

GASB Statements No. 67 and 68
Report for Fiscal Year 2022

Quincy Retirement System



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September 13, 2022

Quincy Retirement Board
1245 Hancock Street, Suite #39
Quincy, MA 02169

To the Quincy Retirement Board:

For the purpose of satisfying the requirements of the Government Accounting Standards Board (GASB) Statements No. 67 and 68, Stone Consulting, Inc. has prepared a set of illustrative tables and other Required Supplementary Information (RSI) based on the January 1, 2020 actuarial valuation of the Quincy Retirement System performed by Stone Consulting, Inc.

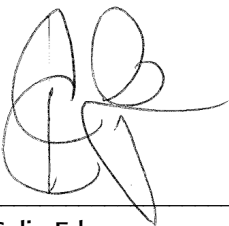
The valuation and this report were prepared using generally accepted actuarial principles and practices and meet the parameters set by the Governmental Accounting Standards Board (GASB).

To the best of our knowledge, this report is complete and accurate, and the assumptions used represent a reasonable estimate of anticipated experience of the system. Stone Consulting, Inc. is completely independent of the City of Quincy and the Quincy Retirement System. This includes any of its officers and key personnel. Neither we or anyone else closely associated with us has any relationship with the City of Quincy or the Quincy Retirement System that would impair our independence, other than this or related assignments.

We are pleased to present these exhibits. If the Board has any questions on the content of this report, we would be glad to respond. Please note that this report is meant to be used in its entirety. Use of excerpts of this report may result in a misleading or inaccurate understanding of the results.

The undersigned is a consultant for Stone Consulting, Inc., is a Member of the American Academy of Actuaries, and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,
STONE CONSULTING, INC.
Actuaries for the Plan



Colin Edgar
Member, American Academy of Actuaries

Summary of Results

This report has been prepared for the purpose of satisfying the requirements of GASB Statements No. 67 and 68. For GASB 67 the results are as of a valuation date of January 1, 2020 and a reporting date of December 31, 2021. For GASB 68 the results are as of a valuation date of January 1, 2020, a measurement date of December 31, 2021 and a reporting date of June 30, 2022.

The methods, assumptions, and plan provisions used to prepare these exhibits are consistent with those used in the funding valuation, and are outlined in the January 1, 2020 funding valuation report unless otherwise stated in this report.

Highlights of the results for the Quincy Retirement System as of December 31, 2021 are as follows:

Total Pension Liability (TPL)	\$ 839,744,951
Plan Fiduciary Net Position (FNP)	<u>918,843,325</u>
System’s Net Pension Liability (NPL)	\$ (79,098,374)
Plan FNP as a percentage of the TPL	109.4%
Covered Payroll	\$ 110,956,375
Plan NPL as a percentage of Covered Payroll	-71.3%
Pension Expense	\$ 24,635,064

NOTE: Totals in this report may not sum due to rounding

The TPL, FNP, and NPL are all developed and discussed on the following two pages, followed by the pension expense and deferrals.

Distribution of the Member Population

As of January 1, 2020, the following employees were covered by the benefits terms:

Inactive employees or beneficiaries currently receiving benefits	1,521
Inactive employees entitled to but not receiving benefits	21
Inactive employees entitled to a return of contributions	167
Active employees	<u>1,546</u>
TOTAL	3,255

Changes to the Net Pension Liability

	Total Pension Liability (a)	Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
Balances at beginning of Measurement Period (01/01/2021)	\$ 815,929,608	\$ 417,150,670	\$ 398,778,938
Changes for the Year:			
Service Cost	16,039,097		16,039,097
Interest	58,479,730		58,479,730
Change in benefit terms	0		0
Differences between expected and actual experience	0		0
Change in assumptions	0		0
Contributions - employer		483,002,343	(483,002,343)
Contributions - employee		10,661,874	(10,661,874)
Net investment income		59,403,593	(59,403,593)
Benefit payments, including refunds of employee contributions	(50,703,485)	(50,703,485)	0
Administrative expense		(671,670)	671,670
Other changes		0	0
Net Changes	<u>23,815,342</u>	<u>501,692,655</u>	<u>(477,877,313)</u>
Balances at end of Measurement Period (12/31/2021)	\$ 839,744,951	\$ 918,843,325	\$ (79,098,374)

*Update procedures were used to roll the Total Pension Liability forward from the valuation date (01/01/2020) to the measurement date (12/31/2021). [GASB 68, Paragraph 80 c.]

CHANGES IN METHODS, ASSUMPTIONS, AND PLAN PROVISIONS

The January 1, 2020 actuarial valuation included an update of the mortality assumption, a reduction of the discount rate from 7.50% to 7.25%, and an increase of the COLA Base from \$13,000 to \$15,000. The effect of these changes was recognized in the Net Pension Liability in the previous year, so the amount shown above for both "Change in benefit terms" and "Change in assumptions" is \$0.

Projection of the Net Pension Liability

TOTAL PENSION LIABILITY (TPL)

The Total Pension Liability at the beginning of the measurement period (01/01/2021) is equal to the TPL from the end of the previous measurement period. The TPL is rolled forward through each measurement period by:

- Adding the Service Cost,
- Subtracting benefits paid,
- Applying interest (as calculated on page 10), and
- Recognizing any changes from new valuation results.

The Actuarial Accrued Liability (AAL), calculated as of the valuation date, is compared to the projected TPL. The difference between the two figures is measured as of the measurement date, and allocated to the following categories:

- Changes in assumptions
- Changes of plan provisions
- The remainder of the difference is allocated to "Differences between actual and expected experience"

All of these changes are recognized immediately in the TPL. Their treatment in the pension expense is discussed on the following page. Note that the TPL shown includes a 1/1/2020 liability of \$5,895,625 for net 3(8)(c) payments, calculated by assuming that every dollar of 3(8)(c) net benefit generates the same amount of liability as a dollar of the total retirement benefit, and rolled forward along with the rest of the TPL. This method differs from the funding valuation, where net 3(8)(c) payments are funded on a pay-as-you-go basis and no explicit liability is calculated.

