
Benefit Payments, including Refunds of Employee Contributions	(2,312,226)	(2,371,530)	(2,340,178)
Net Change in Total Pension Liability	352,302	2,486,252	860,294
Total Pension Liability - Beginning	44,356,111	41,869,859	41,009,565
Total Pension Liability - Ending (a)	<u>\$ 44,708,413</u>	<u>\$ 44,356,111</u>	<u>\$ 41,869,859</u>
Plan Fiduciary Net Position			
Contributions - Employer	1,167,213	778,113	641,699
Contributions - Employee	52,178	54,100	70,460
Net Investment Income	1,788,104	(849,966)	1,727,482
Benefit Payments, including Refunds of Employee Contributions	(2,312,226)	(2,371,530)	(2,340,178)
Administrative Expense	(276,209)	(282,942)	(275,799)
Net Change in Plan Fiduciary Net Position	419,060	(2,672,225)	(176,336)
Plan Fiduciary Net Position - Beginning	14,415,588	17,087,813	17,264,149
Beginning of the Year Adjustment	(673,360)	-	-
Plan Fiduciary Net Position - Ending (b)	<u>\$ 14,161,288</u>	<u>\$ 14,415,588</u>	<u>\$ 17,087,813</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 30,547,125</u>	<u>\$ 29,940,523</u>	<u>\$ 24,782,046</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	31.67%	32.50%	40.81%
Covered Payroll	\$ 8,100,367	\$ 9,206,458	\$ 11,748,200
Net Pension Liability as a percentage of Covered Payroll	377.11%	325.21%	210.94%

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS
Last 10 Years

	12/31/2016	12/31/2015 ¹	12/31/2014 ¹
Total Pension Liability			
Service Cost	477,571	454,961	437,310
Interest	2,423,493	2,338,200	2,565,879
Changes of benefit terms	-	-	-
Differences between Expected and Actual Experience	2,243,050	1,721,888	-
Changes of assumptions	555,501	(979,283)	340,742
Benefit Payments, including Refunds of Employee Contributions	(2,651,397)	(1,853,004)	(1,679,506)
Net Change in Total Pension Liability	3,048,218	1,682,762	1,664,425
Total Pension Liability - Beginning	37,961,347	36,278,585	34,614,160
Total Pension Liability - Ending (a)	<u>\$ 41,009,565</u>	<u>\$ 37,961,347</u>	<u>\$ 36,278,585</u>
Plan Fiduciary Net Position			
Contributions - Employer	581,006	951,261	763,873
Contributions - Employee	63,856	99,365	90,774
Net Investment Income	974,590	(403,640)	796,414
Benefit Payments, including Refunds of Employee Contributions	(2,651,397)	(1,853,004)	(1,679,506)
Administrative Expense	(269,510)	(313,560)	(333,744)
Net Change in Plan Fiduciary Net Position	(1,301,455)	(1,519,578)	(362,189)
Plan Fiduciary Net Position - Beginning	18,565,604	20,085,182	20,447,371
Beginning of the Year Adjustment	-	-	-
Plan Fiduciary Net Position - Ending (b)	<u>\$ 17,264,149</u>	<u>\$ 18,565,604</u>	<u>\$ 20,085,182</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 23,745,416</u>	<u>\$ 19,395,743</u>	<u>\$ 16,193,403</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	42.10%	48.91%	55.36%
Covered Payroll	\$ 13,271,888	\$ 14,066,159	\$ 14,282,440
Net Pension Liability as a percentage of Covered Payroll	178.92%	137.89%	113.38%

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

¹ The 2014 and 2015 results were provided by the prior actuary, Nyhart.

Changes of assumptions:

For purposes of determining the GASB discount rate at the 12/31/2019 measurement date, a depletion date projection as of date have been performed. The results of this projection showed a single discount rate of 4.13%.

The discount rate was decreased from 4.77% to 4.13%. In response to an Actuarial Experience Study dated January 21, following assumptions were approved by the Board:

- Inflation
- Salary Increases
- Administrative Expenses
- Cost-of-Living Adjustments
- Mortality Rates
- Retirement Rates
- Withdrawal Rates
- Converted Leave
- MPERS DROP Interest Rate

For purposes of determining the GASB discount rate at the 12/31/2018 measurement date, a depletion date projection as of date have been performed. The results of this projection showed a single discount rate of 4.77%.

The discount rate was lowered from 5.10% to 4.77%.

