



**Port Of Houston Authority
Post-Retirement Medical Plan**

**GASB 74 and 75 Disclosures
Financial Reporting for December 31, 2022**

Prepared by

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GASB 74 and 75 Disclosure for Fiscal Year Ending December 31, 2022
Port of Houston Authority Post-Retirement Medical Plan

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Certification

Actuarial computations presented in this report under GASB Statements No. 74 and 75 of the Governmental Accounting Standards Board are for purposes of assisting the Port of Houston in fulfilling its financial accounting requirements. No attempt is being made to offer any accounting opinion or advice. This report is for fiscal year January 1, 2022 to December 31, 2022. The calculations enclosed in this report have been made on a basis consistent with our understanding of the plan provisions. Determinations for purposes other than meeting financial reporting requirements may be significantly different than the results contained in this report. Accordingly, additional determinations may be needed for other purposes, such as judging benefit security or meeting employer funding requirements.

In preparing this report, we relied, without audit, on information as of January 1, 2021 furnished by the Port of Houston. This information includes, but is not limited to, statutory provisions, member census data, and financial information. The membership as of January 1, 2021 includes 686 active participants, 359 retirees and surviving spouses, and 177 spouses of current retirees.

We performed a limited review of the census and financial information used directly in our analysis and have found them to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

This valuation report is only an estimate of the plan's financial condition as of a single date. It can neither predict the plan's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of plan benefits, only the timing of plan contributions. While the valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct. Determining results using alternative assumptions is outside the scope of our engagement.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to factors such as, but not limited to, the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuarial assignment, we did not perform an analysis of the potential range of such future measurements.

Given the substantial uncertainty regarding the impact of COVID-19 on plan costs, including whether the pandemic will increase or decrease costs during the term of our projections, we have chosen not to make an adjustment in the expected plan costs. It is possible that the COVID-19 pandemic could have a material impact on the projected costs.

Certification

Milliman's work is prepared solely for the internal use and benefit of the Port of Houston Authority. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exceptions: (a) the Plan Sponsor may provide a copy of Milliman's work, in its entirety, to the Plan Sponsor's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the Fund; and (b) the Plan Sponsor may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law.

No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their specific needs.

The consultants who worked on this assignment are employee benefit actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the plan sponsor. I am not aware of any relationship that would impair the objectivity of my work.

Milliman has developed certain models to estimate the values included in this report. The intent of the models was to estimate retiree medical claims costs by age and gender and annual trends for retiree medical benefits. I have reviewed the models, including their inputs, calculations, and outputs for consistency, reasonableness, and appropriateness to the intended purpose and in compliance with generally accepted actuarial practice and relevant actuarial standards of practice (ASOP). In addition, the valuation results were developed using models intended for valuations that use standard actuarial techniques.

On the basis of the foregoing, I hereby certify that, to the best of my knowledge and belief, this report is complete and has been prepared in accordance with generally recognized accepted actuarial principles and practices. I am a member of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein. This report uses the expertise of Milliman healthcare and retirement actuaries. Assumptions related to the claims costs and healthcare trend (cost inflation) rates for the retiree healthcare program discussed in this report were determined by Milliman actuaries qualified in such matters. Jake Pringle is responsible for projecting the current costs into future years using the valuation assumptions and methodology and calculating the financial reporting liabilities provided in this report.



Jake Pringle, MAAA
Principal and Consulting Actuary

Overview of GASB 74 and GASB 75

The Governmental Accounting Standards Board (GASB) released accounting standards for public postemployment benefit plans other than pension (OPEB) and participating employers in 2015. These standards, GASB Statements No. 74 and 75, have substantially revised the accounting requirements previously mandated under GASB Statements No. 43 and 45.

GASB 74 applies to financial reporting for public OPEB plans and is required to be implemented for plan fiscal years beginning after June 15, 2016. Note that a plan's fiscal year might not be the same as the employer's fiscal year. Even if the plan does not issue standalone financial statements, but rather is considered a trust fund of a government, it is subject to GASB 74. Under GASB 74, enhancements to the financial statement disclosures are required, along with certain required supplementary information.

GASB 75 governs the specifics of accounting for public OPEB plan obligations for participating employers and is required to be implemented for employer fiscal years beginning after June 15, 2017. GASB 75 requires a liability for OPEB obligations, known as the total OPEB liability, to be recognized on the balance sheets of participating employers. Changes in the net OPEB liability are immediately recognized as OPEB Expense on the income statement or reported as deferred (inflows)/outflows of resources depending on the nature of the change.

Executive Summary

Relationship Between Valuation Date, Measurement Date, and Reporting Date

The Valuation Date is January 1, 2021. This is the date as of which the census data is gathered and the actuarial valuation is performed. The Measurement Date is December 31, 2022. This is the date as of which the total OPEB liability is determined. Note that GASB 75 allows a lag of up to one year between the measurement date and the reporting date. No adjustment is required between the measurement date and the reporting date. The Reporting Date is December 31, 2022. This is the employer's fiscal year ending date.

Significant Changes

There have been no significant changes between the valuation date and fiscal year ends. If there were significant changes, an additional analysis or valuation might be required.

Summary of Key Results

The following are the key results for financial reporting. These amounts are developed in the financial reporting schedules that follow. A more detailed breakdown of the total OPEB liability as of the Valuation Date follows the financial reporting schedules.