PLAN FIDUCIARY NET POSITION (FNP) AND NET PENSION LIABILITY (NPL)

GASB Statement No. 68, Paragraph 59 requires that the fair value of assets be used for the Fiduciary Net Position. For the fair value of assets we used the market value of assets adjusted by payables and receivables. Adjustments were made to reflect additional 3(8)(c) payments and appropriation payments that were not reflected in the System's annual statement.

The Net Pension Liability (NPL) is the portion of the TPL not covered by the FNP. This amount is presented as a percentage of covered payroll. The NPL ratio for the Quincy Retirement System is -71.3% of covered pay. In this report, covered pay is reported as described in GASB Statement No. 82 – pensionable payroll for the measurement period.

PENSION EXPENSE AND NET DEFERRALS

For the Pension Expense, gain and losses are recognized over a period of multiple years, with a portion being recognized immediately and the remainder being added to deferred inflows and outflows:

- Asset gains and losses are recognized over a five-year period [GASB 68, Paragraph 71b]
- Experience and Assumption changes are recognized over the average remaining service of the current members [GASB 68, Paragraph 71a]
- Plan provision changes are recognized immediately

Some inflows/outflows which originated in prior measurement periods will continue to be recognized this period. The total amount to be recognized this period is part of the pension expense; the remainder is included in the deferrals. Both are shown on the following page, and are calculated in greater detail on pages 11-12.

RESULTS BY EMPLOYER

Exhibits are provided beginning on page 16 which provide individual results for the various employers that make up the Quincy Retirement System. Pension expense, as well as any deferred inflows and outflows of resources, and any excess contribution generated by Federal Grants, have been allocated to the various employers in the same manner as the FY2022 appropriation.

Per GASB 68, the change in proportionality from FY2021 to FY2022 if the individual employers' NPL and deferred inflows and outflows need to be allocated to the individual employers. This is calculated on page 18. These amounts are then recognized over the average remaining service, which is 4.5 years. The recognition of proportion changes is developed on page 19. The results by employer are further separated into results for Quincy College and the remainder of the City of Quincy, on pages 20-23.

Discount Sensitivity

The following presents the Quincy Retirement System’s Net Pension Liability calculated at the valuation discount rate of 7.25%, as well as at discount rates one percent lower (6.25%) and one percent higher (8.25%).

Fiscal Year	1% Decrease (6.25%)	Current Discount Rate (7.25%)	1% Increase (8.25%)
2022	\$ 7,393,919	\$ (79,098,374)	\$ (152,688,359)

Long-Term Expected Real Rate of Return

The long-term expected real rate of return reflects the expected rate of return on plan assets minus the expected rate of inflation. Note that the discount rate includes the effect of inflation. The long-term real rate of return removes the effect of inflation on the return amounts. It is a long-term assumption and is meant to reflect a best estimate of future experience, based on the expected asset allocation.

Allocation percentages are based on information provided by the Quincy Retirement System and Meketa. The real rates of return below are based on 20-year return estimates provided by Meketa, adjusted using their 2.2% inflation assumption.

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return (Geometric Average)
Investment Grade Bonds	9.0%	0.2%
Long Gov Bonds	0.0%	0.6%
TIPS	6.0%	0.2%
High Yield Bonds	5.0%	2.2%
Emerging Market Bonds (major)	2.5%	2.0%
Emerging Market Bonds (local)	2.5%	2.3%
US Equity	27.0%	4.5%
Developed Market Equity (non-US)	10.0%	5.2%
Emerging Market Equity	11.0%	6.1%
Private Equity	12.0%	7.6%
Core Private Real Estate	7.0%	3.8%
Value-Added Real Estate	1.0%	5.8%
Core Infrastructure	7.0%	5.0%

Development of Results

DISCOUNT RATE

Projections were made using a discount rate assumption of 7.25%, which is consistent with the actuarial funding valuation. One of the objectives of the provisions of GASB 68 is to examine how benefit payments and plan contributions and investment earnings interact on a cash flow basis. GASB requires that these amounts be calculated with Market Value of Assets and using the Entry Age Normal cost method.

Projected contributions for each year are the sum of:

- Projected normal cost,
- Amortization of the unfunded liability,
- Administrative expense, and
- Other benefit costs such as 3(8)(c) payments.

The amortization bases and periods are consistent with those seen in the valuation report. Administrative expenses are increased by 4.00% per year. The long-term rate of return is based on a combination of expected rates of return on the mix of current and expected investments over a long-term period. These expectations are based on current market conditions, historical experience and future expectations. It assumes a rebalancing of assets on an ongoing basis as well as a constant monitoring of asset allocation and manager performance.

EXHIBITS

The recognition and deferral of various gains and losses are developed on pages 11-12. These are followed by historical exhibits displaying changes in the NPL and contribution amounts for past years, the money-weighted rate of return, and finally the exhibits which display results by employer (including an exhibit which reconciles the last year's NPL with the current NPL).

Pension Expense for the Fiscal Year Ended June 30, 2022

NOTE*	Description	Fiscal 2022
A	Service Cost	\$ 16,039,097
A, B	Interest on the Total Pension Liability	58,479,730
C	Differences between Expected and Actual Experience	(3,694,216)
D	Changes of Assumptions	9,538,649
D	Changes to Benefit Provisions	0
A	Employee Contributions	(10,661,874)
E	Projected Earnings on Pension Plan Investments	(30,168,274)
F	Differences between Projected and Actual Earnings on Plan Investments	(15,569,718)
A	Pension Plan Administrative Expense	671,670
A	Other Changes in Fiduciary Net Position	<u>0</u>
	Total Pension Expense	\$ 24,635,064

* Notes shown on following page.

Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

	Deferred Outflows Of Resources	Deferred Inflows Of Resources
Differences between expected and actual experience	\$ 0	\$ (4,751,130)
Changes of assumptions	8,808,712	0
Net difference between projected and actual earnings on pension plan investments	<u>0</u>	<u>(39,757,709)</u>
TOTAL	\$ 8,808,712	\$ (44,508,839)

Year Ending December 31, *	Recognition
2022	\$ (5,285,338)
2023	\$ (15,129,131)
2024	\$ (9,438,593)
2025	\$ (5,847,064)
2026	\$ 0
Thereafter	\$ 0

*The years are based on measurement date. For GASB 68, the year ending December 31, 2022 is Fiscal 2023.

NOTES

- A. See the RSI schedule of changes to the net pension liability, on page 4.
- B. Events that impact the total pension liability are assumed to happen evenly throughout the period. The prior rate of 7.25% applies for the measurement period. The amount is determined as follows:

Description	Amount for Period (a)	Portion of Period (b)	Interest Rate (c)	Interest on the TPL (a) x (b) x (c)
Beginning TPL	\$ 815,929,608	100%	7.25%	\$ 59,154,897
Service cost	16,039,097	100%	7.25%	1,162,835
Benefit payments	(50,703,485)	50%	7.25%	(1,838,001)
Total interest on the NPL				\$ 58,479,730

- C. Differences between expected and actual experience recognized in the current period in accordance with paragraph 71a of Statement 68. For the detailed calculation of the recognition of this amount, see the schedules on page 11.
- D. Assumption and plan provision changes recognized in pension expense in the current period in accordance with paragraph 71a of Statement 68. For detailed calculation of the recognition of these amounts, see the schedule on page 11.
- E. Changes in the amounts invested are assumed to occur evenly throughout the period. As with item (B) above, a rate of 7.25% applies. The amount is determined as follows:

Description	Amount for Period (a)	Portion of Period (b)	Projected Rate of Return (c)	Projected Earnings (a) x (b) x (c)
Beginning FNP	\$ 417,150,670	100%	7.25%	\$ 30,243,424
Employer contributions	483,002,343	50%	7.25%	1,400,707
Employee contributions	10,661,874	50%	7.25%	386,493
Benefit payments	(50,703,485)	50%	7.25%	(1,838,001)
Administrative expense	(671,670)	50%	7.25%	(24,348)
Total projected earnings				\$ 30,168,274
Actual investment earnings				59,403,593
Difference: (Gain)/Loss				\$ (29,235,319)

- F. Differences between projected and actual earnings recognized in the current period in accordance with paragraph 71b of Statement 68. For detailed calculation of the recognition of this amount, see the schedule on page 11.

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

Year	Differences between actual and expected experience	Recognition period (years)	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
2016	\$ 1,858,637	4.7	\$ 395,455	\$ 395,455	\$ 395,455	\$ 395,455	\$ 276,818	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2017	\$ -	4.7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2018	\$ -	4.7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2019	\$ (10,089,925)	4.5	\$ -	\$ -	\$ -	\$ (2,242,206)	\$ (2,242,206)	\$ (2,242,206)	\$ (2,242,206)	\$ (1,121,103)	\$ -	\$ -	\$ -	\$ -
2020	\$ -	4.5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2021	\$ (6,534,048)	4.5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (1,452,011)	\$ (1,452,011)	\$ (1,452,011)	\$ (1,452,011)	\$ (726,005)	\$ -	\$ -
2022	\$ -	4.5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net increase (decrease) in pension expense			\$ 395,455	\$ 395,455	\$ 395,455	\$ (1,846,751)	\$ (1,965,387)	\$ (3,694,216)	\$ (3,694,216)	\$ (2,573,114)	\$ (1,452,011)	\$ (726,005)	\$ -	\$ -

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

Year	Change of assumptions	Recognition period (years)	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
2016	\$ 3,665,324	4.7	\$ 779,856	\$ 779,856	\$ 779,856	\$ 779,856	\$ 545,899	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2017	\$ -	4.7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2018	\$ -	4.7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2019	\$ 33,835,300	4.5	\$ -	\$ -	\$ -	\$ 7,518,955	\$ 7,518,955	\$ 7,518,955	\$ 7,518,955	\$ 3,759,478	\$ -	\$ -	\$ -	\$ -
2020	\$ -	4.5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2021	\$ 9,088,622	4.5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,019,694	\$ 2,019,694	\$ 2,019,694	\$ 2,019,694	\$ 1,009,847	\$ -	\$ -
2022	\$ -	4.5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net increase (decrease) in pension expense			\$ 779,856	\$ 779,856	\$ 779,856	\$ 8,298,812	\$ 8,064,855	\$ 9,538,649	\$ 9,538,649	\$ 5,779,172	\$ 2,019,694	\$ 1,009,847	\$ -	\$ -

Increase / (Decrease) in Pension Expense Arising from the Recognition of Differences between Expected and Actual Earnings on Pension Plan Investments

Year	Differences between projected and actual earnings on pension plan investments	Recognition period (years)	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
older	\$ 47,958,512	5	\$ 6,916,040	\$ 9,591,702	\$ 9,591,702	\$ 9,591,702	\$ 7,451,849	\$ 2,675,662	\$ -	\$ -	\$ -	\$ -	\$ -
2018	\$ (35,391,609)	5	\$ -	\$ -	\$ (7,078,322)	\$ (7,078,322)	\$ (7,078,322)	\$ (7,078,322)	\$ (7,078,322)	\$ -	\$ -	\$ -	\$ -
2019	\$ 36,027,088	5	\$ -	\$ -	\$ -	\$ 7,205,418	\$ 7,205,418	\$ 7,205,418	\$ 7,205,418	\$ 7,205,418	\$ -	\$ -	\$ -
2020	\$ (29,871,898)	5	\$ -	\$ -	\$ -	\$ -	\$ (5,974,380)	\$ (5,974,380)	\$ (5,974,380)	\$ (5,974,380)	\$ -	\$ -	\$ -
2021	\$ (19,376,854)	5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (3,875,371)	\$ (3,875,371)	\$ (3,875,371)	\$ (3,875,371)	\$ (3,875,371)	\$ -
2022	\$ (29,235,319)	5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (5,847,064)	\$ (5,847,064)	\$ (5,847,064)	\$ (5,847,064)	\$ (5,847,064)
Net increase (decrease) in pension expense			\$ 6,916,040	\$ 9,591,702	\$ 2,513,381	\$ 9,718,798	\$ 1,604,566	\$ (7,046,992)	\$ (15,569,718)	\$ (8,491,396)	\$ (15,696,814)	\$ (9,722,435)	\$ (5,847,064)

Deferred Outflows and Deferred Inflows of Resources Arising from Differences between Expected and Actual Experience

Year	Experience Losses (a)	Experience Gains (b)	Amounts Recognized in Pension Expense through June 30, 2022 (c)	BALANCES AT JUNE 30, 2022	
				Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
2017	\$ -	\$ -	\$ -	\$ -	\$ -
2018	\$ -	\$ -	\$ -	\$ -	\$ -
2019	\$ -	\$ (10,089,925)	\$ (8,968,822)	\$ -	\$ (1,121,103)
2020	\$ -	\$ -	\$ -	\$ -	\$ -
2021	\$ -	\$ (6,534,048)	\$ (2,904,022)	\$ -	\$ (3,630,027)
2022	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL				\$ -	\$ (4,751,130)

Deferred Outflows and Deferred Inflows of Resources Arising from Changes of Assumptions

Year	Increases in the Total Pension Liability (a)	Decreases in the Total Pension Liability (b)	Amounts Recognized in Pension Expense through June 30, 2022 (c)	BALANCES AT JUNE 30, 2022	
				Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
2017	\$ -	\$ -	\$ -	\$ -	\$ -
2018	\$ -	\$ -	\$ -	\$ -	\$ -
2019	\$ 33,835,300	\$ -	\$ 30,075,822	\$ 3,759,478	\$ -
2020	\$ -	\$ -	\$ -	\$ -	\$ -
2021	\$ 9,088,622	\$ -	\$ 4,039,388	\$ 5,049,234	\$ -
2022	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL				\$ 8,808,712	\$ -

Deferred Outflows and Deferred Inflows of Resources
Arising from Differences between Expected and Actual Earnings on Pension Plan Investments

Year	Investment Earnings Less than Projected (a)	Investment Earnings More than Projected (b)	Amounts Recognized in Pension Expense through June 30, 2022 (c)	BALANCES AT JUNE 30, 2022	
				Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
2018	\$ -	\$ (35,391,609)	\$ (35,391,609)	\$ -	\$ -
2019	\$ 36,027,088	\$ -	\$ 28,821,671	\$ 7,205,418	\$ -
2020	\$ -	\$ (29,871,898)	\$ (17,923,139)	\$ -	\$ (11,948,759)
2021	\$ -	\$ (19,376,854)	\$ (7,750,741)	\$ -	\$ (11,626,112)
2022	\$ -	\$ (29,235,319)	\$ (5,847,064)	\$ -	\$ (23,388,255)
TOTAL				\$ 7,205,418	\$ (46,963,127)
			NET TOTAL		\$ (39,757,709)

**Schedule of Changes in
Net Pension Liability and Related Ratios**

(Amounts in Thousands)

Fiscal Year *	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
TOTAL PENSION LIABILITY										
Service cost	16,039	14,786	14,218	13,671	12,662	12,175	10,039	10,425		
Interest	58,480	57,982	56,302	53,009	53,166	51,661	51,092	49,771		
Change of benefit terms	-	7,252	-	-	-	-	3,078	-		
Differences between expected and actual experience	-	(6,534)	-	(10,090)	-	-	1,859	-		
Change of assumptions	-	9,089	-	33,835	-	-	3,665	-		
Benefit payments, including refunds of employee contributions	(50,703)	(49,909)	(47,474)	(46,643)	(45,475)	(44,335)	(43,532)	(43,044)		
Net change in Total Pension Liability	23,815	32,666	23,047	43,782	20,352	19,500	26,201	17,151		
Total Pension Liability - beginning	815,930	783,264	760,217	716,436	696,083	676,583	650,382	633,230		
Total Pension Liability - ending	839,745	815,930	783,264	760,217	716,436	696,083	676,583	650,382		
PLAN FIDUCIARY NET POSITION										
Contributions - employer	483,002	35,642	32,790	30,851	28,410	26,077	24,784	23,673		
Contributions - employee	10,662	10,631	10,230	9,543	9,440	8,730	8,503	8,661		
Net Investment Income	59,404	47,275	54,060	(10,605)	57,894	9,118	157	13,166		
Benefit payments , including refunds of employee contributions	(50,703)	(49,909)	(47,474)	(46,643)	(45,475)	(44,335)	(43,532)	(43,044)		
Administrative expense	(672)	(573)	(508)	(498)	(463)	(467)	(462)	(612)		
Other	-	-	-	(1,865)	-	-	-	-		
Net change in plan Fiduciary Net Position	501,693	43,067	49,098	(19,217)	49,806	(877)	(10,549)	1,845		
Plan Fiduciary Net Position - beginning	417,151	374,084	324,986	344,203	294,398	295,274	305,824	303,979		
Plan Fiduciary Net Position - end	918,843	417,151	374,084	324,986	344,203	294,398	295,274	305,824		
Quincy Net Pension Liability - ending	(79,098)	398,779	409,180	435,231	372,232	401,686	381,309	344,558		
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	109.4%	51.1%	47.8%	42.7%	48.0%	42.3%	43.6%	47.0%		
Covered payroll (calendar year timing)	110,956	106,484	103,475	98,970	92,375	92,375	87,269	83,775		
Quincy's Net Pension Liability as a percentage of covered payroll	-71.3%	374.5%	395.4%	439.8%	403.0%	434.8%	436.9%	411.3%		

Note: sums may not total due to rounding

Information not available prior to 2015

Schedule of Plan Contributions

(Amounts in Thousands)

Fiscal Year	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Actuarially determined contribution	\$ 38,315	\$ 35,642	\$ 32,789	\$ 30,842	\$ 28,361	\$ 26,079	\$ 24,743	\$ 23,626		
Contributions in relation to the actuarially determined contribution	<u>(483,002)</u>	<u>(35,642)</u>	<u>(32,790)</u>	<u>(30,851)</u>	<u>(28,410)</u>	<u>(26,077)</u>	<u>(24,784)</u>	<u>(23,361)</u>		
Contribution deficiency / (excess)*	(444,687)	-	(0)	(8)	(50)	2	(41)	265		
Covered payroll (fiscal year timing)	\$ 113,293	\$ 108,720	\$ 105,577	\$ 101,223	\$ 94,455	\$ 94,455	\$ 88,991	\$ 85,522		
Contributions as a percentage of covered payroll	426.3%	32.8%	31.1%	30.5%	30.1%	27.6%	27.8%	27.3%		

* Excess in FY2022 is due to a Pension Obligation Bond from the City. Excess in other years is due to Federal Grants.

Information not available for years prior to 2015

GASB Statement No. 67, Paragraph 30 b. (4)
Money-Weighed Rate of Return, 2021

		New External Cash Flows					
		Beginning of month	Middle of Month	End of Month	Periods Invested**	Investment Return	Cash Flow with Return
Starting Value* (12/31/2020)	\$	414,576,757.00			12	\$ 47,970,326.91	\$ 462,547,083.91
Cash Flows:							
January		0.00	924,665.42	(4,194,160.93)	11	(340,504.27)	(3,609,999.78)
February		20,230.59	945,935.60	(4,250,420.14)	10	(308,816.01)	(3,593,069.96)
March		205,095.63	1,145,870.71	(4,363,218.58)	9	(250,070.49)	(3,262,322.73)
April		166,560.51	1,400,250.54	(4,416,321.65)	8	(207,245.19)	(3,056,755.79)
May		485,147.82	1,054,598.38	(4,275,828.15)	7	(170,572.66)	(2,906,654.61)
June		112,445.48	1,946,645.63	(4,178,551.01)	6	(108,774.26)	(2,228,234.16)
July		1,640.17	1,328,593.62	(4,803,794.54)	5	(155,763.04)	(3,629,323.79)
August		7,728,516.84	1,090,600.26	(4,383,334.40)	4	243,526.54	4,679,309.24
September		120,112.67	1,404,749.58	(4,214,619.71)	3	(66,909.47)	(2,756,666.93)
October		120,112.67	1,452,608.83	(4,277,595.23)	2	(41,927.04)	(2,746,800.77)
November		1,754,550.83	1,005,678.95	(4,677,528.48)	1	3,296.30	(1,914,002.40)
December		226,521.25	1,240,822.71	(4,442,011.87)	0	7,749.96	(2,966,917.95)
Ending Value* (12/31/2021)		\$434,555,644.28			Sum:	\$ 46,574,317.28	\$ 434,555,644.28

* Value shown does not include any payables or receiveables, except those related to investments.

** Middle of period cash flows are given an additional half period of interest, and beginning of period cash flows are given an additional full period.

Return Rate:	11.57%
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Results by Employer

Employer	Covered Payroll*	Proportionate Share of NPL**	Proportionate share of NPL as a percentage of covered payroll*	Proportionate share of NPL Discount Sensitivity	
				1% Increase (8.25%)	1% Decrease (6.25%)
City of Quincy	\$ 106,157,663	\$ (94,982,969)	-89.5%	\$ (165,375,515)	\$ (12,248,711)
Quincy Housing Authority	\$ 4,798,712	\$ 15,884,594	331.0%	\$ 12,687,156	\$ 19,642,630
TOTAL	\$ 110,956,375	\$ (79,098,374)	-71.3%	\$ (152,688,359)	\$ 7,393,919

Employer	Actuarially determined contribution FY2022	Contributions made for FY 2022	Contribution deficiency (excess)	Contributions as a percentage of covered payroll***
City of Quincy	\$ 36,698,253	\$ (481,385,209)	\$ (444,686,956)	444.1%
Quincy Housing Authority	\$ 1,617,134	\$ (1,617,134)	\$ -	33.0%
TOTAL	\$ 38,315,387	\$ (483,002,343)	\$ (444,686,956)	426.3%

Employer	Proportion	Proportionate Share of Pension Expense	Proportion changes and differences between employer contributions and proportionate share recognized as expense ⁺	Total Pension Expense
City of Quincy	95.32%	\$ 29,582,296	\$ 147,582	\$ 29,729,878
Quincy Housing Authority	4.68%	\$ (4,947,232)	\$ (147,582)	\$ (5,094,814)
TOTAL	100.00%	\$ 24,635,064		

* Covered Payroll is the projected amount for the 2021 calendar year based on employee data as of December 31, 2019

** Includes ERI liabilities of \$8,231,082 for the City of Quincy and \$602,454 for the Quincy Housing Authority. \$64,160,621 in liability related to the Hospital has been assigned to the City.

*** Here the Covered Payroll figure is projected for Fiscal Year 2022, based on employee data as of December 31, 2019

⁺ This includes recognition of prior changes in proportion

Deferred Outflows of Resources by Employer

Employer	Differences between expected and actual experience*	Changes of assumptions*	Net difference between projected and actual earnings on pension plan investments*	Changes in proportion and differences between employer contributions and proportionate share of contributions	Employer contributions subsequent to the measurement date	Total Deferred Outflows of Resources
City of Quincy	\$ -	\$ 10,577,684	\$ -	\$ 689,361	\$ -	\$ 11,267,045
Quincy Housing Authority	\$ -	\$ (1,768,972)	\$ -	\$ 620,452	\$ -	\$ (1,148,521)
TOTAL	\$ -	\$ 8,808,712	\$ -	\$ 1,309,812	\$ -	\$ 10,118,525

Deferred Inflows of Resources by Employer

Employer	Differences between expected and actual experience*	Changes of assumptions*	Net difference between projected and actual earnings on pension plan investments*	Changes in proportion and differences between employer contributions and proportionate share of contributions	Employer contributions subsequent to the measurement date	Total Deferred Inflows of Resources
City of Quincy	\$ 5,705,255	\$ -	\$ 47,741,882	\$ 620,452	N/A	\$ 54,067,588
Quincy Housing Authority	\$ (954,125)	\$ -	\$ (7,984,173)	\$ 689,361	N/A	\$ (8,248,937)
TOTAL	\$ 4,751,130	\$ -	\$ 39,757,709	\$ 1,309,812	N/A	\$ 45,818,651

Recognition of Deferred Outflows and Deferred Inflows

Employer	AMOUNT TO BE RECOGNIZED FOR THE YEAR ENDING DECEMBER 31,					
	2022	2023	2024	2025	2026	Thereafter
City of Quincy	\$ (6,328,982)	\$ (18,258,310)	\$ (11,260,497)	\$ (6,952,754)	\$ -	\$ -
Quincy Housing Authority	\$ 1,043,644	\$ 3,129,179	\$ 1,821,904	\$ 1,105,691	\$ -	\$ -
TOTAL	\$ (5,285,338)	\$ (15,129,131)	\$ (9,438,593)	\$ (5,847,064)	\$ -	\$ -

* Deferred Outflows and Inflows due to experience, assumptions, and investment return are allocated according to each employer's proportion of the NPL.

Effects of Changes in Proportion on Employers' Proportionate Share of NPL, and Deferred Inflows and Deferred Outflows of Resources

Employer	Proportion Change			FY2022 Contribution		
	Prior Proportionate Share of Prior NPL net of Deferrals	Share of Prior NPL based on Current Proportion of NPL	Difference (A)	Proportionate Share of Contribution based on Share of NPL	Amount Paid	Difference (B)
City of Quincy	\$ 399,072,707	\$ 498,303,420	\$ 99,230,714	\$ 579,999,233	\$ 481,385,209	\$ (98,614,024)
Quincy Housing Authority	\$ 15,896,324	\$ (83,334,390)	\$ (99,230,714)	\$ (96,996,890)	\$ 1,617,134	\$ 98,614,024
TOTAL	\$ 414,969,031	\$ 414,969,031	\$ (19,367,760)	\$ 483,002,343	\$ 483,002,343	\$ -

Employer	Total Proportion Change (A) + (B)	Recognized as Pension Expense*	Deferred for later recognition
City of Quincy	\$ 616,690	\$ 137,042	\$ 479,648
Quincy Housing Authority	\$ (616,690)	\$ (137,042)	\$ (479,648)
TOTAL	\$ -	\$ -	\$ -

* Based on an average remaining service life of 4.5 years.

Recognition of Proportion Changes

Proportion Changes by Employer / Year

Employer	2022	2021	2020	2019	2018	2017	2016
City of Quincy	\$ 616,689.77	\$ (571,325.58)	\$ (909,145.50)	\$ 1,887,418.76	\$ (536,422.50)	\$ 1,233,834.61	\$ 1,551,903.65
Quincy Housing Authority	\$ (616,689.77)	\$ 571,325.58	\$ 909,145.50	\$ (1,887,418.76)	\$ 536,422.50	\$ (1,233,834.61)	\$ (1,551,903.65)

Average Remaining Service Life by Year

2022	4.5
2021	4.5
2020	4.5
2019	4.5
2018	4.7
2017	4.7

Recognition Percentages by Year

Year of Gain/Loss	Percentage Recognized by Year*						
	2022	2023	2024	2025	2026	2027	Thereafter
2022	22.2%	22.2%	22.2%	22.2%	11.1%	0.0%	0.0%
2021	22.2%	22.2%	22.2%	11.1%	0.0%	0.0%	0.0%
2020	22.2%	22.2%	11.1%	0.0%	0.0%	0.0%	0.0%
2019	22.2%	11.1%	0.0%	0.0%	0.0%	0.0%	0.0%
2018	14.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

* Percentages shown are rounded for display purposes.

Recognition Amounts by Year

Outflows

	2022	2023	2024	2025	2026	2027	Thereafter
City of Quincy	\$ 556,468.56	\$ 346,755.37	\$ 137,042.17	\$ 137,042.17	\$ 68,521.09	\$ -	\$ -
Quincy Housing Authority	\$ 408,886.29	\$ 328,993.57	\$ 227,977.41	\$ 63,480.62	\$ -	\$ -	\$ -

Inflows

	2022	2023	2024	2025	2026	2027	Thereafter
City of Quincy	\$ 408,886.29	\$ 328,993.57	\$ 227,977.41	\$ 63,480.62	\$ -	\$ -	\$ -
Quincy Housing Authority	\$ 556,468.56	\$ 346,755.37	\$ 137,042.17	\$ 137,042.17	\$ 68,521.09	\$ -	\$ -

TOTALS

	2022	2023	2024	2025	2026	2027	Thereafter
City of Quincy	\$ 147,582.28	\$ 17,761.79	\$ (90,935.24)	\$ 73,561.55	\$ 68,521.09	\$ -	\$ -
Quincy Housing Authority	\$ (147,582.28)	\$ (17,761.79)	\$ 90,935.24	\$ (73,561.55)	\$ (68,521.09)	\$ -	\$ -

Results for City of Quincy and Quincy College

Employer	Covered Payroll	Proportionate Share of NPL*	Proportionate share of NPL as a percentage of covered payroll	Proportionate share of NPL Discount Sensitivity	
				1% Increase (8.25%)	1% Decrease (6.25%)
Quincy College	\$ 5,615,740	\$ (8,854,120)	-157.7%	\$ (15,415,971)	\$ (1,141,800)
Remainder of City	\$ 100,541,922	\$ (86,128,849)	-85.7%	\$ (149,959,544)	\$ (11,106,911)
TOTAL	\$ 106,157,663	\$ (94,982,969)	-89.5%	\$ (165,375,515)	\$ (12,248,711)

Employer	Actuarially determined contribution FY2022	Contributions made for FY 2022	Contribution deficiency (excess)	Contributions as a percentage of covered payroll**
Quincy College	\$ 1,627,371	\$ (21,346,851)	\$ (19,719,481)	380.1%
Remainder of City	\$ 35,070,882	\$ (460,038,358)	\$ (424,967,475)	457.6%
TOTAL	\$ 36,698,253	\$ (481,385,209)	\$ (444,686,956)	453.5%

Employer	Proportion of City of Quincy Contribution	Proportionate Share of Pension Expense	Proportion changes and differences between employer contributions and proportionate share recognized as expense	Total Pension Expense ⁺
Quincy College	5.29%	\$ 2,757,602	\$ (1,898,912)	\$ 858,690
Remainder of City	94.71%	\$ 26,824,694	\$ 2,046,494	\$ 28,871,188
TOTAL	100.00%	\$ 29,582,296	\$ 147,582	\$ 29,729,878

* This has been adjusted by allocating the ERI liability for the City to the non-College portion of the City. No ERI liability has been allocated to Quincy College, the \$9,074,141 liability for the City of Quincy and \$64,330,269 liability for the Hospital being assigned to the remainder of the City.

** This Covered Payroll figure is projected for Fiscal Year 2022, based on employee data as of December 31, 2021

+ This includes recognition of prior changes in proportion

Deferrals for Quincy College and City Of Quincy

Deferred Outflows of Resources

Employer	Differences between expected and actual experience*	Changes of assumptions*	Net difference between projected and actual earnings on pension plan investments*	Changes in proportion and differences between employer contributions and proportionate share of contributions	Employer contributions subsequent to the measurement date	Total Deferred Outflows of Resources
Quincy College	\$ -	\$ 986,030	\$ -	\$ -	\$ -	\$ 986,030
Remainder of City	\$ -	\$ 9,591,654	\$ -	\$ 6,562,503	\$ -	\$ 16,154,157
TOTAL	\$ -	\$ 10,577,684	\$ -	\$ 6,562,503	\$ -	\$ 17,140,188

Deferred Inflows of Resources

Employer	Differences between expected and actual experience*	Changes of assumptions*	Net difference between projected and actual earnings on pension plan investments*	Changes in proportion and differences between employer contributions and proportionate share of contributions	Employer contributions subsequent to the measurement date	Total Deferred Inflows of Resources
Quincy College	\$ 531,832	\$ -	\$ 4,450,402	\$ 6,493,594	N/A	\$ 11,475,828
Remainder of City	\$ 5,173,423	\$ -	\$ 43,291,480	\$ -	N/A	\$ 48,464,903
TOTAL	\$ 5,705,255	\$ -	\$ 47,741,882	\$ 6,493,594	N/A	\$ 59,940,731

Recognition of Deferred Outflows and Deferred Inflows

Employer	AMOUNT TO BE RECOGNIZED FOR THE YEAR ENDING DECEMBER 31,					
	2022	2023	2024	2025	2026	Thereafter
Quincy College	\$ (2,718,320)	\$ (3,656,625)	\$ (2,718,873)	\$ (1,395,980)	\$ -	\$ -
Remainder of City	\$ (3,610,662)	\$ (14,601,684)	\$ (8,541,624)	\$ (5,556,775)	\$ -	\$ -
TOTAL	\$ (6,328,982)	\$ (18,258,310)	\$ (11,260,497)	\$ (6,952,754)	\$ -	\$ -

Effects of Changes in Proportion on Employers' Proportionate Share of NPL, and Deferred Inflows and Deferred Outflows of Resources

Employer	Proportion Change			FY2022 Contribution		
	Prior Proportionate Share of Prior NPL net of Deferrals	Share of Prior NPL based on Current Proportion	Difference (A)	Proportionate Share of Contribution based on Share of NPL	Amount Paid	Difference (B)
Quincy College	\$ 20,404,570	\$ 46,450,836	\$ 26,046,266	\$ 54,066,355	\$ 21,346,851	\$ (32,719,503)
Remainder of City	\$ 378,668,136	\$ 451,852,584	\$ 73,184,448	\$ 525,932,878	\$ 460,038,358	\$ (65,894,521)
TOTAL	\$ 399,072,707	\$ 498,303,420	\$ 99,230,714	\$ 579,999,233	\$ 481,385,209	\$ (98,614,024)

Employer	Total Proportion Change (A) + (B)	Proportionate Share of City Proportion Change	Difference (recognized immediately)
Quincy College	\$ (6,673,237)	\$ (1,482,942)	\$ (5,190,296)
Remainder of City	\$ 7,289,927	\$ 1,619,984	\$ 5,669,943
TOTAL	\$ 616,690	\$ 137,042	\$ 479,648

* Based on an average remaining service life of 4.5 years.

Recognition of Proportion Changes for Quincy College and City of Quincy

Proportion Changes by Employer / Year

Employer	2022	2021	2020	2019	2018	2017	2016
Quincy College	\$ (6,673,237.14)	\$ (1,614,537.26)	\$ (1,092,346.98)	\$ (379,961.25)	\$ 1,812,828.15	\$ (4,450,915.08)	\$ 108,630.96
Remainder of City	\$ 7,289,926.91	\$ 1,043,211.51	\$ 183,201.48	\$ 2,267,380.01	\$ (2,349,250.18)	\$ 5,684,749.61	\$ 1,443,272.65
TOTAL	\$ 616,689.77	\$ (571,325.76)	\$ (909,145.50)	\$ 1,887,418.76	\$ (536,422.03)	\$ 1,233,834.53	\$ 1,551,903.61

Average Remaining Service Life by Year

2022	4.5
2021	4.5
2020	4.5
2019	4.5
2018	4.7

Recognition Percentages by Year

Year of Gain/Loss	Percentage Recognized by Year*						
	2022	2023	2024	2025	2026	2027	Thereafter
2022	22.2%	22.2%	22.2%	22.2%	11.1%	0.0%	0.0%
2021	22.2%	22.2%	22.2%	11.1%	0.0%	0.0%	0.0%
2020	22.2%	22.2%	11.1%	0.0%	0.0%	0.0%	0.0%
2019	22.2%	11.1%	0.0%	0.0%	0.0%	0.0%	0.0%
2018	14.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

* Percentages shown are rounded for display purposes.

Recognition Amounts by Year

Outflows

	2022	2023	2024	2025	2026	2027	Thereafter
Quincy College	\$ 269,995.68	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Remainder of City	\$ 2,396,382.20	\$ 2,144,451.09	\$ 1,872,164.26	\$ 1,735,896.15	\$ 809,991.88	\$ -	\$ -
TOTAL	\$ 2,666,377.88	\$ 2,144,451.09	\$ 1,872,164.26	\$ 1,735,896.15	\$ 809,991.88	\$ -	\$ -

Inflows

	2022	2023	2024	2025	2026	2027	Thereafter
Quincy College	\$ 2,168,907.25	\$ 2,126,689.33	\$ 1,963,099.53	\$ 1,662,334.62	\$ 741,470.79	\$ -	\$ -
Remainder of City	\$ 349,888.32	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL	\$ 2,518,795.58	\$ 2,126,689.33	\$ 1,963,099.53	\$ 1,662,334.62	\$ 741,470.79	\$ -	\$ -

TOTALS

	2022	2023	2024	2025	2026	2027	Thereafter
Quincy College	\$ (1,898,911.57)	\$ (2,126,689.33)	\$ (1,963,099.53)	\$ (1,662,334.62)	\$ (741,470.79)	\$ -	\$ -
Remainder of City	\$ 2,046,493.88	\$ 2,144,451.09	\$ 1,872,164.26	\$ 1,735,896.15	\$ 809,991.88	\$ -	\$ -
TOTAL	\$ 147,582.31	\$ 17,761.75	\$ (90,935.28)	\$ 73,561.53	\$ 68,521.09	\$ -	\$ -

Reconciliation of Changes in the NPL

Employer	NPL, Beginning of Measurement Period	Contributions made for FY 2022	Change in Net Deferrals (calculated below)	Pension Expense	Proportion Change	NPL, End of Measurement Period
City of Quincy	\$ 383,502,812	\$ (481,385,209)	\$ (27,299,558)	\$ 29,582,296	\$ 616,690	\$ (94,982,969)
Quincy College	\$ 19,608,482	\$ (21,346,851)	\$ (3,200,116)	\$ 2,757,602	\$ (6,673,237)	\$ (8,854,120)
Remainder of City	\$ 363,894,330	\$ (460,038,358)	\$ (24,099,442)	\$ 26,824,694	\$ 7,289,927	\$ (86,128,849)
Quincy Housing Authority	\$ 15,276,126	\$ (1,617,134)	\$ 7,789,524	\$ (4,947,232)	\$ (616,690)	\$ 15,884,594
TOTAL	\$ 398,778,938	\$ (483,002,343)	\$ (19,510,034)	\$ 24,635,064	\$ -	\$ (79,098,374)

Employer	Net Deferrals, Beginning of Measurement Period	Net Deferrals, End of Measurement Period	Change in Net Deferrals
City of Quincy	\$ (15,569,895)	\$ (42,869,452)	\$ (27,299,558)
Quincy College	\$ (796,088)	\$ (3,996,204)	\$ (3,200,116)
Remainder of City	\$ (14,773,806)	\$ (38,873,249)	\$ (24,099,442)
Quincy Housing Authority	\$ (620,198)	\$ 7,169,326	\$ 7,789,524
TOTAL	\$ (16,190,093)	\$ (35,700,126)	\$ (19,510,034)