Additionally, the assumed investment rate of return was lowered from 7.25% to 5.75%, net of investment related expenses.

For purposes of determining the GASB discount rate at the 12/31/2017 measurement date, a depletion date projection as of date have been performed. The results of this projection showed a single discount rate of 5.10%.

The discount rate was lowered from 5.66% to 5.10%.

For purposes of determining the GASB discount rate at the 12/31/2016 measurement date, a depletion date projection as of date have been performed. The results of this projection showed a single discount rate of 5.66%.

The discount rate was lowered from 6.53% to 5.66%.

SCHEDULE OF CONTRIBUTIONS
Last 10 Years

Fiscal Year Ended	Actuarially Determined Contribution	Contributions in relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a percentage of Covered Payroll
12/31/2019	\$ 3,169,155	\$ 1,167,213	\$ 2,001,942	\$ 8,100,367	14.41%
12/31/2018	\$ 2,455,093	\$ 778,113	\$ 1,676,980	\$ 9,206,458	8.45%
12/31/2017	\$ 3,795,014	\$ 641,699	\$ 3,153,315	\$ 11,748,200	5.46%
12/31/2016	\$ 2,752,642	\$ 581,006	\$ 2,171,636	\$ 13,271,888	4.38%
12/31/2015 ¹	\$ 3,029,216	\$ 951,261	\$ 2,077,955	\$ 14,066,159	6.76%
12/31/2014 ¹	\$ 2,646,547	\$ 763,873	\$ 1,882,674	\$ 14,282,440	5.35%
12/31/2013 ¹	\$ 2,679,589	\$ 696,918	\$ 1,982,671	\$ 15,428,420	4.52%
12/31/2012 ¹	\$ 2,225,478	\$ 238,628	\$ 1,986,850	\$ 15,966,923	1.49%
12/31/2011 ¹	\$ 1,977,834	\$ 202,695	\$ 1,775,139	\$ 17,315,930	1.17%
12/31/2010 ¹	\$ 1,634,905	\$ 250,114	\$ 1,384,791	\$ 18,836,479	1.33%

¹ Results were provided by the prior actuary, Nyhart.

Notes to Schedule

Valuation Date: 01/01/2018
Actuarially Determined contribution rates are calculated as of January 1, two years prior of the following year in which contributions are reported.

Methods and assumptions used to determine contribution rates:

Mortality Rates: RP-2000 Combined Healthy Mortality with a Blue Collar Adjustment, Projected to 2019 using Scale BB.

<u>Age</u>	<u>Male</u>	<u>Female</u>
20	0.0326%	0.0180%
30	0.0686%	0.0277%
40	0.1295%	0.0829%
50	0.2278%	0.1854%
60	0.7237%	0.4089%
70	2.0079%	1.4815%

Disabled Lives:

RP-2000 Disabled Mortality projected to 2019 using Scale BB.

Interest Rate: 7.25% per year, compounded annually, net of investment expenses.

Inflation: 2.75% per year.

Salary Increases: Inflation, plus

<u>Age</u>	<u>%</u>
30	4.00%
35	2.00%
40	2.00%
45	1.00%
50	0.00%
55	0.00%

MPERS COLA: 2.00% compounded annually.

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Retirement Rates:

Before 25 Years of Creditable Service	<u>Age</u>	<u>Retirement</u>
	55-60	10%
	61-63	20%
	64	25%
	65+	100%

After 25 Years of Creditable Service	<u>Service</u>	<u>Retirement</u>
	25	20%
	26	30%
	27	40%
	28+	100%

Termination Rates:	<u>Age</u>	<u>Turnover</u>
	20	7.9%
	25	7.7%
	30	7.2%
	35	6.3%
	40	5.2%
	45	4.0%
	50	2.6%
	55	0.9%
	60	0.1%

The turnover rates are modified as follows, based on years of employment:

<u>Years of Service</u>	<u>Adjustment</u>
0-1	110%
2	85%
3	45%
4-10	45%
11-15	25%
16+	15%

Disability Rates:	<u>Age</u>	<u>Disability</u>
	20	0.06%
	25	0.06%
	30	0.06%
	35	0.07%
	40	0.11%
	45	0.22%
	50	0.46%
	55	1.02%
	60	3.20%
	61	3.55%
	62	4.00%
	63	4.50%
	64	4.10%
	65	1.95%

It is assumed that 75% of Police Officer disablements are service related.