	December 31, 2021 Measurement Date	December 31, 2022 Measurement Date
Total OPEB liability	\$55,239,134	\$60,806,712
Fiduciary net position	<u>105,683,465</u>	<u>88,284,441</u>
Net OPEB liability	(50,444,331)	(27,477,729)
	OPEB Expense for 2021 Financial Reporting	OPEB Expense for 2022 Financial Reporting
	(\$5,497,179)	(\$3,547,630)

Schedule of Employer Contributions

Fiscal Year Ending December 31	Actuarially Determined Contribution	Actual Employer Contribution	Contribution Deficiency (Excess)	Covered Payroll	Contribution as a % of Covered Payroll
2012	\$7,913,103	\$10,775,727	(\$2,862,624)	\$34,938,502	30.84%
2013	6,908,528	11,226,443	(4,317,915)	34,615,344	32.43%
2014	6,568,490	11,363,303	(4,794,813)	33,689,999	33.73%
2015	5,536,880	11,202,847	(5,665,967)	38,906,511	28.79%
2016	5,798,101	8,772,355	(2,974,254)	38,906,511	22.55%
2017	5,401,609	9,454,403	(4,052,794)	40,287,296	23.47%
2018	4,384,071	9,484,054	(5,099,983)	40,287,296	23.54%
2019	3,324,459	8,463,823	(5,139,364)	49,778,058	17.00%
2020	3,494,130	5,431,444	(1,937,314)	49,778,058	10.91%
2021	2,626,707	2,627,000	(293)	57,608,141	4.56%
2022	0	0	0	60,200,507	0.00%

Actuarial Methods and Assumptions Used for Funding Policy

The employer pre-funds benefits through contributions to the trust. The current funding policy is to contribute the Actuarially Determined Contribution as calculated by the actuary. The Actuarially Determined Contribution is the sum of the current year's normal cost plus an amount necessary to amortize the unfunded liability over an open 10 year period. Please see the appendices of this report for further details.

Valuation Timing	Actuarial valuations for funding purposes are performed biennially as of January 1. The most recent valuation was performed as of January 1, 2021.
Actuarial Cost Method	Entry Age Normal
Amortization Method	
Level percent or level dollar	Level dollar
Closed, open, or layered periods	Open
Amortization period at January 1, 2021	10 years
Amortization growth rate	0.00%
Asset Valuation Method	Market Value
Inflation	2.35%
Salary Increases	Varies by age; see appendices of this report for full table.
Discount Rate	6.00%
Healthcare Cost Trend Rates	Varies by year; see appendices of this report for full table.
Retirement Rates	Varies by age; see appendices of this report for full table.
Withdrawal Rates	Varies by age; see appendices of this report for full table.
Disability Rates	Varies by age and gender; see appendices of this report for full table.
Mortality	Pri-2012 Mortality for Employees, Healthy Annuitants, and Disabled Annuitants with generational projection per Scale MP-2021

Actuarially Determined Contribution

The following exhibit provides the detailed calculation of the Actuarially Determined Contribution for the January 1, 2022 plan year.

	<u>January 1, 2022</u>
Normal Cost	\$2,473,244
Unfunded Actuarial Accrued Liability	
Actuarial Accrued Liability	\$55,239,134
Assets	<u>105,683,465</u>
Unfunded Actuarial Accrued Liability	(50,444,331)
Amortization	
Period (years)	10
Amount	0
Interest to December 31, 2022	154,578
Actuarially Determined Contribution Prior to Excess Asset Credit	\$2,627,822
Excess Asset Credit (up to 125% funded)	(\$2,627,822)
Actuarially Determined Contribution*	<u><u>\$0</u></u>
Sum of Normal Cost, Amortization, Interest, and Excess Asset Credit	

* Calculated using actuarial assumptions as of the beginning of the fiscal year.

Statement of Fiduciary Net Position

	<u>December 31, 2021</u>	<u>December 31, 2022</u>
Assets		
Cash and cash equivalents	\$1,708,343	\$1,415,213
Receivables and prepaid expenses:		
Receivable contributions	0	0
Receivable investment income	267,359	251,133
Receivables from brokers for unsettled trades	0	0
Prepaid expenses	0	0
Total receivables	267,359	251,133
Investments:		
Fixed income	50,591,761	39,594,117
Stocks	53,323,846	47,287,096
Short-term investments	0	0
Real estate	0	0
Alternative investments	0	0
Total investments	103,915,607	86,881,213
Invested securities lending cash collateral	0	0
Capital assets net of accumulated depreciation	0	0
Total assets	105,891,309	88,547,559
Liabilities		
Accrued expenses and benefits payable	0	0
Securities lending cash collateral	0	0
Payable to brokers for unsettled trades	207,844	263,118
Total liabilities	207,844	263,118
Net position restricted for postemployment benefits other than pensions	<u>\$105,683,465</u>	<u>\$88,284,441</u>

Statement of Changes in Fiduciary Net Position

December 31, 2022

Additions

Member contributions	\$0
Employer contributions	0
Total contributions	<u>0</u>
Investment income (loss):	
Interest	1,910,954
Dividends	934,192
Equity fund income, net	15,911
Net increase in fair value of investments	(17,715,699)
Securities lending income	0
Less investment expenses:	
Direct investment expense	332,084
Securities lending management fees	0
Securities lending borrower rebates	0
Net investment income	<u>(15,186,726)</u>
Other income	56,407
Total additions	<u>(15,130,319)</u>

Deductions

Service benefits	2,198,717
Disability benefits	N/A
Death benefits	N/A
Refunds of member contributions	N/A
Administrative expenses	69,988
Total deductions	<u>2,268,705</u>
Net increase (decrease)	(17,399,024)

Net position restricted for postemployment benefits other than pensions

Beginning of year (December 31, 2021)	105,683,465
End of year (December 31, 2022)	<u>\$88,284,441</u>

Money-Weighted Rate of Return

Measurement Period Ending December 31	Net Money-Weighted Rate of Return
2012	N/A
2013	N/A
2014	N/A
2015	N/A
2016	10.50%
2017	10.90%
2018	(5.80%)
2019	16.61%
2020	11.98%
2021	10.92%
2022	(14.54%)

Calculation of Money-Weighted Rate of Return

The money-weighted rate of return considers the changing amounts actually invested during a period and weights the amount of plan investments by the proportion of time they are available to earn a return during that period. External cash flows are determined on a monthly basis and are assumed to occur at the beginning of each month. External cash inflows are netted with external cash outflows, resulting in a net external cash flow in each month. The money-weighted rate of return is calculated net of investment expenses.

	Net External Cash Flows	Periods Invested	Period Weight	Net External Cash Flows With Interest
Beginning Value - January 1, 2022	\$105,683,465	12.00	1.00	\$90,320,822
Monthly net external cash flows:				
January	(189,059)	12.00	1.00	(161,576)
February	(189,059)	11.00	0.92	(163,620)
March	(189,059)	10.00	0.83	(165,949)
April	(189,059)	9.00	0.75	(168,048)
May	(189,059)	8.00	0.67	(170,173)
June	(189,059)	7.00	0.58	(172,596)
July	(189,059)	6.00	0.50	(174,778)
August	(189,059)	5.00	0.42	(176,988)
September	(189,059)	4.00	0.33	(179,508)
October	(189,059)	3.00	0.25	(181,778)
November	(189,059)	2.00	0.17	(184,077)
December	(189,059)	1.00	0.08	(186,698)
Ending Value - December 31, 2021	88,284,441			88,235,033
Money-Weighted Rate of Return	(14.54%)			

Long-Term Expected Rate of Return

The assumption for the long-term expected rate of return is determined by adding expected inflation to expected long-term real returns and reflecting expected volatility and correlation. The capital market assumptions are per Milliman's investment consulting practice as of December 31, 2022 and are based on a 20-year investment horizon.

Asset Class	Index	Target Allocation	Long-Term Expected Arithmetic Real Rate of Return	Long-Term Expected Geometric Real Rate of Return
US Core Fixed Income	Barclays Aggregate	30.00%	2.24%	2.10%
US High Yield Bonds	ICE BofA US High Yield TR USD	5.00%	4.32%	3.76%
US Bank/Leveraged Loans	Credit Suisse Leveraged Loan USD	5.00%	3.88%	3.51%
US Large Cap Equity	S&P 500 TR USD	25.00%	5.44%	3.89%
US Mid Cap Equity	Russell Mid Cap TR USD	7.50%	5.83%	3.78%
US Small Cap Equity	Russell 2000 TR USD	10.00%	7.05%	4.47%
Foreign Developed Equity	MSCI EAFE NR USD	7.50%	6.69%	4.94%
US REITs	FTSE Nareit All Equity REITs TR	5.00%	6.44%	4.23%
Hedge Funds - Relative Value	HFRI Relative Value	5.00%	3.76%	3.35%
Assumed Inflation - Mean			2.35%	2.35%
Assumed Inflation - Standard Deviation			1.41%	1.41%
Portfolio Real Mean Return			4.59%	3.94%
Portfolio Nominal Mean Return			6.94%	6.42%
Portfolio Standard Deviation				10.92%
Long-Term Expected Rate of Return				6.00%

Depletion Date Projection

GASB 74 and 75 generally require that a blended discount rate be used to measure the Total OPEB Liability (the Actuarial Accrued Liability calculated using the Individual Entry Age Normal Cost Method). The long-term expected return on plan investments may be used to discount liabilities to the extent that the plan's Fiduciary Net Position (fair market value of assets) is projected to cover benefit payments and administrative expenses. A 20-year high quality (AA/Aa or higher municipal bond yield or index rate must be used for periods where the Fiduciary Net Position is not projected to cover benefit payments and administrative expenses. Determining the discount rate under GASB 74 and 75 will often require that the actuary perform complex projections of future benefit payments and asset values. GASB 74 and 75 (paragraph 29) do allow for alternative evaluations of projected solvency, if such evaluation can reliably be made. GASB does not contemplate a specific method for making an alternative evaluation of sufficiency; it is left to professional judgment.

The following circumstances justify an alternative evaluation of sufficiency for the Port of Houston Authority:

- The Port of Houston Authority has at least a 5-year history of paying at least 100% of the Actuarially Determined Contribution (previously termed the Annual Required Contribution).
- The Actuarially Determined Contribution is based on an open amortization period, which means that payment of the Actuarially Determined Contribution each year will pay for a portion of the unfunded OPEB liability over the amortization period.
- GASB 74 and 75 specify that the projections regarding future solvency assume that plan assets earn the assumed rate of return and there are no future changes in the plan provisions or actuarial methods and assumptions, which means that the projections would not reflect any adverse future experience which might impact the plan's funded position.

Based on these circumstances, it is our professional opinion that the detailed depletion date projections outlined in GASB 74 and 75 will show that the Fiduciary Net Position is always projected to be sufficient to cover benefit payments and administrative expenses.

Net OPEB Liability

	<u>Measurement Date</u> <u>December 31, 2021</u>	<u>Measurement Date</u> <u>December 31, 2022</u>
Total OPEB liability	\$55,239,134	\$60,806,712
Fiduciary net position	<u>105,683,465</u>	<u>88,284,441</u>
Net OPEB liability	(50,444,331)	(27,477,729)
Fiduciary net position as a % of total OPEB liability	191.32%	145.19%
Covered employee payroll	57,608,141	60,200,507
Net OPEB liability as a % of covered employee payroll	-87.56%	-45.64%

The total OPEB liability was determined by an actuarial valuation as of the valuation date, calculated based on the discount rates and actuarial assumptions below, and was then projected to the measurement dates. There have been no significant changes between the valuation date and fiscal year ends. If there were significant changes, an additional analysis or valuation might be required.

Valuation date	January 1, 2021	January 1, 2021
Measurement date	December 31, 2021	December 31, 2022
GASB 75 reporting date	December 31, 2021	December 31, 2022

Discount Rate

Discount rate	6.25%	6.00%
Municipal bond rate	N/A	N/A
Long Term Rate of Return on Investment	6.25%	6.00%

The plan's fiduciary net position was projected to be available to make all projected future benefit payments of current active and inactive employees. Therefore, the discount rate for calculating the total OPEB liability is equal to the long-term expected rate of return.

Other Key Actuarial Assumptions

Please see the appendices of this report for more detail.

Changes in Net OPEB Liability

	Increase (Decrease)		
	Total OPEB Liability (a)	Plan Fiduciary Net Position (b)	Net OPEB Liability (a) - (b)
Balance as of December 31, 2021	\$55,239,134	\$105,683,465	(\$50,444,331)
Changes for the year:			
Service cost	2,473,244		2,473,244
Interest on total OPEB liability	3,539,355		3,539,355
Effect of plan changes	0		0
Effect of economic/demographic (gains) or losses	0		0
Effect of assumptions changes or inputs	1,753,696		1,753,696
Benefit payments	(2,198,717)	(2,198,717)	0
Employer contributions		0	0
Member contributions		0	0
Net investment income		(15,130,319)	15,130,319
Administrative expenses		(69,988)	69,988
Balance as of December 31, 2022	60,806,712	88,284,441	(27,477,729)

Sensitivity Analysis

The following presents the total OPEB liability of the Port of Houston, calculated using the discount rate of 6.00%, as well as what the Port of Houston's total OPEB liability would be if it were calculated using a discount rate that is one percentage point lower (5.00%) or one percentage point higher (7.00%) than the current rate.

	1% Decrease 5.00%	Discount Rate 6.00%	1% Increase 7.00%
Total December 31, 2022 OPEB liability	\$68,015,677	\$60,806,712	\$54,750,597
Fiduciary net position	<u>88,284,441</u>	<u>88,284,441</u>	<u>88,284,441</u>
Net OPEB liability	(20,268,764)	(27,477,729)	(33,533,844)

The following presents the total OPEB liability of the Port of Houston, calculated using the current healthcare cost trend rates as well as what the Port of Houston's total OPEB liability would be if it were calculated using trend rates that are one percentage point lower or one percentage point higher than the current trend rates.

	1% Decrease	Current Trend Rate	1% Increase
Total December 31, 2022 OPEB liability	\$53,026,836	\$60,806,712	\$70,507,596
Fiduciary net position	<u>88,284,441</u>	<u>88,284,441</u>	<u>88,284,441</u>
Net OPEB liability	(35,257,605)	(27,477,729)	(17,776,845)

Schedule of Changes in Net OPEB Liability and Related Ratios

(in thousands)

	Measurement Period Ending December 31									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Total OPEB Liability										
Service cost	\$2,473	\$2,374	\$3,211	\$3,081	\$3,289	\$3,081	N/A	N/A	N/A	N/A
Interest on total OPEB liability	3,539	4,168	4,727	5,145	4,864	4,593	N/A	N/A	N/A	N/A
Changes of benefit terms	0	0	0	0	0	0	N/A	N/A	N/A	N/A
Effect of economic/demographic (gains)/losses	0	(14,126)	0	(7,445)	0	0	N/A	N/A	N/A	N/A
Effect of assumption changes or inputs	1,754	(264)	(10,675)	(1,408)	0	0	N/A	N/A	N/A	N/A
Benefit payments	<u>(2,199)</u>	<u>(2,414)</u>	<u>(2,519)</u>	<u>(3,464)</u>	<u>(4,084)</u>	<u>(3,654)</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Net change in total OPEB liability	5,568	(10,263)	(5,256)	(4,091)	4,069	4,020	N/A	N/A	N/A	N/A
Total OPEB liability, beginning	55,239	65,502	70,758	74,849	70,779	66,759	N/A	N/A	N/A	N/A
Total OPEB liability, ending (a)	60,807	55,239	65,502	70,758	74,849	70,779	N/A	N/A	N/A	N/A
Fiduciary Net Position										
Employer contributions	0	2,627	5,431	8,464	9,484	9,454	N/A	N/A	N/A	N/A
Member contributions	0	0	0	0	0	0	N/A	N/A	N/A	N/A
Net Investment income	(15,130)	10,395	10,035	11,391	(3,915)	5,714	N/A	N/A	N/A	N/A
Benefit payments	(2,199)	(2,414)	(2,519)	(3,464)	(4,084)	(3,654)	N/A	N/A	N/A	N/A
Administrative expenses	<u>(70)</u>	<u>(73)</u>	<u>(61)</u>	<u>(93)</u>	<u>(100)</u>	<u>0</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Net change in plan fiduciary net position	(17,399)	10,535	12,886	16,298	1,385	11,514	N/A	N/A	N/A	N/A
Fiduciary net position, beginning	105,683	95,148	82,262	65,964	64,579	53,066	N/A	N/A	N/A	N/A
Fiduciary net position, ending (b)	88,284	105,683	95,148	82,262	65,964	64,579	N/A	N/A	N/A	N/A
Net OPEB liability, ending = (a) - (b)	(27,478)	(50,444)	(29,646)	(11,505)	8,884	6,200	N/A	N/A	N/A	N/A
Fiduciary net position as a % of total OPEB liability	(806.50%)	148.77%	145.26%	116.26%	88.13%	91.24%	N/A	N/A	N/A	N/A
Covered employee payroll	\$60,201	\$57,608	\$49,778	\$49,778	\$40,287	\$40,287	\$38,907	\$38,907	\$33,690	\$38,907
Net OPEB liability as a % of covered payroll	(45.64%)	(87.56%)	(59.56%)	(23.11%)	22.05%	15.39%	N/A	N/A	N/A	N/A

This schedule is presented to illustrate the requirement to show information for 10 years. However, recalculations of prior years are not required, and if prior years are not reported in accordance with the current GASB standards, they should not be reported.

Notes to Schedule:

Changes of benefit terms: There are no changes of benefit terms.

Changes of assumptions: Changes of assumptions and other inputs reflect the effects of changes in the discount rate, election, demographic and health assumptions each period.

Schedule of Port of Houston Contributions

(in thousands)

	Fiscal Year Ending December 31										
	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Actuarially Determined Contribution*	\$0	\$2,627	\$3,494	\$3,324	\$4,384	\$5,402	\$5,798	\$5,537	\$6,568	\$6,909	\$7,913
Contributions in relation to the											
Actuarially Determined Contribution	0	2,627	5,431	8,464	9,484	9,454	8,772	11,203	11,363	11,226	10,776
Contribution deficiency/(excess)	0	(0)	(1,937)	(5,139)	(5,100)	(4,053)	(2,974)	(5,666)	(4,795)	(4,318)	(2,863)
Effect of assumption changes or inputs											
Covered payroll	60,201	57,608	49,778	49,778	40,287	40,287	38,907	38,907	33,690	34,615	34,939
Contributions as a percentage of											
covered payroll	0.00%	4.56%	10.91%	17.00%	23.54%	23.47%	22.55%	28.79%	33.73%	32.43%	30.84%

* Annual Required Contribution (ARC) under GASB 45 for 2017 and prior.

OPEB Expense

	<u>Measurement Period</u> <u>January 1, 2021 to</u> <u>December 31, 2021</u>	<u>Measurement Period</u> <u>January 1, 2022 to</u> <u>December 31, 2022</u>
Service cost	\$2,373,866	\$2,473,244
Interest on total OPEB liability	4,167,937	3,539,355
Effect of plan changes	0	0
Administrative expenses	73,108	69,988
Member contributions	0	0
Expected investment return net of investment expenses	(5,951,066)	(6,273,938)
Recognition of Deferred (Inflows)/Outflows of Resources		
Recognition of economic/demographic (gains) or losses	(2,786,223)	(2,786,223)
Recognition of assumption changes or inputs	(1,901,397)	(1,687,532)
Recognition of investment (gains) or losses	<u>(1,473,404)</u>	<u>1,117,476</u>
OPEB Expense	(5,497,179)	(3,547,630)

As of the December 31, 2022 Measurement Date, the deferred (inflows) and outflows of resources follow.

<u>Deferred (Inflows) / Outflows of Resources</u>	<u>Deferred (Inflows)</u> <u>of Resources</u>	<u>Deferred Outflows</u> <u>of Resources</u>
Differences between expected and actual experience	(\$13,871,237)	\$0
Changes of assumptions	(6,474,578)	1,539,831
Net difference between projected and actual earnings	0	11,262,881
Contributions made subsequent to the measurement date	N/A	<u>0</u>
Total	(20,345,815)	12,802,712

Amounts currently reported as deferred outflows of resources and deferred (inflows) of resources related to other postemployment benefits will be recognized in OPEB expense below. Note that additional future deferred inflows and outflows of resources may impact these numbers.

Measurement Period Ending December 31:	
2023	(\$3,356,281)
2024	(2,001,172)
2025	(1,081,781)
2026	2,072,600
2027	(1,541,064)
Thereafter	(1,635,405)

Schedule of Deferred (Inflows) and Outflows of Resources

	Original Amount	Measurement Period in which Experience Arose	Original Recognition Period*	Amount Recognized in 12/31/2022 Measurement Period Experience	Balance of Deferred (Inflows) as of 12/31/2022 Measurement Date	Balance of Deferred Outflows as of 12/31/2022 Measurement Date
Investment (gains) or losses	\$21,404,257	1/1/2022 - 12/31/2022	5.0	\$4,280,851	\$0	\$17,123,406
	(4,444,408)	1/1/2021 - 12/31/2021	5.0	(888,882)	(2,666,644)	0
	(4,596,938)	1/1/2020 - 12/31/2020	5.0	(919,388)	(1,838,774)	0
	(6,775,527)	1/1/2019 - 12/31/2019	5.0	<u>(1,355,105)</u>	<u>(1,355,107)</u>	<u>0</u>
		Total		1,117,476	(5,860,525)	17,123,406
Economic or demographic (gains) or losses	\$0	1/1/2022 - 12/31/2022	0.0	\$0	\$0	\$0
	(14,125,964)	1/1/2021 - 12/31/2021	8.2	(1,722,679)	(10,680,606)	0
	0	1/1/2020 - 12/31/2020	0.0	0	0	0
	(7,444,807)	1/1/2019 - 12/31/2019	7.0	<u>(1,063,544)</u>	<u>(3,190,631)</u>	<u>0</u>
		Total		(2,786,223)	(13,871,237)	0
Assumption changes or inputs	\$1,753,696	1/1/2022 - 12/31/2022	8.2	\$213,865	\$0	\$1,539,831
	(264,450)	1/1/2021 - 12/31/2021	8.2	(32,250)	(199,950)	0
	(10,674,991)	1/1/2020 - 12/31/2020	6.4	(1,667,967)	(5,671,090)	0
	(1,408,258)	1/1/2019 - 12/31/2019	7.0	<u>(201,180)</u>	<u>(603,538)</u>	<u>0</u>
		Total		(1,687,532)	(6,474,578)	1,539,831
Net deferred (inflows)/outflows for investment gains or losses					0	11,262,881
Total for economic/demographic gains or losses and assumption changes or inputs					(20,345,815)	1,539,831
Total deferred (inflows)/outflows					(20,345,815)	12,802,712
Total net deferrals					(7,543,103)	

* Investment (gains) or losses are recognized in OPEB expense over a period of five years; economic/demographic (gains)/losses and assumption changes or inputs are recognized over the average remaining service life for all active and inactive members.

Summary Chart

	Plan			Net				Net OPEB Liability plus Net Deferrals	Annual Expense
	Total OPEB Liability	Fiduciary Net Position	Net OPEB Liability	Deferred Inflows	Deferred Outflows	Investment (Inflows)/ Outflows	Net Deferrals		
Balances as of December 31, 2021	(\$55,239,134)	\$105,683,465	\$50,444,331	(\$25,033,435)	\$0	(\$9,023,900)	(\$34,057,335)	\$16,386,996	
Service cost	(2,473,244)		(2,473,244)						2,473,244
Interest on total OPEB liability	(3,539,355)		(3,539,355)						3,539,355
Effect of plan changes	0		0						0
Effect of liability gains or losses	0		0				0		
Effect of assumption changes or inputs	(1,753,696)		(1,753,696)		1,753,696		1,753,696		
Benefit payments	2,198,717	(2,198,717)	0						
Administrative expenses		(69,988)	(69,988)						69,988
Member contributions		0	0						0
Expected net investment income		6,273,938	6,273,938						(6,273,938)
Investment gains or losses		(21,404,257)	(21,404,257)			21,404,257	21,404,257		
Employer contributions		0	0					0	
Recognition of liability gains or losses				2,786,223			2,786,223		(2,786,223)
Recognition of assumption changes or inputs				1,901,397	(213,865)		1,687,532		(1,687,532)
Recognition of investment gains or losses						(1,117,476)	(1,117,476)		1,117,476
Annual expense								3,547,630	(3,547,630)
Balances as of December 31, 2022	(60,806,712)	88,284,441	27,477,729	(20,345,815)	1,539,831	11,262,881	(7,543,103)	19,934,626	

This work product was prepared solely for the Port of Houston for the purposes described herein and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

Glossary

Actuarially Determined Contribution	A target or recommended contribution to a defined benefit OPEB plan for the reporting period, determined based on the funding policy and most recent measurement available when the contribution for the reporting period was adopted.
Deferred (Inflows)/Outflows of Resources	Portion of changes in net OPEB liability that is not immediately recognized in OPEB Expense. These changes include differences between expected and actual experience, changes in assumptions, and differences between expected and actual earnings on plan investments.
Discount Rate	Single rate of return that, when applied to all expected benefit payments, results in an actuarial present value of expected benefit payments equal to the sum of: <ol style="list-style-type: none">1) The actuarial present value of benefit payments projected to be made in future periods where the plan assets are projected to be sufficient to meet benefit payments, calculated using the Long-Term Expected Rate of Return.2) The actuarial present value of expected benefit payments not included in (1), calculated using the Municipal Bond Rate.
Fiduciary Net Position	Equal to market value of assets.
Long-Term Expected Rate of Return	Long-term expected rate of return on pension plan investments expected to be used to finance the payment of benefits, net of investment expenses.
Money-Weighted Rate of Return	The internal rate of return on pension plan investments, net of investment expenses.
Municipal Bond Rate	Yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher.
Net OPEB Liability	Total OPEB Liability minus the Plan's Fiduciary Net Position.
Projected Benefit Payments	All benefits estimated to be payable through the OPEB plan to current active and inactive employees as a result of their past service and expected future service. This is the difference between the total cost of benefits and the portion of the benefits paid by the retirees.
Service Cost	The portion of the actuarial present value of expected benefit payments that is attributed to a valuation year.
Total OPEB Liability	The portion of actuarial present value of expected benefit payments that is attributable to past periods of member service using the Entry Age Normal cost method based on the requirements of GASB 74 and 75.

Appendix A. Actuarial Cost Method and Assumptions

The actuarial cost method used for determining the benefit obligations is the Entry Age Normal Cost Method. Under this method, a projected retirement benefit at assumed retirement age is computed for each participant using anticipated future pay increases. The normal cost for each participant is computed as the level percentage of pay, which if paid from each participant's date of employment by the employer or any predecessor employer (thus, entry age) to his assumed retirement date, would accumulate with interest at the rate assumed in the valuation to an amount sufficient to fund his projected retirement benefit. The normal cost for the plan is the total of the individually computed normal costs for all participants including the costs for any death or disability benefits under the plan.

The accrued liability at any point in time for an active participant is the theoretical fund that would have been accumulated on his behalf from his normal cost payments and the earnings thereon for all prior years if the plan had always been in effect. For persons receiving benefits or entitled to a deferred vested retirement income, the accrued liability cost is equal to the present value of their future benefit payments. The accrued liability for the plan is the total of the individually computed accrued liability for all participants. The unfunded accrued liability for the plan is the excess of the accrued liability over the assets which have been accumulated for the plan.

It should be noted that the accrued liability as of any date is not the actuarially computed present value of accrued or accumulated plan benefits as of that date. The accrued liability is the portion of the ultimate cost assigned to prior years by the cost method being used.

Reliance and Limitations

In performing this analysis, we relied on data and other information provided by Port of Houston. We have not audited or verified this data and other information.

Milliman has developed certain models to estimate the values included in this report. The intent of the models was to estimate retiree health claim costs and trends. We have reviewed the models, including their inputs, calculations, and outputs for consistency, reasonableness, and appropriateness to the intended purpose and in compliance with generally accepted actuarial practice and relevant actuarial standards of practice (ASOP).

The models rely on data and information as input to the models. We have relied upon certain data and information provided by Port of Houston for this purpose and accepted it without audit. To the extent that the data and information provided is not accurate, or is not complete, the values provided in this report may likewise be inaccurate or incomplete.

Milliman's data and information reliance are listed below. The models, including all input, calculations, and output may not be appropriate for any other purpose.

We performed a limited review of the data used in our analysis for reasonableness and consistency and have not found material defects in the data. If there are material defects in the data, it is possible that they would be uncovered by a detailed, systemic review and comparison of the data to search for data values that are questionable or for relationships that are materially inconsistent. Such a review was beyond the scope of our assignment.

If the underlying data or information is inaccurate or incomplete, the results of our analysis may likewise be inaccurate or incomplete. It is important to note, this list includes but is not necessarily limited to the following:

1. Retiree Census File.
2. Current Plan Designs to all current retirees and actives.

3. Retiree Premium Equivalent Rates (both the employer and employee amounts) and Medicare Advantage PDP premium rates.
4. The Medicare plans are fully-insured and include post-65 coverage through a Medicare Advantage plan.
5. The Pre 65 retiree and active plans are self-insured. We used 36 months of claims experience to review the premiums.

Differences between our projections and actual amounts depend on the extent to which future experience conforms to the assumptions made for this analysis. It is certain that actual experience will not conform exactly to the assumptions used in this analysis. Actual amounts will differ from projected amounts to the extent that actual experience deviates from expected experience.

This report has been prepared solely for the internal business use of and is only to be relied upon by the management of Port of Houston.

No portion of this report may be provided to any other party without Milliman's prior written consent. Milliman does not intend to benefit any third party recipient of its work product, even if Milliman consents to the release of its work product to such third party.

This deliverable is designed to provide Retiree Medical Claim Costs and Trends. This information may not be appropriate, and should not be used, for other purposes.

The terms of Milliman's Consulting Services Agreement with Port of Houston signed on 01/24/2011 apply to this report and its use.

Guidelines issued by the American Academy of Actuaries require actuaries to include their professional qualifications in all actuarial communications. I, Michael Halford, am a member of the American Academy of Actuaries, and I meet the qualification standards for performing the analyses in this report.

Economic Assumptions

Discount Rate

December 31, 2021: 6.25% effective annual rate

December 31, 2022: 6.00% effective annual rate.

The discount rate is based on the expected long-term return on assets as selected by the employer.

Salary Increases

Age	Rate
20	10.0%
25	7.3%
30	6.8%
35	5.2%
40	4.2%
45	4.5%
50	4.5%
55	3.7%
60	3.7%
65	2.7%

Inflation 2.35% per annum, compounded annually

Demographic Assumptions

Based on the experience study conducted in 2020 for the Port of Houston Authority Restated Retirement Plan, withdrawal rates, retirement rates, disability rates, base-table mortality rates, and salary scale are used in this valuation to determine liabilities and costs.

Healthy Mortality For Salaried participants, Pri-2012 White Collar Mortality Table projected with Scale MP-2021 for males and females. For Hourly participants, Pri-2012 Blue Collar Mortality Table projected with Scale MP-2021 for males and females. Adopted December 31, 2022.

Disabled Mortality Pri-2012 Disabled Mortality Table projected with Scale MP-2021 for males and females. Adopted December 31, 2022.

Disability Rates Selected rates are as follows. Rates vary by age and gender.

Male		Female	
Age	Rate	Age	Rate
20	0.10%	20	0.17%
25	0.11%	25	0.18%
30	0.12%	30	0.19%
35	0.13%	35	0.21%
40	0.16%	40	0.26%
45	0.25%	45	0.39%
50	0.47%	50	0.77%
55	0.94%	55	1.46%
60	1.38%	60	2.24%

Retirement Rates Selected rates are as follows. Rates vary by age and service.

Age	Rate	
	<30 Years	30+ Years
55	0%	30%
56-57	0%	5%
58	0%	5%
59	0%	10%
60-61	0%	20%
62	10%	25%
63-64	5%	25%
65-69	30%	30%
70+	100%	100%

Withdrawal Rates

Selected rates are as follows. Rates vary by service.

Service	Rate
0-2	10.00%
3	7.50%
4-8	5.00%
9-14	2.00%
15-16	4.00%
17-18	2.00%
19-21	1.00%
22	2.00%
30+	0.00%

Coverage at Retirement

100% of active employees are assumed to elect coverage in retirement. Pre-65 retirees are assumed to be covered and are valued based on a weighted claims curve (claims curve is weighted for current retirees' elections in AETNA Open Access plan and Kelsey Care plan). Post-65 retirees are assumed to be covered in the AETNA Medicare Choice PPO 20/20 Plan.

Current retirees are assumed to continue to elect current medical plan election.

Spouse Coverage

80% of employees are assumed to have a covered spouse in retirement (no dependent children are assumed). Current retirees electing medical coverage who have a spouse date of birth on file are assumed to pick up spouse coverage immediately (despite current medical election).

Spouse Age

If spouse age is not available, female spouses are assumed to be three years younger than male spouses.

Hourly / Salaried Indicator

Participants missing an hourly / salaried indicator are assumed to have been salaried employees.

Per Capita Medical Benefit Costs

**Annual Medical Claims Costs at Sample Ages
Pre-65 (76% AETNA Open Access, 24% Kelsey Care)**

Age	Retiree		Spouse	
	Male	Female	Male	Female
45	\$16,866	\$24,505	\$12,810	\$15,270
50	\$18,466	\$22,816	\$14,789	\$16,987
55	\$20,085	\$21,473	\$16,858	\$18,739
60	\$22,988	\$22,932	\$19,839	\$20,614
64	\$26,835	\$25,771	\$24,170	\$23,844

**Annual Medical Claims Costs at Sample Ages
AETNA Medicare Choice 20/20 PPO: Pre-65 Disability, Post-65 Medicare**

Age	Retiree		Spouse	
	Male	Female	Male	Female
45	\$2,671	\$3,880	\$1,727	\$2,117
50	\$2,924	\$3,613	\$2,040	\$2,388
55	\$3,180	\$3,400	\$2,368	\$2,666
60	\$3,640	\$3,631	\$2,839	\$2,963
64	\$4,381	\$4,015	\$3,466	\$3,281
65	\$4,641	\$4,132	\$3,672	\$3,377
70	\$2,195	\$2,135	\$2,195	\$2,135
75	\$2,270	\$2,171	\$2,270	\$2,171
80	\$2,364	\$2,214	\$2,364	\$2,214
85	\$2,456	\$2,286	\$2,456	\$2,286
90	\$2,539	\$2,358	\$2,539	\$2,358

**Annual Medical Claims Costs at Sample Ages
AETNA Medicare ESA PPO 20: Post-65 Medicare**

Age	Retiree		Spouse	
	Male	Female	Male	Female
65	\$2,232	\$2,155	\$2,232	\$2,155
70	\$2,249	\$2,187	\$2,249	\$2,187
75	\$2,326	\$2,224	\$2,326	\$2,224
80	\$2,422	\$2,269	\$2,422	\$2,269
85	\$2,517	\$2,342	\$2,517	\$2,342
90	\$2,602	\$2,417	\$2,602	\$2,417

COVID-19 Pandemic

While it is possible that the COVID-19 pandemic could have a material impact on future costs, we have determined that there is not sufficient information at this time to reflect any changes in this year's disclosure calculations. We will continue to monitor this and if events occur that are both substantial and that can be predicted with reasonable certainty, then we will reflect these changes and expectations in future calculations.

The plan's assumptions are based on long-term expectations. Even if the plan is materially impacted in the short-term due to an event, we cannot determine if it will have an ongoing effect to warrant a change in assumptions.

Inactive participants are primarily impacted by the mortality assumption, which is based on Society of Actuaries' published mortality tables and projected scales. Unless there is a specific event that impacts the plans' populations differently than the rest of the United States, mortality due to any event will be incorporated in future mortality tables and projection scales published by the Society of Actuaries once the mortality data is received and analyzed by the Society of Actuaries.

ASOP 56 Modeling

ASOP 56 provides guidance to actuaries in respect to the development and involvement of models used in their actuarial services. The signing actuary should have a limited ability either to obtain information about the model or to understand the underlying workings of the model. Certain disclaimers and disclosures are required whenever particular models or field experts are relied upon.

The valuation results were developed using models intended for valuations that use standard actuarial techniques.

Healthcare Inflation Rate

The medical trend assumptions are shown in the following table. These trends have changed from the prior valuation, due to updates in the trend model that we use. The model is based on the Society of Actuaries' (SOA) published report on long-term medical trend. That report includes detailed research performed by a committee of economists and actuaries, and proposes the use of the "Getzen Model" named after the professor who developed the model. We believe that the research and the model are fundamentally and technically sound and advance the body of knowledge available to actuaries to more accurately project long-term medical trends. Milliman uses this model as the foundation for the trend that it recommends to our clients for OPEB valuations.

*To Determine Net OPEB Liability
Without Health Insurer Fee*

Year	Pre-65 No Medicare	Post-65 PPO Medicare	Post-65 ESA Medicare
2021	6.10%	8.20%	5.40%
2022	5.60%	6.70%	5.20%
2023	5.10%	5.10%	5.10%
2024	5.00%	5.00%	5.00%
2025	4.90%	4.90%	4.90%
2026	4.80%	4.80%	4.80%
2027	4.70%	4.70%	4.70%
2028	4.60%	4.60%	4.60%
2029 - 2033	4.50%	4.50%	4.50%
2034	4.50%	4.60%	4.50%
2035 - 2043	4.60%	4.60%	4.60%
2044 - 2049	4.70%	4.70%	4.70%
2050 - 2051	4.60%	4.60%	4.60%
2052 - 2061	4.50%	4.50%	4.50%
2062 - 2064	4.40%	4.40%	4.40%
2065 - 2066	4.30%	4.30%	4.30%
2067	4.20%	4.20%	4.20%
2068	4.10%	4.10%	4.10%
2069 - 2070	4.00%	4.00%	4.00%
2071	3.90%	3.90%	3.90%
2072 - 2073	3.80%	3.80%	3.80%
2074+	3.70%	3.70%	3.70%

Appendix B. Summary of Benefits

The following description of retiree health benefits is intended to be only a brief summary. For details, reference should be made to the 2019 Employee Retirement Guide for the Port of Houston.

Eligibility

For employees hired prior to January 1, 2010, retiree medical insurance coverage is provided with no years of service requirement. For employees hired on or after January 1, 2010, retiree medical insurance coverage is available after 12 years of service upon retirement. Retirees and eligible dependents over the age of 65, or disabled retirees or dependents who qualify for Social Security disability benefits, must have Medicare Part A and Part B to be eligible for any Port Authority medical plans.

Dependent Eligibility

Spouses of eligible retirees at the time of retirement are eligible for coverage as well.

Health Benefits

Pre-65 eligible retirees and spouses may choose between the AETNA Open Access plan and the Kelsey Care plan. Post-65 retirees and spouses may choose between the AETNA Medicare Choice 20/20 PPO and the AETNA Medicare ESA PPO 20 plans.

Retiree Contributions

Retirees pay 0% of the total premium and the Port Authority pays 100%. For spouses of eligible retirees, the retiree or spouse pays 0% of the total premium and the Port Authority pays 100% of the premium.

Current monthly premiums are illustrated below (**paid in full by Houston Port Authority**):

Category	Retiree	Retiree plus Spouse
Under age 65		
KelseyCare HMO	\$786.07	\$2,550.39
AETNA PPO	\$864.67	\$2,805.72
Over age 65 (varies by state)		
AETNA PPO Texas	\$186.54	\$373.08
AETNA PPO-ESA Texas	\$223.40	\$446.80

Retiree Life Insurance

\$15,000 payable upon death of retiree.

Appendix C. Summary of Participant Data

The following were included in our analysis as of January 1, 2021 based on information provided by the Port of Houston Authority.

Number of members	
Actives	686
Retired and disabled members	317
Beneficiaries	42
Covered spouses of retirees*	<u>177</u>
Total	1,222

Average age	
Active	45.8
Retired members	74.0
Disabled members	61.6
Beneficiaries	76.2

*As of January 1, 2021, actual medical elections of current retirees include 100 covered spouses (not including retirees with employee + child(ren) coverage).