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Assumed Converted Leave Transfers to Retirement System:	1.50 years.
Percent Married:	80% of Members are assumed to be married with husbands 3 years older than wives.
Actuarial Cost Method:	Entry Age Normal.
Contribution Interest Adjustment:	The following load is applied for determination of the Sponsor Contribution: Interest – A full year, based on the current 7.25% assumption.
Asset Valuation Method:	Expected Value Method. 20% of investment gains or losses are recognized annually.
Ancillary Benefits:	MPERS ancillary benefits (turnover, disability, death) are assumed to be greater than CPERS ancillary benefits.
Interest on Future MPERS DROP Accounts:	7.25%, compounded annually for three years, payable at DROP exit.
Withdrawal of Employee Contributions:	100% of employees who terminate other than for retirement, death, or disability, are assumed to withdraw their contributions.

COMPONENTS OF PENSION EXPENSE
YEAR ENDING DECEMBER 31, 2019

	Net Pension Liability	Deferred Inflows	Deferred Outflows	Pension Expense
Balances as of December 31, 2018	\$ 29,940,523	\$ 482,526	\$ 2,890,957	\$ -
Total Pension Liability Factors:				
Service Cost	380,505	-	-	380,505
Interest	2,078,790	-	-	2,078,790
Changes in benefit terms	-	-	-	-
Differences between Expected and Actual Experience with regard to economic or demographic assumptions	177,405	-	177,405	-
Current year amortization of experience difference	-	-	(1,162,652)	1,162,652
Change in assumptions about future economic or demographic factors or other inputs	27,828	-	27,828	-
Current year amortization of change in assumptions	-	-	(89,813)	89,813
Benefit Payments, including Refunds of Employee Contributions	(2,312,226)	-	-	-
Net change	<u>352,302</u>	<u>-</u>	<u>(1,047,232)</u>	<u>3,711,760</u>
Plan Fiduciary Net Position:				
Contributions - Employer	1,167,213	-	-	-
Contributions - Employee	52,178	-	-	(52,178)
Projected Net Investment Income	654,972	-	-	(654,972)
Difference between projected and actual earnings on Pension Plan investments	1,133,132	1,133,132	-	-
Current year amortization	-	(387,470)	(703,436)	315,966
Benefit Payments, including Refunds of Employee Contributions	(2,312,226)	-	-	-
Administrative Expenses	(276,209)	-	-	276,209
Net change	<u>419,060</u>	<u>745,662</u>	<u>(703,436)</u>	<u>(114,975)</u>
Beginning of the Year Adjustment	(673,360)	-	-	673,360
Balances as of December 31, 2019	<u><u>\$ 30,547,125</u></u>	<u><u>\$ 1,228,188</u></u>	<u><u>\$ 1,140,289</u></u>	<u><u>\$ 4,270,145</u></u>

AMORTIZATION SCHEDULE - INVESTMENTS

Increase (Decrease) in Pension Expense Arising from the Recognition of the of Differences Between Projected and Actual Earnings on Pension Plan Investments

Plan Year Ending	Differences Between Expected and Actual Earnings	Recognition Period (Years)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
2019	\$ (1,133,132)	5	\$ (226,628)	\$ (226,626)	\$ (226,626)	\$ (226,626)	\$ (226,626)	\$ -	\$ -	\$ -	\$ -	\$ -
2018	\$ 1,674,977	5	\$ 334,995	\$ 334,995	\$ 334,995	\$ 334,995	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2017	\$ (804,209)	5	\$ (160,842)	\$ (160,842)	\$ (160,842)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$ 163,431	5	\$ 32,686	\$ 32,687	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2015	\$ 1,678,767	5	\$ 335,755	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ 315,966	\$ (19,786)	\$ (52,473)	\$ 108,369	\$ (226,626)	\$ -	\$ -	\$ -	\$ -	\$ -

AMORTIZATION SCHEDULE - CHANGES OF ASSUMPTIONS

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Changes of Assumptions

Plan Year Ending	Changes of Assumptions	Recognition Period (Years)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
2019	\$ 27,828	2	\$ 13,914	\$ 13,914	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2018	\$ 151,797	2	\$ 75,899	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ 89,813	\$ 13,914	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

AMORTIZATION SCHEDULE - EXPERIENCE

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Differences between Expected and Actual Experience

Plan Year Ending	Differences Between Expected and Actual Experience	Recognition Period (Years)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2019	\$ 177,405	2	\$ 88,702	\$ 88,703	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2018	\$ 2,147,899	2	\$ 1,073,950	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ 1,162,652	\$ 88,703	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -